

# MONITOUCH

# Reference Manual [2]



## **Record of Revisions**

Reference numbers are shown at the bottom left corner on the back cover of each manual.

Printing Date	Reference No.	Revised Contents
lune, 2014	1066NE0	First edition
April, 2015	1066NE1	<ul> <li>Second edition <ul> <li>Chapter 1 Added video/RGB display</li> <li>Chapter 4 Added filtering (sorting), searching for the operation log viewer and operation log, LogToCsv</li> <li>Chapter 6 Data transfer service and changed server example for data transfer service</li> <li>Chapter 12 Ladder transfer, 3-way communication</li> <li>Chapter 13 PDF viewer</li> <li>Chapter 14 String table function</li> <li>Partial modifications</li> <li>Revisions for new print</li> </ul></li></ul>
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March, 2017	1066NE3	Fourth edition • Chapter 1 RGB display: GUR-00, GUR-10, and GUR-11 optional units High-speed mode, display priority • Chapter 6 Data transfer viewer • Chapter 6 Data transfer service: Folder/file transfer by device memory specification, filter function • Chapter 7 Enlarging and scrolling screens: Coordinates by device memory specification • Chapter 10 Tags: Importing Siemens TIA project files • Front and back covers revised • Partial modifications

Thank you for selecting the MONITOUCH V9 series.

For correct setup of the V9 series, you are requested to read through this manual to understand more about the product. For details on other operating procedures for the V9 series, refer to the following related manuals.

Manual Name	Contents	Reference No.
V9 Series Reference Manual [1]	Explains the functions and operation of the V9 series.	1065NE
V9 Series Reference Manual [2]		1066NE
V9 Series Setup Manual	Explains the installation procedure of V-SFT version 6, the creation process of simple screen programs as well as how to transfer a created screen program using V-SFT version 6.	1067NE
V9 Series Troubleshooting/Maintenance Manual	Provides an error list and explains the operating procedures for the V9 series.	1068NE
V9 Series Training Manual Beginner's Guide	Explains the screen creation process using V-SFT version 6 with examples in detail.	1069NE
V9 Series Training Manual Practical Guide		1070NE
V9 Series Macro Reference	Provides an overview of macros of V-SFT version 6 and explains macro editor operations and macro command descriptions in detail.	1071NE
V9 Series Operation Manual	Explains the configuration of V-SFT version 6, the editing process of each part and limitations regarding operation in detail.	1072NE
V9 Series Connection Manual [1]	Explains the connection and communication parameters for the V9 series and controllers in detail. Included Makers ALLEN BRADLEY, Automationdirect, Azbil, Baumuller, BECKHOFF, CHINO, CIMON, DELTA, DELTA TAU DATA SYSTEMS, EATON Cutler-Hammer, EMERSON, FANUC, FATEK AUTOMATION, FUFENG, Fuji Electric, Gammaflux, GE Fanuc, Hitachi, Hitachi Industrial Equipment Systems	2210NE
V9 Series Connection Manual [2]	Explains the connection and communication parameters for the V9 series and controllers in detail. Included Makers IAI, IDEC, JTEKT, KEYENCE, KOGANEI, KOYO ELECTRONICS, LS, MITSUBISHI ELECTRIC, MODICON, MOELLER, M-SYSTEM, OMRON, Oriental Motor, Panasonic, RKC, RS Automation	2211NE
V9 Series Connection Manual [3]	Explains the connection and communication parameters for the V9 series and controllers in detail. Included Makers SAIA, SAMSUNG, SanRex, SANMEI, SHARP, SHIMADEN, SHINKO TECHNOS, Siemens, SINFONIA TECHNOLOGY, TECO, Telemecanique, TOHO, TOSHIBA, TOSHIBA MACHINE, TURCK, UNIPULSE, UNITRONICS, VIGOR, WAGO, XINJE, YAMAHA, Yaskawa Electric, Yokogawa Electric, MODBUS, Barcode Reader, Slave Communication Function, Universal Serial Communication	2212NE
V9 Series Hardware Specifications	Explains hardware specifications and precautions when handling the V9 series.	2023NE

For details on devices including PLCs, inverters, and temperature controllers, refer to the manual for each device.

#### Notes:

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- 2. The information in this manual is subject to change without prior notice.
- 3. Windows and Excel are registered trademarks of Microsoft Corporation in the United States and other countries.
- 4. All other company names or product names are trademarks or registered trademarks of their respective holders.
- 5. This manual is intended to give accurate information about MONITOUCH hardware. If you have any questions, please contact your local distributor.

# Notes on Safe Usage of MONITOUCH

In this manual, you will find various notes categorized under the following levels with the signal words "DANGER" and "CAUTION".

DANGER Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury and could cause property damage.

Note that there is a possibility that items listed with **CAUTION** may have serious ramifications.



- Never use the output signal of the V9 series for operations that may threaten human life or damage the system, such as signals used in case of emergency. Please design the system so that it can cope with a touch switch malfunction. A touch switch malfunction may result in machine accidents or damage.
- Turn off the power supply when you set up the unit, connect new cables, or perform maintenance or inspections. Otherwise, electrical shock or damage may occur.
- Never touch any terminals while the power is on. Otherwise, electrical shock may occur.
- You must cover the terminals on the unit before turning the power on and operating the unit. Otherwise, electrical shock may occur.
  The liquid crystal in the LCD panel is a hazardous substance. If the LCD panel is damaged, do not ingest the leaked liquid crystal. If leaked liquid crystal makes contact with skin or clothing, wash it away with soap and water.
- Never disassemble, recharge, deform by pressure, short-circuit, reverse the polarity of the lithium battery, nor dispose of the lithium battery in fire. Failure to follow these conditions will lead to explosion or ignition.
- Never use a lithium battery that is deformed, leaking, or shows any other signs of abnormality. Failure to follow these conditions will lead to explosion or ignition.
- Switches on the screen are operable even when the screen has become dark due to a faulty backlight or when the backlight has reached the end of its service life. If the screen is dark and hard to see, do not touch the screen. Otherwise, a malfunction may occur resulting in machine accidents or damage.

•	• Check the appearance of the unit when it is unpacked. Do not use the unit if any damage or deformation is found. Failure to do so may lead to fire, damage, or malfunction.
•	• For use in a facility or as part of a system related to nuclear energy, aerospace, medical, traffic equipment, or mobile installations, please consult your local distributor

- Operate (or store) the V9 series under the conditions indicated in this manual and related manuals. Failure to do so could cause fire, malfunction, physical damage, or deterioration.
- Observe the following environmental restrictions on use and storage of the unit. Otherwise, fire or damage to the unit may result.
- Avoid locations where there is a possibility that water, corrosive gas, flammable gas, solvents, grinding fluids, or cutting oil can come into contact with the unit.
- Avoid high temperatures, high humidity, and outside weather conditions, such as wind, rain, or direct sunlight.
- Avoid locations where excessive dust, salt, and metallic particles are present.
- Avoid installing the unit in a location where vibrations or physical shocks may be transmitted.
- Equipment must be correctly mounted so that the main terminal of the V9 series will not be touched inadvertently. Otherwise, an accident or electric shock may occur.
- Tighten the mounting screw on the fixtures of the V9 series to an equal torque of 5.31 Ibf-in (0.6 N·m). Excessive tightening may distort the panel surface. Loose mounting screws may cause the unit to fall down, malfunction, or short-circuit.
- Check periodically that terminal screws on the power supply terminal block and fixtures are firmly tightened. Loosened screws or nuts may result in fire or malfunction.
- Tighten the terminal screws on the power supply terminal block of the V9 series to an equal torque of 7.1 to 8.8 Ibf-in (0.8 to 1.0 N·m). Improper tightening of screws may result in fire, malfunction, or other serious trouble.
- The V9 series has a glass screen. Do not drop the unit or impart physical shocks to the unit. Otherwise, the screen may be damaged.
  Correctly connect cables to the terminals of the V9 series in accordance with the specified voltage and wattage. Overvoltage,
- overwattage, or incorrect cable connection could cause fire, malfunction, or damage to the unit.
- Always ground the V9 series. The FG terminal must be used exclusively for the V9 series with the level of grounding resistance less than 100  $\Omega$ . Otherwise, electric shock or a fire may occur.
- Prevent any conductive particles from entering the V9 series. Failure to do so may lead to fire, damage, or malfunction.
- After wiring is finished, remove the paper used as a dust cover before starting operation of the V9 series. Operation with the dust cover attached may result in accidents, fire, malfunction, or other trouble.

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- Do not attempt to repair the V9 series yourself. Contact Hakko Electronics or the designated contractor for repairs.
- Do not repair, disassemble, or modify the V9 series. Hakko Electronics Co., Ltd. is not responsible for any damages resulting from repair, disassembly, or modification of the unit that was performed by an unauthorized person.
- Do not use sharp-pointed tools to press touch switches. Doing so may damage the display unit.
- Only experts are authorized to set up the unit, connect cables, and perform maintenance and inspection.
- Lithium batteries contain combustible material such as lithium and organic solvents. Mishandling may cause heat, explosion, or ignition resulting in fire or injury. Read the related manuals carefully and correctly handle the lithium battery as instructed.
- Take safety precautions during operations such as changing settings when the unit is running, forced output, and starting and stopping the unit. Any misoperations may cause unexpected machine movement, resulting in machine accidents or damage.
- In facilities where the failure of the V9 series could lead to accidents that threaten human life or other serious damage, be sure that such facilities are equipped with adequate safeguards.
- When disposing of the V9 series, it must be treated as industrial waste.
- Before touching the V9 series, discharge static electricity from your body by touching grounded metal. Excessive static electricity may cause malfunction or trouble.
- Insert an SD card into MONITOUCH in the same orientation as pictured on the unit. Failure to do so may damage the SD card or the slot on the unit.
- The SD card access LED flashes red when the SD card is being accessed. Never remove the SD card or turn off power to the unit while the LED is flashing. Doing so may destroy the data on the SD card. Check that the LED has turned off before removing the SD card or turning off the power to the unit.
- Be sure to remove the protective sheet that is attached to the touch panel surface at delivery before use. If used with the protective sheet attached, MONITOUCH may not recognize touch operations or malfunctions may occur.
- When using an analog resistive-film type V9 series unit, do not touch two positions on the screen at the same time. If two or more positions are pressed at the same time, the switch located between the pressed positions may be activated.
- · When using a capacitive V9 series unit, take note of the following cautions.
  - Use a Class 2 power supply for a 24-VDC unit. If an unstable power supply is used, MONITOUCH may not recognize touch operations or malfunctions may occur.
  - Capacitive touch panel types support two-point touch operations. If a third point is touched, the touch operation will be cancelled.
  - Capacitive touch panel types are prone to the influence of conductive material. Do not place conductive material such as metals near the touch panel surface and do not use the panel if it is wet. Otherwise, malfunctions may occur.

#### [General Notes]

- Never bundle control cables or input/output cables with high-voltage and large-current carrying cables such as power supply cables. Keep control cables and input/output cables at least 200 mm away from high-voltage and large-current carrying cables. Otherwise, malfunction may occur due to noise.
- When using the V9 series in an environment where a source of high-frequency noise is present, it is recommended that the FG shielded cable (communication cable) be grounded at each end. However, when communication is unstable, select between grounding one or both ends, as permitted by the usage environment.
- Be sure to plug connectors and sockets of the V9 series in the correct orientation. Failure to do so may lead to damage or malfunction.
- If a LAN cable is inserted into the MJ1 or MJ2 connector, the device on the other end may be damaged. Check the connector names on the unit and insert cables into the correct connectors.
- Do not use thinners for cleaning because it may discolor the V9 series surface. Use commercially available alcohol.
- If a data receive error occurs when the V9 series unit and a counterpart unit (PLC, temperature controller, etc.) are started at the same time, read the manual of the counterpart unit to correctly resolve the error.
- Avoid discharging static electricity on the mounting panel of the V9 series. Static charge can damage the unit and cause malfunctions. Discharging static electricity on the mounting panel may cause malfunction to occur due to noise.
- Avoid prolonged display of any fixed pattern. Due to the characteristic of liquid crystal displays, an afterimage may occur. If prolonged display of a fixed pattern is expected, use the backlight's auto OFF function.
- The V9 series is identified as a class-A product in industrial environments. In the case of use in a domestic environment, the unit is likely to cause electromagnetic interference. Preventive measures should thereby be taken appropriately.
- The signal ground (SG) and frame ground (FG) are connected inside the V9150 series unit. Take care when designing systems.

#### [Notes on the LCD]

- Note that the following conditions may occur under normal circumstances.
- The response time, brightness, and colors of the V9 series may be affected by the ambient temperature.
- Tiny spots (dark or luminescent) may appear on the display due to the characteristics of liquid crystal.
- There are variations in brightness and color between units.

[Notes on Capacitive Touch Panels]

- Touch panel operability may not be optimal if used with dry fingers or skin. In such a case, use a capacitive stylus pen.
- Periodically clean the touch panel surface for optimum touch operations. When cleaning, take note of the following points.
  - <When cleaning>
  - The panel surface is made of glass. Be sure to clean the surface gently with a cloth or sponge. Otherwise, you may scratch or damage the glass.
  - Take care not to let cleaning detergent to seep into the touch panel unit.
  - Do not directly apply or spray cleaning detergent on the panel surface.

#### [Notes on Wireless LAN]

For details regarding supported wireless LAN standards, radio law certifications, and countries where wireless LAN can be used, refer to the "V9 Series About Wirelss LAN" manual and the "V9 Series Hardware Specifications" manual provided with the V9 series unit at delivery.

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## 15.1 Video Player

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# 1 Image Display

- 1.1 Video/RGB Display
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## 1.1 Video/RGB Display

## 1.1.1 Overview

## **Video Display**

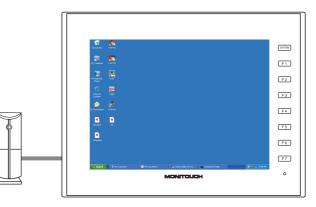
• NTSC, NTSC Square Pixel, and PAL signal images can be displayed. By using the optional GUR-00, GUR-04, or GUR-10 unit, a video screen can be shown by simply placing and setting a video/RGB display part.



• By using the optional GUR-00 or GUR-10 unit, video display from multiple channels can be shown simultaneously on a single screen.

# **RGB Input Display**

• RGB input images can be displayed. By using the optional GUR-01, GUR-10, or GUR-11 unit, an RGB screen can be shown by simply placing and setting a video/RGB display part.



• By using the optional GUR-10 unit, video display and RGB display from multiple channels can be shown simultaneously on a single screen. The GUR-11 unit can show two channels of RGB display on a single screen.

Compared to a single channel, simultaneously showing multiple channels slows the display speed slightly.

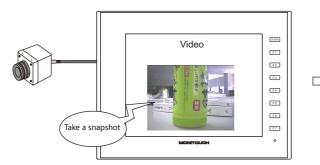
## **Snapshot Function**

The currently displayed video/RGB screen can be saved to a storage device as a JPEG file. Double-tap on the displayed video/RGB screen or execute a snapshot macro command. There are three snapshot types.

• Single Snap

One snapshot of the currently displayed video/RGB image is taken.

Execute the background SNAP macro command to take a snapshot even when the video/RGB screen is not displayed. For details, refer to the V9 Series Macro Reference Manual.





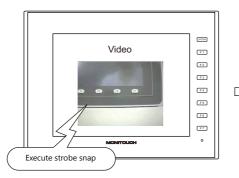
• Periodical Snap

The currently displayed video/RGB image is captured continuously at regular intervals.



• Strobe Snap

A total of 16 screenshots of the currently displayed video/RGB screen are taken in succession by continuous shooting.



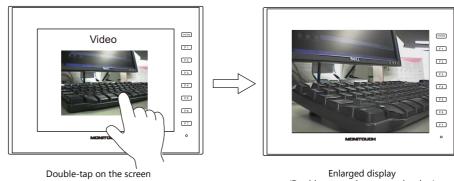


## JPEG Display

- Snapshot images saved to a storage device can be displayed on the screen using a JPEG display item.
  - For details, refer to "1.2 JPEG Display" page 1-29.

# **Operation by Double-tapping**

• The operation that is performed when the displayed video image is tapped can be set.



Enlarged display (Double-tap again to reset the size.)

# 1.1.2 Specifications

#### **Applicable Models**

Model	Optional Unit	Video Input	RGB Input	V9 Series Unit Version
V910xiWRLD	GUR-01	-	1CH	Program Ver. 1.070 or later
V910xiWLD V9150iX	GUR-04	1CH	-	OS Ver. 1.50 or later
V9150iXD V9120iS V9120iSD	GUR-00	4CH	-	
	GUR-10	2CH	1CH	Program Ver. 1.210 or later
V9100iS V9100iSD V9080iSD	GUR-11	-	2CH	OS Ver. 2.40 or later

## **Video/RGB Input Specifications**

The see		Specifications		
	Item	Video Input	RGB Input	
Туре		Composite video signal	Analog RGB	
Input Signal		NTSC NTSC Square Pixel PAL	Analog straight polarity 0.5 V to 1.0 Vp-p (75 Ω terminating resistance)	
Operation Mode		NTSC ITU-R BT. 601 NTSC Square Pixel PAL ITU-R BT. 601	-	
Sampling Frequency		13.5 MHz	-	
Display Size (Refer to the following "Display Size		"Display Size" section.)		
Colors	GUR-00, GUR-04, GUR-10, GUR-11	16,777,216 colors 256-level grayscale	16,777,216 colors 256-level grayscale High-speed mode: 65,536 colors 64-level grayscale <sup>*</sup>	
	GUR-01	-	65,536 colors 64-level grayscale	
External Cor	nection	BNC co-axial connector	D-sub 15-pin (mini)	

\* Only when using the optional GUR-10 or GUR-11 unit.

For details, refer to "Video/RGB Settings" page 1-10.

## **Display Size**

Video and RGB images are displayed on a placed display area. However, the displayed image may vary depending on the input signal size, the size that can be displayed on the V9 series unit, and the size of the display area placed on the screen.

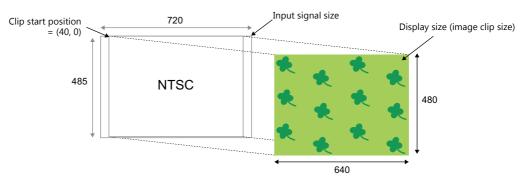
## **Display sizes**

Input Signal	Input Signal Size		Display Size (= image clip size)	Clip Start Position *	
Video	NTSC ITU-R BT. 601	720 × 485		640 × 480	(40, 0)
	NTSC Square Pixel	640 × 485		640 × 480	(0, 0)
	PAL TU-R BT. 601	720 × 578		720 × 578	(0, 0)
RGB Input	VESA	640 × 480	60 Hz	640 × 480	
			72 Hz		(0, 0)
			75 Hz	-	(0, 0)
			85 Hz	-	
		800 × 600	56 Hz	800 × 600	(0, 0)
			60 Hz	-	
			72 Hz		
			75 Hz		
			85 Hz	1	
		1024 × 768	60 Hz	1024 × 768	(0, 0)

\* If the display size is smaller than the input signal size, the area that is to be displayed on the V9 series unit can be adjusted by adjusting the image clip start position on the V9 series unit. For details, refer to "Clip start position" page 1-5.

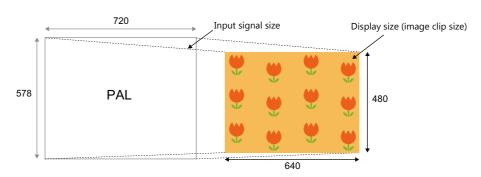
• NTSC ITU-R BT. 601

An image clipped to the display size from the input signal size is displayed. Therefore, the captured image is smaller than the actual video image. The start position for capturing (the clip start position) can be adjusted.



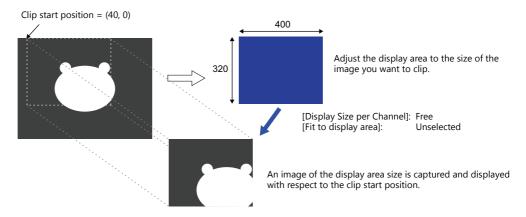
#### • PAL ITU-R BT. 601

The input signal image is scaled down to fit the display size and displayed.

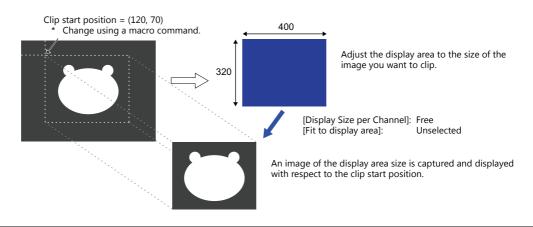


#### **Clip start position**

If the image is displayed at the default clip start position when the display area is smaller than the display size, the image may not fit within the display area or may not be centered.



To show a certain portion of the video/RGB image in the display area (at the clip size), change the default clip start position and adjust the size of the display area part. Use the "CLIP\_POS" macro command to adjust the clip start position.

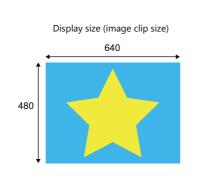


# 1.1.3 Detailed Settings

## Channel

	nnel PAUS	Area 1	imber of Channels	Finish Cancel
Item			Description	
Number of Channels Display Size per Channel <sup>*1</sup>	1, 2, 4 Free, 160*120, 320*240, 640*480, 640*240	Specify the display size When [Free] is selected When the display size is lower half using the inte	for one channel. , the display size can be set a	be switched to either the upper or
		Number of Channels		Size
		1	Free, 160*120, 320*240, 64	
		2	Free, 160*120, 320*240, 64	· · · · · · · · · · · · · · · · · · ·
		4	Free, 160*120, 320*240	
Fit to display area <sup>*1</sup>		This setting is available when [Display Size per Channel] is set to [Free].		
		Channel]. Selected The video/RGB screen is area part.		e setting made for [Display Size per within the "Y" size of the placed display
Channel Select	Area 1 Area 2 Area 3 Area 4	Specify the channel to I CH1 to 4 (Video)/CH5, The optional units and GUR-04 GI	6 (RGB) channel number assignment UR-00 GUR-10 Control GUR-10 CONT	

- \*1 Display example
  - [Display Size per Channel]: 160 \* 120, 320 \* 240, 640 \* 480, 640 \* 240 The image size is reduced to fit the display area.



[Display Size per Channel]: 160 \* 120



[Display Size per Channel]: 320 \* 240



[Display Size per Channel]: 640 \* 240

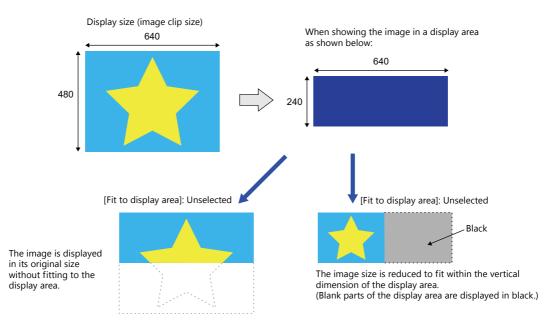


 The display can be switched to either the upper or lower half using the internal device memory \$s957.

[Display Size per Channel]: 640 \* 480



• [Display Size per Channel]: Free



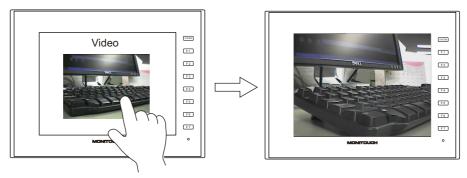
\* To change the display size during video/RGB display, use the [Enlarge] display function (fixed to 640 × 480 dots) or use a video overlap display part. For details on video overlap display parts, refer to "1.1.8 Video Overlap Displays" page 1-24.

## **Operation Select**

	Channel Channel Operation Select Video Type ESIS	N       Voteo/RGB Displ         *       Image: Resize Shap         Shap       Image: Resize Shap         I       255[*100ms]         @ AUTO       Automatically save the file under a name from "VD00000 jpg" to "VD00255 jpg".         If a file of the same name already exists, it will be overwritten.         © Specify         Saves the file in [VD00000 jpg] of the specified number.
	Preview Display Comment VIDEO	00000 Finish Cancel
	Item	Description
Double Click Action		Select the action to be performed by a double-tap operation on the video/RGB display area.
	None	No action.
	Enlarge/Resize *1	Enlarge the display size to $640 \times 480$ dots and reset to the original display size.
	Snap	Take a snapshot of the displayed image and save as a JPEG file. A still image is displayed while a snapshot is being taken. When taken, the still-state is reset.
	Devia dical Coop *2	Take a snanshot periodically. A still image is displayed while a snanshot is being taken

		while a snapshot is being taken. When taken, the still-state is reset.
	Periodical Snap *2	Take a snapshot periodically. A still image is displayed while a snapshot is being taken. When taken, the still-state is reset. Take snapshots of the target video image continuously for the set time at the set interval.
	Strobe Snap *3	Take screenshots of the displayed image in succession by continuous shooting Take 16 snapshots (160 × 120 dots resolution) and save as one JPEG file (640 × 480 dots). The JPEG file is displayed once the individual snapshots are all taken. By double-tapping again, the display is reset to the original video/RGB display.
		When taking strobe snapshots, other operations or macro commands are not possible.
	Display Priority	When placing multiple display areas (parts) on a single screen, the double-tapped area is prioritized for display.
Snap Setting	+	Specify the filename to use when saving a snapshot.
		Save location *4: (storage device)\EXT0000\SNAP
	Total Time <sup>*2</sup> Intervals (When [Periodical Snap] is selected)	Specify the interval and total duration for taking periodical snapshots. [Total Time]: 1 to 180 sec Specify the duration for taking periodical snapshots.
		[Interval]: 1 to 25 sec Specify the time interval between taking each snapshot.
	Strobe Speed *3	Specify the speed for taking strobe snapshots. 100 ms to 25.5 sec
	File Name	Set the filename to use when saving a snapshot. AUTO (1 to 255): Save using sequential numbers from "VD00000.jpg". The maximum number of snapshots is specified at [Maximum Number of Snap Files in Auto] described in "Video Type" page 1-10. When the maximum number is reached, previous files will be overwritten starting from the "VD00000.jpg" file.
		Specify (0 to 32767): Save using the specified file number. If the specified file already exists, it is overwritten. * <sup>5</sup>

#### \*1 Enlarge/Resize



#### \*2 Periodical Snap

When set as [Total Duration: 10 sec] and [Interval: 5 sec], three snapshot files are saved.



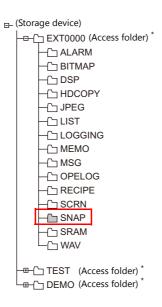
#### \*3 Strobe Snap

When set as [Strobe Speed: 1 sec], images for a duration of 16 seconds are taken and saved as one file.



Order of	strobe snap	shots	
1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16

\*4 Save location



\* Access folders can be given any name for each screen program data file.

\*5 When a screen program contains both [AUTO] and [Specify] snap settings, specify a number in the range of 256 to 32767 for the [Specify] settings to prevent the files from being overwritten with those of [AUTO]. When [AUTO] is selected, the number of the last snapshot is stored in system device memory \$s932.

## Video Type

Channel	Video/RGB Setting Change_	
Operation Select Video Type Style	Input Signal: NTSC Snap Setting Maximum Number of Snap 255 times Maximum Number of Snap 255 times When the Limitation is Exceeded: Stop snap operation Snap File Compression Rate: Middle RGB Setting RGB Display: Equal-display in full-screen mode RGB Input Control Device: Not Used RGB Input Information Not Used Give indication priority to the system menu and the status bar.	
Other Settings 💌		

Item	Description
Video/RGB Setting	Displays the [Video/RGB Setting] configurations.
-	Any changes to settings can be made from the [Change] button.

## Video/RGB Settings

Video/RGB Settings	<b>X</b>
Video Setting Input Signal NTSC	
Snap File Setting Maximum Number of Snap Files in Auto 255 . When the Limitation is Exceeded © Stop © Dverwrite Snap File Compression Rate Middle 🗸	
RGB Setting at full-screen display Same size ▼ ▼ High Speed Mode	
♥ RGB Input Control Device     Internal     ●     0     ⊕     \$	
ОК	Cancel

Item		m	Description
Video Setting	Input Signal		Select the video input signal. NTSC NTSC Square Pixcel PAL
	Snap FileMaximum Number ofSettingSnap Files in Auto		Specify the number of times to automatically save snapshot files. 1 to 255
Exceeded Number of Snap Files in Auto [Stop]: When the ma snapshot tak [Overwrite]: When the ma			Specify the action to perform when the maximum number of snapshots ([Maximum Number of Snap Files in Auto]) is exceeded.         [Stop]:       When the maximum number of snapshots has been taken, snapshot taking stops.         [Overwrite]:       When the maximum number of snapshots has been taken, new snapshots are saved by overwriting from the first file.
		Snap File Compression Rate	Specify the compression rate for snapshot files.         [High]:       File size is small but image quality is lowered.         [Middle]:       File size and image quality are at a medium level.         [Low]:       File size increases with improved image quality.

Item			Description	
RGB Setting	at full-screen	Specify the action to perform when [Same size]: The input image is o [Enlarge]: The input image is o		size.
High Speed Mode (GUR-10 and GUR-11 only)		Select the RGB input display colors a When this checkbox is selected, RGB (Default: selected)		lors.
		Number of Channels per Screen	Selected	Unselected
		1 channel	65,536 colors (high-speed mode enabled)	16,777,216 colors
		2 or more channels	16,777,216 colors *	16,777,216 colors
		<ul> <li>Disabled when displaying two of selected.</li> </ul>	r more channels, even i	f the checkbox is
	RGB Input Control Device	An RGB input screen can be displaye It can be displayed on any screen. On: Display Off: Not displayed	d without using a video	o/RGB display part.
	RGB Input Information Output Device	The current display status of the RGB memory. On: Display Off: Not displayed	3 input is output to the	specified device

## Style

		Video/RGB Displ X		
	Channel Operation Select Video Type Cother Settings V	Pause Restart		
	Preview Display	Comment VIDEO_00000 Finish Cancel		
Item		Description		
Additional Parts List		Select an operation switch.		
	Pause	The video display is paused as a still image.		
	Restart	The paused state of the video display is cleared.		
Adjust Position		Display the window for adjusting the placement position of each part. Part size can also be changed.		
Select from catalogs		Set the part design from the catalog.		
Parts Design		Set the design and color of parts.		
Edit Selected Parts		Configure the part selected in the [Additional Parts List] or preview page		

## Edit Selected Parts Configure the part selected in the [Additional Parts List] or preview pane.

## Show/Hide

Set the show and hide settings of graphic items.

For details, refer to "14 Item Show/Hide Function" in the V9 Series Reference Manual 1.

## Detail

		Video/RGB Display X
	Channel Operation Select Video Type Oth	play Enlarged Display Position © Centering ○ Upper Right ○ Lower Left ○ Use priority display ordinate Start X ○ ☆ Start Y ○ ☆ Width 159 Height 159 hers ID ○ ☆ /255 Detail Settings<<
	Item	Description
Display	Enlarged Display Position <sup>*</sup>	Centering, Upper Right, Lower Left Specify the display position of the video when it is enlarged by double-tapping or by the ZOOM macro command. Enlarged size: 640 × 480 dots
	Use priority display	When placing multiple display areas (parts) on a single screen, the set area is prioritized for display. If no checkbox of any area is selected, the area placed in the foreground is prioritized for display. Only one part can be specified per screen.
Coordinate	Start X/Start Y	Specify the coordinates of the display area.
	Width/Height	Set the size of the display area.
Others	ID	Set an ID number.

\* Enlarged Display Position

[Centering]

[Upper Right]

[Lower Left]

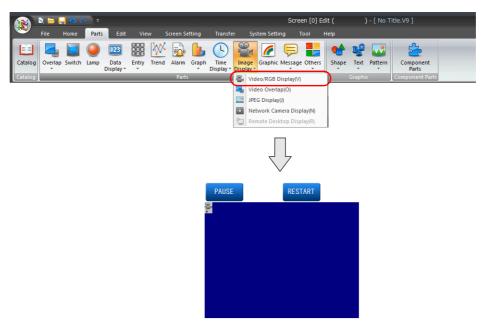


## 1.1.4 Video Display

#### **Display Method**

### Using a video/RGB display part

 $\mathsf{Click}\;[\mathsf{Parts}] \rightarrow [\mathsf{Image}\;\mathsf{Display}] \rightarrow [\mathsf{Video}/\mathsf{RGB}\;\mathsf{Display}]\; \mathsf{and}\;\mathsf{place}\;\mathsf{a}\;\mathsf{part}.$ 



For details on the settings, refer to "1.1.3 Detailed Settings" page 1-6.

## Using a video overlap display part

When intending to change the display size of the video while it is displayed, use a video overlap display part.

For details on video overlap display parts, refer to "1.1.8 Video Overlap Displays" page 1-24.

## 1.1.5 RGB Input Signal Display

#### **Display Method**

#### Using a video/RGB display part (displaying within the display area)

 $\mathsf{Click}\;[\mathsf{Parts}] \rightarrow [\mathsf{Image}\;\mathsf{Display}] \rightarrow [\mathsf{Video}/\mathsf{RGB}\;\mathsf{Display}]\;\mathsf{and}\;\mathsf{place}\;\mathsf{a}\;\mathsf{part}.$ 

	Screen [0] Edi	t ( ) - [ No Title.V9 ]
File Home Parts Edit View Si	creen Setting Transfer System Setting Tool H	elp
• Display • •	Alarm Graph Time Display	Shape Text Pattern Component Parts
Catalog	Parts Video/RGB Display(V)	Graphic Component Parts
	Video Overlap(O) VPEG Display(J) Network Camera Display(N) Remote Desktop Display(R)	
	PAUSE	

For details on the settings, refer to "1.1.3 Detailed Settings" page 1-6.

## Using an RGB input control device memory

#### (displaying the RGB input signal on the entire screen)

An RGB input screen can be displayed without using a video/RGB display part. When the bit is turned ON, the RGB input screen is displayed regardless of what screen is currently displayed.

- Location of settings: [System Setting] → [Unit Setting] → [Video/RGB]
   [1] (ON level): RGB input screen is displayed.
  - [0] (OFF level): RUN mode screen is displayed.

Video/RGB Settings	×
Video Setting Input Signal NTSC	
Snap File Setting Maximum Number of Snap Files in Auto 255 🚔 When the Limitation is Exceeded I Stop Overwrite Snap File Compression Rate Middle 🗸	
RGB Setting at full-screen display Same size ▼ ☑ High Speed Mode	
Image: Control Device     Internal     0     5u     16470-00       Image: Control Device     Internal     0     5u     16470-01	V X
	OK Cancel

\* The RGB input information output device memory stores the current display status of the RGB input screen.

#### Using a macro command (displaying the RGB input signal on the entire screen)

Switch to the RGB input screen using the "SYS (SET\_RGB)" macro command. For details, refer to the V9 Series Macro Reference Manual.

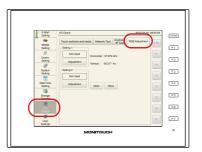
#### Switching RGB input parameters

As adjustment parameters for RGB input signals, [Setting 1] and [Setting 2] can be configured. If the frequencies configured for [Setting 1] and [Setting 2] differ, the V9 series unit will automatically recognize and switch to either [Setting 1] or [Setting 2]. If the frequencies do not change, the [Setting 1] adjustment parameters are used. If the frequencies do not change but the adjustment parameters differ, switch between [Setting 1] and [Setting 2] using a macro command. Use the "SYS (CHG\_RGB)" macro command to switch the RGB input parameters. For details, refer to the V9 Series Macro Reference Manual.

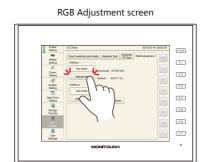
#### **Adjustment of RGB Input Screen**

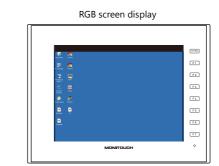
If two types of output frequencies are used, configure both [Setting 1] and [Setting 2]. If only one type is used, configure either [Setting 1] or [Setting 2]. The procedure for adjusting the display position of a Windows screen with [Setting 1] is described below.

1. Switch to Local mode on the V9 series unit and make adjustments on the [I/O Check]  $\rightarrow$  [RGB Adjustment] tab.



2. Display a Windows screen on the computer in advance. Press the [Adjustment] switch for [Setting 1] to switch to an RGB display of a Windows screen.

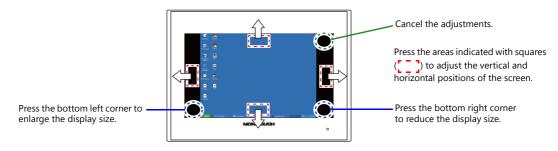




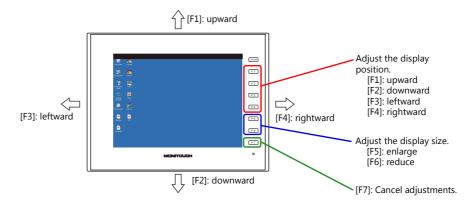
3. With a Windows screen displayed, adjust the display position and size.

#### V9 Advanced models

Press the top, bottom, left, and right sides of the screen to adjust.



- V9 Standard models
  - Adjust using the function switches.



4. Finishing position adjustment

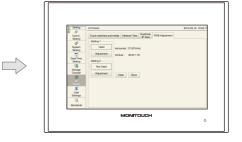
When the position has been adjusted, display the RGB Adjustment screen again. The [Used] lamp for [Setting 1] lights up. • V9 Advanced models

Press the center of the screen to finish adjustment.

Adjustment of screen display position is completed



RGB Adjustment screen

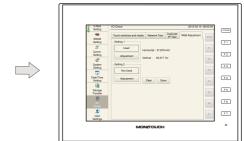


RGB Adjustment screen

• V9 Standard models

Press the [SYSTEM] switch to finish adjustment.

Adjustment of screen display position is completed



5. Press the [Save] switch to save the settings. Settings are stored in the flash ROM, so they will be retained even when the power is turned off and on again.

1

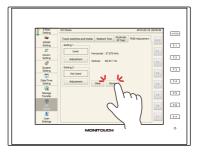
J

F5

F6

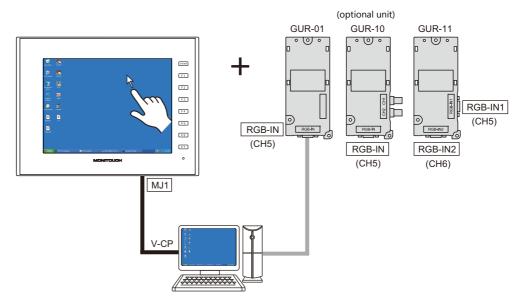
F7

#### Setting is completed



#### **Touch Switch Emulation**

- Using this function, the Windows screen displayed on the V9 series unit can be operated by touch operations without using a mouse. This function is available regardless of the display size.
- Connect the computer to the modular jack (MJ1 or MJ2) on the V9 series unit.



### **Touch panel driver**

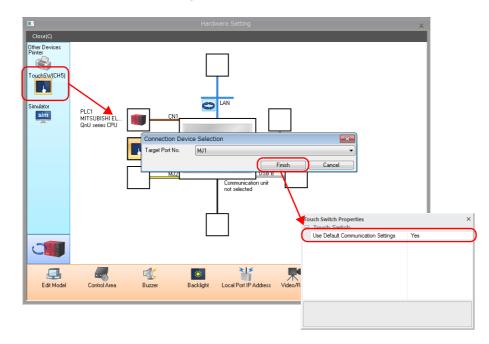
Maker	Type Versio		Version	Applicable OS
GUNZE	TPDD	3.00	Non-supported version Product version	Windows 7(32bit) / Vista(32bit) / XP

#### Limitations

- DOS application software which run on the MS-DOS prompt window cannot be operated by touch operations.
- A PS/2 compatible mouse can be used in combination with touch operations. However, some pointing devices such as those provided on laptop computers may not.

#### **V-SFT** settings

- 1. Double-click on [Hardware Setting]  $\rightarrow$  [TouchSW(CH5)] and set the [Target Port No.] on V-SFT.
- 2. Click [Finish] to display the [Touch Switch Properties] window. Set [Use Default Communication Settings] to [Yes].



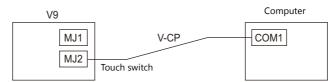
Item		Description
Connection Device Selection	Target Port No.	Select the port to connect the computer. The selected port is used to send the output touch switch coordinates to the computer. MJ1/MJ2
Touch Switch Properties	Use Default Communication Settings	Select [Yes].

\* Install Gunze's touch panel driver on the computer to be connected to the V9 series unit. For the installation procedure, refer to the installation manual provided with Gunze's touch panel driver.

#### Touch switch emulation setting example

This section describes the procedure for adding the touch switch emulation function in an RGB input environment.

- 1. Switch to an RGB input screen (a Windows screen is displayed).
- 2. Start V-SFT and open the file currently transferred to the V9 series unit.
- 3. Click on [System Setting]  $\rightarrow$  [Hardware Setting]  $\rightarrow$  [TouchSW(CH5)] and set the [Target Port No.] to [MJ2].
- 4. Click [Finish] to display the [Touch Switch Properties] window.
- Set [Use Default Communication Settings] to [Yes]. 5. Save the file and transfer it to the V9 series unit.
- 6. The V9 series unit switches to RUN mode. Switch to an RGB input screen (a Windows screen is displayed).
- 7. To perform touch switch emulation, connect the COM1 communication port of the computer and MJ2 (for touch switch operation) of the V9 series unit using a V-CP cable (refer to item 5 in "Notes" described later).



8. Install Gunze's touch panel driver on the computer.

Download "TOUCH PANEL DRIVER TPDD" from Gunze's download site and extract the files to a drive on the computer. Double-click the included "setup.exe" file.

Install the driver as follows:

 $[Welcome TPDD] \rightarrow [Select Language: ENGLISH] \rightarrow [Select Controller: 4/8 Wire-Type Touch Panel] \rightarrow [Select Clone File: unselected] \rightarrow [License Agreement: Agree] \rightarrow [Installing TPDD]$ 

- When installation is complete, click [Finish].
- 9. Reboot the computer.
- 10. Make TPDD settings.
  - After rebooting the computer, click the start button and open the [Touch Panel Device Properties] window from [Programs] → [Gunze TPDD] → [Adjust Setting].
  - 2) Click the [Device] tab in the [Touch Panel Device Properties] window and click the [Add] button.
  - The [New Pointer Device] window is displayed. Select "Gunze AHL, Serial" and select "COM1" for [Select COM port]. Then click [Next].
  - 4) The [New Pointer Device] window is displayed. Select "Whole Desktop" and click [OK].
  - 5) When the [Touch Panel Device Properties] window is displayed again, click the [Apply] button and then the [Calibrate] button.
  - 6) The calibration program starts up. Configure calibration settings (refer to item 3 in "Notes" described below). This completes the necessary settings.

#### Notes

- 1. It is not possible to switch to Local mode when a Windows screen is displayed on the V9 series unit.
- 2. When installing the touch panel driver, select "Auto Detect" for [Serial Setting]. When "Auto Detect" is selected, the COM port, address, and IRQ of the computer connected to the V9 series unit are automatically detected and set. Therefore, the V9 series unit must be connected with the computer with a V-CP cable in RUN mode before starting up the computer. The following communication settings are fixed: [Baud Rate: 9600BPS], [Parity: None], [Data Length: 8-Bit], [Stop Bit: 1-Bit].
- 3. Correct the touch operation position and mouse cursor display position using the calibration software. Precisely touch the "×" mark displayed on the screen in order from the 1st point (top left), 2nd point (bottom left), 3rd point (top right), and 4th point (bottom right). Be sure to touch all four points. If calibration isn't performed correctly, perform again. Otherwise touch operations are not possible.
- 4. If the display size is changed in Local mode, always start the calibration software in RUN mode and correct the touch operation points and mouse cursor display position.
- 5. Once the touch panel driver is installed, the set serial port cannot be used for other applications unless the driver is uninstalled or the port is freed by changing the setting for [Adjustment Setting].
- 6. For details of the [Adjustment Setting] window of TPDD, refer to the Gunze help menu (normally, default settings can be used).
- 7. Set the V9 series unit in RUN mode before starting the computer. If the V9 series unit is in Local mode, the COM port will not be recognized.

## 1.1.6 Macro Commands

Macro commands can be used for operations and color adjustment of video/RGB displays.

#### **Default Video Display Settings**

When no macro command is used, the video screen is displayed under the default settings.

Item	Туре	Default Value
Brightness	0 (dark) to 31 (bright)	16
Contrast	0 (weak) to 31 (strong)	16
Color intensity	0 (light) to 31 (dark)	16

#### Video/RGB Display Macro Commands

The "VIDEO2" type macro commands are available for video/RGB display parts.

"VIDEO" macro commands are available only for video overlap displays. For details, refer to "1.1.8 Video Overlap Displays" page 1-24.

Device Setting	×
F0 [HEMORY ] ] F1 [Internal ] 0 2 3u ] 00100 2 F2 [Internal ] 0 2 3u ] 00100 2 F3 [Internal ] 0 2 3u ] 00100 2 Condition ] ]	© WORD
Text Preview VIDEO MEMORY \$J00100	Finish

#### **Command selection**

Name	Auxiliary Settings
Name	Description
SNAP	Channel: [Auto], [CH1 to 6] File No.: [AUTO], [No. designation (0 to 32767)]
	Executes a "single snap" in the background. When using a storage device, the method for saving snapshot images can be specified.
STROBE	Channel: [Auto], [CH1 to 6] File No.: [AUTO], [No. designation (0 to 32767)]
	Executes a "strobe snap". When using a storage device, the method for saving snapshot images can be specified. This command is ignored if a video/RGB image is not displayed on the screen.
RE_SIZE	Resets the size of the video/RGB display that was enlarged by double-tapping on the display item or using the ZOOM macro command, or the video display that was enlarged by taking a strobe snapshot. An enlarged display size can be reset by double-tapping on it without executing this command.
ZOOM	Channel: [Auto], [CH1 to 6] Position: [Centering], [Upper Right], [Lower Left]
	Enlarges the video/RGB screen to 640 × 480 dots. If this command is executed continuously, the previous operation is automatically cleared.
BRIGHT	Channel: [Auto], [CH1 to 4] Brightness: 0 to 31
	Adjusts the brightness of the video image (not available for RGB images).
CONTRAST	Channel:         [Auto], [CH1 to 4]           Contrast:         0 to 31
	Adjusts the contrast of the video image (not available for RGB images).
COLOR	Channel:         [Auto], [CH1 to 4]           Color:         0 to 31
	Adjusts the color of the video image (not available for RGB images).
VIDEOINF	Channel:     [Auto], [CH1 to 6]       Video/RGB display status:     [SAVE], [DEFAULT]
	Saves the current state of the video/RGB display or resets to the default settings. When [SAVE] is selected, the current video display state is saved so that even if a power failure occurs, the video/RGB image can be displayed in the same state as before. When [DEFAULT] is selected, the display state is reset to default.

Name	Auxiliary Settings Description			
Name				
PAUSE	Channel: [Auto], [CH1 to 6]			
	Pauses the video/RGB display of the specified channel. The size cannot be changed while paused.			
RESTART	Channel: [Auto], [CH1 to 6]			
	The video/RGB display that was paused with the PAUSE command is released.			
DELETE	File No.: 0 to 32767			
	Deletes a JPEG file (filename: VDxxxxx.jpg) that was saved to a storage device by a snapshot function.			
SNAP_SEQ	Channel: [Auto], [CH1 to 6] Start/stop: 0 = stop, 1 = start			
	Starts or stops periodical snap.			
CLIP_POS	Channel: [Auto], [CH1 to 6] Clip Start Position: X coordinate, Y coordinate			
	Changes the clip start position.			
CLIP_SIZE	Channel:     [Auto], [CH1 to 6]       Image clip size change:     Width, Height			
	Changes the image clip size.			
MODE	Channel: [All], [CH1 to 4] Display field: odd- and even-numbered fields, odd-numbered fields			
	Sets the operation mode.			

For details, refer to the V9 Series Macro Reference Manual.

## Specification by device memory: Video2 MEMORY F1

• Available device memory

	Internal Device Memory	PLC Device Memory	Constant	Memory Card	Indirect Desigation
F1	0				

• F1 details

n	Command No.
n + 1	CH No./File No.
n + 2	Setting value

n Command Name	n + 1 Command No.	n + 2 CH No./File No.	Setting Value
SNAP	0	1 to 6 (CH), -1 (AUTO)	0 to 32767 (File No.) / -1 (AUTO)
STROBE	1	1 to 6 (CH), -1 (AUTO)	0 to 32767 (File No.) / -1 (AUTO)
RE_SIZE	2		
ZOOM	3	1 to 6 (CH), -1 (AUTO)	0 to 2 (Centering, Upper Right, Lower Left: for SVGA only)
BRIGHT	4	1 to 4 (CH)	0 to 31
CONTRAST	5	1 to 4 (CH)	0 to 31
COLOR	6	1 to 4 (CH)	0 to 31
VIDEO_INF	7	1 to 6 (CH)	0 : SAVE, 1 : DEFAULT
PAUSE	8	1 to 6 (CH), -1 (AUTO)	
RESTART	9	1 to 6 (CH), -1 (AUTO)	
DELETE	10	0 to 32767 (File No.)	
SNAP	11	1 to 6 (CH)	0 to 32767 (File No.) / -1 (AUTO)
(background)			(n + 3) 0: 160 * 120, 1: 320 * 240 2: 640 * 480, 3: 640 * 240
SNAP_SEQ	12	1 to 6 (CH), -1 (AUTO)	0: stop, 1: start
CLIP_POS	13	1 to 6 (CH), -1 (AUTO)	0 and up (up to the maximum screen resolution)
CLIP_SIZE	14	1 to 6 (CH), -1 (AUTO)	1 and up (up to the maximum screen resolution)
MODE	15	1 to 4 (CH), -1 (All)	(n + 3) 0: odd- and even-numbered fields, 1: odd-numbered fields

#### • [AUTO] setting

When setting a macro, [AUTO] can be selected for the channel number (CH) and file number.

- When the channel number is set to [AUTO]: [SNAP] [STROBE] [ZOOM] [BRIGHT] [CONTRAST] [COLOR] [VIDEOINF] [PAUSE] [RESTART] [SNAP\_SEQ] [CLIP\_POS] [CLIP\_SIZE]
  - \*1 During "ZOOM", the relevant channel number is automatically set.
  - \*2 When a channel with a high display priority is shown, the relevant channel number is automatically set.
- \*3 When neither \*1 or \*2 is applicable, it depends on the number of displayed channels.

If multiple channels are displayed, the above commands are not executed.

• When the file number is set to [AUTO]:

[SNAP] [STROBE]

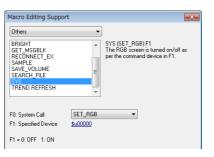
When no file exists, the command creates files starting from No. 0. When there are existing files, the command creates files starting from the number incremented from the largest file number (not exceeding the number set for [Maximum Number of Snap Files in Auto]).

When the maximum number is reached, the operation taken depends on the [When the Limitation is Exceeded] setting. If set to [Stop], the command stops, but if set to [Auto], the command starts creating files from No. 0.

For details on [Maximum Number of Snap Files in Auto] and [When the Limitation is Exceeded], refer to page 1-10.

#### **RGB Macro Commands**

The macro commands that are available only for video/RGB display parts that are displaying RGB input are "SYS (SET\_RGB)" and "SYS (RGB\_CHG)".



### SYS (SET\_RGB) F1

• Available device memory

	Internal Device Memory	PLC Device Memory	Constant	Memory Card	Indirect Desigation
F1	0				

• F1 details

F1 Value	F1 + 1 Value	Operation
0	-	Clears the RGB screen.
1	-	Displays the RGB screen.
2	File number (0 to 32767, -1 [AUTO])	Displays the RGB screen and takes a snapshot.
3	File number (0 to 32767)	Delete the JPEG file of a snapshot.
4 to 7	Reserved for system	-
8	CH No.5, 6	Specifies the channel number to be displayed or not displayed, or the channel number for touch switch emulation.

### SYS (RGB\_CHG) F1

Available device memory

	Internal Device Memory	PLC Device Memory	Constant	Memory Card	Indirect Desigation
F1	0				

• F1 details

F1 Value	F1 + 1 Value	Operation
0	Setting 1	Sets the clip start position with the value of [Setting 1].
1	Setting 2	Sets the clip start position with the value of [Setting 2].

For details, refer to the V9 Series Macro Reference Manual.

# 1.1.7 System Device Memory (\$s)

Address	Description					
910	Video CH1 Brightness					
911	Video CH1 Contrast					
912	Video CH1 Color intensity					
915	Video CH2 Brightness					
916	Video CH2 Contrast					
917	Video CH2 Color intensity					
920	Video CH3 Brightness	←V				
921	Video CH3 Contrast					
922	Video CH3 Color intensity					
925	Video CH4 Brightness					
926	Video CH4 Contrast					
927	Video CH4 Color intensity					
930	Video Status					
	MSB LSB					
	15 14 13 12 11 10 09 08 07 06 05 04 03 02 01 00					
	1: Video board error Reserved for system (set to "0")					
	1: Maximum snapshot files	←V				
932	Automatic Stores the snapshot file number.					
934	Stores the channel number (1 to 4) corresponding to the location touched in the display area. Default: 1					
935	Video Brightness of the selected video area					
936	Video Contrast of the selected video area					
937	Video Color intensity of the selected video area					
957	Video Display change ( $640 \times 240$ dots only) The display can be switched to either the upper or lower half.					
	MSB LSB					
	15         14         13         12         11         10         09         08         07         06         05         04         03         02         01         00           0	ightarrow V				
	0: Upper half display					
961 (Under	Video Standard size setting (for V9150iX only) Specify with the initial macro.					
evelopment)	The display area size is set to $640 \times 480$ .					
	MSB LSB					
	15 14 13 12 11 10 09 08 07 06 05 04 03 02 01 00					
		$\rightarrow V$				
	00: 640 × 480 01: 800 × 600					
	Not used         01: 800 × 600           10: 1024 × 768					
962	Number of periodic snapshots executed					
	Cleared to 0 when taking of snapshots starts.					
966	Video Current clip start position (X coordinate at the top left corner)					
967	Video Current clip start position (Y coordinate at the top left corner)	←V				
968	Video Current image clip size (width)					
969	Video Current image clip size (height)					
070	RGN IN Limit on number of snapshot executions using "SET_RGB" macro					
970	Setting value: 0 to 255					

The video display state is output to system device memory (\$s).

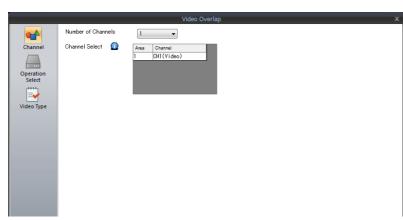
# 1.1.8 Video Overlap Displays

When intending to change the display size of the video while it is displayed, use a video overlap display part.

### **Location of Settings**

- [System Setting] → [Unit Setting] → [Video/RGB] → [Video/RGB Settings] window
- [Parts]  $\rightarrow$  [Image Display]  $\rightarrow$  [Video Overlap]

#### **Settings Window**



For details on [Operation Select] and [Video Type] settings, refer to "1.1.3 Detailed Settings" page 1-6. This section describes the settings which are different from those of a video/RGB display part.

Menu	Item	Description
Channel	Number of Channels	This is fixed to "1".
	Channel Select	Specify the video channel to be displayed. CH1 to 4 (Video) Switching with a macro is also possible. For details, refer to "Changing default settings" page 1-25.
Detail	Coordinate	Specify the video display position. The video display is displayed with its upper left corner aligned to these coordinates.
	Overlap ID	Specify the overlap area (ID 0 to 9) to where a video display is to be called.

### Video Display Settings (Macro Commands)

The size and color of the video display can be specified using video macro commands. When no macro command is used, the video display is displayed according to default settings. When a macro command is executed, the macro command takes priority.

### Default video display settings

The default settings are shown below.

Item	Туре	Default Value
Size	$160 \times 120, 320 \times 240, 640 \times 480, 640 \times 240$	320 × 240
Display channel	CH1, CH2, CH3, CH4	1 (CH)
Brightness	0 (dark) to 255 (bright)	183
Contrast	0 (weak) to 255 (strong)	48
Color intensity	0 (light) to 255 (dark)	1

The video display state is output to internal system device memory (\$s). The output is as shown below.

Address	Description
\$s170	Channel No.
\$s171	Dither (fixed to 1 (yes))
\$s172	Brightness
\$s173	Contrast
\$s174	Color intensity

### **Changing default settings**

Settings can be changed using macro commands. The size, channel number, brightness, contrast and color intensity of the video display can be set.

Select the "Video" macro command. The following window is displayed.

2 Inter			u ▼ u ▼	00100	×	
3 Inter						0.1.000
	nal 👻	0 🔶 4	u v	00100	×	WORD
ext						

• Command selection

Command Name	Description
SIZE	(160 × 120, 320 × 240, 640 × 480, 640 × 240) Specifys the video window size.
SEL_CH	(1 to 4) Specify the channel number of the input port.
BRIGHT	(0 to 255) Specify the brightness of the video image.
CONTRAST	(0 to 255) Specify the contrast of the video image.
COLOR	(0 to 255) Specify the color intensity of the video image.
VIDEO_INF	(SAVE, DEFAULT) Save the current state of the video display or reset to the default settings. When [SAVE] is selected, the current video display state is saved so that even if a power failure occurs, the video image can be displayed in the same state as before. When [DEFAULT] is selected, the display state is reset to default. The V9 series unit may stop for a second when this command is executed.

• Example

Channel No.:1 (CH1)Size: $640 \times 480$  dotsThe macro commands to change to these conditions is as follows:Video SEL\_CH $\rightarrow$  CH1 selectionVideo SIZE $640 \times 480 \rightarrow$  Size selectionVideo\_INF SAVE $\rightarrow$  Saving the state to device memory

• Specification by device memory: Video MEMORY F1

n	Command No.
n + 1	Setting Value

Command Name	Command No.	Setting Value
SIZE	0	0: 160 × 120, 1: 320 × 240, 2: 640 × 480, 3: 640 × 240
SEL_CH	1	1 to 4
BRIGHT	3	0 to 255
CONTRAST	4	0 to 255
COLOR	5	0 to 255
VIDEO_INF	6	0: SAVE, 1: DEFAULT

• Example

Channel No.: 1 (CH1)

Size: 640 \* 480 dots

The macro commands to change to these conditions with the "Video MEMORY" macro command set as [F1: \$u00100] is as follows:

Selecting channel number 3 \$u00100=1(W) \$u00101=1 (W) Video MEMORY \$u00100	$ \begin{array}{c} 1 \\ \rightarrow \\ \rightarrow \\ \rightarrow \\ \rightarrow \end{array} $	Command (SEL_CH) selection 1CH selection Command execution
Changing the window size \$u00100=0(W) \$u00101=2 (W) Video MEMORY \$u00100	$\rightarrow$ $\rightarrow$ $\rightarrow$	Command (SIZE) selection 640 * 480 dots selection Command execution
Saving in memory \$u00100=6(W) \$u00101=0(W) Video MEMORY \$u00100	$\rightarrow$ $\rightarrow$ $\rightarrow$	Command (Video_INF) selection SAVE selection Command execution

### Show/Hide Video Overlap Displays

A video overlap display can be shown or hidden by the following three methods.

Method		Details	Refer to
Internal command	Switch	Function: Overlap Display	Subsequent explanation
	Macro	OVLP_SHOW OVLP_POS	V9 Series Macro Reference Manual
External command	Control device memory	0: Hide, 1: Show	Subsequent explanation

### **Internal command**

• Switches

Switches can be used to show and hide video overlap displays. The following switches can be used.

Operation	Switch Function	Auxiliary Settings	
Show	Overlap Dicelay	Overlap ID 0 to 9 Action = ON	
Show	how Overlap Display	Overlap ID 0 to 9 Action = ALT	
	Overlap Display	Overlap ID 0 to 9 Action = OFF	
Hide		Overlap ID 0 to 9 Action = ALT	

For details on switch settings, refer to V9 Series Reference Manual 1.

• Macro commands

A macro command can be used to show and hide video overlap displays.

Use the "OVLP\_SHOW" macro command.

The display position can be specified as well (using the "OVLP\_POS" macro command).

For details, refer to the V9 Series Macro Reference Manual.

### **External command**

Commands from the [Control Device] can be used to show and hide video overlap displays. \*

\* Bit ON/OFF recognition

The method used for bit status recognition differs depending on the setting of [Display Overlap during bit ON] on the [General Settings] tab accessible by clicking [System Setting]  $\rightarrow$  [Unit Setting]  $\rightarrow$  [General Setting].

- Unselected
  - The change (edge) from 0 to 1 or 1 to 0 is used to recognize the bit status.
- Selected

Level recognition is used to determine the bit status.

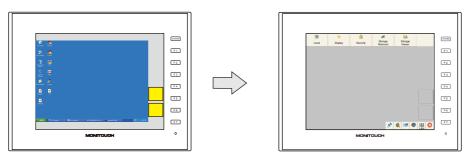
For example, an overlap display is shown on the screen using an external command, the screen is switched to another screen, and then the first screen is displayed again. In this case, the overlap display that corresponds to the bit being turned ON appears on the screen.

#### Notes on showing an overlap display using a control device memory

A switch set as [Function: Overlap Display = OFF] can be used to hide the overlap display. Using this type of switch hides the overlap display with the bit of the control device memory still turned ON. To show the overlap display again, the bit needs to be turned OFF and ON again.

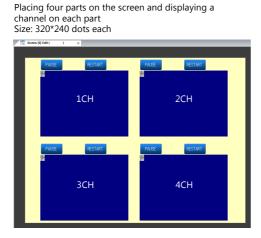
## 1.1.9 Notes

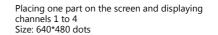
• If the system menu, status bar or communication error display (only [Comm. Error handling: Continue]) overlaps with a video/RGB input display area, the video/RGB input display is hidden.

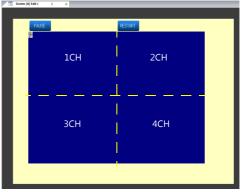


- When an RGB input screen is displayed using RGB input control device memory or a "SYS (SET\_RGB)" macro command, the system menu, status bar, and communication error display (only [Comm. Error handling: Continue]) cannot be displayed.
- Items and parts including overlap displays cannot be superimposed on a video/RGB display. The video/RGB display is displayed in the foreground of the screen.
- If the size of the video/RGB display is smaller than the display area, the margins of the display area turn black.
- When an RGB input screen is displayed but there is no RGB input signal (such as when the cable is not connected), the RGB input screen turns transparent.
- Zooming in/out and scrolling using pinch-in and pinch-out gestures is not supported. (V9 Advanced, capacitive)
- When displaying multiple channels simultaneously, the display speed is faster when a single part is used with multiple display channels, instead of using multiple parts.

Example: Video display of channels 1 to 4







Display speed is faster than the method on the left.

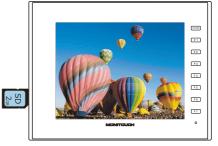
# 1.2 JPEG Display

## 1.2.1 Overview

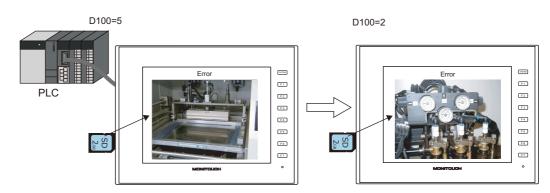
## JPEG File Display

- Display JPEG files saved to a storage device.
- JPEG files with a resolution up to 1024 × 768 can be displayed. Note that when changing [Screen Size] for the display size setting using the [Scroll] function, the set resolution can also be displayed.



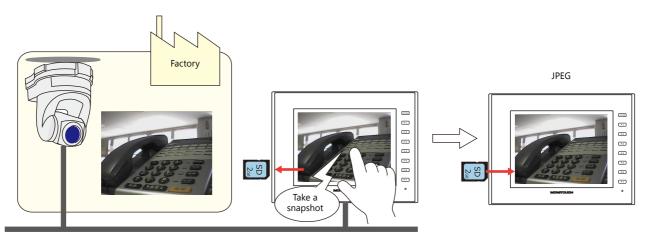


- There are three ways to load JPEG files.
  - Filename specification
  - File number specification (fixed)
  - File number specification (PLC device memory)



# **Network Camera Image Display**

- Display network camera snapshot images saved to a storage device.
- Two methods of specifying a file number and designating a file number from the PLC are available.



# 1.2.2 Detailed Settings

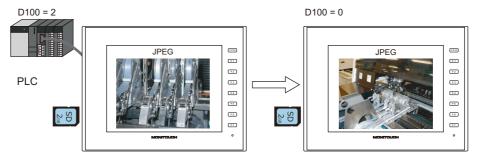
# **Operation Select**

			JPEG Display		
	Target Select				
Operation	Display Target	JPEG	🔘 Video Snap		
Select	Select File				
Style	File Designation	<ul> <li>File No.</li> <li>No.</li> <li>File Name</li> </ul>	/32767	[JP00000.JPG]	
Show/Hide		<ul> <li>Prie Name</li> <li>Device</li> </ul>			
	Display Operation				
Detail					
Other Settings 👻 Preview Display	Comm JPEG_00000	_			Finish Cance

	Item		Description	ı		
Target Select		Select a display target.	Select a display target.			
	JPEG	Display a JPEG file prepared in advance. Filename: JPxxxxx.jpg (xxxxx: 00000 to 32767) Any filename (maximum of 64 one-byte numerals or uppercase alphabetic charact				
	Video Snap	Display a video snapshot in Filename: VDxxxxx.jpg (xxx				
Select File		Select the file specification method.				
	File No.	Specify the "xxxxx" part of "JPxxxxx.jpg" or "VDxxxxx.jpg" with a file number from 0 t 32767.				
	File Name	Specify a filename. Maximum of 64 one-byte numerals or uppercase alphabetic chara Set the device memory address that specifies the "xxxxx" part of "JPxxxxx.jpg" or "VDxxxx.jpg" with a file number from 0 to 32767. This allows the JPEG file to be changed in RUN mode.				
	Device *1					
Display Operation	Fit to display area *2					
		\$s1008 Detail Speed				
		0	Coarse	Fast		
		1 Fine Slow				

#### \*1 Display example



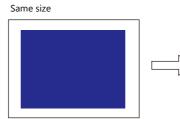


### \*2 Display example

- Checkbox: unselected

The image is displayed at its original size with respect to the top left corner of the display area. If the JPEG image is larger than the display area, the part of the image outside the display area is not shown. Note that the color of the display area is visible when the JPEG image is smaller than the display area. It is recommended that users match the display area color with the background color of the image.





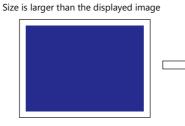
Size is smaller than the displayed image







Use a color that matches the background color.

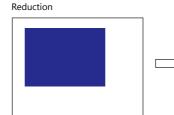




- Checkbox: selected

The image is enlarged or reduced with respect to the top left corner of the display area. The image is enlarged or reduced using the same factor for width and length.





Enlargement







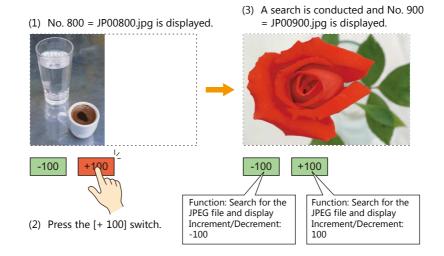
### Style

_	JPEG Display	×
Operation Select Style Detail	Delete       FlieCall       JPEGSearch         Parts on the preview pane can be selected with the mouse.         Adjust Position       Select from cataloss.         Additional Parts List       Image: Select from cataloss.         Additional Parts List       Image: Select from cataloss.         Image: Select from cataloss.       Add Parts Image: Select from cataloss.         Additional Parts List       Image: Select from cataloss.         Image: Select from cataloss.       Add Parts Image: Select from cataloss.         Image: Select from cataloss.       Add Parts Image: Select from cataloss.         Image: Select from cataloss.       Add Parts Image: Select from cataloss.         Image: Select from cataloss.       Add Parts Image: Select from cataloss.         Image: Select from cataloss.       Add Parts Image: Select from cataloss.         Image: Select from cataloss.       Add Parts Image: Select from cataloss.         Image: Select from cataloss.       Add Parts Image: Select from cataloss.         Image: Select from cataloss.       Add Parts Image: Select from cataloss.         Image: Select from cataloss.       Add Parts Image: Select from cataloss.         Image: Select from cataloss.       Add Parts Image: Select from cataloss.         Image: Select from cataloss.       Add Parts Image: Select from cataloss.         Image: Select from cataloss.       <	Parts Design << Area Setting
Preview Display	Comm JPEG_00000	Finish Cancel

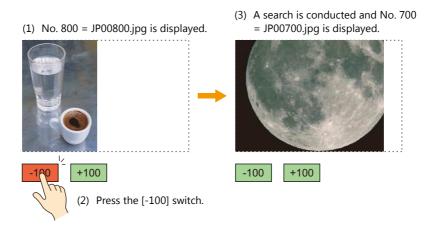
	Item	Description			
Additional Parts List		Displays a list of JPEG display switches. Parts can be added to the list using the [Add Parts] button.	Target file		
	+ Block	Display the JPEG file corresponding to the next file number.			
– Block		Display the JPEG file corresponding to the previous file number.	JPxxxxx.jpg VDxxxxx.jpg		
	File Call	Load the JPEG file corresponding to the specified file number.	- · - · · · · · · · · · · · · · · · · ·		
	File Delete	Delete the JPEG file that is currently displayed.	VDxxxxx.jpg		
	JPEG Search	Set an increment or decrement value to use to search for and display a JPEG file $^{*1}$ .	JPxxxxx.jpg VDxxxxx.jpg		
Adjust Position		Displays the window for adjusting the placement position of each part. The size of parts can also be changed.			
Select from catalogs Set the part design from the catalog.					
Parts Design		Set the design and color of parts.	Set the design and color of parts.		
Edit Selected Parts	;	Configure the part selected in the [Additional Parts List] or preview pane.			

\*1 Display example

- When the [+100] switch is pressed while file No. 800 is displayed, a search is conducted for file No. 900 or later and the file is displayed. When a search has been conducted to No. 32767, it is continued moving back to No. 0.



- When the [-100] switch is pressed while file No. 800 is displayed, a search is conducted for file No. 700 or prior and the file is displayed. When a search has been conducted to No. 0, it is continued moving back to No. 32767.



### Show/Hide

Set the show and hide settings of graphic items.

For details, refer to "14 Item Shown/Hide Function" in the V9 Series Reference Manual 1.

### Detail

			JPEG Display				;
	Coordinate						
Operation Select	Start_X 50	Start_Y	93 🚔	Width	317 🚔	Height	197 🚖
Ē	Others						
Style	Process Cycle	Low Speed 👻					
ĸ	🥅 File No. Out	put Device					
Show/Hide	ID	0 🚔 /255					
Detail							<u>Detail Settings</u>
Other Settings 👻	]						
Preview Display	Comm JPEG_0000	0					Finish Cancel

Item		Description
Coordinate	Start X/Start Y	Set the placement position and size of the display area.
	Width/Height *1	
Others	Process Cycle	Set the cycle for the V9 series to read PLC data.
	File No. Output Device	Output the file number of the currently displayed image.
	ID	Set an ID number.

# 1.2.3 JPEG File Location

Display Target	Filenames	File Location
JPEG	JPxxxxx.jpg (xxxxx: 00000 - 32767) xxxxxxx.jpg (maximum of 64 one-byte numerals or uppercase alphabetic characters)	(access folder)\JPEG folder
Video Snap	VDxxxxx.jpg (xxxxx: 00000 - 32767)	(access folder)\SNAP folder

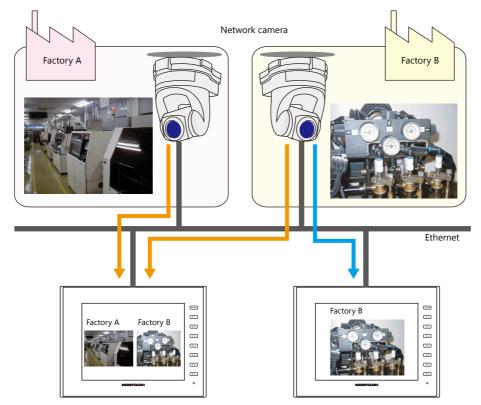
The JPEG display function loads and displays the files in the following location.

# 1.3 Network Camera

# 1.3.1 Overview

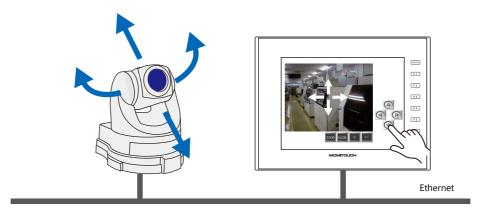
- Images from network cameras can be displayed on the V9 series unit. All V9 series models support this function because cameras are connected using an Ethernet connection.
- Up to four camera images can be displayed simultaneously using both the screen and overlaps. When a fifth camera image is displayed, the display of the oldest area in the placement order is stopped.

Example: Monitoring the conditions in the factory



Camera operation

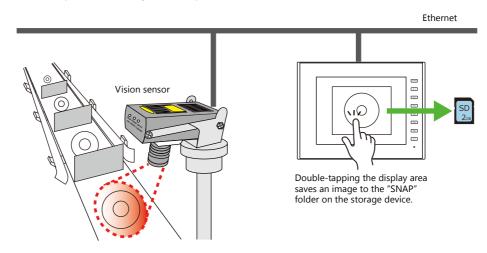
Using a command device memory or an operation switch on the screen allows network cameras to be easily controlled from a remote location.



Note that some network cameras cannot be controlled remotely. See the specifications of your network camera.

• Snapshot function

The currently displayed image can be saved to a storage device as a JPEG file when the bit of a command device memory changes to ON or by double-tapping the display area.



### 1.3.2 System Requirements

### **Applicable Models**

MONITOUCH Models	Connection Port	Remarks	
V9	LAN (built-in)	Not available with LAN2, WLAN, or CUR-03	

### **Available Network Cameras or Sensors**

Manufacturer		Туре	Protocol
Axis		- MOTION-JPEG	
Panasonic	BB series BL series	(video)	HTTP protocol communication (TCP/IP)
BANNER	PresencePLUS P4 OMNI	Bitmap (still image) <sup>*1</sup>	Dedicated protocol

\*1 No image is displayed upon initial connection.

To display an image, sensor memory PI10000-00 (Trigger) must be change from "0" to "1" (leading edge). When accessing sensor memory from the V9 series unit, select [System Setting]  $\rightarrow$  [Hardware Setting]  $\rightarrow$  [Maker: BANNER].

## 1.3.3 Required Settings

### **V-SFT Settings**

• Settings in network camera display items  $\rightarrow$  "1.3.4 Detailed Settings" page 1-37

### **Network Camera Settings**

- AXIS models  $\rightarrow$  "1.3.5 AXIS Settings (Example: AXIS 214PTZ)" page 1-41
- Panasonic models → "1.3.6 Panasonic (Example: BB-HCM580)" page 1-46
- BANNER models  $\rightarrow$  "1.3.7 BANNER (Example: PresencePLUS P4 OMNI)" page 1-56

# 1.3.4 Detailed Settings

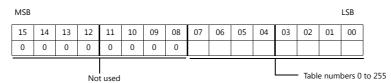
### **Device Setting**

	Network Camera Display	×	
	Network Camera Setting		
Device Setting	Network Camera Table No. 0 🚖 Setting		
<b>Style</b>	Command Device		
	✓ Info Output Device		
	Internal 🔻 0 👘 \$u 💌 00100		Video/RGB Settings
	🖌 Capture a snapshot 🛛 🔟		Video Setting
Other Settings +	Snap file naming Automatically save the file under a name from "VD00000.jpg" to "VD00255 gpg". If a file of the same name already exists, it will be overwritten. Snap File Setting		Input Signal VTSC  V7 Compatible Display. Snap File Setting Maximum Number of Snap Files in Auto 255  When the Limitation is Exceeded  Stop Overwrite Snap File Compression Rate Middle
Preview Display	Comm NET_CAM_00000	Finish Cancel	OK Cancel

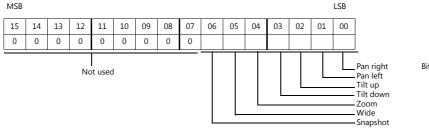
	Item	Description						
Network Came	era Setting	Select the ne	twork camera	a specification me	ethod.			
	Network Camera Table No.	Select one registered camera in the table. One camera is always displayed.						
	Command Device <sup>*1</sup>	are used. This method	allows switch		ing a value stored in a device tiple camera images. In addit device memory.	,		
		Memory	De	scription	Applicable M	odels		
		n	Table num	per specification	AXIS, Panasonic, BANNER			
		n+1	Camera op	eration	AXIS, Panasonic, BANNER (	snapshot only)		
		n+2	Operation	input	AXIS			
	Setting	Display the [Network Camera Table Setting] screen to perform camera registration. Refer to page 1-39.						
Info Output D	nfo Output Device		Output the state of the network camera. Four words are used.					
		Memory			Description			
		n	Bit 0	Connected s	tate 0: Connected	1: Disconnected		
			Bit 1	Pan angle st	ate 0: Normal	1: Abnormal		
			Bit 2	Tilt angle sta	ate 0: Normal	1: Abnormal		
			Bit 3	Zoom state	0: Normal	1: Abnormal		
		n+1		Camera pan	Camera pan angle			
		n+2		Camera tilt a	angle			
		n+3		Zoom positi	on			
Capture a sna	pshot <sup>*2 *3</sup>	Save the displayed image as a JPEG file by double-tapping on the display area. Save location: (storage device)\EX0000\SNAP						
	Snap file naming	Set the filename to use when saving a snapshot. AUTO (1 to 255): Save using sequential numbers from "VD00000.jpg". Set the action to perform when the maximum number of snapshots is reached using [Snap File Setting]. Specify (0 to 32767) Save using the specified file number. If the specified file already exists, it is overwritten.						
	Snap File Setting	Configure sn	apshot file se	ttinas.				

#### \*1 Command device memory

- n: Table number specification



- n+1: Camera operation

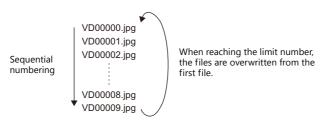


Bit 0 to 1: Execute

- n+2: Operation input (AXIS only)

Memory	Operation	Setting Value	Remarks
n+2	Up/down/left/right	Angle: –18000 to 18000 (±180 degrees)	Effective to the first decimal place
	Zoom in/zoom out	Magnification: 0 or higher	Depends on the maximum value in the camera specifications.
	Snapshot	Not used	

- \*2 Setting Examples
  - When [Snap file naming] is "AUTO", [Maximum Number of Saves] is "10", and [Action when Limitation is Exceeded] is "Overwrite" Snapshot files ranging from "VD00000.jpg" to "VD00009.jpg" are created in sequence. When the file "VD00009.jpg" is created, the previous files will be overwritten from "VD00000.jpg".



- When [Snap file naming] is "Specify" and [No. to Assign to Filename] is "30"
- The file "VD00030.jpg" is created and always overwritten.
- \*3 When screen data contains both [AUTO] and [Specify] selected for [Snap file naming], enter a value for [Specify] in the 256 to 32767 range so that files created according to [AUTO] do not overwrite the file created according to [Specify]. When [AUTO] is selected, the file number saved last is stored in system memory address \$s932.

### Network camera table settings

Register the IP address, port number, and other information regarding network cameras.

No.	Maker	IP Address	Port No.	Basic Authentication	User ID	Password	Item Resolution	Camera Resolu	Rotate(Item)	Rotate(Camera)
0	AXIS	192.168.1.5							0	0
1	Panasonic	192.168.1.100	80				320*240	640*480	0	0
2										
3										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										

Item			Description					
Maker		Select the manufacturer of the network camera. AXIS, Panasonic, BANNER						
IP Address <sup>*1</sup>	Specify the IP address of	of the network camera						
Port No. Specify the port number of the network camera. 1 - 65535								
	Maker	Default	Remarks					
	Panasonic	80						
	BANNER	20000	Sensor range: 20000 to 20009					
Basic Authentication *2 User ID Password	This enables user ID and Enter the user name an	Select this checkbox to use basic authentication for the network camera.         This enables user ID and password settings. For details, refer to your network camera settings.         Enter the user name and password registered in the network camera settings.         For details, refer to your network camera settings.						
Item Resolution <sup>*3</sup>	160*120, 192*144, 32 The display area is auto	Set the size of the display area. The specified area size is automatically updated to the screen. 160*120, 192*144, 320*240, 640*480 The display area is automatically enlarged or reduced on the V9 series unit when a resolution that differs from [Camera Resolution] is selected.						
Camera Resolution		Set the output resolution of the network camera. To improve performance, set a lower resolution.						
Rotate (Item)	Rotate the display area	on the V9 series unit.						
Rotate (Camera) <sup>*4</sup>	Set the rotation angle of mounting orientation o 0, 90, 180, 270		om the network camera. Select an angle appropriate for the					

\*1 For details on setting IP addresses, refer to the user's manual of the network camera.

Manufacturer	Model	Remarks
Axis	214PTZ	Use AXIS's dedicated tool when changing the default IP address. Default: 192.168.0.90
Panasonic	BB-HCM580	Use the CD-ROM provided with the network camera when changing the default IP address.
BANNER	PresencePLUS P4 OMNI	Default: Automatic setup

\*2 BANNER: No configuration required

\*3 AXIS, BANNER: Cannot set to 192 \* 144

\*4 Panasonic, BANNER: Cannot set to 90, 270

### Style

Device Setting Superior       Image: Construction of the preview pare can be selected with the mouse.         Additional Parts List         Default         Disp Left         Super Left         Super Left         Super Left         Step Right         Step Right         Step Right         Step Right         Step Down         Stop Cons Far         Focus Flaw		Network Camera Disp	lay X
Preview Display Comm NET_CAM_00000 Finish キャンセル	Show/Hide	Parts on the preview pane can be selected with the mouse. Additional Parts List Step Left Step Left Step Down Zoom In Zoom Dut Focus Far Focus Near	Area Setting             Select from catalogs          Type         Select         Color         Select         Select an image file             Edit Selected Parts             Text             Cher. Prop.       A T             Others

	Item	Description
Additional Parts List		Select an operation switch. *1 *2
	Step Left	Pan the camera left.
	Step Right	Pan the camera right.
	Step Up	Tilt the camera up.
	Step Down	Tilt the camera down.
	Zoom In	Zoom in on the camera image.
	Zoom Out	Zoom out of the camera image.
	Focus Far	Focus the camera on a distant point.
	Focus Near	Focus the camera on a nearby point.
	Pause	Pause video display.
	Restart	Resume video display.
Parts Design	·	Set the design and color of parts.
Edit Selected Parts		Configure the part selected in the [Additional Parts List] or preview pane.
Adjust Position		Displays the window for adjusting the placement position of each part. The size of parts can also be changed.

\*1 Note that some network cameras cannot be controlled remotely. See your network camera specifications. (No BANNER products support these functions.)

\*2 If the [Delay]  $\rightarrow$  [ON repeat] setting is configured in the switch settings window, the function performed by the switch is repeated while the switch is held down.

### Show/Hide

Set the show and hide settings of JPEG display items.

Refer to "14 Item Shown/Hide Function" in the V9 Series Reference Manual 1.

### Detail

			Ne	twork Camera Dis	play		
	Device Setting	Coordinate Start X 584 Others	🚖 Start Y	74 💼	Width 254	Height	158
	Style Show/Hide	Process Cycle ID	High Speed V				Detail Settings<<
	Item					Descript	on
Coordinate	Start X/Start	Y	Specify the	coordinates	of the displa	ay area.	
Other	Process Cycl	e	Set the cycl	e that the V9	series unit a	accesses the	e camera.
	ID		Set an ID nu	umber.			

# 1.3.5 AXIS Settings (Example: AXIS 214PTZ)

### Access from the Computer

- 1. Start up Microsoft Internet Explorer on your computer.
- 2. Enter the IP address of the network camera in the address field.

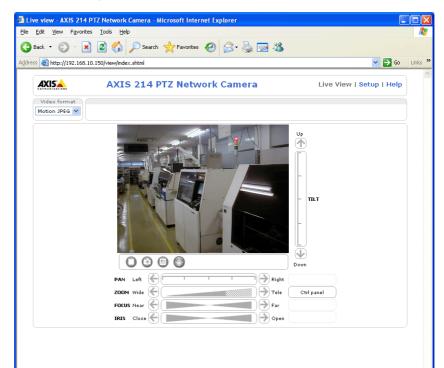
http://xxx.xxx.xxx							
Network camera IP address							
🗿 Hakko Electronics Co. , Ltd Microsoft Internet Explorer							
Eile Edit View Favorites Tools Help							
🚱 Back 🝷 🚱 👻 📓 🏠 🔎 Search 🤺 Favorites 🤣 🍙 + 🍓 🚍 🦓							
Address http://192.168.10.150/view/index.shtml							
MONITOUCH PRODUCTS SUPPORT FAQ DISTRIBUTORS COMPANY							

3. The following dialog is displayed when using basic authentication. Enter a registered user name and password, and click the [OK] button.

If basic authentication is not used, proceed to step 4. For details on basic authentication, refer to page 1-43.

Connect to 1	92.168.10.150	Connect to 192.1	68.10.150
1			
1		1	
User name:	😰   🔤	User name:	🖸 monitouch 💌
Password:		Password:	••••
	Remember my password		Remember my password
	OK Cancel		OK Cancel

4. The [Live view] window is displayed.



### **Network Camera Settings**

### Checking and changing the IP address

- 1. Display the [Setup] window.
- \* If basic authentication is not used, pressing the [Setup] button displays the dialog box shown in step 3 of "Access from the Computer" page 1-41. Enter a user name and password.
- 2. On the menu on the left of the screen, click [Basic Configuration Instructions]  $\rightarrow$  [2. TCP/IP].
- 3. Check and change the network camera IP address, subnet mask, and gateway settings as required.

System Options/Basic TCP/IP Setting	s - AXIS 214 PTZ Network Camera - Microsoft Internet Explorer	
<u>File Edit View Favorites Tools Help</u>		<u></u>
🚱 Back 🝷 🐑 🙁 😰 🏠 🌽	🔾 Search 🤺 Favorites 🔣 🔗 - 🖕 🔜 🦓	
Address a http://192.168.10.150/admin/tcpip.	shtml?basic=yes&id=64 🛛 💽 🔁	Go Links »
	IS 214 PTZ Network Camera Live View Setup Help	
- Basic Configuration	Basic TCP/IP Settings	
Instructions	Network Settings	
2. TCP/IP	View current network settings: View	
3. Date & Time	IPv4 Address Configuration	
<ol> <li>Video &amp; Image</li> <li>Audio</li> </ol>	🗹 Enable IPv4	
	O Obtain IP address via DHCP	
Video & Image	O Use the following IP address:	
► Audio	IP address: 192.168.10.150 Test	
► Live View Config	Subnet mask: 255.255.2	
▶ PTZ Configuration	Default router: 192.168.10.1	
-	IPv6 Address Configuration	
Event Configuration	Enable IPv6	
System Options	Services	
About	Enable ARP/Ping setting of IP Address	
About	Options for notification of IP address change Settings	
	AXIS Internet Dynamic DNS Service Settings Save Reset	
	See also the advanced TCP/IP settings	

4. Click the [Save] button to save any changes.

### **HTTP settings**

- 1. Display the [Setup] window.
- \* If basic authentication is not used, pressing the [Setup] button displays the dialog box shown in step 3 of "Access from the Computer" page 1-41. Enter a user name and password.
- 2. On the menu on the left of the screen, click [System Options]  $\rightarrow$  [Security]  $\rightarrow$  [HTTPS].
- 3. Select "HTTP" for the options under [HTTPS Connection Policy]. ("HTTP" is selected as default.)

Basic Configuration	HTTPS Settings	<b>(</b> )
• Video & Image	To enable HTTPS, create either a self-signed cer certificate from a Certificate Authority (CA.)	tificate, or create a request for a
Audio	Although a self-signed certificate is useful for init be implemented after the installation of a signed authority.	tially testing HTTPS, true security will only d certificate issued by a certificate
Live View Config	The HTTPS Connection Policy must also be set to	enable HTTPS on this server.
PTZ Configuration	Create & Install	
• Event Configuration	Create self-signed certificate	
<ul> <li>System Options</li> </ul>	Create Certificate Request Install	signed certificate
<ul> <li>Security</li> </ul>	Created Request	
Users IP Address Filter	Subject Name	Created
HTTPS	No certificate request created.	
Date & Time Network	Properties Remove	
<ul> <li>Ports &amp; Devices Maintenance</li> </ul>	Installed Certificate	
<ul> <li>Support</li> </ul>	Subject Name	State
Advanced	No certificate configured.	
About	Properties) Remove	
	HTTPS Connection Policy	
	Administrator will use: HTTP	
	Operator will use: HTTP	
	Viewer will use:	

### **Basic authentication settings**

Basic authentication is provided to permit or prohibit access from guest users. Use basic authentication to prohibit access from guest users.

- 1. Display the [Setup] window.
- \* If basic authentication is not used, pressing the [Setup] button displays the dialog box shown in step 3 of "Access from the Computer" page 1-41. Enter a user name and password.
- 2. On the menu on the left of the screen, click [Basic Configuration Instructions]  $\rightarrow$  [Users].
- 3. If the checkmarks are not selected for the options under [User Settings], basic authentication is required for the network camera.

<ul> <li>Basic Configuration</li> </ul>	Users		0
Instructions	User List		
1. Users	User Name	User Group	
2. TCP/IP 3. Date & Time 4. Video & Image 5. Audio	root AA aaa	Administrator Administrator Administrator	
• Video & Image	Aladdin monitouch	Administrator Administrator	
▶ Audio			
Live View Config			
PTZ Configuration	Add Moo	lify Remove	
• Event Configuration	User Settings		
System Options	Enable anonymo	us viewer login (no user name	e or password required)
Ahout	Maximum number of	f simultaneous viewers limite	d to: 20 [020]
Abbut	Subsequent viewers	vill see a blank image.	
	Enable anonymo	us PTZ control login (no user	name or password required)
			eset

\* When using basic authentication, make the following settings in the V-SFT software. As shown below, select the [Basic Authentication] checkbox and enter a registered user ID and password in the [Network Camera Table Setting] window. For details on registered user names and passwords, refer to "Checking and registering user names and passwords" page 1-44.

No.	Maker	IP Address	Port No.	Basic Authenticati	User ID	Password	Item Resolutio	Camera Resolution	Rotate(Item)	Rotate(Camera)	ī
0	AXIS	192.168.1.5			monitouch	*****	40*480	640*480	0	0	
1											
2											
3											
4											
5											
6											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											1
19											
•						m					Þ

- 4. If basic authentication is not necessary, select the [Enable anonymous viewer login (no user name or password required)] checkbox under [User Settings] and click the [Save] button.
  - \* When performing camera lens operations from the V9 series unit or PLC, select the [Enable anonymous PTZ control login (no user name or password required)] checkbox and click the [Save] button. For details, refer to "Operating the Camera Lens from the V9 Series Unit" page 1-45.

### Checking and registering user names and passwords

- 1. Display the [Setup] window.
- \* If basic authentication is not used, pressing the [Setup] button displays the dialog box shown in step 3 of "Access from the Computer" page 1-46. Enter a user name and password.
- 2. On the menu on the left of the screen, click [Basic Configuration Instructions]  $\rightarrow$  [Users].
- 3. If users have been registered, they are displayed under [User List].
- 4. To add a new user, click the [Add...] button. To modify an existing user, click the [Modify...] button.

Basic Configuration	Users 🕜
Instructions	User List
1. Users	User Name User Group
2. TCP/IP 3. Date & Time	root Administrator
4. Video & Image	AA Administrator aaa Administrator
5. Audio	Aladdin Administrator
uldes 6 feeses	monitouch Administrator
Video & Image	
Audio	
Live View Config	
PTZ Configuration	Add Modify Remove
Event Configuration	User Settings
System Options	Enable anonymous viewer login (no user name or password required)
Ahout	Maximum number of simultaneous viewers limited to: 20 [0.,20]
ADUUL	Subsequent viewers will see a blank image.
	Enable anonymous PTZ control login (no user name or password required)
	Save Reset

The [User Setup] window is displayed.
 Enter the desired name for [User name] and enter the same password for [Password] and [Confirm password].

ahttp://192.168.10.15	0 - System 0 🔳 🗖 🔀
User Setup	(2) <sup>2</sup>
User name:	monitouch
Password:	••••
Confirm password:	••••
User group:	Oviewer Operator Administrator
🗹 Enable PTZ control	
ОК (	Cancel
ê	Internet



Check [Administrator] for [User group].

6. Click [OK] to accept the settings.

### **Operating the Camera Lens from the V9 Series Unit**

The camera lens can be operated using switches and command device memory addresses on the V9 series unit.

### With basic authentication

Display the [User Setup] window\* and select the [Enable PTZ control] checkbox.

<ul> <li>Basic Configuration</li> </ul>	Users		User Setup	
Instructions	User List		User name:	monitouch
1. Users 2. TCP/IP	User Name	User Group	Password:	
3. Date & Time	root AA	Administrator Administrator	Confirm password:	
<ol> <li>Video &amp; Image</li> <li>Audio</li> </ol>	aaa	Administrator	User group:	◯ Viewer
	Aladdin	Administrator Administrator		O Operator
Video & Image				Administrator
▶ Audio			Enable PTZ contro	
Live View Config			ОК	Cancel
PTZ Configuration	Add	Modify Remove	Cone 🖉	🥑 Internet
• Event Configuration	User Settings			
System Options	Enable anon	ymous viewer login (no use	er name or password requi	red)
About	Maximum numb	er of simultaneous viewers	limited to: 20 [020]	
	Subsequent vie	vers vill see a blank image		
	Enable anon	ymous PTZ control login (n Save	o user name or password	required)

\* For details on how to display the [User Setup] window, refer to "Checking and registering user names and passwords" page 1-44.

### Without basic authentication

Display the [Users] window\*. Select both checkboxes under [User Settings] and click the [Save] button.

<ul> <li>Basic Configuration</li> </ul>	Users		(2)
Instructions	User List		
1. Users 2. TCP/IP	User Name	User Group	
3. Date & Time	root	Administrator	
4. Video & Image	AA	Administrator Administrator	
5. Audio	Aladdin	Administrator	
• Video & Image	monitouch	Administrator	
+ Audio			
▶ Live View Config			
PTZ Configuration	Add	Modify Remove	
• Event Configuration	User Settings		
System Options	Enable anony	rmous viewer login (no user na	me or password required)
About	Maximum numb	er of simultaneous viewers limi	ted to: 20 [020]
About	Subsequent view	ers vill see a blank image.	
	Enable anony	mous PTZ control login (no us	er name or password required)
		Save	Reset

\* For details on how to display the [Users] window, refer to "Basic authentication settings" page 1-43.

# 1.3.6 Panasonic (Example: BB-HCM580)

### Access from the Computer

This network camera can be accessed from a computer using the CD-ROM included with the network camera or via a web browser.

\* Select the method using the CD-ROM when setting up the network camera for the first time.

### **CD-ROM**

- 1. Load the CD-ROM included with the network camera into your computer.
- 2. The [Network Camera] window is displayed. Click [Search for Cameras] to search for the network camera connected to the computer.

🕅 Network Camera 🛛 🔀
About this program
Panasonic
Search for Cameras
Manual
Update Firmware
Earlie Sottings to DC/Sould Sottings to Compare
Save Settings to PC/Save Settings to Camera
Exit

3. If the following message appears, click [OK].

Setup	
٩	A worm alert message may be displayed in error while the network camera is setting up. However, this is not a problem.
	ОК

4. When the target network camera is found, information regarding the network camera, such as MAC address and IP address, is displayed in the [Easy Setup] window. Click [Access Camera] \*.

🗐 Eas	y Setup							
No. 1	MAC Address 00-80-F0-B1-9A-DA	IPv4 Address 192.168. 0.253	Port No. 80	Camera Name NetworkCamera	Firmware Version 3.51R00	Boot Version 3.51R00	Model No. BB-HCM580	Camera Status Static IP address(8d00)
В	egin Search			A	ccess Camera	Networ	k Settings	Search by MAC Address
_	Pv4/IPv6 IPv4	Sea	arch Time in	×			[	Close

\* If the IP address of the network camera does not exist in the network group of the computer, click the [Network Settings] button. In the window to be displayed, change the IP address of the network camera so that it belongs to the network group of the computer.

5. When connecting a factory-default network camera to your computer, the [Initial Authentication Setting] screen appears. Register a user name and password for the administrator. (If a user is already registered, proceed to step 6.) For details, refer to the user's manual of the network camera.



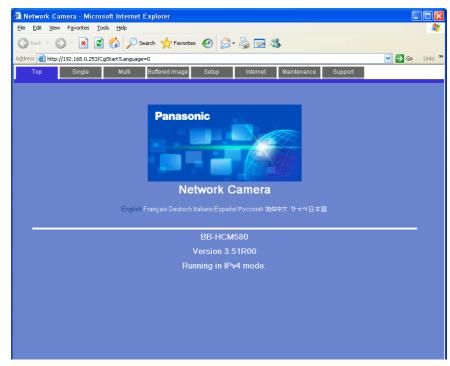
The password registered in this step is required for access to the network camera. Take appropriate measures to avoid forgetting the password.

ress 🕘 http://10.91.130.253/Cgi5tart	:?Language=0	💌 🄁 Go	G Back
Initi	ial Authentication	Setting	
et the camera administrator's	user name and password.		
nitial Authentication Setting	9	Note:(1)Username and Passwo	rd is
User Name (6 to 15 Characters)	hakko-elec	(2)It is strongly recommen change password regu	
		security.	
Password (6 to 15 Characters)	•••••		

6. The authentication dialog box is displayed. Enter an administrator-level user name and password and click [OK].
\* When [Permit access from guest users] is checked on the [Administrator] page, the [Top] tab window is displayed. Click the [Login] tab. For details, refer to "Authentication settings" page 1-50.

GeneralUser/Adr	ninistrator	
User name:	🖸 hakko-elec	~
Password:	•••••	
	Remember my passwor	d
	ОК	Cancel

- 7. The [Top] tab window is displayed.
  - (This tab window is displayed when login authentication is performed with an administrator-level user name and password. When a general or guest user logs in, the menus in the displayed tab window vary slightly.)



### Web browser (Microsoft Internet Explorer)

- 1. Start up Microsoft Internet Explorer on your computer.
- 2. Enter the IP address and port number of the network camera in the address field.
- \* When using the factory-default port number of 80, the entry of the port number may be omitted.

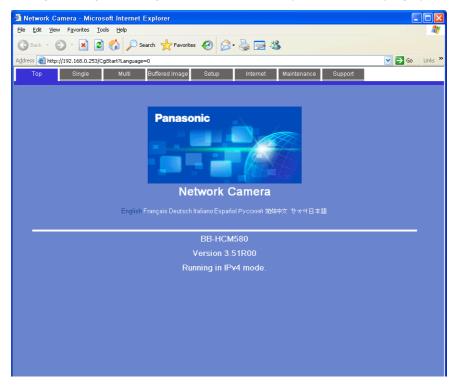
http://xxx.xxx.xxx.rv.rv.	nber/
Network came	era IP address
about:blank - Microsoft Internet Explorer	
Eile Edit View Favorites Iools Help	
🔇 Back 🔹 🕥 · 💌 😰 🏠 🔎 Search 🤶 Favorites 🧬	🔗 · 😓 🖂 🦓
Addres http://192.168.0.253	So Links

The authentication dialog box is displayed. Enter an administrator-level user name and password and click [OK].
 \* When [Permit access from guest users] is checked on the [Administrator] page, the [Top] tab window is displayed. Click the [Login] tab. For details, refer to "Authentication settings" page 1-50.

Connect to 192	. 168.0.253 🛛 🛛 🔀
<b>R</b>	EK
GeneralUser/Admini:	strator
User name:	🖸 hakko-elec 💌
Password:	•••••
	Remember my password
	OK Cancel

4. The [Top] tab window is displayed.

(This tab window is displayed when login authentication is performed with an administrator-level user name and password. When a general or guest user logs in, the menus in the displayed tab window vary slightly.)



### **Network Camera Settings**

### Checking and changing the IP address

- \* Login with an administrator-level user name and password is required to proceed to the following tab window settings.
- 1. Click the [Setup] tab.
- 2. Check that [Network (IPv4)] is selected in the [Basic] menu at the left of the window. Next, go to the [Connection Mode] area and click [Static].

Aguress 🔄 nttp://	192.168.0.25	s/Lgistart/page=setup&Language=u			Carl Carl Carls
Тор	Single	Multi Buffered Image	Setup	Internet Ma	aintenance Support
Basic Network (IPv4) Network (IPv6)		Set up network configuration. Select "Automatic Setup" if you		work (IPv4)	
UPnP DynamicDNS Date and Time		automatically. Select "Static" if you wish to as Select "DHCP" if you are using	ssign a stati	c IP address to the	camera.
Camera		Connection Mode			
Video Streaming		Connection Mode		Current Setting	
Account		Automatic Setup			Configure network settings automatically
Administrator		Static		Х	Assign static IP address to the camera.
General User		DHCP			Get IP address from DHCP server

- 3. Configure the network camera port number\*, IP address, subnet mask, and gateway settings.
- \* The default port number is 80. Enter a port number between 1 and 65535.

Basic Network (IPv4)	Static	IP Address Co	niiguration				
Network (IPv6)	You can configure network parar	neters here.					
UPnP							
DynamicDNS	Network Configuration from	After setting network configuration, you must set disable for network security.					
Date and Time	Enable						
Camera	Internet Connection	Configure Port Number, IP Address, and Subnet Mask assigned from your ISP					
/ideo Streaming	Port No.	80	(Internet Service Provider) or Network Administrator, When you connect two o				
Account	IP Address	192.168.0.253	more cameras to the router, you need to assign different Port Number for each				
Administrator	Subnet Mask	255.255.255.0	camera.				
General User	neral User Default Gateway						
Buffer/Transfer	Default Gateway		gateway, you must enter the proper address.				
[rigger	DNS		In case of using DDNS, FTP, E-mail or				
Motion Detection	Primary Server Address	172.16.1.1	Mutti-Camera, you must enter the proper address.				
Alarm Log	Secondary Server Address	172.16.1.26					
dvanced	Max. Bandwidth Usage		It can restrict the transmit bandwidth.				
nage Display	Unlimited 🖌						
vlutti-Camera	Connection Type		Note:Use "Auto Negotiation" in most				
Operation Time	Auto Negotiation		cases.				
External Output							
Analog Video Output		Save Cano					
Indicator Control		Cano					

\* Also enter the port number for [Port No.] in the [Network Camera Table Settings] window in V-SFT. Refer to page 1-39.

No.	Maker	IP Address	Port No.	Basic Authenticati	User ID	Password	Item Resolution	Camera Resolution	Rotate(Item)	Rotate(Camera)	
0	Panasonic	192.168.1.10	80				640*480	640*480	0	0	
1											
2											
3											
4											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
•						m					۲

۲ F 
 No.
 MAC Address
 IPv4 Address
 Port No.
 Camera Name
 Firmware Version
 Boot Version
 Model No.
 Camera Status

 1
 00-80-F0-B1-9A-DA
 192.168
 0.253
 80
 Network/Camera
 3.51R00
 3.51R00
 BB-HCM580
 Static IP address(
 NetworkCamera Camera Name 80 Port No. C Automatic Setuc · Specify an IP Address 253 192 168 0 IPv4 Address 255 255 255 Subnet Mask 0 Network Settings Search by MAC Address в DHCP IF Host Name Close T Default Gateway 172 16 DNS Server 1

The IP address can be checked or changed using the CD-ROM included with network camera or via the [Network Settings] button in the [Easy Setup] window.

### **Authentication settings**

Authentication settings are provided to permit or prohibit access from guest users. These settings disallow access to guest users.

- \* Login with an administrator-level user name and password is required to proceed to the following tab window settings.
- 1. Click the [Setup] tab.
- 2. Click [Administrator] at the left of the screen.
- 3. In the [General Authentication] area, select either [Permit access from guest users] or [Do not permit access from guest users].

Top Single Basic	Multi Buffered Image Setup Internet Maintenance Support
Network (IPv6)	for security management, you can set up user name and password for administrator. Only the administrator can access "Setup" and "Maintenance" pages. lote:It is important to limit access to this product by use of a unique User Name and a secret Password. If this product is installed on a network where Internet access is available, it is possible that unknown individuals, including those known as "hackers," could access this product. The use of a User Name and a Password known only to you will help insure that only authorized users are given access to this product.
Video Streaming Account Administrator General User Buffer/Transfer	General Authentication       Select whether to allow guest users to access this product or not. If you allow access the product were not access the product were not access the product or not. If you allow access the product were not access the product or not. If you allow access the product were not access the product or not.         O Permit access from guest users       selected, users can access noble product or not pr
Trigger Motion Detection Alarm Log Advanced Image Display Multi-Camera Operation Time	Administrator Authentication     Leave "Password" columb blanked if you do not wish to change the password" columb blanked if you do not wish to change the password. Please refer here for the individual please with twiching how to easign user name and password.       Value Password (6 to 15 Characters)     hakko-elec       Retype Password     Need (19 User Name and Password nust be different from each other.       (2) It is strongly recommended to change password regularly for security.
External Output Analog Video Output	Cancel
ermit access from guest users	This option allows anyone to access the network camera without a registered user name and password.
Do not permit access from guest user	Whenever access to the network camera is attempted, the authentication dialog box appears. Access is granted to the network camera by entering a registered user name and password.

\* When the [Do not permit access from guest users] checkbox is selected, configure the following settings in the V-SFT software. As shown below, select the [Basic Authentication] checkbox and enter a registered user ID and password in the [Network Camera Table Setting] window. For details on registered user names and passwords, refer to "Checking and Registering User Names and Passwords" page 1-54.

No.	Maker	IP Address	Port No.	Basic Authenticati	Liser ID	Password	Item Resolution	Camera Resolution	Rotate(Item)	Rotate(Camera)	-
		192.168.1.100			monitouch	*****		640*480	0	0	1
1											
2											
3											
1											
i											
6											
7											_
8											
9											

### Registering and changing the settings of general users

When users other than the administrator need access to the network camera, general user registration is required.

\* Login with an administrator-level user name and password is required to proceed to the following tab window settings.

New general user registration

- 1. Click the [Setup] tab.
- 2. Click [General User] on the left of the screen.
- 3. Click [Create].

Тор	Single	Multi	Buffered Image	Setup	Internet	Maintenance	Support	
Basic				Ge	neral Us	er		
Network (IPv4) Network (IPv6) UPnP			User information. s cannot access		"Internet" and	l "Maintenance"	pages.	
DynamicDNS		User ID Lis	t (Max. 50 Use	rs)				
Camera			Unregistere	d		lodify		
Video Streaming Account						relete		
Administrator General User								
Buffer/Transi Trigger	fer							

4. The [New General User Registration] page is displayed. Configure the settings as specified below.



The password registered in this step is required for access to the network camera. Take appropriate measures to avoid forgetting the password.

etwork (IPv6)	You can add a new General U	Jser account.	
JPnP DynamicDNS	Input User Name and Pas	ssword	lease refer here for the instructions
Date and Time	User Name (6 to 15 Characters) Password	monitouch	tow to assign user name and bassword. Note(1)User Name and Password must be different from each other. (2)It is strongly recommended to
/ideo Streaming	(6 to 15 Characters) Retype Password		change password regularly for security.
Administrator	Access Level		You can set Access Level for each General User.
General User	Video Display Time	Not permitted 🔽	of the de Cook .
Buffer/Transfer	Refresh Rate	3 s 💌	
Frigger	Level 1 (Camera viewin	ng only)	
Notion Detection	Change Refresh Rate		
Alarm Log	Change Resolution		
Advanced	Change Quality		
mage Display	Capture Image Button		
vlutti-Camera	View Multi-Camera pag	je	
Operation Time	View Buffered Image p	age	
External Output	Level 2 (Camera viewin	ng and preset control)	
Analog Video Output	Preset		
ndicator Control	Level 3 (Camera viewin	ig and all controls)	
vliemasu.net Lite	Pan / Tilt		
	Zoom		
	Focus		
	Click to Center		
	Brightness / Backlight		
	White Balance		
	External Output		
		Save Back	

### Changing guest user settings

The following settings can be configured when the [Permit access from guest users] checkbox is selected. Configure the functions available when the network camera is accessed without authentication with a user name and password in the following tab window.

- 1. Click the [Setup] tab.
- 2. Click [General User] on the left of the screen.
- 3. Check that [Guest User] is selected and then click [Modify].

		1.5 1.5	1 0 0					4
Тор	Single	Multi	Buffered Image	Setup	Internet	Maintenance	Support	
Basic				Ge	neral Us	er		
Network (IPv4) Network (IPv6)			Jser information		"Internet" and	d "Maintenance"	nadec	
UPnP			s cannot acces	stile Setup,	internet and	, Maintenance	payes.	
DynamicDNS Date and Time		User ID List	t (Max. 50 Us	ers)	L			
Camera			GuestUs	er		reate		
Video Streaming						lodify		
Account Administrator			l					
General User								
Buffer/Trans	fer							

4. The [Modify Guest User] page is displayed. Configure the settings as specified below.

Top Single	Multi Buffered image Setup Internet Maintenance Support
Basic Network (IPv4)	Modify Guest User
Network (IPv6)	Modify Guest User registration information
UPnP	
DynamicDNS	Access Level You can set Access Level for Guest User.
Date and Time	Video Display Time Not permitted
Camera	Refresh Rate 3 s 💌
Video Streaming	Level 1 (Camera viewing only)
Account	Change Refresh Rate
Administrator	Change Resolution
General User	Change Quality
Buffer/Transfer	Capture Image Button
Trigger	View Multi-Camera page
Motion Detection	View Buffered Image page
Alarm Log	Level 2 (Camera viewing and preset control)
Advanced	Preset
Image Display	Level 3 (Camera viewing and all controls)
Multi-Camera	Pan / Tilt
Operation Time	Zoom
External Output	✓ Focus
Analog Video Output	Click to Center
Indicator Control	☑ Brightness / Backlight
Miemasu.net Lite	₩ White Balance
	External Output
	Save Cancel Back

### **Checking and Registering User Names and Passwords**



When a password has already been registered, the [Password] field is blanked out. Take sufficient care when managing passwords. If you forget the password, a password newly registered is usable for authentication.

In a case when the [Do not permit access from guest users] checkbox is selected in the [General Authentication] area, the user name and password registered for the administrator or a general user in the network camera setting tab window must be set in the V-SFT software.

For details on the authentication settings, refer to "Authentication settings" page 1-50.

\* Login with an administrator-level user name and password is required to proceed to the following tab window settings.

### Administrator

- 1. Click the [Setup] tab.
- 2. Click [Administrator] at the left of the screen.
- 3. Check the settings in the [Input User Name and Password] area.
- 4. If any changes are made to these fields, click [Save] to save the changes.

3asic	_			Ad	ministrat	tor	
etwork (IPv4)		For security m	anadement vo	nd nacewor	d for administrator.		
etwork (IPv6)		Only the admir	nistrator can ac	cess "Setup	" and "Mainter	nance" page	S.
PnP							e User Name and a secret et access is available, it is
ynamicDNS		possible t	hat unknown ini	dividuals, inc	luding those k	known as "h	ackers," could access this
ate and Time			The use of a Us prized users are				to you will help insure that
Camera				3			
Video Streaming		General Aut	hentication				elect whether to allow quest users to
ccount		Construction of the Constr	access from qu	act uppre		a	ccess this product or not. If you allow ccess from guest users, you can
Administrator			access from gu		obilo opky)	s	elect which settings they can use on e General User screen. If Permit
∋eneral User			oermit access f			a	access from guest users (mobile only
		On unit	permit access r	rom guest u:	sers	p	selected, users can access mobile hone-specific screens via a mobile
luffer/Trans	ster						hone or computer without the need fo uthentication.
rigger	_	Administrate	or Authenticat	ion			eave "Password" column blanked if
vlotion Detection		User Name		hakko-	-1		ou do not wish to change the assword. Please refer here for the
Marm Log		(6 to 15 Ch	naracters)	nakku-	elec	ir	structions how to assign user name nd password.
dvanced		Password (6 to 15 Ch	aractere)				ote(1)User Name and Password must be different from each other.
nage Display							(2)It is strongly recommended to
	100	Retype Pa:	ssworu				change password regularly for
lutti-Camera							security.

#### **General users**

- 1. Click the [Setup] tab.
- 2. Click [General User] on the left of the screen.
- 3. Select the target user name from the [User ID List].
- 4. Click [Modify].

Top Single	Multi Buffered Image Setup Internet Maintenance Support
Basic Network (PV4) Network (PV5) UPnP DynamicDNS Date and Time Camera Video Streaming	General User Edit General User information. General Users cannot access the "Setup", "Internet" and "Maintenance" pages.
Account Administrator	Delete

5. Check the settings in the [Input User Name and Password] area.

Network (IPv4) Network (IPv6)	You can add a new General	User account.	
UPnP	Input User Name and Pa	ssword	Please refer here for the instructions
DynamicDNS	User Name		how to assign user name and
Date and Time	(6 to 15 Characters)	tanaka	password. Note(1)User Name and Password must
Camera	Password		be different from each other. (2)It is strongly recommended to
Video Streaming	(6 to 15 Characters)		change password regularly for security.
Account	Retype Password		security.
Administrator	Access Level		You can set Access Level for each
Administrator General User	Video Display Time	Not permitted 💌	General User.

6. If any changes are made to these fields, click [Save] to save the changes.

### **Image Display Settings**

- \* Login with an administrator-level user name and password is required to proceed to the following tab window settings.
- 1. Click the [Setup] tab.
- 2. Click [Image Display] at the left of the screen.
- 3. Configure the settings as specified below.
- \* Note that these settings will be overwritten while the V9 series unit is communicating with the network camera. Because overwriting is likely to be time-consuming, it is recommended to configure these settings in advance.

Top Single	Multi Buffered Image	Setup Internet M	laintenance Support
Basic Network (IPv4) Network (IPv6)	You can set Image Resolution	Image Display	
UPnP DynamicDNS Date and Time	Camera Name Camera Name	NetworkCamera	1 to 15 Characters
Camera Video Streaming Account Administrator	Single Camera Refresh Rate Image Resolution Image Quality	MJPEG V 320x240 V Fevor Motion V	"Image Resolution", "Image Quality", "Refresh Rate" and "Streaming Method" for Single-Camera view
General User Buffer/Transfer Trigger Motion Detection	Streaming Method Multi-Camera Refresh Rate	HTTP V	"Image Resolution", "Image Quality", and "Refresh Rate" for Multi-Canera view
Alarm Log Advanced Image Display Multi-Camera	Image Resolution Image Quality Mobile Phone Image Resolution	320x240 V Standard V 192x144 V	"Image Resolution" for Mobile Phone view
Operation Time External Output Analog Video Output Indicator Control	Overlay Setting Date and Time Date Format Text Text	Include YY/MM/DD (06/04/15) Include	You can select whether or not to display the Time Stamp on buffered images and the Single Camera and Multi-Camera screens. ✓
Miemasu net Lite	(1 to 20 Characters) Status Language Language	Include English	The selected language is displayed as the initial language on Top Page, Buffered Image, Sngle Camera screen,
	Banner Display		and Multi-Camera screen. All Setuy windows are also changed when selecting next language. English Japanese French Simplified Chinese German Italian Spanish Russian Styde Comera screen.
	Enable Banner user Image URL (1 to 127 Characters) Link URL (0 to 127 Characters)	All users 💌	
		Save Cancel	

# 1.3.7 BANNER (Example: PresencePLUS P4 OMNI)

### Access from the Computer

When accessing a sensor from a computer, use the "PresencePLUS" dedicated sensor software. The CD-ROM provided with the sensor includes this software. Load the CD-ROM into the computer and install the software. For details on the installation procedure, refer to the manual issued by BANNER.



- 1. Start the "PresencePLUS" software.
- 2. The [System Setup] window is displayed. When a connected sensor is found, the information on the sensor, including IP address and MAC address, appears in the window. Select the desired sensor listed under [Sensor Neighborhood] with the cursor and click [Change Sensor IP Address].

Available	Name	IP Address	Product ID			Error No	MAC 00:D0:66:01:47:97
Yes	ppvs	10.91.130.180	P4 OMNI +	2.3.0	LINE.ins	No	00:00:66:01:47:97
•							•
			Refre	ach	Change Sensor IP Ad	dress	
							<b>y</b>
°C (GUD) to Se	nsor Connection Setup						
Ethernet (RJ			10 A U	0 91 130	180 Address	ura d	
	45) 🔹	Connection	IP Address	0 91 130	180 Address	History I	

3. The [Select Ethernet Adapter] window is displayed. Select the Ethernet adapter of the computer and click [Next].

Please Select Et	thernet Adap	iter Connec	ted to Sam	ie Subnet a:	s Sensor.	
Adapter Description:	Intel(R) 82	566DM-2 (	àigabit Neti	work Conne	ction - パケ 💌	
IP Address:	10	91	130	28		
Subnet Mask:	255	255	255	0		
Default Gateway:	10	91	130	1		

4. The [Set Sensor IP Address] window is displayed. Change the sensor's IP address and subnet mask settings as necessary and click [Finish].

Set Sensor IP Address					X	
Please Enter	New Values (E	intries Initial	ized With Su	ggested Valu	s).	
New Sensor Name:	ppvs					
New IP Address:	192	168	1	182		* Make sure that the computer network
New Subnet Mask:	255	255	255	0		group and the sensor IP address are on
New Gateway:	0	0	0	0		the same network.
Sensor MAC Address:	00:D0:66:01	47:97				
	10.91.130.2	-				

- 5. Click [OK] in the [System Setup] window to close the window.
- 6. When a connection between the computer and the sensor is established, the monitor screen is displayed on the computer.



#### **Sensor Settings**

#### Port number setting

- 1. Click the [Tools] menu button.
- 2. Click the [Analysis] tab  $\rightarrow$  [Communication].



3. The [Communication Tool] menu opens. Enter an arbitrary name for [Name] and select [Image] under [Select].

<b>Gonnection Deta</b>	il			
Connection	IP Address	Subnet Mask		rotocol CP/IP
Ethernet Socket 1	192.168.1.162	255.255.255.0	20000	СРДР
				>
Connection	Baud Rate Data Bits	Parity Stop B	Bits Flow Control	Conn
<				>
To cha	inge these settings, go to the "Sy	stem" button and select th	ne "Communication" tab.	
		ОК		
	Connection Ethernet Socket 1	Ethernet Socket 1 192.168.1.182	Connection IP Address Subnet Mask Ethernet Sochet 1 192.168.1.182 255.255.255.0	Connection IP Address Subnet Mask Port F Ethernet Socket 1 192.168.1.182 255.255.0 20000 T

4. In the [Connection(s)] section, select an Ethernet socket number. The sensor port number corresponding to the selected socket number is used for connection with V9 series unit.

To see more information on each Ethernet socket number, display the [Connection Detail] window by clicking [View Settings].

Socket No.	Port No. (Fixed)
Ethernet socket 1	20000
Ethernet socket 2	20001
Ethernet socket 3	20002
Ethernet socket 4	20003
Ethernet socket 5	20004
Ethernet socket 6	20005
Ethernet socket 7	20006
Ethernet socket 8	20007
Ethernet socket 9	20008
Ethernet socket 10	20009

\* The sensor port number corresponding to each Ethernet socket number is fixed. 5. In the [Resolution] section, select the size of the image to be displayed on the V9 series unit.

Resolution	Description *
1:1	Display at actual size (640 × 480 pixels)
4:1	Display at a half of the size ( $320 \times 240$ pixels) of the width and height of 1:1 resolution
16:1	Display at a quarter of the size (160 $\times$ 120 pixels) of the width and height of 1:1 resolution
64:1	Display at an eighth of the size ( $80 \times 60$ pixels) of the width and height of 1:1 resolution

\* The size of images captured with the sensor is based on 640 x 480 pixels (default). When changing the size, refer to the manual issued by BANNER.

- 6. Click [Next] to exit the menu.
- \* Repeat steps 2 to 5 when connecting multiple V9 series units. (Maximum of 10 sensors.) Only one V9 series unit can be connected per sensor port number.

#### RUN

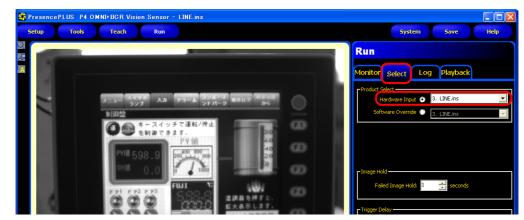
1. Click the [Run] menu button.



 The [Save Inspection] window is displayed. Select "Sensor" for [Save in]. Enter an [Inspection Number] and [Inspection Name] for registration and click [Save].

Save Ins	pection	
Save in:	F Sensor	
Number 🗠	Name	~
0 (Temp)		_
1	V8test.ins	
2	test.ins	
3		
4		
5		
6		
7		
8		~
-	Save reference image	
Inspection Num	ber: 3	
Inspection Nam	E: LINE.ins	
Save as type:	*.ins	
Space Needed:	308 KB	Save
Space Available	: 24671 KB	Cancel

Example Inspection Number: 3 Inspection Name: LINE.ins 3. Click the [Select] tab in the [Run] menu, go to [Hardware Input], and select the name that was entered for [Inspection Name] in step 2.



4. Click the [Monitor] tab  $\rightarrow$  [Start].

The settings in the [Run] menu are complete.

### 1

### 1.3.8 Restrictions

#### **All Manufacturers**

- Up to four camera images can be displayed simultaneously using both the screen and overlaps. When a fifth camera image is displayed, the display of the oldest area in the placement order is stopped.
- The resolution of snapshot files saved on the V9 series unit depends on the [Snap Setting] setting in the network camera display settings window.

#### AXIS

- The focus and brightness of images displayed by a network camera are automatically adjusted.
- The display size and rotation of images on the V9 series unit differs depending on the combination of network camera and the basic authentication settings in V-SFT.

Basic Authentication Settings			
Network Camera	V-SFT Network Camera Table Settings	V9 Series Unit Display	
Not configured	Not configured	The previously configured size and rotation settings take effect for the display of images captured with the network camera.	
	Configured	The configured size and rotation settings take effect for the display of images captured with the network camera.	
Configured	Not configured	Camera display is hidden.	
	Configured	The configured size and rotation settings take effect for the display of images captured with the network camera.	

#### Panasonic

- The focus and brightness of images displayed by a network camera are automatically adjusted.
- The display size and rotation of images on the V9 series unit differs depending on the combination of network camera and the authentication settings in V-SFT.

Authentica	tion Settings		
Network Camera	V-SFT Network Camera Table Settings	V9 Series Unit Display	
Not configured	Not configured	The configured size and rotation settings take effect for the display of	
	Configured	images captured with the network camera.	
Configured	Not configured	Camera display is hidden.	
	Configured	The configured size and rotation settings take effect for the display of images captured with the network camera.	

#### BANNER

• Focus and brightness of sensor images are not automatically adjusted. Sensors do not support these automatic adjustments.

# MEMO



2 Sound

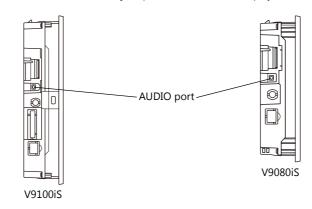
### 2.1 Overview

### 2.1.1 Before Use

### **Applicable Models**

Only the V9 Advanced (V910xiW) and V9 Standard models support the audio playback function. These models have a built-in stereo mini jack port (AUDIO) for audio playback.

Example:



### **Audio Specifications**

Item	Specifications		
Playable Files <sup>*1</sup>	WAV (PCM)		
Sampling Frequency	8 KHz/16 KHz/32 KHz/44.1 KHz/48 KHz/96 KHz/192 KHz		
Quantization Bit	8 bit/16 bit/24 bit		
Audio Source	Monaural     Stereo		
Volume Control	8 levels (Macros can vary the volume from -21 dB to 0 dB in 3 dB steps.) Default: -6 dB		
External Connection Terminal	φ3.5 mm stereo mini jack		
Max. Output Voltage	2.1 Vrms (0 db)		
Connected Amplifier	Input impedance of 1 K $\Omega$ or more		

\*1 For details on playable files, refer to "2.4.2 Audio Files" page 2-8.

### Preparation

Prepare the following items to use the audio playback function.

- V9 series unit
- Connected amplifier and external speaker
- Audio file (WAV)

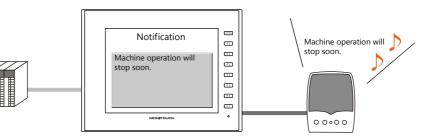
2

### 2.1.2 Overview

Audio files can be played over the connected external speaker using the V9 series unit by turning bits ON and OFF.

The functions that can play audio are listed below.

- Local playback: Settings are required for each screen.
  - Audio item
  - Animation
- Global playback: Settings apply to the entire file.
  - Alarm Server



It is possible to play an audio file of the message displayed on the screen through the speaker by recording an audio file version of the message in advance.

# 2.2 Playing Audio Using Sound Parts

### 2.2.1 Setting Examples

Prepare the following audio files.

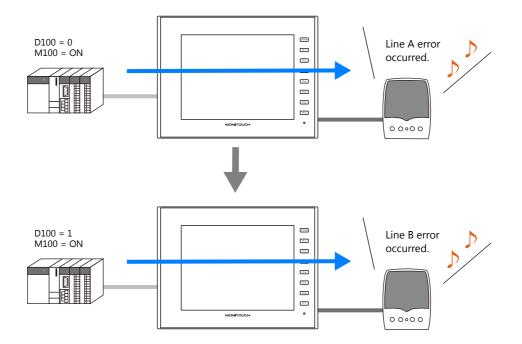
File	Description
WA0000.WAV	Line A
WA0001.WAV	Line B
WA0002.WAV	error
WA0003.WAV	occurred.
WA0004.WAV	recovered.

Configure the following settings using the above files.

Item		Description		
File Select	Play Order	0	Display Method	Device memory address: D100
		1	Display Method	File No. 2
		2	Display Method	File No. 3
Play	Monitoring Device	M10	0	

### 2.2.2 Conceptual Operation

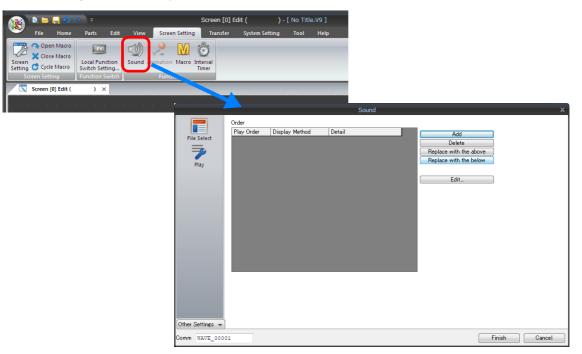
Operation is performed in the following manner when the unit is running with the above settings.



# 2.3 Detailed Settings

### 2.3.1 Sound Part

Click the [Screen Setting] menu  $\rightarrow$  the [Sound] button. The [Sound] settings window is displayed.



### **File Select**

Click the [Add] button to add audio to the list under [Order].

Item		Description
Play Order <sup>*1</sup>		This is the order in which audio files are played.
Specification Method		Select the audio file specification method.
	File No.	Specify the audio file to be played using a number. The format of audio filenames that can be specified for [File No.] is shown below. No files in any other name format can be played.
		WA xxxx .WAV (xxxx: 0000 to 1023: audio file number)
	File Name	Specify the filename of the audio file to be played. The format of audio filenames that can be specified for [File Name] is shown below. No files in any other name format can be played.
		xxxxxxxx .WAV (xxxxxxxx: maximum of 64 one-byte numerals or uppercase alphabetic characters)
		* Filename specification is only available when the audio file is stored on an SD card
	Device	Select this option to switch between audio files for playback during RUN mode. Specify the device memory address where the audio file number is stored. The format of audio filenames that can be read using a device memory address is shown below. No files in any other name format can be played.
		WA xxxx .WAV (xxxx: 0000 to 1023: audio file number)
		* When "Device" is selected, always include the audio file in the screen program file For details on including files, refer to "Locations for Storing Audio Files" page 2-9.
Detail		Information corresponding to the method selected for [Display Method] is displayed.
Play WAV File		This button is only available when "File No," is selected for [Display Method]. Press this button to play the selected file on the PC.
Add		Click to add an entry to the list.
Delete		Select an entry number to delete and click this button to delete the selected entry from the list.
Replace with the above/Rep	lace with the below	Select an entry in the list and click the desired button to change the order of the entry ir the list.

Item	Description
Edit	Select an entry in the list and click this button to configure the [Specification Method] settings. The window shown below is displayed.
	Sequence Setting:[0]
	File No.
	File Name
	O Device
	PLC1 v 0 v 00100 v
	OK Cancel

\*1 For details on the order of audio file playback, refer to "2.4.1 Audio File Playback Priority" page 2-8.

# Play

Item	Description
Monitoring Device	Specify the bit memory address to use to play/stop the audio file set in the [File Select] settings (refer to the previous page). Play: $[0] \rightarrow [1]$ Stop: $[1] \rightarrow [0]$ (stops even while the file is playing.)
Repeat playback	Select this checkbox to play the audio file repeatedly.
Priority (0 to 511)	When multiple audio items are placed on the screen, set the priority for playing for each item. When multiple bits are set to ON simultaneously, the audio file with the higher priority is played. However, if an audio file linked to an alarm server starts playing, the audio item will stop playing because the alarm server audio has a higher priority.

### Detail

Item	Description
Process Cycle	Set a cycle for the V9 series to read the PLC data while it is communicating with the PLC.
ID	Set the ID. For details on IDs, refer to the V9 Series Operation Manual.

### 2.3.2 Animation

Click the [Screen Setting]  $\rightarrow$  [Animation] button. The [Animation] settings window is displayed.

File File Clos Screen Setting & Cycle Screen Sett	n Macro e Macro e Macro Swit	arts Edit	View Screen S oune Animation Mu Concion	Acro Interval	fransfer			
	☑ Table Set	ting	Animatio	on			×	
Display Setting		mand Device	Move Circle (Clockwise) None Internal v ay the scale value		v 00100		Add Table0 Animation No. 0 ** Movement Pattern Circle (Clockwise) No. of Divisions 2 ** No. of Divisions 2 ** Use WAV Continuous Replay WAV File No. 5 **	
Other Settings  Comment ANIM	E_00000					(		OK Cancel

For details on linking audio files, refer to "11.2 Animation" in V9 Series Reference Manual 1.

### 2.3.3 Alarm Server

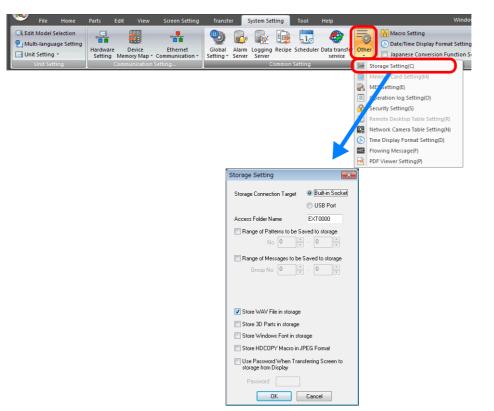
Click the [System Setting]  $\rightarrow$  the [Alarm Server] button. The [Alarm Server] settings window is displayed.

Alarm Server		
Alarm Server	Add Delete	Alam Device Alam Group Data Output Setting Control Device Setting Format Setting Others           Add         Insert         Delete All         Set Selected
		Number of Monitoring Alarms 1 /16384
		Monitoring Intervals         0         +         /65535         © sec         * 100msec         Display Page         1         /1           No.         e         Flowing Message         Sound         E-Mail         Operation \$ Parameter         To
		No.         pe         Flowing Message         Sound         E-Mail         Operation ()         Parameter         To           0
		< <u>II</u> >
		Complete Cancel

For details on linking audio files, refer to "8 Alarm" in the V9 Series Reference Manual 1.

### 2.3.4 Storage Settings

Click [System Setting]  $\rightarrow$  [Other]  $\rightarrow$  [Storage Setting]. The [Storage Setting] window is displayed.



Select the [Store WAV File in storage] checkbox to store the audio files on an SD card. For details, refer to "Locations for Storing Audio Files" page 2-9.

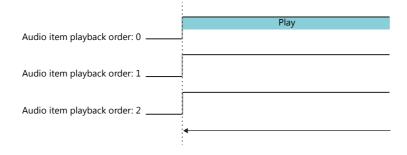
### 2.4 Notes

### 2.4.1 Audio File Playback Priority

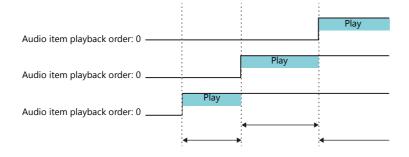
The following describes the playback priority for audio files.

### **Order of File Playback According to Audio Item**

The order of playback can be set for each audio item. If the bits of all items turn ON at the same time, the item with the lowest order number is played.



If items have the same order number, the file of the item whose bit turned ON last is played.



### **Order of File Playback According to Part Type**

Audio playback for audio items and animation is regarded as local playback. If an alarm server causes global playback of an audio file during local playback, the audio of the alarm server takes priority and local playback stops.

### 2.4.2 Audio Files

### **File Format**

Audio files in the following format can be played on the V9 series.

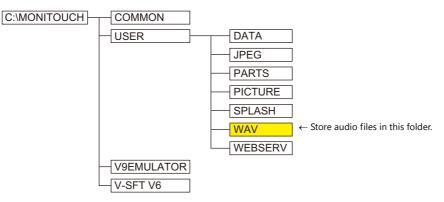
Sound Synthesis	PCM (WAV file)
Sampling Frequency	8 KHz/16 KHz/32 KHz/44.1 KHz/48 KHz/96 KHz/192 KHz
Quantization Bit	8-bit, 16-bit, 24-bit
Audio Source	Monaural, stereo

### **Locations for Storing Audio Files**

#### **During Editing**

Save the audio files for use to the "WAV" folder in the "USER" folder, which is located in the "MONITOUCH" folder on the drive to which V-SFT Version 6 is installed.

Audio files are transferred as part of the screen program when the screen program is transferred to the unit.





If an audio file number is specified using device memory, be sure to select the [System Setting]  $\rightarrow$  [Unit Setting]  $\rightarrow$  [Sound]  $\rightarrow$  [Import All Files from WAV folder] checkbox. All WAV files in the "WAV" folder will be transferred to the V9 series unit when the screen program is transferred.

<b>~</b>	File	Home	Parts	Edit	View	Screen Setting	Transf	er s	iystem Se	tting	Тос
<b>P</b> . N	dit Model S Multi-langua Jnit Setting	ige Setting	Hardware Setting		/ice	Ethernet Communication -	Global Setting +			Recipe	Sche
<b>(</b>	SRAM/Cloo	k(W)			cation	Setting	_		C	iommon !	Settir
· <b>P</b>	Backlight(l	)									
٩(	Buzzer(B)										
	System/Mo	de Switch(S	)								
۶	Blink/Flash	(F)									
	Overlap(O)										_
2	Video/RGE										Sound Setting
۹)	Sound(W).										Import All Files from WAV Folder
7%	General Se	tting(E)									
0	Local Mod	e(M)									OK Cancel
10	GD-80E/V6	09E Compat	ibility Settin	g(G)							

Setting to check: [Screen	Setting] $\rightarrow$ [Sound]
File Select Play	Sound     X       Order     Play Droter     Decide       0     Device     Double       1     Plae No.     2       2     File No.     3       Edt     Specification by device memory       Very WAV File
Comment WAVE_D	00001 Pnish Cancel

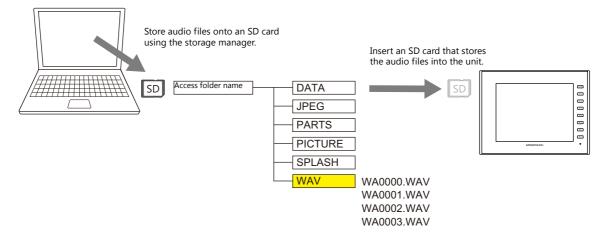
#### **During Unit Operation**

Audio files are transferred as part of the screen program when the screen program is transferred to the unit. However, audio files can be stored on an SD card to reduce the size of the screen program.

Select the [Store WAV File in storage] checkbox at [System Setting]  $\rightarrow$  [Other]  $\rightarrow$  [Storage Setting].

File Home	Parts I	Edit View	Screen Setting	Transfer	System Se	tting	Tool	Help			Windov
Edit Model Selection	Hardware Setting	Memory Map *	Ethernet Communication +	Global A Setting + Se	rver Server			v Data transfe service	Other	Japanese Conversi	
Unit Setting		Communication	Setting			Common	Setting		4 € 4 € 2 € 4 € 4 € 1 € 2 € 4 € 2 € 4 € 2 € 4	torage Setting(C) deemory Carol enting(M) deES Setting(E) Depration log 5 ting(C) security Setting(S) Remote Desistop TL to Setti detwork Camera Tail: 9 Sett ime Display Formation Imp Display Formation Imp Storage Connection Targe Access Folder Name Range of Patterns to b No: 0 Range of Messages to Group No: 0 Store WAV File in stora Store 30 Pats in stora; Store Windows Fort in Store HDCDPY Macio Store HDCDPY Macio Store Password Password	Ing(N) (IC) Builtin Sockel Builtin Sockel Builtin Sockel Builtin Sockel ExT0000 e Saved to storage C C C Saved to storage C C C C Saved to storage Social Builtin Sockel Builtin

If settings are configured for audio files to be stored on an SD card, audio files are not automatically stored on the SD card even when screen program transfer is performed. The storage manager function must be used to store the audio files onto an SD card. For details, refer to "8.3.8 Storing Audio (WAV) Files" page 8-22 in "8 Storage Device".



# 2.5 System Device Memory

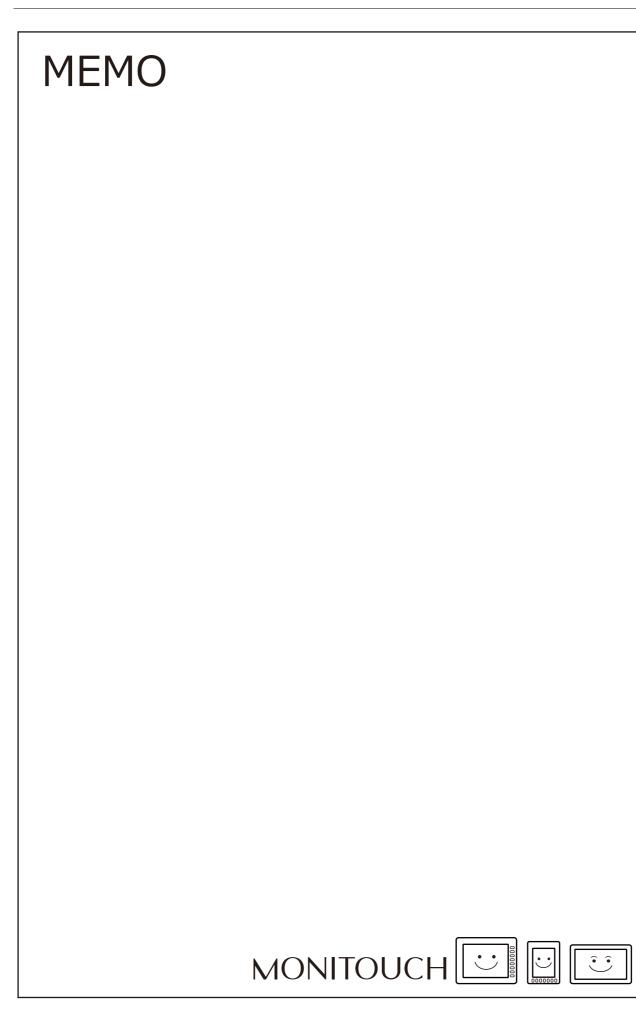
Sound information is output to internal device memory (\$s).

• \$s1000

This device memory address stores the number of seconds until the currently playing WAV file will finished playing. • \$\$1001

- This device memory address stores the adjusted volume value of channel L.
- \$s1002

This device memory address stores the adjusted volume value of channel R.



# 3 Scheduler

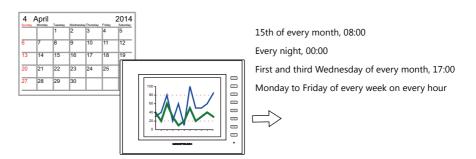
### 3.1 Overview

### 3.1.1 Scheduler

The scheduler function executes specific operations at the specified times. Operations include turning bits ON/OFF, writing data, and macro execution, and up to 64 schedules can be registered.

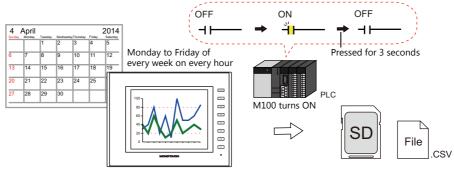
Registered schedules can be checked in a list.

• Schedules can be executed according to a specified date and time or day of the week.



- For setting examples, refer to "3.2.1 Trigger Settings" page 3-3.
- CSV output from a logging server can be easily executed using the scheduler function.

Example: Storage output bit M100



For setting examples, refer to "3.2.2 Operation Settings" page 3-8.

• Schedules can be executed at any time by setting an operation time to a device memory address.

For setting examples, refer to "Designation: Device" page 3-7.

• An interlock can be set to a schedule to control execution permission using bit status.

For details, refer to "Others" page 3-15.

## 3.1.2 Operation Specifications

#### **Execution Timing (Trigger)**

There are two types of execution timings that can be specified: start time, and start time and end time.

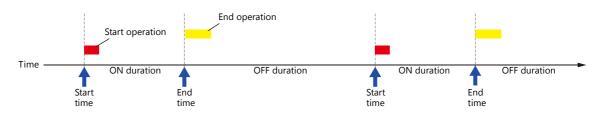
• Start

Perform operation once at start time.



• Start and end

Perform an operation once at the start time and another operation at the end time.



#### **Operation Item**

- Bit output
- Word writing
- Macros

### 3.2 Setting Example

### 3.2.1 Trigger Settings

### **Specification Method: Direct**

Set the operation time of the schedule to the screen program.

There are two general methods for setting the operation time: date specification and day of the week specification.

#### **Date specification**

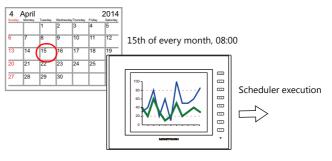
- "Execution Every Month with Date Specifications" page 3-3 (Example: Execution on the 15th of every month at 08:00)
- "Execution Every Day with Time Specifications" page 3-4 (Example: Execution every night at 00:00)

#### Day of the week specification

- "Execution Every Month with Day of the Week Specifications" page 3-5 (Example: Execution on the first and third Wednesday of every month at 17:00)
- "Execution Every Week with Day of the Week Specifications" page 3-6 (Example: Execution at every hour, Monday to Friday of every week)

#### **Execution Every Month with Date Specifications**

This section explains the setting procedure for execution on the 15th of every month at 08:00.



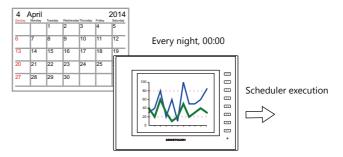
- 1. Click [System Setting]  $\rightarrow$  [Scheduler].
- 2. Click [New].
- 3. Register the schedule name for [Settings] on the [General] tab window.
- 4. Configure the following settings on the [Trigger] tab window.

Trigger: Designation Action: Time:	Start Direct 15th of every month 08:00
Settings	
General Trigger	Action Others
Trigger	
<ul> <li>Start</li> </ul>	) Start and end
Time Settings	
Designation (	Direct O Device
	Date     Every day     Every month     15     day     Levex     Example: 15th of every month     Week
[	Every hour 8 + / 23h - Example: 08:00
	Every minute 0 🚔 min. / 59 minutes
	Every second 0 🚊 sec. / 59 seconds

This completes the necessary settings. Operation settings are described next.

### **Execution Every Day with Time Specifications**

This section explains the setting procedure for execution on every night at 00:00.



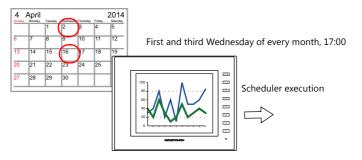
- 1. Click [System Setting]  $\rightarrow$  [Scheduler].
- 2. Click [New].
- 3. Register the schedule name for [Settings] on the [General] tab window.
- 4. Configure the following settings on the [Trigger] tab window.

Trigger: Designation: Action: Time:	Start Direct Every day 0 hour, 0 minutes, 0 seconds
Settings	
General Trigger Actio	n Others
Trigger	
Start Start	and end
Time Settings	
Designation 💿 Direc	t 🔘 Device
Action   Date  E-  Wee	very day O Every month Example: Every day
Ever	y hour 0 🚽 h / 23h
Ever	y minute 🛛 📑 min. / 59 minutes — Example: 00:00 at night
Ever	y second 0 sec. / 59 seconds

This completes the necessary settings. Operation settings are described next.

#### **Execution Every Month with Day of the Week Specifications**

This section explains the setting procedure for execution on the first and third Wednesday of every month at 17:00.



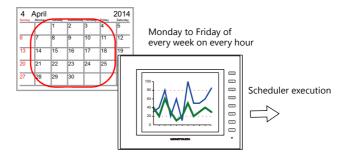
- 1. Click [System Setting]  $\rightarrow$  [Scheduler].
- 2. Click [New].
- 3. Register the schedule name for [Settings] on the [General] tab window.
- 4. Configure the following settings on the [Trigger] tab window.

Trigger: Designatic Action: Time:	on:	Start Direct First and third Wednesday of every month 17:00		
Settings				
General Trigg	er Action	1 Others		
Trigger				
Start	Start	and end		
Time Setting	IS			
Designation	Oirection	t 🔘 Device		
Action	🔘 Date			
	Weel	<		
	E Ex			third Wednesday
	📃 Su	un Mon Tue VWed Thu Fri Sat	of every I	nonth
	Ever	y hour 17 📑 h / 23h Example: 5:00 p.m.		
	Ever	y minute 🛛 🚽 min. / 59 minutes		
	Ever	y second 0 🚔 sec. / 59 seconds		
11				

This completes the necessary settings. Operation settings are described next.

#### **Execution Every Week with Day of the Week Specifications**

This section explains the setting procedure for execution on Monday to Friday of every week on every hour.



- 1. Click [System Setting]  $\rightarrow$  [Scheduler].
- 2. Click [New].
- 3. Register the schedule name for [Settings] on the [General] tab window.
- 4. Configure the following settings on the [Trigger] tab window.

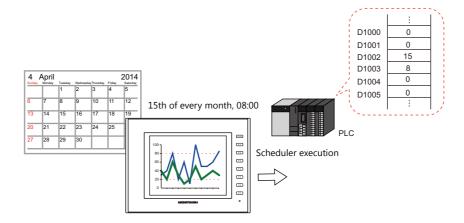
rigger: Designation: Action: Time:	Start Direct Monday to Friday of every week [Every hour] checkbox selected
General Trigger Ac	tion Others
0	tart and end
Time Settings Designation <sup>©</sup> Di	irect O Device
_	
V E	very hour very minutes Example: Every hour
E	very second 0 w sec. / 59 seconds

This completes the necessary settings. Operation settings are described next.

### **Designation: Device**

Set the operation time of the schedule to the screen program using a device memory address. (The date and time are set to all devices memory address.)

The date and time is specified and the schedule is executed in RUN mode. The setting procedure is described below.



- 1. Click [System Setting]  $\rightarrow$  [Scheduler].
- 2. Click [New].
- 3. Register the schedule name for [Settings] on the [General] tab window.
- 4. Configure the following settings on the [Trigger] tab window.

ettings General Trigger Action	Others	
Trigger		
<ul> <li>Start</li> <li>Start an</li> </ul>	d end	
Time Settings		
Designation 🔘 Direct	Oevice	
Time Setting Device	PLC1 • 0	Example: 6 words from D1000 to D1005
Input Type		
Control Device 🛛 🛈	D01000	The operation date and time is assigned
''n''th Week 🛛 🔟	D01001	consecutively from the [Time Setting Device].
Day/Week 🔟	D01002	The number of words used differs depending on
Action Time 🔟		the [Trigger] setting.
Hour	D01003	• [Start]: 6 consecutive words
Minute	D01004	<ul> <li>[Start and end]: 9 consecutive words</li> </ul>
Second	D01005	

For details, refer to "Designation: Device" page 3-12.

This completes the necessary settings. Operation settings are described next.

For operation setting examples, refer to "3.2.2 Operation Settings" page 3-8.

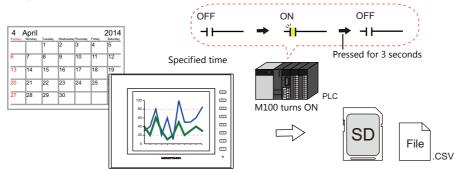
The schedule is started by setting the operation time to [Time Setting Device] on MONITOUCH.

For details on the time specification method, see "3.4 Example of Date and Time Specification by Device Memory (Designation: Device)" page 3-16.

### 3.2.2 Operation Settings

This section explains the setting procedure for turning ON the M100 bit at the specified time. The M100 bit is turned OFF after three seconds.

#### Example: CSV output bit M100



- 1. Set "1" for [Number of Outputs] under [Action]  $\rightarrow$  [Output Setting] in the schedule.
- 2. Configure the operation settings as shown below.

Output Action: Output Target Memory: Reset Time:	Momentary M100 30 * 100 ms		5)	
Settings General Trigger Action Others				
Output Setting Macro				
	/16			
Output Action Momen Output Target Memory PLC1	• 0 ⊨ M	▼ 00100	A V	
Reset Time 30 📑 /300 (*	'100ms]			
Set the time to reset the bit at mome	intary operation.	Example:	Turn OFF the M100 bit after three seconds	

This completes the necessary settings.

# 3.3 Detailed Settings

Location of settings: [System Setting]  $\rightarrow$  [Scheduler].

#### **Schedule List**

	Screen	(3) Edit ( ) 🕂 📆 S	cheduler ×				
	1.	The specified acti	on is executed at the specifie	d time.			
	Schedule Lis	t					
	New	o. Schedule Name	Trigger	Action(Start)	Action(End)	Other Settings	*
	0 Delete	SCHEDULE_00	15Day 8:00:00	Dutput device Count : 1 Macro : None	None	Yes	
	1	SCHEDULE_01	Every day 0:00:00	Output device Count : 2 Macro : None	None	Yes	=
List of currently — jistered schedules	2	SCHEDULE_02	Every weekMonday Every weekTuesday Every weekWednesday	Macro : Yes	None	Yes	
gistered schedules	3	SCHEDULE_03	Every week weunesday Every week Thursday Time Setting Device : D01000	Output device Count : 1 Macro : Yes	None	Yes	
			Time Cotting Douise :	Butnut douise Count : 2	Output douigo Co	unt Vee	-
	٠						•
	*	copied from the component par					
	Settings						
	General Trig	ger Action Others					
	Schedule Na	me					
	SCHEDULE	E_00					

Item	Description
New	Create a new schedule. A maximum of 64 schedules can be registered.
Delete	Delete the selected schedule.
Preview	Currently registered schedules can be checked in a list. Schedules registered with component parts are shown with an asterisk (*) on the left of [No.].

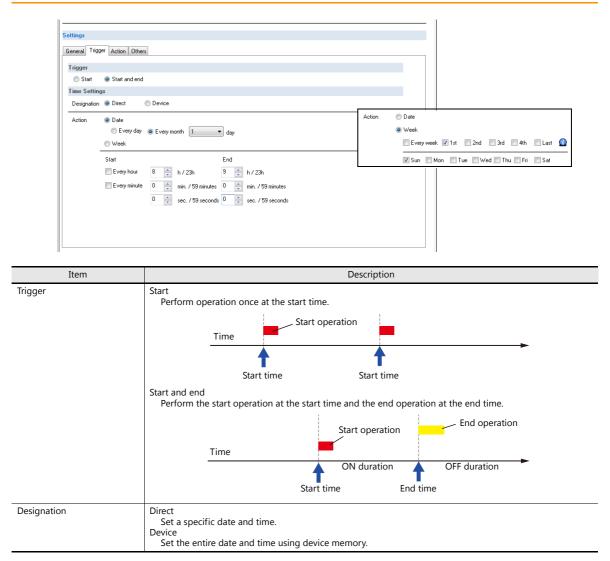
#### General

\_

Settings		
General Trigger Action Others		
Schedule Name		
SCHEDULE_00		
L		

Item	Description
Schedule Name	Register the schedule name. 256 characters maximum

#### Trigger



### **Designation: Direct**

	Item	Description
Action	Date	Every day Execute every day. Every month, x day Execute on the specified day.
	Week	Every week Execute every week. 1st, 2nd, 3rd, 4th, Last Execute on the specified day of the week (Sunday to Saturday) on the specified week. The first week at the start of each month corresponds to [1st]. Multiple checkboxes can be selected.
		Sun Mon Tue Wed Thu Fri Sat
		3         4         5         6         7         8         9         2nd         8th to 14th           10         11         12         13         14         15         16         3rd         15th to 21st
		17 18 19 20 21 22 23 4th 22nd to 28th
		24     25     26     27     28     29     30       31     31     31     31     31
	Hour,	Fridays in this month 1st 1st 2nd 8th 3rd 15th 4th 22nd Last 29th Specify the execution time of the schedule.
	minutes, and seconds	

### **Designation: Device**

from
o D1005

Item	Description
Time Setting Device	Specify the device memory address to use to set the time. The time is assigned consecutively starting from this address.         The number of words used differs depending on the [Trigger] setting.         • [Start]:       6 consecutive words (n to n+5)         • [Start and end]:       9 consecutive words (n to n+8)
Input Type	Select the code to use when reading data from the PLC device memory. BCD, DEC, FLOAT

#### Details of Time Setting Device

Device Me	Device Memory			Description														
		1: Ev 0: Se								e can be	ond an be specified							
Control Device	n	Bit 0				Bit 0 Contents control device memory addresses n to n + 8 are determine change in bit status and then the settings take effect. * When this bit is 1 at startup, the settings take effect.								ermined b	by a $0 \rightarrow 1$			
		Action Specify a date or day of the week. Bit 5																
		Bit 4							Date S	ettin	g			(	)5		04	
							Eve	ry mont	h, dat	e, tim	ie				0		0	_
							Eve	ry day, t	ime						0		1	
							xth	week, c	ay of t	he w	eek,	time			1		0	
							Eve	ry week	day o	of the	wee	k, tin	ne		1		1	_
		Bits 1	to 3					ting eve s 0, the								espon	nding bit	is set to 1.

Device Me	emory	Description
		Specify when control device memory n is set to the following.
		Date Setting 05 04
		xth week, day of the week, time 1 0
		When setting the ordinal week number of a day of the week, the corresponding bit is set to 1. Multiple selections can be made.
		15         14         13         12         11         10         09         08         07         06         05         04         03         02         01         00
		0 0 0 0 0 0 0 0 0 0 0 0 0
		1: Last 1: 1 st 1: 4th 1: 3rd
"n"th Week	n+1	
		Sun Mon Tue Wed Thu Fri Sat 1 t 1 t 1 t 1 t 1 t 1 t 1 t 1 t 1 t 1
		3         4         5         6         7         8         9         2nd         8th to 14th           10         11         12         13         14         15         16         3rd         15th to 21st
		17 18 19 20 21 22 23 4th 22nd to 28th
		24         25         26         27         28         29         30         Last         25th to 31st         Monday 25th corresponds to both
		31 4th and Last
		Fridays in this month 1st 1st 2nd 8th 3rd 15th 4th 22nd Last 29th
		<ul> <li>The setting differs depending on the status of bits 4 and 5 of the control device memory.</li> <li>Date specification Set control device memory n to the following value.</li> </ul>
		Date Setting0504Every month, date, time00
Day/Week	n+2	- 1 to 31: Date - 99: Last day of each month • Day of the week specification Multiple days of the week can also be set. Set control device memory n to the following value. $ \frac{\overline{Date Setting}  05  04}{xth week, day of the week, time  1  0} \\ \hline Every week, day of the week, time  1  1 $ $ \frac{15  14  13  12  11  10  09  08  07  06  05  04  03  02  01  00}{0  0  0  0  0  0  0  0  0  0} \\ \hline 1: Saturday \\ 1: Friday \\ 1: Thursday \\ \hline 1: Thursday $
<b>0</b>		1: Wednesday
Start Action: Hour	n+3	Used when bit 3 of the control device memory is 0 (hour specifiable). 0 to 23
Start Action: Minute	n+4	Used when bit 2 of the control device memory is 0 (minute specifiable). 0 to 59
Start Action: Second	n+5	Used when bit 1 of the control device memory is 0 (second specifiable). 0 to 59
End Actions !!	(	Used when hit 2 of the control dovice memory is 0 (hour and if in the 2) 0 to 22
End Action: Hour	n+6	Used when bit 3 of the control device memory is 0 (hour specifiable). 0 to 23
End Action: Hour End Action: Minute End Action: Second	n+6 n+7 n+8	Used when bit 3 of the control device memory is 0 (hour specifiable). 0 to 23 Used when bit 2 of the control device memory is 0 (minute specifiable). 0 to 59 Used when bit 1 of the control device memory is 0 (second specifiable). 0 to 59

### Action

### **Output Setting**

eral Trigger Action Othe	IS			
tput Setting Macro				
Dutput device to edit * Star * End	t action action			
Number of Outputs	2 📑 /16			
No. Action	Output Target	Writing Value		
Momentary(ON)	M00100			
Momentary(ON)	M00200			
•	m	•		
Reset Time 🛛 10 📑	/300 [*100ms]			
Set the time to reset the bit	at momentary operation.			

Item	Description
Output device to edit	This setting is available when [Start and end] is selected for [Trigger]. Select the operation for the start time and end time.
Number of Outputs	Set the number of bits to output. 1 to 16
Output Target	Specify the output device memory address.
Action	Momentary (ON) * Turn the bit ON, and then turn it OFF after the time set for [Reset Time] elapses. [Reset time]: 1 to 300, units: 100 ms
	Momentary (OFF) * Turn the bit OFF, and then turn it ON after the time set for [Reset Time] elapses. [Reset time]: 1 to 300, units: 100 ms
	Set Turn the bit ON.
	Reset Turn the bit OFF.
	Alternate Alternate the bit between ON and OFF.
	Writing in Words Write the data value to the device memory. Set the data length of the value for writing using [Data Length]. 1-Word/2-Words (real numbers use 2 words)

\* When [Momentary] is set multiple times, [Reset Time] is used for all instances.

#### Macro

	Settings									
		Action Others								
	Output Setting	Output Setting Macro								
	Macro to Edit *Start action End action									
	Setting   Use Scheduler macros  Edit  Delete									
		Specify the macro block number								
<b>.</b> .		\$u00100 = \$u00956 (\v/) :	*							
Preview —		; (F(\$u00100 > 0) (W)								
		(F(128) = \$u00100) (W) \$u00100 = \$u00100 - 1 (W) ENDIF								
		; ENDIF								
			Ψ.							

Item	Description
Macro to Edit	This setting is available when [Start and end] is selected for [Trigger]. Select the operation for the start time and end time. If settings exist, an asterisk (*) is shown.
Use Scheduler macros	Register a macro for execution using [Edit]. All macros can be deleted at once using [Delete].
Specify the macro block number	Select the macro block number using the pull-down menu. The selected macro block number can be edited using [Edit].
Preview	Displays the details of the currently selected macro.

 $\mathbb{R}$  For details on macros, refer to the V9 Series Macro Reference Manual.

#### Others

General Trigger Action Others		
Acknowledgement Bit		
PLC1 ▼ 0 🚖 M ▼ 00000		
This bit is set (ON) on execution.		
✓ Interlock		
PLC1 ▼ 0 🚖 M ▼ 00001		
Operation is allowed when this bit is set (ON).		
Other		
Execute start action even if the start time is exce Save an operation log	eded at startup/calendar change	Available when [Start an end] is selected for [Trigger].
L [!	operation log. r] → [Operation log Setting] duler]	

Item	Description					
Acknowledgment Bit	This bit changes to 1 when the schedule is executed.					
Interlock	Control the execution permission of the start operation.					
	1: Permitted 0: Prohibited					
	* Even if the interlock bit changes to 0 (prohibited) during schedule operation, the end operation is performed.					
Execute start operation even if the start time is exceeded at startup/calendar change	This setting is available when [Start and end] is selected for [Trigger]. Set the operation to perform when the time after startup or a calendar change is within the start/end time interval (ON interval).					
	Selected The start operation is performed. No operation is performed if the end time is reached but the next start time is (OFF time).					
	Unselected The start and end operations are not performed. Operations are performed from the next start time.					
Save an operation logThis setting is available when the [Scheduler] checkbox is selected at [System Setting] $\rightarrow$ [ (Operation log Setting] $\rightarrow$ [Log objects]. Save a log of schedule execution.						

## 3.4 Example of Date and Time Specification by Device Memory (Designation: Device)

If the schedule operation time is set to a device memory address, the schedule will start at the time specified in the device memory.

This section explains the command method with an example where the time setting device memory is D1000. There are two general methods for setting the operation time: date specification and day of the week specification.

#### **Date specification**

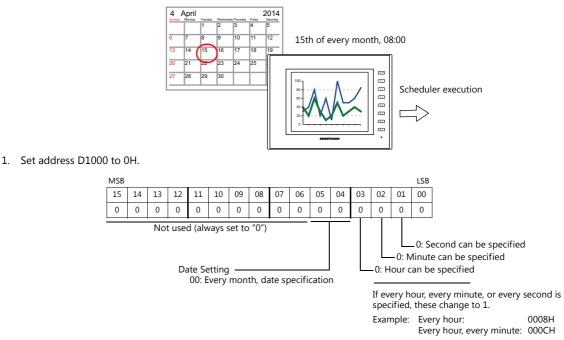
- "Execution Every Month with Date Specifications" page 3-16 (Example: Execution on the 15th of every month at 08:00)
- "Execution Every Day with Time Specifications" page 3-17 (Example: Execution every night at 00:00)

#### Day of the week specification

- "Execution Every Month with Day of the Week Specifications" page 3-18 (Example: Execution on the first and third Wednesday of every month at 17:00)
- "Execution Every Week with Day of the Week Specifications" page 3-19 (Example: Execution at every hour, Monday to Friday of every week)

#### **Execution Every Month with Date Specifications**

This section explains the setting procedure for execution on the 15th of every month at 08:00.



- 2. Specify "15" for the date in address D1002.
- 3. Specify the start time in addresses D1003 to D1005.

Item	Device Memory	Setting Value	Remarks
Start Action: Hour	D1003	8	When D1000 bit 3 = 1 (every hour), disabled
Start Action: Minute	D1004	0	When D1000 bit 2 = 1 (every minute), disabled
Start Action: Second	D1005	0	When D1000 bit 1 = 1 (every second), disabled

4. Change bit 0 of address D1000 from 0 to 1.

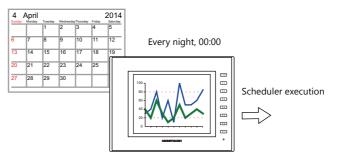
MSB															LSB
15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Not used (always set to "0")															
									Ackr 0	rightarrow 1	edgm	ent -			

This completes the necessary settings.

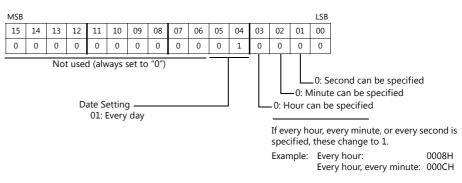
The scheduled operation is performed at the specified time. Perform steps 1 to 4 to change the settings.

#### **Execution Every Day with Time Specifications**

This section explains the setting procedure for execution on every night at 00:00.



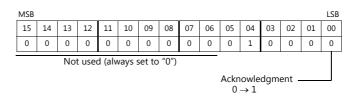
1. Set address D1000 to 10H.



 Specify the start time in addresses D1003 to D1005. (When [Start and end] is selected on the [Trigger] tab window, specify the end time in addresses D1006 to D1008.)

Item	Device Memory	Setting Value	Remarks
Start Action: Hour	D1003	0	When D1000 bit 3 = 1 (every hour), disabled
Start Action: Minute	D1004	0	When D1000 bit 2 = 1 (every minute), disabled
Start Action: Second	D1005	0	When D1000 bit 1 = 1 (every second), disabled

3. Change bit 0 of address D1000 from 0 to 1.

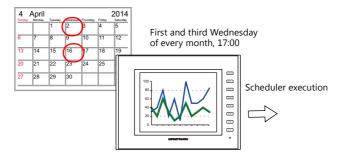


This completes the necessary settings.

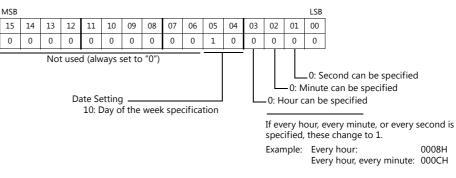
The scheduled operation is performed at the specified time. Perform steps 1 to 3 to change the settings.

#### **Execution Every Month with Day of the Week Specifications**

This section explains the setting procedure for execution on the first and third Wednesday of every month at 17:00.



1. Set address D1000 to 20H.



2. Specify 5H for address D1001 so that execution occurs on the first and third weeks.

15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	
0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	
											1:	3rd				1: 1st

3. Specify 8H for Wednesday in address D1002.

15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00
0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
												-			

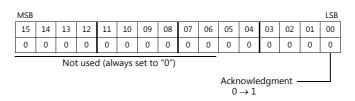
1: Wednesday

4. Specify the start time in addresses D1003 to D1005.

(When [Start and end] is selected on the [Trigger] tab window, specify the end time in addresses D1006 to D1008.)

Item	Device Memory	Setting Value	Remarks
Start Action: Hour	D1003	17	When D1000 bit 3 = 1 (every hour), disabled
Start Action: Minute	D1004	0	When D1000 bit 2 = 1 (every minute), disabled
Start Action: Second	D1005	0	When D1000 bit 1 = 1 (every second), disabled

5. Change bit 0 of address D1000 from 0 to 1.

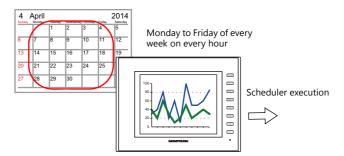


This completes the necessary settings.

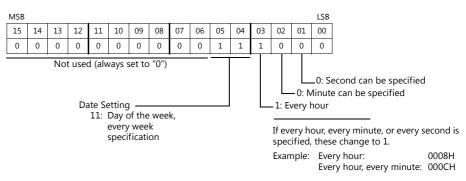
The scheduled operation is performed at the specified time. Perform steps 1 to 5 to change the settings.

#### **Execution Every Week with Day of the Week Specifications**

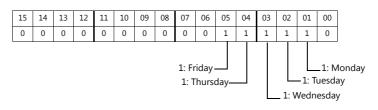
This section explains the setting procedure for execution on Monday to Friday of every week on every hour.



1. Set address D1000 to 38H.



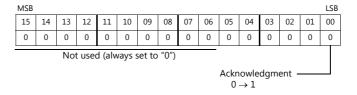
2. Specify 3EH for Monday to Friday in address D1002.



3. Specify the start time in addresses D1003 to D1005.

Item	Device Memory	Setting Value	Remarks
Start Action: Hour	D1003	-	When D1000 bit 3 = 1 (every hour), disabled
Start Action: Minute	D1004	0	When D1000 bit 2 = 1 (every minute), disabled
Start Action: Second	D1005	0	When D1000 bit 1 = 1 (every second), disabled

4. Change bit 0 of address D1000 from 0 to 1.



This completes the necessary settings.

The scheduled operation is performed at the specified time. Perform steps 1 to 4 to change the settings.

## 3.5 System Device Memory (\$s)

The following describes the system device memory associated with the scheduler function.

Device Memory	Description
\$s1650	After specifying device memory addresses n to n + 8 for operation time, the result is output when bit 0
\$s1651	(acknowledgment bit) of control device memory n changes from 0 to 1. When an invalid value is specified, the bit is 1.
\$s1652	
\$s1653	1: Error 0: Normal
	Example: Invalid values include 40th day, 100 seconds etc.
	* When a valid time is set, the bit is 0.

1: Error 0: Normal

al																		
	\$s1650	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	← Bit number
	\$ST020	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	Schedule number
	\$s1651	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	← Bit number
	<b>\$31051</b>	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	← Schedule number
	\$s1652	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	← Bit number
		47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	← Schedule number
	\$s1653	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	← Bit number
	<b>₩3±000</b>	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	48	← Schedule number

## 3.6 Notes

#### **Date and Time Settings**

- The start time and end time cannot be set to the same value.
- When specifying a date, operation is not performed if the date does not exist in the particular month.
  - Example:

When the 31st is specified, operation is not performed for February, April, June, September, or November. In this case, operation at the end of the month can be performed by selecting "Last day".

- Specify the end time within 24 hours of the start time. If the end time is before the start time, the end time will be set on the next day.
  - Example:

When set as for "every day, start time: 23:00, end time: 01:00", operation starts from 23:00 on the first day and ends at 01:00 on the second day, and starts from 23:00 on the second day and ends at 01:00 on the third day, etc.

#### **Changing the Built-in Calendar**

- If the time is corrected backward due to a date change (automatic correction), the scheduler is only executed once. If the time is corrected forward, the number of schedules that were skipped are executed.
- If the time is corrected using the following method, schedule operations are performed based on the corrected time.
  - Execute the calendar reading bit (location of setting: [System Setting] → [Hardware Setting] → [Control Area])
  - SYS (SET\_CLND) macro command
  - SYS (SET\_SYS\_CLND) macro command

If the time is corrected backward, operation differs depending on the setting of [Execute start action even if the start time is exceeded at startup/calendar change].

For details, refer to "Others" page 3-15.

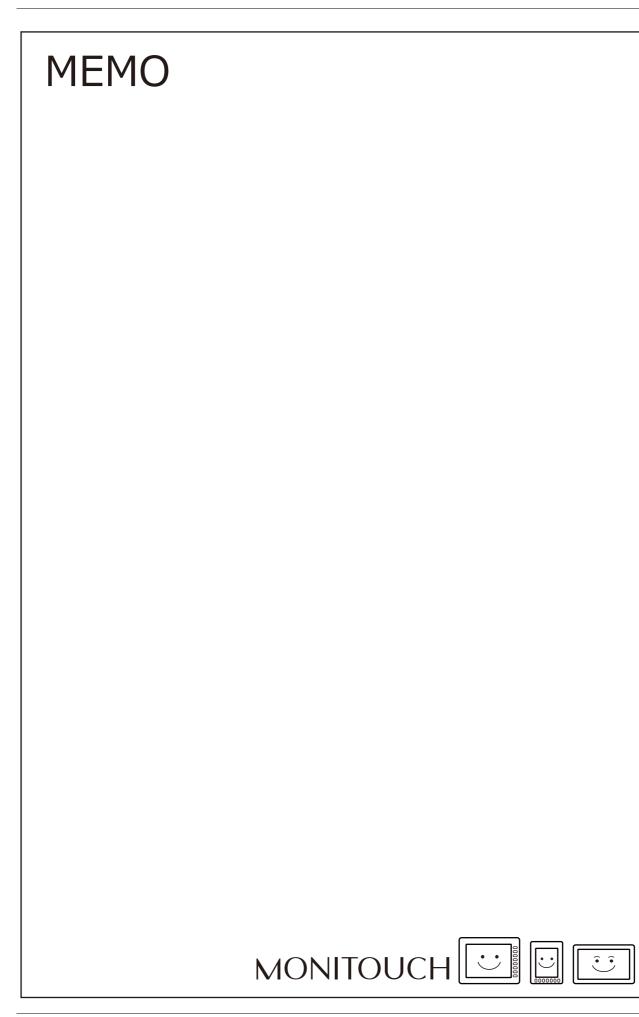
#### Using a Time Setting Device Memory (Designation: Device)

- Operation continues unaffected if the time setting device is changed (acknowledgment bit: 0 → 1) during scheduled operation. Subsequent operations are performed at the changed time after the current operation is complete.
- If the time setting device memory is changed after a start operation completes, the end operation is not performed. The subsequent start operation is performed at the changed time.

For details on the acknowledgment bit, refer to "Designation: Device" page 3-12.

#### Other

If multiple schedule times (start or end times) overlap, operations start in order from the lowest schedule number. If the scheduled time of a subsequent operation is reached during execution of an operation within the same schedule number, the subsequent operation is not executed until the current operation is complete. Therefore, the subsequent operation is delayed.



## **Operation Log**

## 4.1 Overview

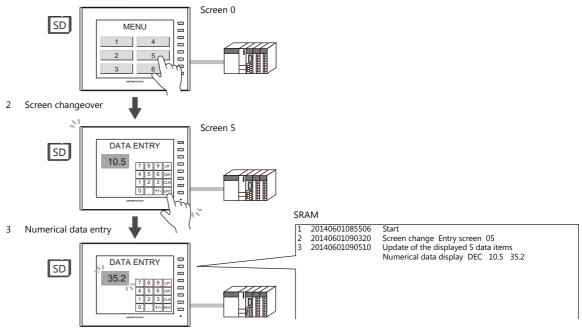
#### 4.1.1 Operation Log

#### **Operation Overview**

The operation log function stores screen operation history records (operation logs) in the SRAM area. When the SRAM area becomes full, logs can be output to an SD card.

In the event of an error, these stored logs allow previous operations to be examined in order to determine the cause of the error. Also, when used in conjunction with the security function, operator names can also be recorded.

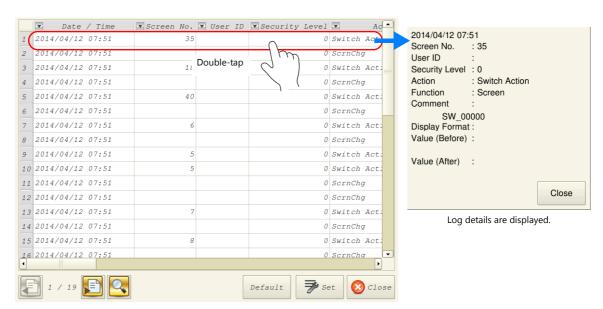


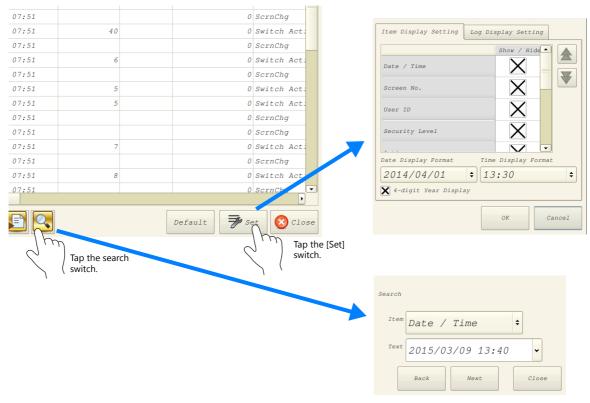


## **Operation Log Viewer**

Operation history records (operation logs) stored in the SRAM area can be displayed on MONITOUCH using the operation log viewer.

The details of operations that were performed when an error occurred can be easily examined in order to determine the cause of the error.





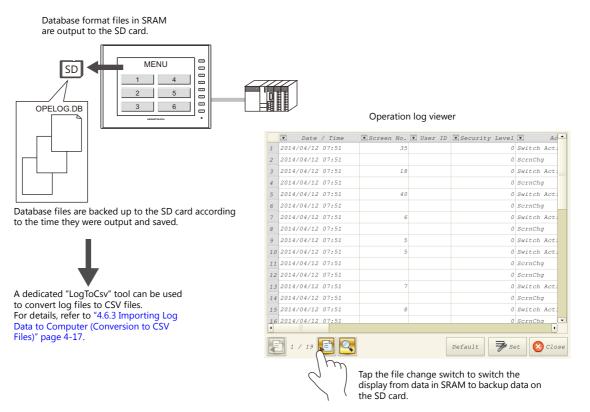
Use the [Set] switch in the log viewer screen to show/hide items, set the number of characters, and change the date/time format. Use the search switch to select and search for items.

For details on the log viewer, refer to "4.5 Operation Log Viewer" page 4-11.

## Log Storage

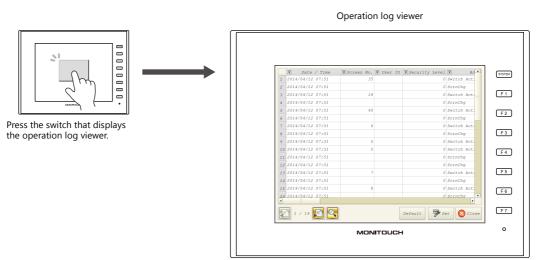
When the SRAM area becomes full, logs are written to an SD card. In addition to the logs stored in the SRAM area, the log files output to an SD card can also be displayed in the log viewer.

Log files written to an SD card are database format files. A dedicated tool "LogToCsv" will be available to convert such log files to CSV files so their contents can be viewed.



## 4.2 Using the Operation Log Viewer

#### 4.2.1 Conceptual Operation



The operation log viewer is displayed.

## 4.2.2 Setting Procedure

## **Configuring the Operation Log**

- 1. Click [System Setting]  $\rightarrow$  [Other]  $\rightarrow$  [Operation log Setting]. The [Operation log setting] window is displayed.
- 2. Select the [Use operation log function] checkbox and select the checkboxes of the relevant items under [Log objects].

Operation log setting	×
Use operation log function Word Count Log objects	t Used in SRAM [23552 / 409472 Word]
Start Transfer Kode changeover Screen changeover Language changeover Switch Data display update	•
SRAM save number	100 🛃 / 512
Storage Connection Target	● Built-in Socket ◯ USB Port
Action to be taken when store target capacity is not enough	Erase old log and continue
Control Device	<u>\$u16330</u>
☑ Save comments in the set nu	umber of languages
Use V8-compatible operation	n log viewer
Re-register	
ОК	Cancel

- 3. Set the number of logs to save in SRAM with [SRAM save number].
- 4. Select the how to connect the SD card with [Storage Connection Target].
- 5. Set any other relevant settings and then click [OK].
- \* When [Switch] or [Data display update] are selected under [Log objects], the [Save an operation log] checkbox must be selected in the settings window of switches, numerical data displays, and character displays targeted for logging.

	Switch	х
🔺 🛖	Coordinates	1
Function	Start X 🚺 🔄 Start Y 55 🔄 Width 61 荣 Height 57 卖	
	Others	
Macro	Process Cycle High Speed	-
Delay	☐ A buzzer sounds individually Ø Save an operation log	
-	<u>Detail Settings≫</u>	
Interlock		
<b>—</b>		

## **Operation Log Viewer Settings**

- 1. Place a switch for displaying the operation log viewer.
- 2. Select [Operation Log Viewer Display] in the [Function] settings.

This completes the necessary settings. The screen program can be transferred to MONITOUCH.

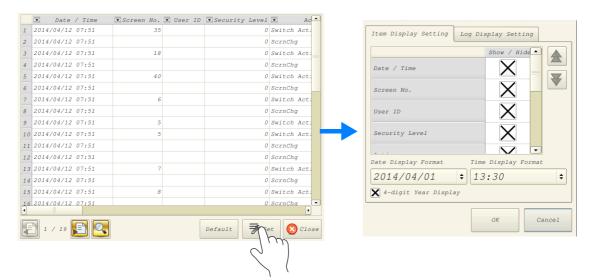
## 4.2.3 Operating Procedure

## **Displaying the Operation Log Viewer**

- 1. Display the screen that contains the switch configured above on MONITOUCH.
- 2. Press the switch to display the operation log viewer.
- \* The operation log viewer can be displayed in both RUN mode and Local mode.

## **Settings Menu**

1. Press the [Set] switch. The window shown below is displayed.



- 2. Change the order of titles, hide unnecessary display items, and change the date and time format as desired.
- 3. To hide log items, switch to the [Log Display Settings] tab window.

Item Display Setting	Item Display Setting	Log Display Setting
Show / Hide		Show / Hide
Date / Time	PowerON	X
Screen No.	Trans	
User ID	ModeChg	X
Security Level	ScrnChg	X
Date Display Format Time Display Format	LangChg	X
2014/04/01 \$ 13:30 \$	Switch	X
¥ 4-digit Year Display		
OK Cancel		OK Cancel

For details on other log viewer settings, refer to "4.5 Operation Log Viewer" page 4-11.

## 4.3 Applicable Items

## 4.3.1 Applicable Items and Saving

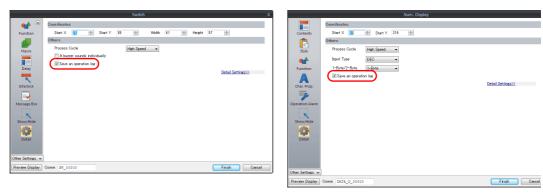
## **Applicable Items and Timing of Saving**

The table below shows the items that can be saved to operation logs and when saving to SRAM takes place.

Items			Timing of Saving						
Start	When power is tur	rned ON							
Transfer	When transferring	a screen program oi	r the I/F driver <sup>*1</sup>						
Mode changeover	When changing be	etween RUN mode a	nd local mode						
Screen changeover	When changing be	etween screens							
Language changeover	When changing b	When changing between languages							
Switch	When a switch with any of the following functions is pressed. *2								
	With output dev	vice memory	Momentary, Set, Reset, Alternate, Momentary W, Word Operation						
	Function	Standard	Screen, overlap display, multi-overlap display, reset, card formatting, card removal, language changeover						
		Entry	Delete (alarms only)						
		Card	Card formatting, transfer from card to PLC, transfer from PLC to card						
		Digital switch	Digital switch +, digital switch –						
		JPEG	File deletion						
		Security	Login/Logout						
Data display update <sup>*2 *3</sup>	When updating nu	umerical data/charac	ter displays in entry mode (Write/↓/↑ keys)						
Storage Writing Error	* 1024 words a		to an SD card e words in use are added and displayed at [Unit Setting] $ ightarrow$ on log storage point].						
Log destruction	<ul> <li>SRAM data c</li> </ul>		ring the SRAM area due to the reasons below:						
Scheduler	When the schedul	er starts or ends							

\*1 Logging does not take place when transferring system programs of MONITOUCH.

\*2 Logs can be saved for switches, numerical data display, and character displays when the [Save an operation log] checkbox is selected in the [Detail] settings of the item's settings window. (Default: selected)



\*3 Table data display is not supported.

## Saved Items (Titles)

The following item types are saved.

Saved Item (Title)	Description	Max. No. of Characters (Bytes)
Log No.	-	-
Date/Time	Date/time of log acquisition	-
Screen No.	Screen number (0 to 9999)	-
User ID	User ID registered in security settings	8
Security Level	Security level (0 to 15)	-
Action	(Differs depending on the log item. For details on the saved content for each item, refer to the sections below.)	-
Function	(Differs depending on the log item. For details on the saved content for each item, refer to the sections below.)	-
Comment	Comments on screens and parts	32
Display Format	Display format of numerical data displays	-
Value (Before)	Value before change	-
Value (After)	Value after change	-

#### Start

[	Date/ Time	Screen No.	User ID	Security Level	Action	Function	Comment	Display Format	Value (Before)	Value (After)
	0	-	-	-	0	-	-	-	-	-

#### Details of items are as follows:

Action	Start

#### Transfer

Date/ Time	Screen No.	User ID	Security Level	Action	Function	Comment	Display Format	Value (Before)	Value (After)
0	-	-	-	0	0	-	-	-	-

Details of items are as follows:

Action	Transfer
Function	Screen program
	Driver, expansion program

#### Mode Changeover

Date Time		User ID	Security Level	Action	Function	Comment	Display Format	Value (Before)	Value (After)
0	-	-	-	0	0	-	-	-	-

Action	Mode changeover
Function	Change to RUN mode
	Change to Local mode

#### **Screen Changeover**

Ī	Date/ Time	Screen No.	User ID	Security Level	Action	Function	Comment	Display Format	Value (Before)	Value (After)
	0	-	0	0	0	-	0	-	0	0

#### Details of items are as follows:

Action	Screen changeover
Comment	The comment entered in the [Screen Setting] → [Screen Setting] window is stored. When no comment is entered, the [Comment] field is blank.
Value (Before)	Stores the screen number before changeover.
Value (After)	Stores the screen number after changeover.

#### Language Changeover

Date/ Time	Screen No.	User ID	Security Level	Action	Function	Comment	Display Format	Value (Before)	Value (After)
0	-	0	0	0	-	-	-	0	0

Details of items are as follows:

Action	Language changeover
Value (Before)	Stores the language number before changeover.
Value (After)	Stores the language number after changeover.

#### Switch

Date/ Time	Screen No.	User ID	Security Level	Action	Function	Comment	Display Format	Value (Before)	Value (After)
0	0	0	0	0	0	0	-	-	-

Action	Switch operations (Mom)/(Set)/(Rst)/(Alt)/(Word)/(Sample)/(Alm)					
Function	Screen					
	Overlap display/multi-overlap display					
	Word Operation					
	Reset					
	Card formatting/card removal					
	Language changeover					
	DELETE					
	Transfer from card to PLC / transfer from PLC to card					
	Digital switch +, digital switch -					
	File deletion					
	Login/Logout					
Comment	Outputs the comment in the switch's settings window.					
	Nergage Box Showshide Other Other Desitions. v Preven Display Comm. pr_30000 Frish Cancel					

#### **Data Display Update**

Date/ Time	Screen No.	User ID	Security Level	Action	Function	Comment	Display Format	Value (Before)	Value (After)
0	0	0	0	0	0	0	0	0	0

#### Details of items are as follows:

Action	Data Display Update
Function	Numerical display
	Character display
Comment	Outputs the comment in the numerical data display's and character display's settings window.

#### **Storage Writing Error**

Date/ Time	Screen No.	User ID	Security Level	Action	Function	Comment	Display Format	Value (Before)	Value (After)
0	-	-	-	0	0	0	-	-	-

#### Details of items are as follows:

Action	Writing error detection
Function	Power OFF
	Card removal
Comment	<ul> <li>The directory path of the drive or file where an error has occurred is output.</li> <li>Error when accessing SD card: "Drive name:\Directory Information" Example: For built-in socket: "C:\Directory Information"</li> <li>Error when accessing files: "Drive name:\Full path"* Example: When an error occurred during writing of "REC0000.CSV" in recipe mode C:\DAT0000\RECIPE\REC0000.CSV</li> </ul>
	* When the number of characters exceeds 32 one-byte characters (16 two-byte characters), the top of the pathname is omitted and displayed as "". Example: C:\\RECIPE\REC0000.CSV

#### Log Destruction

A log is saved when the SRAM area is cleared and newly saving logs because of SRAM data corruption or failure to output to the SD card. The log contains the data items below.

Date/ Time	Screen No.	User ID	Security Level	Action	Function	Comment	Display Format	Value (Before)	Value (After)
0	-	-	-	0	-	-	-	-	-

Action	Log destruction

#### Scheduler

Date/ Time	Screen No.	User ID	Security Level	Action	Function	Comment	Display Format	Value (Before)	Value (After)
0	-	-	-	0	0	0	-	-	-

Action	Scheduler									
Function	Start operat	tion								
	End operati	End operation								
Comment		i) Edit ( Menu Screen)	(0 to 63) is store	d. Action(Start) Macto : None Macto : None Macto : None	Action(End) None None Macro : None	Other Settings None None None				

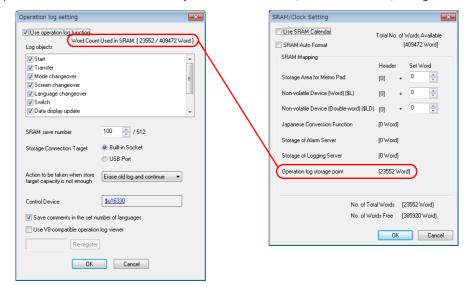
## 4.4 Detailed Settings

## **Operation Log Settings**

Select the [Use operation log function] to enable the following items.

Item	Description
Log objects	Select the checkboxes of the items to save to operation logs. For details, refer to "4.3 Applicable Items" page 4-5.
SRAM save number *1 *2	Set the number of logs to be stored in the SRAM area.
Storage Connection Target	Select how to connect the SD card, to which operation logs will be output.
Action to be taken when store target capacity is not enough	Select the action to take when the SD card is full.
Control Device *3	Set the device memory for outputting log data to the SD card.
Save comments in the set number of languages $^{*1}$	This setting is available when using the multi-language function and saving items displayed under [Log objects] that support comments. When selected, comments are saved to logs even in multi-language mode (when displaying a language other than the primary language). When using "LogToCsv.exe", comments can be output to CSV file in the selected language. For details, refer to "4.6.3 Importing Log Data to Computer (Conversion to CSV Files)" page 4-17.
Use V8-compatible operation log viewer	This checkbox is selected automatically when converting from a V8 series screen program.

\*1 The required amount of SRAM is automatically secured based on the [SRAM save number] setting.



\*2 The maximum number of logs that can be saved differs depending on whether or not the multi-language function is used.

Refer to the chart shown below.

Number of Languages	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Maximum number of Logs	512	512	512	431	360	309	269	238	215	195	179	165	152	142	134	126

\*3 Control Device

Control device	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
memory	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
-						Rese	ved f	or sys	stem		В	it for	card c	outpu	t —	

- Bit 0: bit for output to card

SRAM log data is output to the card when the bit state changes from 0 to 1.

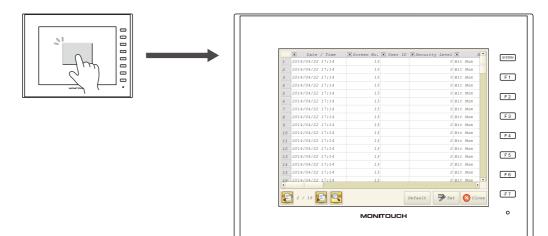
## 4.5 **Operation Log Viewer**

## 4.5.1 Display Method

The operation log viewer can be displayed in both RUN mode and Local mode.

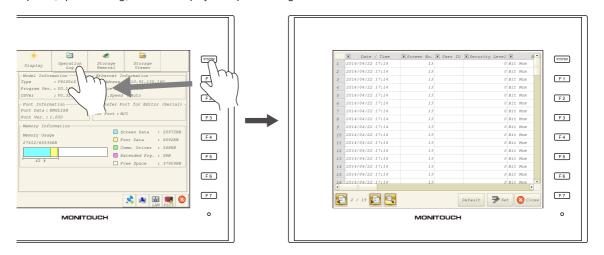
#### **RUN Mode**

Press a switch configured with [Operation Log Viewer Display] for [Function] to display the operation log viewer.



#### Local Mode

Press the [SYSTEM] button to display the system menu. Tap the [Operation Log] switch to display the operation log viewer.



## 4.5.2 Function

## **Showing/Hiding Items**

Tap the [Set] switch in the operation log viewer. The settings window shown below is displayed.



Select the [Log Display Setting] tab to check a list of items that can be displayed in the operation log viewer. Deselect the checkbox of items to hide and click [OK] to only display items with a selected checkbox.

Item Display Setting Log Display Sett	m Display Setting Log Display Setting
Show / Hide 🔺 🔺	10W / Hi 🛋
Date / Time	PowerON
Screen No.	Switch
User ID	Trans
Security Level	DataChg
Date Display Format Time Display Format	ModeChg
2014/04/01 • 13:30 •	Error in writing into storage
🗙 4-digit Year Display	
OK Cancel	OK Cancel

The settings made in this window are stored in SRAM and therefore are retained even if the power is turned off and on.

## **Changing Order of Display**

Tap the [Set] switch in the operation log viewer. The settings window shown below is displayed.

	💌 Date / Time	🗷 Screen No. 💌 Us	er ID 🗷 Security Level	🗶 Ao	
1	2014/04/12 07:51	35	0	Switch Act:	Item Display Setting Log Display
2	2014/04/12 07:51		0	ScrnChg	Log Display
3	2014/04/12 07:51	18	0	Switch Act:	Show / Hide
4	2014/04/12 07:51		0	ScrnChg	
5	2014/04/12 07:51	40	0	Switch Act:	Date / Time
6	2014/04/12 07:51		0	ScrnChg	Screen No.
7	2014/04/12 07:51	6	0	Switch Act:	Screen No.
8	2014/04/12 07:51		0	ScrnChg	User ID
9	2014/04/12 07:51	5	0	Switch Act:	
10	2014/04/12 07:51	5	0	Switch Act:	Security Level
11	2014/04/12 07:51		0	ScrnChg	
12	2014/04/12 07:51		0	ScrnChg	Date Display Format Time Display
13	2014/04/12 07:51	7	0	Switch Act:	2014/04/01 - 13:30
14	2014/04/12 07:51		0	ScrnChg	2014/04/01 • 13.30
15	2014/04/12 07:51	8	0	Switch Act:	🗙 4-digit Year Display
16	2014/04/12 07:51		0	ScrnCha	
ł	1 / 19 💽 🔍		Default Se	et 🚫 Clos	OK
			2		

Select the title to move on the [Item Display Setting] tab window and press the [ $\uparrow$ ] or [ $\downarrow$ ] switch. The display order changes accordingly. Items are displayed in this order on the operation log viewer of MONITOUCH

m Display Setting Log Display Sett ( )			
Show / Hide			
nction			
nment X			
splay Format	Date / Time	Screen No. 💌 Use	r ID
e Display Format Time Display Format	1 2014/04/23 17:07	Dereen No. E ose.	ModeChg
	2 2014/04/23 17:07		ModeChg
·4/04/01   13:30   -	3 2014/04/23 17:07		ModeChg
digit Year Display	4 2014/04/23 17:07	1	Switch Action
	5 2014/04/23 17:07		ScrnChg
OK Cancel	6 2014/04/23 17:07	6	Switch Action
	7 2014/04/23 17:07	6	Switch Action
	8 2014/04/23 17:07		ScrnChg
	9 2014/04/23 17:07		ScrnChg
	10 2014/04/23 17:07	8	Switch Action
	11 2014/04/23 17:07	8	Switch Action
	12 2014/04/23 17:07		ScrnChg
	13 2014/04/23 17:07		ScrnChg
	14 2014/04/23 17:07	5	Switch Action
	15 2014/04/23 17:07		ScrnChg
	16 2014/04/23 17:07	40	Switch Action

The settings made in this window are stored in SRAM and therefore are retained even if the power is turned off and on.

## Filter

Tap an item in the title bar of the operation log viewer. The following filter window is displayed.

				Ascending order	Descending order
/ Time	🗷 Screen No. 💌 User ID	Security Level	Tap [Action].	Action	
07:51	35	O SWI ACT	iup [/ celon].		
07:51		0 sern		Sort 😣	Z
07:51	18	0 SW		3011 Z	<b>A</b>
07:51		0 scrnch			
07:51	40	0 Switch Act:			Show / Hide
07:51		0 ScrnChg		LogDelete	X
07:51	6	0 Switch Act:			
07:51		0 ScrnChg		ModeChg	×
07:51	5	0 Switch Act:			
07:51	5	0 Switch Act:		Trans	X
07:51		0 ScrnChg			
07:51		0 ScrnChg		Bit Mom	X
07:51	7	0 Switch Act:			
07:51		0 ScrnChg			
07:51	8	0 Switch Act:			
07:51		0 ScrnCha			
		Default 📝 Set 🔇 Close			
				Show All Hide	All Close

Sort the display using the ascending and descending order switches.

If there are items you wish to hide, deselect the relevant checkbox and click [Close] to only display items with a selected checkbox.

To restore the default display settings, tap the [Default] switch or the file change switch, or close and open the operation log viewer.

## Search

Tap the search switch in the operation log viewer. The following search window is displayed.

	💌 Date / Time	💌 Screen No. 💌 Use	r ID 💌 Security Level 💌	Ac	
1	2014/04/12 07:51	35	0 Swi	Acti	
2	2014/04/12 07:51		0 Scr.	g	
3	2014/04/12 07:51	18	0 Swi	Acti	
4	2014/04/12 07:51		0 Scr.	g	
5	2014/04/12 07:51	40	0 Swi	Act:	
6	2014/04/12 07:51		0 Scr.	g	
7	2014/04/12 07:51	6	0 Swi	Act:	
8	2014/04/12 07:51		0 Scr	g	
9	2014/04/12 07:51	5	0 Swi	Act:	
10	2014/04/12 07:51	5	0 Swi		
11	2014/04/12 07:51		0 Scr.	g Search	
12	2014/04/12 07:51		0 Scr.	-	
13	2014/04/12 07:51	7	0 Swi	Act: Date	/ Time :
14	2014/04/12 07:51		0 Scr.	g	
15	2014/04/12 07:51	8	0 Swi	Act: Text 2015 (	03/09 13:40
16	2014/04/12 07:51		0 Scr	a v 2015/	03/09 13:40

Select the item and text to search for and tap [Next]. Cells that match the search are highlighted in green on the viewer. To clear the highlighted display, tap the [Default] switch or the file change switch, or close and open the operation log viewer.

	💌 Date / Time 💌	Screen No. 🗷 User ID 💌	Security Level 🔽 Actio	
Search	1 2015/03/16 10:39		Trans	
	2 2015/03/16 10:39		Trans	
Action ÷	3 2015/03/16 10:39		ModeChg	
ACCION	4 2015/03/16 10:39	0	0 Switch Action	
	5 2015/03/16 10:39		0 ScrnChg	
Switch Action 😫 👥	6 2015/03/16 10:39	0	0 Switch Action	- Gr
Tap [Ne	7 2015/03/16 10:39		0 ScrnChg	
Back Next Close	8 2015/03/16 10:39	0	0 Bit Alter	
	9 2015/03/16 10:39	0	0 Bit Mom	
	10 2015/03/16 10:39	0	0 Switch Action	
	11 2015/03/16 10:39		0 ScrnChg	
$\sum ($	12 2015/03/16 10:39	0	0 Switch Action	-
,	13 2015/02/16 10.20		0 ConnCha	

\* The currently displayed items of the current file are searched. Hidden items are excluded.

#### **Changing Between Log Files**

Tap the file change switch in the operation log viewer. This switches the display between the log database file in SRAM and the log database file on the SD card.

🔽 🛛 Date / Time	Screen		💌 Date	/ Time	Screen No.	🗴 User ID	Security	
2014/04/12 07:51		1	2014/04/22	17:14	13			
2014/04/12 07:51		2	2014/04/22	17:14	13			
2014/04/12 07:51		3	2014/04/22	17:14	13			
2014/04/12 07:51		4	2014/04/22	17:14	13			
2014/04/12 07:51		5	2014/04/22	17:14	13			
2014/04/12 07:51		6	2014/04/22	17:14	13			
2014/04/12 07:51		7	2014/04/22	17:14	13			
2014/04/12 07:51		8	2014/04/22	17:14	13			
2014/04/12 07:51		9	2014/04/22	17:14	13			
2014/04/12 07:51		10	2014/04/22	17:14	13			
014/04/12 07:51		11	2014/04/22	17:14	13			
014/04/12 07:51		12	2014/04/22	17:14	13			
2014/04/12 07:51		13	2014/04/22	17:14	13			
2014/04/12 07:51		14	2014/04/22	17:14	13			
2014/04/12 07:51		15	2014/04/22	17:14	13			
2014/04/12 07:51		16	2014/04/22	17:14	13			
		4						
1 / 19 🛐 🔇			2 / 19	E) 🔍			Default	111 Y
	Tap the file change sv	vitch.						

/ \* When the indicator shows "1/n", this means that the log in SRAM is being displayed.

#### 4.5.3 Note

## **Display Priority**

The operation log viewer is displayed on the screen with the same priority as the system menu. This means it is displayed on top of other items.

#### Language of the Operation Log Viewer

The display language of the operation log viewer depends on the display language of Local mode. In addition to Japanese, the operation log viewer can be displayed in English, Chinese (Traditional), Chinese (Simplified), and Korean.

	▼ 日期	/ 时间	▶ 屏幕号	🗷 用户名	▼ 安全等级	▼ 动作	▼ 功 🛋
1	2014/04/23	17:07				模式切换	到RUN
2	2014/04/23	17:07				模式切换	到本地
3	2014/04/23	17:07				模式切换	到RUN
4	2014/04/23	17:07	1		0	开关动作	屏幕
5	2014/04/23	17:07			0	屏幕切换	
6	2014/04/23	17:07	6		0	开关动作	屏幕
7	2014/04/23	17:07	6		0	开关动作	屏幕
8	2014/04/23	17:07			0	屏幕切换	
9	2014/04/23	17:07			0	屏幕切换	
10	2014/04/23	17:07	8		0	开关动作	屏幕
11	2014/04/23	17:07	8		0	开关动作	屏幕
12	2014/04/23	17:07			0	屏幕切换	
13	2014/04/23	17:07			0	屏幕切换	
14	2014/04/23	17:07	5		0	开关动作	屏幕
15	2014/04/23	17:07			0	屏幕切换	
16 •	2014/04/23	17:07	40		0	开关动作	屏蓋
	1 / 19		2			默认 🗾	设定 🚫 关闭

## 4.6 Log Data

## 4.6.1 Output Timing

Log data is first output to SRAM. Subsequent log data in SRAM may be output to external media (SD card) depending on the condition of SRAM. This section explains the timing of output.

## **Output to SRAM**

For information on the output timing of each item, refer to "Applicable Items and Timing of Saving" page 4-5.

## **Output to SD Card**

Log data in SRAM is output to the SD card at the following timings.

- When the area defined by [SRAM save number] in the [Operation log setting] window is full
- When the "card output bit" defined for [Control Device] in the [Operation log setting] window turns ON
- When a switch with [Storage Removal] set for [Function] is pressed
- When the setting of [SRAM save number] in the [Operation log setting] window is changed
- When the setting of [Interface Language] in the [Font Setting] window for the screen program is changed

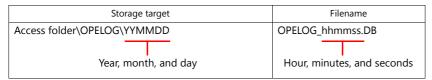
## 4.6.2 Details of Output (File Type)

## **Output to SRAM**

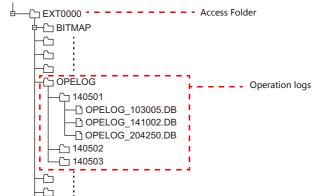
The "OPELOG.DB" database file is output to SRAM.

## **Output to SD Card**

The directory and file type when outputting to an SD card is as follows.







#### 4.6.3 Importing Log Data to Computer (Conversion to CSV Files)

A log file output to a storage device can be converted to a CSV file for viewing using the dedicated "LogToCsv" tool. "LogToCsv.exe" is installed when V-SFT version 6 (Ver. 6.0.8.0 or later) is installed. If the version of your V-SFT version 6 is an earlier one, download "LogToCsv.exe" from Hakko Electronics' website and install.

#### **File Conversion Procedure**

1. Click the start button and start "LogToCsv" from [All Programs]  $\rightarrow$  [V-SFTV6].

nogToCsv 🞦	- • •
Source file	
	Open
Target file	
	Open
Convert	Close

2. Click the [Open] button for [Source file] and select the log file to convert.

LogToCsv     GvExt0000\DPELOG\201503/20150316\DPELOG_105029.db     Coren	Open           Image: Control of the state of t	
G-VEXT0000-0FEL0G-201503/20150316-0FEL0G_105029.db	Organize  New folder OPELOG_105029.db	₿₹ ▼ 🛄 🕑
Convert Close		
		Select the "*.db" extension.
	File name: OPELOG_105029.db	(*.db)     Open Cancel

3. Click the [Open] button for [Target file] and specify the location for storing the CSV file and the filename.

TogToCsv	
Source file	
G:\EXT0000\OPELOG\201503\20150316\OPELOG_105029.db	Open
Target file	
G:\EXT0000\OPELOG\201503\20150316\Log1.csv	Open
Convert	Close

4. Click the [Convert] button. A conversion complete message is displayed and the CSV file is output to the specified location.

LogToCsv 📃 🖸 💌		Select	
Source file	For multi-language	Select a language of the comments to convert.	
G:\EXT0000\OPELOG\201503\20150316\OPELOG_105029.db	screen programs	Language 1 : Japanese Gothic TTF	The comment is output in the selected
Target file		Language 2 : English/Western Europe HK Gothic Language 3 : Chinese (Simplified) TTF	language.
G:\EXT0000\OPELOG\201503\20150316\Log1.csv Open			
Convert			
		LogToCsv	
		A Conversion has been finished properly	
		С	

\* To display the language selection window for comments, select the [Save comments in the set number of languages] checkbox at [System Setting]  $\rightarrow$  [Other]  $\rightarrow$  [Operation log Setting]. For details, refer to "4.4 Detailed Settings" page 4-10.

#### 5. Open the CSV file.

1	A	В	С	D	E	F	G	н	I	J	к	L	
	No.	Date	Time	Scrn_No	User_ID	Level	Action	Function	Comment	Туре	Prev_Val	Chg_Va	Ē
		1 2014/7/23	1:28:53	-		0	ScrnChg	-		-	0	)	
		2 2014/7/23	1:28:56	2		0	Bit Mom	-	SW_00012	ŀ	-	-	
		3 2014/7/23	1:28:57	2		0	Bit Mom	-	SW_00012	ŀ	-	-	
		4 2014/7/23	1:28:58	2		0	Switch	Word Operation	SW_00000	ŀ	-	-	
		5 2014/7/23	1:29:06	-	-	-	ModeChg	To Local		ŀ	-	-	
		6 2014/7/23	1:29:13	-	-	-	ModeChg	To Run		ŀ	-	-	
		7 2014/7/23	1:29:15	0		0	Switch	Screen	SW_00000	-	-	-	
		8 2014/7/23	1:29:15	-		0	ScrnChg	-		ŀ	0	)	
)		9 2014/7/23	1:29:20	-		0	ScrnChg	-		ŀ	1	L	
1	1	0 2014/7/23	1:29:22	0		0	Switch	Screen	SW_00000	-	-	-	
2	1	1 2014/7/23	1:29:22	-		0	ScrnChg	-		-	C	)	
3	1	2 2014/7/23	1:29:28	2		0	Switch	Screen	SW_00000	-	-	-	
4	1	3 2014/7/23	1:29:28	-		0	ScrnChg	-		-	2	2	
5	1	4 2014/7/23	1:29:29	0		0	Switch	Screen	SW_00000	ŀ	-	-	
5	1	5 2014/7/23	1:29:30	-		0	ScrnChg	-		-	0	)	
7	1	6 2014/7/23	1:32:21	2		0	Bit Mom	-	SW_00012	-	-	-	
В	1	7 2014/7/23	1:32:36	2		0	Bit Mom	-	SW_00012	-	-	-	
9	1	8 2014/7/23	1:32:37	2		0	Bit Mom	-	SW_00012	ŀ	-	-	
D	1	9 2014/7/23	1:32:37	2		0	Bit Mom	-	SW_00012	-	-	-	
1	2	0 2014/7/23	1:32:39	2		0	Bit Mom	-	SW_00012	-	-	-	
2	2	1 2014/7/23	1:32:39	2		0	Bit Mom	-	SW_00012	ŀ	-	-	
3	2	2 2014/7/23	1:32:40	2		0	Bit Mom	-	SW_00012	-	-	-	
4	2	3 2014/7/23	1:32:41	2		0	Bit Mom	-	SW_00012	-	-	-	
5	2	4 2014/7/23	1:32:44	2		0	Switch	Word Operation	SW_00000	-	-	-	
6	2	5 2014/7/23	1:32:54	2		0	Bit Mom	-	SW_00012	-	-	-	
7	2	6 2014/7/23	1:32:55	2		0	Bit Mom	-	SW_00012	-	-	-	
3	2	7 2014/7/23	1:32:55	2		0	Switch	Word Operation	SW_00000	-	-	-	

For multi-language screen programs, comments are output in the selected language.

\* The text is not Unicode. Check the text in an OS environment of the relevant language.

## 4.7 System Device Memory

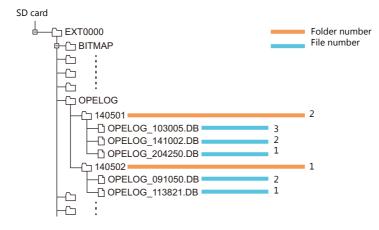
The following describes the system device memory associated with the operation log viewer.

Addresses	Description	Remarks
\$s1365	File number of currently displayed log data	←V
\$s1366	Log folder number being displayed	$\lor \lor$

\* When the log data in SRAM is displayed, 0 is stored at both addresses \$s1365 and \$s1366.

When a log file on a SD card is displayed, the files and folders stored on the SD card are numbered sequentially, starting at 1, from the file with the most recent datestamp.

The following illustrates the numbering of files and folders.



# MEMO



5 Security

## 5.1 Overview

## Security

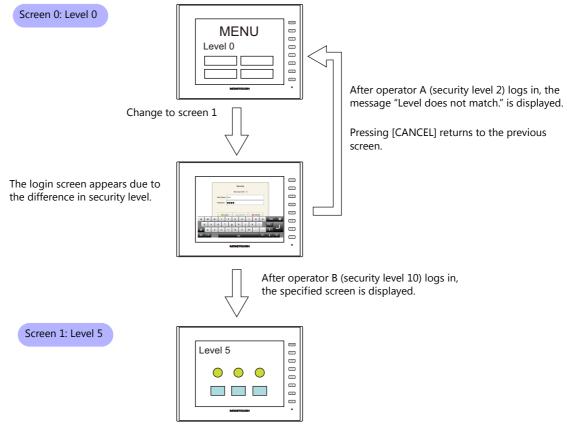
Registering user IDs and passwords at the required security levels in advance enables operators to control the display and operation of screens in accordance with their corresponding security level.

\* Security levels are set on a scale from 0 to 15.

Security Level	Priority	Description	
0	Low	Screen display and operation permitted at level 0 (no security)	
1		Screen display and operation permitted at levels 0 and 1	
:		:	
15	High	Screen display and operation permitted at all levels from 0 through 15	

## **Screen Security Levels**

A security level can be set for each screen. An attempt to switch to a higher-security screen will automatically display the login screen. The target screen can be displayed by entering a user ID and password at a level equivalent to or higher than the level required for the target screen.

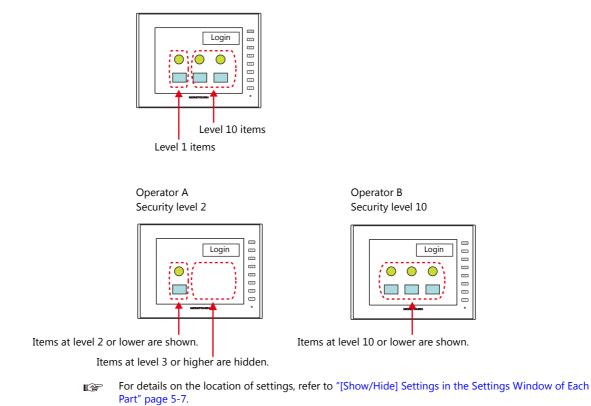




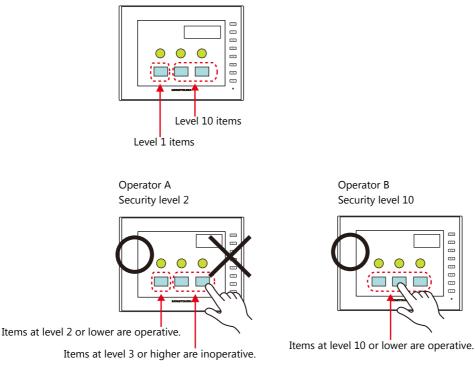
## **Item Security Levels**

Security levels can be set for each item on the screen, such as switches and data displays. Once security levels are specified for screen items, these items can be shown or hidden based on the security level selected when an operator logs into the system. Also, switches can be configured with an interlock setting.

#### **Showing/Hiding Items**



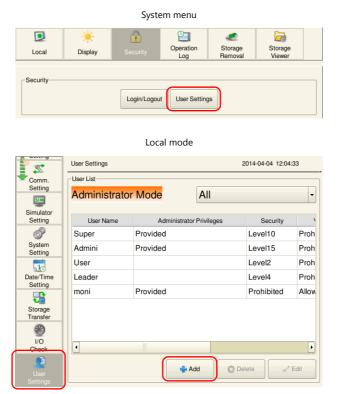
#### **Prohibiting Switch Operations**



For details on the location of settings, refer to "[Interlock] Settings in the [Switch] Settings Window" page 5-7.

#### **User ID and Password Registration**

User IDs and passwords can be set to screen programs in advance, but can also be added from the system menu of MONITOUCH (or in Local mode). The system offers the flexibility to add new users in situations where sudden changes are required on the factory floor.



\* Only users with administrator privileges can register, edit, and delete user accounts.

## Login/Logout

The security level can be changed by logging in or out with the screen that is automatically displayed when a screen change occurs as well as from the system menu or a switch.



For details, refer to "5.4 Login/Logout" page 5-8.

#### **Security Settings** 5.2

Location of settings: [System Setting]  $\rightarrow$  [Other]  $\rightarrow$  [Security Setting].





Item	Description	
Use security function	Select this checkbox to use the security function.	
UserID <sup>*1</sup> Password Level	Register user IDs, passwords, and security levels using the [Add], [Delete], and [Change] buttons. A maximum of 64 users can be registered. Use eight or less one-byte alphanumeric characters. Input is case-sensitive.	
	<ul> <li>The same user ID cannot be registered more than once. However, the same password can be registered for different user IDs.</li> <li>All users registered to the screen program are granted administrator privileges.</li> </ul>	
Maintain original security level when opening lower security level screen(s) than original security level *2	Select the operation to perform when a screen change occurs.         Unselected         When switching to a screen with a lower security level, the currently valid security level is also lowered to the level of the target screen. When switching to a higher-security screen next, the operator is prompted to enter a password.         Selected         The same security level is maintained until the level is changed when another user logs in with a different security level or when the user logs out.	
Use the login screen which is compatible with V8.	When changing from a V8 series screen program, select this checkbox to use the same login screen as the V8 series.	

\*1 User IDs and passwords can be registered from the system menu (or in Local mode). Only users with administrator privileges can register, edit, and delete user accounts. While users without administrator privileges can view a list of all users registered in a screen program, editing and deletion is prohibited.



The currently logged in administrator user's account can be deleted. After deletion, the screen returns to the administrator authentication screen. Other administrators' accounts cannot be deleted.

- System menu  $\rightarrow$  [Security]  $\rightarrow$  [User Settings]  $\rightarrow$  enter administrator user ID and password



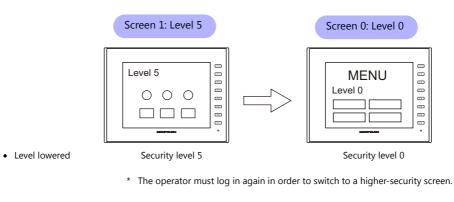
- Local mode  $\rightarrow$  [User Settings]  $\rightarrow$  [Administrator Authentication]  $\rightarrow$  enter administrator user ID and password

Setting	User Name	Administrator Privileges	Security ^	٧N
ð	moni	Provided	Prohibited	Allow
System Setting	Leader		Level4	Proh
	User		Level2	Proh
Date/Time	Admini	Provided	Level15	Proh
Setting	Super	Provided	Level10	Proh
Storage Transfer				
Transfer				
I/O				
Chook				Þ
	Administrator Authentication			
User Settings	Authentication			

#### User registration screen

<u>2</u>	User Settings > Add	2014-0	4-04 10:38:0	5
Comm. Setting	User Name user2			
SIM	Password			
Simulator Setting	Grant administrator privileges			
đ				
System Setting	Detail Settings			
	Security VNC Server			
Date/Time Setting	Allow			
	Level 1	ote operat	ion	
Storage	Level 2	r	Y	
q w	ertyuio	р	BS	×
a	s d f g h j k	ī	DEL	
∱ z	x c v b n m ,		t	Ļ
📼 🗛		-	-   +	•

\*2 When the currently displayed screen is switched to a lower-security screen, the security level may be maintained or automatically lowered, depending on the selected option.



Level maintained

Security level 5 Security level 5

\* The security level is maintained until a login or logout is performed.

## 5.3 Security Level Settings

The security level can be set at the following three locations. The setting procedure at each location is different.

- Screen settings (page 5-6)
- [Show/Hide] settings in the settings window of each part (page 5-7)
- [Interlock] settings in the [Switch] settings window (page 5-7)

#### **Screen Settings**

Screen switching can be prohibited according to security level.

#### Location of settings

[Screen Setting]  $\rightarrow$  [Screen Setting]  $\rightarrow$  [Main] tab window  $\rightarrow$  [Security Level] setting Security level: 0 to 15

Screen Setting	<b>—</b> ×
Main Screen Properties Entry Others PLC Device Transfer	
Screen No.	
Comment	
Back Color	
Back Color   Apply to all screens.	
Receive Slice Level	
0 *100msec Apply to all screens.	
Switch Output	
I-Output 2-Output	
Security Level	
	Cancel

#### [Show/Hide] Settings in the Settings Window of Each Part

Screen items can be shown or hidden according to their security level.

#### **Applicable items**

The following items can be configured with security level settings.

- Switches, lamps
- Numerical data displays, character displays, message displays (excluding table data displays)
- Graphs, statistical graphs, closed area graphs
- Linked parts
- Grouped items (including graphic items)

#### Location of settings

In the setting window of each part, set the security level at [Show/Hide]  $\rightarrow$  [Show/hide according to the condition]  $\rightarrow$  [Security Level].

Security level: 0 to 15

	Num. Display	ĸ
Contents Contents Style	Show Hide Show/hide according to the condition Git device	
Function	<ul> <li>♥ Word Device</li> <li>♥ Security Level</li> <li>Level</li> <li>▼ or higher-leveled user only permitted</li> </ul>	
Char. Prop.		
Show/Hide		
Other Settings +		
Preview Display	Comm DATA_D_00000 Language 2 : English/West  Finish Cancel	

#### [Interlock] Settings in the [Switch] Settings Window

The operation of switches can be prohibited according to their security level.

#### Location of settings

In the switch settings window, set the security level at [Interlock]  $\rightarrow$  [Security Level]. Security level: 0 to 15

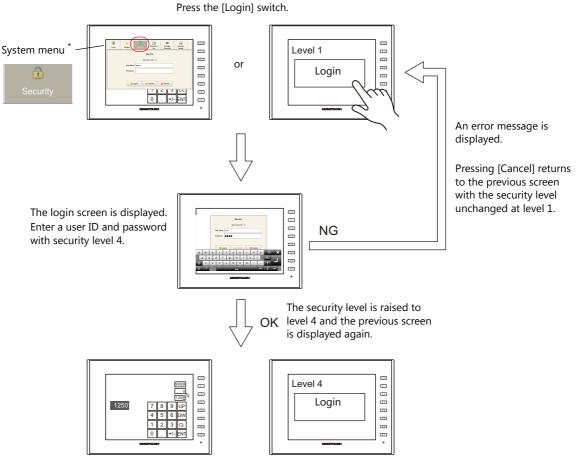
	Switch	×
Char, Prop.	Switch  Use interlock  Condition Setting  Bit device  Word Device  Security Level Level  No.  Type Setting  AND/OR Setting	Add Delete Replace with the above Replace with the below
Delay Interiock		Detail Settings>>
Preview Display	Comm S₩_00000 Language 2 : English/West ▼	Finish Cancel

## 5.4 Login/Logout

The security level can be changed by logging in or out with the screen that is automatically displayed when a screen change occurs as well as from the system menu or a switch.

#### Login

The security level can be changed using a switch with [Log In] set for [Function] or from the system menu.



\* The system menu is displayed by pressing the [SYSTEM] function switch.

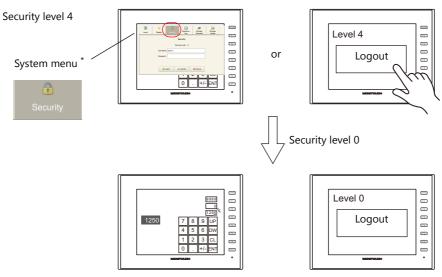


Login is prohibited for users with a security level lower than that of the currently displayed screen. Any login attempt yields the error message "Level does not match."

#### Logout

The security level is set to zero (0) when a switch with [Log Out] set for [Function] is pressed.

Press the [Login] switch.



When a logout is executed, the security level is set to zero (0).

\* The system menu is displayed by pressing the [SYSTEM] function switch.



The screen does not change after logging out. When logging out on a low security level screen or using a switch, use in conjunction with the SET\_SCRN macro (for screen number change) to change the screen when a user logs out.

### **Location of Settings**

#### Switch

Style Char. Prop. Output Device Function Delay Delay Interlock Security Display All Log In Explanation Used for displaying the login screen registered in [Security Setting]. Other Settings 👻 Preview Display Comm SW\_00000 Language 2 : English/West 💌 Finish Cancel

Configure the following settings at [Parts]  $\rightarrow$  [Switch]  $\rightarrow$  [Function].

Item	Description
Function	Log In Display the login screen. Log Out Change the security level to zero (0).



The screen does not change after logging out. When logging out on a low security level screen or using a switch, use in conjunction with the SET\_SCRN macro (for screen number change) to change the screen when a user logs out.

#### System Menu

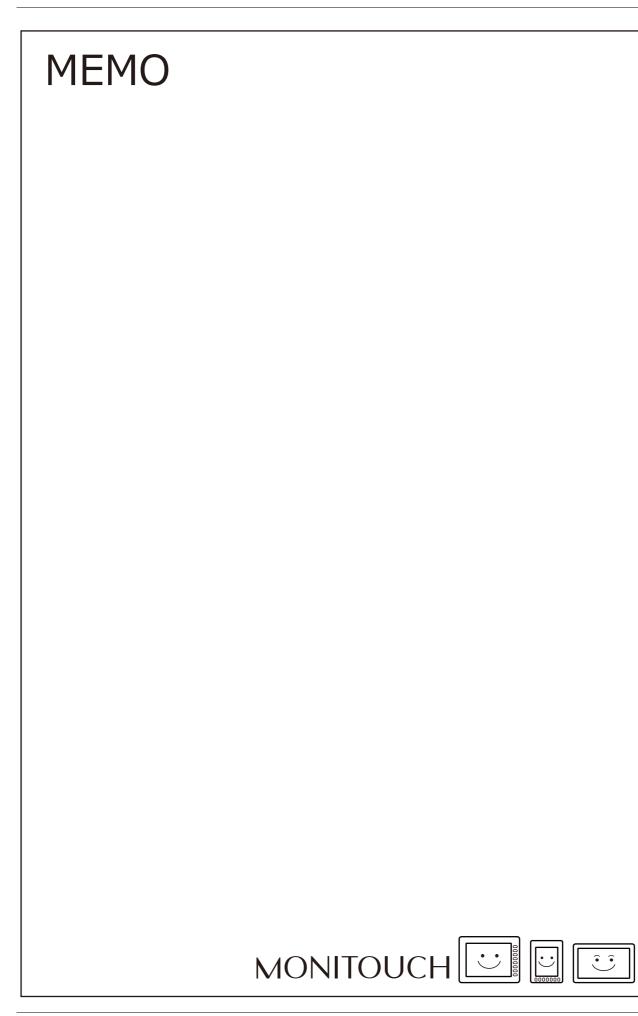
There are no settings in particular.

Local		Security	Operation Log	Storage Removal	Storage Viewer			Local		Security	Operation Log	Storage Removal	Storage Viewer
Security	Security Login/Logout User Settings					$\square \!$				Security			
								User Nan	ne admini				
								Password	t l				
									•	Log In 🥼	Log Out	O Cancel	

## 5.5 System Device Memory (\$s)

The following system device memory are associated with the security function.

Device Memory	Description						
\$s1360	Stores the current security level (0 to 15) specified when an operator logs into the system.						
\$s1361							
\$s1362							
\$s1363	Stores the user ID of the operator who is currently logged into the system.						
\$s1364							



## 6 Ethernet Communication Function

- 6.1 Preface
- 6.2 V9 Series Unit IP Address Settings
- 6.3 Screen Program Transfer
- 6.4 PLC Communication
- 6.5 Transferring Data Between V9 Series Units (Macro)
- 6.6 DLL Communication
- 6.7 MES Interface Function
- 6.8 E-mail Notification
- 6.9 FTP server
- 6.10 VNC Server
- 6.11 Data Transfer Service
- 6.12 Remote Desktop

### 6.1 Preface

### 6.1.1 List of Functions

The V9 series features the following Ethernet functions.

An IP address for the V9 series unit must be configured in order to use the Ethernet functions. Refer to "V9 Series Unit IP Address Settings" page 6-2.

Other settings differ depending on the function to be used.

Function			V	/9	Refer to	
Funct	runction			WLAN	CUR-03	- Refer to
Screen program transfer		0	0	0	0	page 6-7
PLC communication *1	TCP/IP	0	0	×	×	V9 Series Connection Manual
	UDP/IP	0	0	×	0	
Ladder transfer		0	0	×	×	"12 Ladder Transfer"
Macro *2	EREAD/EWRITE	0	0	0	0	V9 Series Macro Reference Manual
	MES/SEND	0	0	0	0	
DLL communication	HKEtn20.dll *3	0	0	0	0	DLL Function Specifications
	VCFAcs.dll	0	0	0	0	
FTP server		0	0	0	×	page 6-47
E-Mail		0	0	0	×	page 6-41
Network camera		0	×	×	×	"1.3 Network Camera"
VNC server		0	0	0	×	page 6-61
Data transfer service Data transfer viewer			0	0	×	"6.11 Data Transfer Service"
Network printer	EPSON ESC/P-R	0	0	0	×	V9 Series Reference Manual 1 16 Printing
Remote desktop		0	0	0	×	"6.12 Remote Desktop"
VPN connection	VPN connection		0	0	×	Web Machine Interface Manual

\*1 For details on selecting TCP/IP and UDP/IP for PLC communication, refer to the V9 Series Connection Manual.

\*2 The network table settings must be configured in the screen program settings.

\*3 When using the SEND command, the network table settings must be configured in the screen program settings.

### 6.2 V9 Series Unit IP Address Settings

An IP address for the V9 series unit must be configured in order to use the Ethernet functions. There are two ways to configure the IP address of the V9 series unit: setting using the V-SFT editor or setting using Local mode on the unit.

### 6.2.1 Setting Using the V-SFT Editor

Set the IP address in the screen program.

- 1. Select [System Setting]  $\rightarrow$  [Ethernet Communication]  $\rightarrow$  [Local Port Address]. The [IP Address Setting] window is displayed.
- 2. Select the [Set IP] checkbox and configure each setting.

🔽 Set IP				
📰 Select IP Address fi	om Network	Table	No. 0	A V
IP Address 0	. 0 . 1	0.0		
Default Gateway	0.	0.0	. 0	
🔲 Subnet Mask	0.	0.0	. 0	
Port No.	10000			
Send Timeout	15	*sec	ec .	
Retrials	3			
Device Protect				
Internal Device			Devic	⊮y Card ≉

Item	Description
Select IP Address from Network Table	This setting is available when the IP address of the V9 series unit has been registered in the network table. Select a network table number from 0 to 99 to set the IP address.
IP Address *	Set the IP address for the V9 series unit.
Default Gateway *	Set the default gateway.
Subnet Mask *	Set the subnet mask. When this checkbox is not selected, the subnet mask is automatically assigned based on the first byte of the IP address. When the IP address is "172.16.200.185", "255.255.0.0" is set. When IP address is "192.168.1.185", "255.255.255.0.5" is set.
Port No. *	Set a port number (1024 to 65535). (except for "8001")
Send Timeout	Specify the timeout duration when sending the "EREAD/EWRITE" macro command.
Retrials	0 to 255 Set the number of retries to be performed when a timeout occurs.
Device Protect Internal Device Memory Card Device	Select these checkboxes to write-protect the corresponding device memory from PCs or other stations.

\* For details on these settings, refer to page 6-5.

3. Click [OK].

- 4. Transfer the screen program to the V9 series unit.
- 5. Check the IP address in Local mode on the V9 series unit.

### 6.2.2 Setting Using Local Mode on the Unit

Set the IP address in Local mode on the V9 series unit.

1. Press the [SYSTEM] switch on the unit to display the system menu at the top of the screen.



- 2. Press the [Local] switch on the system menu. The Local mode screen is displayed on the unit.
- 3. Press the [LAN Setting] switch on the left side of the screen to display the [LAN Setting] screen.

	LAN Sett	LAN Setting 2000-01-08 14:36:35							
RUN	IP Setting								
System	IP Addre	ss 10.91.13	0.235	External Access Service Port 10000					
Information	Sub Net	Mask 255.255.	255.0						
Language Setting	Gate Wa	y 10.91.13		ime-Out 15	*sec				
LAN	MAC Add	dress 00:50:FF:0	2:9B:1A	Retrials 3					
Setting	Network	Table			]				
	No	Host Name	IP Address	Sub Net Mask	Gate Way 5				
E-Mail Setting	1	LANV9	192.168.10.182	255.255.255.0	0.0.0.0 10(				
<b>a</b>									
SRAM Setting	•								
24									
Comm. Setting		re Screen Settings							

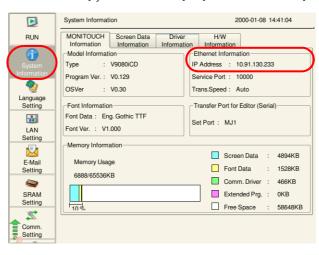
4. Tap an item to change its setting if necessary.

	2	LAN Se	etting						200	0-01-08 16:	20:18	
RL	JN	IP Settine										
Syst	tem	IP Add		10.91.13				External . Service P	Access ort 1000	0		
Lang Seti			te Way					Γime-Out	15			*sec
	1	MAC Address 00:50:FF:02:9B:1A Retrials 3										
		Netwo	rk Table									
	4	No	Hos	st Name	IP	Add	ress	Sub	Net Mas	k Gate	Way	S
E-M	Aail	1	LAN	V9	192.	168.	10.182	255.2	55.255.0	0.0.0.0		10(
!	"	#	\$	%	~		7	8	9	BS	;	×
		' (					4	5	6	DEL		
Û	+	-	*	/	,		1	2	3	<b>†</b>		
	A1			L			0		. 🔺	- 🗼	-	

5. Press the [Apply] switch at the bottom right of the screen to accept the settings. When the changes are accepted, the [Apply] switch is disabled.

	LAN Setting 2000-01-08 14:38:45	
RUN	IP Setting Option	
System Information	IP Address 10.91.130.233 External Access Service Port 10000	
Language Setting	Sub Net Mask         255.255.255.0           Gate Way         10.91.130.1   Time-Out	
	MAC Address 00:50:FF:02:9B:1A Retrials 3	
LAN Setting	Network Table	
	No Host Name IP Address Sub Net Mask Gate Way 5	ub Net Mask Gate Way 5
E-Mail Setting	1 LANV9 192.168.10.182 255.255.255.0 0.0.0.0 10	i.255.255.0 0.0.0.0 100
<b>a</b>		
SRAM Setting		
2		
Comm. Setting	Restore Screen     Data Settinas     Scancel     O Apply	Cancel O Apply

6. Check the IP address in Local mode under [System Information]  $\rightarrow$  [Ethernet Information].



#### Restoring the screen program settings

There is a [Restore Screen Data Settings] switch at the bottom of the [LAN Setting] screen. Press this switch to disable the settings, such as IP address, configured in local mode and restore the settings of the screen program.

	LAN Setting	9			2000-0	01-08 14:38:45	
RUN	IP Setting	Option					
G System	IP Address	10.91.13		-External Acc			
Information	Sub Net Ma	ask 255.255.	255.0				
Language Setting	Gate Way	10.91.13		Time-Out	15		*sec
	MAC Addre	ess 00:50:FF:02	2:9B:1A	Retrials	3		
LAN Setting	Network T	able					
	No	Host Name	IP Address	Sub Net	Mask	Gate Way	٤
E-Mail Setting	1 L	ANV9	192.168.10.182	2 255.255.	255.0	0.0.0.0	10(
<b>a</b>							
SRAM Setting	•						•
24							
Comm. Setting	Restore Data Se				Cancel	🔿 Ap	ply

### 6.2.3 Ethernet Terminology

#### **IP Address**

This address is used for recognizing each node on the Ethernet network and must be unique. An IP address is 32-bit data that consists of a network address and a host address, and is classified as A to C depending on the network size.

Class A	0 Network address (7 bits)		Host address (24 bits)			
Class B	10 Network a	uddress (14 bits)	Host address (16 bits)			
Class B	1 1 0	Network address (14	t bits)	Host address (8 bits)		

#### Notation

Data consisting of 32 bits is divided into four segments in decimal notation and each segment is delimited with a period.

Example: The following class C IP address is represented as "192.128.1.50". 11000000 10000000 00000001 00110010

#### **Unusable IP addresses**

- "0" is specified for the first byte, e.g. 0.x.x.x
- "127" is specified for the first byte (which is reserved as the loop back address), e.g. 127.x.x.x
- "224" or more is specified for the first byte (which is reserved for multi-casting or experiments), e.g. 224.x.x.x
- The host address consists of only "0" or "255" (broadcast address), e.g. 128.0.255.255, 192.168.1.0

#### Port No.

Multiple applications run on each node and communications are carried out for each application between the nodes. Consequently, it is necessary to have a means to identify the application that data should be transferred to. The port number works as this identifier. While the range of port numbers is 0 to 65535, the lower port numbers of 0 to 1024 are generally reserved for other uses. When assigning port numbers, use numbers higher than 1024.

#### V9 port numbers

The following port numbers are used on the V9 series unit. When changing any port number, select an unused number from the range of 1024 to 65535.

Port No.	Setting Range	Function	Location of Settings
20	Fixed	FTP server	-
21			
80	Fixed	Web server (V8 compatibility function)	-
502	Fixed	Modbus slave (TCP/IP)	-
1024 - 1025	1024 - 65534	Ladder transfer via Ethernet	$[System Setting] \rightarrow [Hardware Setting] \rightarrow [Ladder Transfer]$
1969	1024 - 65535	Network camera (BANNER)	-
5900	Fixed	VNC server	-
8001	Fixed	Screen program transfer *1	Screen program transfer <sup>*1</sup>
8020	Fixed	Simulator (Ethernet)	-
8050	1024 - 65535	Remote desktop window display	[System Setting] $\rightarrow$ [Other] $\rightarrow$ [Remote Desktop Table Setting] $\rightarrow$ [Local Port No.]
10000	1024 - 65535	Ethernet macros EREAD, EWRITE, SEND, MES	Set in the editor "Setting Using the V-SFT Editor" page 6-2
		Ethernet DLL functions HKEtn20.DLL VCFAcs.DLL	Set on the unit "Setting Using Local Mode on the Unit" page 6-3
10001 - 10008	1024 - 65535	8-way communication	[System Setting] $\rightarrow$ [Hardware Setting] $\rightarrow$ [PLC Properties] $\rightarrow$ [Communication Setting] $\rightarrow$ [Port No.]
10021 - 10028	1024 - 65535	8-way communication	$\begin{array}{l} \mbox{MITSUBISHI ELECTRIC L series (built-in Ethernet) connections only} \\ \mbox{A port number that is 20 higher than the port number set at [System Setting] \rightarrow [Hardware Setting] \rightarrow [PLC Properties] \rightarrow [Communication Setting] \rightarrow [Port No.] is secured automatically. \end{array}$
50000 - 50002	1024 - 65535	Network camera (AXIS/Panasonic)	-

Port No.	Setting Range	Function	Location of Settings
64000	1024 - 65535	Multi-link2 (Ethernet), 1:n multi-link2 (Ethernet)	$ [System Setting] \rightarrow [Hardware Setting] \rightarrow [PLC Properties] \rightarrow [Multi-link2 (Ethernet)] $

\*1 When transferring screen programs over the Internet, specify the router port number in the [Transfer] window of the V-SFT software.

#### **Default Gateway**

A gateway and a router are used for communication between different networks. The IP address of the gateway (router) should be set to communicate with the node(s) on other networks.

#### Subnet Mask

A subnet mask is used for dividing one network address into multiple networks (subnets). A subnet is assigned by specifying a part of the host address in the IP address as the subnet address.

Class B	10 Network	address (14 bits)	Host addre	ss (16 bits)
	255	. 255.	255.	0
Subnet Mask	11111111	11111111	11111111	00000000
	Network	address	Subnet address	Host address

#### Unusable subnet masks

- When all bits are set to "0", e.g. 0.0.0.0
- When all bits are set to "1", e.g. 255.255.255.255

### 6.3 Screen Program Transfer

Screen programs can be uploaded and downloaded using Ethernet communication.

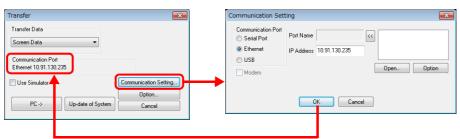
### 6.3.1 Transfer Procedure

#### Downloading (PC $\rightarrow$ V9)

1. Click [Transfer]  $\rightarrow$  [Download]. The [Transfer] menu is displayed.



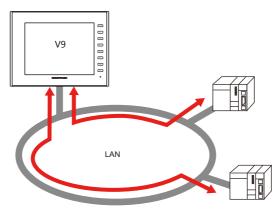
- 2. Select [Screen Data] for [Transfer Data].
- 3. Check the [Communication Port] setting.
  - If Ethernet is set and the IP address is correct, proceed to the next step.
  - If [Serial Port] or [USB] is set, click the [Communication Setting] button and select [Ethernet] under [Communication Port].



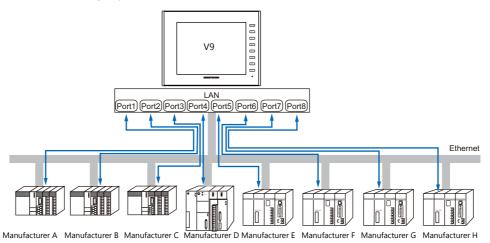
4. Click [PC  $\rightarrow$ ] to start the transfer.

### 6.4 PLC Communication

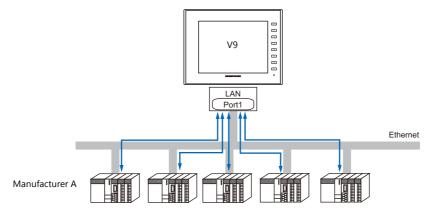
• High-speed communication with the Ethernet port of the PLC can be performed at 100 Mbps or 10 Mbps.



• The V9 series unit can open up to eight ports for communication, which means that the unit can simultaneously communicate with up to eight types of PLCs.



• When multiple PLCs of the same model are connected, a single port on the V9 series unit can be used to perform 1:n communication with these PLCs.



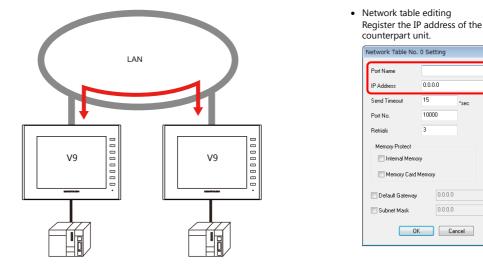
For details on PLC communication, refer to the V9 Series Connection Manual.

For details on LAN ports available with the V9 series, refer to "6.1.1 List of Functions" page 6-1.

×

### 6.5 Transferring Data Between V9 Series Units (Macro)

• Communication can be performed and data shared between V9 series units on the same LAN using the "EREAD" and "EWRITE" macro commands.



For details on macros, refer to the V9 Series Macro Reference Manual.

Network table

Register the IP address of the counterpart unit in the [Network Table Edit] window in order to specify the destination using a macro.

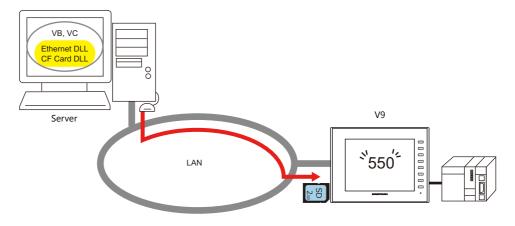
Click [System Setting]  $\rightarrow$  [Ethernet Communication]  $\rightarrow$  [Network Table].

For details on LAN ports available with the V9 series, refer to "6.1.1 List of Functions" page 6-1.

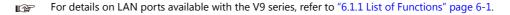
### 6.6 DLL Communication

• Ethernet access functions (that support UDP/IP) for executing device memory read and write operations with respect to V9 series units from a server and CF card access functions for executing read and write file operations on a storage device are provided.

By creating an application on a server using an environment such as Visual C++ 6.0 and Visual Basic, data can be collected from V9 series units and transferred to the server.



For details on DLL functions, refer to the V Series DLL Function Specifications.



### 6.7 MES Interface Function

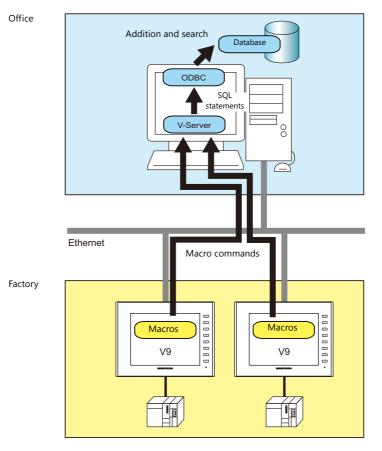
### 6.7.1 Overview

• The V9 series supports the MES interface function.

MES: Manufacturing Execution System

MES provides information necessary to optimize production activities (such as quality, yield, time of delivery, and cost) throughout processes from order receipt until product completion. Based on real-time information obtained from the manufacturing floor, MES serves as a bridge linking management and production, for the purpose of improving management in manufacturing.

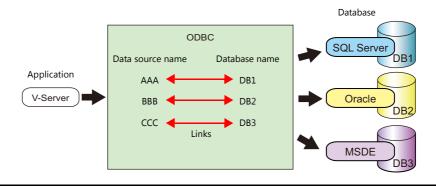
- The MES interface function enables the V9 series to add, search, and delete data on databases. Production control from a PC in the office is made simple by using real-time production information transmitted from the factory to the database.
- The V9 series sends commands to V-Server on the PC connected via Ethernet. V-Server sends the commands as SQL statements to ODBC, and ODBC accesses the database.



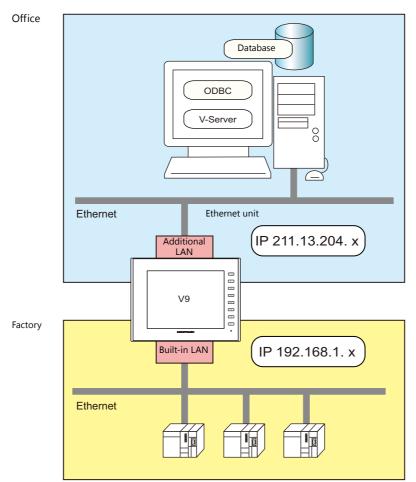
ODBC: Open DataBase Connectivity

ODBC is the interface between an application (V-Server) and the database.

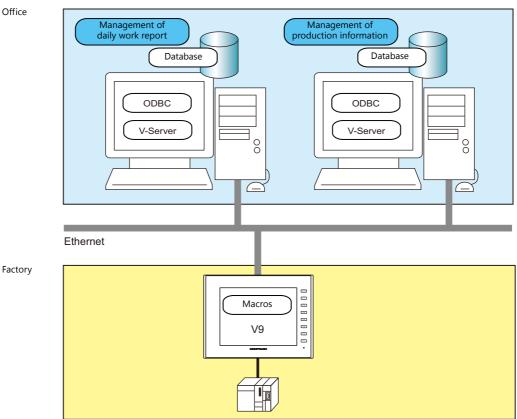
Because ODBC accommodates the differences in specifications between databases, users only need to create programs based on the ODBC-specified procedure in order to access those databases.



• By using LAN2 (additional)/WLAN (wireless)/optional unit, multiple IP addresses can be set for the V9 series so that different networks can be established respectively in the factory and office. System configuration is therefore made simple in the existing facilities.



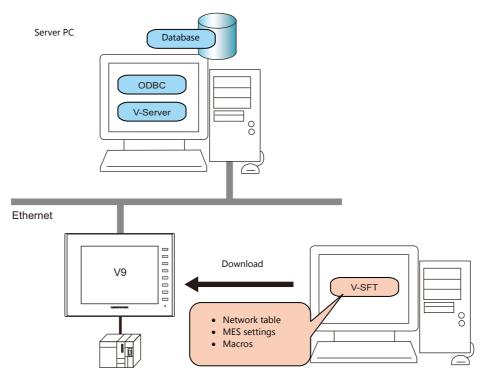
• Separate management through multiple V-Servers is enabled.



Factory

### 6.7.2 System Configuration

System configuration that includes the MES interface function is shown below. This section describes the settings required on the V9 series unit and PC.



#### **Required Settings**

#### V9

Configure the required settings for the V9 series in the screen program.

- 1. Network table editing (page 6-13)
- 2. IP address settings for the V9 series unit (page 6-2)
- 3. MES setting (page 6-14)
- 4. Macro programming (page 6-17)

#### Server PC

- 1. V-Server installation (page 6-23)
- 2. Database installation and table creation (page 6-24)
- 3. ODBC settings (page 6-36)

### 6.7.3 V9 Series Unit Settings

#### **Network Table Editing**

Register the IP address and port number of the PC installed with V-Server in the network table.

1. Click [System Setting]  $\rightarrow$  [Ethernet Communication]  $\rightarrow$  [Network Table]. The [Network Table Edit] window is displayed.

ļ	Screen [0] Ed	it ( )	Network Table Edit	×					Ŧ
No.	Port Name	IP Address	Send Timeout	Port No.	Retrials	Internal Device Wri	Memory Card Device		•
0									
1								=	
2									1
3									
4									
5									
6									
<i>.</i>									
å									
10									
11									

2. Double-click a number in the [No.] column to display the [Network Table Setting] window and configure the following settings.



Item	Description
Port Name	Set the name of the PC.
IP Address	Set the IP address of the PC.
Port No.	Specify the port number of V-Server. (Default: 8005)         * The port number can be checked in V-Server software via [File] → [V-server Detail Setting] → [Port No.].         * The port number can be checked in V-Server software via [File] → [V-server Detail Setting] → [Port No.].         * The port number can be checked in V-Server software via [File] → [V-server Detail Setting] → [Port No.].         * The port number can be checked in V-Server software via [File] → [V-server Detail Setting] → [Port No.].         * Save the Project.         Clease the Project As         Perform The File         Export to The File         Export to The File         Exit         Mail Time Out         Mail Retry Count         AddtoSave         Exit
Send Timeout Retrials Device Protect Default Gateway Subnet Mask	Setting these items is not required when registering the IP address of the PC.

- 3. Click [OK]. The settings are registered to the network table.
- 4. If multiple PCs are connected, perform the above registration steps for each PC.

6

### MES Settings

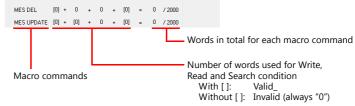
 $\mathsf{Click}\; [\mathsf{System}\;\mathsf{Setting}] \to [\mathsf{Other}] \to [\mathsf{MES}\;\mathsf{Setting}]. \; \mathsf{The}\; [\mathsf{MES}\;\mathsf{Setting}] \; \mathsf{window} \; \mathsf{is} \; \mathsf{displayed}.$ 

rr System Setting Tool Help		🖳 Screen (0) Edit ( ) 👼 MES Setting 🗙	
Alarm Logging Recipe Scheduler Other		No 🖉 👻 Copy Delete	Required No. of Word Count for Macro Command Header Write Read Search condition T
Server Server Japanese Conversion Fund		Comment	MESWRITE [0] + [0] + 0 + 0 = 1
Common Setting Storage Setting		Data source Name	MES READ [0] + 0 + [0] + [0] =
Bufferring Area Setting		Login Name	MESDEL [0] + 0 + 0 + [0] = 1
Memory Card Setting		Password	MESUPDATE [0] + [0] + 0 + [0] = 1
MES Setting	$\square$	Table Name	
Operation log Setting		· · · · · · · · · · · · · · · · · · ·	
G Security Setting		Write Read Search condition	

#### **Common settings**

No 🚺 🚔 Copy Dele	ete	Required No. o	of Word Cou Header W				ondition	Total	_)			
Comment		MES WRITE	[0] + [			+ 0			2000			
Data source Name		MES READ MES DEL	[0] + [0] +		[0] 0			0 72				
Password		MES UPDATE	101 + 101	nı +	0	+ [0		0 72	2000			
Table Name	*	MED OF DATE	101 . 1						-J			
	* *	ILCO OF DATE	101 - 1						J			
Table Name Write Read Search condition	Add Change De	lete Import		port	)				J	 		
Table Name Write Read Search condition Max Record 0 *	Add Change De	lete Import			)			Data			^	]
Table Name Write Read Search condition Max Record 0 *		lete Import	t Ex		)			Data			<b>^</b>	]
Table Name Write Read Search condition Max Record 0 *		lete Import	t Ex		)			Data				

Item	Description						
No.	Switch between MES setting numbers (0 to 255).						
Skip Unregistered No. 🜊	Click this button to skip unregistered numbers when switching between MES setting numbers.						
Сору	Copy data associated with the current MES settings to the specified destination.						
Delete	Delete the current MES settings.						
Comment	Enter a comment describing the MES settings. Maximum of 16 one-byte characters (8 two-byte characters.)						
Data source Name	Specify the data source name of the database. 32 bytes maximum						
Login Name	Specify a login name used for accessing the database. 32 bytes maximum						
Password	Specify a password used for accessing the database. 32 bytes maximum						
Table Name	Specify the name of the table in the database. 128 bytes maximum						
Required No. of Word Count for Macro Command	This area shows the number of words used for each macro command based on the current settings. A number of words more than the maximum of 2,000 is highlighted in red. Adjust the number of registrations, length of line names, and number of words so that 2,000 words are not exceeded.  Required No. of Word Count for Macro Command Header Write Read Search condition Total						
	MES WRITE [0] + [0] + 0 + 0 = 0 /2000 MES READ [0] + 0 + [0] = 0 /2000 MES DEL [0] + 0 + 0 + [0] = 0 /2000						



Write Read Search	Add	Display the [Detailed setting] window. Enter a line name as targeted for writing and the data type in this window. 256 maximum
condition	Change	Display the [Detailed setting] window. Change the registered settings.
	Delete	Delete the registered settings.
	Import	Import a CSV file into the current MES settings.
	Export	Export the current MES settings into an CSV file.

#### [Write] tab window

The [Write] tab window is used for adding data to the database.

	*		
Write Read Search c Max Record 0		nport Export	
Line name	Data type	Word Data	
Item		Detailed setting Line Name Device use Data Type DEC Use Bytes Deta Voice Cancel Description	
Device use	<ul> <li>* The line name must not begin</li> <li>* The following characters cannot</li> <li>Specify the data for writing. 256 by</li> </ul>	with a one-byte numeral. ot be used: ~ - ! , { % } ^ ' & . ( / ) `	space
	Device Memory	Input Type	Text Processing
	PLC1 - PLC8	Depends on the input type of	each PLC.
	Internal	DEC	$LSB \rightarrow MSB$
	Without device memory spec	ification: Set a constant or fixed st	ring of text.
Data Type Length	Set the data type of the data for wr	iting, data length, and number of b	bytes.
Bytes	Data type	Length	Bytes
	DEC-	1 words/2 words	-
	CHAR	128 word	256 bytes maximum
	BCD	1 words/2 words	-

#### [Read] tab window

Configure settings for searching the database.

configure settings for searc			
Write Read Bearch c	andition		
	Add Change Delete Import	Export	
Line name	Data type Wd	brd Sort	
			E
	Detailed setting		
	Line Name		
	Length		
	Data Type DEC-		
	Bytes 1 © 2word		
	Sort  Non Up Down		
	OK Cancel		
Item		Description	
Max Record	Specify the maximum number of recor	rds to display in the search results	. 65536 maximum
Line Name	Specify the line name targeted in search		
	* The line name must not begin wit		
	* The following characters cannot b	be used: ~ - ! , { % } ^ ' & . ( / ) ` s	bace
Data Type Length	Specify the data type, data length, and	I number of bytes of the data targ	geted in searching.
Bytes	Data type	Length	Bytes
	DEC-	1 words/2 words	-
	CHAR	128 word	256 bytes maximum
	BCD	1 words/2 words	-
	FLOAT	2 word	
	FLOAT	2 0010	

Set an option for sorting the search results.
Non / Up / Down

**[Search condition] tab window** Configure settings for searching the database. This tab is also used to delete data from the database.

Write Read Searc	Add Change Delete	Import Export	
Line name	Data type Word	Search condition Data	·
	ailed setting	Detailed setting	
	ne Name		
	arch Condition Equal (=)	Search Condition Equal (=)	
	Device use	Device use	
	ernal 🔻 0 💠 💲 🗸 🗸		
Da	ata Type DEC-    DEC-	Data Type DEC-	
Ву	1 © 2word	Bytes 1 © 2word	
	OK Cancel	OK Cancel	
Item		Description	
ine Name	Specify the line name targeted * The line name must not be	in searching. 128 bytes maximum	
		annot be used: ~ -!, { % } ^ ' & . ( / ) ` space	
Search Condition		n searching based on multiple conditions, use AND.	
	Search condition	Remarks	
	Equal (=)		
	Not equal (!=)		
	Big (> value)		
	Small (< value)		
	Upper (>= value)		
	Under (<= value)		
	Include character string	Wildcard (%) usable Example: AA%: Text beginning with AA to be search	ed
	Update	Extract records that do not match the data for searc specified line name. These records are then replaced as the data for sear	-
Device use	Specify the data targeted for se	arching. 256 bytes maximum	
	With device memory spe	cification: Set the device memory address to store the data	for searching.
	Device Memory	Input Type Text Proce	essina
	PLC1 - PLC8	Depends on the input type of each PLC.	5
	Internal	$DEC$ $LSB \rightarrow MSB$	
		specification: Set a constant or fixed string of text.	
Data Type		, th, and number of bytes of the data targeted in searching	
ength			
Bytes	Data type	Length Byte	S
	DEC-	1 words/2 words -	
	CHAR	128 word 256 bytes maxim	ium
	BCD	1 words/2 words -	
	FLOAT	2 word -	

#### Macros

The MES interface function uses the following five types of macros.

MES	macro	command	list
-----	-------	---------	------

Category	Command Name	Mnemonic	Description	Refer to
		MES CHECK (F1, F2, F3)	V-server start check	page 6-17
		MES WRITE (F1, F2, F3)	Adding data to the database	page 6-18
MES MES	MES READ (F1, F2, F3)	Searching the database	page 6-19	
		MES DEL (F1, F2, F3)	Deleting data from the database	page 6-20
		MES UPDATE (F1, F2, F3)	Updating the database	page 6-21

#### MES CHECK (F1, F2, F3)

Function: V-server start check

This macro is used to check whether V-Server at the location specified in table No. [F2] is running. The returned value specified in [F3] is stored in the memory at the return address of [F1].

Device Memory Used

	Internal	PLC1 - 8	Constant
F1	0		
F2	0		0
F3	0		0

O: Setting enabled (indirect designation disabled) ③: Setting enabled (indirect designation enabled)

Range

	Value
FO	MES CHECK
F1	Return address
F2	0 to 255: Network table number
F3	0 to 65535 (-32768 to 32767): Return value

Operation Example

MES CHECK (\$u0000, 10, 1)

MES setting No. 1 Network table No. 10 Return address

The above macro checks whether V-Server is running on the PC registered to network table number 10. If V-Server is running, a return value of "1" is stored at the return address of \$u0000.

Supplementary information

- Execute the macro after setting a value other than the returned value at the return address.
- The execution type of the macro can be set using \$s514. For details, refer to page 6-22.
- When a macro command is executed, if "1" (other than "0") is set for \$s514 while V-Server is not running, no response is given from V-Server and the V9 series unit will enter the standby state. It is recommended to execute this command when "0" is set for \$s514.
- The result of the macro execution is stored in the device memory address \$s515. For details, refer to page 6-22.
- The returned value will not be placed at the [F1] return address immediately. Monitor the [F1] return address using an event timer macro, etc.
- If an error occurs when writing the result (return value, data retrieved by a search) of accessing database, the result and log data is not output to the V9 series unit.

#### **MES WRITE (F1, F2, F3)**

Function: Adding data to the database

This macro is used to add the data set on the [Write] tab window under MES setting No. [F3] to the database. The data is added using V-Server at the location specified in table No. [F2]. The result is stored at the [F1] return address.

Device Memory Used

	Internal	PLC1 - 8	Constant
F1	0		
F2	0		0
F3	0		0

O: Setting enabled (indirect designation disabled) ③: Setting enabled (indirect designation enabled)

Range

		Value		
FO	MES WRITE			
F1	Return address		Return value 0: Normal termination -1: Ended in error	
F2	0 to 255: Network table number			
F3	0 to 255: MES setting No.			

Operation Example

MES WRITE (\$u0000, 10, 0)

MES setting No. 0 Network table No. 10 Return address

The above macro adds data to the database of the PC specified in network table No. 10. The data to be added depends on the settings made for MES setting No. 0. When the data update is completed normally, a return value of "0" is stored at the return address of \$u0000.

Supplementary information

- The execution type of the macro can be set using \$s514. For details, refer to page 6-22.
- The result of the macro execution is stored in the device memory address \$s515.
- -40: The [Write] tab window setting is not made in the specified MES setting number, or any setting error is found. For details on other error numbers, refer to page 6-22.
- The returned value will not be placed at the [F1] return address immediately. Monitor the [F1] return address using an event timer macro, etc.
- The primary key for V-Server must be set to the database table. (page 6-33)
- If an error occurs when writing the result (return value, data retrieved by a search) of accessing database, the result and log data is not output to the V9 series unit.

#### **MES READ (F1, F2, F3)**

Function: Searching the database

This macro is used to search the line set on the [Read] tab window for MES setting No. [F3]. The search is performed based on the specified search conditions via V-Server at the location specified in table No. [F2]. The result is stored at the [F1] return address.

Device Memory Used

	Internal	PLC1 - 8	Constant
F1	0		
F2	0		0
F3	0		0

O: Setting enabled (indirect designation disabled) ③: Setting enabled (indirect designation enabled)

#### Range

	Value
FO	MES READ
F1	Return address
F2	0 to 255: Network table number
F3	0 to 255: MES setting No.

#### Return address

The following data is stored at the addresses starting from the [F1] return address.

Return address	Value
n	Execution result Normally finished: 0 Error: Other than 0
n+1	Number of retrieved records The number of records that match the search conditions is stored. If no records are found, 0 is stored. The maximum number of records is set on the [Read] tab window in the MES settings.
n+2 -	Obtained data 1 The retrieved data is stored in the format specified on the [Read] tab window in the MES settings.
:	Obtained data 2
:	Obtained data 3
:	:
:	Obtained data m (maximum number of records)

**Operation Example** 

MES

READ (\$u0	000, 10, 0)
	MES setting No. 0 Network table No. 10 Return address

The above macro searches the database on the PC specified in network table No. 10.

The search is performed according to the settings on the [Read] and [Search condition] tab windows for MES setting No. 0. When the search is completed normally, a return value of "0" and the obtained data are stored at the addresses starting from the return address of \$u0000.

Supplementary information

• The execution type of the macro can be set using \$s514. For details, refer to page 6-22.

- The result of the macro execution is stored in the device memory address \$s515.
- -40: The [Read] tab window setting is not made in the specified MES setting number, or any setting error is found. For details on other error numbers, refer to page 6-22.
- The returned value will not be placed at the [F1] return address immediately. Monitor the [F1] return address using an event timer macro, etc.
- If settings are not configured on the [Search condition] tab window for the specified MES setting number, all records are extracted as the results of the search.
- If an error occurs when writing the result (return value, data retrieved by a search) of accessing database, the result and log data is not output to the V9 series unit.

#### MES DEL (F1, F2, F3)

Function: Deleting records from the database

This macro is used to search the database according to the settings on the [Search condition] tab window for MES setting No. [F3]. The search is performed via V-Server at the location specified in table No. [F2]. The records that match the conditions are deleted. The result is stored at the [F1] return address.

#### Device Memory Used

	Internal	PLC1 - 8	Constant
F1	0		
F2	0		0
F3	0		0

Range

O: Setting enabled (indirect designation disabled) ③: Setting enabled (indirect designation enabled)

	Value			
FO	MES DEL			
F1	Return address	R	eturn value 0: Normal termination -1: Ended in error	
F2	0 to 255: Network table number	Ľ		
F3	0 to 255: MES setting No.			

**Operation Example** 

MES DEL (\$u0000, 10, 0)

MES setting No. 0 Network table No. 10 Return address

The above macro searches the database of the PC specified in network table No. 10 and deletes the retrieved data. The search is performed according to the settings on the [Search condition] tab window for MES setting No. 0. When the data deletion is completed normally, a return value of "0" is stored at the return address of \$u0000.

Supplementary information

- The execution type of the macro can be set using \$s514. For details, refer to page 6-22.
- The result of the macro execution is stored in the device memory address \$s515.

-40: The [Search condition] tab window setting is not made in the specified MES setting number, or any setting error is found.

For details on other error numbers, refer to page 6-22.

• If an error occurs when writing the result (return value, data retrieved by a search) of accessing database, the result and log data is not output to the V9 series unit.

#### MES UPDATE (F1, F2, F3)

Function: Updating the database

This macro is used to search the line set on the [Write] tab window for MES setting No. [F3]. The search is performed based on the specified search conditions via V-Server at the location specified in table No. [F2], and then the database is updated. The result is stored at the [F1] return address.

#### Device Memory Used

	Internal	PLC1 - 8	Constant
F1	0		
F2	0		0
F3	0		0

Range

O: Setting enabled (indirect designation disabled) ③: Setting enabled (indirect designation enabled)

		Value			
FO	MES UPDATE				
F1	Return address	Return value 0: Normal termination -1: Ended in error			
F2	0 to 255: Network table number				
F3	0 to 255: MES setting No.				

**Operation Example** 

MES UPDATE (\$u0	000, 10, 0)
	MES setting No. 0 Network table No. 10 Return address

The above macro searches the database on the PC specified in network table No. 10 and updates the database. The search is performed according to the settings on the [Write] and [Search condition] tab windows for MES setting No. 0. When the data update is completed normally, a return value of "0" is stored at the return address of \$u0000.

Supplementary information

- The execution type of the macro can be set using \$s514. For details, refer to page 6-22.
- The result of the macro execution is stored in the device memory address \$s515.
- -40: Settings are not configured on the [Write] or [Search condition] tab window for the specified MES setting number, or any setting error is found.

For details on other error numbers, refer to page 6-22.

- The returned value will not be placed at the [F1] return address immediately. Monitor the [F1] return address using an event timer macro, etc.
- This macro command cannot be executed when "Update" is set on the [Search condition] tab window.
- If an error occurs when writing the result (return value, data retrieved by a search) of accessing database, the result and log data is not output to the V9 series unit.

### System Device Memory (\$s)

ddresses			Description														
\$s512	Selecti 0: L/ 2: L/																
\$s514	Macro	Wait	Wait request														
		MSB LSB															
	-	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00
		0	0	0	0	0	0	0	0	0	0	0	0	0	0		

Remarks  $\rightarrow V$ 

 $\rightarrow V$ 

 $\mathsf{V} \to$ 

The system device memory related to MES macros are shown below.

# 0: No 0: No System reserved (setting 0) 1: Yes \$s515 Macro Wait request execution result

#### \$s514, 515

Device memory related to MES macros and Ethernet macros (SEND/EREAD/EWRITE). Executed with respect to the port specified with \$s512.

- \$s514: Set whether a macro wait request is on or off.
  - [0]: No wait
  - During the execution of a macro command, the execution of the next macro command takes place before the completion of the current one.

Wait request -

- Other than [0]: With wait
   During the execution of a macro command, the next macro command is put on hold and is executed after the completion of the current command.
- \* In the case of successive accesses to the same port on one single macro sheet, specify a value other than "0" (with wait). If "0" (no wait) is specified, a macro command issued afterward will not be accepted.

#### • \$s515: Store the macro execution result.

When \$s514 is set to "0", the issue of a macro command is stored. When \$s514 is set to "1", the response returned for the command is stored.

Code	Description	Solution
0	Normal	-
200 - 2000	Communication error	Refer to the V9 Series Troubleshooting/Maintenance Manual.
-30	Timeout	Check whether an error has occurred on the destination V9 series unit.
-31	Number of words for sending exceeded	Use the macro editor to check the number of words for sending.
-32	The specified table is not used.	Check the network table settings.
-33	The send command cannot be used.	Use the macro editor to check the macro command.
-34	The specified table is in use.	Check whether system device memory address \$s514 is set. If it is not to be set, reduce the number of communications.
-35	Processing impossible due to insufficient memory	Check the memory availability of the counterpart device.
-40	Setting data error	Check that [Write], [Read], and [Search condition] settings are configured for the specified MES setting number. Check that the set data is correct.

### 6.7.4 V-Server

#### **V-Server**

Hakko Electronics V-Server is the software that enables accesses to databases.

Once V-Server is installed on a PC, no additional configuration is needed. The system requirements for V-Server are listed in the table below.

#### System requirements

Item	Description
PC	Pentium III 800 MHz equivalent or higher
OS	Windows 98/Me/NT Ver.4.0/2000/XP/XP64 Edition/Vista (32bit, 64bit)/7 (32bit, 64bit)/8 (32bit, 64bit)/Server 2008 R2/Server 2012
Memory	Min. 128 MB
Hard disk	Min. 320 MB of free disk space
Database	SQL Server (Microsoft) MSDE (Microsoft) Oracle (Oracle Corporation)

#### Installation

- 1. Download the V-Server software to your PC from the Hakko Electronics website at the following URL. http://monitouch.fujielectric.com/site/support-e/download-index-01.html
- 2. Install V-Server on the PC.
- 3. Start V-Server.
- \* The message that appears at start-up indicates that V-Server is usable for one hour.
   To use V-Server without this limitation, please apply for a software license and obtain a password. For details, refer to the TELLUS and V-Server Manual.

V-Server	Σ	3
<u>^</u>	This application is running under trial period. Do you want to set a password?	
	Yes No	

### 6.7.5 Database

#### **Types of Databases**

The following databases can be used.

- SQL Server: Microsoft
- MSDE: Microsoft
- Oracle: Oracle Corporation

This manual describes an example of configuration using Microsoft SQL Server 2012 Express Edition.

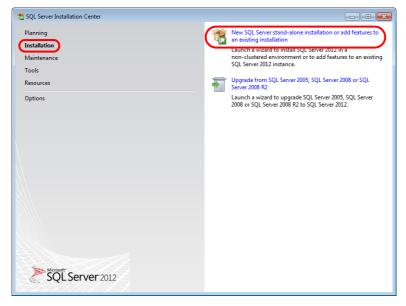
SQL Server 2012 Express Edition

This is a simplified version of SQL Server 2012. This software can be downloaded free of charge from Microsoft's website.

#### SQL Server 2012 Express Edition

#### Installation

- 1. Download SQL Server 2012 Express Edition from Microsoft's website.
- 2. Double-click the downloaded executable file.
- 3. The [SQL Server Installation Center] window is displayed. Select [New SQL Server stand-alone installation or add features to an existing installation].



4. The license terms are displayed. Select the [I accept the license terms.] checkbox and click the [Next] button.

🐮 SQL Server 2012 Setup	
License Terms	
To install SQL Server 2012, yo	ou must accept the Microsoft Software License Terms.
License Terms Product Updates	MICROSOFT SOFTWARE LICENSE TERMS
Install Setup Files	MICROSOFT SQL SERVER 2012 EXPRESS
	These license terms are an agreement between Microsoft Corporation (or based on where you live, one of its affiliates) and you. Please read them. They apply to the software named above, which includes the media on which you received it, if any. The terms also apply to any Microsoft
	updates,
	supplements,
	Internet-based services, and
	sunnort services
	₽a ∰ Sopy <u>Print</u>
	I accept the license terms.
	Send feature usage data to Microsoft. Feature usage data includes information about your hardware configuration and how you use SQL Server and its components.
	See the Microsoft SQL Server 2012 Privacy Statement for more information.
	< Back Next > Cancel

5. The [Product Updates] window is displayed. Proceed by following the instructions.

📸 SQL Server 2012 Setup				• • × •					
Product Updates									
Always install the latest upda	tes to enhance your SQL Server securit	y and performance.							
License Terms Product Updates	☑ Include SQL Server product updates								
Install Setup Files	Name	Size (MB)	More Information						
instan octop mes	SQL Server 2012 SP1 GDR Setup	22	KB 2793634						
	1 updates (22 MB) found online. The Setup updates (22 MB) will be <u>Bead our privacy statement online</u> Learn more about SQL Server prod		Next.						
		[	< <u>B</u> ack <u>N</u> ext > Ca	ncel					

6. The [Install Setup Files] window is displayed and installation of setup files starts.

🐮 SQL Server 2012 Setup			- • •	
Install Setup Files				
SQL Server Setup will now be update will also be installed.	installed. If an update for SQL Server Setup	is found and specified to be included, the		
License Terms				
Product Updates Install Setup Files	Downloading the Setup files: 1 MB of 22	MB downloaded (3 %)		
Instan Setup Tiles	Task	Status		
	Scan for product updates	Completed		
	Download Setup files	In Progress		
	Extract Setup files	Not started		
	Install Setup files	Not started		
		< <u>B</u> ack Install	Cancel	

7. The [Feature Selection] window is displayed. Select [Database Engine Services].

📸 SQL Server 2012 Setup		
Feature Selection Select the Express features to i	nstall.	
Setup Support Rules Feature Selection Installation Rules Instance Configuration Disk Space Requirements Server Configuration Database Engine Configuration Error Reporting Installation Configuration Rules Installation Progress Complete	Eeatures:	Feature description:         The configuration and operation of each instance feature of a SQL Server instance is isolated from other SQL Server instances. SQL Server instances can operate side-by- side on the same computer.         Prerequisites for selected features:         Already installed:         Windows PowerShell 2.0         Microsoft .NET Framework 3.5         To be installed from media:         Microsoft .NET Framework 4.0         Microsoft Visual Studio 2010 Shell
	< <u>B</u> ack	] <u>N</u> ext > Cancel Help

8. The [Instance Configuration] window is displayed. Select the [Named instance] radio button and proceed to the next screen.

📸 SQL Server 2012 Setup					_ 0 🔀
Instance Configuration					
Specify the name and instance	ID for the instance of SQL	Server. Instance	ID becomes part of t	he installation path.	
Setup Support Rules	© Default instance				
Feature Selection Installation Rules	Named instance:	SQLExpress	)		
Instance Configuration					
Disk Space Requirements	Instance <u>I</u> D:	SQLEXPRESS			
Server Configuration Database Engine Configuration	Instance <u>r</u> oot directory:	C:\Program Fil	es\Microsoft SQL Serv	ver\	
Error Reporting Installation Configuration Rules Installation Progress Complete	SQL Server directory: Insta <u>l</u> led instances:	C:\Program File	s\Microsoft SQL Serv	er\MSSQL11.SQLEXPR	ESS
	Instance Name	Instance ID	Features	Edition	Version
			< Back	Next > Can	cel Help

9. The [Server Configuration] window is displayed. Click the [Next] button.

🐮 SQL Server 2012 Setup					•
Server Configuration					
Specify the service accounts and	d collation configuration.				
Setup Support Rules	Service Accounts Collation				
Feature Selection Installation Rules	Microsoft recommends that you	use a separate account for each	SQL Server servi	ice.	
Instance Configuration	Service	Account Name	Password	Startup Type	e
Disk Space Requirements	SQL Server Database Engine	NT Service\MSSQL\$SQL		Automatic	-
Server Configuration	SQL Server Browser	NT AUTHORITY\LOCAL		Disabled	-
Installation Configuration Rules Installation Progress Complete					
	<u></u>	< <u>B</u> ack <u>N</u> ext	> Can	cel He	łp

10. The [Database Engine Configuration] window is displayed. Select [Mixed Mode] and enter a password.

🕱 SQL Server 2012 Setup		
Database Engine Conf	guration	
Specify Database Engine authe	ntication security mode, administrators and data directories.	
Setup Support Rules Feature Selection Installation Rules Instance Configuration Disk Space Requirements Server Configuration Database Engine Configuration	Server Configuration         Data Directories         User Instances         FILESTREAM           Specify the authentication mode and administrators for the Database Eng Authentication Mode	ine.
Error Reporting Installation Configuration Rules Installation Progress Complete	Specify the password for the SQL Server system administrator (sa) account Enter password: Confirm password: Confirm password:	
	Specify SQL Server administrators       HAKKO\ test       Add <u>Current User</u> Add       Bemove	SQL Server administrators have unrestricted access to the Database Engine.
	< <u>B</u> ack <u>N</u> ext >	Cancel Help



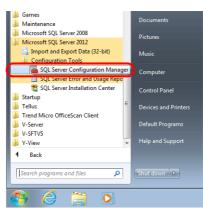
The password is required when connecting to the database and configuring MES settings in V-SFT. Take care managing your password and do not lose it.

Connect to Server	r	×		0.			MEG	0.111	E.M.s	THE
SQL Se			File Ho	me Parts	Edit View	Screen Setting		Setting System S		
SQL SE	erver 2012		🔜 Edit Model Select 🖭 Multi-language S	etting		•	😍 🖉			
Servertype:	Database Engine	-	Unit Setting *	Hardw		Ethernet • Communication •	Global Alar Setting Y Serv			ipe Schei
Server name:	USER01\SQLEXPRESS	-	Unit Setting		Communication	n Setteing		Comm	on Sett	ing
Authentication:	SQL Server Authentication	-	🖳 Screen [0] Edi	t()	MES Setting	×				
Login: Password:	sa	$\supset$	No 🔍 🗮	Сору	Delete		Required No. (	of Word Co Header 1		Macro Cor Read S
	Remember password		Comment				MES WRITE	[0] +	[0]	+ 0
Conn	ect Cancel Help O	ptions >>	Data source Name				MES READ	[0] +	0	+ [0]
			Login Name				MES DEL	[0] +	0	+ 0
			Password				MES UPDATE	[0] +	[0]	+ O
			Table Name			× T				

- 11. The [Error Reporting] window is displayed. Click [Next] to start installation.
- 12. The [Complete] window is displayed when installation is finished. Click the [Close] button to exit.

🐮 SQL Server 2012 Setup		- • •
Complete Your SQL Server 2012 installat	ion completed successfully with product upc	ates.
Setup Support Rules Feature Selection	Information about the Setup operation of	possible next steps:
	Feature	Status
Installation Rules	Database Engine Services	Succeeded
Instance Configuration	SQL Server Replication	Succeeded
Disk Space Requirements	SQL Browser	Succeeded
Server Configuration	SQL Writer	Succeeded
Database Engine Configuration	SQL Client Connectivity	Succeeded
Error Reporting	SOL Client Connectivity SDK	Succeeded
Installation Configuration Rules		
-	0.1.7	
Installation Progress	Details:	
Complete	been installed. By default, the Help V SQL Server, you can use the Help Lit your local computer. For more inform < <u>http://go.microsoft.com/fwlink/?Linkl</u>	view and manage the documentation for SQL Server have ever component uses the online library. After installing rary Manager component to download documentation to tion, see Use Microsoft Books Online for SQL Server. D=224583>.
	Summary log file has been saved to the fo	llowing location:
	C:\Program Files\Microsoft SQL Server\1: Eng 20140404 191426.txt	10\Setup Bootstrap\Log\20140404 191426\Summary izumih-
		Close Help

- 13. Restart the PC.
- 14. From the Windows [Start] menu, click [All Programs]  $\rightarrow$  [Microsoft SQL Server 2012]  $\rightarrow$  [Configuration Tools]  $\rightarrow$  [SQL Server Configuration Manager].



15. SQL Server Configuration Manager starts. Check that SQL Server (SQL Express) is running.

🗃 Sql Server Configuration Manager					- • •
File Action View Help					
SQL Server Configuration Manager (Local)	Name	State	Start Mode	Log On As	Process ID
SQL Server Services	SQL Server (SQLEXPRESS)	Running	Automatic	NT Service\MSSQL	1960
▷ J. SQL Server Network Configuration ▷ ₽ SQL Native Client 11.0 Configuration	SQL Server Agent (SQLEXPRESS)	Stopped	Other (Boot, Syste	NT AUTHORITY\NE	0
	Discription Server Browser	Stopped	Other (Boot, Syste	NT AUTHORITY\LO	0

This completes the installation procedure.

#### **Creating an SQL Server Database**

An SQL Server database can be created using SQL Server Management Studio Express.

Microsoft SQL Server Management Studio Express: SSMSE

An easy-to-use, graphical management tool intended for management of SQL Server 2012 Express Edition.

#### Installation

- 1. Download SQL Server Management Studio Express from Microsoft's website.
- 2. Double-click the downloaded file.
- 3. The [SQL Server Installation Center] window is displayed. Select [New SQL Server stand-alone installation or add features to an existing installation].

髋 SQL Server Installation Center	
Planning Installation Maintenance	New SQL Server stand-alone installation or add features to an existing installation Launch a wizard to install SQL Server 2012 in a non-clustered environment or to add features to an existing SQL Server 2012 instance.
Tools Resources	Upgrade from SQL Server 2005, SQL Server 2008 or SQL Server 2008 R2 Launch a wizard to upgrade SQL Server 2005, SQL Server 2008 or SQL Server 2008 R2 to SQL Server 2012.
Options	

- 4. The [Product Updates] window is displayed. Proceed by following the instructions.
- 5. The [Installation Type] window is displayed. Select the [Add features to an existing instance of SQL Server 2012] radio button.

📸 SQL Server 2012 Setup					- • •
Installation Type					
Perform a new installation or a	dd features to an existir	ng instance of SQL Serve	r 2012.		
Setup Support Rules Installation Type Feature Selection Installation Rules Disk Space Requirements Error Reporting Installation Configuration Rules Installation Progress	Select this option components such Add features to an SQLEXPRESS Select this option want to add the A	tallation of SQL Server 2 if you want to install a i as SQL Server Manager n existing instance of SQ if you want to add feature e must be the same editii	new instance of SQL S nent Studio or Integra L Server 2012 ures to an existing ins to the instance that	tion Services. tance of SQL Ser	ver. For example, you
Complete	Installed instances:	Instance ID	Features	Edition	Version
	SQLEXPRESS	MSSQL11.SQLEXPR	SQLEngine, SQLEn	Express	11.0.2100.60

6. The [Feature Selection] window is displayed. Select the [Management Tools - Basic] checkbox.

🐮 SQL Server 2012 Setup		
Feature Selection Select the Express features to i	nstall.	
Setup Support Rules Installation Type Feature Selection Installation Rules Disk Space Requirements Error Reporting	Eeatures: Instance Features Shared Features V Management Tools - Basic SQL Client Connectivity SUK ClocalDB Redistributable Features	Feature description: The configuration and operation of each instance feature of a SQL Server instance is isolated from other SQL Server instances. SQL Server instances can operate side-by-side on the same computer.
Installation Configuration Rules Installation Progress Complete		Prerequisites for selected features: Already installed: - Windows PowerShell 2.0 - Microsoft NRT Framework 3.5 To be installed from media: - Microsoft NRT Framework 4.0 (may require re - Microsoft Visual Studio 2010 Shell
	Select All Unselect All Shared feature directory: C:\Program Files\I	Microsoft SQL Server\

7. Click [Next] to start installation.

6

8. The [Complete] window is displayed when installation is finished. Click the [Close] button to exit.

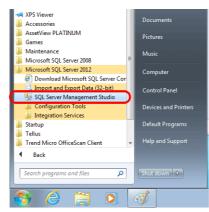
🐮 SQL Server 2012 Setup		
Complete Your SQL Server 2012 installati	on completed successfully with prod	uct updates.
Setup Support Rules Installation Type Feature Selection Installation Rules Disk Space Requirements Error Reporting Installation Configuration Rules Installation Progress <b>Complete</b>	been installed. By default, the SQL Server, you can use the H your local computer. For more <a href="http://go.microsoft.com/fwlink">http://go.microsoft.com/fwlink</a> Summary log file has been saved to	Status Succeeded ation for SQL Server use to view and manage the documentation for SQL Server have Help Viewer component uses the online library. After installing telp Library Manager component to download documentation to information, see Use Microsoft Books Online for SQL Server r?LinkID=2246835.
		Close Help

9. Restart the PC.

This completes the installation procedure.

#### Starting SQL server management studio express

1. From the Windows [Start] menu, click [All Programs]  $\rightarrow$  [Microsoft SQL Server 2012]  $\rightarrow$  [SQL Server Management Studio].



2. The [Connect to Server] window is displayed. Enter the required information and click the [Connect] button.

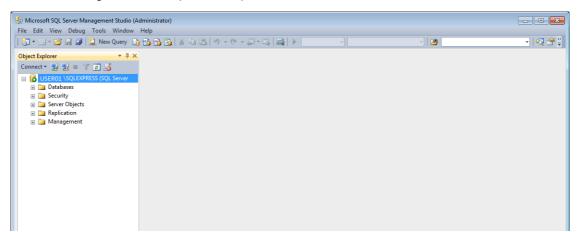
Connect to Server	er 2012
Servertype: Servername:	Database Engine   USER01\SQLEXPRESS
Authentication:	SQL Server Authentication
Login:	sa
Password:	
	Remember password
Connect	Cancel Help Options >>

Item	Description	
Server name	Select the server name of the SQL Server.	
Authentication	elect "SQL Server Authentication".	
Login	Enter a user name. The user name "sa" is entered in this example.	
Password	Enter the password.	

The password for "sa" was specified on the [Authentication Mode] window displayed during installation of SQL Server 2012 Express Edition (see page 6-27).

SQL Server 2012 Setup	
Database Engine Conf	iguration
Specify Database Engine authors	entication security mode, administrators and data directories.
Setup Support Rules Feature Selection Installation Rules Instance Configuration Disk Space Requirements Server Configuration <b>Database Engine Configuration</b> Error Reporting Installation Configuration Rules Installation Progress	Server Configuration       Data Directories       User Instances       FILESTREAM         Specify the authentication mode and administrators for the Database Engine.         Authentication Mode         Windows authentication mode         Windows authentication mode         Mixed Mode (SQL Server authentication and Windows authentication)         Specify the password for the SQL Server system administrator (sa) account.         Enter password:
Complete	Cgnfirm password:         Specify SQL Server administrators         HAKKOv test         Nave unrestricted accer         to the Database Engine         Add Gurrent User         Add
	< <u>B</u> ack Next > Cancel Hel

3. SQL Server Management Studio Express starts up.



#### Creating a new database

1. Select [Databases] and click [New Database] on the right-click menu.

	Management Studio (Administrator) uq Tools Window Help		
	j   2 New Query 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	- 12	- 🛛 🕾 🗄
Object Explorer Connect ▼ 🛃 🛃 🔲 🖃 🐻 USER01\SQLED			
⊕	New Database		
⊕ 📄 Server O ⊕ 결 Replicati ⊕ 🧊 Manage	Attach Restore Database Restore Files and Filegroups		
	Deploy Data-tier Application Import Data-tier Application		
	Start PowerShell		
	Reports >		
	Refresh		
_			

2. The [New Database] window is displayed. Specify a database name and click the [OK] button.

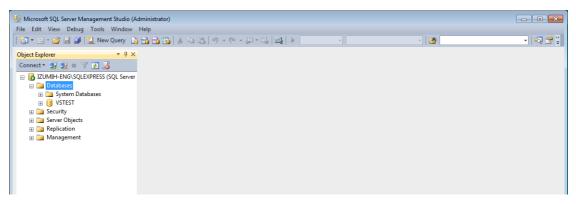
📙 New Database						X
Select a page	🛒 Script 🔻 🛐	Help				
General	2) Script + 10 Heb					
Poptions Filegroups	Database <u>n</u> ame:		VSTEST			_
	<u>O</u> wner:		<default></default>			-
					-	
	Use full-text in	ndexing				
	Database files:					
	Logical Name	File Type	Filegroup	Initial Size (MB)	Autogrowth / Maxsize	
	VSTEST	Rows	PRIMARY	3	By 1 MB, Unlimited	
	VSTEST_log	Log	Not Applicable	1	By 10 percent, Unlimited	
Connection						
Server: IZUMIH-ENG\SQLEXPRESS						
Connection: sa						
View connection properties						
Progress						
Ready	•	m		Add	Remove	•
					OK Cancel	

3. A new database is created.

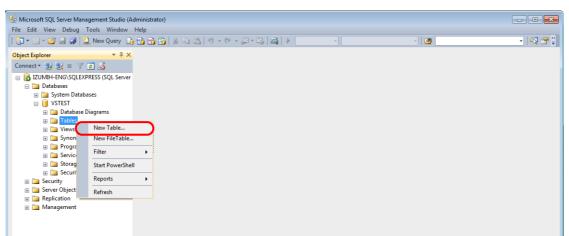
Kircosoft SQL Server Management Studio (A File Edit View Debug Tools Window			
🗄 📩 🔹 📨 🚅 📕 🗿 🔔 New Query 🚦	- 🚚 - 🖳   🚜   🕨	- 10	-   🟹 😤 🚆
Object Explorer			

#### Creating a new table

1. Start SQL Server Management Studio Express.



2. Select the database created in the previous section and click [New Table] on the right-click menu.



3. The table creation screen is displayed. Create a table by registering a line name and data type.

le Edit View Project Debug TableDes T	•		al   ▶	}	• 🔍 🛣
bject Explorer 🛛 👻 म 🗙	USER01 \SQLEXEST - d	ibo.Table_1* 🗙		Properties	
Connect + 🛃 🚉 🔳 🍞 🛃 📓	Column Name	Data Type	Allow Nulls	[Tbl] dbo.Table_1	
USER01\SQLEXPRESS (SQL Server	VsPrimaryKey	nchar(10)			
🖃 🧰 Databases	Date	varchar(26)	<b>v</b>	<ul> <li>(Identity)</li> </ul>	
😠 🧰 System Databases 🖃 间 VSTEST	Time	varchar(10)	<b>v</b>	(Name)	Table_1
🗃 🚺 Vatabase Diagrams	Name	varchar(10)	<b>v</b>	Database Name	VSTEST
🗉 🧰 Tables	ок	smallint		Description	
🕀 🧰 Views	NG	smallint	V	Schema	dbo
🗉 🚞 Synonyms		sindimic		Server Name	izumih-eng\sqlexp
🗉 🚞 Programmability				<ul> <li>Table Designer</li> </ul>	
😥 🧰 Service Broker				Identity Column	
🗄 🧰 Storage				Indexable	Yes
🗉 🧰 Security				Lock Escalation	
Generativ				Regular Data Spa	
Server Objects				Replicated	No
				Row GUID Colur	ni

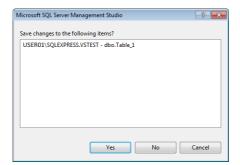
• Always set the primary key for V-Server for a database table to which data will be added.

Line Name	Data Type	Length	Allow Nulls	Primary Key
VsPrimaryKey	varchar	26 bytes or more	No	0

• The following data types can be used with the MES interface function. These correspond to the data types in the MES settings in V-SFT.

Database: Table				V-SFT: ME	S settings
Line Name	Data Type	Length	Allow Nulls	Data type	Length
(Arbitrary)	smallint	1 word	Permitted	DEC-	1 word
(Arbitrary)	int	2 word	Permitted	BCD	2 word
(Arbitrary)	Float	2 word	Permitted	FLOAT	2 word
(Arbitrary)	varchar	Arbitrary	Permitted	CHAR	256 bytes maximum

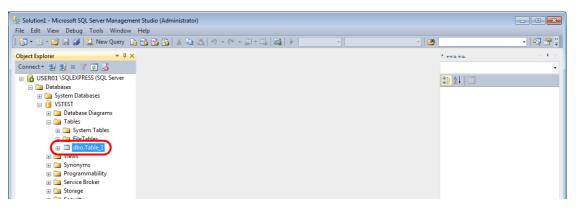
4. When the table settings are complete, close the table. The confirmation dialog box is displayed. Click the [Yes] button.



5. Enter a name and click the [OK] button.

Choose Name		? 💌
Enter a name for the table:		
Table_1		
	ОК	Cancel

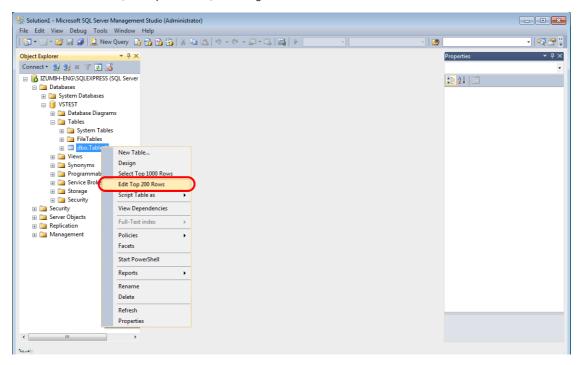
#### 6. The table is created.



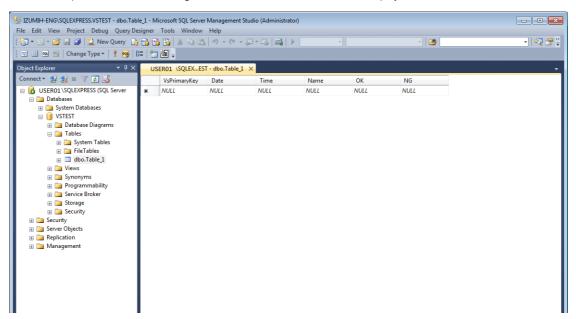
#### **Opening a table**

The data saved in the database can be checked according to the following procedure.

1. Select a table and click [Edit Top 200 Rows] on the right-click menu.



2. The table is opened. The line name registered when the table was created is displayed. Data is saved in each "NULL" field.



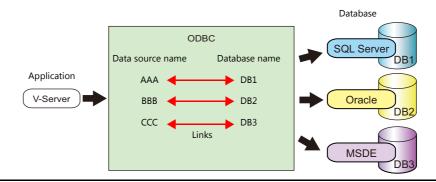
# 6.7.6 Data Source (ODBC) Settings

V-Server accesses the database via a data source (ODBC). Data source settings need to be configured to allow V-Server access to the database. This manual describes an example of configuration using Microsoft SQL Server 2012 Express Edition.

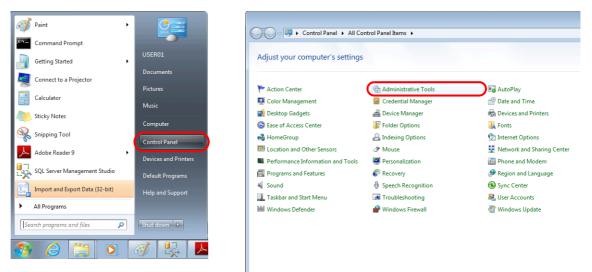
#### ODBC: Open DataBase Connectivity

ODBC is the interface between an application (V-Server) and the database.

Because ODBC accommodates the differences in specifications between databases, users only need to create programs based on the ODBC-specified procedure in order to access those databases.



- 1. From the Windows [Start] menu, click [Control Panel] to display the Control Panel.
- 2. Click [Administrative Tools].



3. The [Administrative Tools] window is displayed. Double-click [Data Sources (ODBC)].

🔆 Favorites 🔲 Desktop	Name	Date modified	T		
Desktop			Туре	Size	
	Component Services	7/13/2009 9:46 PM	Shortcut	2 KB	
🗼 Downloads	🖈 Computer Management	7/13/2009 9:41 PM	Shortcut	2 KB	
📃 Recent Places	👼 Data Sources (ODBC)	7/13/2009 9:41 PM	Shortcut	2 KB	
	Event Viewer	7/13/2009 9:42 PM	Shortcut	2 KB	
🧊 Libraries	🙈 iSCSI Initiator	7/13/2009 9:41 PM	Shortcut	2 KB	
Documents	🛃 Local Security Policy	11/7/2013 9:59 AM	Shortcut	2 KB	
👌 Music	Performance Monitor	7/13/2009 9:41 PM	Shortcut	2 KB	
E Pictures	🕞 Print Management	11/7/2013 9:59 AM	Shortcut	2 KB	
🛃 Videos	Services	7/13/2009 9:41 PM	Shortcut	2 KB	
	🛜 System Configuration	7/13/2009 9:41 PM	Shortcut	2 KB	
👰 Computer	🔝 Task Scheduler	7/13/2009 9:42 PM	Shortcut	2 KB	
🏜 Local Disk (C:)	🔗 Windows Firewall with Advanced Security	7/13/2009 9:41 PM	Shortcut	2 KB	
💼 Local Disk (D:)	📧 Windows Memory Diagnostic	7/13/2009 9:41 PM	Shortcut	2 KB	
👝 Local Disk (E:)	😹 Windows PowerShell Modules	7/13/2009 9:52 PM	Shortcut	3 KB	
🚽 技術課 (\\amsfs\share\課)					
🚽 public (\\amsfs\share\課\ト					
🖵 protected (\\amsfs\share\					
🗣 Network					
TNELWOIK					



#### For 64-bit versions of Windows XP/Vista/7/8

- The 32-bit version of ODBC must be used because V-Server is a 32-bit application.
- 1. From the Windows [Start] menu, click [Computer], double-click [Local Disk (C:)] → [Windows] → [SysWOW64].
- 2. Double-click the "odbcad32" application. The 32-bit version of ODBC starts up.
- 3. Press the [Ctrl] + [Shift] + [Esc] keys together to start Windows Task Manager and check which version of ODBC is running.

On the [Processes] tab, the 32-bit version is running if "odbcad32.exe \*32" is shown in the list.

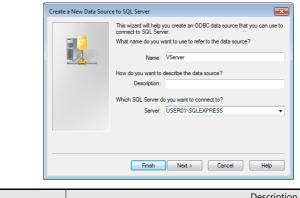
4. The [ODBC Data Source Administrator] window is displayed. Select the [System DSN] tab and click the [Add] button.

📓 ODBC 🛛	Data Source Administrator
User DSI	System DSN ile DSN Drivers Tracing Connection Pooling About
System [	Data Sources:
	Driver Add
Hume	Remove
	Remove
	Configure
	An ODBC System data source stores information about how to connect to the indicated data provider. A System data source is visible to all users on this machine, including NT services.
	OK Cancel Apply Help

5. The [Create New Data Source] window is displayed. Select [SQL Server] and click the [Finish] button.

Create New Data Source		
	Select a driver for which you want to set up a Name Microsoft Paradox-Treiber (* db ) Microsoft Paradox-Treiber (* db ) Microsoft Hav-Treiber (* dc ; * csv) Microsoft Haval FoxPho Treiber Solt Server Solt Server Solt Server	data source.
	< Back Finish	Cancel

6. The following window is displayed. Configure the required settings and click the [Next] button.



Item	Description
Name	Specify a data source name.
Server	Specify a SQL Server name.

- The data source name is used in the MES settings in V-SFT.
- The SQL Server name can be checked in SQL Server Management Studio Express.

📃 Screen [0] Edit ( ) 👼 MES Setting 🔅	<	Connect to Server	×
No Copy Delete	Required	SQL Server 2012	
Comment Data source Name Login Name Password	MES WE MES RE MES DE MES UP	Server type: Database Engine Server name: USER01 \SQLEXPRESS Authentication: SQL Server Authentication Login: sa	
Table Name Write Read Search condition Max Record 0 a Add (	Change Delete	Password:	Options >>

7. The following window is displayed.

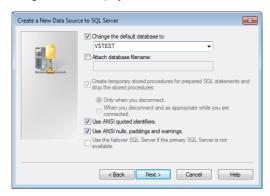
Select the [With SQL Server authentication using a login ID and password entered by the user] radio button and specify a login ID and password.

	How should SQL Server verify the authenticity of the login ID?
80	With Windows NT authentication using the network login ID.
	With SQL Server authentication using a login ID and password entered by the user.
	To change the network library used to communicate with SQL Server, click Client Configuration.
	Client Configuration
	Connect to SQL Server to obtain default settings for the additional configuration options.
	Login ID: sa
	Password:

Item	Description
Login ID	Enter a login ID ("sa" in this example).
Password	Enter the password.

The login ID ("sa") and password were specified on the [Authentication Mode] window displayed during installation of SQL Server 2012 Express Edition (see page 6-27).

8. Click the [Next] button. The following window is displayed.



9. Select the [Change the default database to] checkbox and select a database.

Solact the database created using	Microsoft SQL Server Management Studi	o Everace (coo page 6 22)
		U EXPLESS (SEE Daye 0-52).

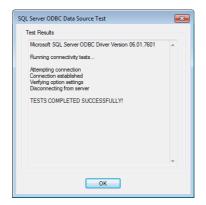
10. Click the [Next] button. The following window is displayed.

Create a New Data Source to SQL Server							
Change the language of SQL Server system messages to: English  Change the language of SQL Server system messages to: English  Change the language of SQL Server system messages to: English  Change the language of SQL Server system messages to: English  Change the language of SQL Server system messages to: English  Change the language of SQL Server system messages to: English  Change the language of SQL Server system messages to: English  Change the language of SQL Server system messages to: English  Change the language of SQL Server system messages to: English  Change the language of SQL Server system messages to: English  Change the language of SQL Server system messages to: English  Change the language of SQL Server system messages to: English  Change the language of SQL Server system messages to: English  Change the language of SQL Server system messages to: English  Change the strong encryption of data  Change the strong the system the system messages to: English  Change the strong encryption of data  Change the strong the system the							
	Long query time (milliseconds): 30000						
C:\Users\uzumi\AppData\Local\Temp\STATS.LOG Browse							
	< Back Finish Cancel Help						

11. Click the [Finish] button. The following window is displayed.



12. Click the [Test Data Source] button. When a connection has been successfully established, the following window is displayed.



13. Click [OK]. The previous screen reappears.

14. Click [OK]. The data source is registered.

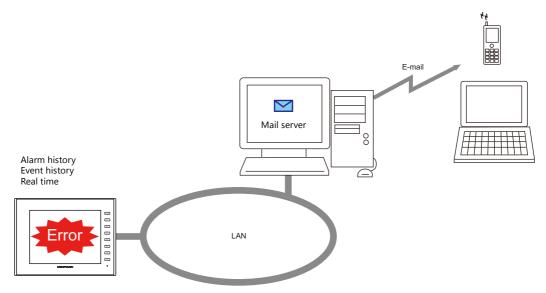
	System DSN File DSN Drivers Tracing Connection ata Sources:	Pooling Abou
Name	Driver	Add
VServer	SQL Server	Remove
		Configure.
	1 00000 A 14 A 14	
	An ODBC System data source stores information about ho the indicated data provider. A System data source is visi on this machine, including NT services.	

This completes the configuration of settings.

# 6.8 E-mail Notification

## 6.8.1 Overview

• E-mail notifications can be sent according to the ON/OFF status of alarm bits. If a problem occurs, you can be notified of the fault even at a remote location.



- SSL/TLS communication is also supported.
- When e-mail notifications are sent from multi-language screens, notification messages are sent in all relevant languages.

Example of e-mail notification main body

2014/04/10 18:55:04 <on> A タンク異常発生 Apr/10/2014 18:55:04 <on> Tank A Error 2014/04/10 18:55:04 <on> A 罐 异常发生 2014/04/10 18:55:04 <on> A 罐 發生異常 2014/04/10 18:55:04 <on> 탱크 A 에러</on></on></on></on></on>	

• Supported items and ports used

Port	Item	Other
LAN LAN2 WLAN	Alarm history Event history Real time	The mail server must reside on the LAN. Not available with CUR-03.

## 6.8.2 Detailed Settings

To send e-mail notifications, IP address settings on the V9 series unit and e-mail settings for registering the mail server and recipients of notification must be configured.

## **IP Address Settings**

For information on IP address settings, refer to "V9 Series Unit IP Address Settings" page 6-2.

#### **E-mail Settings**

There are two ways to configure e-mail settings: using the V-SFT editor or using local mode on the V9 series unit.

### Setting using the V-SFT editor

 $[System Setting] \rightarrow [Ethernet Communication] \rightarrow [E-Mail]$ 

-Mail Setting		<b>—</b> ×-
E-Mail		
SMTP IP Address		Port Setting
Certify Type	SMTP-AUTH 👻	
POP3 IP Address	0.0.0.0	
🔲 Use SSL/TLS Comm	unication	
Acount Name		
Password		
Sender's Mail Address		
Sender's Name		
Subject		
Receiver's Mail Address		
		Add
		Change
		Delete
	OK	Cancel

	Item	Description		
SMTP IP Addr	ess	Set the network IP address of the mail server.		
Port Setting		Set the SMTP port number of the mail server. 0 to 65535 (default: 25)		
		Sending Server (SMTP)		
		Example: Yahoo Corporation's Yahoo e-mail: Port No. 587 SSL/TLS communication: Port No. 465		
Certify Type		Set the authentication method in accordance with the specifications of the mail server.		
No authorization		No authentication is performed.		
	POP before SMTP *1	<ul> <li>Authentication is performed with the POP3 server. Configure the following settings.</li> <li>POP3 IP Address</li> <li>Account Name (63 one-byte characters or less)</li> <li>Password (63 one-byte characters or less)</li> </ul>		
	SMTP-AUTH <sup>*2</sup> LOGIN PLAIN CRAM-MD5 DIGEST-MD5 <sup>*3</sup>	<ul> <li>Authentication is performed with the SMTP server. Configure the following settings.</li> <li>Use SSL/TLS Communication</li> <li>Account Name (63 one-byte characters or less)</li> <li>Password (63 one-byte characters or less)</li> </ul>		
Sender's Mail Address		Set the sender's mail address. It is recommended to create a dedicated account for the V9i on the mail server and to set its address here.		
Sender's Nam	e	Set the sender's name. A name consisting of both one- and two-byte characters is not valid. It is displayed in the "Sender" field in an incoming e-mail.		
Subject		Set the subject. It is displayed in the "Subject" field in an incoming e-mail.		

Item		Description
Receiver's Mail A	ddress	<ul> <li>8 maximum</li> <li>Register the recipient mail addresses.</li> <li>Register all mail addresses to receive notifications from the V9i series unit.</li> <li>* When creating a screen program and the recipients of e-mail notification is yet to be determined, dummy recipients from numbers 0 to 8 can be used instead. The actual recipient addresses can be changed later on the V9 series unit in the [E-Mail Setting] in Local mode.</li> </ul>
	Add	Register a new recipient address.
Change		Change a registered address.
	Delete	Delete a registered address.

#### \*1 POP before SMTP

POP before SMTP uses POP3 authentication that is performed when e-mail is received. SMTP permits the sending of e-mail from the authenticated IP address for a limited time.

Since authentication is disabled after a specific time has elapsed, authentication with POP3 will be required again.

In the case of authentication with POP3, a password is sent in plain text. POP before SMTP using APOP is also available. APOP allows a password to be sent in encrypted form. Note that the V9 series only supports POP3.

\*2 SMTP Authentication

Authentication is performed with the SMTP server. SMTP Authentication is classified into several authentication methods. The V9 series supports LOGIN, PLAIN, CRAM-MD5, and DIGEST-MD5 methods.

Since the SMTP server automatically performs authentication according to the available method, users are not requested to make configurations.

<Automatic authentication steps>

- 1. Compliant with PLAIN?
- 2. Compliant with LOGIN?
- 3. Compliant with CRAM-MD5?
- 4. Compliant with DIGEST-MD5?
- 5. Authentication failure

About the authentication methods

- PLAIN
- The PLAIN method sends user names and passwords in plain text (not in encrypted form).
- LOGIN

LOGIN is similar to PLAIN but it often sends information, such as USER xxxxx or PASS xxxxxx, separately (as performed with POP3). Because the standard specifications of LOGIN are not established, there are e-mail servers that use LOGIN in their own way. CRAM-MD5

With CRAM-MD5, the server sends an arbitrary character string (a challenge string) to the client. The client then performs a specific computing process called Message Digest 5 (MD5) by using the challenge string and password, and returns the result to the server. The server that receives the result also performs the same process. When both results match each other, the server judges that the client knows the correct password and grants authorization.

- DIGEST-MD5

DIGEST-MD5, an expanded version of CRAM-MD5, has an enhanced resistance to dictionary attacks and brute force attacks.

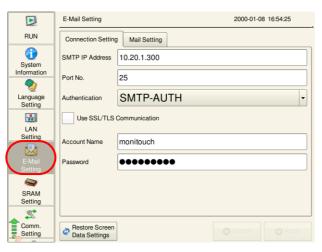
\*3 Only "auth" mode is supported for "quality protection". It does not support "auth-int" and "auth-conf" modes.

#### Setting using Local mode on the unit

1. Press the [SYSTEM] switch on the unit to display the system menu at the top of the screen.



- 2. Press the [Local] switch on the system menu. The Local mode screen is displayed on the unit.
- 3. Press the [E-Mail Setting] switch on the left of the screen to display the [E-Mail Setting] screen.



4. Tap an item to change its setting if necessary.

Þ		E-Mail Setting							20	000-0	1-08 16:5	3:25
RUN		Conne	Connection Setting Mail Setting									
G System		SMTP	SMTP IP Address 10.20.1									
Information		Port No	<b>D</b> .	25								
Language Setting							•					
	Use SSL/TLS Communication											
LAN Setting			nt Name		nitouch							
		Accou	nt Name	mo	nitoucr	1						
E-Mail		Passw	ord				•					
! "		#	\$	%	~		7	8	9	J	BS	×
		· [ ·	( ] )		-		4	5	6		DEL	
仓 +		-	*	/	,		1	2	3		1	L.
- A				-			0			-		-

5. Press the [Apply] switch at the bottom right of the screen to accept the settings. When the changes are accepted, the [Apply] switch is disabled.

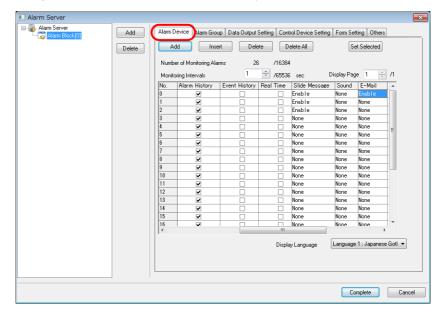
	E-Mail Setting	2000-01-08 16:50:41		
RUN	Connection Settin	g Mail Setting		
System Information	SMTP IP Address	10.20.1.200		
	Port No.	25		
Language Setting	Authentication	SMTP-AUTH		
	Use SSL/TLS	Communication		
LAN Setting	Account Name	monitouch		
	, toobant riding			
E-Mail Setting	Password	•••••	••	
<b>a</b>				
SRAM Setting				
24				
Comm. Setting	Restore Screen Data Settings	S Cancel Apply		) Cancel 💿 Apply

#### **Alarm Server**

E-mail notifications are linked to alarm bits so the [E-Mail Enable/None] setting and recipient e-mail addresses must be selected in the alarm server settings.

This section describes the settings required for sending e-mail notifications. For details on other settings, refer to "8 Alarm" in the V9 Series Reference Manual 1.

1. Click [System Setting] → [Alarm Server] → [Alarm Block] to display [Alarm Device].



2. Select "Enable" for [E-Mail] for the device memory to send e-mail notifications and configure the detailed settings.



Item	Description				
Send when the alarm occurs	Send an e-mail notification when an error occurs.				
Send when the alarm is reset	Send an e-mail notification when the system recovers from an error.				
Send to	Select the recipient e-mail addresses.           Receiver's Mail Address         Ited address				

# 6.8.3 System Device Memory (\$s)

\$s	Description						
\$s1005	stored.	If the V9 series unit receives send requests continually, the number (0 to 16) of e-mail messages waiting to be sent is stored. The V9i series can keep up to 16 e-mail messages. Any more than 16 messages are discarded.					
\$s1006	Stores error inform	nation on e-mail messages.					
	Error No.		Cause				
	0	Normal	-				
	1	E-mail address error	Incorrect recipient mail address				
	6	Network not connected	Incorrect SMTP/POP3 server IP address SMTP server refusal Incorrect port number Incorrect SSL/TLS settings Incorrect account name/password				
	50	SMTP transmission error	Authentication method error Incorrect sender's mail address Connection lost				

Information on sent e-mail messages is output to system device memory (\$s).

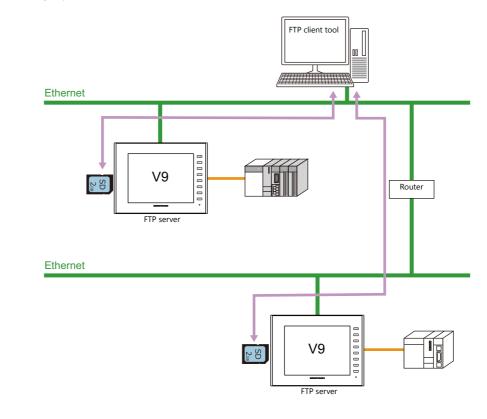
# 6.9 FTP server

## 6.9.1 Overview

The V9 series can serve as an FTP server.

An FTP client tool installed on the PC can be used to access a V9 series unit over Ethernet and perform reading and writing data on a storage device inserted into the V9 series.

A standard FTP tool included with Windows is available for reading, writing, and editing files on a storage device without the need for installing any special tool.



Applicable Models	Port	Other
V9	LAN LAN2 WLAN	Storage Device

# 6.9.2 Specifications

## **Functional Capabilities**

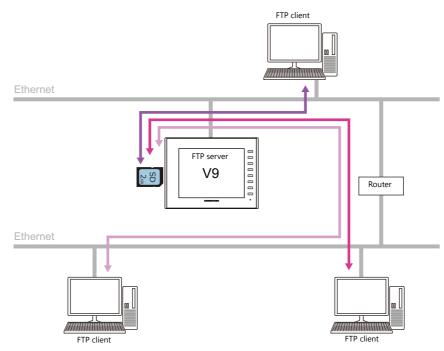
Item	Specifications	Location of Settings
Protocol	TCP/IP (Not available with CUR-03)	-
User Name	1 to 12 one-byte alphanumeric characters (case-sensitive)	Editor, Local mode *1
Password	1 to 8 one-byte alphanumeric characters (case-sensitive)	Editor, Local mode *1
Port number	20, 21	(Fixed)
No. of clients *2	Maximum of 3 clients	-
Input supervisory time	1 to 60 minutes (default: 15 minutes) *3	Editor, Local mode
File readout size	Unlimited (within the storage capacity)	-
File name	One-byte alphanumeric characters only	-
Requirement	Only operable in RUN mode (not operable in Local mode)	-

\*1 Maximum of 16 characters when registering in Local mode.

However, a maximum of 8 characters for a name/password common with the security function.

#### \*2 Clients (FTP clients)

This manual defines a client or FTP client as a PC that transmits commands for reading/writing data to an FTP server. A maximum of three client PCs can access a V9 series unit.



\*3 If no command is received from the FTP client within the time period specified for [Input Supervisory Period], the V9 series unit automatically disconnects the client.

## **Compatible FTP Client Tools**

Tools and Functions	Computer OS/Monitouch Series
Command Prompt (included with Windows as standard)	Windows XP SP3
ftp.exe (included with Windows as standard)	Windows 7 Windows 8
Windows Explorer (included with Windows as standard)	
FFFTP version 1.96b (freeware)	
Data transfer service	V9 Series

## **Supported FTP Commands**

The following commands can be used with the FTP server on the V9 series unit.

Command Name	Function	Refer to
cd	Changing the current directory	-
close	Closing the connection	-
dir	Displaying the file information	page 6-54
ls	Displaying folder and file names	page 6-54
put	Sending a file	page 6-55
get	Retrieving a file	page 6-55
delete	Deleting a file	page 6-56
rename	Renaming a file	page 6-56
pwd	Displaying the current folder name	-
mkdir	Creating a folder	page 6-56
rmdir	Deleting a folder	-
quit	Exit the FTP client tool after disconnecting the client.	page 6-53

## 6.9.3 Detailed Settings

Click [System Setting]  $\rightarrow$  [Ethernet Communication]  $\rightarrow$  [FTP Server]. The [FTP Server Setting] window is displayed.



Item	Description
Use FTP server function	Select this checkbox to use the FTP server function. The FTP server function is not available unless this checkbox is selected.
User Name	1 to 12 one-byte alphanumeric characters (case-sensitive)
Password	1 to 8 one-byte alphanumeric characters (case-sensitive)
Input Supervisory Period	1 to 60 minutes (default: 15 minutes) *
Write enable	Select this checkbox to allow the FTP client to write, delete, and edit files. When this checkbox is not selected, only file reading is possible. (Default: unselected)
Specify a character set	Select this checkbox to match with the character code used by the FTP client. Unselected: UTF-8
Specify access drive	Select this checkbox to set the drive for access by the FTP server. Unselected Match with the setting of [System Setting] → [Storage Setting] → [Storage Connection Target]. Selected C: Built-in Socket D: USB-A Port

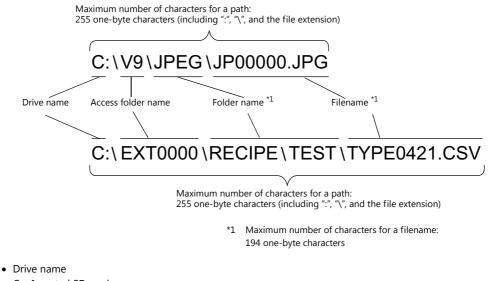
\* If no command is received from the FTP client within the time period specified for [Input Supervisory Period], the V9 series unit automatically disconnects the client.

#### **Registering user names and passwords**

User names and passwords used by the FTP server function can also be registered in local mode on the V9 series unit. This means FTP users can be added without a PC or the V-SFT version 6 software. For details on operation in local mode, refer to the V9 Series Troubleshooting/Maintenance Manual.

## 6.9.4 Specifying File Paths

How to specify file paths



- C: Inserted SD card
  - D: USB-A port (USB flash drive, etc.)

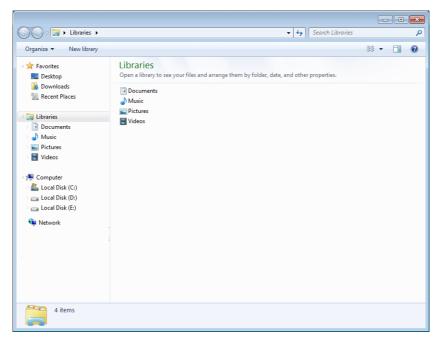
## 6.9.5 Login

This section explains the login procedure and how to operate the FTP tools. Prepare the V9 series unit as instructed below before starting.

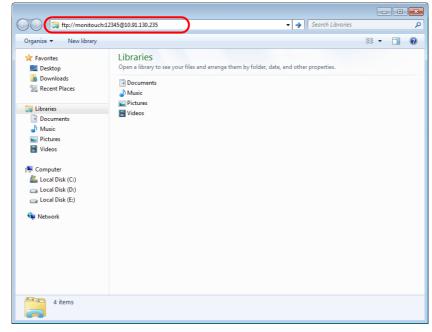
- 1. Transfer the screen program with configured FTP server settings to the V9i series unit.
- 2. Connect your computer to the V9 series unit via Ethernet.
- 3. Insert a storage device into the unit and set the unit to RUN mode.

### **Explorer (or Internet Explorer)**

1. Start [Explorer].



 Enter the FTP command in the [Address] field. Enter "ftp://user name:password@MONITOUCH IP address" and then press the [Enter] key.



\* When using Explorer or Internet Explorer, specify "ftp://user name:password@MONITOUCH IP address". User authentication may not be successful if only "ftp://MONITOUCH IP address" is entered. 3. The Explorer window is displayed as follows. Login is complete.

🔾 🗢 怪 🕨 The Intern	et 🕨 10.91.130.235 🕨			<ul> <li>✓ </li> <li>✓ Search 10.91.</li> </ul>	130.235
Organize 🔻					8== ▼ (€
🚖 Favorites	Name	▼ Size	Туре	Date modified	Date created
E Desktop	DAT0000		File folder	1/2/2014 12:37 AM	1/2/2014 12:37 AM
🗼 Downloads	EXT0000		File folder	1/6/2014 6:22 AM	1/6/2014 6:22 AM
📳 Recent Places	👪 LOGTEST	$\searrow$	File folder	4/1/2014 5:00 PM	4/1/2014 5:00 PM
词 Libraries			its of the stora		
Documents		inserte	d into the V9 :	series unit	
J Music					
Pictures					
🛃 Videos					

4. Explorer allows the contents of the storage device inserted into the V9 series unit to be displayed.

Organize 🔻					1 - 6
🛠 Favorites	Name	Size	Туре	Date modified	Date created
E Desktop	JP00000.JPG	21 KB	JPEG image	11/1/2011 5:00 PM	11/1/2011 5:00 PM
Downloads	JP00001.JPG	37 KB	JPEG image	11/1/2011 5:00 PM	11/1/2011 5:00 PM
🔛 Recent Places	JP00002.JPG	53 KB	JPEG image	11/1/2011 5:00 PM	11/1/2011 5:00 PM
	JP00003.JPG	36 KB	JPEG image	11/1/2011 5:00 PM	11/1/2011 5:00 PM
📜 Libraries	JP00004.JPG	27 KB	JPEG image	11/1/2011 5:00 PM	11/1/2011 5:00 PM
Documents	JP00005.JPG	34 KB	JPEG image	11/1/2011 5:00 PM	11/1/2011 5:00 PM
J Music	JP00010.JPG	334 KB	JPEG image	12/12/2013 4:00 PM	12/12/2013 4:00 P
E Pictures	JP00011.JPG	271 KB	JPEG image	12/12/2013 4:00 PM	12/12/2013 4:00 P
😸 Videos	JP00012.JPG	309 KB	JPEG image	12/12/2013 4:00 PM	12/12/2013 4:00 P
	<b>JP00013.JPG</b>	255 KB	JPEG image	12/12/2013 4:00 PM	12/12/2013 4:00 P
🖳 Computer	🔛 JP10000.jpg	151 KB	JPEG image	4/1/2014 5:00 PM	4/1/2014 5:00 PM
🏭 Local Disk (C:)	📰 JP10001.jpg	174 KB	JPEG image	4/1/2014 5:00 PM	4/1/2014 5:00 PM
👝 Local Disk (D:)	📰 JP10002.jpg	154 KB	JPEG image	4/1/2014 5:00 PM	4/1/2014 5:00 PM
👝 Local Disk (E:)	📰 JP10003.jpg	134 KB	JPEG image	4/1/2014 5:00 PM	4/1/2014 5:00 PM
🙀 Network					
	•		m		

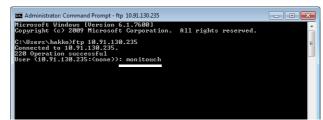
## **Command Prompt**

- Click [Start] → [Programs] → [Accessories] → [Command Prompt].
   A [Command Prompt] screen starts.
- Enter the FTP command.
   Enter "ftp", a one-byte space, the IP address of the V9 series unit, and then press the [Enter] key.

GEE Administrator: Command Prompt	
Microsoft Windows [Version 6.1.7600] Copyright (c) 2009 Microsoft Corporation. All rights reserved.	<b>^</b>
C:\Users\hakko}ftp 10.91.130.235	

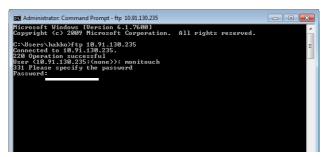
3. The following message appears.

Enter the user name specified in the [FTP Server Setting] window of the screen program and then press the [Enter] key.

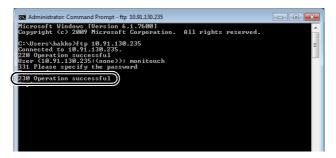


4. The following message appears.

Enter the password specified in the [FTP Server Setting] window of the screen program and then press the [Enter] key. (The password is not shown on the screen.)

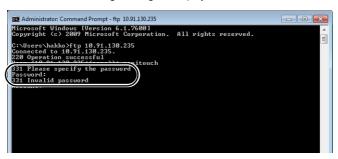


5. The following message appears. This message indicates that login is complete.

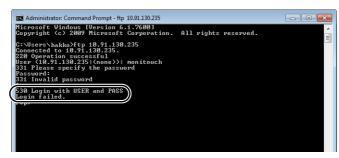


#### **Causes of login failure**

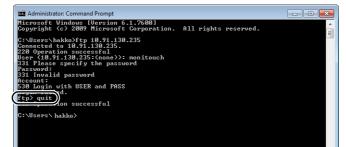
• If the wrong password is entered, the following message is displayed.



If correct commands are entered after the occurrence of an error, the error message will continue to be output.



In order to proceed, execute the quit command to disconnect the client once and then enter the correct command.



## 6.9.6 Log Out

This section explains the log out procedure and how to operate the FTP tools.

#### **Explorer (or Internet Explorer)**

To log out when using Explorer, close the Explorer window.

	Click	the	close	button	to	log	out.	_
--	-------	-----	-------	--------	----	-----	------	---

🗸 🗸 🕨 🕹 🗸	et 🕨 10.91.130.235 🕨 EXTO	000 🕨 JPEG		✓ ✓ Search JPEG	
Organize 🔻					!≡ ▼ (
🚖 Favorites	Name	Size	Туре	Date modified	Date created
🧱 Desktop	E JP00000.JPG	21 KB	JPEG image	11/1/2011 5:00 PM	11/1/2011 5:00 Pi
퉳 Downloads	E JP00001.JPG	37 KB	JPEG image	11/1/2011 5:00 PM	11/1/2011 5:00 P
Recent Places	E JP00002.JPG	53 KB	JPEG image	11/1/2011 5:00 PM	11/1/2011 5:00 P
	E JP00003.JPG	36 KB	JPEG image	11/1/2011 5:00 PM	11/1/2011 5:00 P
🔰 Libraries	E JP00004.JPG	27 KB	JPEG image	11/1/2011 5:00 PM	11/1/2011 5:00 P
Documents	E JP00005.JPG	34 KB	JPEG image	11/1/2011 5:00 PM	11/1/2011 5:00 P
👌 Music	E JP00010.JPG	334 KB	JPEG image	12/12/2013 4:00 PM	12/12/2013 4:00
Pictures	E JP00011.JPG	271 KB	JPEG image	12/12/2013 4:00 PM	12/12/2013 4:00
🔣 Videos	E JP00012.JPG	309 KB	JPEG image	12/12/2013 4:00 PM	12/12/2013 4:00
	E JP00013.JPG	255 KB	JPEG image	12/12/2013 4:00 PM	12/12/2013 4:00
🖳 Computer	🔛 JP10000.jpg	151 KB	JPEG image	4/1/2014 5:00 PM	4/1/2014 5:00 PN
🏭 Local Disk (C:)	📰 JP10001.jpg	174 KB	JPEG image	4/1/2014 5:00 PM	4/1/2014 5:00 PN
🧫 Local Disk (D:)	📰 JP10002.jpg	154 KB	JPEG image	4/1/2014 5:00 PM	4/1/2014 5:00 PM
💼 Local Disk (E:)	📰 JP10003.jpg	134 KB	JPEG image	4/1/2014 5:00 PM	4/1/2014 5:00 PM

### **Command Prompt**

1. With the client logged into the FTP server, enter "quit" and press the [Enter] key.

Administrator: Command Prompt	
ftp> ls 200 Operation successful	^
150 Directory listing	
JP00000.JPG	
JP00001_JPG JP00002_JPG	E
JP00003.JPG JP00004.JPG	
JP00005.JPG JP00010.JPG	
JP00011. JPG JP00012. JPG	
JP00013.JPG	
JP10000.jpg JP10001.jpg	
JP10002.jpg JP10003.jpg	
226 Operation successful ftp: 189 bytes received in 0.13Seconds 1.51Kbytes/sec.	
ftp> quit_	

2. The following message appears. Logout is complete.

🖾 Administrator: Command Prompt	- • 💌
ftp> ls 200 Operation successful	^
150 Directory listing	
JP00000.JPG	
JP00001.JPG JP00002.JPG	≡
JP90003_JPG JP90004_JPG	
JP00005.JPG	
JP00010.JPG JP00011.JPG	
JP00012.JPG JP00013.JPG	
JP10000.jpg JP10001.jpg	
JP10002.jpg JP10003.jpg	
226 Operation successful ftp: 189 bytes received in 0.13Seconds 1.51Kbytes/sec.	
221 Operation successful	
C:\Users\hakko>	

# 6.9.7 Operation Examples

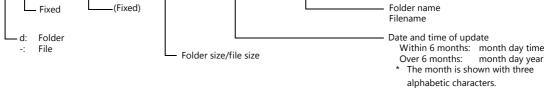
This section provides examples of executing commands in the Command Prompt.

## **Displaying File and Folder Lists**

## "dir" command

This command is used to display a list of file and folder information that includes properties, sizes, dates and times of update, and names of files and folders.

	Ex Administrator: Command Prompt - ftp 1091.30.235         Passuord:         2380 Operation successful         ftp> cd EX100800         250 Operation successful         ftp> dir         2080 Operation successful         ftp> dir         1041 256         drwarx xr-x 8 root root 32768 Jan 6 14:22 .         drwarx xr-x 4 root root 32768 Jan 6 12:15 DSP         drwar xr-x 2 root root 32768 Jan 6 13:44 LOGGING         drwar xr-x 3 root root 32768 Jan 6 13:44 LOGGING         drwar xr-x 3 root root 32768 Jan 6 14:22 .         drwar xr-x 3 root root 32768 Jan 6 14:42 .         drwar xr-x 3 root root 32768 Jan 6 14:42 .         ftp) cd jpeg         2040 Operation successful         150 Directory listing         150 Directory listing	
List details drwxr-xr-x 1 root	root 16384 Apr 16 2014 xxxxxxxx	v
Fixed	(Fixed)	– Folder name Filename



## "ls" command

This command is used to display the names of files and folders.

📾 Administrator: Command Prompt - ftp 10.91.130.235
ftp) ls 200 Operation successful 150 Directory listing

#### **Reading and Writing Files**

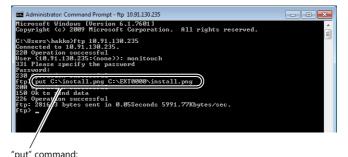
## "get" command (reading)

This command is used to retrieve files from the storage device and transfer them to the PC. When using the Command Prompt, the file is transferred to the specified folder.



## "put" command (writing)

This command is used to send files from the PC to the storage device.



"put" command: put\_\_(file on the PC (example: on drive C)\_ (file on the storage device (drive C))

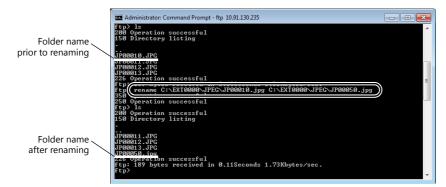
## **Deleting a file**

#### "delete" command

icrosoft Windows [Version 6.1.7601]	
opyright (c) 2009 Microsoft Corporation. All rights reserved.	
:\Users\izumi>ftp 10.91.130.235	
onnected to 10.91.130.235.	
20 Operation successful ser (10.91.130.235:(none)): ftp	
31 Please specify the password	
assword:	
30 Operation successful tp> put C:\install.png C:\EXT0000\install.png	
00 Operation successful	
50 Ok to send data	
26 Operation successful	
tp> delete C:\EXT0000\install.png	
tp>	

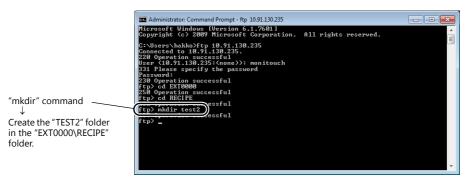
## **Renaming a File/Folder**

### "rename" command



### **Creating a folder**

### "mkdir" command



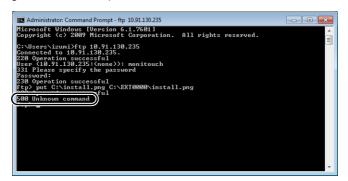
## 6.9.8 Error Display

If an error occurs when accessing the FTP server, the FTP client displays the error message.

Example 1: When attempting to read a file that does not exist

Administrator: Command Prompt - ftp 10.91.130.235	
icrosoft Windows [Version 6.1.7601] opyright (c) 2009 Microsoft Corporation. All rights reserved.	
:\Users\hakko>ftp 10.91.130.235 onnected to 10.91.130.235.	-
20 Operation successful	
ser (10.91.130.235:(none)): monitouch	
31 Please specify the password	
assword	
30 Operation successful tp> cd EXT0000	
50 Operation successful	
tu> cd RECIPE	
50 Operation successful	
tp> mkdir test2	
57 Operation successful	
tp> get C:\EXT0000\JPEG\JP20000.jpg	
50 Error	
	-

Example 2: When attempting to write to a write-protected file



# 6.9.9 Checking the Connection

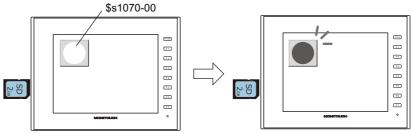
## System Device Memory (\$s)

Addresses	Description	Remarks		
\$s1070	Storage of FTP information	$\leftarrow V$		
	MSB LSB			
	15 14 13 12 11 10 09 08 07 06 05 04 03 02 01 00			
	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			
	System reserved (setting: 0)       FTP client         System reserved (setting: 0)       0: Command not being executed         1: Command being executed       FTP client         0: Logged off       1: Logged in         * If two or more FTP clients log in to the FTP server, the data stored in the system memory is based on the status of all these FTP clients. (Even if only one FTP client is executing a command, bit 1 is set to ON.)			
\$s1071	Number of FTP clients that are logged into the server (maximum of 3 clients)	←V		
\$s1072	Forced disconnection of FTP connection	$\leftarrow V$		
	MSB LSB			
	15 14 13 12 11 10 09 08 07 06 05 04 03 02 01 00			
	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			
	Connection to FTP clientSystem reserved (setting: 0) $0 \rightarrow 1$ : Forcibly disconnected			

The following describes the system device memory associated with the FTP server.

## **Checking the Connection State**

Create a lamp to which the internal device memory \$s1070-00 is assigned, and place it on the screen. A lit lamp indicates that a client is logged in, i.e. a connection is established.



Indicates that a client is logged in.

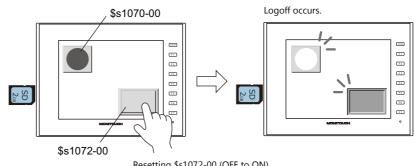
### **Closing the Connection**

#### **Automatic disconnection**

If no command is received from the FTP client within the time period specified for [Input Supervisory Period] in the [FTP Server Setting] window (click [System Setting]  $\rightarrow$  [Ethernet Communication]  $\rightarrow$  [FTP Server]), the V9 series unit automatically disconnects the client.

### Manual disconnection from the V9 series unit

The connection with the FTP client can be forcibly disconnected by resetting (OFF to ON) bit 0 of \$s1072 on the V9 series unit.



Resetting \$s1072-00 (OFF to ON) changes to the logged off state.

#### **Disconnection from FTP client**

The FTP client is disconnected from the V9 series unit when the FTP client logs out. For details, refer to "6.9.6 Log Out" page 6-53.

## 6.9.10 Restrictions

### **Number of Simultaneous FTP Client Connections**

A maximum of three FTP clients can be connected to one V9 series unit at the same time. Note that requests from multiple FTP clients cannot be processed at the same time. They are processed one by one. Therefore, while an FTP client is transferring a large-size file, another client cannot transfer a file and must wait until the current file transfer is completed.

## **File Property Changes**

Changing file properties (such as changing write permissions) is prohibited.

## 6.9.11 Notes

### **Notes on FTP Server System Design**

- 1. In the case when an FTP client writes a recipe file to the storage device inserted into the V9 series unit, the recipe file from the FTP client and the recipe in operation on the V9 series unit must be in the same format. In the case when a recipe file is written from a remote location, make sure that the same format is used at the target location in advance.
- Before using an FTP client tool, read the provided documentation to understand the functions and operational procedures, and also conduct a trial operation. The V9 series (FTP server) may not support some functions depending on the type of the FTP client tool used.

### **Notes on File Transfer**

- 1. If no command is sent from the FTP client within the time period specified for [Input Supervisory Period] in the [FTP Server Setting] window, the connection between the FTP server and FTP client will be disconnected automatically.
- 2. While the V9 series unit is communicating with the FTP client, changing the V9 series unit to Local mode will disconnect them.
- 3. While the V9 series unit is accessing a file, do not allow the FTP client to write to or delete the same file. If the same file accessed by the V9 series unit is written to or deleted, a malfunction will occur. Deleting a file from the storage device, even when the file is not being accessed by the V9 series unit, will cause a file reading error the next time the V9 series unit attempts to access the file.

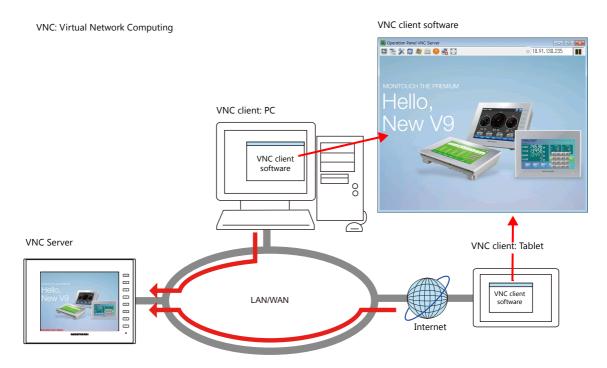
Basically, do not execute the writing and deleting commands with respect to any files relevant to V9 series unit operation.4. When a file on the storage device has been overwritten via the FTP server, check that the data in the file is correct.

- If writing to the file ends in an error, the file will be deleted from the storage device. In the event of such a deletion, repeat writing from the FTP client.
- 5. If the FTP client is down, wait until the time for [Input Supervisory Period] elapses and then retry login.
- 6. While the FTP client is accessing a file on the storage device inserted into the V9 series unit, do not turn off power to the V9 series unit. Doing so may corrupt data on the storage device.
- If the V9 series unit is reset or turned off while connected to an FTP client, the next action that the FTP client takes depends on the specifications of the FTP client tool.
   With this in mind, select an FTP client tool that can detect when an FTP server goes down and can terminate safely in such a case.
- 8. Depending on the type of FTP client tool, there may be a time stamp mismatches between files on the storage device and the PC. If such a mismatch is found, check the configuration of the FTP client tool.

## 6.10 VNC Server

## 6.10.1 Overview

- The V9 series unit supports the VNC server function. This means that the screen of the V9 series unit can be monitored and remotely operated with ease from a PC on the network. Settings can also be configured to allow monitoring only.
- The V9 series unit to be remotely operated is referred to as the "server" and the PC that performs remote operations is referred to as the "client".
- In addition to PCs, smartphones and tablets can also be used as clients.
- Simultaneous access from multiple clients is prohibited. All connections are 1:1.



- VNC client software (VNC Viewer) must be installed.
- The V9 series employs password authentication. When a client accesses a V9 series unit, a user name and password must be entered.

User name and password registration is performed on the V9 series unit in Local mode on the [User Settings] screen.

	User Settings			2014-04-08 17:39	:42
SRAM Setting	-User List	(	All		
Comm. Setting	User Name	Administrator F	rivileges	Security	•
System Setting Date/Time Setting Storage Transfer	ftp	Provided		Prohibited	Prol
I/O Check	•				,
User Settings	Administrator Authentication	]			



- Remote operations on the display of the V9 series unit can be performed on all RUN, Local, and error screens.
- If a network camera is connected to the V9 series unit, the network camera image can also be displayed on the VNC client.

# 6.10.2 Specifications

## **V9 Series Unit (Server)**

Item	Description	Remarks
Port used	LAN LAN2 WLAN	Not available with CUR-03.
Port number	5900	Fixed
Number of client connections	1	If the server receives connection requests from multiple clients, the currently connected client is disconnected and the client that made a subsequent request is connected.
Authentication method	Password authentication	
Number of registered users	A maximum of 32 users	

## Restrictions

- The connection between the V9 series unit and VNC client is 1:1.
   If the server receives connection requests from multiple clients, the currently connected client is disconnected the client that made a subsequent request is connected.
- The following operations cannot be performed on the V9 series unit when a VNC client is connected and permitted to perform remote operations.
  - Local mode  $\rightarrow$  [System Setting]  $\rightarrow$  [Buzzer Setting]
  - Local mode  $\rightarrow$  [System Setting]  $\rightarrow$  [Backlight Setting]
  - Local mode  $\rightarrow$  [I/O Check]  $\rightarrow$  [Touch switches and media]  $\rightarrow$  [Test]  $\rightarrow$  [Correct]
- The user authentication screen is displayed in the interface language of the V9 series unit.
- The following functions cannot be displayed on the VNC client. Video/RGB display, Video Player

## 6.10.3 Setting Procedure

 Connect the V9 series unit and the VNC client device to the network. For details on VNC client device settings, refer to the relevant device manual.

"V9 Series Unit IP Address Settings" page 6-2

2. V9 series unit settings

Register a user name and password on the [User Settings] screen in Local mode.

"6.10.4 V9 Series Unit Settings and Operation" page 6-63

- 3. VNC client settings
  - Install the VNC Viewer software.

"6.10.5 VNC Client Settings/Operations" page 6-66

4. Start the VNC Viewer and perform remote monitoring and operation.

"Connecting to the VNC Server" page 6-66

## 6.10.4 V9 Series Unit Settings and Operation

#### **User Settings**

Register the user name and password for accessing the VNC server on the [User Settings] screen in Local mode.

1. Press the [SYSTEM] switch on the unit to display the system menu at the top of the screen.



- 2. Press the [Local] switch on the system menu. The Local mode screen is displayed on the unit.
- 3. Press the [User Settings] menu icon to display the [User Settings] screen. A list of registered users is displayed.

	User Settings		2014-04-08 17:39:4	2
SRAM	User List			
Setting		<b>A</b> 11		
2		All		•
Comm. Setting	User Name	A desirates to Deixila see	Security ¥	
Setting	User Name	Administrator Privileges	Security 👻	
°	ftp	Provided	Prohibited	Proh
System		und.		
Setting				
Date/Time				
Setting				
5				
Storage				
Transfer				
۲				
1/0				
Check	4			•
User	Administrator Authentication			
Settings				

\* This user settings screen is the same for [Security], [VNC Server], and [FTP Server]. Log in from the VNC Viewer using a user name and password that are allowed by the VNC server.



The user name for the security and FTP server can also be set in the screen program. The user ID set in the screen program always has administrator privileges and it cannot be edited or deleted on the [User Settings] screen of the V9 series unit.

XC	🦉 🚖 🕛 🛃 🔀	E	192.168.0.10			
Mail	User Settings		2014-04-08 18:22:4	46		
ting	User List					
AM ting	Administrato	r Mode All		•		
	User Name	Administrator Privileges	Security	VNC Server	FTP Server	Registered i
n. g	user01	Provided	Level4	Prohibited	Prohibited	Screen Data
5	ftp	Provided	Prohibited	Prohibited	Allow	Screen Data
n	vnc	Provided	Prohibited	Allow(Operation)	Prohibited	Main unit
Time ting age isfer O eck	•	Add 💿	Delete 2		e) and [Edit] dis	ablad

4. Press the [Administrator Authentication] switch. The password entry screen is displayed.

F		User Settings	2014-04-08 17:41:18
	SRAM Setting	Enter the administrator name and	password.
-	24	Administrator Name	
	Comm. Setting	Password	
-	ð		
Storage Transfer	System Setting		
	10 Date/Time		
VO Check	Setting		
	Storage		
User Settings	Transfer		
	Check		
	User Settings		OK Scancel

5. Enter an administrator-level user name and password. If the entries are correct, the user list in administrator mode is displayed. This mode allows adding, editing, and deletion operations.

	User Settings		2014-04-08 17:42:28	3
SRAM Setting	User List	r Mode All		•
Comm. Setting	User Name	Administrator Privileges	Security 👻	Ŋ
P	ftp	Provided	Prohibited	Proh
System Setting				
Date/Time Setting				
Storage Transfer				
۲				
I/O Check	•			Þ
User Settings		Add (	S Delete	dit

6. Press the [+ Add] switch to display the add user screen. Configure the following settings.

	User Settings > Add	2014-04-08 17:43:39
SRAM Setting	User Name	vnc
Comm.	Password	
Setting System Setting	Detail Settings	inistrator privileges
Date/Time Setting	Security	VNC Server
Storage Transfer	Level 1 Level 2 Level 3	FTP Server
I/O Check	Level 4 Level 5	Input Supervisory Period 15 Min.
User Settings		🖉 OK 🔇 Cancel ⊘ Apply

Ite	em	Description
User Name		Register a user name. 16 one-byte alphanumeric characters A maximum of 8 characters for a user name common with the security function.
Password		Register a password. 16 one-byte alphanumeric characters A maximum of 8 characters for a password common with the security function.
Grant administrator privileges		Select whether to grant administrator privileges to the user.
		With privileges:Users can be added, edited, and deleted in the list.Without privileges:Users cannot be added, edited, or deleted in the list.
VNC Server	Allow	Allow access from VNC clients.
Allow remote operation		Allow operations from VNC clients. When remote operations are not allowed, only monitoring can be performed.

- 7. Press [OK] to complete registration. The display returns to the [User List (Administrator Mode)] screen.
- Return to step 5 to perform another registration.
   If registration is complete, switch to another screen using the relevant menu icon.

#### **Status Bar**

The connection state of VNC clients can be checked on the status bar.  $^{*1}$ This status bar can also be used to forcibly disconnect VNC clients from the V9 series unit.  $^{*2}$ 



\*1 The status of the VNC client is also output to system device memory (\$s).

Address	Description	Remarks
\$s1674	VNC client status	$\leftarrow V$
	0: Disconnected 1: Connected	

\*2 When "automatic reconnect" is enabled in the settings of the VNC Viewer software, even if a forced disconnection is performed by the V9 series unit, the user authentication screen is displayed and cannot be dismissed. In this case, close the VNC Viewer software and change the settings.

#### Status bar details

The status bar allows checking of VNC, LAN, and PLC communication states.

- Display method
  - Press the [SYSTEM] switch to display the status bar at the bottom right of the screen.
- Constant display

The status bar is automatically hidden after 15 seconds. Press the drawing pin icon to display the status bar at all times.

Drawing pin icon



• Prohibiting status bar usage

The status bar cannot be displayed in RUN mode when the [Status Bar Prohibited] checkbox is selected on the [System Setting]  $\rightarrow$  [Unit Setting]  $\rightarrow$  [Switch/Mode Switch] tab window. In this case, press the [SYSTEM] switch in Local mode to display the status bar.

Unit Setting			×	
Backlight Buzzer System/Mode Switch	Blink/Flash OverI	ap General Settings	1	
System Switch Prohibited				
Mode Switch Prohibited				
Mode Change Delay Time				
0 🚔 *sec				
Status Bar Prohibited				

For details, refer to the V9 Series Troubleshooting/Maintenance Manual.

# 6.10.5 VNC Client Settings/Operations

### **VNC Viewer Software**

The VNC Viewer software must be installed on the VNC client in order to perform remote monitoring and operation of the V9 series unit from the VNC client. Install this software in advance.

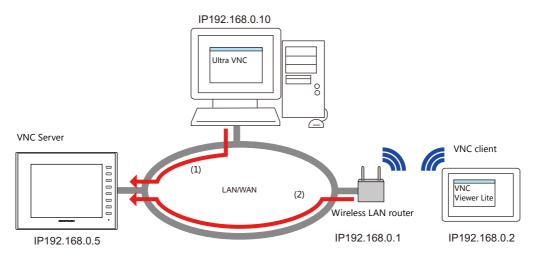
Software	OS	Remarks
Ultra VNC	Windows 2000 / XP / Server 2003 / Vista / 7 / 8	Free software
Tight VNC	Windows XP(32bit)	
Vnc Viewer Lite	Android	
RemoteToGo		
bVNC		
VNC Viewer	iOS	
VNC Lite		
abtoVNC Viewer		Commercial software
Jump Desktop		

\* For details on the system requirements of each software, visit the software's website. The method for obtaining the software differs depending on the client device. Obtain the software by referencing the specifications of the relevant device.

\* Communication may be unstable depending on the OS version of the client, VNC Viewer version, and operating environment. Always perform tests in the usage environment.

### **Connecting to the VNC Server**

This section explains connecting to the VNC server with two examples: (1) connecting from a PC on the network using Ultra VNC, and (2) connecting from an Android tablet using VNC Viewer Lite.



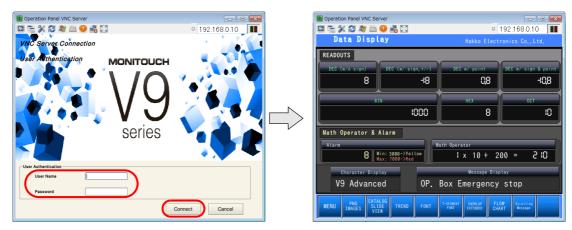
### (1) Ultra VNC

Install Ultra VNC on the PC and connect the V9 series unit and PC to the network in advance.

- 1. Start the Ultra VNC application via Windows Start menu  $\rightarrow$  [UltraVNC]  $\rightarrow$  [UltraVNC Viewer].
- 2. Enter the IP address of the V9 series unit into the [VNC Server] field and click [Connect].

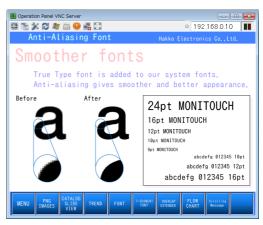
UltraVNC Viewer - Win32 1.1.9.6	Connection Options		
	Format and Encoding	Mouse and Keyboard	
(VNC Server: 192.168.0.10	Auto select best settings	Emulate 3 Buttons (with 2-button dick)	
Quick Options     (host:display or host::port.)       @ AUTO     (Auto select best settings)       ULTRA     (>2/bit/b) - Experimental       LAN     >12/bit/b) - Max Colors       MEDIUM     (128 - 256Kbit/s) - 256 Colors       MODEM     (128 - 256Kbit/s) - 256 Colors       SLOW     (19/kbit/s) - 64 Colors       SLOW     (19/kbit/s) - 64 Colors       MANUAL     (Use options button)	Ø ZRLE Tight      Ø Full Colors     12lb (+xor)     Z5 Colors     ZibHex     64 Colors     Ret CoRRE     8 Dark Colors     Raw Ultra     4 decy Colors     ZYWRLE     u2     Black & White     [J Use CopyRect encoding     // Use Cobse Encoding	Swap mouse buttons 2 and 3 Japanese keyboard Track remote cursor locally Let remote server deal with mouse cursor Mouse event throttle (milliseconds) Display Show Buttons Bar ("Toolbar")	
View Only Auto Scaling Confirm Exit	Zip/Tight Compression: 6     Jpeg (Tight) - Quality: 6     Preemptive Updates  Misc Share the Server	Vew only (nputsignored) Fu Vewe Server V9 series unit.	
1. 1920 x 1200 @ 0,0 - 32-bit - 59 Hz       Save connection settings as default   Delete saved settings	Deiconify on Bell     Disable clipboard transfer     Do not display the sponsor advertisement	0 econnection attempts 0 timeout	

3. Enter a user name and password on the user authentication screen and click [Connect]. The VNC viewer screen is displayed.



- 4. Operating the VNC viewer screen will change the display on the V9 series unit as well.
  - \* If remote operations are not allowed, operations cannot be performed. The viewer screen changes to reflect operations performed on the V9 series unit.





#### (2) VNC Viewer Lite

Install VNC Viewer Lite, configure Wi-Fi settings, and connect the V9 series unit and tablet to the network.

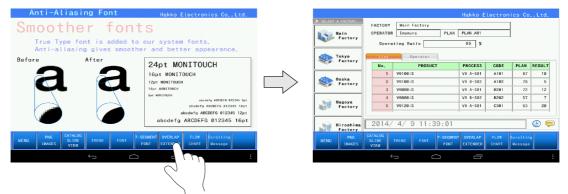
- 1. Start VNC Viewer Lite.
- 2. Enter the IP address of the V9 series unit and tap [Connect].

	û ﷺ ≟ I (III) Vnc-Viewer Lite	©⊿ 🔒 16:37 💾 SAVE AS   ∠COPTIONS .
	Saved Servers:	192.168.0.5
	192.168.0.5	Scan IP Address/Name 192.168.0.5
		Password:
		Save Password Port: 5900
	192.168.10.133	Connect

3. Enter a user name and password on the user authentication screen and click [Connect]. The VNC viewer screen is displayed.



- 4. Operating the VNC viewer screen will change the display on the V9 series unit as well.
  - \* If remote operations are not allowed, operations cannot be performed. The viewer screen changes to reflect operations performed on the V9 series unit.



### **Keyboard Entry**

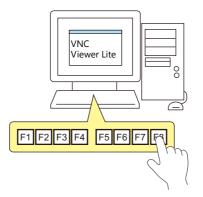
If remote operations are permitted from the VNC client, the following keyboard entry can be performed in addition to operations on the viewer screen.

- Entry screens: numerical and text entry
- Text boxes: numerical and text entry
- Function switch operation

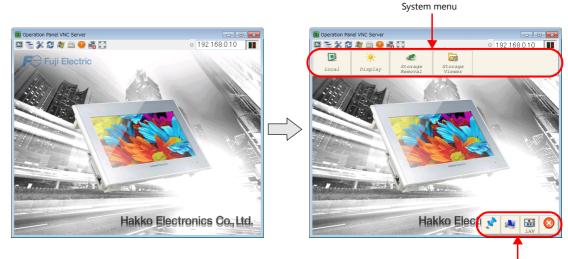
VNC Client Keyboard	V9 Function Switch
F1	F1
F2	F2
F3	F3
F4	F4
F5	F5
F6	F6
F7	F7
F8	SYSTEM

### **Operation example**

1. With the remote screen displayed using VNC Viewer Lite, press [F8] on the keyboard.



 The system menu and the status bar are displayed. This is the same operation as pressing the [SYSTEM] switch on the V9 series unit.



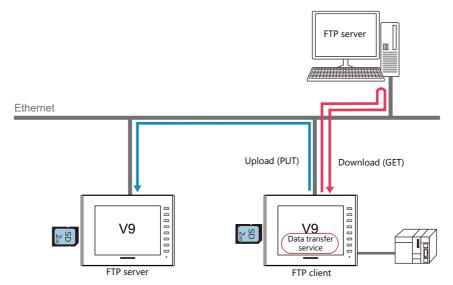
Status Bar

# 6.11 Data Transfer Service

# 6.11.1 Overview

### **Data Transfer Service**

This function is for uploading (PUT) files and folders saved to the storage device connected to a V9 series unit, and downloading (GET) files from the server by accessing the server from the client V9 series unit over Ethernet. The V9 series can serve as an FTP client.



Since uploading and downloading is performed as a background operation, screen operations are available during the transfer.

### **Transfer Method**

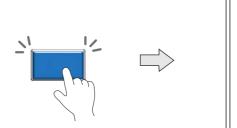
Data can be transferred by either using the data transfer viewer or by a command from a PLC.

#### Data transfer viewer

The viewer can be used to upload and download folders and files.

- Server registration can be performed in the viewer.
- Folders and files can be selected and transferred while viewing the latest information.
- The viewer can be displayed from the system menu, using a switch part, or by a command from a PLC.

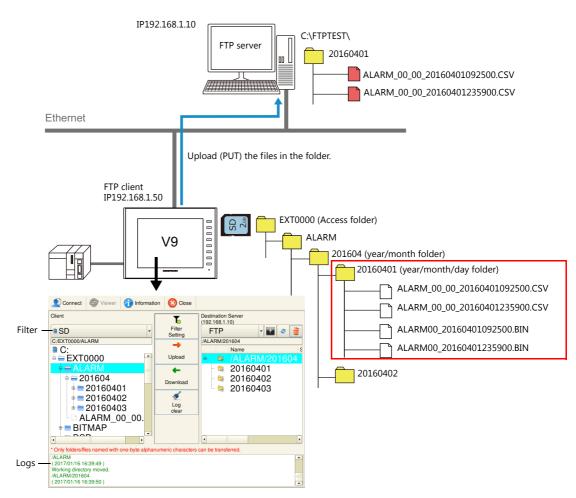
Example: Display using a switch with [Function] set to [Data transfer viewer call]



👤 Connect - 🚳 Viewer - 🚯 Informa	ion 🙆 Close	10TH
Clent SD - C.EXT0000LIST	Filter Filter Setting	
C: EXT0000	Upbed Name Size	(MDyte) F 2
= BITMAP DSP	Download	F3
* = HDCOPY * = JPEG * = LADDER	Log clear	F 4
LIST     LOGGING		F6
* Only folders/lies named with one-byte alpha 192,168,1.10 (2017/01/n6 15:58.00)	numeric characters can be transferred.	F6
(2017/01/16 15:58:06 )		F7

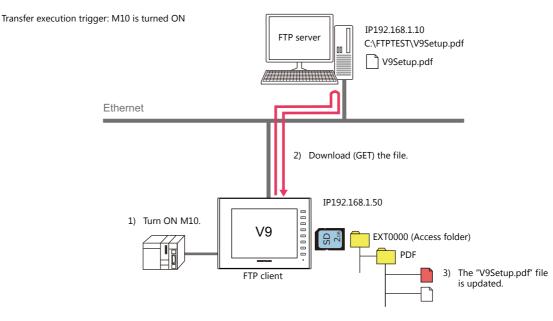
For details, refer to "6.11.7 Data Transfer Viewer" page 6-95.

- The filter function can be used to, for example, only transfer CSV files (by specifying a wildcard) when multiple file types, such as CSV and BIN files, exist in a folder.
- The execution results can be checked in a log.



### **PLC command**

Folders and files can be uploaded or downloaded at bit ON or OFF of the PLC.



- The filter function can be used. Filter keywords can be specified using device memory addresses.
- The folders and files for transfer can be specified using device memory addresses.

# 6.11.2 Specifications

# **V9 Client Specifications**

Item	Specifications	Remarks
V9 series	Available with built-in LAN ports (LAN, LAN2, WLAN)	Not available with CUR-03 communication unit.
Protocol	TCP/IP	
Number of simultaneous connections to server	1	Server connection is automatically established at transfer execution and automatically disconnected when complete.
Data size	Unlimited (within the storage capacity)	If data size is large, transfer will take time.
Number of data	Unlimited (within the storage capacity)	
Data hierarchy	No hierarchy limitaiton (Path: within 256 alphanumerics)	
Operational requirement	Data transfer viewer:       Displayable and operable in both RUN and Local modes         PLC command:       Operable in RUN mode only	

# **Compatible FTP Servers**

Tools and Functions	Equipment/OS
FTP server function	V9 series, V8i series
Microsoft Internet Information Services (IIS)	OS: Windows 7

# 6.11.3 Setting Example: Transfer Using the Data Transfer Viewer

The following settings are required.

- Server settings
- Data transfer viewer call
- Client settings (V9)

For details, refer to "6.11.7 Data Transfer Viewer" page 6-95.

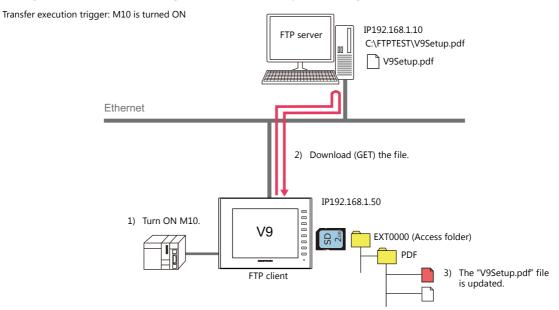
# 6.11.4 Setting Example: Transfer Using PLC Commands

# Setting Example 1: When the Server is a Computer

This section describes the settings for when the server is a computer.

#### **File-based Transfer**

The following is the procedure for updating the "V9Setup.pdf" file by downloading it (GET) from the server.



### Server settings

Refer to the manual of the tool to use.

Example: Microsoft Internet Information Services (IIS)

New User	Add FTP Site
User name: FTPUser	Binding and SSL Settings
Description:	- Binding
Password:	192.168.1.10 - 21
Confirm password:	Enable Virtual Host Names:
User must change password at next logon Uger cannot change password Passyord never expires	<u>V</u> irtual Host (example: ftp.contoso.com):
Pass <u>w</u> ora never expires	
Add FTP Site	
Site Information	
ETP site name:	
FTPSERVER	
Content Directory	
Physical path:	
C:\FTPTEST	

User name	FTPUser
Password	ftp123
IP Address	192.168.1.10
Port	21 (default)
Server directory	C:\FTPTEST

For details, refer to "Server: Computer etc." page 6-90.

#### **Client settings (V9)**

- 1. Click [System Setting] → [Data transfer service] → [Data Transfer Service Settings] to display the [Data Transfer Service] tab window.
- Configure the following settings. Set the same values as the server settings for [Connection Destination] (IP address), [Port No.], [User ID] (user name) and [Password].

Screen [0] Edit (		) Data T	ransfer Service ×							Ŧ
List of Destination S	ervers									Â
	No.	Server Type	Connection Mode	Server Name	Connection Destination	Port No.	User ID	Password		
Delete	0	FTP	Passive mode	FTPSERVER	192.168.1.10	21	FTPUser	REMARKE		
	1									
	2								-	
Delete All Servers	3								=	

3. Configure the following settings.

Add         Here Accord Here         F           0         1         2         3           2         3         4         5           5         6         7	Record No.0 Add       Operation Setting       Record No.       0       Record Name       Setup Manual       Transfer       File-based download       Unit <- Server
<ul> <li>For details on specifying the file for</li> </ul>	Transfer Data Settings Server Path / Unit Storage Drive Select Path C: / EXT0000/PDF Transfer File Use external commands V9Setup.pdf
transfer using device memory addresses, refer to "Setting Example 3: Transfer Using PLC Commands with Filters" page 6-80.	Server Settings No. 0 0 Server Type FTP Server Server Name FTPSERVER Server Address 192.168.1.10 CK Cancel
Record List Add O Setup Manual File-based d Edit Records 2 3 Delete Records 5	

#### 4. Click [OK].

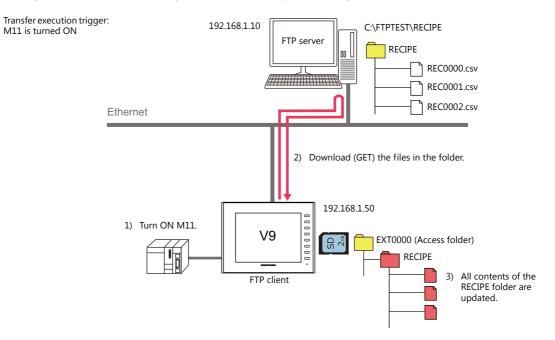
This completes the necessary settings.

### **Unit operation**

Downloading (GET) starts when the M10 bit turns ON. The "V9Setup.pdf" in the V9 series unit's PDF folder is updated by overwriting.

#### **Folder-based Transfer**

The following is the procedure for updating the "RECIPE" folder by downloading (GET) it from the server.



### Server settings

FTPSERVER Content Directory Physical path: C:\FTPTEST

Refer to the manual of the tool to use.

Example: Microsoft Internet Information Services (IIS)

New User	Add FTP Site	? 💌
User name: FTPUser	Binding and SSL Settings	
Eull name:		
Description:	Binding	
Password:	IP Address:     Port:       192.168.1.0     21       Enable Virtual Host Names:     21       Virtual Host (example: ftp.contoso.com):	
Add FTP Site		
Site Information		
ETP site name:		

User name	FTPUser
Password	ftp123
IP Address	192.168.1.10
Port	21 (default)
Server directory	C:\FTPTEST

For details, refer to "Server: Computer etc." page 6-90.

#### **Client settings (V9)**

- 1. Click [System Setting] → [Data transfer service] → [Data Transfer Service Settings] to display the [Data Transfer Service] tab window.
- Configure the following settings. Set the same values as the server settings for [Connection Destination] (IP address), [Port No.], [User ID] (user name) and [Password].

Screen [0] Edit (		) Data Tr	ansfer Service ×						
List of Destination S	ervers								n â
	No	Server Tune	Connection Mode	Server Name	Connection Destination	Port No.	Liser ID	Password	
Delete	0	FTP	Passive mode	FTPSERVER	192.168.1.10	21	FTPUser	SCHNNES	
	1								
	2							-	
Delete All Servers	3							=	

3. Configure the following settings.

Add		Record Name Setup Manual	Transfer N File-based	Operation Record	No. 1	×				_ <u>×</u>
Edit Records	2 3			Record		cipe	Tra	Folder-base	d download 👻 l	Unit <- Server
Delete Records	4 5 6			Device	PLC		M • 00	011	×	
	7			Trigger S	Select ON	-				
Delete All Records	8 9			Transfer I Server F	Data Settings Path /					
	10 11					Down				
	12 13				rage Drive Selec ath C		•			
	14			Transfe		Use external com	mands			
				🕅 Use	Rifilter function	ECIPE	nal commands			
For details o	on the	e filter								
function, ref	er to	"Setting		Server Se	-					
function, ref Example 3: 1	er to Trans	"Setting fer Using	5″	No.	0	ETD Server				
function, ref Example 3: 1 PLC Comma	er to Trans	"Setting fer Using	5"		0	FTP Server				
function, ref Example 3: 1 PLC Comma	er to Trans	"Setting fer Using	5"	No. Server Server	0					
For details of function, ref Example 3: 1 PLC Comma page 6-80.	er to Trans	"Setting fer Using	5"	No. Server Server	0 Vite Name	FTPSERVER				OK Cancel
function, ref Example 3: 1 PLC Comma	er to Trans	"Setting fer Using	5 <sup>41</sup>	No. Server Server	0 Vite Name	FTPSERVER			(	OK Cancel
function, ref Example 3: 1 PLC Comma	er to Trans	"Setting fer Using	и 5	No. Server Server	0 Vite Name	FTPSERVER				OK Cancel
function, ref Example 3: 1 PLC Comma page 6-80.	Fer to Trans Inds	"Setting fer Using with Filters Record Name	Transfer Mo	No. Server Server	0  Type Type Address Trigger Devict	FTPSERVER 192.168.1.		Path	Source Path	Server Table No.
function, ref Example 3: 1 PLC Comma page 6-80.	No I	"Setting fer Using with Filters		No. Server Server Server	0 Image Control of Con	FTPSERVER 192.168.1.	10	Path //EXT0000/DDE /EXT0000	Source Path VOSetup off RECIPE	

#### 4. Click [OK].

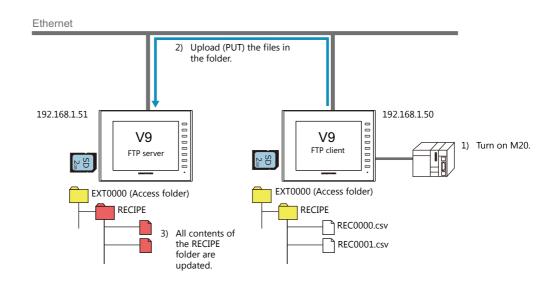
This completes the necessary settings.

### **Unit operation**

Downloading (GET) starts when the M11 bit turns ON. The "RECIPE" folder in the V9 series unit is updated by overwriting with the "RECIPE" folder on the server.

# Setting Example 2: When Server is a V9 Unit

The following is the procedure for updating the "RECIPE" folder on the server by uploading (PUT) from an SD card. Transfer execution trigger: M20 is turned ON

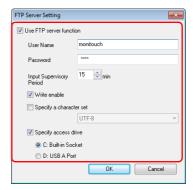


### Server settings (V9)

1. Click [System Setting]  $\rightarrow$  [Ethernet Communication]  $\rightarrow$  [FTP Server].

File Home	Parts	Edit View	S	creen Setting	Transfe	er	System Set	ting	Tool	Help		
Edit Model Selection	Hardware Setting	Device Memory Map *		Ethernet munication *	Global Setting *		Logging	Recipe	Scheduler	r Data transfer service	Other	Macro Setting C Date/Time Display Format Setting Japanese Conversion Function Setting
Unit Setting		Communication !		Local Port Ad	dress(I)		C	ommon	Setting			Setting
			-	Network Tabl	le(E)							
			$\boxtimes$	E-Mail(M)								
		(		FTP Server(F).								

2. The [FTP Server Setting] window is displayed. Configure the following settings.



Use FTP server function $^{*1}$	Selected
User name	monitouch *2
Password	9999 <sup>*2</sup>
Input Supervisory Period	15 min
Write enable	Selected
Specify access drive	Selected C: Built-in Socket

\*1 For details on the FTP server function, refer to "6.9 FTP server".

\*2 User name and password registration

In addition to registration by computer or the V-SFT Ver. 6 screen configuration software, the user name and password used by the FTP server function can also be registered in Local mode on the V9 series unit. For details, refer to the V9 Series Troubleshooting/Maintenance Manual.

#### **Client settings (V9)**

- 1. Click [System Setting]  $\rightarrow$  [Data transfer service]  $\rightarrow$  [Data Transfer Service Settings] to display the [Data Transfer Service] tab window.
- 2. Configure the following settings.

Set the same values as the server settings for [Connection Destination] (IP address), [User ID] (user name) and [Password]. Port number is fixed to 21.

Screen [0] Edit (		Data T	ransfer Service ×						
st of Destination S	ervers								
	No.	Server Type	Connection Mode	Server Name	Connection Destination	Port No.	User ID	Password	*
Delete	n	FTP	Passive mode	ETESEBVEB	192 168 1 10	21	ETPUlser	RENNANCE	
	1	FTP	Passive mode	V9Server	192.168.1.51	21	monitouch	SCHOOL SC	
	2								-
Delete All Servers	3					1			=
	4				(Fi	xed)			
	5					,cu) _			
	<u> </u>						-		

3. Configure the following settings.

Add	No	Record Name	I ra ister	Record No.2 Ad						l
	0	Setup Manual Recipe	File-base Folder-b	Operation Set	-	*				
Edit Records	2	Necipe	ruiuet-D	Record		*				
	3			Record	Recipe BACKUP					
	4			Transfer	Folder-based uple	oad 🔻 I	Unit -> Server			
Delete Records	5 6									
	7									
elete All Records	8			Transfer Cond	ition					
	9 10			Device	PLC1	• M •	00020			
	10			Trigger Selec	t ON ·	•				
	12					_				
	13			Transfer Data	-					
	14			Server Path	/EXT000	00				
	•			Linit Charge	Drive Celect	0.00				
					-	C:SD	•			
				Path	C:	/EXT0000				
				, au	с.					
function, ref	fer t	o "Setting		Transfer Fol	der RECIPE					
For details of function, ref Example 3: <sup>-</sup> PLC Comma page 6-80.	fer to Tran	o "Setting sfer Using	s"	Transfer Fol	der RECIPE					
function, ref Example 3: PLC Comma	fer to Tran	o "Setting sfer Using	s"	Transfer Fol Server Setting No. 1 Server Type	der RECIPE	FTP Server				
function, ref Example 3: PLC Comma	fer to Tran	o "Setting sfer Using	S"	Transfer Fol Server Setting No. 1 Server Type Server Nam	der RECIPE	FTP Server V9Server				OK Cancel
function, rei Example 3: " PLC Comma page 6-80.	fer tr Tran ands	o "Setting sfer Using with Filter	Transfer N	Transfer Fol Server Setting No. 1 Server Type Server Nam Server Add	der RECIPE	FTP Server V9Server 192.168.1.51 Condition	Server Path	Path	Source Path	Server Table No.
function, rei Example 3: " PLC Comma page 6-80.	fer tu Tran ands No F	o "Setting sfer Using with Filter	Transfer N File-based	Transfer Fol Server Setting No. 1 Server Type Server Nam Server Add	der RECIPE	FTP Server V9Server 192.168.1.51		Path	Source Path VSsetup.pdf RECIPE	

#### 4. Click [OK].

This completes the necessary settings.

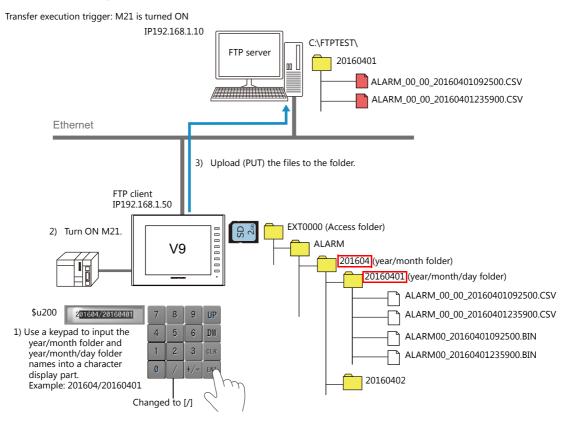
### **Unit operation**

Uploading (PUT) starts when the M20 bit turns ON. The entire "RECIPE" folder on the server's SD card is updated by overwriting.

\* Existing files will be overwritten.

# Setting Example 3: Transfer Using PLC Commands with Filters

This section describes the procedure for uploading (PUT) specified CSV files stored in a date folder within an alarm folder created as alarm history, to the server.



### **Server settings**

Refer to the manual of the tool to use.

Example: Microsoft Internet Information Services (IIS)

Server directory

New User	? 💌	Add FTP Site	? 🔀
User name: FTPUser		Binding and SSL Settings	
Eul name: Description: Password: Corrfim password: User must change password at next logon User cannot change password Password never expires		Binding	
Add FTP Site Site Information			
ETP site name: FTPSERVER Content Directory Physical path: C:\FTPTEST			
User name	FTPUser		
Password	ftp123		
IP Address	192.168.1	1.10	
Port	21 (defau	lt)	

For details, refer to "Server: Computer etc." page 6-90.

C:\FTPTEST

#### **Client settings (V9)**

- 1. Click [System Setting]  $\rightarrow$  [Data transfer service]  $\rightarrow$  [Data Transfer Service Settings] to display the [Data Transfer Service] tab window.
- Configure the following settings. Set the same values as the server settings for [Connection Destination] (IP address), [Port No.], [User ID] (user name) and [Password].

st of Destination Servers           Delete         Description         Connection Mode         Server Name         Connection Destination         Port No.         Harry D         Passive mode         FTPSERVER         192.168.1.10         21         FTPUser         Harry D	
Delate	
	assword .
	(XXXX

3. Configure the following settings.

Record List		Record Name		Record No.0 Edit							<b>—</b> X	al 6
Add	0	Alarm Log	Folder-	Operation Settin	q							
	1			Record No.	0	A V						
Edit Records	2											
	3		_	Record Name	Alarm L	.og	Transfer	Folder-based uploa	id ▼ U	nit -> Server		
Delete Records	5			Transfer Conditio								
	6			Device								_
Delete All Records	7			Device	PLC1	▼ 0 ×	м 👻 00021	×				
Jelete All Records	9			Trigger Select	ON	•						
	10											
	11 12			Transfer Data Se	ttings							
	13			Server Path	1							
	14					UpLoad						-
	•			Unit Storage D	rive Select	C:SD	-					5 C
				Path	C:	/EXT0000/ALA	PM					
				1001								
				Transfer Folde	r 🔽 Use	e external comma	nds					
					Intern	nal 🔻 🛛	🗧 💲 🗸 🗸					
					-\$u003	327						
				Use filter fi	unction	Use externa	l commands					
Specify	/ "* c	sv" to only		Use filter fi		Use externa	l commands					
Specify	cs» ''	sv" to only	y	<table-cell> Use filter fi</table-cell>	unction *.CSV		l commands					
upload	CSV	/ files.		🔽 Use filter fi			l commands					
upload	CSV	sv" to only / files. pecificatio		Use filter fi			l commands					
upload	CSV	/ files.			*.CSV		l commands					
upload	CSV	/ files.		Server Settings No. 0			l commands					
upload	CSV	/ files.		Server Settings	*.CSV		l commands					
upload	CSV	/ files.		Server Settings No. 0	*.CSV		l commands					
upload	CSV	/ files.		Server Settings No. 0 Server Type Server Name	*.CSV	FTP Server FTPSERVER	l commands					
upload	CSV	/ files.		Server Settings No. 0 Server Type	*.CSV	FTP Server	l commands					
upload	CSV	/ files.		Server Settings No. 0 Server Type Server Name	*.CSV	FTP Server FTPSERVER	l commands			ОК	Cancel	
upload	CSV	/ files.		Server Settings No. 0 Server Type Server Name	*.CSV	FTP Server FTPSERVER	l commands			OK	Cancel	
upload	CSV	/ files.		Server Settings No. 0 Server Type Server Name	*.CSV	FTP Server FTPSERVER	l commands			ОК	Cancel	
upload	CSV	/ files.		Server Settings No. 0 Server Type Server Name	*.CSV	FTP Server FTPSERVER	l commands			ок	Cancel	
upload	CSV	/ files.		Server Settings No. 0 Server Type Server Name	*.CSV	FTP Server FTPSERVER	l commands			ок	Cancel	
upload	CSV	/ files.		Server Settings No. 0 Server Type Server Name	*.CSV	FTP Server FTPSERVER	l commands			ox (	Cancel	
upload (wildca	CSV	/ files.		Server Settings No. 0 Server Type Server Name	*.CSV	FTP Server FTPSERVER	l commands			×	Cancel	
upload (wildca	CSV	/ files.		Server Settings No. 0 Server Type Server Name	*.CSV	FTP Server FTPSERVER	l commands	<i>.</i>		OK	Cancel	
upload (wildca	CSV rd sp	/ files.		Server Settings No. 0 Server Type Server Name Server Addres	*.CSV	FTP Server FTPSERVER 192.168.1.10	l commands	Path		OK Cource Path	Cancel	4
upload (wildca ord Lst	CSV rd sp	/ files.	n)	Server Settings No. 0 Server Type Server Name Server Addres	*.CSV	FTP Server FTPSERVER 192.168.1.10		Path /EKT000/AU				
upload (wildca	CSV rd sp	/ files. pecificatio	n)	Server Settings No. 0 Server Type Server Name Server Addres	*.CSV	FTP Server FTPSERVER 192.168.1.10	Server Path			Source Path	Server Tat	Ĵ
upload (wildca ord List Add	CSV rd sp 0 Alat 2	/ files. pecificatio	n)	Server Settings No. 0 Server Type Server Name Server Addres	*.CSV	FTP Server FTPSERVER 192.168.1.10	Server Path			Source Path	Server Tat	
upload (wildca	CSV rd sp	/ files. pecificatio	n)	Server Settings No. 0 Server Type Server Name Server Addres	*.CSV	FTP Server FTPSERVER 192.168.1.10	Server Path			Source Path	Server Tat	Ĵ

#### 4. Click [OK].

This completes the necessary settings.

### **Unit operation**

Uploading (PUT) starts when the M21 bit turns ON.

The specified date folder in the ALARM folder and the CSV files (not the BIN files) in that date folder are transferred to the server.

Files that match with the keyword specified as the filter are transferred maintaining their current path. Files that do not match and folders that have no matching files are not transferred.

# 6.11.5 Detailed Settings

Configure settings via [System Setting]  $\rightarrow$  [Data transfer service].

File Home	Parts Edit V	/iew Screen Setting	Transfer	System Setting	Tool I	Help	
Edit Model Selection	Hardware Device Setting Memory M		Global Alarr Setting * Serve	w www. m Logging Recipe er Server	Scheduler I	Data transfer service *	Other
Unit Setting Screen [0] Edit (	Communica	ation Setting		Common			ansfer Service Settings Setting

# **Data Transfer Service Settings**

Always configure these settings when transferring using PLC commands. When transferring data using the data transfer viewer, although server settings can be configured directly on the V9 series unit, you can also connect by registering servers in the following tab window and specifying the registered table number.

Click [System Setting]  $\rightarrow$  [Data transfer service]  $\rightarrow$  [Data Transfer Service Settings]. The [Data Transfer Service] tab window is displayed.

File Hon	ne	Parts Edit	View Scree	n Setting Transfer	System Set	tting Tool	Help		·	
Edit Model Selectio			-	<b>.</b>		1		Macro		
Multi-language Sel	ting	Hardware	000		Alarm Logging	Recipe Schedul		r Other	Time Display Format Se	-
Unit Setting *		Setting Me	mory Map + Commun	nication * Setting * S	Server Server		service *	Japan	ese Conversion Functi	on Sett
Unit Setting			munication Setting		C	Common Setting		ransfer Service Setting		
Screen [0] Edit		) ×					🔮 Data Ti	ransfe Viewer Setting	IS	
								★		
Screen [0] Edit (		) Data Tr	ransfer Service ×							
ist of Destination S	ervers									
Delete	No.	Server Type	Connection Mode	Server Name	Connec	ction Destination	Port No.	User ID	Password	-
Delece	0								-	-
	2		<u> </u>				- <u> </u>	<u> </u>	<u> </u>	-
Delete All Servers	3									-
	5						-		+	-
	6							-		
	7 8								-	-
	9		<u> </u>						†	-
	10 11									_
	11 12								+	-
								-		-
	13									- <b>T</b>
	vice Se			14520						•
Data Transfer Sen	vice Se	Internal	▼ 0 × \$u ▼		A			+		•
	vice Se			v) 16530 v) 16540-00					· · · · · · · · · · · · · · · · · · ·	
Command De	vice Se	Internal			A				, ,	
Command De	vice Se Device evice	Internal		-)[16540-00	A	Server Path	Path	Source Path	Server Table No.	
Command De	vice Se Device evice No 0	Internal	▼ 0 ▲ \$u ¬	-)[16540-00		Server Path	Path	Source Path	Server Table No.	
Command De	vice Se Device evice No 0 1 2	Internal	▼ 0 ▲ \$u ¬	-)[16540-00		Server Path	Path	Source Path	Server Table No.	
Info Output	vice Se Device evice No 0 1 2 3	Internal	▼ 0 ▲ \$u ¬	-)[16540-00		Server Path	Path	Source Path	Server Table No.	
Info Output	vice Se Device evice No 0 1 2	Internal	▼ 0 ▲ \$u ¬	-)[16540-00		Server Path	Path	Source Path	Server Table No.	
Edit Records	vice Se Device evice No 0 1 2 3 4 5 6	Internal	▼ 0 ▲ \$u ¬	-)[16540-00		Server Path	Path	Source Path	Server Table No.	
Info Output Command De	vice Se Device evice No 0 1 2 3 4 5 6 7	Internal	▼ 0 ▲ \$u ¬	-)[16540-00		Server Path	Path	Source Path	Server Table No.	
Info Output Command De Cecord List Add Edit Records	vice Se Device evice No 0 1 2 3 4 5 6	Internal	▼ 0 ▲ \$u ¬	-)[16540-00		Server Path	Path	Source Path	Server Table No.	
Info Output Command De	vice Se Device evice evice 1 2 3 4 5 6 7 8 9 10	Internal	▼ 0 ▲ \$u ¬	-)[16540-00		Server Path	Path	Source Path	Server Table No.	
Info Output Command De	No 0 1 2 3 4 5 6 7 8 9 10 11	Internal	▼ 0 ▲ \$u ¬	-)[16540-00		Server Path	Path	Source Path	Server Table No.	
Info Output Command De	vice Se Device evice evice 1 2 3 4 5 6 7 8 9 10	Internal	▼ 0 ▲ \$u ¬	-)[16540-00		Server Path	Path	Source Path	Server Table No.	
Info Output Command De	vice Se Device evice evice 1 2 3 4 5 6 7 8 9 10 11 12 13 14	Internal	▼ 0 ▲ \$u ¬	-)[16540-00	Condition	Server Path	Path	Source Path	Server Table No.	
Info Output Command De	vice Se Device evice evice 1 2 3 4 5 6 7 8 9 10 11 12 13	Internal	▼ 0 ▲ \$u ¬	-)[16540-00		Server Path	Path	Source Path	Server Table No.	
Info Output Command De	vice Se Device evice evice 1 2 3 4 5 6 7 8 9 10 11 12 13 14	Internal	▼ 0 ▲ \$u ¬	-)[16540-00	Condition	Server Path	Path	Source Path	Server Table No.	

### **List of Destination Servers**

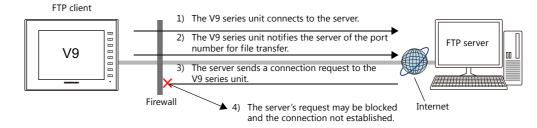
st of Destination S	ervers								
	No.	Server Type	Connection Mode	Server Name	Connection Destination	Port No.	User ID	Password	
Delete	0								
	1								
	2								
elete All Servers	3								=
	4								
	5								
	6								
	7								
	8								
	9								
	10								
	11								
	12								
	13								

Item	Description	Remarks
Delete	Delete the selected server.	
Delete All Servers	Delete all registered servers.	
No.	Indicates the registration number of the server. No. 0 to 31	Connection possible by specifying a server registration number in the data transfer viewer.
Server Type	Specify the type of the server. FTP/Cloud	For details on cloud support, refer to the Web Machine Interface Manual.
Connection Mode $^{\star}$	Specify the connection mode. Active mode/Passive mode	The data transfer viewer is fixed to passive mode regardless of this setting.
Server Name	Specify the name of the server. Within 32 one-byte characters	
Connection Destination	Specify the IP address of the server.	Set same values as server's settings.
Port No.	Specify the control port number of the server. (Default: 21)	Set same values as server's settings.
User ID	Specify the user ID (user name). Within 16 one-byte characters	Set same values as server's settings.
Password	Specify the password. Within 16 one-byte alphanumeric characters	Set same values as server's settings.

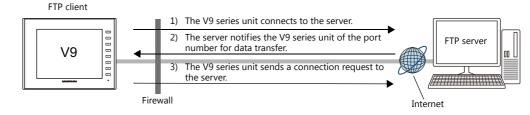
\* Connection mode

Depending on the connection mode setting, the device that sends a connection request changes. When the FTP server is at an external location such as on the Internet, an external connection request may not be accepted due to the firewall's security policy. In this case, use the passive mode in which the V9 series unit (client) sends the connection request.

- Active mode



- Passive mode



### **Data Transfer Service Settings**

fo Output Device	Internal v 0 🐳 \$u v 16530	)		1
mmand Device	Internal - 0 - \$u - 16540	0-00		
	Internal + 0 * \$16540	-00		

# Info output device

Device Memory								Des	cripti	ion										
	Storage of error in The bit of the curr	formatic ently occ	on curring	g erro	r turr	ns ON	I.													
	М	SB														LSB				
		15 14	13	12	11	10	09	08	07	06	5 05	04	03	02	01	00				
		0 0	0	0	0	0	0		0											
		Transf	er reco	ord se	etting	ls erro	or —													
					Def	initio	n erro	or —												
						Clo	osing	error												
	Directory creation error ————																			
	Reserved for system Download error (setting: 0)																			
	(se	tting: 0)							Up	load	d error									
		Server authentication error																		
		Server connection error —																		
n	Item		Description											S	olutio	n				
	Server connecti	on error	Th	Timeout The specified server does not exist.						Check that the server to connect to exists. Check that the LAN cable is correctly connected.										
	Server authentic error	ation		User ID and password settings are invalid.								Check the ID and password you used for login.								
	Upload error						The save destination path, transfer source path, and transfer data													
	Download error	na					load a		correct. Check server settings.											
	Directory creation	on error		e spe ist.	cified	l data	nam	e doe	s not	not										
	Closing error Failed to establish connect the server.								with	C	Check t	hat th	e LAN	l cab	le is c	orrect	tly connected.			
	Definition error		An	ı unde	efined	d erro	or occ	urred.		Check that the settings in the record list in the [System Setting] $\rightarrow$ [Data transfer service] $\rightarrow$ [Data Transfer Service Settings] tab window are correct. Check server settings.						service] $\rightarrow$ [Data				
	Transfer record error	settings						ne dat bytes.	a for	Check the transfer data settings. Check the device memory for specifying the file/folder name for transfer.							ifying the			

Device Memory		Descriptio	on				
	Storage of error codes The most critical error cor resolved.	de is stored. The next error code will not	be saved until the cause of the stored error code is				
	Error Code	Description	Solution				
	0	No error	-				
	1	Timeout The specified server does not exist.	Check that the server to connect to exists. Check that the LAN cable is correctly connected.				
	2	User ID and password settings are invalid.	Check the ID and password you used for login.				
n+1	3	The save destination path, transfer source path, and transfer data name for upload are invalid.	Check that the transfer data exists and that paths are correct. Check server settings.				
	4	The save destination path, transfer source path, and transfer data name for download are invalid.					
	5	Could not access the data for transfer.	Check that the LAN cable is correctly connected.				
	6	An undefined error occurred.	Check that the settings in the record list in the [System Setting] $\rightarrow$ [Data transfer service] $\rightarrow$ [Data Transfer Service Settings] tab window are correct. Check server settings.				

### **Command device**

Device Memory	Description
n	Forcibly cancels the data transfer. 1: Transfer cancellation

#### \* Data transfer can also be cancelled from the status bar.

For details, refer to "Status Bar" page 6-106.

### **Record List**

Add	No	Record Name	Transfer Mode	Trigger Device	Condition	Server Path	Path	Source Path	Server Table No.	^
	0									
	1									
Edit Records	2									
	3									
	4									
Delete Records	5									-
	6									-
	1									-
elete All Records	8 9									- 1
	10									
	11									-
	12									
	13									
	14									-
									•	
										_

Item	Description
Add	Add a new record. For details, refer to "Record Editing Window".
Edit Records	Edit the currently selected record number. For details, refer to "Record Editing Window".
Delete Records	Delete the selected record.
Delete All Records	Delete all registered records.

## **Record editing window**

Add	Io Record Name	Transfer Mode	Trigger Device	Condition	Server Path	Path	Source Path	Server Table No	• •
Edit Records	Record	d No.0 Add							
3		eration Setting							_
Delete Records 5	R	ecord 0	Y						
e		ecord							_
elete All Records	TI TI	ransfer File-based	upload 🔻 Unit	t -> Server					
	0								
	1 Tra	nsfer Condition							_
	2 De	evice Interr	nal ▼ 0 🚔 \$u	▼ 00100-00		×			_
1	4 Tr	igger Select ON	-						
Ľ		nsfer Data Settings							<u> </u>
		erver Path							
	U	nit Storage Drive Selec		•					
		Path C:							
	T	ransfer File							
	Ser	ver Settings							
	N	o. 0 🚔	* Unregistered tal	ole No.					
	s	erver Type							
	s	erver Name							
	s	erver Address							

Item	Description
Record	Select the record number for editing. No. 0 to 255
Record	Register a record name. Within 32 one-byte alphanumeric characters
Transfer	Select the data to transfer and the direction of the transfer. ([Unit]: storage device of V9 series unit) File-based upload (From unit to server) Folder-based upload (From unit to server) File-based download (From server to unit) Folder-based download (From server to unit)
Device	Specify the device memory address that triggers the record.
Trigger Select	Specify the bit operation (edge). <sup>*1</sup> ON: Execute at OFF $\rightarrow$ ON. OFF: Execute at ON $\rightarrow$ OFF.
Server Path	Specify the path of the server. Number of characters for a path: Within 255 one-byte characters (including ":" and "/") *2 *3
Unit Storage Drive Select	Select the storage device of the V9 series unit.         C:       SD         D:       USB (USB flash drive etc.)
Path	Specify the path within the storage device of the V9 series unit. Number of characters for a path: Within 255 one-byte characters (including ":" and "/") *2 *3
Transfer File/Transfer Folder	Specify the name of the file or folder for transfer. When specifying a file, specify the extension as well. For device memory specification, NULL (0) is the terminator Within 256 one-byte alphanumeric characters <sup>*3 *4</sup>
Use filter function *7	This checkbox can be selected when [Transfer] is set to [Folder-based upload] or [Folder-based download]. The filter only targets files. Only the files that match the specified keyword are transferred. *5 Wildcards can be specified. *6 For device memory specification, NULL (0) is the terminator. Within 64 one-byte alphanumeric characters
Server Settings No.	Specify the number registered on the server list. No. 0 to 31

- \*1 Level recognition is used to judge the bit status and thereby whether to start communication. For example, when [Trigger Select] is set to [ON], data transfer is executed when communication is started with the bit on the PLC in the ON status.
- \*2 There is no path hierarchy limitation. However, note that there are some limitations as described below.
  - The path delimiter is a slash "/". "\" is not supported.
  - A delimiter at the end of the path is not required. However, if specifying a root directory, a delimiter is required.
  - Two-byte characters are not supported.

Example: Transferring to a root directory

Server Path /		
Unit Storage Drive Select	DownLoad C:SD	_
Path C:	/EXT0000	
Transfer Folder	Jse external commands	
RE	CIPE	
Use filter function	Use external commands	
Server Settings		
No. 0		
Server Type	FTP Server	
Server Name	FTPSERVER	
Server Address	192, 168, 1, 10	

- \*3 The total number of 1-byte characters in the path (server path when downloading) and the path set for the files and folders for transfer must not exceed 255.
- \*4 The following limitations apply.
  - Unsupported characters:  $\$  :, ", <, >, and |
  - Two-byte characters are not supported.
- \*5 The following limitations apply.
  - Unsupported characters: /, \, :, ", <, >, and |
  - Two-byte characters are not supported.
- \*6 Supported wildcards: \*, ?, and []
- \*7 The filter function can also be used with the data transfer viewer.
  - For details on the operating method, refer to "Filter Function" page 6-101.

# **Data Transfer Viewer Settings**

Click [System Setting]  $\rightarrow$  [Data transfer service]  $\rightarrow$  [Data Transfer Viewer Settings]. The [Data Transfer Viewer] tab window is displayed.

🥗 File Home	Parts	Edit View	Screen Setting	Transfer	System Se	tting	Tool	Help			
Edit Model Selection Dublic Hanguage Setting Dublic Hanguage Setting Unit Setting Unit Setting	Hardwar Setting		Ethernet Communication * Setting		rm Logging ver Server		5cheduler Setting	Data transfer service *	*	U I	ng Display Format Setting onversion Function Setting Setting
Screen [0] Edit (	) ×									ewer Settings	
					Scre	en [0] E	dit (	) Data	Transfer	Viewer ×	
					Data Tra	insfer V	iewer Sett	tings			
					🔲 Infe	o Outpu	it Device	Internal		\$u → 16	600 ×
						humand	Device	Internal	- 0	≑ \$u → 16	610
						manu	Derice	Internal	÷ 0	v ¢u + lo	51U

### **Data Transfer Viewer**

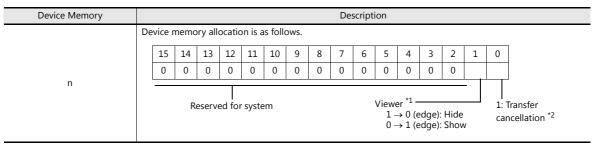
Data Transfer Viewer Setti	ngs				
Info Output Device	Internal		tin and a state of the state o	▼ 16600	A V
Command Device	Internal	- O		- 16610	A

### Info output device

Device Memory								De	scrip	tion							
	Stores the display sta For errors, the bit of									nation.							
	MSB				_				_				_			LSB	
	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	
	0	0	0	0	0	0	0		0								
n	Display state of the data transfer viewer 0: Hide 1: Show Closing error Directory creation error Reserved for system (setting: 0) Upload Server au													r —	ror —		
	Item		Description								Solution						
	Server connection	error		Timeout The specified server does not exist.								Check that the server to connect to exists. Check that the LAN cable is correctly connected.					
	Server authenticat error	ion		User ID and password settings are invalid.								Check the ID and password you used for login.					
	Upload error			The specified file or folder does not								Check that the path of the data for transfer is					
	Download error		ex	ist.								rect. eck th	at the	e data	a for t	ransfer exists.	
	Directory creation	error		ie spe ist.	cified	d data	ı nam	e doe	es no	ot	Check server settings.						
	Closing error			iled to rver.	o esta	ablish	conn	ectio	n wit	th the	Ch	eck th	at the	e LAN	cable	e is correctly connected.	
	Definition error		Ar	n und	efine	d erro	or occ	urred			Ch	eck se	erver	settin	gs.		

Device Memory		Description						
	Stores error codes The most critical e resolved.	rror code is stored. The next error code will not be s	saved until the cause of the stored error code is					
	Error Code	Description	Solution					
	0	No error	-					
	1	Timeout The specified server does not exist.	Check that the server to connect to exists. Check that the LAN cable is correctly connected.					
	2	User ID and password settings are invalid.	Check the ID and password you used for login.					
n + 1	3	The save destination path, transfer source path, and transfer data name for upload are invalid.	Check that the transfer data exists and that paths are correct.					
	4	The save destination path, transfer source path, and transfer data name for download are invalid.	Check server settings.					
	5	Could not access the data for transfer.	Check that the LAN cable is correctly connected.					
	6	Cannot establish connection properly with the server.	Check that the LAN cable is correctly connected.					
	7	An undefined error occurred.	Check server settings.					

### **Command device memory**



\*1 If the display bit is ON when entering RUN mode, the data transfer viewer is displayed.

\*2 Data transfer can also be cancelled from the status bar.

For details, refer to "Status Bar" page 6-106.

# 6.11.6 FTP Server Settings

The server must have an FTP server built up. Refer to the following.

# Server: Computer etc.

FTP server settings differ according to the FTP server to use and tools. Refer to respective manuals. This section describes the settings for Microsoft Internet Information Services (IIS) as an example.

### **Creating a User Account for Logging Onto FTP**

This procedure is for creating a new local user account.

- This setting is not required if using an existant local user account. Install IIS. For details, refer to "IIS installation" page 6-91.
- 1. Double-click [Computer Management] from [Control Panel] → [Administrative Tools].
- 2. Right-click on [Users] under [Local Users and Groups] and click on [New User].

🚡 Computer Management				
File Action View Help				
🗢 🔿 🙎 🖬 🍳 😖 👔 🖬	)			
Computer Management (Local)	Name	Full Name	Description	Actions
System Tools A 1 Amount of the system Tools A 1 Amoun	👧 Administrator		Built-in account for a	Users
<ul> <li>Itask Scheduler</li> <li>Event Viewer</li> </ul>	🕵 Guest	fukushima	Built-in account for g	More
Shared Folders	Sc 120111	Tukusiiinia		
Local Users and Groups				
Group New User				
N Performa Bevice M View	•			
⊿ 🔄 Storage 🛛 Refresh				
Disk Man Export List.				
Help				

3. Enter a user name and password repectively. Deselect the [User must change password at next logon] checkbox and then click [Create].

	New User
	User name: FTPUser
	<u>F</u> ull name:
	Description:
	Reserved
	Password: Confirm password:
Deselect	
Deselect	User must change password at next logon
	Password never expires
	Account is disabled
	Help Create Close

 The user name and password are required for using the data transfer service function of V-SFT. Take care not to lose them.

4. Click [Close]. A new local user will be added.

🚡 Computer Management					3-
Eile Action ⊻iew Help	)				
Computer Management (Local)	Name	Full Name	Description	Actions	
<ul> <li>System Tools</li> <li>Task Scheduler</li> <li>Event Viewer</li> </ul>	Administrat	or FTPUser	Built-in account for admin	Users . More Actions	▲ ▶
Berein Viewen     Shared Folders     Shared Folders     & & Local Users and Groups     Groups	👧 Guest 🎐 izumi	fukushima	Built-in account for guest a		
Storage     Storage					

### **IIS Settings**

This section describes the installation procedure for IIS and FTP server settings.

#### **IIS installation**

Example: Windows 7

1. Click on [Turn Windows features on or off] from [Control Panel]  $\rightarrow$  [Programs and Features].

🕒 🔍 💌 💽 🕨 Control Panel	<ul> <li>All Control Panel Items          <ul> <li>Programs and</li> </ul> </li> </ul>	Features
Control Panel Home	Uninstall or change a progra	m
View installed updates	To uninstall a program, select it from	the list and then click Uninstall, Change, or Repa
Turn Windows features on or		
off	Organize 👻	
Install a program from the network	Name	Publisher
	🔛 Adobe Reader 6.0.1	Adobe Systems Incorporated
	V-SFT Version 5.4	Hakko Electronics Co., Ltd.
	V-SFT Version 3.4	marko Electronics Co., Ltd.

2. Select the [FTP Service] and [IIS Management Console] checkboxes under [Internet Information Services] and click [OK].

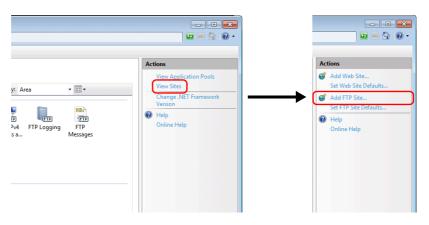
🔣 Windows Features
Turn Windows features on or off
To turn a feature on, select its check box. To turn a feature off, clear its check box. A filled box means that only part of the feature is turned on.
🖃 🗐 🖟 Internet Information Services
🖃 🔳 FTP Server
ETP Extensibility
FTP Service
🖃 🔳 🚺 Web Management Tools
IIS 6 Management Compatibility
🛛 🔒 IS Management Console
IS Management Scripts and Tools
IIS Management Service
🗉 🔜 🚡 World Wide Web Services 👻 👻
OK Cancel

### **FTP server settings**

1. Double-click [Internet Information Services (IIS) Manager] from [Control Panel] → [Administrative Tools]. The Internet Information Services (IIS) Manager starts up.

🕢 🖓 < 🖓 ሩ All Control Panel Items 🕨 Ad	Iministrative Tools		✓ 49 Sear	ch Ad	• <u> </u>
Organize 🔻 🔳 Open 🛛 Burn					0
Name	Date modified	Туре	Size		-
🔊 Component Services	7/13/2009 9:46 PM	Shortcut		2 KB	
🛃 Computer Management	7/13/2009 9:41 PM	Shortcut		2 KB	
🛐 Data Sources (ODBC)	7/13/2009 9:41 PM	Shortcut		2 KB	E
Event Viewer	7/13/2009 9:42 PM	Shortcut		2 KB	
🗎 Internet Information Services (IIS) Manager	3/15/2015 8:07 PM	Shortcut		2 KB	] []
iSCSI Initiator	7/13/2009 9:41 PM	Shortcut		2 KB	-
👼 Local Security Policy	9/27/2013 5:14 PM	Shortcut		2 KB	
Performance Monitor	7/13/2009 9:41 PM	Shortcut		2 KB	
🗃 Print Management	9/27/2013 5:13 PM	Shortcut		2 KB	-

2. In the right pane of the window, click [View Sites]  $\rightarrow$  [Add FTP Site].



3. Fill in the [FTP site name] and [Content Directory] fields and click [Next].

dd FTP Site				? 🗙		
Site Information						
ETP site name:					_	
FTPSERVER Content Directory						
P <u>h</u> ysical path:						
C:\FTPTEST						
			<u> </u>			
<u>-</u>				<u> </u>	C:\FTPTEST	<b>↓</b> 4
				Organize 🕶	C:\FTPTEST Include in library 🔻	▼ Share with ▼
				•••		
-				Organize 🔻	Include in library 🔻	Share with 🔻 🚿
				Organize 🔹 Name	Include in library 🔻	Share with ▼ → Date modified
				Organize 🔹 Name	Include in library 🔻	Share with ▼ → Date modified
	Previous	Next	Einish	Organize 🔹 Name	Include in library 🔻	Share with ▼ ≫ Date modified
	Previous	Next	Einish	Organize 🔹 Name	Include in library 🔻	Share with ▼ ≫ Date modified

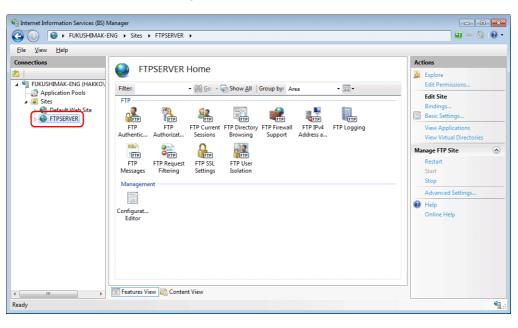
4. Select the IP address of your computer. Then select [No SSL] for [SSL] and click [Next].

Add FTP Site	? 🗾
Binding and SSL Settings	
Binding IP Address: Port: 192.168.1.10 21	
Enable Virtual Host Names:  Virtual Host (example: ftp.contoso.com):   Start FTP site automatically	* The IP address and port number are required for using the data transfer service function of V-SFT. Take care not to lose them.
SSL (a) No SSL (b) Require SSL SSL Certificate: Not Selected (Viegy)	
Previous Next Einish	Cancel

Configure [Authentication] and [Authorization] as follows.
 For [Allow access to], select [Specified users] and input the local user name for logging onto the FTP.

Add FTP Site	8 💌	
Authentication and Authorization Information		
Authentication Anonymous Basic Authorization Allow access to: Specified users FTPUser Permissions V Read V Write	Computer Management     File Action View Help     ← ●	
Previous Next Einish Ca	Image: System Tobic       Name       Full Name         Image: System Tobic       Image: System Tobic       Image: System Tobic         Image: System Tobic       Image: System Tobic       Image: System Tobic         Image: System Tobic       Image: System Tobic       Image: System Tobic         Image: System Tobic       Image: System Tobic       Image: System Tobic         Image: System Tobic       Image: System Tobic       Image: System Tobic         Image: System Tobic       Image: System Tobic       Image: System Tobic         Image: System Tobic       Image: System Tobic       Image: System Tobic         Image: System Tobic       Image: System Tobic       Image: System Tobic         Image: System Tobic       Image: System Tobic       Image: System Tobic         Image: System Tobic       Image: System Tobic       Image: System Tobic         Image: System Tobic       Image: System Tobic       Image: System Tobic         Image: System Tobic       Image: System Tobic       Image: System Tobic         Image: System Tobic       Image: System Tobic       Image: System Tobic         Image: System Tobic       Image: System Tobic       Image: System Tobic         Image: System Tobic       Image: System Tobic       Image: System Tobic         Image: System Tobic       Image: System Tobic<	gging

6. Click [Finish]. A new FTP server setting is added.



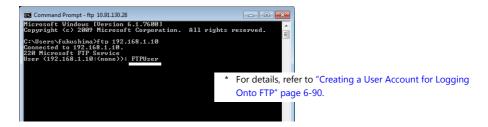
### **Checking FTP Server Logon**

This section describes the procedure for checking if you can log onto the FTP server by using a Command Prompt window.

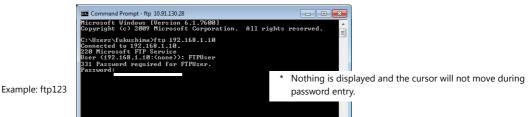
- 1. Click on [Command Prompt] from the computer's start menu  $\rightarrow$  [All Programs]  $\rightarrow$  [Accessories]. A command prompt window opens.
- 2. In the command prompt window, enter "ftp", a one-byte space, and the server's IP address in order and press the [Enter] key.

Command Prompt	_ • •
Hicrosoft Windows [Version 6.1.7600] Copyright (c) 2009 Microsoft Corporation.	All rights reserved.
C:\Users\fukushima>ftp 192.168.1.10	

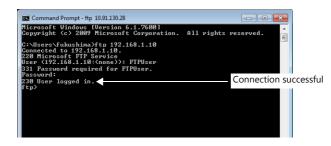
3. Enter the user name for logging onto the FTP and press the [Enter] key.



4. Enter the password for the user name entered in step 3 and press the [Enter] key.



Logon is successful when "230 User logged in." is displayed.



When logon doesn't succeed

• Settings for the IIS, user name and password may be incorrect. Check the settings. • Firewall may be enabled. Disable firewall and perform the check again.

# Server: V9 Series Unit

For details on settings, refer to "Setting Example 2: When Server is a V9 Unit" page 6-78. 1 PP

# 6.11.7 Data Transfer Viewer

The viewer can be used to upload and download folders and files.

# Setting Example

### **Server Settings**

This section describes the settings for when the server is a computer or a V9 series unit.

Example: When the server is a computer



### When the server is a computer

Refer to the manual of the tool to use.

Example: Microsoft Internet Information Services (IIS)

New User ?	Add FTP Site	? *
User name: FTPUser	Binding and SSL Settings	
Eul name: Description:	Binding	
Password: Confirm password:	IP Address:         Port:           192.168.1.10         ▼         21	
User gust change password at next logon     User gust change password at next logon     User cannot change password     Passyord never expires	Enable Virtual Host Names:     Virtual Host (example: ftp.contoso.com):	
Add FTP Site		
Site Information		
ETP site name: FTPSERVER		
Content Directory Physical path: C.\FTPTEST		

User name	FTPUser
Password	ftp123
IP Address	192.168.1.10
Port	21 (default)
Server directory	C:\FTPTEST

For details, refer to "Server: Computer etc." page 6-90.

### When the server is a V9 series unit

1. Click [System Setting]  $\rightarrow$  [Ethernet Communication]  $\rightarrow$  [FTP Server].



2. The [FTP Server Setting] window is displayed. Configure the following settings.

FTP Server Setting		×			
Use FTP server function					
User Name	monitouch				
Password	REER				
Input Supervisory Period	15 🚔 min				
🔽 Write enable					
Specify a character set					
	UTF-8	Ŧ			
Specify access drive					
C: Built-in Socket					
D: USB A Por	t				
	OK Cancel				

Use FTP server function *1	Selected
User Name	monitouch *2
Password	9999 <sup>*2</sup>
Input Supervisory Period	15 min
Write enable	Selected
Specify access drive	Selected C: Built-in Socket

\*1 For details on the FTP server function, refer to "6.9 FTP server".

\*2 User name and password registration

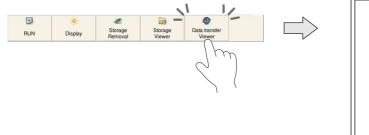
In addition to registration by computer or the V-SFT Ver. 6 screen configuration software, the user name and password used by the FTP server function can also be registered in Local mode on the V9 series unit. For details, refer to the V9 Series Troubleshooting/Maintenance Manual.

### **Displaying the Viewer**

The viewer can be displayed from the system menu, using a switch part, or by a command from a PLC.

#### System menu

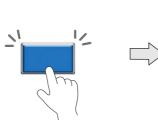
No settings are required.





### Switch

Display the data transfer viewer using a switch placed on the screen.



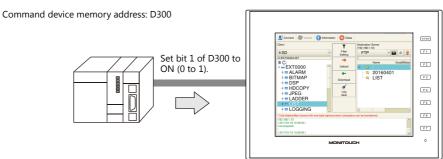
😰 Connect 🖉 Viewer 🚯 Int	ormation 🙆 Close		51578
Clent SD C.EXTOSOLIST C.EXTOSOLIST		Destration Server (192.188.1.16) FTP · • • • • • • • • • • • • • • • • • •	F1
ALARM	Upload Conversional	* 1 / 20160401	F2
DSP     HDCOPY     JPEG     LADDER	Log		F4
+ LIST + LOGGING			P 5
* Only folders files named with one-byte 192,168,1.10 (2017/01/16 15/58.00)			F6
List acquired. (2017/01/16 15:58:06.)			F7

- 1. Place a switch from the [Parts] menu.
- 2. Select [Function]  $\rightarrow$  [Standard]  $\rightarrow$  [Data transfer viewer call].

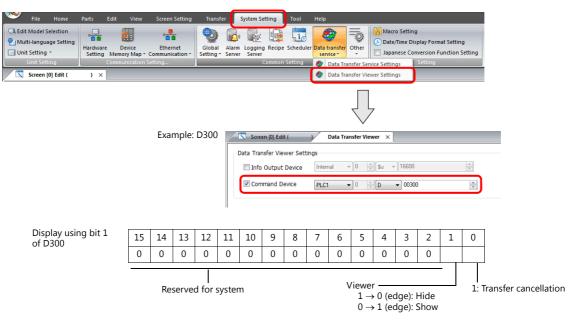
	Switch	x
Style Char. Prop. Cutput Device Function Detail	Function Standard Uverge Control Hetum Word Operation Uverge Control Display All Explanation Used for displaying the data transfer viewer.	-
Other Settings 💌 Preview Display	Comment SW_00000	Finish Cancel

### PLC Command

Display the data transfer viewer by a command from the PLC.



Click [System Setting]  $\rightarrow$  [Data transfer service]  $\rightarrow$  [Data Transfer Viewer Settings] and set the command device memory address.



#### **Client Settings (V9)**

- 1. Display the data transfer viewer.
  - For details on the display method, refer to "Displaying the Viewer" page 6-97.
- 2. The following [Connect] menu is displayed first. Tap each setting to set the same values as the server settings for [Destination IP], [Port No], [User ID] and [Password].



By selecting the [Select from the server table] checkbox, a server can be specified by the table number it is registered in at [System Setting]  $\rightarrow$  [Data transfer service]  $\rightarrow$  [Data Transfer Service Settings]  $\rightarrow$  [List of Destination Servers] in the screen program.

ist of Destination	servers								
	No.	Server Type	Connection Mode	Server Name	Connection Destination	Port No.	User ID	Password	*
Delete	0	FTP	Passive mode	FTPSERVER	192.168.1.10	21	FTPUser	REMARKE	
	1								
	2								-
Delete All Servers									

3. Tap the [Connect] button. If a connection is successfully established with the server, the log displays "Successfully logged in." and the [Connect] button changes to an [Unlink] button.

Port No 21	Connect      Viewer     Information     O     Close
User ID FTPUser Password ••••••	Enter the information required for connection.
Select from the server table.	Server Type FTP  Server Name Destination IP 192.168.1.10 Port No 21 User ID FTPUser Password Select from the server table. 0 Image: Select from the server table. Image: Select from The server tabl
Logs ———	192.168.1.10           (2017/01/16 15:52:42)           Successfully logged in.           192.168.1.10           (2017/01/16 15:52:42)

If connection with the server fails, the log displays "Cannot find the specified server. Check the setting." Check the Ethernet environment and settings and then tap [Connect] again.

|--|--|

This completes the necessary settings.

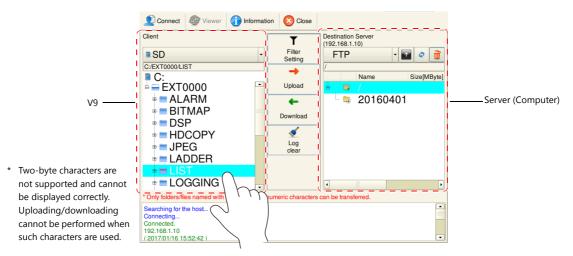
For details on the operating method, refer to "Operation Example" page 6-100.

# **Operation Example**

### **Uploading Folders**

This section describes the procedure for uploading (PUT) the "LIST" folder on the client (V9) to the server.

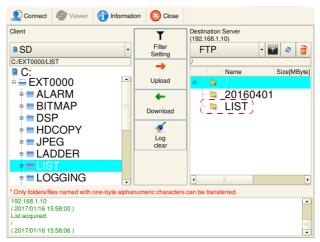
- 1. Display the data transfer viewer.
- 2. Select the "LIST" folder in the client (V9) list.



3. Tap [Upload]. A confirmation dialog appears. Tap [OK].

Upload					
Transfer Target:LIST Upload: Execute?					
* Only folders/files named with one-byte alphanumeric characters can be transferred.					
OK Cancel					

4. The "LIST" folder is uploaded to the server.



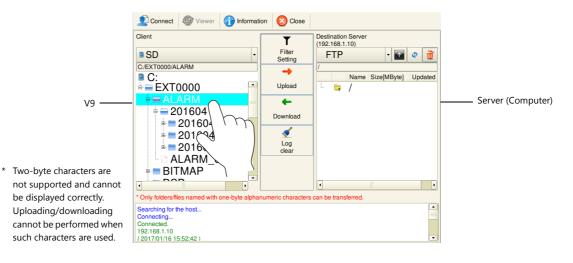
\* If the same folder name already exists, the folder will be overwritten.

#### **Filter Function**

IP192.168.1.10 C:\FTPTEST\ FTP server 20160401 Inn ALARM\_00\_00\_20160401092500.CSV ALARM\_00\_00\_20160401235900.CSV Ethernet Upload (PUT) the files in the folder. FTP client IP192.168.1.50 EXT0000 (Access folder) SD 2<sub>68</sub> 000000000 ALARM V9 201604 (year/month folder) R 20160401 (year/month/day folder) ALARM\_00\_00\_20160401092500.CSV ALARM\_00\_00\_20160401235900.CSV ALARM00\_20160401092500.BIN ALARM00\_20160401235900.BIN 20160402

This section describes the procedure for uploading (PUT) only CSV files in the "ALARM" folder on the client (V9) to the server.

- 1. Display the data transfer viewer.
- 2. Select the "ALARM" folder in the client (V9) list.



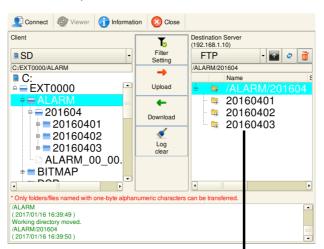
3. Tap [Filter Setting]. Set the filter menu switch to [ON] and input "\*.csv".

Connect Wiewer filter Filter Only files that satisfy the conditions will be tra					]
OFF OFF ON CONTROL OFF	ansieneu.				
Client	Filter	Destination Se (192.168.1.10) FTP		-	æ 💼
C:/EXT0000/ALARM	Setting	/			
■ C: = EXT0000 📄	Upload	Na Na	ame Si	ze[MByte]	Updated
■ ALARM	+				
<ul> <li>■ 201604</li> <li>■ 20160401</li> </ul>	Download	_			
q w e r t	y u	i o	р	BS	×
a s d f g	h j	k   I		DEL	Ĺ
☆ z x c v	b n	m ,	•	1	← \
📖 A1	-		+		*
					$\sum$

4. Tap [Upload]. A confirmation dialog appears. Tap [OK].

Upload					
Transfer Target:ALARM Upload: Execute?					
* Only folders/files named with one-byte alphanumeric characters can be transferred.					
OK Cancel					

5. All CSV files in the "ALARM" folder are uploaded to the server.



On the server (computer)

C:\FTPTEST\ALARM\2016	504\20160401
Organize 👻 Include in library 👻	Share with 🕶 🛛 Burn New folder 🛛 🕅 🔞
Local Dick (C)     C     Cocal Dick (C)     C     Cla9784-3905-406C-8487     FTFTST     ALARM     A205400     2016401     2016401     2016403     aspnet_client     metpub     MONITOUCH     Pergram Files     Teng     Users     Windows.old     Windows.old     C	ALARM_00_00_20166401092500.CSV

\* If the same folder name already exists, the folder will be overwritten.

#### 👤 Connect 🛷 Viewer 👔 Information 😢 Close er the infor nation required for c Server Type FTP Server Name Connect 😰 Connect 🛛 🤣 Viewer 👔 Information 🛛 🙆 Close ed for connection Server Type FTP Server Name Destination IP 192.168.1.10 Port No 21 ETPU User ID The connection mode is Password ..... fixed to passive mode. Connect • ▶ BS w q е r t y u i 0 р а s d g h k DEL b n m Z С V Item Description Remarks Server Type FTP/Cloud \*1 Only displayed when the [Select from the server Server Name \*2 Displays the server name. table] checkbox is selected. Destination IP \*2 Specify the IP address of the server. Set same values as server's settings. Port No \*2 Specify the control port number of the server. Set same values as server's settings. (Default: 21) User ID \*2 Specify the user ID (user name). Set same values as server's settings. Within 16 one-byte characters Password \*2 Specify the password. Set same values as server's settings. Within 16 one-byte alphanumeric characters Select from the server table A server can be specified by the table number it is registered in at [System Setting] $\rightarrow$ [Data transfer $\mathsf{service}] \to [\mathsf{Data\ Transfer\ Service\ Settings}] \to [\mathsf{List\ of}]$

# **Configuration of the Data Transfer Viewer**

\*1 For details on cloud support, refer to the Web Machine Interface Manual.

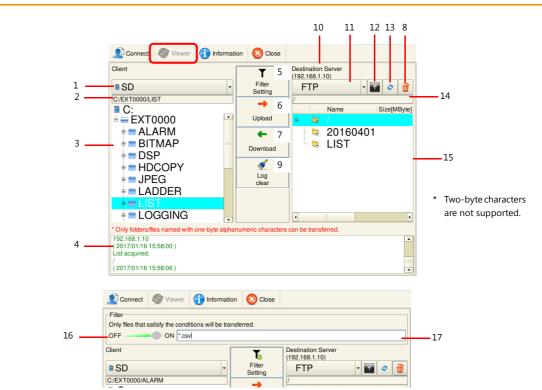
Connect/Unlink

Destination Servers] in the screen program.

Connect to and disconnect from the server.

\*2 The information registered in the specified table number is displayed when the [Select from the server table] checkbox is selected.

#### Viewer



Item	Description	Remarks
1. Storage device selection	Select the storage device of the V9 series unit (client).	Client setting
2. Path display	Displays the path corresponding to the cursor selection.	Client setting
3. File information	Displays the folders and files stored in the storage device specified at "1." Select the folder/file to be transferred.	Client setting
4. Log display	Displays the execution result of connection/disconnection and transfers. The message color differs depending on the result. Green: Success Blue: Connected/searching Red: Failed	For details, refer to "Log Display" page 6-105.
5. Filter setting	Displays the filter menu. A green check mark appears when the filter switch is [ON].	
6. Upload	Transfers the folder/file selected on the client to the path selected on the server.	
7. Download	Transfers the folder/file selected on the server to the path selected on the client.	
8. Delete	Deletes the folder/file selected on the server.	Server setting
9. Log clear	Clears the log displayed at "4."	
10. Server IP address	Displays the IP address of the currently connected server.	Server setting
11. Server selection	FTP/Cloud <sup>*1</sup>	Server setting
12. Change directory	Move one level up in the hierarchy.	Server setting
13. Refresh directory	Refresh the directory to the latest state.	Server setting
14. Path display	Displays the path corresponding to the cursor selection.	Server setting
15. File information	Displays the folders and files stored on the server specified at "11." Select the folder/file to be transferred.	Server setting
16. Filter switch	Select whether or not to use the filter function. Change the switch to [ON] to use the filter function.	
17. Filter keyword	The filter only targets files. Only the files that match the specified keyword are transferred. Wildcards can be specified. Within 64 one-byte alphanumeric characters	<ul> <li>Supported wildcards: *, ?, and []</li> <li>* Unsupported characters: /,  :, ",</li> <li>&lt;, &gt;, and  </li> <li>* Two-byte characters are not supported.</li> </ul>

\*1 For details on cloud support, refer to the Web Machine Interface Manual.

#### Information

The folder/file currently being transferred and the progress of the data transfer are displayed.

Disconnect 🖉 Viewer	Information	😢 Close		* [Size to transfer], [Transferred
Progress Transfer Target: OSUPDATE Size to transfer: 4989 [KByte] Transferred size: 1553 [KByte]	I			size], and [Progress] are shown per file.
Progress			31%	

### Close

Tapping this button closes the data transfer viewer. The data transfer viewer can be closed while uploading and downloading is in progress.



### Log Display

The execution result of connection/disconnection and transfers is displayed in the area below the data transfer viewer. The message color differs depending on the result (green: success, blue: connected/searching, red: failed). If the result is failed (red), check the following.

Operation	Description	Solution	
Connect	Login failed.	Check the ID and password you used for login.	
	Cannot find the specified server. Check the setting.	Check that the IP address of the server specified on the [Connect] screen is correct.	
	Information required for connection is not entered.	Check that the IP address and port number of the server are entered correctly on the [Connect] screen.	
Directory change	Failed to move the working directory.	Check that the specified path exists on the server.	
	Failed to acquire the list.		
Upload	[File] Uploading failed.	Check that there are no 2-byte character in the selected folder/file	
	[Folder] Uploading failed.	<ul> <li>name.</li> <li>Check whether the specified data exists on the client.</li> <li>Check whether the path specified on the server exists.</li> <li>Check whether there is enough free space on the server.</li> <li>Check the server settings.</li> </ul>	
Download	[File] Downloading failed.	Check that there are no 2-byte character in the selected folder/file	
	[Folder] Downloading failed.	<ul> <li>Check whether the path specified data exists on the server.</li> <li>Check whether the path specified on the client exists.</li> <li>Check whether there is enough free space on the client storage device.</li> <li>Check the server settings.</li> </ul>	
Upload Download	No directory is selected on the server side.	Select a folder or file on the server.	
	No directory is selected on the client side.	Select a folder or file on the client.	
Delete	[File] Deletion failed.	Check whether the path specified on the server exists.	
	[Folder] Deletion failed.	Check the server settings.	
Transfer quitting	Failed to quit transferring.	Check the network environment.	
Connection/upload/dow nload/delete/refresh/dir ectory change	Sending a request to the server. Try again later.	A folder/file is currently being transferred. Try again after transfer is complete.	
Connected	Connection disconnected.	<ul> <li>Check the server settings.</li> <li>Check the network environment. (When a request is sent to the server, the client automatically disconnects from the server if the request is not acknowledged within 15 seconds.)</li> </ul>	

# 6.11.8 Checking the Transfer Status

### System Device Memory (\$s)

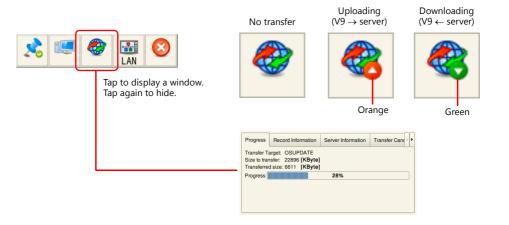
The following describes the system device memory.

Address	Description	Remarks
\$s1690	Checking of FTP communication status 0: Not communicating 1: Upload (PUT) 2: Download (GET)	← V
\$s1691 <sup>*</sup>	Record number in execution (only when \$s1690 is set to 1 or 2)	↔ V
\$s1692 *	Server table number in execution (only when \$s1690 is set to 1 or 2)	←V

\* "-1" is stored when the data transfer viewer during transfer.

### **Status Bar**

The status bar displays the current data transfer status. Press the icon to check the progress of a transfer or the detailed information of the data for transfer. Cancellation of data transfer is also possible.



#### Progress

The file currently being transferred and the progress of the data transfer is displayed.

Progress	Record Information	Server Information	Transfer Canc
Transfer Target: OSUPDATE Size to transfer: 22896 [KByte] Transferred size: 6611 [KByte]			
Progress		28%	

\* [Size to transfer], [Transferred size], and [Progress] are shown per file.

### **Record information**

The record number of the current data transfer and its detailed information is displayed.

Record Informa	tion Server Information	Transfer Cancellation
Record No.	1	·
Record Name	REC2	
Transfer Mode	File by file upload	
Source Path	/	
Destination Path	/	
Source Data Nam	e V9Setup_J_0.pdf	

 \* [Record No.] and [Record Name] are not displayed when using the data transfer viewer.

#### **Server information**

The information of the server with which the current data transfer is being executed is displayed.

Progress	Record	Information	Server Information	Transfer Canc
Server Na	me	FTPSERVE	R	
Target		192.168.1.10	)	
Server Typ	ре	FTP Server		
Connectio	n Mode	Passive mod	le	
Port No		21		

#### **Transfer quitting**

Forcibly cancels the data transfer.

s	Record Information	Server Information	Transfer Cancellation	•
		Quit transferring the da	ata?	

\* Data transfer can also be cancelled by a PLC bit command.

For details, refer to "Command device" page 6-85 under "Data Transfer Service Settings." For details, refer to "Command device memory" page 6-89 under "Data Transfer Viewer Settings."

### 6.11.9 Limitations

- Operation when the same data exists at the transfer destination:
  - Download (GET): Overwrite
  - Upload (PUT): Depends on server settings
- Files for which transfer was cancelled or failed to transfer are not saved at the transfer destination (when downloading only).
- When a transfer is cancelled or Ethernet communication is disconnected, all records currently in queue for transfer are cancelled.
- The Local mode screen cannot be displayed during data transfer.
- When a request (connection, upload, download, delete, refresh, or directory change) is sent to the server and it is not acknowledged within 15 seconds, processing is forcefully terminated and the client disconnects.

# 6.12 Remote Desktop

### 6.12.1 Overview

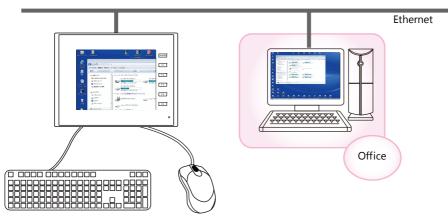
• The remote desktop window display function enables you to view remote computer screens on the V9 series. This function serves the purpose of remote monitoring through a V9 series unit connected to, for instance, a server (computer) that controls the entire production line or computers that are installed in a clean room where access is limited.

Clean combined of the second s

Example: Monitoring a server (computer) in clean room B

• It is also possible to operate the screens of remote computers from a V9 series unit while you are using a mouse and keyboard connected to the V9 series unit. You can easily enter data or read manuals through the V9 series unit even if you are at the work site where it is difficult to bring a computer with you.

Example: Searching for documents on a computer in the office



Refer to Window Configuration and Operation page 6-118

### 6.12.2 Specifications

### **V9 Specifications**

Item	Description	Remarks
Applicable Models	All V9 series models	
Port used	LAN LAN2 WLAN	Not available with CUR-03
Display scrolling	Possible	Implemented using scroll bars. Swipe gestures are not supported.
Number of simultaneous computer connections	1	
USB mouse	Supported	The left-click button, right-click button, and wheel on USB mice are supported.
USB keyboard	Supported	
Computer screen rotation	Possible	0°, 90°, 270°
Full screen to minimized display	Possible	100% (actual) to 1/2, 1/3, and 1/4

### Server (Computer)

Item	Description
OS	Windows 7/8/8.1/10
Protocol	TCP/IP

### **6.12.3 Required Settings**

### Server (computer) settings

• Installing and Configuring UltraVNC page 6-110

About VNC (Virtual Network Computing)

This software is developed by AT&T Laboratories Cambridge (U.K.) and designed to operate remote computer screens across a network.

#### V9 series unit settings

No settings are required.

### **V-SFT** settings

٠

- Remote Desktop Table Setting page 6-112
  - Remote Desktop Window Display Procedure page 6-113 (three methods)
    - Placement of a display area to show remote desktop window page 6-113
    - Switch to show/hide remote desktop window page 6-115
    - Showing/hiding using a macro command page 6-116

# 6.12.4 Server (Computer) Settings

### Installing and Configuring UltraVNC

This section describes the settings necessary for remote desktop window display using UltraVNC as an example.

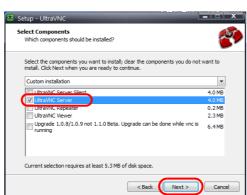
- 1. Access the following URL to download UltraVNC. http://www.uvnc.com/download/index.html
- 2. Execute the downloaded file to start the installation process.



3. Read the license agreement and if you agree to the terms and conditions, select [I accept the agreement] option and click the [Next] button.

Setup - UltraVNC	i x
License Agreement Please read the following important information before continuing.	<b>E</b>
Please read the following License Agreement. You must accept the terms of this agreement before continuing with the installation.	
GNU GENERAL PUBLIC LICENSE	*
Version 2, June 1991	
Copyright (C) 1989, 1991 Free Software Foundation, Inc. 59 Temple Flace - Suite 330, Boston, MA 02111-1307, USA Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.	
Broamhla	-
<ul> <li>I accept the agreement</li> <li>I do not accept the agreement</li> </ul>	
< Back Next > C	ancel

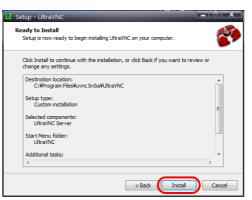
- 4. Check the information displayed in the window and then click the [Next] button.
- 5. Select the location to install UltraVNC using [Select Destination Location] and then click the [Next] button.
- 6. Select [UltraVNC Server] and then click the [Next] button.



- 7. Specify the name and location to use for registering UltraVNC to the start menu and then click the [Next] button.
- 8. Select the following checkboxes and then click the [Next] button.

🖻 Setup - UltraVNC	
Select Additional Tasks Which additional tasks should be performed?	
Select the additional tasks you would like Setup to perform while installing UltraVNC, then click Next.	
Server configuration:	
Register UltraVNC Server as a system service	Select this checkbox to register UltraVNC
V Start or restart UltraVNC service	Server as a Windows service.
Create UltraVNC desktop icons	Select this checkbox to start or restart the UltraVNC service upon completion of UltraVNC installation.

9. Check the information displayed in the [Ready to Install] window and then click the [Install] button.



- 10. Check the information displayed in the window and then click the [Next] button.
- 11. Click the [Finish] button to complete the installation process. The UltraVNC icon is added to the taskbar of your computer.

Setup -	JitraVNC
S	Completing the UltraVNC Setup Wizard Setup has finished installing UltraVNC on your computer. The application may be launched by selecting the installed icons. Click Finish to exit Setup. Show latest versions
	< Back Enish
About the UltraVNC icon UltraVNC must be running on th	e connected computer in order to display the remote

UltraVNC must be running on the connected computer in order to display the remote desktop window. (Nothing is displayed if UltraVNC is not running.) The UltraVNC icon illuminates orange when a connection with a V9 series unit is established.



12. Right-click on the UltraVNC icon on the taskbar to display the right-click menu and select [Admin Properties]. Configure the following settings and click [OK].

UltraVNC Server Property Page			
Incoming Connections Incoming Connections Display Number or Ports to use:  Display Name or Ports to use:  Display Name (State Connections)  Display Name (State Connections)  Display Name (Pittp Connect)  Authon Conpada Connections  LoopbackOnly  Authentcation  INC Password:		Query on incoming connection Display Query Window Timeout: Default action: Refuse Accept Mult viewer connections Refuse the new connections Refuse the new connection Refuse all new connection move Aero (Vista) move Walpaper for Viewers	<ul> <li>         ★ When establishing connections with multiple V9 series units, select the [Multi viewer connections] → [Keep existing connections]     </li> </ul>
View-Only Password:	in) domains) IRD ups Dis	able Blank Monitor on Viewer Request Disable Only Inputs on Blanking Request Pmode ableTrayIcon bid the user to close down WinVWC	checkbox.
Enable     User impersonation     DSM Plugin     Use : No Plugin detected      OK Apply     OK	(for Service only) Det Loggin Config.	ault Server Screen Scale: 1/1	

About [VNC Password]

The password set here must be entered in V-SFT when configuring the remote desktop table (refer to Remote Desktop Table Setting page 6-112).

Take care not to lose your password.

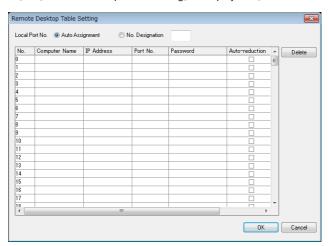
# 6.12.5 V-SFT Settings

Configure the remote desktop table settings and the display settings.

### **Remote Desktop Table Setting**

Register the computer (server) for connection.

Click [System Setting]  $\rightarrow$  [Other]  $\rightarrow$  [Remote Desktop Table Setting] to display the [Remote Desktop Table Setting] window.



Item	Description		
Local Port No.	Select a local port number for the V9 series unit. This port is used as the sending/receiving port for remote desktop window display. Automatic allocation: An unused port number on the V9 series unit is allocated for VNC connections.		
	Specified number: The specified port number is used. (default: 8050, range: 1024 to 65533)		
Computer Name	Specify the name of the server (computer).		
IP Address	Specify the IP address of the server (computer).		
Port No.	Specify the port number of the server (computer). (UltraVNC default: 5900)		
Password	Specify the password. Typing the password shows eight asterisks. (one-byte 254 alphanumerics maximum)		
Auto-reduction	Select this checkbox to use the function that zooms out to show the entire computer screen.		
PC resolution	When the [Auto-reduction] checkbox is selected, specify the resolution of the computer. (800*600, 1024*768, 1152*864, 1280*1024, 1600*1200, 1920*1080, specification (width: 800 to 1920, height: 600 to 1200))		

Enter the password set in the [UltraVNC Server Property Page] window on the computer. (Refer to step 12 in "Installing and Configuring UltraVNC" page 6-110.)

Incoming Connections	When Last Client Disconnect	Query on incoming connection
Accept Socket Connections	Do Nothing	Display Query Window
Display Number or Ports to use:	C Lock Workstation (W2K)	Timeout: 0 seconds
Display N° 0	C Logoff Workstation	Default action:   Refuse  Acce
O Ports Main: 5900 O Auto	Keyboard & Mouse	Multi viewer connections
Http: 5800	Disable Viewers inputs	<ul> <li>Disconnect all existing connection</li> </ul>
Enable JavaViewer (Http Connect)	Disable Local inputs	C Keep existing connections
Allow Loopback Connections	Alternate keyboard	Refuse the new connection
LoopbackOnly	method	Refuse all new connection
Authentication VNC Password: View-Only Password: Require MS Logon (User/Pass./Dom	nain)	Remove Aero (Vista) Remove Wallpaper for Viewers Enable Blank Monitor on Viewer Request) Disable Only Inputs on Blanking Reque
VNC Password: •••••••	nain) e domains)	Remove Aero (Vista) Remove Wallpaper for Viewers Enable Blank Monitor on Viewer Request
VNC Password: View-Only Password: Require MS Logon (User/Pass,/Dom New MS Logon (supports multiple	aain) e domains)	Remove Aero (Vista) Remove Wallpaper for Viewers Enable Blank Monitor on Viewer Request Disable Only Inputs on Blanking Reque RDPmode
WIC Password: Wew-Orly Password: Require MS Logon (User/Pass,Dom New MS Logon (supports multiple Configure MS Logon Gi File Transfer	aain) e domains)	Remove Aero (Vista) Remove Wallpaper for Viewers Table Blank Montro on Viewer Request Disable Only Inputs on Blanking Reque DisableTrayLcon Forbid the user to dose down WinVNC Pefault Server Screen Scale: 1/ 1
VNC Password: View-Only Password: Require MS Logon (User/Pass,Dom New MS Logon (supports multiple Configure MS Logon Gi File Transfer PEnable User impersonation	e domains) e domains) in (for Service only)	Remove Aero (Vista) Remove Wallpaper for Viewers Table Blank Montro on Viewer Request Disable Only Inputs on Blanking Reque DisableTrayLcon Forbid the user to dose down WinVNC Pefault Server Screen Scale: 1/ 1

#### **Remote Desktop Window Display Procedure**

There are three ways to display a remote desktop window.

- Placement of a display area to show remote desktop window  $\rightarrow$  page 6-113
- Switch to show/hide remote desktop window  $\rightarrow$  page 6-115
- Showing/hiding using a macro command  $\rightarrow$  page 6-116

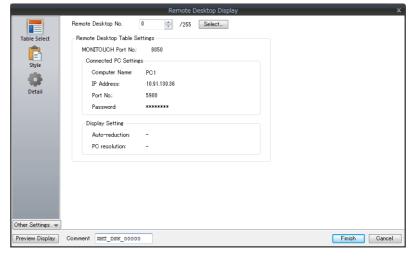
### Placement of a display area to show remote desktop window

A display area can be placed on a screen to display the remote desktop window of a connected server (computer). Click [Parts]  $\rightarrow$  [Image Display]  $\rightarrow$  [Remote Desktop Display] and place the part.



Remote DesktopTable Select

#### Table Select



Item	Description
Remote Desktop No.	Click the [Select] button to display the [Remote Desktop Table Setting] window. Specify the table number of the server (computer) that has been registered in the [Remote Desktop Table Setting] window.
Remote Desktop Table Settings	This area summarizes the remote desktop table settings.

#### • Style

Table Select         Syle         Detail         Parts on the preview pane can be selected with the mouse.         Adjust Position.         Select from catalogs.         Additional Parts List         Ocorrect         Disconnect         Osconnect         Oscon		Remote Desktop Display	x
Oisconnect     Ornect/Disconnect     Schwick (Smeru)	Table Select	Connect         Connect         State           Former         State         Distar           Parts on the preview pane can be selected with the mouse.         Adjust Position	
Other Settings  Preview Display Comment BKT_DSK_00000 Finish Cancel		♥ Discontect ■ Connect/Discontect ♥ Show/hide a scroll bar (S menu) ♥ Reduce Display/100% Display	

Item Additional Parts List		Description
		Displays a list of remote desktop-related parts. Selected: Displayed on MONITOUCH. Unselected: Not displayed on MONITOUCH.
	Connect	Connect to the server (computer) and enable display of the remote desktop window.
	Disconnect	Disconnect from the server (computer) and disable display of the remote desktop window.
Connect/Disconnect Show/hide the scroll bar (S menu)		Each press of this switch toggles between connecting to the server (computer) and enabling display of the remote desktop window and disconnecting from the server (computer) and disabling display of the remote desktop window.
		Each press of the switch provided with this function toggles between showing and hiding the scroll bars and S menu. However, this function is disabled when displaying the remote desktop window with auto-reduction.
	Reduce Display/100% Display	Each press of this switch toggles between automatic size reduction and actual size display of the remote desktop window.
Adjust Position		Display the window for adjusting the placement position of each part. Part size can also be changed.
Select from catalogs		Set the part design from the catalog.
Parts Design		Set the design and color of the part selected in the [Additional Parts List] or preview pane.
Edit Selected Parts		Configure the part selected in the [Additional Parts List] or preview pane.

#### • Show/Hide

Configure the show/hide settings of the remote desktop display.

For details, refer to V9 Series Reference Manual 1.

#### • Detail

	Remote Desktop Display X
	Display Setting
Table Select	Display the PC screen at startup of MONITOUCH
Ē	Automatically zoom out to display the entire PC screen at initial connection
Style	Coordinate
Detail	Start X 0 🔶 Start Y 0 🚖 Width 320 🔄 Height 240 🚖
	Others
	ID 0 👘 /255
	Detail Settings<<
Other Settings 👻	
Preview Display	Comment RMT_DSK_00000 Finish Cancel

Item		Description
Display Setting	Display the PC screen at startup of MONITOUCH	Display the screen of the connected server (computer) when the V9 unit starts up. *1
	Automatically zoom out to display the entire PC screen at initial connection	Automatically zoom out to display the entire computer screen. <sup>*2</sup> This option is only effective for the initial connection. From the second and subsequent connections, the computer screen is displayed at the actual size.
Coordinate	Start X/Start Y	Set the position of the display area using X and Y coordinates.
Others	ID (0 to 255)	Set the ID.

\*1 When this checkbox is deselected, use a switch to display the remote desktop window.

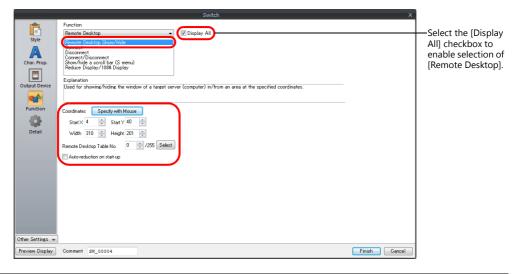
\*2 The corresponding [Auto-reduction] checkbox in the [Remote Desktop Table Setting] window must be selected. For details, refer to "Remote Desktop Table Setting" page 6-112.

#### Switch to show/hide remote desktop window

A switch can be placed on a screen to show or hide the remote desktop window of a connected server (computer) at the specified coordinates.

Set the switch function to [Remote Desktop Show/Hide].

\* Function switch setting is disabled.



Switch Function/Auxiliary Setting Item Remote Desktop: Remote Desktop Show/Hide		Description           Each press of this switch toggles between showing and hiding the remote desktop window. *1	
	Start X	Specify an X coordinate as the start point where the remote desktop window is displayed.	
Start Y		Specify a Y coordinate as the start point where the remote desktop window is displayed.	
	Width	Specify the width of the area where the remote desktop window is displayed.	
	Height	Specify the height of the area where the remote desktop window is displayed.	
	Remote Desktop Table No.	Click [Select] to specify the table number of the server (computer) that has been registered in the [Remote Desktop Table Setting] window.	
	Auto-reduction on start-up	Automatically zoom out to display the entire computer screen. *2	

\*1 Use the REMOTEDT\_CTL macro command to show/hide the scroll bars (S menu). For details, refer to "Showing/Hiding Using a Macro Command" page 6-116.

\*2 The corresponding [Auto-reduction] checkbox in the [Remote Desktop Table Setting] window must be selected. For details, refer to "Remote Desktop Table Setting" page 6-112.

### Showing/hiding using a macro command

Command list

Category	Mnemonic	Description	Refer to
Domoto dealitere	SET_REMOTEDT F0 F1	Show/hide	page 6-116
Remote desktop	REMOTEDT_CTL F0 F1 F2	Change the display	page 6-117

#### • SET\_REMOTEDT F0 F1

Function: Showing/hiding the remote desktop window

This macro command is used to show/hide the remote desktop window of the computer (server) set to remote desktop table number [F1], which is specified in the [Remote Desktop Table Setting] window, according to the value specified for [F0].

Available device memory

	Internal	PLC 1 to 8	Constant
FO	0		
F1	0		0

O: Setting enabled (indirect designation disabled) ③: Setting enabled (indirect designation enabled)

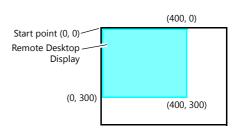
Range

	Value	Remarks
FO	0: Hide 1 : Actual size 2 : Actual size (based on specified coordinates) 3 : Automatically reduced display 4 : Automatically reduced display (based on specified coordinates)	
F0+1	X coordinate as the start point	Valid when F0 = 2 or 4
F0+2	Y coordinate as the start point	
F0+3	Width	
F0+4	Height	
F1	0 to 255: Remote desktop table number	

#### Operation example

Display in an area based on the specified coordinates (remote desktop table number 10)

\$u00100 = 2 (W) for same-sized display based on the specified coordinates \$u00101 = 0 (W) for X coordinate as the start point \$u00102 = 0 (W) for Y coordinate as the start point \$u00103 = 400 (W) for width \$u00104 = 300 (W) for height SET\_REMOTEDT \$u00100 10 Remote desktop table number 10



Supplementary information

- The SET\_REMOTEDT macro command cannot be used unless the relevant settings are configured in the [Remote Desktop Table Setting] window. For details on configuration, refer to page 6-112.
- This macro command is not usable as an initial macro.
- The result of macro execution is stored in \$s1063.

Code (DEC)	Description
0	Normal
-1	Execution error

#### • REMOTEDT\_CTL F0 F1 F2

Function: Switching the display in the remote desktop window

This macro command is used to switch the display of the remote desktop window of the computer (server) set to remote desktop table number [F1], which is specified in the [Remote Desktop Table Setting] window, according to the value specified for [F0].

Available device memory

	Internal	PLC 1 to 8	Constant
FO	0		
F1	0		0
F2	0		0

O: Setting enabled (indirect designation disabled) ③: Setting enabled (indirect designation enabled)

Range

		Value	
FO	0 : Computer screen reductio 1 : Computer screen rotation 2 : Show/hide scroll bars (S m		
F1	0 to 255: Remote desktop tak	le number	
F2	(F0 = 0)	(F0 = 1)	(F0 = 2)
	0 : Actual size 1 : 1/4 2 : 1/9 3 : 1/16 4 : Auto-reduction	0:0° 1:90° 2:270°	0: Hide 1 : Always displayed 2 : Automatic <sup>*</sup>

\* About the automatic setting

Resolution	Scroll Bars (S Menu)
Computer resolution > V9 series resolution	Show
Computer resolution = V9 series resolution	Hide
Computer resolution < V9 series resolution	Hide

Operation example

Hiding the scroll bars (S menu) (remote desktop table number 10)

REMOTEDT\_CTL 2 10 0

Remote desktop table number 10

Supplementary information

- The REMOTEDT\_CTL macro command cannot be used unless the relevant settings are configured in the [Remote Desktop Table Setting] window. For details on configuration, refer to page 6-112.
- The scroll bars (S menu) cannot be displayed when the auto-reduction function is used to display the computer screen.
- The result of macro execution is stored in \$s1063.

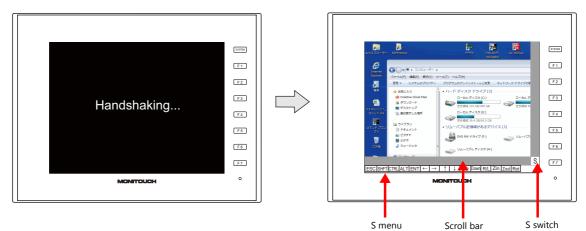
Code (DEC)	Description
0	Normal
-1	Execution error

# 6.12.6 Window Configuration and Operation

### Window Configuration

When a connection is normally established between a V9 series unit and the server (computer), the remote desktop window of the server is displayed on the V9 series unit. When disconnecting, a [Disconnected.] screen is displayed briefly and then disappears.

Example: When the [Auto-reduction] checkbox is not selected



\* The scroll bars (S menu) cannot be displayed while the auto-reduction function is used.

#### Scroll bar

If the resolution of the server (computer) is higher than that of the remote desktop window display area, hidden parts in the area can be displayed by scrolling either horizontally or vertically with the relevant scroll bar. Swipe gestures are not supported.

### [S] switch

Pressing this switch shows or hides the [S] menu.

### [S] menu

These are special switches for operating the remote desktop window. They are used to perform operations including rotating and reducing the size of the display.

ESC	SHFT	CTRU	ALT	ENT	4	$\rightarrow$	1	N T	.I.	Un	Down	B/I	Zin	Zout	Bot	ī
		CINC	261	E DA L	· ·				$\mathbf{v}$	ι op	Down	1976	201	2000	THOL	41

Item	Description	Item	Description
ESC	Esc key entry	$\downarrow$	↓ key entry
SHFT	Shift key entry	Up	Page-up key entry
CTRL	Ctrl key entry	Down	Page-down key entry
ALT	Alt key entry	R/L	OFF: Equivalent to left-clicking the mouse ON: Equivalent to right-clicking the mouse
ENT	Enter key entry	Zin	Window enlargement: $1/16 \rightarrow 1/9 \rightarrow 1/4 \rightarrow 100\%$ (actual)
←	$\leftarrow$ key entry	Zout	Window reduction: 100% (actual) $\rightarrow$ 1/4 $\rightarrow$ 1/9 $\rightarrow$ 1/16
$\rightarrow$	$\rightarrow$ key entry	Rot	Window rotation: 90°, 180°, 270°
↑	↑ key entry		

### **Operation Method**

A remote desktop connected to the V9 series is operative from the V9 unit by touch screen operations and using a USB mouse and USB keyboard.



#### **USB** mouse

The left-click button, right-click button, and wheel on USB mice are supported.

#### **USB** keyboard

The keyboard language setting must be set in Local mode on the V9 series unit via [Language Setting]  $\rightarrow$  [Keyboard].

When no USB keyboard is used, the on-screen keyboard can be used instead. The display method differs depending on the Windows version. Display the on-screen keyboard according to the procedure for the relevant Windows version. Example: Windows 7

 $[Start] \rightarrow [All Programs] \rightarrow [Accessories] \rightarrow [Ease of Access] \rightarrow [On-Screen Keyboard]$ 

Im On-Screen Keyboard	
Esc ~ $\frac{1}{2}$ $\frac{2}{3}$ $\frac{3}{4}$ $\frac{5}{6}$ $\frac{6}{7}$ $\frac{8}{9}$ $\frac{9}{0}$ - + = Bksp	Home PgUp
Tab qwertyuiop{[}]\Del	End PgDn
Caps a s d f g h j k l ; , , 🛏	Insert Pause
Shift z x c v b n m < , > . ? / † Shift	PrtScn ScrLk
Ctrl ≇ Alt Alt B Ctrl ← ↓ → Fn	Options Help

### 6.12.7 System Device Memory

The following addresses in the system device memory are used to store the data regarding the table number (set in the [Remote Desktop Display Setting] window) of the remote desktop window currently displayed and whether connection with the remote desktop is established.

\$s	Description	Value
1380	Remote desktop window display Start-up status	0 : Hidden (disconnected) 1 : Shown (connected)
1381	Remote desktop window display Connection status	0 or greater: Remote desktop table number -1 : Disconnected -2 : Connection failure

### 6.12.8 Error

#### [Disconnected.] screen

If connection between the V9 series and a server (computer) fails or is disconnected due to a cable disconnection or an error, the [Disconnected.] screen appears in place of the remote desktop window. Check the cable and server (computer) and attempt reconnection.

#### **Error number**

For details on error numbers that occur during data transfer, refer to the V9 Series Troubleshooting/Maintenance Manual.

# 6.12.9 Limitations

### **Display Limitations**

- Remote desktop window display is only available on screens (screen library) and is unavailable for overlap libraries.
- Multiple remote desktop windows cannot be displayed at the same time. If multiple display areas are concurrently placed
  and the [Display the PC screen at startup of MONITOUCH] checkbox is selected, the display area placed first takes effect.
- While a remote desktop window is displayed, attempting to bring up another window on the same screen will disconnect the initial window and switch to the next window.
- While a remote desktop window is displayed, any change to the server (computer) resolution will forcibly disconnect the window.
- When a remote desktop window is hidden, disconnection occurs if the specified remote desktop table number is the same even for a different display method.

However, the [Disconnect] switch explained in "Remote Desktop Window Display Procedure" page 6-113 does not work to turn off the remote desktop window that was displayed by a switch or the macro command.

• The remote desktop window is displayed on top of any items with which it overlaps.

However, the remote desktop window is displayed as a still screen or hidden when overlapped with certain items \*1. The remote desktop window becomes operable when the relevant item is hidden.

Remote Desktop Window Display Method	Remote Desktop	Remarks
Display area placement	Still screen	The display area, S menu, and scroll bars are inoperable.
Switch function	Display area is hidden	
Macro command	Display area is hidden	

- \*1 Applicable items: overlap display, scrolling message, navigation display (enlarging/scrolling), message box
- While a remote desktop window is displayed, any switches placed behind the window are invalid. (However, they become valid when the remote desktop window is hidden.)
- The display of a remote desktop window is always based on the upper left corner of the server (computer) screen as the start point.
- If a remote desktop window display area shows an image smaller than the area, the margin of the area turns black.
- When a remote desktop window is displayed in a display area, disconnecting it leaves the area in the color set in the V-SFT.
- When a remote desktop window is displayed by a switch or macro command, hiding it will clear the window as well as its display area.
- When a remote desktop window is initially displayed, the image is scaled to 100%.
- Once a remote desktop window is hidden, any settings made on the [S] menu will return to default.
- If disconnection is performed using a switch or macro, the screen is redrawn. Any displayed overlaps also disappear. (However, overlaps do not disappear if the [Display Overlap during bit ON] checkbox located at [System Setting] → [Unit Setting] → [General Setting] is selected.)
- While a remote desktop window is displayed, switching to Local mode disconnects the window.
- The scroll bars (S menu) cannot be displayed while the screen of a connected server (computer) is displayed using the auto-reduction function.
- For the V9 series, the auto-reduction function is available in the range 800\*600 (SVGA) to 1920\*1080 (Full HD).
- The auto-reduction function adjusts the display of a computer screen to the display area of the remote desktop window on the V9 series, provided that the width and the height of the display area is at the ratio of 4 to 3. (At a ratio other than this, a black margin will be left in the display area.)

### **Other Limitations**

- The SET\_REMOTEDT macro command for displaying the remote desktop window is not usable as an initial macro.
- When the remote desktop window display function and the touch switch emulation of the RGB display function are used at the same time, a USB mouse cannot be used for the remote desktop window.

# **7 Convenient Functions**

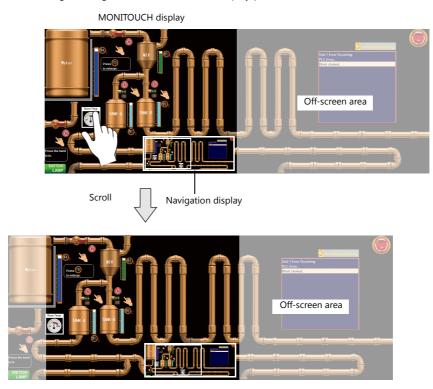
- 7.1 Enlarging and Scrolling Screens
- 7.2 Splash Screen

# 7.1 Enlarging and Scrolling Screens

### 7.1.1 Overview

# **Enlarging the Screen Size**

Screen sizes larger than the display size (resolution) of the V9 series unit can be registered. When a display is partially off-screen, the display can be scrolled to display the off-screen content. A navigation display (a miniaturized display of the entire screen) is shown during scrolling to indicate the current display position.



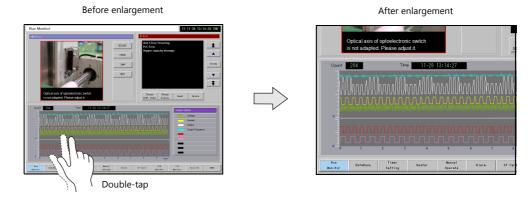
For details on settings, refer to "Enlarging the Screen Size" page 7-2.

### **Location of Settings**

- Screen
- Overlap

### **Enlarged Display**

The display of the screen can be enlarged up to 200% by double-tapping on the screen. After enlarging the screen, the display can be scrolled to show off-screen content.



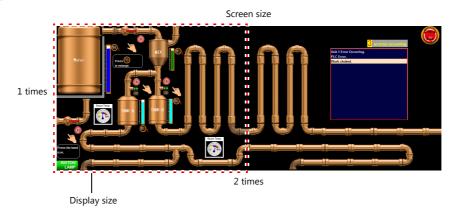
\* After enlargement to the maximum magnification, the screen display returns to its original size.

For details on settings, refer to "Enlarged Display" page 7-3.

## 7.1.2 Setting Example

### **Enlarging the Screen Size**

This section explains the settings used when displaying and scrolling a screen that is two times larger in horizontal direction than the display of the V9 series unit.



- 1. Display the scrolling settings
  - For screens: [Screen Setting]  $\rightarrow$  [Screen Setting]  $\rightarrow$  [Scroll] tab window
  - For overlaps: Overlap setting window  $\rightarrow$  [Scroll] settings
- 2. Set [Magnification] to "1 times vertical × 2 times horizontal".

Screen Setting	×
Main Scroll Entry Others Unhide	
Screen Size 1600 * 600 Magnification 1 times vertical * 2 times horizontal .	•)•
Detail Settings>>	
Apply to all screens	
ОК	Cancel

This completes the necessary settings.

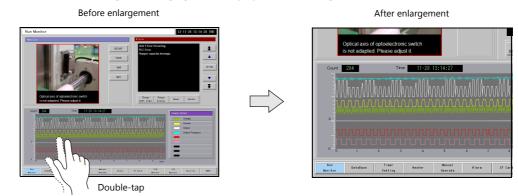
The screen size is extended two fold in the horizontal direction. Scrolling becomes available on the MONITOUCH.

Screen size: 2 times horizontal



## **Enlarged Display**

This section explains the settings for enlarging the display by double-tapping on the screen.



- 1. Display the [Screen Setting]  $\rightarrow$  [Screen Setting]  $\rightarrow$  [Scroll] tab window.
- 2. Select the [Enlarge] checkbox and set a magnification.

Main Scroll Ent	y Others Unhic	e			
Screen Size 1	600 * 600 Magn Magnification	ification 1 times	vertical * 2 times h	orizontal	- 🚺
Detail Settings>>			/		
Apply to all scre	eens				

This completes the necessary settings.

The magnification switches through  $150\% \rightarrow 200\% \rightarrow 100\%$  each time the screen is double-tapped.



When the screen is enlarged, any overlaps displayed on the screen are not enlarged.

# 7.1.3 Detailed Settings

### Screen

Location of settings: [Screen Setting]  $\rightarrow$  [Screen Setting]

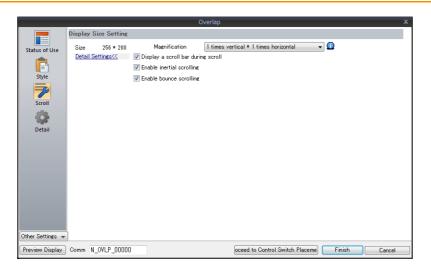
### Scroll

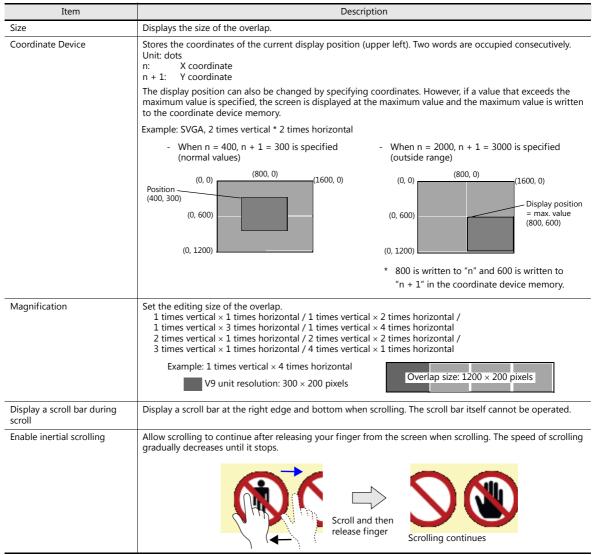
	Screen Setting       Image: Screen Stee 1600 * 600 Magenfication       Itemes vertical * 2 times hostcortal       Imagenfication         If Coordinate Device       Imagenfication       Itemes vertical * 2 times hostcortal       Imagenfication         If Coordinate Device       Imagenfication       Itemes vertical * 2 times hostcortal       Imagenfication         If Coordinate Device       Imagenfication       Itemes vertical * 2 times hostcortal       Imagenfication         If Coordinate Device       Imagenfication       Imagenfication       Imagenfication         Imagenfication       Imagenfication       Imagenfication       Imagenfication         Imagenfication       Imagenfication       Imagenfication       Imagenfication         Imagenfication       Imagenfication       Imagenfication       Imagenfication         Imagenfication       Imagenfication       Imagenfication       Imagenfication       Imagenfication         Imagenficatio
Item	Description
Screen Size	Displays the screen size.
Coordinate Device	Stores the coordinates of the current display position (upper left). Two words are occupied consecutively. Unit: dots n: X coordinate n + 1: Y coordinate The display position can also be changed by specifying coordinates. However, if a value that exceeds the maximum value is specified, the screen is displayed at the maximum value and the maximum value is written to the coordinate device memory. Example: SVGA, 2 times vertical * 2 times horizontal - When n = 400, n + 1 = 300 is specified (normal values) - When n = 2000, n + 1 = 3000 is specified (normal values) - When n = 2000, n + 1 = 3000 is specified (0, 0) (0, 1200) * 800 is written to "n" and 600 is written to "n + 1" in the coordinate device memory.
Magnification	Set the editing size of the screen. 1 times vertical × 1 times horizontal / 1 times vertical × 2 times horizontal 1 times vertical × 3 times horizontal / 1 times vertical × 4 times horizontal 2 times vertical × 1 times horizontal / 2 times vertical × 2 times horizontal 3 times vertical × 1 times horizontal / 4 times vertical × 1 times horizontal Example: 1 times vertical × 4 times horizontal V9 unit resolution: 800 × 600 pixels Screen size: 3200 × 600 pixels
Enlarge	Double-tap on the screen to zoom in. The current magnification is output to \$s1641. If the enlargement setting is not selected, \$s1641 always stores "100".

Item	Description
Display a navigator during scroll	Show a miniaturized display of the entire screen when scrolling.
Size	Set the size of the navigation window (as a percentage of the screen resolution of the V9 series unit). Small (15%), Medium (20%), Large (25%)
Position	Set the display position of the navigation window. Lower Right, Lower Left, Upper Right, Upper Left
Display a scroll bar during scroll	Display a scroll bar at the right edge and bottom when scrolling. The scroll bar itself cannot be operated.
	gradually decreases until it stops.
Enable bounce scrolling	Scrolling will bounce to indicate that movement in the particular direction has reached its limit. A black bar is displayed momentarily.
Apply to all screens	Apply the same settings to all screens.

# Overlap

Scroll





Item	Description			
Enable bounce scrolling	Scrolling will bounce to indicate that movement in the particular direction has reached its limit. A black bar is displayed momentarily.			
	Right edge of the screen Black bar Right edge of the screen			

# 7.1.4 Notes

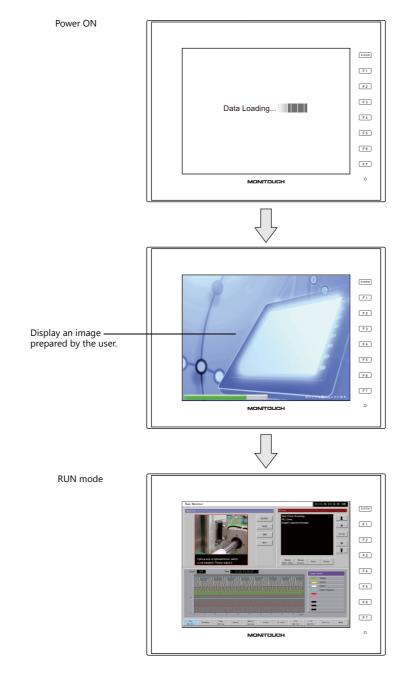
- Scrolling cannot be performed at locations where there are switches.
- Magnification defaults to 100% after changing screens or executing the "RESET\_SCRN" macro command.
- Navigation items cannot be operated. In addition, items placed under the navigation window cannot be operated.
- Increasing the editing size does not change the number of items that can be placed on the screen.
- The display size of the V9 series unit is the maximum editing size for patterns.
- When an overlap transition is in progress, screen enlargement and scrolling cannot be performed. In addition, if an overlap transition is initiated during screen enlargement or scrolling, the transition only starts after the enlargement or scrolling operation is finished.

# 7.2 Splash Screen

### 7.2.1 Overview

An image prepared by the user can be used as the splash screen which is displayed while the V9 series unit is starting up. Images relevant to the usage environment, such as a company logo or precautions can be displayed. The set image will also be displayed when switching between RUN mode and Local mode.

### Startup sequence





A splash screen is an image displayed on a computer while software is starting up.

# 7.2.2 Setting Example

This section explains how to set the following image as the splash screen.



- 1. Prepare a PNG file, e.g. Splash.png
- 2. Select the [File]  $\rightarrow$  [Property]  $\rightarrow$  [Splash Screen]  $\rightarrow$  [Specify the splash screen] checkbox.
- 3. Click [Select from image files]  $\rightarrow$  [Select] and select the PNG file prepared in step 1.

Property				×
File Information PLC Information	General Edit	Transfer	Splash Screen	L
Specify the splash screen				
	<ul> <li>Select from</li> <li>Select from</li> <li>Select</li> </ul>	-		
Position Setting Fit to Screen	T			
		OK	Cance	1

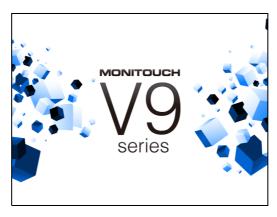
The image is copied to the following location when selected.

C:\MONITOUCH\User\Splash

4. Set the display position of the image under [Position Setting].

This completes the necessary settings.

The following image is displayed when the [Specify the splash screen] checkbox is not selected.



# 7.2.3 Detailed Settings

Location of settings: [File]  $\rightarrow$  [Property]  $\rightarrow$  [Splash Screen]

### Splash Screen

Property					x
File Information PLC Information	General	Edit	Transfer	Splash Screen	
Specify the splash screen					
sp_1pne		ct from p	mage files patterns		
Position Setting Fit to Screen		•			
			OK	Cancel	

Item	Description
Specify the splash screen	Display a user-prepared image on the screen during startup.
Select from image files	Select a PNG file from the desired folder. File extension: png The selected png file is stored at the following location. C:\MONITOUCH\User\Splash
Select from patterns	Select a pattern registered in the screen program. Patterns are registered at [Home] $\rightarrow$ [Registration Item $\mathbf{\nabla}$ ] $\rightarrow$ [Pattern].
Position Setting	Specify the display position of the image. Fit to Screen/Fit to Width/Fit to Height/Display in Center

# 7.2.4 Notes

- Any area outside the image is displayed in black.
- Patterns set to blink are displayed without blinking.
- When a PNG file is modified, it must be reselected from [Select from images]  $\rightarrow$  [Select].
- If opening a screen program in which PNG files are selected on a different computer or reading the screen program from the V9 series unit, the PNG file is stored at the following location. If a filename with the same name already exists, it is overwritten.

 $C:\MONITOUCH\User\Splash$ 

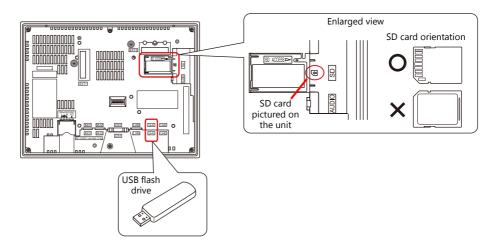
# 8 Storage Device

### 8.1 Overview

### 8.1.1 Connections

The SD card interface and USB-A port are provided on the V9 series unit as standard features. Connecting commercially available SD cards and USB memory devices (referred to hereafter as storage devices) enables them to be used for a variety of functions including screen program transfer, saving of logging data, and saving of screenshot images.

#### Example: V9100iS rear



### 8.1.2 Storage Device Specifications

### **Specifications**

The following storage devices can be used with the V9 series.

Туре	Capacity	File System	Connection Port
SD card	Max. 2 GB	FAT, FAT32	Built-in SD card socket
SDHC card	4 - 32GB	FAT32	
USB flash drive	Max. 32GB	FAT, FAT32	USB-A
CF card			USB-A (Requires Hakko Electronics "USB-CFREC-2" CF card recorder) (under development)

### **Notes on Handling Storage Devices**

- When inserting an SD card into the unit, make sure to insert it in the correct orientation. Failure to do so may damage the SD card or the slot on the unit.
- The SD card access LED flashes red when the SD card is being accessed. Do not remove the SD card while the LED is flashing. Doing so may destroy data on the SD card.
- Always remove the SD card with [System Menu] → [Storage Removal] or with the [Storage Removal] switch.
- Do not turn off MONITOUCH during access to a storage device.
- Make a backup copy of storage devices at regular intervals.
- If a disk error occurs and data read/write operation is disabled, execute ScanDisk on Windows and try to restore the disk. If the disk cannot be restored, format the storage device. If you format the device, data on the device is completely lost. (For details on scanning the disk or Windows operations, refer to the Windows help information.)
- The number of write cycles for a storage device is limited. Consequently, frequent writing at short intervals may shorten the service life of storage devices. When using an SD card to save logging/alarm data, be aware of the logging time/monitoring frequency setting. Be sure to avoid constantly writing to an SD card with the CYCLE macro command.
- Note that the amount of the data to be written should not exceed the memory capacity of the storage device. In particular, when using functions to write data from the V9 series unit to a storage device, such as backing up logging data, saving screen programs, saving screenshot images, or transferring recipe data, always consider the capacity limit of the storage device. Note that the amount of free space on a storage device can be checked with system device memory.
- If a screen program that uses storage device functions loaded onto the V9 series unit, be sure to insert the relevant storage device before running the screen program.

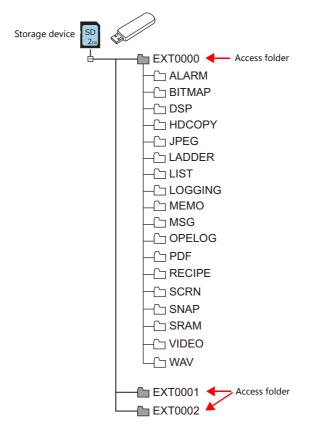
# 8.2 Access Folders

### 8.2.1 Access Folders

- Access folders are folders which are accessed regularly in RUN mode.
   An access folder is created when a screen program is written using storage manager.
   Access folders are also created when a formatted storage device is connected to MONITOUCH and a writing operation is executed.
- The access folder name is specified in the screen program.
   Location of setting: [System Setting] → [Other] → [Storage Setting] → [Access Folder Name]

```
"Storage Device Settings" page 8-3
```

• If creating access folders with names differing by each screen program, multiple screen programs can be saved in respective folders as long as there is sufficient capacity on the storage device.



### 8.2.2 Storage Device Settings

Settings including the storage connection target, access folder name, and other storage-related items are configured in the [Storage Setting] window.

 $[System Setting] \rightarrow [Other] \rightarrow [Storage Setting]$ 

System Setting Tool Help	Storage Setting
M Marco Setting Common Seting Common Setting Common Setting Common Seting Common Setting	Storage Connection Target    Built-in Socket  USB Port
storage setting	Access Folder Name EXT0000
	Range of Patterns to be Saved to storage No. 0 - 0
	Group No. 0 . 0
	Range of Screens to be Saved to storage
	Store WAV File in storage
	Store 3D Parts in storage
	Store Windows Font in storage
	<ul> <li>Store HDCOPY Macro in JPEG Format</li> <li>Use Password When Transferring Screen to storage from Display</li> </ul>
	Password
	OK Cancel

Item	Description
Storage Connection Target	Select the location of the storage device for access in RUN mode. Built-in Socket USB Port
Access Folder Name	Set a different folder name for each screen program. (default: EXT0000) One-byte characters: 64 characters or less (not case-sensitive) <sup>*1</sup> Two-byte characters: 32 characters or less If the same folder name already exists, data will be overwritten.
Range of Patterns to be Saved to storage	Store pattern data on the storage device.
Range of Messages to be Saved to storage	Store messages on the storage device.
Range of Screens to be Saved to storage	Store screens on the storage device.
Store WAV File in storage	Store audio files on the storage device. * Not supported on V9 Lite models
Store 3D Parts in storage	Store images for 3D parts on the storage device.
Store Windows Font in storage	Store Windows fonts on the storage device.
Store HDCOPY Macro in JPEG Format	Set the file format for saving data to a storage device when using the "HDCOPY", "HDCOPY2", or "HDCOPY3" macro commands (with only filename specified and no extension specified *2). Unselected Save as a PNG file. Selected Save as a JPEG file.
Use Password When Transferring Screen to storage from Display	Password: Maximum of 6 one-byte alphanumeric characters A password can be set for when transferring data from MONITOUCH to storage on the [Storage Transfer] screen in Local mode. This setting is valid even if no password is set.

\*1 These are recognized as uppercase characters. If inputting lowercase characters on the editor screen, they are converted into uppercase characters when [OK] is clicked, and are recognized as uppercase characters on MONITOUCH.

\*2 When using the "HDCOPY3" command with the extension specified in the filename as "\*.JPG" or "\*.PNG", data is saved in the format specified in the macro.

# 8.2.3 Folder Configuration

The following table lists the folder names and names of files in each folder.

### Access folder (EXT0000)

Folder Name	Description	Filename	Transfer Direction	Refer to
ALARM	Alarm history	ALARM00.BIN - ALARM11.BIN <sup>*1</sup> ALARM00.BIN-journal - ALARM11.BIN-journal <sup>*2</sup>	V9 ← storage device $^{*6}$ V9 → storage device	page 8-26
		EVENT00.BIN - EVENT11.BIN *1 EVENT00.BIN-journal - EVENT11.BIN-journal *2 ALARM_aa_bb.CSV *1 (a: Block No., bb: No.) (arbitrary filename).CSV *1 *3		
BITMAP	Pattern data	BMP0000.BIN to BMP1023.BIN	V9 $\leftarrow$ storage device	page 8-19
DSP	Screen program	DSP0000.BIN	V9 $\leftarrow$ storage device V9 $\rightarrow$ storage device	page 8-7
HDCOPY	Screenshot image	HD0000.PNG - HD9999.PNG HD000~yy.PNG - HD999~yy.PNG (arbitrary filename).PNG <sup>*3</sup>	V9 $\rightarrow$ storage device	page 8-27
JPEG	JPEG file	JP00000.JPG - JP32767.JPG (arbitrary filename).JPG <sup>*3</sup>	V9 $\leftarrow$ storage device	page 8-23
LADDER	Ladder monitor files	Differs by PLC *4	V9 $\leftarrow$ storage device	page 8-26
LIST	Data sheet PDF output	LISTxxxx.PDF <sup>*5</sup> (arbitrary filename)xxxx.PDF <sup>*3 *5</sup> (xxxx: Top page number)	V9 $\rightarrow$ storage device	page 8-28
LOGGING	Logging data	LOGGING00.BIN - LOGGING11.BIN <sup>*1</sup> LOGGING00.BIN-journal - LOGGING11.BIN-journal <sup>*2</sup> LOGGING_aa_bb.CSV <sup>*1</sup> (aa: Block No., bb: No.) (arbitrary filename).CSV <sup>*1 *3</sup>	V9 ← storage device $^{*6}$ V9 → storage device	page 8-27
MEMO	Memo pad data	MEM0000.PNG - MEM0007.PNG	V9 $\rightarrow$ storage device	page 8-29
MSG	Message file	MSGxxyyy.BIN MSGxxyyy.TXT	V9 $\leftarrow$ storage device	page 8-19 page 8-21
OPELOG	Operation log file	OPELOG_hhmmss.DB	V9 $\leftarrow$ storage device V9 $\rightarrow$ storage device	page 8-27
PDF	PDF file	PDF00000.pdf to PDF99999.pdf (arbitrary filename).pdf <sup>*3</sup>	V9 $\leftarrow$ storage device V9 $\rightarrow$ storage device	page 8-24
RECIPE	Recipe data	REC0000.CSV - REC9999.CSV (arbitrary filename).CSV <sup>*3</sup> REC0000.BIN - REC9999.BIN (arbitrary filename).BIN <sup>*3</sup>	V9 $\leftarrow$ storage device V9 $\rightarrow$ storage device	page 8-26
SCRN	Header file	SCHEADER.BIN	V9 $\leftarrow$ storage device	page 8-19
	Screen file	SC0000.BIN to SC9999.BIN		
	Component parts (Macro blocks)	MCR0000.BIN to MCR1023.BIN		
	Component parts (messages)	MSG0000.BIN to MSG0011.BIN		
	3D part file	3D0001.BIN to 3D1023.BIN		
	Windows font file (for screen creation)	WFS0000.BIN to WFS4095.BIN		
	Windows font file (messages)	WFM0000.BIN to WFM4095.BIN		
SNAP	Network camera snapshot image	VD00000.JPG - VD32767.JPG	V9 $\rightarrow$ storage device	page 8-28
SRAM	SRAM backup data	SRM0000.BIN	V9 $\leftarrow$ storage device V9 $\rightarrow$ storage device	page 8-29
VIDEO	Video playback file	MOV00000.mp4 to MOV99999.mp4 (arbitrary filename).mp4 <sup>*3</sup>	V9 $\leftarrow$ storage device	page 8-25
WAV	WAV files for audio output	WA0000.WAV - WA9999.WAV (arbitrary filename).WAV <sup>*3</sup>	V9 ← storage device	page 8-22

- \*1 When saving to a backup folder, the year, month, day, hour, minutes, and seconds (\_yyyymmddhhmmss) are added to the end of the filename.
- E.g.: ALARM00\_20140320150040.BIN
- \*2 Temporary file during data update
- \*3 Filename: 64 or less one-byte uppercase alphanumeric characters or 32 or less two-byte characters
- \*4 For more information, refer to the V9 Series Ladder Monitor Specifications manual.
- \*5 When a time stamp is added, the year, month, day, hour, minute, and second (\_yyyymmddhhmmss) are appended to the filename. Example: LIST0000\_20140320150040.PDF
- \*6 BIN files only

### Automatic upload (DSPDEF)

DSPDEF	Description	Filename	Transfer Direction	Refer to
DSP	File for automatic uploading	DSPDEF.bin	V9 $\leftarrow$ storage device	page 8-9
Other folders	Same as the access folder	·		

### OS update (OSUPDATE)

OSUPDATE	Description	Filename	Transfer Direction	Refer to
-	File for updating the operating system	fw.conf etc.	V9 $\leftarrow$ storage device	page 8-11 page 8-15

# 8.3 Function Descriptions

# 8.3.1 List of Functions

The following table lists the functions used by storage devices. For details, refer to the corresponding reference.

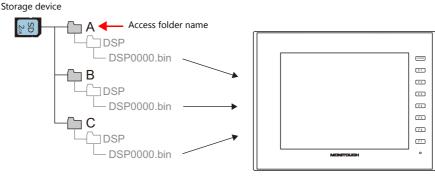
Function		Refer to
Saving and transferring screen programs		page 8-7
Automatically uploading screen programs		page 8-9
Manual OS updating		page 8-11
Automatic OS updating		page 8-15
Reduction of screen program data size	Storing pattern (bitmap) data	page 8-19
	Storing screen data	
	Storing 3D parts	
	Storing Windows fonts	
	Storing message data	page 8-19, page 8-21
Storing audio (WAV) files		page 8-22, "2 Sound"
Storing JPEG data		page 8-23, " Detail"
Storing PDF files		page 8-24, "13 PDF Viewer"
Recipe data		page 8-26, 15 "Recipes" in V9 Series Reference Manual 1
Saving alarm history		page 8-26, 8 "Alarms" in V9 Series Reference Manual 1
Saving logging data		page 8-27, 7 "Trends" in V9 Series Reference Manual 1
Operation logs		page 8-27, "4 Operation Log"
Saving screenshot images		page 8-27, V9 Series Macro Reference Manual
Saving network camera images		page 8-28, "1.3 Network Camera"
PDF output of data sheets		page 8-28, 16.3 "Printing Data Sheets" in VS Series Reference Manual 1
Memo pad data backup		page 8-29, 13.1 "Memo Pad" in V9 Series Reference Manual 1
SRAM data backup		page 8-29, V9 Series Troubleshooting/Maintenance Manual

### 8.3.2 Screen Program Transfer

Screen programs can be transferred between the V9 series unit and a storage device.

Because multiple screen programs can be saved on a storage device, the screen program for display can be switched as required.

This section describes how to read and write data between a PC and a storage device. For details on reading and writing between a storage device and the V9 series unit, refer to the separate V9 Series Troubleshooting/Maintenance Manual.



Multiple screen programs can be stored using different access folder names.

### $\text{PC} \rightarrow \text{Storage Device Writing}$

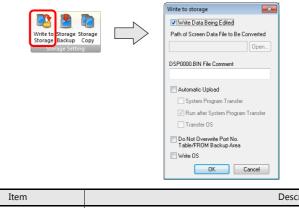
- 1. Start V-SFT.
- 2. Click [File]  $\rightarrow$  [Storage Manager]. The window for specifying a drive is displayed.
- 3. Specify the drive where the storage device is inserted and click [OK]. The [Storage Manager] window \*1 is displayed.



\*1 Storage manager

The storage manager is an application that facilitates writing of V9 screen programs to a storage device, and importing of data from a storage device for conversion into other file formats. For details, refer to "8.4 Storage Manager" page 8-30.

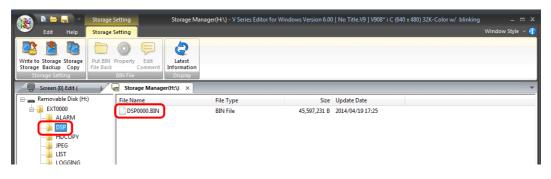
 Click [Storage Setting] → [Write to Storage]. The [Write to storage] window is displayed. Configure the following settings.



Item	Description
Write Data Being Edited	Write the screen program that is open (being edited) in V-SFT.
Path of Screen Data File to Be Converted	Select the screen program for writing to the storage device from the [Open] button. [Screen Data File (*.V9)]

Item	Description
DSP0000.BIN File Comment	Add a comment to the screen program file (DSP0000.BIN) written to the storage device. This comment can be checked via the file's [Property] window.
Automatic Upload	(This is not for screen program transfer.)_
Do Not Overwrite Port No. Table/FROM Backup Area	Select this checkbox to prevent existing values in the station number table or existing values in the FROM area from being changed when transferring a screen program from a storage device.

5. When the settings are complete, click [OK]. A "DSP0000.BIN" file is saved to "(access folder)\DSP" on the storage device. The "DSP0000.BIN" file contains the screen program, system program, fonts, I/F driver etc.



### Storage Device $\rightarrow$ PC Reading

- 1. Start V-SFT.
- 2. Click [File]  $\rightarrow$  [Storage Manager]. The window for specifying a drive is displayed.
- 3. Specify the drive where the storage device is inserted and click [OK]. The [Storage Manager] window is displayed.
- 4. Check that "DSP0000.BIN" exists in the "DSP" folder in the access folder, and select the file.
- 5. Right-click on the file and select [Put BIN File Back].

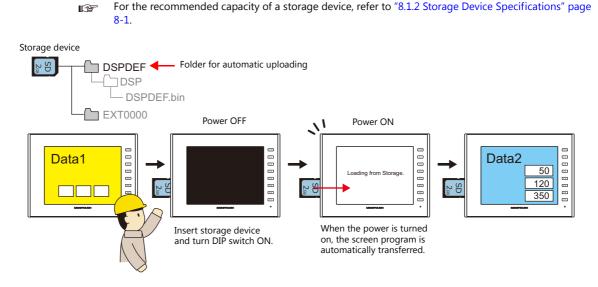
👔 🖹 🧮 📲 🐘 Storage Setting	Storage Man	ager(H:\) - V Series Editor f	or Windows Version 6.00	) [ No Title.V9 ] V908* i (	C (640 x 480) 32K-Color w/ blinking	_ = ×
Edit Help Storage Setting						Window Style 👻 🚯
Write to Storage Storage Storage Sackup Corpy storage-Setting	Latest Information Display					
🖳 🖳 Screen (0) Edit ( 💦 🛛 😽 Storage Mana	ger(H:\) ×					•••••••••••••••••••••••••••••••••••••••
Removable Disk (H:)	_	File Type	Size	Update Date		
EXT0000	<b>n</b>	RIN File	45,597,231 B	2014/04/19 17:25		
ALARM	Cut	Ctrl+X				
DSP	Сору	Ctrl+C				
HDCOPY	Paste	Ctrl+V				
JPEG	Delete					
	Select All					
	Latest Info	rmation				
SAMPLE	Put BIN File	e Back				
- Jasan SNAP	Property					
- 📕 SRAM						

6. The window shown below is displayed. Specify the folder to save in and the filename and click [Save].

🏂 Select the image data to be saved.					×
😋 🔵 🗢 🕌 🕨 Computer 🔸 Local Disk (C:) 🕨 MON	ITOUCH → User → Data	• <del>•</del>	Search Data		م
Organize 🔻 New folder				800 -	0
	Date modified No items match your s	Type search.	Size		
Local Disk (C)     File name     Save as type					
Hide Folders			Save	Cancel	

### 8.3.3 Automatically Uploading Screen Programs

When a storage device is inserted and the power is turned on, the screen program is automatically uploaded. This allows the screen program to be easily updated without bothering the operator.



### $PC \rightarrow Storage Device Writing$

- 1. Start V-SFT.
- 2. Click [File]  $\rightarrow$  [Storage Manager]. The window for specifying a drive is displayed.
- 3. Specify the drive where the storage device is inserted and click [OK]. The [Storage Manager] window <sup>\*1</sup> is displayed.



\*1 Storage manager

The storage manager is an application that facilitates writing of V9 screen programs to a storage device, and importing of data from a storage device for conversion into other file formats. For details, refer to "8.4 Storage Manager" page 8-30.

 Click [Storage Setting] → [Write to Storage]. The [Write to storage] window is displayed. Configure the following settings.

*		Write to storage
age Storage	$\square$	📝 Write Data Being Edited
ckup Copy e Setting		Path of Screen Data File to Be Converted
		Open
		DSP0000.BIN File Comment
		Automatic Upload
		System Program Transfer
		📝 Run after System Program Transfer
		🔲 Transfer OS
		Do Not Overwrite Port No. Table/FROM Backup Area
		🔲 Write OS
		OK Cancel

Item		Description
Write Data Being Edited		Write the screen program that is open (being edited) in V-SFT.
Path of Screen Data File to Be Converted		Select the screen program for writing to the storage device from the [Open] button. [Screen Data File (*.V9)]
DSP0000.BIN Fil	e Comment	Add a comment to the screen program file (DSP0000.BIN) written to the storage device. This comment can be checked via the file's [Property] window.
Automatic Upload		Create an automatic upload file.
	System Program Transfer	Select this checkbox when uploading system program files together with the screen program.
	Run after System Program Transfer	Automatically switch MONITOUCH to RUN mode after automatic upload is complete.
Do Not Overwrite Port No. Table/FROM Backup Area		Select this checkbox to prevent existing values in the station number table or existing values in the FROM area from being changed when transferring a screen program from a storage device.

5. When the settings are complete, click [OK]. A "DSPDEF.BIN" file is saved to "DSPDEF\DSP". The "DSPDEF.BIN" file contains the screen program, system program, fonts, I/F driver etc.

	Storage Setting	Storage Manager(H:\) - V Series Editor for W	indows Version 6.00	) [ No Title.V9 ] V908* i C (64	) x 480) 32K-Color w/ blinking	_ = X
Edit Help	Storage Setting					Window Style 👻 🚯
Write to Storage Storage Storage Backup Copy Storage Setting	Put BIN Property Edit File Back Comment BIN File	Latest Information Display				
🖳 Screen [0] Edit (	) 😽 Storage Manage	и(H:/) ×				······································
Removable Disk (H4)	) File Name	File Type BIN File		Update Date 2014/04/19 17:07		

#### **Operation on the V9 Series**

After storing data on the storage device, import the data into the V9 series unit according to the following procedure.

- 1. Turn off the V9 series unit.
- 2. Set DIPSW1 on the V9 series unit to ON.
- 3. Insert the storage device into the V9 series unit.
- 4. Turn on power to the V9 series unit. After a "Data Loading" message, a "Loading from Storage" message is displayed, and then the screen program saved to the storage device is written.
  When transfer is complete the BUN screen (or Local mode) is displayed automatically.

When transfer is complete, the RUN screen (or Local mode) is displayed automatically.

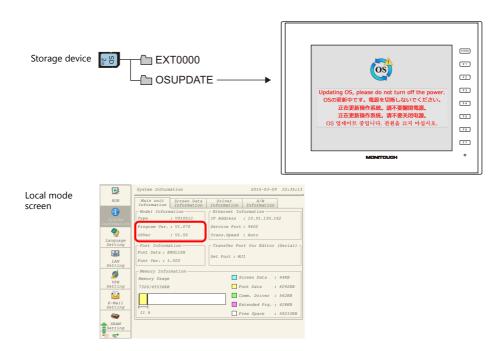
#### **Notes on Write Operations**

- When using the "DSPDEF" screen program for automatic uploading, only one type of data can be stored per storage device.
- If the storage device is removed after automatic uploading and the power is turned off and on again, the message "Insert Storage in V9." is displayed and the V9 series unit does not start correctly. Insert the storage device or set DIPSW1 to OFF, and then turn the power off and back on.
- Once automatic uploading has been performed, the screen program that was written to the V9 series unit (including I/F drivers, fonts, etc.) is overwritten by the screen program that was automatically uploaded. Note that even if the storage device is removed and DIPSW1 is set to OFF again, it is not possible to restore the state before to the upload.

### 8.3.4 Manually Updating the Operating System

This section describes the procedure for manually updating the operating system for operating the V9 series unit. The operating system version can be checked from the System Information screen in Local mode on the V9 series unit.

For the recommended capacity of a storage device, refer to "8.1.2 Storage Device Specifications" page 8-1.



#### Notes

- Before updating the operating system, creating a backup of the screen program and other data such as SRAM data is recommended to guard against data loss.
- When the operating system is updated the system program is automatically updated as well.
- It takes approximately two minutes to update the operating system. During the update, never turn off the power of the V9 series unit or remove the storage device.
- When both an SD card and a USB flash drive are connected to the V9 series unit, the SD card takes priority.
- Only one instance of the "OSUPDATE" folder, which is used for updating the operating system, can be stored per storage device.

### $\text{PC} \rightarrow \text{Storage Device Writing}$

- 1. Start V-SFT.
- 2. Click [File]  $\rightarrow$  [Storage Manager]. The window for specifying a drive is displayed.
- 3. Specify the drive where the storage device is inserted and click [OK]. The [Storage Manager] window \*1 is displayed.



\*1 Storage manager

The storage manager is an application that facilitates writing of V9 screen programs to a storage device, and importing of data from a storage device for conversion into other file formats. For details, refer to "8.4 Storage Manager" page 8-30.

 Click [Storage Setting] → [Write to Storage]. The [Write to storage] window is displayed. Configure the following settings.

Write to Storage Storage Storage Blackup Copy Storage Setting	Write to storage
	Automatic Upload  System Program Transfer  Run after System Program Transfer  Transfer OS  Do Not Overwrite Port No. Table/FROM Backup Area  Mite OS  OK Cancel
Item	Descripti

Item	Description
Write Data Being Edited <sup>*1</sup>	Write the screen program that is open (being edited) in V-SFT.
Path of Screen Data File to Be Converted $^{*1}$	Select the screen program for writing to the storage device from the [Open] button. [Screen Data File (*.V9)]
Write OS	Select this checkbox to enable manual updating.

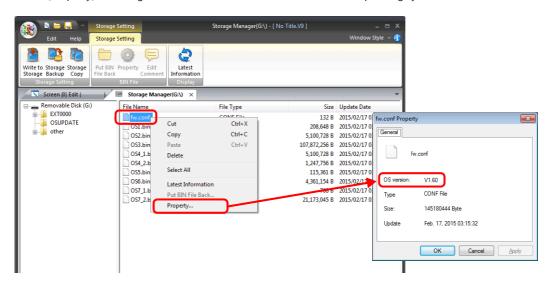
\*1 Selection of a screen program is necessary. Operating system data can only be written together with a screen program.

5. When the settings are complete, click [OK]. The following files are saved to the "OSUPDATE" folder.

👔 🗳 💳 🔚 🖉 🗾 Storage	Setting	Storage Manager(G:\) - [ N	o Title.V9 ]	_ = ×
	Setting			Window Style 👻 😚
Storage Backup Copy File Back				
Storage Setting	BIN File Display Storage Manager(G:\) ×			
Removable Disk (G;)	File Name           fw.conf           OSLbin           OS2.bin           OS3.bin           OS4_1.bin           OS4_1.bin           OS5.bin           OS5.bin           OS5.bin           OS5.bin           OS5.bin           OS5.bin           OS5.bin           OS5.bin           OS5.bin           OS5_bin           OS7_1.bin           OS7_2.bin	File Type CONF File BIN File BIN File BIN File BIN File BIN File BIN File BIN File BIN File	132 B 208,648 B 5,100,728 B 107,872,256 B 5,100,728 B 1,247,756 B 115,361 B 4,361,154 B 768 B	Update Date 2015/02/17 03:15 2015/02/17 03:14 2015/02/17 03:14 2015/02/17 03:14 2015/02/17 03:15 2015/02/17 03:15 2015/02/17 03:15 2015/02/17 03:15

Click on [Property] on the right-click menu of the "fw.conf" file to view the operating system version.

I



#### **Operation on the V9 Series**

After writing the data on a storage device, update the operating system according to the following procedure.

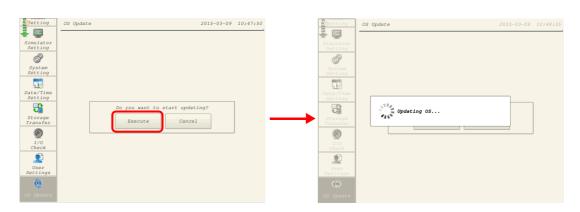
- 1. Turn off the V9 series unit.
- 2. Connect the storage device to the V9 series unit and turn on power to the V9 series unit.
- 3. Press the [SYSTEM] switch to display the system menu and then press the [Local] switch. The V9 series unit switches to Local mode.
- 4. Check the [Program Ver.] and [OSVer] on the System Information screen.
- 5. Press the [OS Update] menu switch on the OS Update screen <sup>\*1</sup>.
- \*1 The [OS Update] menu switch is displayed at the very bottom of the menu switches only when a storage device containing an "OSUPDATE" folder is connected.



6. The following confirmation dialog appears. Press [Execute]. Updating of the operation system starts.



While the operating system is being updated, never turn off the power of the V9 series unit or remove the storage device.



7. The V9 series unit reboots and the screen will be black for about five seconds.

OS Update         Simulation         Simulation		Black screen
--	--	--------------

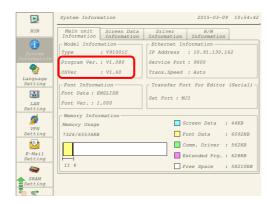
8. The following screen is displayed while the operating system is being updated.

	los
Upda	ting OS, please do not turn off the power.
OS	の更新中です。電源を切断しないでください。
	正在更新操作系統。請不要關閉電源。 正在更新操作系统。请不要关闭电源。
	止住史新傑作杀统。咱个安大闪电源。

9. When the update completes without any errors, the following screen is displayed and the V9 series unit automatically reboots.



10. Press the [SYSTEM] switch and switch to Local mode from the displayed system menu. Check that the [Program Ver.] and [OSVer] have respectively been updated.

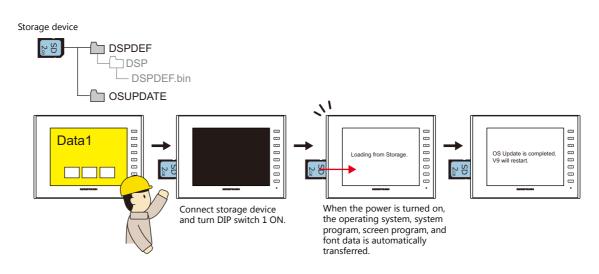


### 8.3.5 Automatically Updating the Operating System

This section describes the procedure for automatically updating the operating system for operating the V9 series unit. The operating system and system program can be updated automatically by connecting a storage device to the V9 series unit and turning the power on.

The operating system version can be checked from the System Information screen in Local mode on the V9 series unit.

For the recommended capacity of a storage device, refer to "8.1.2 Storage Device Specifications" page 8-1.



#### Notes

- Before updating the operating system, creating a backup of the screen program and other data such as SRAM data is
  recommended to guard against data loss.
- When the operating system is updated the system program is automatically updated as well.
- It takes approximately two minutes to update the operating system. During the update, never turn off the power of the V9 series unit or remove the storage device.
- When both an SD card and a USB flash drive are connected to the V9 series unit, the SD card takes priority.
- If the storage device is removed with DIP switch 1 left ON after automatic updating and the power is turned off and on again, the message "Insert Storage in V9." is displayed and the V9 series unit does not start correctly. If the storage device is left connected with DIP switch 1 left ON and the power is turned off and on again, automatic updating is performed again. Be sure to set DIP switch 1 to OFF after updating and then turn on the power.

### $PC \rightarrow Storage Device Writing$

- 1. Start V-SFT.
- 2. Click [File]  $\rightarrow$  [Storage Manager]. The window for specifying a drive is displayed.
- 3. Specify the drive where the storage device is inserted and click [OK]. The [Storage Manager] window \*1 is displayed.



\*1 Storage manager

The storage manager is an application that facilitates writing of V9 screen programs to a storage device, and importing of data from a storage device for conversion into other file formats. For details, refer to "8.4 Storage Manager" page 8-30.

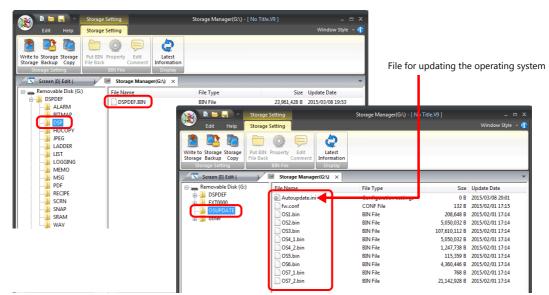
 Click [Storage Setting] → [Write to Storage]. The [Write to storage] window is displayed. Configure the following settings.

Write to storage Storage	Write to storage         Write Data Being Edited         Path of Screen Data File to Be Converted         DSP0000.BIN File Comment         DSP0000.BIN File Comment         Write OS         Do Not Overwrite Port No.
Storage Setting	Table/FROM Backup Area         Write OS         OK
Item	Descriptio

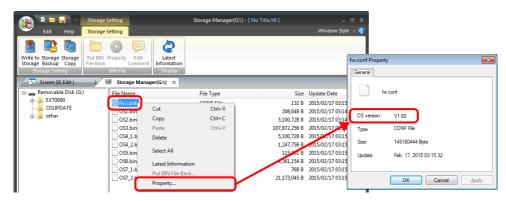
	Item	Description
Write Data Being	Edited <sup>*1</sup>	Write the screen program that is open (being edited) in V-SFT.
Path of Screen Data File to Be Converted <sup>*1</sup> Select the screen program for writing to the storage device from the [Op [Screen Data File (*.V9)]		Select the screen program for writing to the storage device from the [Open] button. [Screen Data File (*.V9)]
Automatic Uploa	d	Create an automatic upload file.
	Transfer OS	Select this checkbox when transferring the operating system together with the screen program. The system program is transferred as well.

\*1 Selection of a screen program is necessary. Operating system data can only be written together with a screen program.

5. When the settings are complete, click [OK]. A "DSPDEF.BIN" file is saved to "DSPDEF\DSP". The "DSPDEF.BIN" file contains the screen program, system program, fonts, I/F driver etc. The following files are saved to the "OSUPDATE" folder.



Click on [Property] on the right-click menu of the "fw.conf" file to view the operating system version.



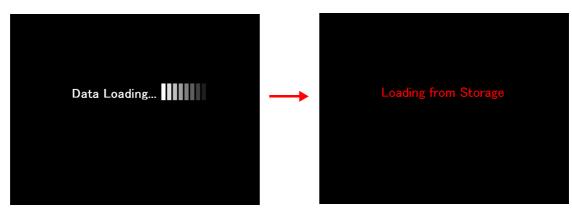
### **Operation on the V9 Series**

After writing the data on a storage device, update the operating system according to the following procedure.

- 1. Turn off the V9 series unit.
- 2. Connect the storage device to the V9 series unit.
- 3. Set DIPSW1 on the V9 series unit to ON.
- 4. Turn on power to the V9 series unit. A "Data Loading..." message is displayed.
- \* After the "Data Loading..." message, a "Loading from Storage" message may be displayed.



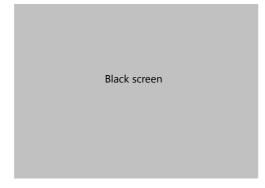
While update is in progress, never turn off the power of the V9 series unit or remove the storage device.



5. The following message appears.



6. The screen turns black for about five seconds.





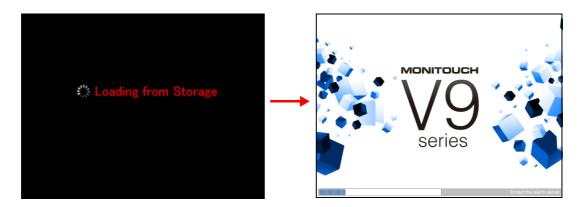
7. The following screen is displayed while the operating system is being updated.



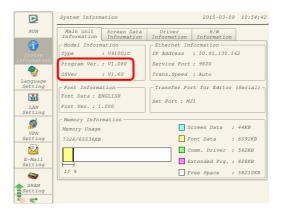
8. When the update completes without any errors, the following screen is displayed and the V9 series unit automatically reboots.



9. The "Loading from Storage" message is displayed again, and then the screen program saved to the storage device is written. When transfer is complete, the V9 series unit automatically switches to RUN mode.



10. Switch to Local mode from the system menu. Check that the [Program Ver.] and [OSVer] have respectively been updated.



### 8.3.6 Reducing Screen Program Data Size

Part of the screen program data, such as screens, patterns and messages, can be stored to a storage device. This can reduce the size of the actual screen program data.

- Pattern files (bitmap)
- Messages (BIN files, TXT files \*1)
- Screens (Max. 4000)
- 3D parts
- Windows fonts
- \*1 Messages can be saved to a storage device as a BIN file or TXT file. For details on saving a TXT file, refer to "8.3.7 Storing Messages (TXT Files)" page 8-21.

### File Storage Target and Filename

	Item	Filename	Storage target
Patterns		BMPxxxx.BIN (xxxx: 0000 to 1023)	(Access folder)\BITMAP
Messages (BIN)		MSGxxyyy.BIN (xx: Language number 00 to 16) (yyy: Message group number 000 to 127)	(Access folder)\MSG
Screens 3D parts Windows fonts	Header	SCHEADER.BIN	(Access folder)\SCRN
Screens	-	SCxxxx.BIN (xxxx: 0 to 9999)	
	Component parts (macro blocks)	MCRxxxx.BIN (xxxx: 0 to 1023)	
	Component parts (alarm messages)	MSGxxxx.BIN (xxxx: 0 to 11)	
3D parts		3Dxxxx.BIN (xxxx: 0 to 1023)	
Windows fonts	Graphics	WFSxxxx.BIN (xxxx: 0 to 4095)	
	Messages	WFMxxxx.BIN (xxxx: 0 to 4095)	

### $PC \rightarrow Storage Device Writing$

- Configure the following settings on the screen program in advance. Click [System Setting] → [Storage Setting]. The [Storage Setting] window is displayed.
- 2. Select the items to save to the storage device. When the settings are complete, click [OK] and save the screen program file.

Storage Setting	×	
Storage Connection Target	Built-in Socket	
	🔘 USB Port	
Access Folder Name	EXT0000	
Range of Patterns to be Sa		
Range of Messages to be S     Group No.	Gaved to storage	
Range of Screens to be Saved to storage No. 0 + 0 +		
🔲 Store WAV File in storage		
🔲 Store 3D Parts in storage		
Store Windows Font in stor	age	
Store HDCOPY Macro in JPEG Format		
Use Password When Transferring Screen to storage from Display		
Password		
ОК	Cancel	

- 3. Click [File]  $\rightarrow$  [Storage Manager]. The window for specifying a drive is displayed.
- 4. Specify the drive where the storage device is inserted and click [OK]. The [Storage Manager] window is displayed.

5. Click [Storage Setting]  $\rightarrow$  [Write to Storage]. The [Write to storage] window is displayed.

Write to Storage Storage Backup Copy storage Setting	Write to storage
	DSP0000.BIN File Comment
	Automatic Upload System Program Transfer V Run after System Program Transfer Transfer OS Do Not Overwrite Port No. Table/FROM Backup Area Write OS OK Cancel

- If the screen program is currently being edited, select the [Write Data Being Edited] checkbox.
   If the screen program is not the one currently opened with V-SFT, deselect the [Write Data Being Edited] checkbox and select the relevant screen program from the [Open] button.
- 7. When the settings are complete, click [OK]. The file is saved to the access folder.

#### **Operation on the V9 Series**

Connect a storage device to the V9 series unit. When opening a screen program on the V9 series unit, the storage device will automatically be referred to for showing the screen.

• If screen data is not stored correctly on the storage device or a storage device is not connected to the V9 series unit, the V9 series unit will operate as if there is no screen.

If calling a screen using a switch with [Screen Change-over] selected for [Function], a short intermittent beep will sound and the request will not be processed. If using a [Displaying Screen Device] from the PLC to specify a screen, the screen will not changeover. (If immediately after power-on, the screen with the smallest number will be displayed.)

- If 3D parts are not stored correctly on the storage device or the storage device is not connected to the V9 series unit, 3D parts will not be displayed.
- If Windows fonts are not stored correctly on the storage device or the storage device is not connected to the V9 series unit, Windows fonts will not be displayed.
- If patterns are not stored correctly on the storage device or the storage device is not connected to the V9 series unit, patterns will not be displayed.
- When both BIN files (MSGxxyyy,BIN) and TXT files (MSGxxyyy,TXT) coexist in the "MSG" folder on the storage device, reference to TXT files takes priority.
- Screen data stored in a storage device takes longer to display than data stored in the MONITOUCH flash memory.

#### **Notes on File Storage**

- Up to 512 KB of screen data can be saved to a storage device per screen. The per screen data size can be viewed at [Tool]
   → [List of Memory Use]. However, the size of the screen data that was selected for storage at [System Setting] → [Other]
   → [Storage Setting] cannot be viewed on the [List of Memory Use] tab window. We recommend checking the data size
   before configuring [Storage Setting].
- For the restoration of the screen data in the "SCRN" folder to the original data file (.V9), the "DSP0000.BIN" file in the "DSP" folder is required. However, if data information of "DSP0000.BIN" in the "DSP" folder and "SCHEADER.BIN" in the "SCRN" folder do not match, the compilation of files from these folders does not take place, and thus the screen program is created with screen data in the "SCRN" folder omitted. For details on the conversion procedure, refer to "BIN File Conversion" page 8-32.

### 8.3.7 Storing Messages (TXT Files)

Messages (in TXT file format) can be stored on a storage device to reduce the size of the screen program.

Since the messages are in TXT file format, they can be edited even without V-SFT.

\* Message files can be stored in BIN and TXT file formats. For details on storing BIN files, refer to "8.3.6 Reducing Screen Program Data Size" page 8-19.

### File Storage Target and Filename

Item	Filename	Storage target
Messages (TXT format)	MSGxxyyy.TXT (xx: Language number 00 to 16) (yyy: Message group number 000 to 127)	(Access folder)\MSG

### $PC \rightarrow Storage Device Writing (For TXT Files)$

- Configure the following settings on the screen program in advance. Click [System Setting] → [Storage Setting]. The [Storage Setting] window is displayed.
- 2. Select the [Range of Messages to be Saved to storage] checkbox and specify the range of messages to be stored. When the settings are complete, click [OK] and save the screen program file.

Storage Setting				
Storage Connection Target	Built-in Socket			
	USB Port			
Access Folder Name	E×T0000			
Range of Patterns to be Sa No.	ved to storage			
Range of Messages to be S	Saved to storage			
Group No. 0	- 0 ×			
Range of Screens to be Sa No.	. 0			
Store WAV File in storage				
Store 3D Parts in storage				
Store Windows Font in store	age			
Store HDCOPY Macro in JPEG Format				
Use Password When Transferring Screen to storage from Display				
Password				
ОК	Cancel			

3. Create files in TXT file format.

Filename: MSGxxyyy.txt (xx: Language number 00 to 16, yyy: Message group number 000 to 127 <sup>\*1</sup>)

\*1 TXT files must be created in accordance with the message group numbers specified in the [System Setting] → [Storage Setting] window.

Any TXT file with a number not within the specified range will not be recognized.

4. Save "MSGxxyyy.TXT" files to the "MSG" folder under the access folder.

### **Operation on the V9 Series**

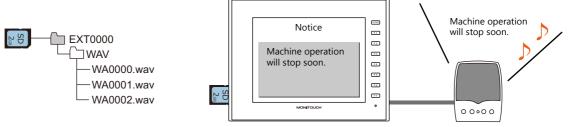
Connect the storage device to the V9 series unit. When the screen program is displayed, the stored messages are displayed accordingly.

\* When both BIN files (MSGxxyyy.BIN) and TXT files (MSGxxyyy.TXT) coexist in the "MSG" folder on the storage device, reference to TXT files takes priority.

# 8.3.8 Storing Audio (WAV) Files

There are two methods for storing audio files used by the audio playback function: importing audio into the screen program or storing separately on a storage device.

The size of the screen program can be reduced by storing audio on a storage device.



Playback of a WAV file saved to a storage device.

### WAV File Storage Target and Filename

Files saved at the following location can be played.

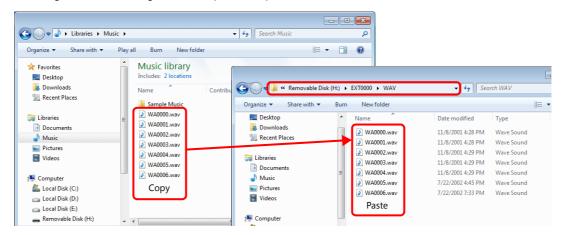
Filename	Storage target
WAxxxx.wav (xxxx: 0000 to 1023) xxxxxx.wav (64 or less one-byte characters or 32 or less two-byte characters)	(Access folder)\WAV

### **Storing Files on a Storage Device**

Either Windows Explorer or the storage manager can be used to store files.

#### Windows explorer

- 1. Select the WAV file in Windows Explorer.
- 2. Execute [Copy] from the right-click menu.
- 3. Open the storage device drive using Windows Explorer and paste the file.



#### Storage manager

- 1. Store the WAV file to be used in "\MONITOUCH\User\WAV" on the PC in advance.
- 2. Click [File]  $\rightarrow$  [Storage Manager] and write to storage using [Write to Storage].

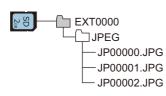
```
*8.4 Storage Manager" page 8-30
```

#### **Operation on the V9 Series**

Insert the storage device into the V9 series unit. Audio playback is available in RUN mode.

# 8.3.9 Storing JPEG Files

JPEG files can be displayed on the V9 series unit. Always store JPEG files on a storage device.







Displaying a JPEG file stored on the storage device on the screen.

### JPEG File Storage Target and Filename

Audio files are stored in the following location.

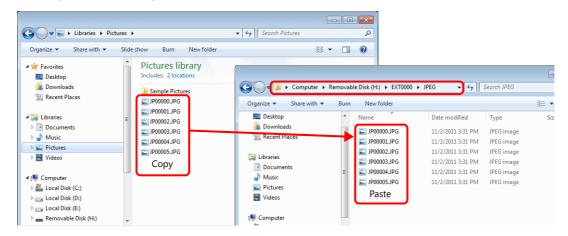
Filename	File Storage Target
JPxxxxx.jpg (xxxxx: 00000 to 32767) xxxxxxx.jpg (64 or less one-byte characters or 32 or less two-byte characters)	(Access folder)\JPEG

### **Storing Files on a Storage Device**

Either Windows Explorer or the storage manager can be used to store files.

### Windows explorer

- 1. Select the JPEG file in Windows Explorer.
- 2. Execute [Copy] from the right-click menu.
- 3. Open the storage device drive using Windows Explorer and paste the file.



#### Storage manager

- 1. Store the JPEG file to be used in "\MONITOUCH\User\Jpeg" on the PC in advance.
- 2. Click [File]  $\rightarrow$  [Storage Manager] and write to storage using [Write to Storage].

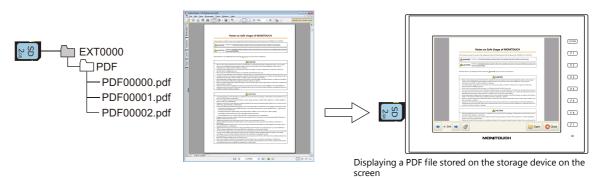
"8.4 Storage Manager" page 8-30

### **Operation on the V9 Series**

Insert the storage device into the V9 series unit. The JPEG file on the storage device is displayed in RUN mode.

### 8.3.10 Storing PDF Files

PDF files can be displayed on the V9 series unit. Always store PDF files on a storage device.



### **PDF File Storage Target and Filename**

Files are stored in the following location.

Filename	File Storage Target
PDFxxxxx.PDF (xxxxx: 00000 to 99999) xxxxxxx.pdf (64 or less one-byte characters or 32 or less two-byte characters)	(Access folder)\PDF

### **Storing Files on a Storage Device**

Either Windows Explorer or the storage manager can be used to store files.

#### Windows explorer

- 1. Select PDF files in Windows Explorer.
- 2. Execute [Copy] from the right-click menu.
- 3. Open the storage device drive using Windows Explorer and paste the file.

Organize 🔻 Share with 💌 Bu	rn New folder		H 🕶 🔳 🔞			
Documents library			Arrange by: Folder 🔻			
Vame	Date modified	Туре	G:\EXT0000\PDF			Search PD
My eBooks	10/25/2013 2:46 AM	File folder	Organize	New folder		:= - □
📙 New folder 🔁 PDF00000.pdf	11/12/2014 7:01 PM 2/22/2015 8:45 PM	File folder Adobe Acro	Name	Date modified	Туре	Size
PDF00000.pdf	2/16/2015 2:50 AM	Adobe Acro		2/25/2015 12:26 AM	Adobe Acrobat D	1,184 KB
PDF00002.pdf	2/16/2015 2:50 AM	Adobe Acro		2/22/2015 8:45 PM	Adobe Acrobat D	277 KB
PDF00003.pdf	2/16/2015 2:50 AM	Adobe Acro	PDF00001.pdf	2/16/2015 2:50 AM 2/16/2015 2:50 AM	Adobe Acrobat D Adobe Acrobat D	205 KB 201 KB
PDF00004.pdf	2/16/2015 2:51 AM	Adobe Acro	PDF00002.pdf	2/16/2015 2:50 AM	Adobe Acrobat D	201 KB 192 KB
A PDF00005.pdf	2/16/2015 2:51 AM	Adobe Acro		2/16/2015 2:51 AM	Adobe Acrobat D	217 KB
PDF00010.pdf	2/25/2015 12:26 AM	Adobe Acro	T PDF00005.pdf	2/16/2015 2:51 AM	Adobe Acrobat D	250 KB

#### Storage manager

- 1. Store the PDF files to be used in "\MONITOUCH\User\PDF" on the PC in advance.
- 2. Click [File]  $\rightarrow$  [Storage Manager] and write the selected files to the storage device using [Write to Storage].
  - "8.4 Storage Manager" page 8-30

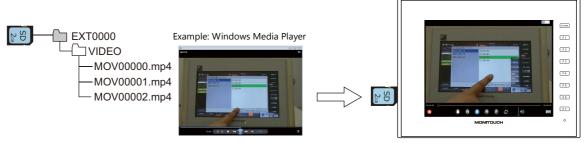
#### **Operation on the V9 Series**

Connect the storage device to the V9 series unit. The PDF files saved to the storage device are displayed on the screen using the PDF viewer.

"13 PDF Viewer"

### 8.3.11 Storing Video Files

Videos can be displayed on the V9 series unit. Always store video files on a storage device.



Playback of a video file saved to a storage device on the screen

### Video File Storage Target and Filename

Files are stored in the following location.

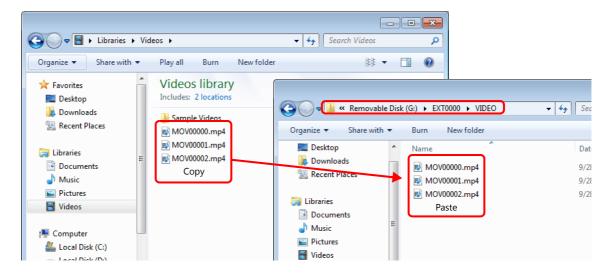
Filename	File Storage Target
MOVxxxxx.mp4 (xxxxx: 00000 to 99999) xxxxxxx.mp4 (64 or less one-byte characters or 32 or less two-byte characters)	(Access folder)\VIDEO

### **Storing Files on a Storage Device**

Either Windows Explorer or the storage manager can be used to store files.

### Windows explorer

- 1. Select the video files (\*.mp4) in Windows Explorer.
- 2. Execute [Copy] from the right-click menu.
- 3. Open the storage device drive using Windows Explorer and paste the file.



#### Storage manager

- 1. Store the video files to be used in "\MONITOUCH\User\VIDEO" on the PC in advance.
- 2. Click [File]  $\rightarrow$  [Storage Manager] and write the selected files to the storage device using [Write to Storage].

"8.4 Storage Manager" page 8-30

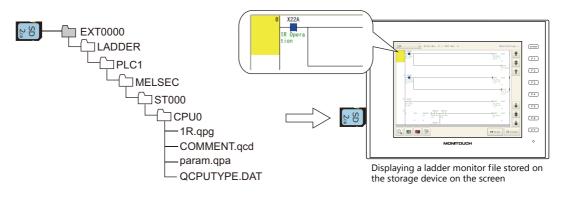
#### **Operation on the V9 Series**

Connect the storage device to the V9 series unit. The video files saved to the storage device are displayed on the screen using the video player.

# 8.3.12 Storing Ladder Monitor Files

PLC data (ladder monitor and I/O monitor) can be displayed on the V9 series unit. Always store ladder monitor files on a storage device.

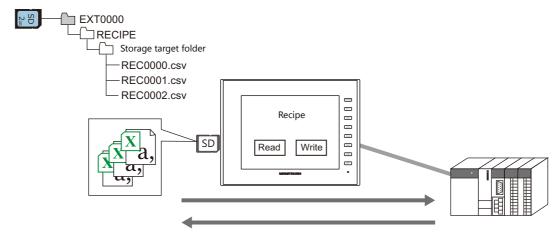
Example: Mitsubishi Electric PLC



Refer to the V9 Series Ladder Monitor Specifications manual.

## 8.3.13 Transferring Recipe Data

Recipe files (BIN/CSV) created on the PC can be stored on a storage device and read or written using a transfer command bit or a switch with [Recipe] set for [Function].



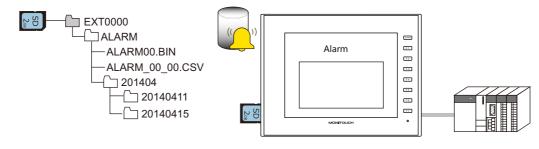
Refer to "15 Recipes" in the V9 Series Reference Manual 1.

### 8.3.14 Saving Alarm History

Alarm history and event history can be saved to a backup folder.

BIN files in the backup folder can be switched between for display on the V9 series unit and CSV files can be readily checked and edited on a PC.

The storage targets for the latest history data and backup files can be divided over, for example, an SD card and a USB flash drive.



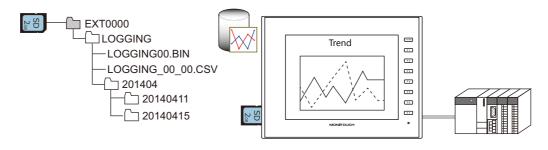
Refer to "8 Alarm" in the V9 Series Reference Manual 1.

### 8.3.15 Saving Logging Data

History data that contains numeric values and text can be saved to a backup folder.

BIN files in the backup folder can be switched between for display on the V9 series unit and CSV files can be readily checked and edited on a PC.

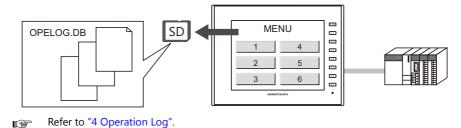
The storage targets for the latest history data and backup files can be divided over, for example, an SD card and a USB flash drive.



Refer to "7 Trends" in the V9 Series Reference Manual 1. 1

# 8.3.16 Operation Logs

Screen operation history records (operation logs) can be output to a storage device. In the event of an error, these stored logs allow previous operations to be examined in order to determine the cause of the error.



### 8.3.17 Saving Screenshot Images

Screenshot images can be saved to a storage device as PNG files using a macro command.

When it is difficult to connect a printer on the factory floor, screenshot images can be saved to a storage device and printed later from a PC.

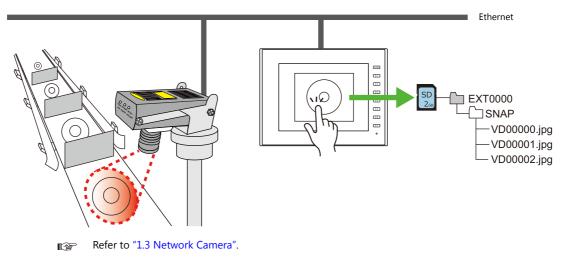




Refer to the V9 Series Macro Reference Manual.

# 8.3.18 Saving Network Camera Images

The currently displayed image can be saved to a storage device as a JPEG file when the bit of a command device memory changes to ON or by double-tapping the display area. (Snapshot function)



## 8.3.19 PDF Output of Data Sheets

The current data of numerical data displays or character displays that are registered to a data sheet screen can be output as a PDF file to a storage device.

1 2 3 4 5

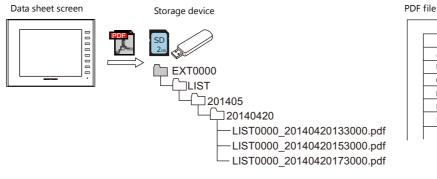
A B

С

D

Е

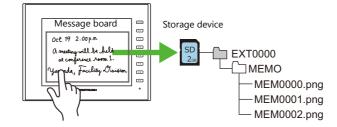
F





### 8.3.20 Saving Memo Pad Data

Data from the memo pad function can be saved to a storage device as PNG files.



Refer to "13.1 Memo Pad" in the V9 Series Reference Manual 1.

### Memo Pad Data Storage Target and Filename

Filename	File Storage Target
MEMxxxx.png (xxxx: 0000 to 0007)	(Access folder)\MEMO

### **Operation on the V9 Series**

Insert the storage device into the V9 series unit. When using the memo pad in RUN mode, the memo pad data is automatically stored on the storage device.

\* When the [Store Area for Memo Pad] checkbox is selected on the [SRAM/Clock Setting] screen on the [System Setting] menu, memo pad data is stored in SRAM even when a storage device is inserted into the V9 series unit.

### **Timing of Saving**

The timing of writing memo pad data to a storage device is as follows.

- When switching the memo pad display using a switch with [+ Block], [- Block], or [Block Call] set for [Function]
- When the screen is changed

### 8.3.21 SRAM Data Backup

A backup copy of SRAM data can be saved to a storage device to guard against a case in which data may be lost when replacing the SRAM battery.

Refer to the V9 series Troubleshooting/Maintenance Manual.

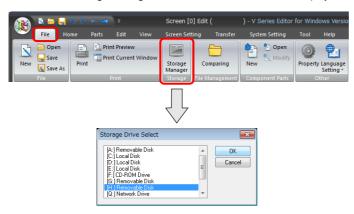
# 8.4 Storage Manager

The storage manager is an application that facilitates writing of data used by the V9 series unit to a storage device, and importing of data from a storage device for conversion into other file formats.

### 8.4.1 Starting and Ending

### Starting

- 1. Start V-SFT.
- 2. Click [File]  $\rightarrow$  [Storage Manager]. The window shown below is displayed.



3. Specify the drive where the storage device is inserted and click [OK]. The [Storage Manager] window is displayed.



#### Ending

1. Click the [X] button on the corner of the [Storage Manager] tab.

👔 🔌 💳 📮 🤲 Storage Setting	Storage Manager(H:\) - V Series E	ditor for Windows Version 6.00 [ No Title.V9 ] V	908* i C (640 x 480) 32K-Color w/ blinking	
Edit Help Storage Setting				Window Style
😫 🖹 🛅 🍎 🍥 🤤 🧔				
Write to Storage Storage Put BIN Property Edit Latest Storage Backup Copy File Back Comment Informatio	n			
Storage Setting BIN File Display				
🖳 Screen [0] Edit ( ) 😽 Storage Manager(H:\) 🗙				
Emercon Removable Disk (H:) File Name	File Type	Size Update Date		

2. The screen editing window reappears.

### 8.4.2 Writing

The procedure for writing data to a storage device is explained below.

Always use the storage manager to write the data in the following table to a storage device. Other files can be copied using Windows Explorer.

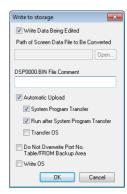
Data	Extension	Remarks
Screen program	.V9	
SRAM backup data	.RAM	
Text file	.BIN	

#### Writing Procedure

1. Click [Storage Setting]  $\rightarrow$  [Write to Storage].



2. The [Write to storage] window is displayed.



	Item	Description			
Write Data	Being Edited	Write the screen program that is open (being edited) in V-SFT.			
Path of Screen Data File to Be Converted		Select the data for writing to the storage device from the [Open] button. File extensions: [*.V9], [*.RAM], [*.TXT]			
DSP0000.BI	N File Comment	Add a comment to the screen program file (DSP0000.BIN). This comment can be checked via the file's [Property] window.			
Automatic l	Jpload	Create an automatic upload file.			
	System Program Transfer	Select this checkbox when uploading system program files together with the screen program.			
	Run after System Program Transfer	Automatically switch MONITOUCH to RUN mode after automatic upload is complete.			
	erwrite Port No. 1 Backup Area <sup>*1 *2</sup>	Select this checkbox to prevent existing values in the station number table or existing values in the FROM area from being changed when transferring a screen program from a storage device.			

\*1 Station number table

The station number of a counterpart device can be changed in RUN mode when connecting to the following models.

- PLC: Mitsubishi QnH (Q) series (Ethernet) (1 : n connection only)
- PLC: Mitsubishi QnA series (Ethernet) (1 : n connection only)
- PLC: OMRON SYSMAC CS1/CJ1 (Ethernet Auto) (1 : n connection only)
- PLC: OMRON SYSMAC CS1/CJ1 DNA (Ethernet) (1 : n connection only)
- Temperature controller: Fuji Electric F-MPC04P (loader)
- Temperature controller: Fuji Electric F-MPC04S (UM03)

\*2 FROM backup area

The FROM backup area is where a backup copy of the data in the PLC or internal device memory can be stored. To retain the data, use the macro commands "FROM\_RD" and "FROM\_WR". For details on macros, refer to the V9 Series Macro Reference Manual.

3. When the settings are complete, click [OK]. A BIN file is written to each of the folders under the access folder.

### 8.4.3 BIN Files

Files with the extension ".BIN" are stored under access folders. The storage manager can be used to convert BIN files and check file information.

File	Storage target folder	Extension After Conversion	File Type
DSP0000.BIN	DSP	.V9	Screen program
BMPxxxx.BIN	BITMAP	.BMP	Pattern file
MSGxxyyy.BIN	MSG	.TXT	Message

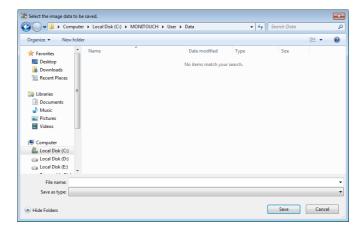
### **BIN File Conversion**

All BIN files can be restored to their original state.

- 1. Select a file from an access folder.
- 2. Right-click on the file and select [Put BIN File Back].

r (1990) = 1990 (1990) - 1990 (1990) - 1990 (1990) - 1990 (1990) - 1990 (1990) - 1990 (1990) - 1990 (1990) - 1990	Storage Setting	Storage Manager	(H:\) - V Series Editor 1	for Windows Version 6.00	0 [ No Title.V9 ] V908* i (	(640 x 480) 32K-Color w/ blinking	- = ×
Edit Help	Storage Setting						Window Style 👻 😚
Write to Storage Storage Storage Backup Copy Storage Setting		Latest of ormation Display					
Screen [0] Edit (	) 🧑 Storage Manager(	H:V ×					······································
🖃 👝 Removable Disk (H:)	File Name	1	File Type	Size	Update Date		
📥 🍌 ЕХТОООО	DSP0000.BIN		RIN File	45,597,231 B	2014/04/19 17:25		
ALARM		Cut	Ctrl+X				
- 🍌 DSP		Сору	Ctrl+C				
HDCOPY		Paste	Ctrl+V				
JPEG		Delete					
LIST LIST LOGGING RECIPE SAMPLE SAMPLE SRAP SRAP		Select All					
RECIPE		Latest Informat	ion				
- 🎉 SAMPLE		Put BIN File Bag	ck				
SNAP		Property					
SRAM	_						
WAV 🔬							

3. The window shown below is displayed. Specify the folder to save in and the filename and click [Save].



4. A converted file is created.

#### Notes

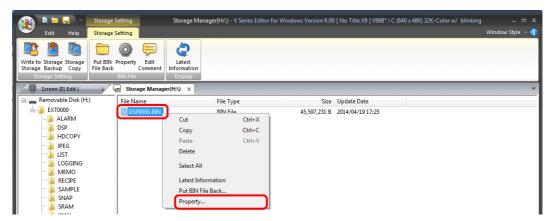
• Note that BIN files in the "BITMAP", "MSG", and "SCRN" folders are required to convert "DSP0000.BIN" into a V9 file. If these files are missing, the V9 file will be created without pattern data and 3D parts.

VSft60	
4	[C:#MONITOUCH#Common#Parts#Real#Square_00\$05.PNG] does not exist. Or failed in reading the file.
	ОК

### **BIN File Properties**

Information on each BIN file can be checked before conversion.

- 1. Select a file from an access folder.
- 2. Right-click on the file and select [Property]. Information on the file is displayed.



• DSP0000.BIN

The file type or system program version of the file can be checked on the [Detail] tab window.

OSP0000.BIN Property			×
General Detail PLC Informa	tion		
Туре	Comment	Size	-
Screen Data		20,974,127 B	
Display System Program	V9series	17,830,926 B	=
Font	Jpn. Gothic TTF	6,234,430 B	=
PLC1 I/F Driver	MELSEC QnU C	557,492 B	
PLC2 I/F Driver		0 B	
PLC3 I/F Driver		0 B	
PLC4 I/F Driver		0 B	
PLC5 I/F Driver		0 B	-
•	111	۱. F	
Type to V910* iW (1024:	x 600) 32K-Color w/ blinki	ng	
	ОК Са	ancel App	oly

- BMPxxxx.BIN
  - A bitmap image is displayed.



• MSGxxyyy.BIN Information on the file is displayed.

> MSG00001.BIN Property General MSG00001.BIN a file comment: Type BIN File Size: 137 Byte Update Mar. 8, 2015 21:23:00 OK Cancel Apply

### 8.4.4 Storage Copy

Copy the data on the storage device.

1. Click [Storage Setting]  $\rightarrow$  [Storage Copy].

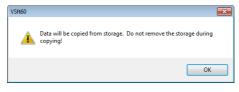
🛞 🔌 💳 🔲 🖉 Storage	Setting Storage Manage	r(H:\) - V Series Editor for Windows \	/ersion 6.00	[ No Title.V9 ] V908* i C (640 x 48	80) 32K-Color w/ blinking	_ = ×
Edit Help Storage	Setting					Window Style 🕞 😚
Write to Storage Storage Backup Storage Setting	Property Edit Comment BIN File					
🖳 Screen (0) Edit ( )	Storage Manager(H:\) ×					
Removable Disk (H:)	File Name	File Type	Size	Update Date		
EXT0000     ALARM     DOP     DOP	DSP0000.BIN	BIN File 45	,597,231 B	2014/04/19 17:25		

- 2. Specify the storage device drive and click [OK].
- Select the storage as th...

   [+]

   [-g]

   [-g]
- 3. The following dialog box is displayed. Click [OK].



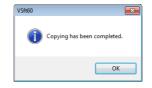
 The following dialog box is displayed. Remove the storage device from the PC and insert another device for saving the copied data. Click [OK].



5. The following dialog box is displayed. Click [OK].



6. When copying is complete, the following dialog box is displayed.



### 8.4.5 Storage Device Backup

A backup of data on a storage device can be created. Any folder can be selected for saving the data.

1. Click [Storage Setting]  $\rightarrow$  [Storage Backup].

	🖹 🗁 🔚 🔍 "	Storage Settin	g	Storage Ma	nager(H:\) - V Series Editor	for Windows Version 6.00	) [ No Title.V9 ] V908* i C (6	40 x 480) 32K-Color w/ blinking	_ = ×
<u> </u>	Edit Help	Storage Settin	g						Window Style 👻 😚
Storage	Storage Backup Gopy Gage Setting	Put BIN Prope File Back BIN	Comment	Latest Information Display					
Ģ	Screen [0] Edit (	) 🗟 S	torage Manag	er(H:\) ×					-
Brie F	Removable Disk (H:	:) File	Name		File Type	Size	Update Date		
ė	EXT0000		DSP0000.BIN		BIN File	45,597,231 B	2014/04/19 17:25		
	ALARM DSP HDCOPY HDCOPY LIST LOGGING MEMO RECIPE SNAP SRAM WAV								

2. When the [Copy Target Folder] window is displayed, click [Open] and specify the copy target folder.

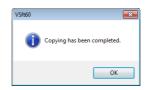
Example: When saving in the "Backup" folder in the D drive:

Copy Target Folder		×
Store Target Path:		
D:\Backup		Open
	ОK	Cancel

3. Click [OK]. The following dialog box is displayed.

VSft60		×
À	Data will be copied from storage. Do not remove the storage during copying!	
	OK	

4. Click [OK]. The data on the storage device is copied to the copy target. When copying is complete, the following dialog is displayed.



- 5. Use Windows Explorer to check that the data was copied correctly.
- \* When copying data from a storage device to the hard disk drive, it can also be copied and pasted using Windows Explorer.

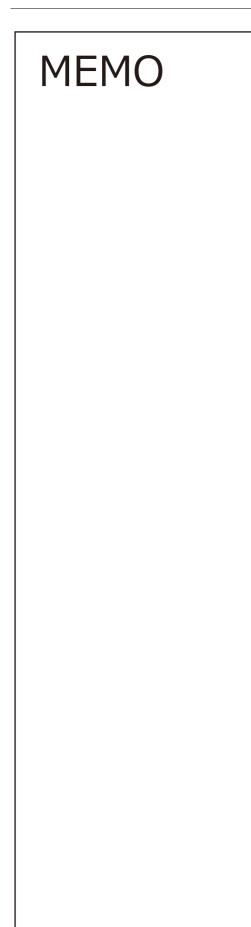
# 8.5 System Device Memory (\$s)

Information about the status and the free space of the storage device inserted into the V9 series unit is stored in system device memory (\$s).

Addresses	Description	SD	USB-A	Device Type
\$s497	Storage device error state	0	0	
	Value Description	*1	*1	
	4 Card not mounted			
	5 Format error			
	9 JPEG/BMP file read error			
	12 Card write error			
	15 Disk error (open failure)			
	16 Card read error			
\$s498	Free space on storage device (kB)	0	0	
\$s499		*1	*1	
\$s500	[Storage Removal] switch status	0	0	
	MSB LSB	*1	*1	
	15         14         13         12         11         10         09         08         07         06         05         04         03         02         01         00			
	System reserved ("0" setting) 0: Switch OFF (storage removal prohibited)			
	1: Switch ON (storage removal permitted)			
\$s1030	Storage device error state \$s497 reference	0	-	
\$\$1030 \$\$1031	Free space on storage device (kB)	0		
\$s1031		0		
\$s1033	[Storage Removal] switch status \$s500 reference	0	-	← V9
\$s1035	Storage device error state \$s497 reference	-	0	
\$s1036	Free space on storage device (kB)	-	0	
\$s1037	······································			
\$s1038	[Storage Removal] switch status \$s500 reference	-	0	
\$s1050	Background processing flag	0	0	
	MSB LSB			
	15         14         13         12         11         10         09         08         07         06         05         04         03         02         01         00			
	Alarm/logging data backup			
	0: Not processed, 1: Being processed System reserved ("0" setting)			
	Hard copy macro — 0: Not processed, 1: Being processed			
\$s1051	Background processing completion flag When processing has been completed (when \$s1050 turns OFF), this turns ON.	0	0	
	When the operation has been verified, the user must clear it to zero.			
	MSB LSB			
	15         14         13         12         11         10         09         08         07         06         05         04         03         02         01         00			
	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			
	Alarm/logging data backup			
	0: Not completed, 1: Completed System reserved ("0" setting)			
	Hard copy macro ————————————————————————————————————			

Addresses		Description												SD	USB-A	Device Type			
\$s1052	If an turns										0	0	← V9						
	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
	Alarm/logging data backup System reserved ("0" setting) Hard copy macro 0: Normal, 1: Error 0: Normal, 1: Error																		

\*1 Information on the specified drive is stored at [System Setting]  $\rightarrow$  [Other]  $\rightarrow$  [Storage Setting]  $\rightarrow$  [Storage Connection Target].





9 Language Changeover

# 9.1 Overview

### 9.1.1 Fonts

• Select a base language (font) first and then edit the screen using text that can be displayed in the selected font.

Ja	Japanese (Gothic) TTF										
	<mark>運転</mark> 設定 監視	に 、 に 、 に で ・ 、 ルワ <sup>*</sup> 生産管理									

Chinese (Simplified) TTF	Chinese (Simplified) 11F							
菜单								
运转保管								
设置 帮助								
	75							
监 视 生产管理	F8							
MONITOUCH	•							

For details on font types and supported languages, refer to "9.1.2 Font Types" page 9-2.

• A maximum of 16 languages can be used on the same screen just by switching the text for display.

F1000 2000 27 27 27 20 20 610 FT F2 F2 F2 F2 メニュ 메뉴 菜单 보 관 運 転 保 管 保管 运转 F3 F4 設 定 ヘルプ 설 정 헬 프 设置 帮助 75. 75 76 71 76 監 감 시 생산관리 生产管理 視 生産管理 监视 F? ŝτ F7 c Japanese Korean Chinese (Simplified)

Example: Registration of screen program "ABC.V9" in three languages

For details, refer to "9.1.3 Language Selection" page 9-5.

• Use "Windows fonts" to display two or more languages on a single screen or display Windows-type characters on the screen.



For details on Windows fonts, refer to the V9 Series Operation Manual.

# 9.1.2 Font Types

Fonts are generally divided into two types: TrueType fonts and bitmap fonts.

Because the mixed use of fonts is not permitted on the V9 series unit, select one font type in the [System Setting]  $\rightarrow$  [Multi-language Setting]  $\rightarrow$  [Font Setting] window.

Туре	Size Specification Method	Features	Image				
TrueType font	Point specification	Supports smoothing. Note that TrueType fonts require more memory than bitmap fonts.	<sup>8ポイント 運転 MONITOUCH</sup> 10ポイント 運転 MONITOUCH 16ポイント 運転 MONITOUCH 18ポイント 運転 MONITOUCH 24ポイント 運転 MONITOUCH				
Bitmap font	XY magnification factor specification	Font data designed in sizes of 16 × 16 dots and 32 × 32 dots (two-byte characters). This font type occupies less memory but is not suitable if a smoother-line typeface is required. * V8 compatible	1×1 蓮転 MONITOUCH 2×2 運転 MONITOUCH 3×3 <b>這車</b> 五 MONITOUCH				

Windows Fonts

No font data is stored on MONITOUCH. Fonts used on Windows, such as "Times New Roman" or "Arial", are used as image data. Settings can be configured for each item. For details, refer to the V9 Series Operation Manual.

# Supported Language List

The following table lists t	he fonts and corresponding	languages supported by the V9 series.

	Font Setting <sup>*1</sup>	Supported Language	Supported Character Code	Remarks	
TrueType font	Japanese (Gothic) TTF Japanese Times TTF	Japanese, English	JIS level-1 to level-4 + ANK code	8794 not displayable	
	English/Western Europe Gothic TTF English/Western Europe	English, Icelandic, Irish, Italian, Dutch, Swedish, Spanish, Danish, German, Norwegian, Portuguese, Finnish, Faroese,	ISO-8859-1: Latin1 (Extended ASCII code)		
	Times TTF	French			
	Chinese (Traditional) TTF	Chinese (traditional), English	BIG5 code (A141 to F9FE) + ASCII code	A344 to A373 not displayable	
	Chinese (Simplified) TTF	Chinese (simplified), English	GB2312 code (A1A1 to F7FE) + ASCII code	A021 - A07E A6A1 - A6B8 A6C1 - A6D8 A7A1 - A7C0 A7D1 - A7F1 A8BB, A8BD, A8BE, A8C0 not displayable	
	Korean TTF	Hangul, English	KS code (A1A1 to FDFE) + ASCII code	A2E6 and A2E7 not displayable	
	Central Europe TTF	Croatian, Czech, Hungarian, Polish, Hrvatska (Croatian), Romanian, Slovakian, Slovene	CP1250 code		
	Cyrillic TTF	Russian, Ukrainian, Kazakh, Bulgarian, Uzbek, Azerbaijani	CP1251 code		
	Greek TTF	Greek	CP1253 code		
	Turkish TTF	Turkish	CP1254 code		
	Baltic TTF	Estonian, Latvian, Lithuanian	CP1257 code		
Bitmap font	Japanese	Japanese, English	JIS level-1 and level-2 + ANK code		
	Japanese 32		JIS level-1 + ANK code		
	English/Western Europe	English, Icelandic, Irish, Italian, Dutch, Swedish, Spanish, Danish, German, Norwegian, Portuguese, Finnish, Faroese, French	ISO-8859-1: Latin1 (Extended ASCII code)		
	Chinese (Traditional)	Chinese (traditional), English	BIG5 code (A141 to C67E) + ASCII code		
	Chinese (Simplified)	Chinese (simplified), English	GB2312 code (A1A1 to FEFE) + ASCII code		
	Korean	Hangul, English	KS code (A1A2 to C8FE) + ASCII code		
	Central Europe	Croatian, Czech, Hungarian, Polish, Hrvatska (Croatian), Romanian, Slovakian, Slovene	CP1250 code		
	Cyrillic	Russian, Ukrainian, Kazakh, Bulgarian, Uzbek, Azerbaijani	CP1251 code		
	Greek	Greek	CP1253 code		
	Turkish	Turkish	CP1254 code		
	Baltic	Estonian, Latvian, Lithuanian	CP1257 code		

\*1 TrueType fonts and bitmap fonts cannot be used together.

# **Checking Fonts on MONITOUCH**

The font name is displayed at the following location in Local mode.

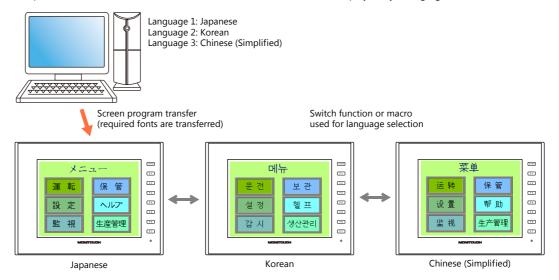
FUN       MONITOUCH       Screen Data       Driver       HW         Information       Information       Information       Ethemet Information         System       Model Information       IP Address       10.91.130.162         Service Port       10000       Service Port       10000         Setting       Font Information       Transfer Port for Editor (Serial)       Service Port         Font Data       Multi Font       Font Data       Multi Font         Font Ver.       V1.000       Setting       Service Data       206KB         Memory Usage       Screen Data       206KB       Comm. Driver       494KB         Setting       Setting       Transfer Port Data       2456KB       Comm. Driver       494KB         Setting       Setting       Transfer Port Service Port       Setting       Service Port       53762KB	Font name ———

The font names that are displayed in the [Font Setting] window and in Local mode are listed below.

	Font Setting	Local Mode
TrueType font	Japanese (Gothic) TTF	Jpn. Gothic TTF
	Japanese Times TTF	Jpn. Times TTF
	English/Western Europe Gothic TTF	Eng. Gothic TTF
	English/Western Europe Times TTF	Eng. Times TTF
	Chinese (Traditional) TTF	Chinese(Trd.)TTF
	Chinese (Simplified) TTF	Chinese(Smp.)TTF
	Korean TTF	Korean TTF
	Central Europe TTF	Central Euro.TTF
	Cyrillic TTF	Cyrillic TTF
	Greek TTF	Greek TTF
	Turkish TTF	Turkish TTF
	Baltic TTF	Baltic TTF
Bitmap font	Japanese	JAPANESE
	Japanese 32	JAPANESE 32
	English/Western Europe	ENGLISH
	Chinese (Traditional)	CHINESE(TRAD.)
	Chinese (Simplified)	CHINESE(SIMP.)
	Korean	KOREAN
	Central Europe	Central Euro.
	Cyrillic	Cyrillic
	Greek	Greek
	Turkish	Turkish
	Baltic	Baltic
Multi-language screen (v	vith multiple fonts selected)	Multi FONT

### 9.1.3 Language Selection

• All required fonts can be stored on MONITOUCH in advance and then displayed by changing between character sets.



For details on settings, refer to "9.2 Setting Procedure" page 9-6.

• The text for display can be changed even when using a single font, such as German ↔ Italian or Japanese ↔ English. Using only one font reduces the space required by the screen program.



- For details on languages that are supported by each font, refer to "Supported Language List" page 9-3.
- For details on settings, refer to "9.2 Setting Procedure" page 9-6.
- When using a Windows font, it is possible to change only the text. The text for display can be changed using a single font.

For details on Windows fonts, refer to the V9 Series Operation Manual.

• To change the language in the RUN mode, use a switch with [Function] set to "Language changeover" or use the "CHG\_LANG" macro command.

For details, refer to "9.2.3 Language Selection" page 9-13.

- The following methods are available for language editing.
  - For details, refer to "9.2.2 Language Editing" page 9-7.
  - For details, refer to "9.4 Convenient Editing Procedures" page 9-18.

## 9.2 Setting Procedure

This section describes the procedure for configuring settings that allow changing languages that use different fonts when in RUN mode.

(The procedure is explained assuming that the setting for Language 1 has been completed.)

- 1. Font settings (refer to page 9-6)
- 2. Editing of each language (refer to page 9-7)
- 3. Language selection using the switch function or "CHG\_LANG" macro command (refer to page 9-13)

## 9.2.1 Font Setting

- 1. Click [System Setting] → [Multi-language Setting] to display the [Font Setting] window.
- 2. Set a value for [Interface Language]. (Example: set "3" to allow changing between three languages.)
- 3. Set [Font Type] to "TrueType font" and set the languages to be displayed.
  - Example 1: Changing between Japanese, Chinese (Simplified) and Korean Language 1: Japanese (Gothic) TTF Language 2: Chinese (Simplified) TTF Language 3: Korean TTF
  - Example 2:
    - Changing between German and Italian Language 1: English/Western Europe Gothic TTF Language 2: English/Western Europe Gothic TTF
    - Changing between Japanese and English Language 1: Japanese (Gothic) TTF Language 2: Japanese (Gothic) TTF
- 4. Select a language number for [Initial Interface Language] so that the corresponding language is displayed when a screen program is transferred.

Font Se	tting			
Font	Transfer Font Setting	Export / Import		
Inter	ace Language	8		
Font	Туре			
	FrueType font	-		
	ay Font			
	.anguage 1: Japanese 0 anguage 2: Chinese (Tr anguage 3: Korean TTF	thic TTF ditional) TTF	Setting	
Initia	I Interface Language	1	1	

This completes the necessary settings.



#### Transfer font setting

Select the checkboxes of the fonts required on the V9 series unit. More fonts selected for transfer results in less capacity available for the screen program. Do not select fonts that are not necessary.

not select ionts that a	re not necessary.
	Font Setting

Font Setting	×
Font Transfer Font Setting Export / Import	
☑ Japanese Gothic TTF	
Japanese Times TTF	
English/Western Europe Gothic TTF	
English/Western Europe Times TTF	
Chinese (Traditional) TTF	
Chinese (Simplified) TTF	
✓ Korean TTF	
Central Europe TTF	
Cyrillic TTF	
Greek TTF	
Turkish TTF	

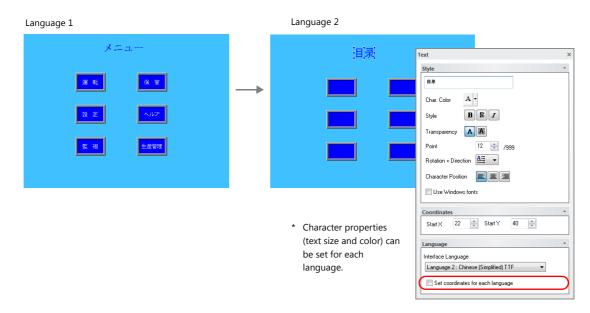
### 9.2.2 Language Editing

This section explains the multi-language editing procedure assuming that the version of Microsoft Windows on the PC used is capable of editing the required foreign languages. There are three methods for editing languages.

\* For details on the settings and notes for editing foreign languages on a Japanese version of Microsoft Windows, refer to the V9 Series Operation Manual.

### A. Directly Edit Items

By specifying the interface language number on the [Language] changing menu, text for Language 2 and later can be edited on the screen in the same way as Language 1.



- \* The interface language number can also be changed using the [Display Language] drop-down menu.
  - [View]  $\rightarrow$  [Display Change]

🔞 🛯 🗖 🖉 🔿 🔿	▼ V Series I	Editor for	Windows Versi
File Home P	arts Edit	View	Screen Setting
OFF -	Project	Functio	n Item
🖭 1: Japanese Gothic TTF 🔻	🔝 Catalog	🚡 Compor	nent Device
	📰 Item List	🔛 Compoi	nent Text Se
Display Change		View	

• [View] → [Display Environment]



### **Checking the layout**

After editing, always check the layout of each language for problems using the [Language] changing menu. Character properties can be set for each language. The point size and color settings can be changed for specific languages.

## B. Editing in the [Multi-language Edit] Window

Display the text in the screen program edited using Language 1 in the [Multi-language Edit] window and directly enter the desired text in another language.

Text can be copied and pasted between the [Multi-language Edit] window and Excel (pasted as "Unicode text" in Excel).

#### Editing location: [Home] $\rightarrow$ [Registration Item $\mathbf{\nabla}$ ] $\rightarrow$ [Multi-language]

[Multi-language Edit] window						
	Ĩ	Screen [0] Edit ( )	Multi-language [0] E	dit ×		
	No.	1:Japanese	2:English	3:Chinese (Simplified)	4:Korean	——— Target languages
	0	[多言語表示]	[Confirm]	[确认]	[확인]	languages
	1	[言語を切り替えます。]	[Language will be switche	[转换语言。]	[언어를 바꿉니다.]	
	2	[よろしいですか?]	[OK?]	[可以吗?]	[좋습니까?]	
	3	[lはい]	[Yes]	[可以]	[01]	
	4	[いいえ]	[No]	[不行]	[아니요]	
	5	[日本語]	[Japanese]	[日文]	[일본머]	
	6	[英語]	[English]	[英文]	[영어]	
Line No. ——	7	[中国語]	[Chinese]	[中文]	[중국어]	
LINE NO.	8	[韓国語]	[Korean]	[韩文]	[한국어]	
	9	[1つの画面で、複数の言語	[It is possible to implem	[在一个画面上可以转换显示	[한 화면에서 여러 언어를	

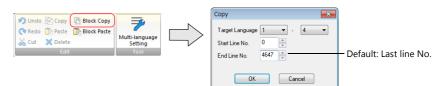


Language 1 cannot be edited in the [Multi-language Edit] window. To edit Language 1, edit it directly in the item settings.

\* The [Multi-language Edit] window can be used to register up to 1000 lines (No. 0 to 999) per sheet. When batch copying over 1000 lines (from the second sheet onwards) for editing in Excel, use the following procedure.

Example: Example: Batch copy of languages 1 to 4, numbers 0 to 4647 (4648 rows) in the [Multi-language Edit] window

Click [Edit] → [Block Copy]. The [Copy] window is displayed.
 Specify target languages and start/end line numbers to copy, and click the [OK] button.



2) Select a cell in Excel and paste.

Excel

a) L	anguage Edit .xlsx				
	A	в	С	D	All text in numbers 0 to
1	確認	Confirm	确认	확인	4647 (4648 rows) of
	言語を切り替えます。	Language will be swite	转换语言。	언어를 바꿉니다.	languages 1 to 4 are
	よろしいですか?	OK?	可以吗?	좋습니까?	pasted.
	はい	Yes	可以	예	
	いいえ	No	不行	아니요	
	日本語	Japanese	日文	일본어	
	英 語	English	英文	영어	
8	中国語	Chinese	中文	준군어	

\* If text cannot be pasted correctly, click [Paste Special] and select [Paste As: Unicode Text] to paste. Default: Unicode text

3) After editing in Excel, select the multi-language columns for Language 2 through 4 by dragging and copy them.



Language 1 cannot be pasted (edited) to the [Multi-language Edit] window. To edit Language 1, edit it directly in the item settings.

 Click [Edit] → [Block Paste] in the [Multi-language Edit] window in V-SFT to display the [Paste] dialog. Select the languages for pasting and the starting row number, and click [OK].

♥ Undo     ● Copy     ● Block Copy       ♥ Redo     ● Paste     ● Block Paste       ● Cut ★ Delete     Edit	Paste	– Language 2 onwards
	OK Cancel	

This completes the editing.

After editing, always check the layout of each language for problems using the [Language] changing menu. For details, refer to page 9-7.

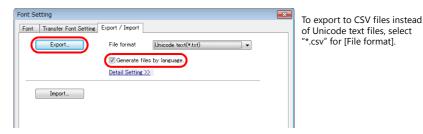
## C. Export / Import

Export and import can be performed by compiling all languages in a text file per language. Using this function allows text to be imported after undergoing translation and editing by viewing multiple languages side by side on an Excel spreadsheet.

### Outputting a File for Each of the Languages for Switching

#### **Export procedure**

- 1. Select [System Setting] → [Multi-language Setting] to display the [Font Setting] window and click the [Import/Export] tab.
- 2. Configure the settings as shown below and click [Export].



The [Save As] window is displayed.
 Enter a filename and click [Save] to output text files.



4. Start Excel and drag and drop the exported text into the Excel window to open it.

Example:	Language 3	
	A Test_3.txt	File Home Insert Page Layout Formulas Data Review
		Clipboard G Font G A



Language 1 cannot be pasted (edited) to the [Multi-language Edit] window. To edit Language 1, edit it directly in the item settings.

#### 5. Register the text in square brackets in column B.

Test_3.bxt					
4		В		D	
1	MLIB0000:STR	[确认]			
2	MLIB0000:STR	[转换语言。]			
3	MLIB0000:STR	[可以嗎?]			
4	MLIB0000:SW000	[可以]			
5	MLIB0000:SW000	[不行]			
6	SCRN0000:B00:SW000	[日文]			



Do not edit column A. Also, do not delete any square brackets in column B. If these are edited or deleted, file import will end in failure.

6. After editing, click [File]  $\rightarrow$  [Save As].

Select "Unicode Text (\*.txt)" for [Save as type] and save the file using the same filename.

This completes the necessary settings.

### **Import procedure**

- 1. Click [System Setting]  $\rightarrow$  [Multi-language Setting] to display the [Font Setting] window.
- 2. Display the [Export/Import] tab and click the [Import] button.

				_
Font Setting				×
Font Transfer Font Setting	Export / Import			
Export	File format	Unicode text(*.tx	d)	•
	📝 Generate fi	les by language.		
	Detail Setting	<u>&gt;&gt;</u>		
Import				
			OK	Cancel

3. The [Open] window is displayed.

Select "Unicode text (\*.txt)" for [Save as type] and open each file one at a time.

🗊 Test.txt Language 1	
🗊 Test_2.txt —— Language 2	Import languages 2
🗊 Test_3.txt Language 3	
🗊 Test_4.txt Language 4	



Be sure to save the files for languages 1 to 4 in the same place and using the original filenames. If any file is renamed or the Language 1 file is edited or deleted, file import will end in failure. The Language 1 file cannot be imported.

to 4 in order.

This completes the file importing process.

After editing, always check the layout of each language for problems using the [Language] changing menu. For details, refer to page 9-7.

#### **Outputting All Languages to a Single File**

### **Export procedure**

- 1. Select [System Setting] → [Multi-language Setting] to display the [Font Setting] window and click the [Import/Export] tab.
- 2. Configure the settings as shown below and click [Export].

Font Setting Font Transfer Font Setting Export / Import	To export to CSV files instea of Unicode text files, select "*.csv" for [File format].
ExportFile format Unicode text(*txt) v  Generate files by language Detail Setting >>	".csv for [File format].
Import	

3. The [Save As] window is displayed. Enter a filename and click [Save] to output text files.

Test.txt — Languages 1 to 4	One file is created.
-----------------------------	----------------------

4. Start Excel and drag and drop the exported text into the Excel window to open it.

Example:	Languages 1 to 4	
	A Test.txt	File     Home     Insert     Page Layout     Formulas     Data     Review       Image: Drag and drop       Image: Drag and drop     Image: Drag and drop     Image: Drag and drop     Image: Drag and drop     Image: Drag and drop       Image: Drag and drop     Image: Drag and drop     Image: Drag and drop     Image: Drag and drop     Image: Drag and drop       Image: Drag and drop     Image: Drag and drop     Image: Drag and drop     Image: Drag and drop     Image: Drag and drop       Image: Drag and drop     Image: Drag and drop     Image: Drag and drop     Image: Drag and drop     Image: Drag and drop       Image: Drag and drop     Image: Drag and drop     Image: Drag and drop     Image: Drag and drop     Image: Drag and drop       Image: Drag and drop     Image: Drag and drop     Image: Drag and drop     Image: Drag and drop     Image: Drag and drop       Image: Drag and drop     Image: Drag and drop     Image: Drag and drop     Image: Drag and drop     Image: Drag and drop       Image: Drag and drop     Image: Drag and drop     Image: Drag and drop     Image: Drag and drop     Image: Drag and drop       Image: Drag and drop     Image: Drag and drop     Image: Drag and drop     Image: Drag and drop     Image: Drag and drop <t< td=""></t<>



Language 1 cannot be pasted (edited) to the [Multi-language Edit] window. To edit Language 1, edit it directly in the item settings.

5. Register the text in square brackets in column C, D, and E (red frame).

🕘 Test.txt				
A				E
1 << header start>>		Language 2	Language 3	Language 4
2 Export Multi Languages Te	xt List	Language 2	Language 5	Language 4
3 Ver.1.0	Info:0,1,1,1,1			
4 Language:	1:Japanese	2:English	3:Chinese (Simplified)	4:Korean
5 << header end >>				
6 MLIB0000:STR	[宿産書忍]	[Confirm]	[确认]	[확인]
7 MLIB0000:STR	[言語を切り替えます。]	[Language will be switche	[转换语言。]	[언어를 바꿉니다.]
8 MLIB0000:STR	[よろしいですか?]	[OK?]	[可以吗?]	[좋습니까?]
9 MLIB0000:SW000	[ltll]	[Yes]	[可以]	[여]]
10 MLIB0000:SW000	[いいえ]	[No]	[不行]	[0]-LI 8]
	[口未語]	[.branaca]	[¤\$]	[이 보시]



Do not edit the first to fifth rows (header) and columns A/B (language 1). Also, do not delete any square brackets from column C, D, or E. If these are edited or deleted, file import will end in failure.

6. After editing, click [File]  $\rightarrow$  [Save As]. Select "Unicode Text (\*.txt)" for [Save as type] and save the file using the same filename.

This completes the necessary settings.

### **Import procedure**

- 1. Click [System Setting]  $\rightarrow$  [Multi-language Setting] to display the [Font Setting] window.
- 2. Display the [Export/Import] tab and click the [Import] button.

Font Setting					×
Font Transfer Font Setting	Export / Import				
Export	File format	Unicode text(*.tx	Ð		
	🔲 Generate file	s by language.			
	Detail Setting >	2			
Import					
				DK ]	Cancel

The [Open] window is displayed.
 Select "Unicode text (\*.txt)" for [Save as type] and open the file.

E Test.txt \_\_\_\_\_ Languages 1 to 4

This completes the file importing process.

After editing, always check the layout of each language for problems using the [Language] changing menu. For details, refer to page 9-7.

### 9.2.3 Language Selection

There are two ways to change the language. Use either a switch function or macro command.

### **Switch Function**

The interface language can be changed using a switch with the function [Language changeover]. Each time a [Language changeover] switch is pressed, the interface language switches in the specified order beginning from the [Initial Interface Language]. A desired language can also be displayed by specifying its number with an external command.

### **Location of Settings**

Switch settings window  $\rightarrow$  [Function]  $\rightarrow$  [Function]  $\rightarrow$  [Language changeover]

Style Char. Prop. Output Device	Switch × Function  Standard  Display All Hard Copy Operation Log Viewer Display  Explanation Used for switching the interface language in the specified order beginning from [Initial Interface Language]. Meanwhile, a desired language  Fixed Fixed  Fixed
Function	Display Language  Fixed  Auto Change  Device Designation

Item	Description		
Fixed Display the interface language of the specified language number. Language 1 to 16			
Auto Change	Change the interface language in the specified order beginning from the [Initial Interface Language] set in the [Font Setting] window. Languages that are not selected in the window will not be displayed.		
Device Designation	Display the interface language of the number stored at the specified device memory. 0: Language 1 1: Language 2 2: Language 3 : 15: Language 16		



If a nonexistent language number is specified for display, an error beep sounds and no action takes place. The number of interface languages can be checked at [System Setting]  $\rightarrow$  [Multi-language Setting]  $\rightarrow$  [Font Setting] window.

### **Redraw Timing**

When the interface language is switched, the screen is redrawn. The following actions also take place at the same time.

- Open macro, close macro (screen, multi-overlap library)
- Cycle macro (screen)
- \$T device memory zero clear (screen)
- Screen interrupt command transfer (PLC type: universal serial) (screen)

Prevent execution of these operations when redraw occurs by selecting the checkboxes as required. Location of settings: [Screen Setting]  $\rightarrow$  [Screen Setting]  $\rightarrow$  [Unhide]

ain	Scroll Entry Others PLC Device Transfer Unhide	
_ Whe	n changing Show/Hide device	
	Unhide Items	
Wh	n switching a language	
E	\$T device Not Initialized	
E	OPEN Macro Not Executed	
E	CLOSE Macro Not Executed	
E	Screen Interruption Command Not Transmitted	

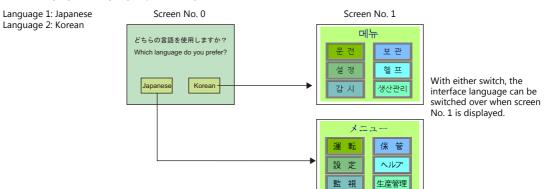
## SYS (CHG\_LANG) Macro Command

The "SYS (CHG\_LANG)" macro command can be used to change the interface language. This command is useful when changing the language using the ON macro of a switch or an external command.

The language is switched over when the screen is changed after the macro command has been executed. For switching the language on the same screen, use the "RESET\_SCRN" macro command. For details on macro commands, refer to the V9 Series Macro Reference Manual.

### **Setting Example**

Example: Changing the language by switching the screen



- 1. Configure the switch ON macro as shown below.
  - "Japanese" switch ON macro

• "Korean" switch ON macro



2. Set the function of each switch to "Language changeover: 1".

This completes the necessary settings.

#### Detail

#### **Device used**

	Internal Device	PLC1 to PLC8 Devices	Memory card	Constant
F1	0			

O: Setting enabled (indirect designation disabled) (a): Setting enabled (indirect designation enabled)

### Range

	Value	Remarks
F1	0: Language 1 1: Language 2 : 15: Language 16	Although the setting range for [Interface Language] in the [System Setting] $\rightarrow$ [Multi-language Setting] $\rightarrow$ [Font Setting] window and [Display Language] in the [Display Environment] window is "1" to "16", the range for "CHG_LANG" is "0" to "15".

### **Editing procedure**

For details on macro editing, refer to the V9 Series Macro Reference Manual.

## 9.3 Detailed Settings

### 9.3.1 Font Setting

Font Set	-			
Font	Transfer Font Setting	Export / Import		
Interfa	ce Language	3		
Font T	уре			
Tr	ueType font	•		
Displa	y Font			
La La	ngwage 1: Japanese ( ngwage 2: Chinese (Ti ngwage 3: Korean TTF	iothic TTF aditional) TTF	Setting_	
Initial	Interface Language	1		

Set the number of languages and fonts for display on the V9 series unit. Display the following window by clicking [System Setting]  $\rightarrow$  [Multi-language setting].

Item		Description						
Interface Language	et the number of interface languages. 1 to 16 Example: [5]: Languages 1 to 5							
Font Type	Select either [TrueType font] or [Bitmap font].							
Setting	Set the languages to use.	Set the languages to use.						
Initial Interface Language	Select the language to be displayed immediately	y after screen program transfer. 1 to 16						
	Operation is as follows after transfer.							
	Operation	Display Language						
	Power ON	The language displayed when the power was turned OFF is displayed.						
	Switching from RUN mode to Local mode	The language used in RUN mode is displayed.						
	Switching from Local mode to RUN mode	The language used in Local mode is displayed. *						
	In Local mode during screen program transfer	The language specified for [Initial Interface Language] in the screen program is displayed.						
	In RUN mode during screen program transfer							

\* Exceptions

• Example 1: When the same font is registered multiple times, the language number displayed before switching to Local mode is displayed.

[Interface Language]: 2, [Transfer Font Setting]: Japanese (Gothic) TTF, [Initial Interface Language]: 1

- Language 1: Japanese (Gothic) TTF

- Language 2: Japanese (Gothic) TTF

• Example 2: In the following case, the lowest language number in the font settings is displayed.

[Interface Language]: 3, [Transfer Font Setting]: Japanese (Gothic) TTF, English/Western Europe Gothic TTF, Central Europe TTF, [Initial Interface Language]: 1

- Language 1: Japanese (Gothic) TTF

- Language 2: English/Western Europe Gothic TTF

- Language 3: Central Europe TTF

Operation example:

RUN (Japanese (Gothic) TTF)

Local mode (switch from Japanese to English)

RUN (Language 2 is displayed)

# 9.3.2 Transfer Font Setting

nt Transfer Font Setting Export	/ Import		
☑ Japanese Gothic TTF			
Japanese Times TTF			
📃 English/Western Europe Gothic	TTF		
📃 English/Western Europe Times	TTF		
Chinese (Traditional) TTF			
☑ Chinese (Simplified) TTF			
✓ Korean TTF			
Central Europe TTF			
Cyrillic TTF			
Creek TTF			
Turkish TTF			
Baltic TTF			
Font Memory 16384 byte (Used)			
Screen Memory 32768 byte (Used)	Screen Memory (Available)	55117824 byte	
		Calculate Memory	J

Item	Description
Transfer Font Setting $^{*1}$	Select the checkboxes of the fonts required on the V9 series unit. * More fonts selected for transfer results in less capacity available for the screen program. If capacity is insufficient, do not select unnecessary fonts.
Font Memory (Used)	Displays the total memory size used for the currently selected fonts for transfer.
Screen Memory (Used)	Displays the size of the screen program currently being created.
Screen Memory (Available)	Displays the space available for the screen program.
Calculate Memory	Recalculate the volume of data from the current settings.

\*1 Languages that can be displayed in Local mode are listed below. Which languages are available for display is determined by selecting the corresponding checkboxes on the [Transfer Font Setting] tab.

Transfer Font Setting	Local Mode
Japanese (Gothic) TTF	Japanese, English
Japanese Times TTF	
English/Western Europe Gothic TTF	English
English/Western Europe Times TTF	
Chinese (Traditional) TTF	Chinese (Traditional), English
Chinese (Simplified) TTF	Chinese (Simplified), English
Korean TTF	Korean, English
Central Europe TTF	English
Cyrillic TTF	
Greek TTF	
Turkish TTF	
Baltic TTF	

# 9.3.3 Import and Export

Font Setting				<b>—</b> ×-
Font Transfer Font S	etting Export / Import			
Export	File format	Unicode text(*.txt)	•	)
	📝 Generate f	iles by language.		
	<u> &lt;&lt; Detail Sett</u>	ing		
	🔽 Output stri	ngs with [].		
	🔽 Output mu	Itiline strings into single	line.	
	<ul> <li>✓ Switch/</li> <li>✓ Multi Te</li> </ul>	ext		
	🔽 Comme	nt		
	٦			
Import				
			OK	Cancel

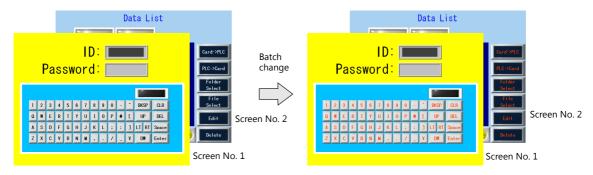
Item		Description						
Export	Use this button when editing text for a language other than Language 1 in another application. For details, refer to page 9-9.							
File format	Select the type of the file to be exported.							
Generate files by language.	Set the file creation method used in exporting.							
	are languages. E Test.txt — Lan E Test_2.txt — Lan E Test_3.txt — Lan	<ul> <li>Selected</li> <li>The same number of files are created as there are languages.</li> <li>Unselected</li> <li>One file is created.</li> </ul>						
Output strings with [ ].	Unselected Delimit output with commas.	Add square brackets to text in output files. Unselected Delimit output with commas. When a file is opened in Excel, some text like the following will not be imported correctly. Characters on V-SFT Output File (Standard cell format)						
	+BK	#NAME?	Not recognized as a character string					
Output multiline strings into single line.	<ul> <li>Set how multiple lines of text located on a switch or lamp are output.</li> <li>Selected         Lines of text are output in one cell with the line feed code "\n".         Unselected         Text is output line by line in separate cells.</li> </ul>							
	Switch	Checkbox	Output Result					
		Selected	[Error \n Screen]					
	Error Screen	Unselected	[Error] [Screen]					
Import	Use this button to import an export For details, refer to page 9-9.	ed file.						

## 9.4 Convenient Editing Procedures

# 9.4.1 Multi-language Batch Change

### Overview

Item properties (text color etc.) for multiple languages from language 1 to 16 can easily be changed at once.



### **Setting Example**

The procedure is explained with an example shown below.

Example: Changing the switch properties on screen numbers 1 and 2 Text color: black to orange, text property: standard to boldface

- Select [Tool] → [Multi Language] → [Multi Language Batch Change] to display the [Multi Language Batch Change] window.
- Click the [Select] → [Detail] button under [Range Setting] and specify a screen range of 1 to 2. Click the [Select] → [Detail] button under [Target Item] and select the [Switch] checkbox.

Multi Language Batch Change					×		Changed Item Setting
Range Setting All Select Detail	Font ? Tarç	Range Setting			×	1	Select the item to be changed. All All All All All All All All All Al
Current Screen		Screen Message	0	▲ · ·	2 × 127 ×		Component Parts
Target Item O All		Graphic Library		A	9 🗼 255 🗼 9999 🗼		
Select     Detail     Selected Item	Settir	Screen Library Data Block	0	A	9999 × 1023 ×		
	V	🕅 Data Sheet		* *	1023		OK Cancel

- 3. Select the [Target] checkbox under [Font Setting].
- 4. In the [Setting on Changes] area, select the [Color] checkbox and select orange. Also select the [Property] checkbox and select boldface.

Multi Language Batch Change		×
Range Setting	Font Setting	
© All		
Select     Detail	Target 🔲 All	
Current Screen	Language 1 : Japanese Gothic TTF	
	Language 2 : English/Western Europe Gothic TTF	
	Language 3 : Chinese (Simplified) TTF	
Target Item	Language 4 : Korean TTF	
© All		
Select Detail	Setting on Changes	
<ul> <li>Selected Item</li> </ul>		
	✓ Property       Image: B     Image: I/4     Image: A       Image: A     Image: A	
	Position	
(	0K Cancel	

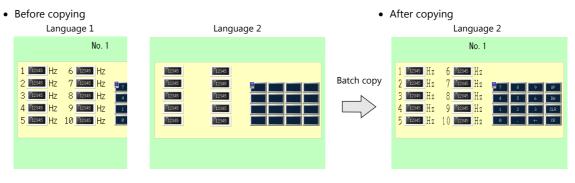
5. Review the settings made in the previous steps, and click [OK].

The settings are updated.

### 9.4.2 Multi-language Batch Copy

#### Overview

If exactly the same text, such as text on switches and item numbers, as language 1 is to be used, it can be easily copied at once.



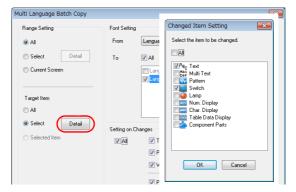
### **Setting Example**

The procedure is explained with an example shown below.

In this example, the text and characters on the switches placed on all screens in language 1 are copied to screens in language 2.

Language 1: Japanese (Gothic) TTF Language 2: English/Western Europe Gothic TTF

- 1. Select [Tool] → [Multi Language] → [Multi Language Batch Copy] to display the [Multi Language Batch Copy] window.
- 2. Select [All] under [Range Setting] and set the target items to [Select] → [Detail] → [Text] and [Switch].



- 3. In the [Font Setting] area in the [Multi Language Batch Copy] window, select [Language 1] for [From] and [Language 2] for [To].
- 4. Batch copy in this example targets all properties. In the [Setting on Changes] area, select the [All] checkbox.

Multi Language Batch Copy		
Range Setting	Font Setting	
<ul> <li>All</li> </ul>	From	Language 1 💌
Select Detail	То	V All
Current Screen		Language 1: Japanese Gothic TTF
		Canguage 2 - English western Europe control Fin
Target Item		
O All		
Select Detail	Setting on Ch	hanges
<ul> <li>Selected Item</li> </ul>		V Text Color
	$\sim$	Property Enlarge Point
		Vindows Font
		V Pattern No.
	OK	Cancel

5. Review the settings made in the previous steps, and click [OK].

The settings are updated.

#### Multi-language Reordering 9.4.3

#### **Overview**

Language 1: Japanese (Gothic) TTF Language 1: English/Western Europe Gothic TTF Language 2: English/Western Europe 運転 保管 Gothic TTF Language 2: 目录 Men Chinese (Simplified) TTF 开动 保留 目录 保管 Language 3: Japanese (Gothic) TTF Language 3: Chinese (Simplified) TTF

Interface languages from language 1 to language 16 can be reordered easily.

### **Setting Example**

The procedure is explained with the settings shown below as an example.

Language 1: Japanese (Gothic) TTF Language 2: English/Western Europe Gothic TTF Language 3: Chinese (Simplified) TTF

- Language 1: English/Western Europe Gothic TTF Language 2: Chinese (Simplified) TTF Language 3: Japanese (Gothic) TTF
- 1. Select [Tool]  $\rightarrow$  [Multi Language]  $\rightarrow$  [Rearrange Language Order] to display the [Rearrange Language Order] window.
- 2. Select the language number using the pull-down menus next to [Language 1], [Language 2], and [Language 3].

 $\rightarrow$  $\rightarrow$ 

Rearrange Lan	iguage Order			×							
The order of the languages will be rearranged.											
Language 1	Japanese Gothic TTF	•	Language 3 👻								
Language 2	English/Western Europe Gothic TTF	->	Language 1	-							
Language 3	Chinese (Simplified) TTF	->	Language 2								
Language 4		->		-							
Language 5		->									
Language 6		->		~							
Language 7		->		-							
Language 8		->		-							
Language 9		->		-							
Language 10		->		-							
Language 11		->		-							
Language 12		->		-							
Language 13		->		-							
Language 14		->		-							
Language 15		->		-							
Language 16		->		-							
		Oł	Can								
		0									

3. Review the settings made in the previous steps, and click [OK].

The settings are updated.

10 Tag

### **10.1** Overview

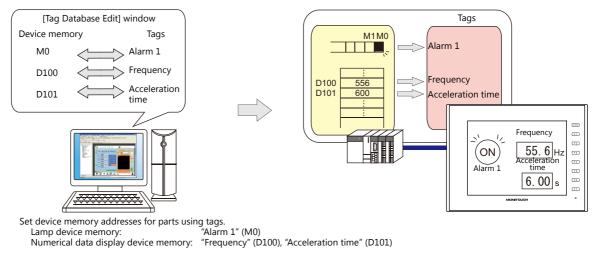
"Tag editing" is a function used to assign names (tags) to PLC or internal device memory (\$u, \$L, etc.) used on the V9 series unit and use these names for screen program creation. Tags can be divided into three general types: device memory designated tags, variable designated tags, and array designated tags.

## 10.1.1 Tag Types

# **Device Designation**

Assign a tag name to a PLC device memory or internal device memory, and set the device memory for the part or item using the assigned name.

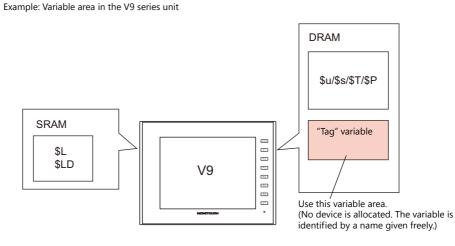
Example: In the [Tag Database Edit] window, register PLC device memory addresses "M0", "D100" and "D101" with names "Alarm 1", "Frequency" and "Acceleration Time", respectively.



For details on the procedure for editing tags, refer to "10.2 Editing Tags" page 10-3.

### **Variable Designation**

Assign a tag name to a variable in the variable area of the V9 unit, and set the device memory variable for parts and items using the assigned names. This is useful for specifying a working area for V9 internal processing, such as for macro and password functions etc.



For details on the editing procedure, refer to "10.2 Editing Tags" page 10-3.

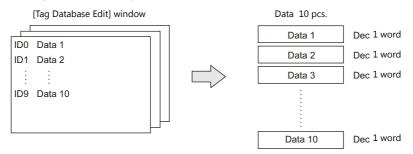
A "variable" is an area that stores data temporarily. This area is used for temporarily storing data, such as a default value or calculated value. The capacity of the variable area is 4096 words for both single words and double words, respectively. For details, refer to ""Tag" Variable Capacity" page 10-20.

Variables

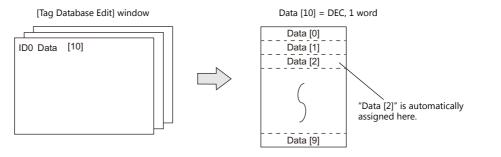
## **Array Designation**

The array format can be specified for the tag. If there is multiple data of the same type, they can be registered at one time. This makes data management and maintenance easier.

For example, when allocating 10 variables that have the same properties (DEC, 1 word) without using the array format, 10 variables must be registered individually as shown below.



When registering one tag with 10 elements in the array format, 10 variables can be secured in the same way as shown above. If there is multiple data of the same type, the array format can be used to make configuration easier.



In the case of the bit variable:



For details on the editing procedure, refer to "10.2.3 Configuring Arrays" page 10-6.

### 10.1.2 Importing Tags

Tags or system labels registered in PLC software can be imported using V-SFT and used as tags.

- For details, refer to the following.
  - "MITSUBISHI ELECTRIC" page 10-9
    - Siemens
      - "SIMATIC Manager (Ver. 5.5 / Ver. 5.4)" page 10-13
      - "TIA Portal (Ver. 11 / Ver. 12 / Ver. 13)" page 10-16
      - "SIMATIC STEP 7-Micro/WIN (S7-200)" page 10-18

## 10.2 Editing Tags

Click [Home]  $\rightarrow$  [Registration Item  $\checkmark$ ]  $\rightarrow$  [Tag Database], specify a group number, and register tags in the [Tag Database Edit] window.

There are three ways to edit tags.

Refer to the following.

- "10.2.1 Direct Registration in the [Tag Database Edit] Window" page 10-3
- "10.2.2 Editing in a CSV File" page 10-4
- 10.5 Importing Tags" page 10-9

## 10.2.1 Direct Registration in the [Tag Database Edit] Window

This section describes the procedure for registering "D100" and "D101" (word device memory) and "M0" (bit device memory) of the PLC1 device memory using tags.

1. Click the [Tag] field and register a tag name.

	📮 Screen [0] Edit ( ) 🖊 🧗	Tag Database[0] Edit $ imes$				
ID	Tag	Туре	Array	No. of Elements	Device	Comment
0	Prequency_setup					
1						
2						
3						
4						

2. Click the [Type] field and select a data type from the list.

Ļ	🖳 Screen (0) Edit ( ) / 🦹 Tag Database(0) Edit 🗙								
ID	Tag	Туре	ray	No. of Elements	Device	Comment			
0	Frequency_setup	Word 👻	]		\$u00100				
1		Bit	]						
2		Vord Double-Word	1						
3		FLOAT	1						
4		Bit Variable	]						
5		- Integer Variable - Double-word Integer Variable -	1						
6		FLOAT Variable	]]						
7		ľ							
8									

- \* To register the same type of data at once with consecutive device memory addresses, use the array format.
- 3. Click the [Device] field and set a device memory address.

(	📃 Screen [0] Edit ( 🛛 ) 🛛 🛃 T				
ID	Tag	Туре	Array No. of Elements	Device	Comment
				PLC1 V H	D 🗸 00100 🚔
1					
2					
3					
4					

- 4. Click the [Comment] field and enter a comment describing the tag.
- 5. To register a new device memory address using a tag, select another ID number and repeat steps 1 to 5.

•

🖳 Screen (0) Edit ( ) 👔 Tag Database(0) Edit 🗙										
ID	Tag	Туре	Array	No. of Elements	Device	Comment				
0	Frequency_setup	Word			D00100	Inverter Port No.1				
1	Acceleration_time	Word			D00101	Inverter Port No.1				
2	Alarm1	Bit			M00000	ON:Abnormal OFF:Normal				
3										
4										
r										

• Bit designation:

This completes the necessary settings.

Tags can be specified in the settings window of each part.

• Word designation:

Device Tag

5			
Lamp Device			(D): 1 · · ·
Tag	▼ Alarm1	•	(Bit device)
Lamp Device			
Tag	<ul> <li>Frequency_setup-00</li> </ul>	•	(Word Device)
	* -xx is the manually e	entere	d part of the bit
	xx: 00 - 15, 00 - 31		

### 10.2.2 Editing in a CSV File

The data registered in the [Tag Database Edit] window for a screen program can be exported to a CSV file. The CSV file can be edited on a PC and then imported back into the screen program. In the example below, changes are made to the data registered with ID No. 0 in the [Tag Database Edit] window using Excel.

- Tag: Frequency\_setup → Run\_status
- Device:  $D100 \rightarrow D105$
- Comment: Inverter Port No. 1  $\rightarrow$  ON: RUN, OFF: STOP

	💭 Screen (0) Edit ( ) 🗡 🏹 Ti					
ID	Tag	ype	Array	No. of Elements	Device	Comment
0	Frequency_setup	ord			D00100	Inverter Port No.1
1	Acceleration_time	ford			000101	INVERCER FORCING. I
2	Alarmi	Bit			M00000	ON:Abnormal OFF:Normal
3						
4						
5						

1. Click [Edit]  $\rightarrow$  [Tag Export].

	000	🚥 🛶 📃 Ski	p 🛃	≂ Tag D	atabase	[0] Edit -	V Series Ed	itor for	Tag Database
, 🥗 ,	File Hor	ne Edit	View	Transf	er S)	stem Settin	g Tool	Help	Edit
Paste C	Cu X De Copy	elete 🎯 Deta		Tag	Tag Export				

- 2. Enter an arbitrary filename in the window, select "Csv File (\*.csv)" for the [Save as type] field, and click [Save].
- 3. Open the CSV file in Excel, edit each field for ID number 0, and save the file.

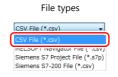
1	A	В	С	D	E	F	G
1	SYMBOL=1	VER=1	REV=0				
2	ID	<b>T</b>	Туре	Array Setting	No. of Elements	Addresse	Commont
3		Frequency_setup	1	0		PLC1 [D001 00]	Inverter Port No.1
4	1	Acceleration_time	1	0		PLC1 (D001 01 )	Inverter Port No.1
5	2	Alarm1	0	0		PLC1 [M00000]	ON:Abnormal OFF:Normal
6	3	Alarm2	0	0		PLC1 [M00001 ]	ON:Abnormal OFF:Normal
7	4	Flag1	3	0			Within macro
8	5	Count_value1	4	0			Within macro
9	6	Title	1	1	5	PLC1 [D00200]	Production_A-line
10	[0]						-

For details on the data in CSV files, refer to "CSV File Configuration" page 10-5.

4. Open the [Tag Database Edit] window and click [Edit]  $\rightarrow$  [Tag Import].



5. Select the CSV file saved in step 3, select "Csv File (\*csv)" for the [Files of type] field, and click [Open].



This completes the necessary settings.

ļ	Screen [10] Edit ( ) 🗗 Tag Database[0] Edit 🗙											
ID	Tao	Туре	Array	No. of Elements	Devine	Comment						
0	Run_status	lord			(D00105	ON:RUN,OFF:STOP						
1	Acceleration_time	Word			000101	inverter Fort No.1						
2	Alarm1	Bit			M00000	ON:Abnormal OFF:Normal						
3	Alarm2	Bit			M00001	ON:Abnormal OFF:Normal						
4	Flag1	Bit Variable				Within macro						
5	Count_value1	Integer Variable				Within macro						
6	Title	Word	~	5	D00200	Production_A-line						
7												
8												

\* IDs that already have tags are overwritten with the imported data.

# **CSV File Configuration**

A CSV file opened in Excel is formatted as shown below.

ŊТ	agE_ABC.csv								
	A	B	C	D	EE	F		G	
1	SYMBOL=1	VER=1	REV=0						
2	ID	Tag	Tvpe	Array Setting	No. of Elements	Address	Comi *	Do not change the	he headei
3	0	Frequency_setup	1	0		PLC1 [D001 00]	Inver	information encl	osed in th
4	1	Acceleration_time	1	0		PLC1 [D001 01 ]	Inver	red dotted frame	. Otherw
5	2	Alarm1	0	0		PLC1 [M00000]	ON:A	the data in the C	
6	3	Alarm2	0	0		PLC1 [M00001 ]	ON:A		
7	4	Flag1	3	0			Withi	be correctly impo	orted into
8	5	Count_value1	4	0	_		Withi	screen program.	
9	6	Title	1	1	5	PLC1 [D00200]	Productio	n_A-line	
0  1  2  3	[0] [1] [2] [3] [4]			must be the s	of elements in an a same as the numbe . of Elements].				

Column	Item	Description	Remarks
А	ID	0 - 65535 Numbers within square brackets []: Element No. 0 to 4095 with the use of arrays	1-byte
В	Tag <sup>*1</sup>	Within 100 one-byte characters	1-byte / 2-byte
С	Туре	0: Bit device memory4: Integer variable1: Word Device memory5: Double-word integer variable2: Double-word device memory6: Real number variable3: Bit variable7: Real number device memory	1-byte
D	Array Setting	0: Not used, 1: Used	1-byte
E	No. of Elements	1 - 4096	1-byte, only when "1" is specified for [D. Array Setting]
F	Address	PLC device memory       PLCx [xxxxx] PLCNo.1 - 8         Example: Specifying PLC1 Mitsubishi D100         • 1:1 connection Word designation: PLC1 [D00100] Bit designation: PLC1 [D00100-00]         Internal device memory: \$u/\$T/\$s/\$L/\$LD         • 1:n connection (port No. 0) Word designation: PLC1 [D00100-00]         Internal device memory: \$u/\$T/\$s/\$L/\$LD         Example: Specifying internal device memory \$u100 Word designation: \$u00100, bit designation: \$u00100-00         Memory card device         File No. 0 to 15         —         Data No. 0 to 4096 Record No. 0 to 4095         Example: Specifying File No. 0, Record No. 0, and Data No. 100 Word designation: [0:0] #0100, bit designation: [0:0] #0100-00         I/O device memory       PLCx [xxxxx] PLCNo.1 - 8         Example: Specifying PLC1 Fuji Electric T-link T100 Word designation: PLC1 [T100], bit designation: PLC1 [T100-00]         Common device memory: CWCB/MW/MB/VW         PLCN [xxxxx] PLCNo.1 - 8         Example:         Example:	1-byte, only general-purpos e FL-Net is designated as PLC1
G	Comment	<ul> <li>Specifying CW100 Word designation: PLC1 [CW0100], bit designation: PLC1 [CW0100-00]</li> <li>Specifying MW100 (port No. 1) Word designation: PLC1 [1:MW0100], bit designation: PLC1 [1:MW0100-00]</li> <li>Within 130 one-byte characters</li> </ul>	1-byte / 2-byte
5	Connicit		- Syle / 2 Syle

\*1 Data that includes unusable characters cannot be imported. Refer to "Detailed Settings" (page 10-7).

## **10.2.3 Configuring Arrays**

This section describes the procedure when "5" is specified for [No. of Elements] for the PLC1 device memory "D200", and "3" for the integer variable in the array format.

1. Select the [Array] checkbox and specify the number for the [No. of Elements] field.

Ę	🖟 Screen [0] Edit ( 👘 ) 🗡 📔 T	ag Database[0] Edit $\times$	_			
ID	Tag	Туре	Array	No. of Elements	Device	Comment
0	ProductName	Word	✓	5	)00200	ALine
1	Parameter	Integer Variable	•	3		ALine
2						
3				D20	0 to D204 are used	
4						
5				> 3 w	ords are used in the	e variable area.
6						

F

- A maximum of 4096 elements can be set.
- If the bit variable is specified in the array format, 1 word is occupied in the variable area even if "16" or a smaller number is specified for the number of elements. For details, refer to "Tag Settings" page 10-20.
- 2. Double-click on the ID number and enter a description in the [Comment] field of the [Detail Setting] window.

ļ	🔋 Screen [0] Edit ( 🛛 ) 🎽 🎦 T	ag Database[0] Edit $ imes$							
ID	Tag	Туре	Array		Elements	Device		iment	
-	ProductName	Word		5		D00200	ALir		
	Parameter	Integer Variable	12.4	3			ALir	ne	
2							_		
3 4		(		il Setti	na				×
+ 5									
3				Tag:	ProductName				
7				rug.					
3				Type:	Word	•			
Э				rypo.					
	Total [0] (= D20	0)			📝 Array Settin	No.of 5 Element	•	<u>Array Setting&lt;&lt;</u>	
	Total [1] (= D20	1)	_		Element No.	Comment D200(Read)			
	10 ( 11 [ 1] ( 12 10	-/			1	D200(nead)			
	Total [2] (= D20	2)			- 2	D202			
	10 ( 11 [ 1] ( 12 10	-/			. 3	D203			
	Total [3] (= D20	3)		_	. 4	D204			
	10 (11 [0] ( 12 20		_						
	Total [4] (= D20	)4)	De	evice:	PLC1 •		00200	×	
			Con	nment	ALine				
								OK Cancel	

\* The [Detail Setting] window can also be displayed from the [Tag Database Edit] tab or by right-clicking and selecting [Detail Setting].

This completes the necessary settings. Tag arrays can be specified in the settings window of each part.

• Tag [n] (n: number of elements in the array)

```
Device Tag 
Parameter[0] 
Tag 
Manually enter a value for [n].
```

## 10.2.4 Importing Tags

Tags or system labels registered in PLC software can be imported using V-SFT and used as tags.

For details, refer to "10.5 Importing Tags" page 10-9.

# **10.3 Detailed Settings**

## [Tag Database Edit] Window

The [Tag Database Edit] window consists of 256 groups, and 256 lines can be registered per group. Accordingly, a maximum of 65536 lines can be registered in total.

Location of settings: [Home]  $\rightarrow$  [Registration Item  $\blacksquare$ ]  $\rightarrow$  [Tag Database]

			Group No. 255	No. 65280		
	Group	No. 2 No. 512				
Group	No. 1	No. 256				
Group No. 0	No. 0	Frequency	word device mem	ory		
	No. 1	Acceleration time	word device mem	ory		
						└[Tag Database Edit] window
	No.255	Alarm	bit device memor	у		
	Scree		) Database[0] Edit X	_	_	
	ID Tag	1	Type	Array No. of Elements	Device	Comment
	1					
	2					
	a 4					
	5					
	6					
	Ľ					

Item		Description					
ID	Line No. 0 to 65535						
Тад	Specify a tag name. Max. 100 one-byte characters (two-byte characters allowed, one-byte/two-byte/uppercase/lowercase are treated as different characters.)						
Type, Device	Specify the data type for the	tag.					
	Device memory	Туре	Data Type				
	PLC device memory Internal device memory Memory card I/O device memory Common device memory	Bit	1-bit data				
		Word	1-word data				
		Double-word	Double-word data				
		Real number	32-bit single precision real number format				
	Variable	Bit variable	1-bit data				
		Integer variable	1-word data				
		Double-word integer variable	Double-word data				
		Real number variable	32-bit single precision real number format				
Array	Use an array. For details on setting arrays,	Use an array. For details on setting arrays, refer to "10.2.3 Configuring Arrays" page 10-6.					
No. of Elements	When [Array] is checked, spe	When [Array] is checked, specify the number of elements to be used in the array. Max. 4096					
Comment		g. Max. 130 one-byte characters e/lowercase are treated as differe					



If an unavailable character is used, the following message box will appear. In this case, perform registration again.

VSft60

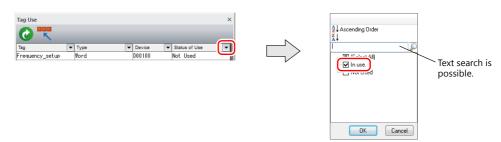
# 10.4 Tag Status List

The tag status list of the entire screen program can be searched and the total word count of tag variables can be checked.

For details, refer to "Checking the Capacity of "Tag" Variable" page 10-20.

The procedure of searching only for tags currently in use is explained as an example.

- 1. Click [Tool]  $\rightarrow$  [Search]  $\rightarrow$  [Tag Use] to display the [Tag Use] window.
- Click the [▼] filter button next to [Status of Use]. Only select the [In use] checkbox and click [OK].



The necessary settings have been completed. The search results are displayed. Selecting a tag displays the location of use.

Tag Use		×	
0 🗮			
Tag 💌 Type	Device	Status of Use	
Acceleration_time Word	D00101	In use.	
Alarm1 Bit	M00000	In use.	
Alarm2 Bit	M00001	In use.	
▲ An item can be created by dragging and	m droping the tag		
Used Point			
Screen[0] Num. Display Dev	ice		<ul> <li>Double-click to jump to the location of use.</li> </ul>
•	m	4	
Total Word Count of the Tag Variables			
For Word 2/409	6 Word		
For Double-Word 0/409	6 Word		

## **10.5 Importing Tags**

Tags or system labels registered in PLC software can be imported using V-SFT and used as tags.

### **Manufacturers of supported PLCs**

- "MITSUBISHI ELECTRIC" page 10-9
- Siemens
  - "SIMATIC Manager (Ver. 5.5 / Ver. 5.4)" page 10-13
  - "TIA Portal (Ver. 11 / Ver. 12 / Ver. 13)" page 10-16
  - "SIMATIC STEP 7-Micro/WIN (S7-200)" page 10-18

### **MITSUBISHI ELECTRIC**

Global labels registered in Simple Project (with labels) or Structured Project in MITSUBISHI ELECTRIC's software GX Works2 can be registered as system labels in the software MELSOFT Navigator. These system labels can be exported in CSV file format. When such CSV files are imported using V-SFT, system labels in the files can be used as tags in V-SFT.

\* For details on using PLC software, refer to the relevant PLC manual.



When whole program compiling is executed in GX Works2, device memory addresses registered with global labels will be reassigned to global labels. If there are global labels with no PLC device memory addresses assigned, addresses of such labels will be assigned according to the automatic assignment setting made in GX Works2.

Therefore, assigning PLC device memory addresses to global labels is recommended.

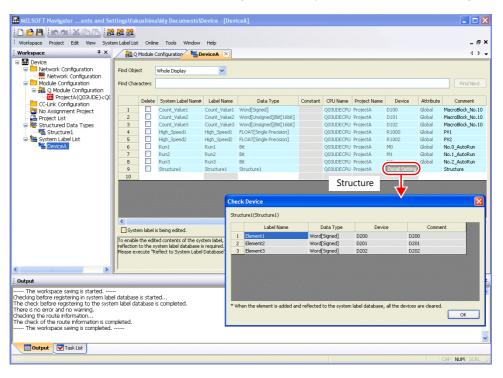
#### **Supported PLC Models**

Manufacturer	PLC Model
MITSUBISHI ELECTRIC	QnH (Q) series link
	QnH (Q) series CPU
	QnH (Q) series CPU (multi CPU)
	QnH (Q) series link (multi CPU)
	QnH (Q) series (Ethernet)
	QnH (Q) series (multi CPU) (Ethernet)
	QnH (Q) series (Ethernet ASCII)
	QnH (Q) series (multi CPU) (Ethernet ASCII)
	QnH (Q) series (CC-LINK)
	QnU series CPU
	QnU series (built-in Ethernet)
	L series link
	L series CPU
	L series (built-in Ethernet)
	FX series CPU
	FX2N/1N series CPU
	FX1S series CPU
	FX series link (A protocol)
	FX3U/3UC/3G series CPU
	FX3U/3GE series (Ethernet)
	FX3U/3UC/3G series link (A protocol)

\* Importing using V-SFT is allowed provided that [PLC1] and a 1:1 connection mode are set in the [System Setting] → [Hardware Setting] window. Importing is not possible for PLC2 and subsequent PLCs.

### Procedure

This section describes the steps to import "Device A" data registered in the system label list into a screen program.



#### \* The following table lists the types of data that can be imported using V-SFT and the data types after importing.

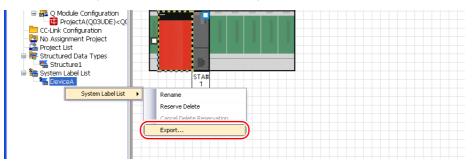
MITSUBISHI ELE	Data Type for Tags in V-SFT			
Data Type <sup>*1</sup>	Length			
Bit	1 bit	Bit		
Word [Signed]	1 word	Word		
Word [Unsigned]	1 word			
Timer	1 word			
Counter	1 word			
Retentive Timer *2	1 word			
Double Word [Signed]	2 words	Double-word		
Double Word [Unsigned]	2 words			
Time	2 words			
FLOAT [Single Precision]	2 words	Real number		

\*1 No other types of data can be imported using V-SFT.

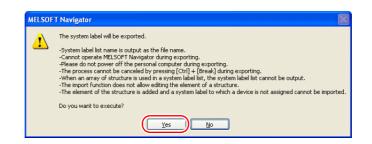
\*2 With the PLC model QnH (Q) series (CC-LINK), data of the type "Retentive Timer" cannot be imported.

#### 1. Start MELSOFT Navigator.

2. Right-click [DeviceA] under [System Label List], and then click [System Label List]  $\rightarrow$  [Export].



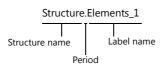
3. A message dialog box is displayed. Click the [Yes] button.



- 4. The [Select Export Destination Folder] window is displayed. Select "CSV" for [Save as type] and click [Save].
- 5. Open the destination folder. Check that the CSV file with the same name in the system label list is created. (Example: DeviceA.csv)

_	Eile Edit Yiew Insert r											
	🛎 🖬 🔒 🍯 🖪 🕻	🏸 👗 🛍 🛍	ダ 🗠 • 🖓 • 🍓 Σ fi		100%	🔹 🕐 🗸 Arial		-	10 - B I U		\$	%,
	R64 💌 =	-										
	A	B	C	D	E	F	G	Н	1	J	K	L
1	DeviceA											
2	System Label Name	Label Name	Data Type	Constant	CPU Name	Project Name	Device	Attribute	Comment	Remark		
3	Count_Value1	Count_Value1	Word[Signed]		Q03UDECPU	ProjectA	D100	Global	MacroBlock_No.10			
4	Count_Value2	Count_Value2	Word[Unsigned]/Bit[16bit]			ProjectA	D101	Global	MacroBlock_No.10			
5	Count_Value3	Count_Value3	Word[Unsigned]/Bit[16bit]		Q03UDECPU	ProjectA	D102	Global	MacroBlock_No.10			
6	High_Speed1	High_Speed1	FLOAT[Single Precision]		Q03UDECPU	ProjectA	R1000	Global	PV1			
7	High_Speed2	High_Speed2	FLOAT[Single Precision]		Q03UDECPU	ProjectA	R1002	Global	PV2			
8	Run1	Run1	Bit		Q03UDECPU	ProjectA	MO	Global	No.0_AutoRun			
9	Run2	Run2	Bit		Q03UDECPU	ProjectA	M1	Global	No.1_AutoRun			
10	Pun <sup>2</sup>	Run3	Pit		Q03UDECPU	ProjectA	M2	Global	No.2_AutoRun			
11	Structure1	Structure1	Structure1		Q03UDECPU	ProjectA			Structure			
12	Structure1.Element1	Structure1	Word[Signed]		Q03UDECPU	ProjectA	D200		D200			
B	Structure1.Element2	Structure1	Word[Signed]		Q03UDECPU	ProjectA	D201		D201			
4	Structure1.Element3	Structure1	Word[Signed]		Q03UDECPU	ProjectA	D202		D202			
5												
6												
16 17												

\* The dotted line frame indicates the structure. A structure name with a period is added to the top of each label name.



- 6. Open the screen program in V-SFT. Click [Home] → [Registration Item] → [Tag Database] to display the [Tag Database Edit] window.
- 7. Click [Edit]  $\rightarrow$  [Tag Import].



8. The [Open] window is displayed. Select "MELSOFT Navigator File (\*.csv)" for [Files of type]. Select the desired CSV filename (e.g. "DeviceA.csv") and click [Open].



The contents of the file are registered as tags in the "tag database edit" window. Types ([Type]) are specified for individual device memory addresses.

This completes the import procedure.

D	Tag	Туре	Array No. of Elements	Device	Comment
	Count_Value1	Word		D00100	MacroBlock_No.10
	Count_Value2	Word		D00101	MacroBlock_No.10
	Count_Value3	Word		D00102	MacroBlock_No.10
	High_Speed1	FLOAT		R01000	PV1
ł	High_Speed2	FLOAT		R01002	PV2
;	Run1	Bit		M00000	No.0_AutoRun
3	Run2	Bit		M00001	No.1_AutoRun
7	Pun?	Bit		M00002	No.2_AutoRun
}	Structure1_Element1	Word		D00200	D200
}	Structure1_Element2	Word		D00201	D201
0	Structure1_Element3	Word		D00202	D202
1	<u> </u>				
2					
13					

\* Periods "." cannot be used with tags. If any system label exported from MELSOFT Navigator includes a period, the period is converted to an underscore "\_".

### Notes

Note the following when importing.

- Tag names must be within 100 one-byte characters.
- If a file to be imported includes a tag that is already registered, the existing tag is overwritten. Unregistered tags are registered to blank ID numbers (in the [Tag Database Edit] window).
- Only device memory addresses available on the V9 series unit can be imported. For details, refer to the V9 Series Connection Manual.

### Siemens

### **Supported PLC Models**

		PLC Software			
Manufacturer	PLC Model	SIMATIC Manager	TIA Portal	SIMATIC STEP 7-Micro/WIN	
Siemens	S7				
	S7-300/400 MPI				
	S7-300/400 (Ethernet ISOTCP)	page 10-13	none 10,10		
	S7-300/400 (Ethernet TCP/IP PG protocol)	-	page 10-16	-	
	S7 PROFIBUS-DP				
	S7-1200/1500 (Ethernet ISOTCP)	-			
	S7-200 PPI	-	-	7070 10 19	
	S7-200 (Ethernet ISOTCP)	-	-	page 10-18	

\* Importing using V-SFT is allowed provided that the PLC is specified at [PLC1] in the [System Setting] → [Hardware Setting] window. Importing is not possible for PLC2 and subsequent PLCs.
 If the connection mode is "1:n", importing occurs via port number 0.

### SIMATIC Manager (Ver. 5.5 / Ver. 5.4)

When a project file (\*.s7p) created in Siemens software "SIMATIC Manager (version 5.5 or 5.4)" is imported using V-SFT, names registered in data blocks "DBx" can be used as tags in V-SFT.

For details on using PLC software, refer to the relevant PLC manual.

#### Supported data types

The following table lists the data types that can be imported into V-SFT. The corresponding data types in V-SFT are also listed.

S	iemens "DBxx"	Dete Turc for Toro in M SET
Data Type <sup>*1</sup>	Data Length	Data Type for Tags in V-SFT
BOOL	1 bit	Bit
BYTE *2	1 byte	Word
CHAR *2	1 byte	
WORD	1 word	
S5TIME	1 word	
DATE	1 word	
INT	1 word	
DWORD	2 words	Double-word
DINT	2 words	
TIME	2 words	
TIME_OF_DAY	2 words	
REAL	2 words	Real number

\*1 No other types of data can be imported using V-SFT.

\*2 Data types BYTE and CHAR (bytes) are imported as word device memory. If any odd bytes are registered in the PLC software, the data cannot be imported.

### Procedure

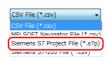
This section describes the steps to import a project file (e.g. "test.s7p"), in which data blocks DB1 and DB2 are registered, to a screen program.

K LAD/STL	/FBD - [DB1 "a	B) Ele Edit In C C S S S S S Prot S MAT C C C C C C C C C C C C C C C	sent PLC View C C 300 Station U314C-2 DP(1) S7 Program(1) C 500000 C 5000000 C 5000000 C 5000000 C 50000000 C 50000000 C 50000000 C 50000000 C 500000000 C 500000000 C 5000000000 C 5000000000 C 500000000000 C 500000000000000 C 5000000000000000000000000000000000000	D:\s7proj\57_Pro1] ptons Window Help ■ ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ●	Click		× 5 - × 8 - * 7 % % %		
		g <u>Vi</u> ew Options <u>W</u> in (武) I 이 아이 (대) 🏜		-  < >! 🗖 🖪 🕅			a2" S7_Pro1\SIM# ug <u>Vi</u> ew Options <u>Wi</u>		CPU314C-2 DP(1)\\DB2]
Address 0.0	Name	Type STRUCT	Initial value	Comment	· · · · · · · · · · · · · · · · · · ·				- !« »!   🗖 🛐   📢
+0.0	DB VAR	INT	0	Temporary placeholder varia	Address	Name	Туре	Initial value	Comment
+2.0	Runi	BOOL	FALSE	No.1 Global Signal AT	0.0		STRUCT		
+2.1	Run2	BOOL	FALSE	No.2 Global Signal AT	+0.0	DB_VAR	INT	0	Temporary placeholder variab
+2.2	Run3	BOOL	FALSE	No.3 Global Signal AT	+2.0	RUN	BOOL	FALSE	ON: RUN, OFF: STOP
+4.0	Count valuel	DWORD	DW#16#0	Within macro	+4.0	Recipe_A	ARRAY[020]		Material of stepl
+8.0	Count value2	DWORD	DW#16#0	Within macro	*2.0		INT		
+12.0	Count value3	DWORD	DW#16#0	Within macro	+46.0	Recipe_B	ARRAY[020]		Material of step2
+16.0	High Speedl	REAL	0.000000e+000	Current value	*2.0		INT		
+20.0	High_Speed2	REAL	0.000000e+000	Current value	=88.0		END_STRUCT		
+24.0	Device_name	CHAR	1.1	A-Line					

- Start V-SFT and open the screen program.
   Click [Home] → [Registration Item] → [Tag Database] to display the [Tag Database Edit] window.
- 2. Click [Edit]  $\rightarrow$  [Tag Import].



The [Open] window is displayed.
 Specify "Siemens S7 Project File (\*.s7p)" for [Files of type].
 Select the desired project file (e.g. "test.s7p") and click [Open].



- 4. The [Tag List] window is displayed. Select the tags to import.
  - [Data Block List]: Displayed block by block (data block "DBx")

Tag List				×
Import File	C:\ProgramData\Si	emens\Automation\Step7\	S7Proj\test\test.s7p	Open
Data Block	List Tag List			
Import	Data Block			
	a.1 a.2	Selected:	To be imported	
		Unselected:	Not to be imported	

• [Tag List]: All tags displayed\_

Tag List					×
Import File	C:\ProgramData\Siemens\Auton	nation\Step7\S7Proj\test\test.s7p		Open.	
Data Block L	i Tag List				
Import	Tag	Туре	Array	No. of Elements	~
~	a1_DB_VAR	Word			
•	a1_Run1	Bit			
~	a1_Run2	Bit			
•	a.1_Run3	Bit			E
•	a1_0c Selected:	To be imported			
<b>v</b>	al_Ce Selected.				
	a1_G Unselected:	Not to be imported			
<b>v</b>	a1_Hign_speedi	FLUAT			
•	a1_High_Speed2	FLOAT			
<b>v</b>	a1_DeviceName	Word			
	a2 DB VAR	Word			Ŧ
•				+	
Check.	All	Filter	setting	Reset filter settin	g
Uncheck	k All				
			ОК	Car	icel

\* When specifying further search criteria, go to [Filter setting]. Only tags that match the specified data type, data block name, or tag name will be displayed in the [Tag List] window.

Filter setting		Tag List		
File by data type BillOOL) Word(BVTE, WORD, CHAR, SSTIME, INT, DATE) Double-Word(DWORD, DINT, TIME, TIME_OF_DAY) Actual Number(REAL) Check All Uncheck All	Filtering out "a1"	Import File Data Block Import V V V V V V V V V V V V V V V V V V V	C:VProgramD ata\Siemens:Autome List Tag List al_DB_VAR al_DB_VAR al_DRu1 al_DRu2 al_DRu3 al_DRu4 al_DRu	Type Type Word Bit Bit Double=Word Double=Word Double=Word Double=Word TFLOAT FLOAT Word
Filter by tag name a1 OK Cancel		< Check		Filer setting.
A one-byte space is treated as an OR condition.				

A one-byte space is treated as an OR condition (Case-sensitive)

#### 5. Click [OK].

The contents of the file are registered as tags in the "tag database edit" window. Types ([Type]) are specified for individual device memory addresses.

This completes the import procedure.

Example: Only DB1 imported

ļ	📱 Screen [0] Edit ( 👘 ) 🎽 🎦 T	ag Database[0] Edit 🛛 🗙					
ID	Tag	Туре	Array	No. of Elements	Device	Comment	
0	a1_DB_VAR	Word			DB0001:0000	Place-Holder Variables	
1	a1_Run1	Bit			DB0001:0002-0	No.0 Global Signal AT	
2	a1_Run2	Bit			DB0001:0002-1	No.1 Global Signal AT	
3	a1_Run3	Bit			DB0001:0002-2	No.2 Global Signal AT	
4	a1_Count_value1	Double-Word			DB0001:0004	Within macro	DB
5	a1_Count_value2	Double-Word			DB0001:0008	Within macro	00
6	a1_Count_value3	Double-Word			DB0001:0012	Within macro	
7	a1_High_Speed1	FLOAT			DB0001:0016	Current value	
8	a1_High_Speed2	FLOAT			DB0001:0020	Current value	
9	a1_DeviceName	Word			DB0001:0024	A-LINE	
10							
11							
12							
13							

\* Periods "." cannot be used with tags. If a period is added to a tag, it is converted to an underscore "\_".

The tag name registered in the SIMATIC Manager data block (DBxx) is prefixed to each tag together with an underscore "\_".



🔣 LAD/STL	./FBD - [DB1 - "a	1" \$7_Pro1\SIMA	TIC 300 Station\	CPU314C-2 DP(1)\\DB1] 📃 🗖							
🖬 Eile Edit	Insert PLC Leve	uy view Options Wir	ndow <u>H</u> elp	_ 1							
D 😂 🖫 🖬 🥌 🐰 🗈 🛍 🖘 👓 🕅 🏜 🔁 🏪 🔐 !«>! 🗖 🖪 💦											
Address	Name	Туре	Initial value	Conment							
0.0		STRUCT									
+0.0	DB_VAR	INT	0	Temporary placeholder variable							
+2.0	Runl	BOOL	FALSE	No.1 Global Signal AT							
+2.1	Run2	BOOL	FALSE	No.2 Global Signal AT							
+2.2	Run3	BOOL	FALSE	No.3 Global Signal AT							
+4.0	Count_value1	DWORD	DW#16#0	Within macro							
+8.0	Count_value2	DWORD	DW#16#0	Within macro							
+12.0	Count_value3	DWORD	DW#16#0	Within macro							
+16.0	High_Speedl	REAL	0.000000e+000	Current value							
+20.0	High_Speed2	REAL	0.000000e+000	Current value							
+24.0	Device_name	CHAR	1.1	A-Line							
=26.0		END STRUCT	1								

### Notes

Note the following when importing.

- Tag names must be within 100 one-byte characters.
- If a file to be imported includes a tag that is already registered, the existing tag is overwritten. Unregistered tags are registered to blank ID numbers (in the [Tag Database Edit] window).
- Device memory addresses unavailable on the V9 series unit cannot be imported.
- For details on device memory available on the V9 series, refer to the V9 Series Connection Manual. Data types BYTE and CHAR (bytes) are imported as word device memory. If any odd bytes are registered to device memory in the PLC software, the data cannot be imported.

### TIA Portal (Ver. 11 / Ver. 12 / Ver. 13)

When a TIA project file (\*.ap11, \*.ap12, \*.ap13) created with Siemens software "TIA Portal (Ver. 11 / Ver. 12 / Ver. 13)" is imported using V-SFT, the contents of the file can be used as tags.

For details on using PLC software, refer to the relevant PLC manual.

#### Supported data types

The following table lists the data types that can be imported into V-SFT. The corresponding data types in V-SFT are also listed.

Sieme	ns "DBxx" <sup>*1</sup>	Data Type for Tags in V-SFT			
Data Type <sup>*2</sup>	Data Length				
BOOL	1 bit	Bit			
BYTE <sup>*3</sup>	1 byte	Word			
CHAR *3	1 byte				
WORD	1 word				
S5TIME	1 word				
DATE	1 word				
INT	1 word				
DWORD	2 words	Double-word			
DINT	2 words				
TIME	2 words				
TIME_OF_DAY	2 words				
REAL	2 words	Real number			

\*1 The "Offset" settings on the PLC must be configured. If the "Offset" settings are not configured, importing cannot be performed.

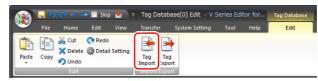
Project tree	1.	'U	151	1-1 PN] → Pro	ogram blo	cks 🕨 🕻	ataBlock_	1 [DB1] 🛛 💻 🖬	∎×
Devices									
B O O		<u>_</u>	<u>e</u> 2	🎭 🛃 🎼 🖩	8- B- B-	B 🖿	<b>B</b> 😵		
2		[	)ata	Block_1					
<ul> <li>ImportTest</li> </ul>	 ^		N	lame	Data typ	Offset	tart value	Comment	
💕 Add new device	1	-	•	<ul> <li>Static</li> </ul>		1			
Devices & networks	2	2 4		Data1	Int	0.0	)	DataBlock_Data1	
PLC1 [CPU 1511-1 PN]	3	3 4	•	Data2	Word	2.0	6#0	DataBlock_Data2	
Device configuration	≡ 4	1		Data3	Bool	4.0	alse	DataBlock_Data3	
🖳 Online & diagnostics	5	5 4	•	Data4	Byte	5.0	6#0	DataBlock_Data4	
Program blocks	1		-	Data5	Bute		16#0	DataBlock Data5	

For details on using PLC software, refer to the relevant PLC manual.

- \*2 No other types of data can be imported using V-SFT.
- \*3 Data types BYTE and CHAR (bytes) are imported as word device memory. If any odd bytes are registered in the PLC software, the data cannot be imported.

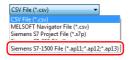
### Procedure

- 1. Start V-SFT and open the screen program. Click [Home]  $\rightarrow$  [Registration Item]  $\rightarrow$  [Tag Database] to display the [Tag Database Edit] tab window.
- 2. Click [Edit]  $\rightarrow$  [Tag Import].



3. The [Open] window is displayed.

Specify "Siemens S7-1500 File (\*.ap11;\*.ap12;\*.ap13)" for [Files of type]. Select the desired project file and click [Open].



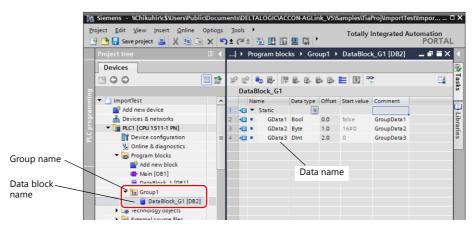
- 4. The [Tag List] window is displayed. Select the tags to import.
  - A filter can be applied. For details, refer to page 10-15.

5. Click [OK].

The contents of the file are registered as tags in the tag database edit window. Types ([Type]) are specified for individual device memory addresses. This completes the import procedure.

Importing occurs as follows according to the group settings of the TIA project file.

<Example 1: Group settings exist>



<Example 2: Group settings do not exist>

	_	oject Edit View Insert Online F 🎦 🔚 Save project 📇 💥 🔟 🕻	Opti 🗎 🗙		_	ols Cal <u>1</u>		🖸 🖸 🖳	- 	1	otally Inte	grated Automati PO	on RTAI
		Project tree		•	1	U 15	11-1	PN] > Prog	gram bloc	ks ▶ [	DataBlock_	1 [DB1] 🛛 💻 🖻	∎×
		Devices											
		1 O O		1	3	: _i)	20		B- B- E	3 E	B 😵		
	P					Dat	aBlo	:k_1					
	Ē	🔻 🛅 ImportTest		^			Name		Data type	Offset	Start value	Comment	
	E	📑 Add new device			1		▼ St	atic					
	5	📥 Devices & networks			2	-	•	Data1	Int	0.0	0	DataBlock_Data1	
	E.	<ul> <li>PLC1 [CPU 1511-1 PN]</li> </ul>			3	-	•	Data2	Word	2.0	16#0	DataBlock_Data2	
	F C	Device configuration		=	4	-		Data3	Bool	4.0	false	DataBlock_Data3	
		🛂 Online & diagnostics			5	-		Data4	Byte	5.0	16#0	DataBlock_Data4	
		🔻 🔜 Program blocks			6	-		Data5	Byte	6.0	16#0	DataBlock_Data5	
a block —		Add new block			7			<add new=""></add>					
		- 16 in [001]											
ie		DataBlock_1 [DB1]						Dat	ta name	9			

#### Example of imported tags in V-SFT

	💐 Screen [0] Edit ( 👘 ) 🗡 🏲	Tag Database[0]	Edit	×			
ID	Tag	Туре	Arra	No, of Elements	Device	Comment	
0	Group1_DataBlock_G1_GData1	Bit	•	1	DB002:0000.0	GroupData1	Example 1
1	Group1_DataBlock_G1_GData3	Double-Word			DB002:0002	GroupData3	With group settings
2	DataBlock_1_Data1	₩ord			DB001:0000	DataBlock_1_Data1	Example 2
3	DataBlock_1_Data2	₩ord			DB001:0002	DataBlock_1_Data2	Without group
4	DataBlock_1_Data3	Bit			DB001:0004.0	DataBlock_1_Data3	settings
5	DataBlock_1_Data5	Word			DB001:0006	DataBlock_1_Data5	Jettings
6							
7							
8							

- With group settings: group name\_data block name\_data name

- Without group settings: data block name\_data name
- \*1 Periods "." cannot be used with tags. If a period is added to a tag, it is converted to an underscore "\_". The tag name registered in the SIMATIC Manager data block (DBxx) is prefixed to each tag together with an underscore "\_".

#### Notes

Note the following when importing.

- Tag names must be within 100 one-byte characters.
- Only tags registered in one-dimensional arrays in TIA Portal can be imported. Multi-dimensional arrays are not supported.
- Structures with more than six levels cannot be imported.
- Only comments registered to "Editing language" in TIA Portal can be imported.
- If a file to be imported includes a tag that is already registered, the existing tag is overwritten. New tags are registered to blank ID numbers (in the [Tag Database Edit] window).
- Device memory addresses unavailable on the V9 series unit cannot be imported. For details on device memory available on the V9 series, refer to the V9 Series Connection Manual. Data types BYTE and CHAR (bytes) are imported as word device memory. If any odd bytes are registered to device memory in the PLC software, the data cannot be imported.

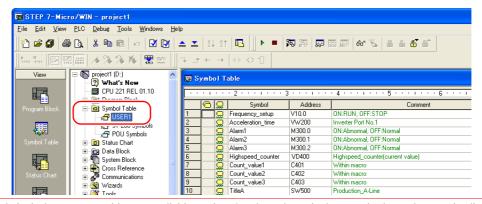
### SIMATIC STEP 7-Micro/WIN (S7-200)

When a CSV file copied from the Symbol Table in the software "SIMATIC STEP 7-Micro/WIN" for Siemens S7-200 is imported using V-SFT, the contents in the file can be used as tags.

For details on using PLC software, refer to the relevant PLC manual.

#### Procedure

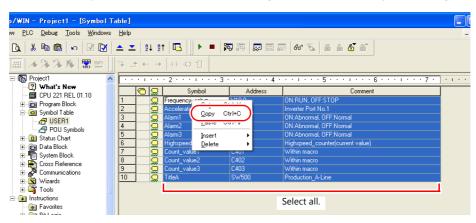
- 1. Start the software "SIMATIC STEP 7-Micro/WIN" for Siemens S7-200.
- 2. Open [Symbol Table].





Only device memory addresses available on the V9 series unit can be imported using V-SFT. For details, refer to the V9 Series Connection Manual. Double-word device memory are imported as word device memory. Device memory: VD  $\rightarrow$  VW, ID  $\rightarrow$  IW, QD  $\rightarrow$  QW, MD  $\rightarrow$  MW, SMD  $\rightarrow$  SMW, SD  $\rightarrow$  SW

3. Select all columns under [Symbol], [Address], and [Comment]. Right-click and select [Copy] from the right-click menu.



4. Start Excel. Paste the copied data to the worksheet from cell A1.

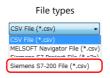
	A	В	С	D	E	F
1	Frequency setup	V1 0.0	ON:RUN, OFF:STOP			
2	Acceleration_time	VW200	Inverter Port No.1			
3	Alarm1	M300.0	ON:Abnormal, OFF:Normal			
4	Alarm2	M300.1	ON:Abnormal, OFF:Normal			
5	Alarm3	M300.2	ON:Abnormal, OFF:Normal			
6	Highspeed_counter	VD400	Highspeed_counter(current value)	[Tag Dat	tabase Edi	t] in V-SF1
7	Count_value1	C401	Within macro	Screen [0]	Edit (	P Tag Databas
8	Count_value2	C402	Within macro	ID Tag		Туре
9	Count_value3	C403	Within macro	0		
10	TitleA	SW500	Production_A-Line	2		
11				3		
12				5		
13				6		
14				7		
15				8		
16			j	10		
				11		
				12		

\* The first row on the Excel sheet corresponds to tag ID No. 0. The copied data on the worksheet is imported from its first row to the [Tag Database Edit] window. (65536 maximum)

- 5. Click [File]  $\rightarrow$  [Save As]. The [Save As] window is displayed.
- 6. Enter a filename. Select "CSV" for [Save as type] and click [Save].
- 7. Open the screen program. Click [Home] → [Registration Item] → [Tag Database] to display the [Tag Database Edit] window.
- 8. Click [Edit]  $\rightarrow$  [Tag Import].



9. The [Open] window is displayed. Select the CSV file saved in step 6. Specify "Siemens S7-200 File (\*.csv)" for [Files of type] and click [Open].



The contents of the file are registered as tags in the "tag database edit" window. Types ([Type]) are specified for individual device memory addresses.

This completes the import procedure.

ļ	🖉 Screen (0) Edit ( 💦 / 🎦 Tag Database(0) Edit 🛛 🗙								
ID	Tag	Туре	Array	No. of Elements	Device	Comment			
0	Frequency_setup	Bit			Y000100	Place-Holder Variables			
1	Acceleration_time	Word			YW00200	No.0 Global Signal AT			
2	Alarm1	Bit			M003000	No.1 Global Signal AT			
3	Alarm2	Bit			M003001	No.2 Global Signal AT			
4	Alarm3	Bit			M003002	Within macro			
5	Highspeed_counter	Double-Word			YW00400	Within macro			
6	Count_value1	Word			C00401	Within macro			
7	Count_value2	Word			C00402	Current value			
8	Count_value3	Word			C00403	Current value			
9	TitleA	Word			SW00500	A-LINE			
10									
11									
12									
13									

#### Notes

Note the following for importing CSV files.

- IDs that already have tags are overwritten with the imported data.
- Device memory addresses unavailable on the V9 series unit cannot be imported. If such a device memory address is included, the row is left blank.

For details on device memory available on the V9 series, refer to the V9 Series Connection Manual. Note that double-word device memory are imported as word device memory.

Device memory: VD  $\rightarrow$  VW, ID  $\rightarrow$  IW, QD  $\rightarrow$  QW, MD  $\rightarrow$  MW, SMD  $\rightarrow$  SMW, SD  $\rightarrow$  SW

## 10.6 Notes

## **Tag Settings**

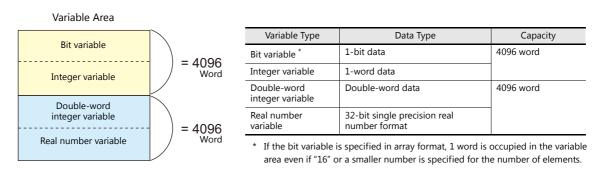
Tags cannot be specified for the following items.

- [Screen Setting]  $\rightarrow$  [PLC Device Transfer]
- Device memory map (transfer source device memory, transfer destination device memory 1, transfer destination device memory 2, control device memory)
- Modbus device memory table

## "Tag" Variable Capacity

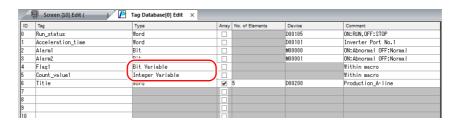
When "tag" variables are registered in the [Tag Database Edit] window, the variable area in the MONITOUCH is used. Since the capacity of the variable area is limited, check the word count currently used, and be careful not to exceed the capacity.

#### **Capacity of Variable Area**

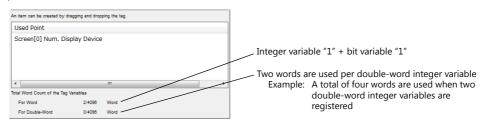


#### Checking the Capacity of "Tag" Variable

Check the capacity when the "tag" variables are registered as shown below.



2 words are occupied in the variable area.



For details on status list operations, refer to "10.4 Tag Status List".

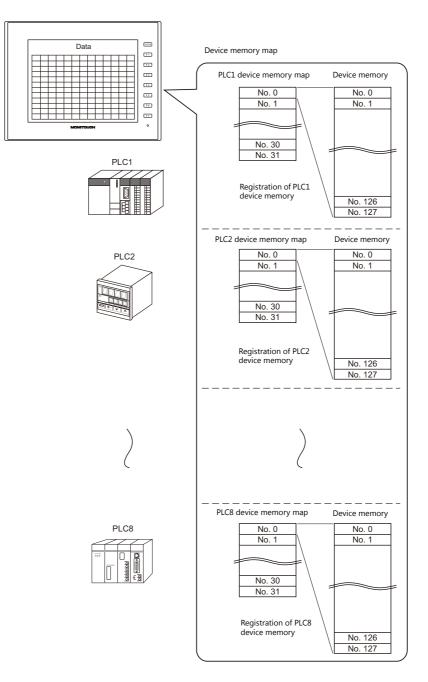


The value is indicated in red when it exceeds the maximum value. If the tag indicated in red is used on the screen, the message "Error: 46" appears and the unit will not run. Set a value smaller than the maximum.

# **11 Device Memory Map**

## **11.1 Overview**

• The V9 series unit contains device memory map numbers 0 to 31 (32 total) with respect to a single logical port. 128 addresses can be registered to a single device memory map and batch transfer of addresses can be performed between each equipment.



- Functions that use device memory maps
  - Periodical reading

Data in device memory addresses registered on a device memory map is periodically transferred to other equipment. ("11.3 Periodical Reading" page 11-7)

- Periodical writing

Data in other equipment is periodically transferred to device memory addresses registered on a device memory map. ("11.7 Control Device" page 11-12)

- Synchronized reading

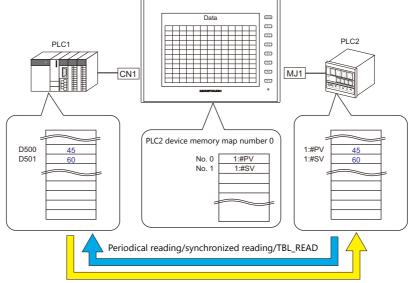
Data in device memory addresses registered on a device memory map is transferred to other equipment when the relevant bit turns ON. ("11.4 Synchronized Reading" page 11-8)

- Synchronized writing

Data in other equipment is transferred to device memory addresses registered on a device memory map when the relevant bit turns ON. ("11.6 Synchronized Writing" page 11-11)

- Macros (TBL\_READ, TBL\_WRITE)

Data in device memory addresses registered on a device memory map is transferred using the "TBL\_READ" and "TBL\_WRITE" macro commands. ("11.8 TBL\_READ/TBL\_WRITE" page 11-13)"11.9 System Device Memory" page 11-14

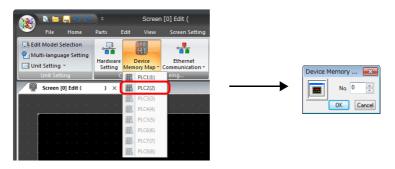


Periodical writing/synchronized writing/TBL\_WRITE

## **11.2 Editing Device Memory Maps**

## 11.2.1 Starting

 Click [System Setting] → [Device Memory Map] → [PLCn]. The [Device Memory Map: PLCn] window is displayed.



 Select a device memory map number and click [OK]. The [Device Memory Map Edit] window is displayed.

	⇒ Device Memory Map:	PLC2[0] Edit (	) - V Seri Device N	Memory Map	
File Home Edit Model Selection Multi-language Setting Unit Setting • Unit Setting	Edit View Transfer	Ethernet G mmunication - Set	D 😡 🖗 👰	Edit	Macro Setting Date and Time Display Setting Japanese Conversion Function Setting Setting
🖳 Screen [0] Edit (	Device Memory N	1ap:PLC2[0] Edit (	) ×		
No. PLC2 Memory	Name	Data Type	<< Source Device 1	K Source Device 2	2
0					
2					
3					

A device memory map has numbers 0 to 31 (32 total) with respect to a single logical port and 128 addresses can be registered to each device memory map.

## 11.2.2 Quitting

Click the close button.

	⇒ Device Memory Map:PLC2[0] Edit (	( ) - V Seri Device Me	mory Map					
File Home	Edit View Transfer System Setti	ng Tool Help Ec	lit					
Edit Model Selection	Hardware Device Ethernet Setting Memory Map ~ Communication ~	Global Alarm Logging Recipe S Setting - Server Server	Scheduler Other	Macro Setting Date and Time Display Setting Japanese Conversion Function Setting				
Unit Setting	Communication Setting	Common Setting						
🖉 🖳 Screen (0) Edit ( ) 🖉 Device Memory Map:PLC2(0) Edit ( 🛛 🔍								

## **11.2.3 Comment Settings**

A comment can be set to each device memory map.

1. With the device memory map displayed, click [Edit]  $\rightarrow$  [Comment]. The [Comment Setting] window is displayed.

File     Home     Edit     View     Transfer     System Setting     Total       Multi-cop     Comment     Device Memory     May Setting     Setting       Edit     Setting	🛞 🔺 🦰 😓 🕞 🔊 💎 🕞 🗖	evice Memory Map:PLC2[	2[0] Edit ( ) - V Seri	Device Memory Map
Multi-cop Comment Bati Setting Edit	File Home Edit	View Transfer Sys	ystem Setting Tool Help	Edit
Edit Setting				
	Map Setting			
		Device Memory Map:PL	PLC2[0] Edit ( ) ×	

2. Enter a comment and click the [OK] button. The comment is displayed.

🛞 🛚	😑 📙 🥎	🔿 🕫 De	vice Memory Map:I	PLC2[0] Edi <mark>(</mark>	aaaaa) V S	Device Memory Map		
🥗 Fil	e Home	Edit	View Transfer	System Setting	Tool Help	Edit		
88								
Multi-copy (		evice Memory Map Setting						
Edil		Setting	J					
🖳 Screen (0) Edit ( ) 🔲 Device Memory Map:PLC2[0] Edi ( aaaaa) 🗙								
No. PLC2	Memory	Nar	1e	Data Type	K Source Device	e 1 << Source Device 2		

## **11.2.4 Editing the Device Memory Map**

Double-click a cell to display the settings window.

Screen [0] Edit ( ) Device N	lemory Map:PLC2[0] Edit (	
Name Name	Data Type	>> Target Device 1 >> Target Device 2
Nome     Nome       1:101601     Nome       2     3       4     5       5     8       9     9       Pevice memory entry       PLC2       1:#01601	Data type Word Word Bulle Word Dummy Double	Staret Device 1 >> Taret Device 2 Boundary Staret Device 2 Device memory map settings Device Memory Map Setting[0] Function Periodical Reading • Reading Cycle Reading Cycle Reading Cycle Pinction Periodical Reading 10 * sec Pinction Periodical Reading 10 * sec Pinction Periodical Reading • 0 * 0 * 0 * 00100 *
		Table (No. 0 - 31) Common Setting Control Device Internal • 0 * \$u • 16330 • OK Cancel

\* The [Device Memory Map Setting] window can also be displayed by clicking [Edit]  $\rightarrow$  [Device Memory Map Setting] with the device memory map displayed.

#### 1. Device memory entry

Set the device memory for transfer. If the [Device Memory Map Edit] window for PLC2 is open, register PLC2 device memory.

The following figure shows the list view.

ļ	Screen [0] Edit ( )	Device Memory Map:	PLC2[0] Edit (	) ×	
No.	PLC2 Device N	lame	Data Type	>> Target Device 1	>> Target Device 2
0	1:#01601		Word	D00100	\$u00100
1 2	PLC2 • 1:#01601	🗄 🖬			
3	Memory Input PLC2 Fuji B	Electric : PXR(MODBUS .	🔀 Refer t	o Signal Name	
3           4           5           6           7           8           9           10           11           12           13           14           15           16           17           18           19           20	Port No. 1	rect 789£ ↓ 456ℓ ↓ 123ℓ	40001 40002 40002 40006 40006 40006 40006 40006 40007 40007 40007 40012 40013 40014 40013 40014 40014 40016 40014 40016 40014 40016 40014 40016 40014 40016 40014 40016 40017 40016 40017 40006 40007 40006 40007 40006 40007 40006 40010 40016 40000 4000 4	Non-volatile memory write-in PID/FUZ2Y/SELF selection SV value set on lace panel Control RUN/standby Auto tuning command P I D Hysteresis range at two-position CDOL Dead band Anti-reset windup Output convergence value	
21	l	OK Cancel O	Ipen		

#### 2. Data type

Data Type	
Word	-
Word	
Double Word	
Bit	
Dummy Word	
Dummy Double	

Item	Description
Word	Data is handled as single-word numerical data. Data is transferred based on the [Communication Setting] $\rightarrow$ [Code] setting of each logical port. <sup>*1</sup>
Double Word	Data is handled as two-word numerical data. Data is transferred based on the [Communication Setting] $\rightarrow$ [Code] setting of each logical port. <sup>*1</sup>
Bit	Data is handled as single-word bit information. Data is transferred as is without conversion. <sup>*2</sup>
Dummy Word Dummy Double	The transfer source/target device memory addresses are automatically registered with consecutive numbers. If there is an address to be skipped, leaving it not configured (blank) will result in either a dummy word or double word being assigned. When reading: "0" is always stored in the transfer target device memory. Cannot be used for any other purpose. When writing: The transfer source device memory can be used for other purposes.

#### \*1 When Word or Double Word is selected:

The internal device memory of the V9 series unit are always handled as "DEC (with sign)".

		Code	Bit status
	Transfer source PLC	Communication setting BCD	MSB         LSB           15         14         13         12         11         10         9         8         7         6         5         4         3         2         1         0           0 <td< td=""></td<>
Reading	V9 internal device memory	DEC	MSB         LSB           15         14         13         12         11         10         9         8         7         6         5         4         3         2         1         0           0         0         0         0         0         0         0         0         0         0         0         1         0         1         0
Ţ	Transfer target 7 PLCm	Communication setting DEC	MSB         LSB           15         14         13         12         11         10         9         8         7         6         5         4         3         2         1         0           0         0         0         0         0         0         0         0         0         0         0         1         0         1         0
		Communication setting BCD	MSB         SB         T         6         5         4         3         2         1         0           15         14         13         12         11         10         9         8         7         6         5         4         3         2         1         0           0         0         0         0         0         0         0         0         0         1         0

\*2 When Bit is selected:

		Code							В	it st	atu	s						
Γ	Transfer source PLC	Communication setting BCD	MSB											_SB				
Reading	V9 internal device memory 7 Transfer target PLCm	DEC Communication setting DEC BCD			13 0	12 0	11 0	10 0	9	8	7 0	6 0	5 0	4	3	2	1	0

3. Device memory map settings

Set the purpose of each device memory map.

- TBL\_READ/TBL\_WRITE  $\rightarrow$  page 11-13
- Periodical reading  $\rightarrow$  page 11-7
- Synchronized reading  $\rightarrow$  page 11-8
- Periodical writing  $\rightarrow$  page 11-10
- Synchronized writing  $\rightarrow$  page 11-11

Device Memory Map Setting[0]	×
Function Periodical Reading	
Reading Cycle High-speed Reading 10 sec	
✓ >> Target Device 1            PLC1 ▼ 0 △ ↓ D ▼ 00100 ↓	
✓ >> Target Device 2           Internal         ▼           0         ÷           \$u         ▼           00100         ‡	
Table (No. 0 - 31) Common Setting Control Device Internal • 0 ÷ \$u • 16330 ÷	
OK Cance	

## **11.2.5 Permitting Interruption**

Interruption can be permitted by right-clicking on the relevant device memory map number and selecting [Enabling Interruption] on the menu.

When interruption is permitted, an asterisk mark (\*) is shown next to the device memory map number. Switch output, cycle reading, trend/alarm reading operations can be performed during device memory map processing.

Operation for the following settings

Reading group 0 (numbers 0 to 7)

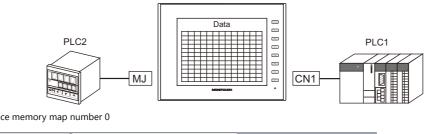
 $\downarrow$ 

- Switch output, cycle reading, trend/alarm reading
- $\downarrow$
- Reading group 1 (numbers 8 to 15)

	ļ	ļ	Screen [0] Edit	:()	Device Memor	y Map:PLC1[0] Edit (	) ×	
		No.	PLC1 Device		Name	Data Type	>> Target Device 1	>> Target Device 2
		0	D00100			Word		\$u00100
		1	D00101			Word		\$u00101
		2	D00102			Word		\$u00102
Group 0		3	D00103			Word		\$u00103
		4	D00104			Word		\$u00104
		5	D00105			Word		\$u00105
		6	D00106			Word		\$u00106
		7	D00107			Word		\$u00107
		*8	D00108	Undo	•	Word		\$u00108
		9	D00109			Word		\$u00109
Group 1		10	D00110	Redo		Word		\$u00110
Gloup I		11	D00200	Cut		Word		\$u00111
		12	D00201			Word		\$u00112
		13	D00202	Сору		Word		\$u00113
		14	D00203	Paste		Word		\$u00114
		15	D00204	Insert		Word		\$u00115
		16						
		17		Delete				
		18		Add				
		19		Multi Cop	v			
		20						
		21	✓	Enabling	Interruption			
		22				·		

#### 11.3 **Periodical Reading**

Data in a device memory address registered on a device memory map is transferred to the targeted address at the timing set for [Reading Cycle].



PLC2 device memory map number 0	
---------------------------------	--

Screen [0] Edit ( ) Device Memory Map:PLC2[0] Edit ( ) ×							
No.	PLC2 Device	Name	Data Type	>> Target Device 1	>> Target Device 2		
0	1:#31001	Process value (PV)	Word	D00100			
1	1:#41003	SV value controlled on face panel	Word	D00101			
2 3 4 5	Transfe	erred at 5 second intervals	I				

## Settings

Settings required for periodical reading

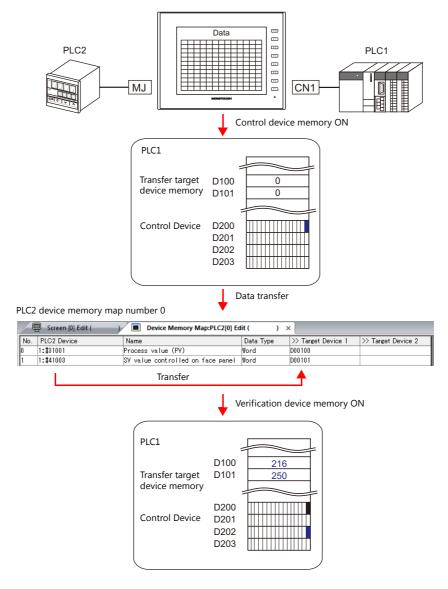
- "Editing Device Memory Maps" (page 11-3)
- "Device Memory Map Settings"

Reading Cycle		
✓ >> Target Device 1           PLC1 → 0         ↑           D → 00100         ↑		
Internal ▼ 0 ☆ \$u ▼ 00100 ☆		
Table (No. 0 - 31) Common Setting Control Device Internal ▼ 0 ↓ \$u ▼ 16330 ↓	Disabled when [Periodical Re is selected	ading

Item			Des	scription
Function	Perio	dical reading		
	Set t	he cycle for periodical data	reading.	
		[High-speed Reading]	Reading Cycle	
Reading Cycle		checkbox	Setting Range	Unit
		Unselected	1 - 3600	1s
		Selected	1 - 3600	100ms
Target Device 1 Target Device 2	Set t	he device memory address	for storing the read	data.
Control Device	Disat	oled when [Periodical Read	ing] is selected.	

## 11.4 Synchronized Reading

Data in a device memory address registered on a device memory map is transferred to the targeted address when the relevant bit changes from 0 to 1.



#### Settings

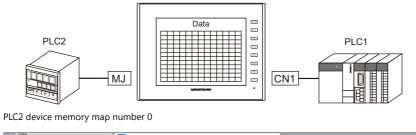
Settings required for synchronized reading • "Editing Device Memory Maps" (page 11-3) • "Device Memory Map Settings"

Device Memory Map Setting[0]	×
Function Synchronized Reading	
Reading Cycle High-speed Reading	
>> Target Device 2	
Table (No. 0 - 31) Common Setting	
Control Device           PLC1         0         ÷         D         00200         ÷	
OK Car	ncel

Item	Description
Function	Synchronized reading
Target Device 1 Target Device 2	Set the device memory address for storing the read data.
Control Device	Set the device memory address that serves as the trigger for synchronized reading. Four words are used for an address common to device memory map numbers 0 to 31. For details, refer to "Control Device" page 11-12.

## **11.5** Periodical Writing

Data in a source device memory address is transferred to the address registered on the device memory map at the timing set for [Writing Cycle].

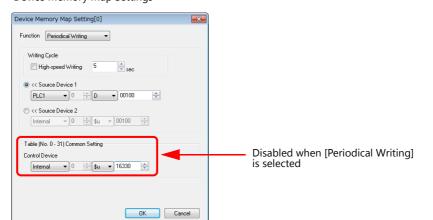


No.	PLC2 Device	Name	Data Type	<< Source Device 1	Source Device 2
)	1:#41003	SV value controlled on face p	anel Word	D00100	
1 2 3	1	Transferred at 5 second interv	vals		
4					

#### Settings

Settings required for periodical writing

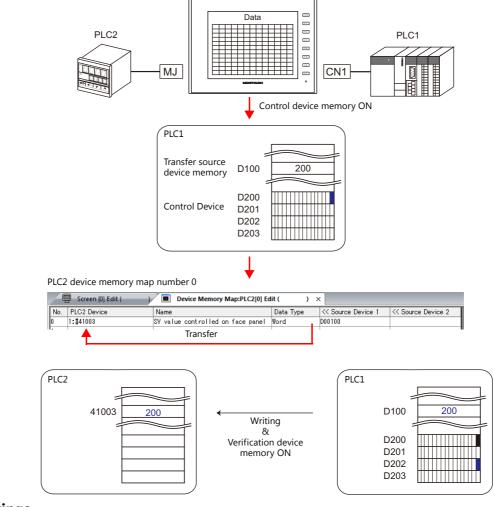
- "Editing Device Memory Maps" (page 11-3)
- "Device Memory Map Settings"



Item			Description		
Function	Perio	dical writing			
	Set w	hether to perform periodi	cal data writing.		
		[High-speed Reading] checkbox	Reading Cycle		
Periodical Writing			Setting Range	Unit	
		Unselected	1 - 3600	1s	
		Selected	1 - 3600	100ms	
Source Device 1 Source Device 2	Set tl	ne device memory address	of the source data t	o transfer.	
Control Device	Disab	led when [Periodical Writi	ng] is selected.		

## **11.6 Synchronized Writing**

Data in a source device memory address is transferred to the address registered on the device memory map when the control device memory changes from 0 to 1.



#### Settings

Settings required for synchronized writing

• "Editing Device Memory Maps" (page 11-3)

• "Device Memory Map Settings"

vice Memory Map Setting[0]	
Witing Cycle	
< < Source Device 1 PLC1    0    ↓ D    ↓ 00100    ↓	
Table (No. 0 - 31) Common Setting	
Control Device	

Item	Description
Function	Synchronized writing
Source Device 1 Source Device 2	Set the device memory address for storing data from the transfer source.
Control Device	Set the device memory address that serves as the trigger for synchronized writing. Four words are used for an address common to device memory map numbers 0 to 31. For details, refer to "Control Device" page 11-12.

## **11.7 Control Device**

This type of device memory is used when synchronized reading or synchronized writing is performed. Four consecutive words are used from control device memory n.

The control device memory can also be changed via [System Setting]  $\rightarrow$  [Device Memory Map]  $\rightarrow$  [PLCn]  $\rightarrow$  [Edit]  $\rightarrow$  [Device Memory Map Setting].

Control Device	Description	Device Memory Type	
n	Command device memory for reading/writing	$\rightarrow$ V	
n+1	command device memory for reading, writing		
n+2	Verification device memory for reading/writing	←V	
n+3	vernication device memory for reading/writing	$\checkmark \rightarrow$	

#### Reading/Writing Command Device Memory (Control device memory n, n+1)

One bit is assigned to each device memory map.

Reading and writing for the specified device memory map is executed according to the change in bit status from 0 to 1.

n																
15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	🗲 Bit number
15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	•
																-

Device memory map numbers 0 to 15

n+1

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	🗲 Bit number
31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	<b>▲</b> ¬

Device memory map numbers 16 to 31

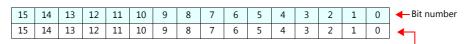
#### **Reading/Writing Verification Device Memory (Control device memory n+2, n+3)**

One bit is assigned to each device memory map.

The turning ON (0  $\rightarrow$  1) of the command device memory is recognized, and when the reading/writing finishes, the corresponding bit of the verification device memory turns ON (0  $\rightarrow$  1).

Also, when the turning OFF  $(1 \rightarrow 0)$  of the command device memory is recognized, the verification bit of the corresponding device memory map number turns OFF  $(1 \rightarrow 0)$ .

n+2



n+3

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	🔶 Bit number
31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	] ◀–ๅ

Device memory map numbers 16 to 31

Device memory map numbers 0 to 15

• Synchronized reading

Only one address needs to be successfully read among the addresses registered on the device memory map for the verification device memory to turn ON.

If no addresses were successfully read, the verification bit does not turn ON.

• Synchronized writing

Regardless of whether writing succeeds or fails, the verification bit turns ON after writing is finished.

## **11.8 TBL\_READ/TBL\_WRITE**

Data in device memory addresses registered on a device memory map is transferred at once using the "TBL\_READ" and "TBL\_WRITE" macro commands.

#### **Settings**

Settings required for device memory map transfer

- "Editing Device Memory Maps" (page 11-3)
- Device memory map settings
- Macros (TBL\_READ/TBL\_WRITE)

#### **Device Memory Map Settings**

Device Memory Map Setting[0] Function IBL_READ/WRITE • Reading Cycle High-speed Reading 5 sec C>> Target Device 1 PLC1 • 0 2 0 • 00100		
→> Target Device 2 Internal ▼ 0 ⊕ \$u ▼ 00100 Table [No. 0 - 31] Common Setting Control Device Internal ▼ 0 ⊕ \$u ▼ 16330		Disabled when TBL_READ/TBL_WRITE is selected
	OK Cancel	
Item		Description
unction		DITE

Function	TBL_READ/TBL_WRITE * Transfer is possible using a macro even for device memory maps selected for other functions.
Control Device	Disabled when TBL_READ/TBL_WRITE is selected.

#### Macros

Register a switch ON macro, interval timer etc. For details on macro commands, refer to the V9 Series Macro Reference Manual.

• TBL\_READ

Transfers data in device memory addresses registered on a device memory map to device memory of other equipment. • TBL\_WRITE

Transfers data from other equipment to a device memory address registered on a device memory map.

## 11.9 System Device Memory

This section explains the system device memory addresses of the V9 series that are related to device memory maps.

\$Pn (n=1 - 8)	\$s <sup>*1</sup>	Description	Device Type
493	762 (PLC2)	Device memory map reading prohibition flag 0: Periodical reading/synchronized reading executable Other than 0: Periodical reading/synchronized reading stopped	
494	763 (PLC2)	Device memory map TBL_READ/TBL_WRITE macro forced execution Macro operation setting when a port is not communicating 0: Do not execute the macro with respect to all ports Other than 0: Execute the macro with respect to connected ports	$\rightarrow$ V
495	764 (PLC2)	Device memory map writing prohibition flag 0: Periodical writing/synchronized writing executable Other than 0: Periodical writing /synchronized writing stopped	

\*1 When controlling a device memory map using \$s762, \$s763, or \$s764, set [PLC Properties] → [Detail] → [System memory (\$s) V7 Compatibility] to [Yes] for PLC2. In this case, \$P2:493/494/495 cannot be used.

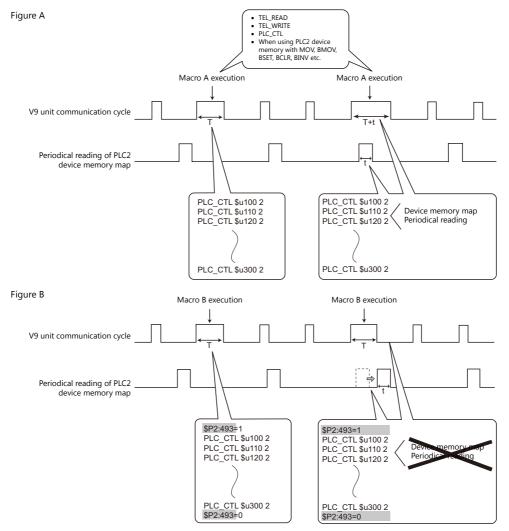
#### \$Pn:493, 495

These system device memory addresses can be used to temporarily stop periodical reading/synchronized reading or periodical writing/synchronized writing set in the device memory map.

\$Pn:493	3		\$Pn:	495	
- 0:		Periodical reading/synchronized reading is always executed.	-	0:	Periodical writing/synchronized writing is always executed.
- Ot	ther than 0:	Periodical reading/synchronized reading is stopped.	-	Other than 0:	Periodical writing/synchronized writing is stopped.

• Example: Periodical reading

When PLC2 device memory is accessed by a macro, macro completion is delayed when periodical reading of the device memory map is executed (as shown in figure A). To avoid this, periodical reading can be stopped temporarily using \$P2:493 (as shown in Figure B).



# **12 Ladder Transfer**

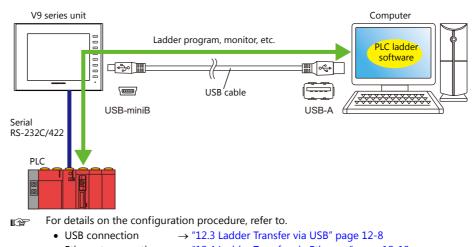
12

### 12.1 Overview

• PLC ladder programs can be written and monitored via the V9 series unit. There are three methods for connecting the V9 series unit and a computer: by USB connection, Ethernet, and serial connection.

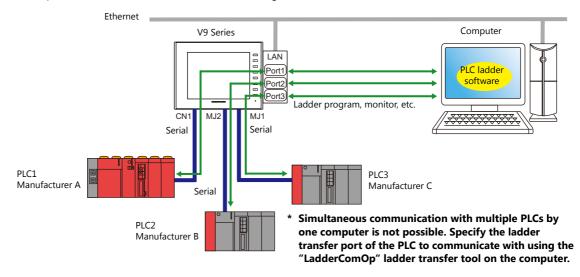
Example: USB connection

٠



- $\rightarrow$  "12.4 Ladder Transfer via Ethernet" page 12-13 • Ethernet connection Serial connection  $\rightarrow$  "12.5 Serial Ladder Transfer" page 12-18
- Of PLCs 1 to 8, ladder communication is possible with the three PLCs connected by serial connection.

Example: Ladder communication with three PLCs using Ethernet ladder transfer function



- The ladder transfer function is only available when [Hardware Setting]  $\rightarrow$  [PLC Properties]  $\rightarrow$ [Communication Mode] is set to [1:1] or [Multi-link2] (with local port number set to "1") in the V-SFT. This function cannot be used for 1:n communication (multi-drop) or multi-link communication.
- Simultaneous ladder communication with multiple PLCs by one computer is not possible. Be sure to specify the ladder transfer port of the PLC to communicate with using the "LadderComOp" ladder transfer tool.
- Be sure to use a different ladder transfer port for each PLC.

## 12.1.1 Operating Environment

#### Ladder Transfer Ports

USB-B / LAN / LAN2 / MJ1 / MJ2

#### **Supported PC Operating Systems**

Windows 2000 / XP / Vista / 7 / 8 / 8.1

#### **Required Applications**

Connection Method	Application
USB connection	V-SFT Ver. 6 / LadderComOp Ver. 2
Ethernet connection	V-SFT Vel. 67 LadderComOp Vel. 2
Serial connection	V-SFT Ver. 6

## Supported PLC Models



The ladder transfer function is only available when [Hardware Setting] → [PLC Properties] → [Communication Mode] is set to [1 : 1] or [Multi-link2] (with local port number set to "1") in the V-SFT. This function cannot be used for 1:n communication (multi-drop) or multi-link communication.
 For details on compatible PLC models, refer to the V9 Series Connection Manual.

For details on compatible FEC models, feler to the V9 Series connection

PLC models that support the ladder transfer function are listed below.

Manufacturer	PLC Name Shown in	Connection (DIII/Dart		V9 Port	
Manufacturer	Editor	Connection CPU/Port	MJ1, MJ2	USB B <sup>*1</sup>	Built-in LAN
	A series CPU	A2A, A3A A2U, A3U, A4U A2US(H) A1N, A2N, A3N A3V, A73 A3H, A3M A0J2H A1S(H), A1SJ(H) A2S(H) A2CCPUC24 A1FX	O *2	0	0
	QnH (Q) series CPU	Q02(H), Q06H	0	0	0
MITSUBISHI	QnU series CPU	Q00UJ, Q00U, Q01U Q02U, Q03UD, Q04UDH Q06UDH, Q10UDH, Q13UDH Q20UDH, Q26UDH	0	0	0
ELECTRIC	Q00J/00/01 CPU	Q00J, Q00, Q01	0	0	0
	QnH (Q) series CPU (Multi CPU)	Q02(H), Q06H	0	0	0
	Q170MCPU (Multi CPU)	Q170M	0	0	0
	FX series CPU	FX1/2	×	×	×
	TX series et o	FX0N	0	0	0
	FX2N/1N series CPU	FX2N, FX1N, FX2NC	0	0	0
	FX1S series CPU	FX1S	0	0	0
	FX-3U/3UC/3G series CPU	FX-3U, FX-3UC, FX-3G	0	0	0
OMRON	SYSMAC C	All ports	0	0	0
	SYSMAC CS1/CJ1	р <i>У</i>	0	0	0

Manufasture	PLC Name Shown in Editor Cor	Connection CDLL/Dent		V9 Port	
Manufacturer		Connection CPU/Port	MJ1, MJ2	USB B <sup>*1</sup>	Built-in LAN
		FP0 tool port	0	0	0
	FP Series	FP2 tool port FP2SH tool port	0	0	0
Panasonic	(RS232C/422)	$FP\Sigma$ tool port	0	0	0
		FP-e tool port	0	0	0
		FP-X tool port	0	0	0
	FP7 Series (RS232C/422)	All ports	0	0	0
	FA-M3		0	0	0
Yokogawa Electric	FA-M3R	Tool port on CPU	0	0	0
	FA-M3V		0	0	0
		FLEX-PC CPU port	0		
	SPB (N mode) & FLEX-F FLEX-PC CPU NJ-B10	NJ-B16 RS-232C port	0	0	0
Fuji Electric		NW0Pxx CPU port	0		
		NP1Px-xx (SPH)	0	0	0
	MICREX-SX SPH/SPB CPU	NW0Pxx (SPB)	0	0	0
Allen-Bradley	SLC500	SLC5/03 or later, Channel 0	0	0	0
Siemens <sup>*1 *3</sup>	S7-200PPI	S7-200 PPI port	O*1 *3	0	O*1 *3
Siemens 2	S7-300/400MPI	S7-300/400 MPI port	O*1*3	×	O*1*3
		N70 COM port (RS-422)			
		N70 $\alpha$ COM port			
		N700 COM port (RS-422)			
SAMSUNG	SECNET	N700 α TOOL port	0	0	0
		N7000 COM port (RS-422)			
		Ν7000 α COM1			
		NX70 TOOL port			
		NX700 TOOL port			
		N70 COM port (RS-422)			
		N70 $\alpha$ COM port			
		N700 COM port (RS-422)			
RS Automation	N7/NX Series (70/700/750/CCU)	N700 α TOOL port	0	0	0
	(10/100/150/000)	N7000 COM port (RS-422)			
		Ν7000 α COM1	1		
		NX70 TOOL port	1		
		NX700 TOOL port	7		

\*1 Ladder communication is only available in RUN mode. Ladder communication cannot be performed in Local mode.

 $^{\ast}2$   $\,$  Uses both MJ1 and MJ2 so the dedicated "V6-CP-A" cable is required.

\*3 The following messages may be displayed at the top left of the screen on the V9 series unit during access (mainly when transferring a large amount of data, such as programs) to the Siemens S7-200 PPI and S7-300/400 MPI. The V9 series unit automatically returns to normal operation after access is complete.

- PLC1 Access denied by Loader

- PLC1 In Reset Service

## 12.2 LadderComOp Ver. 2

The "LadderComOp" ladder transfer tool is required when connecting the V9 series unit and PC via USB or Ethernet in order to monitor or write PLC ladder programs.

## 12.2.1 LadderComOp Installation

#### Acquiring the LadderComOp Software

- On the V-SFT Ver. 6 CD-ROM, or download the latest update from our website.
- Download "LadderComOp.exe" from our website.
  - ∎ Our website URL: http://www.monitouch.com

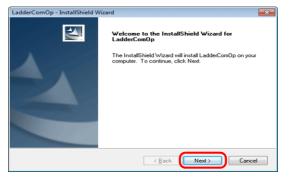
#### Installation

If installing LadderComOp during V-SFT Ver. 6 installation, perform the procedure below from step 1. If installing LadderComOp after downloading "LadderComOP.exe" from our website, perform the procedure below from step 2.

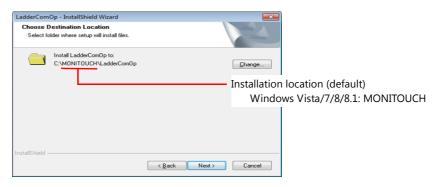
 After V-SFT Ver. 6 has been installed or updated, the following dialog box is displayed. Click the [Yes] button.

Hakko Electronics Co., Ltd.	
You need to install "PLC Ladder Transfer Tool" if you would like to use USB/Ethernet Ladder Transfer function. Execute?	
Yes No	]

2. Click the [Next] button.



3. Select the location to install the tool and click the [Next] button.



4. Click the [Install] button.



5. Installation of LadderComOp starts.

Setup Status		A CA
The InstallShield Wizard	s installing LadderComOp	
InstallShield		

The following window is displayed during installation.

Setup for LadderComOp2 (INSTALL)	- • •
LADAØ PortNane=- LADBØ PortNane=-	Î.
	-

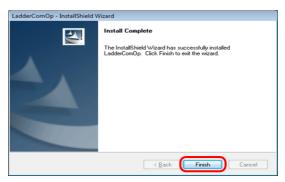
6. The following window is displayed. Install the LadderComOp driver. This window is display three times so click the [Install] button each time.

Windows Security
Would you like to install this device software?
Name: Hakko Electronics Co. Publisher: Hakko Electronics Co., Ltd
Always trust software from "Hakko Electronics Co., Install Dog't Install
You should only install driver software from publishers you trust. How can I decide which device software is safe to install?

7. Installation of the driver starts.



8. The following window is displayed when LadderComOp installation is complete. Click the [Finish] button.



9. The following message is displayed on the PC's task bar when installation is complete.



Open the Device Manager on the PC.
 If installation was successful, "LadderComOp2" is displayed in the Device Manager.

🚔 Device Manager	
Eile Action View Help	
■ Recryame:Engl         ● Bits drives         ● Bits drives	

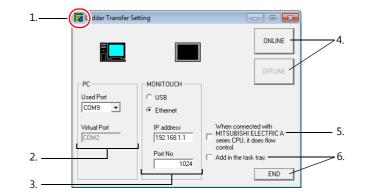


If installation was not successful, a yellow exclamation mark (!) is displayed under [Other devices] in the Device Manager. If this happens, uninstall LadderComOp and then reinstall it.

🚔 Device Manager	
<u>File Action View Help</u>	
Larriyamat-Eng     Larriyam	)
Provide Control     Processors     Processors     Processors     Storage controllers     Storage controllers     Processor devices     Drocessor devices     Drocessor devices	

This completes the installation procedure.

## 12.2.2 LadderComOp Ver. 2 Detailed Settings

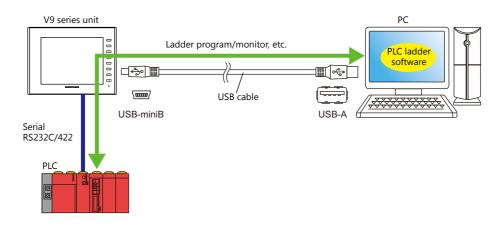


	Item	Description
1.	Icon	Clicking this icon and selecting [About LadderComOp] opens a window that displays the version of LadderComOp.
2.	PC	<ul> <li>A total of two COM ports on the PC are used.</li> <li>Used Port Select the COM port to use for ladder transfer from the list. Range: COM1 to COM256 (COM port numbers that are already assigned on the PC are not shown in the list.) The COM port number set here needs to be set in each relevant PLC programming software.<sup>*</sup></li> <li>* The range of usable COM port numbers depends on the PLC programming software. For details, refer to the relevant PLC manual. Example: Panasonic FPWIN GR, COM1 to 15 (COM1 to 5 for Ver. 2.2 or earlier)</li> <li>Virtual Port An unassigned COM port number is selected automatically.</li> </ul>
3.	MONITOUCH	<ul> <li>Select the connection method to use between the PC and V9 series unit.</li> <li>USB No settings are required.</li> <li>Ethernet IP address: Set the local IP address of the V9 series unit (built-in LAN port). Port No: Set the port number of the V9 series unit. Set the same port number as set under [System Setting] → [Hardware Setting] → [Ladder Transfer]. Range: 1024 to 65533 (default: 1024)</li> </ul>
4.	ONLINE/OFFLINE	<ul> <li>Turn ladder transfer ON or OFF between the PC and V9 series unit.</li> <li>ONLINE Establish a connection between the PC and V9 series unit and enable ladder transfer mode.</li> <li>OFFLINE Disconnect the PC and V9 series unit.</li> </ul>
5.	When connected with MITSUBISHI ELECTRIC A series CPU, it does flow control.	Always select this checkbox when using a MITSUBISHI ELECTRIC A series CPU.
6.	Hide/END	<ul> <li>Hide Display an icon in the task tray when a connection is established. LadderComOp is added to the task tray.</li> <li>* The [Add in the task tray] checkbox is automatically selected.</li> <li>The task tray tool tip indicates "Transferring".</li> <li>Ladder Transfer Setting Transferring)</li> <li>Cadder Transfer Setting Transferring)</li> <li>Right-click on the icon in the task tray to display a menu.</li> <li>Right-click on the icon in the task tray to display a menu.</li> <li>Return Display the [Ladder Transfer Setting] window.</li> <li>END</li> </ul>

12

## 12.3 Ladder Transfer via USB

The V9 series unit and PC can be connected via USB to monitor or write PLC ladder programs through the V9 series unit.



For details on supported PLC models, refer to "Supported PLC Models" page 12-2.



The ladder transfer function is only available when [Hardware Setting]  $\rightarrow$  [PLC Properties]  $\rightarrow$  [Communication Mode] is set to [1 : 1] or [Multi-link2] (with local port number set to "1") in the V-SFT. This function cannot be used for 1:n communication (multi-drop) or multi-link communication.

## 12.3.1 Setting Procedure

V-SFT and LadderComOp configuration is required. Refer to the following for the setting procedure.

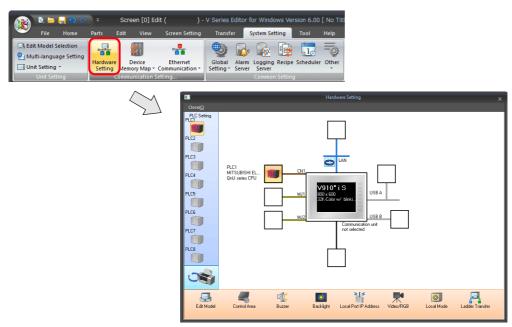
- V-SFT Ver. 6 settingsLadderComOp settings
- $\rightarrow$  "V-SFT Ver. 6 Settings" page 12-8
- $\rightarrow$  "LadderComOp Settings" page 12-10
- PLC programming software settings → "PLC Programming Software Settings" page 12-11

#### **V-SFT Ver. 6 Settings**

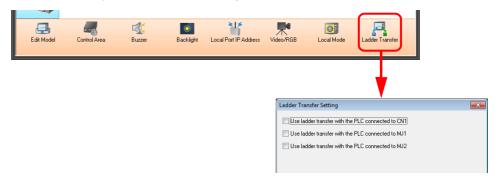
This section describes the settings for ladder transfer using the MITSUBISHI QnU series CPU as an example.

#### [Ladder Transfer Setting] window

1. Click [Communication Setting] → [Hardware Setting] to display the [Hardware Setting] window.



2. Click [Ladder Transfer] to display the [Ladder Transfer Setting] window.



- 3. Select the port to which the PLC is connected and set the port to which the computer is connected (the ladder transfer port) to [USB B].
- Be sure to use a different ladder transfer port for each PLC.

Ladder Transfer Setting	×
Use ladder transfer with the PLC connected to CN1	
	Detail Setting
PLC1 MITSUBISHI ELECTRIC QnU series CPU	
Use ladder transfer with the PLC connected to MJ1	
Use ladder transfer with the PLC connected to MJ2	
OK	Cancel

4. Click the [OK] button to complete the necessary settings. Transfer the screen program to the V9 series unit.



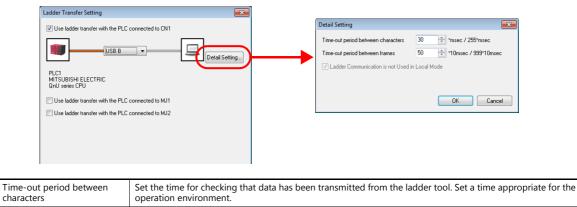
frames

Notes on ladder transfer via USB

Observe the following when transferring screen programs over a USB cable.

- Change the V9 series unit to Local mode.
- (Ladder communication is enabled only in RUN mode.)
- Set LadderComOp Ver. 2 to [OFFLINE] mode.
  - (For details on this setting, refer to "12.2.2 LadderComOp Ver. 2 Detailed Settings" page 12-7.)

#### Timeout settings for ladder communication can be configured from [Detail Setting]. Configure these settings when communication is unstable



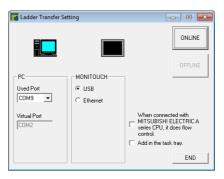
Time-out period between Set the time for monitoring whether a response is received from the PLC after the ladder tool has sent data to the PLC Set a time appropriate for the operation environment.

#### LadderComOp Settings

When using the ladder transfer function via USB/Ethernet, the dedicated "LadderComOp" tool must be installed on the PC. For details on the LadderComOp installation procedure, refer to "12.2.1 LadderComOp Installation" page 12-4.

#### [Ladder Transfer Setting] window

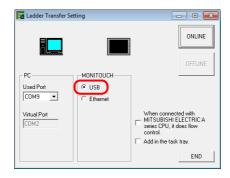
- 1. From the Windows [Start] menu, click [Programs]  $\rightarrow$  [V-SFT V6]  $\rightarrow$  [LadderComOp]  $\rightarrow$  [Ladder Transfer Setting].
- 2. The [Ladder Transfer Setting] window is displayed.



3. Select the COM port to use for ladder transfer from the [Used Port] list under [PC].
\* This port must match the COM port used in the PLC programming software.

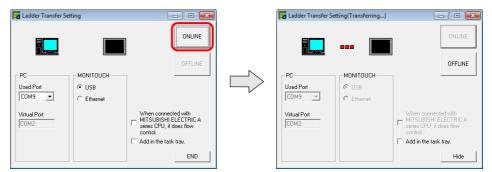


4. Select [USB] under [MONITOUCH].



5. Click the [ONLINE] button.

The display above the ladder transfer settings changes to the connected state.



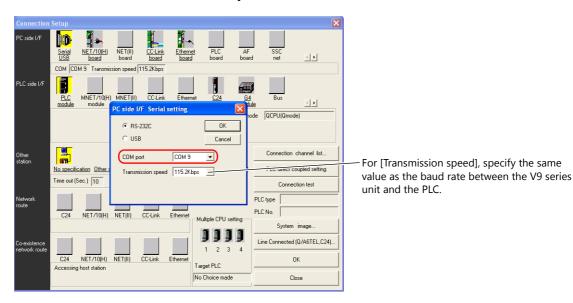


#### **PLC Programming Software Settings**

Set the COM port number configured in the [Ladder Transfer Setting] window of LadderComOp to the following window of the relevant PLC programming software to enable access to the PLC.

Example: [Ladder Transfer Setting] window, COM port number 9

# Image: Ladder Transfer Setting ONLINE Used Port Used Port Used Port © USB Virtual Port © USB COM2 © thermet When connected with central sets tray. Add in the task tray. END



#### MITSUBISHI ELECTRIC GX Developer/GX Works2

#### **OMRON CX-Programmer**

Be sure to select "SYSMAC WAY" for [Network Type]. [Network Settings] dialog  $\rightarrow$  [Driver]  $\rightarrow$  [Port Name] For [Baud Rate], specify the same value between the V9 unit and the PLC.

#### Panasonic "FPWIN GR"

[Communication Settings] dialog  $\rightarrow$  [Port No.] For [Baud Rate], specify the same value between the V9 unit and the PLC.

#### Yokogawa Electric "Wide Field2"

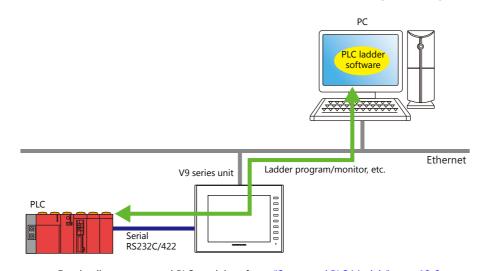
[Environmental Settings] dialog  $\rightarrow$  [Communication Settings]  $\rightarrow$  [COM Port No.]

#### munication setting(MICREX-SX : NP1PS-32) Port • COM port C Modem Port No. : WAN N Baud rate : Data Jength : Parity : <u>S</u>top bit : 1 • C Communication Board ⊂ <u>u</u>sb SX bus board 0 - Communication tern ms OK 3000 <u>⊺</u>imeout : 492 v bytes Cancel data size : Message Manager is used to communicate. Help

#### Fuji Electric SX-Programmer Expert (D300win)

For [Baud rate], specify the same value as the baud rate between the V9 series unit and the PLC.

## 12.4 Ladder Transfer via Ethernet



The V9 series unit and PC can be connected via Ethernet to monitor or write PLC ladder programs through the V9 series unit.



For details on supported PLC models, refer to "Supported PLC Models" page 12-2.

The ladder transfer function is only available when [Hardware Setting]  $\rightarrow$  [PLC Properties]  $\rightarrow$  [Communication Mode] is set to [1 : 1] or [Multi-link2] (with local port number set to "1") in the V-SFT. This function cannot be used for 1:n communication (multi-drop) or multi-link communication.

## 12.4.1 Setting Procedure

V-SFT and LadderComOp configuration is required. Refer to the following for the setting procedure.

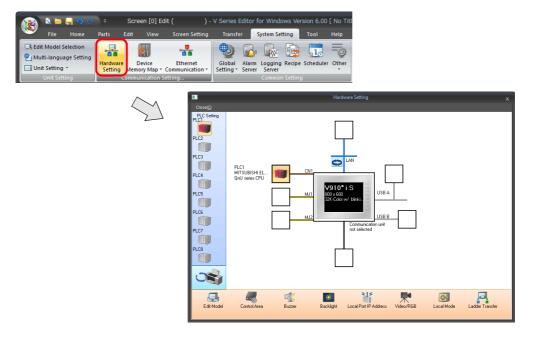
- V-SFT Ver. 6 settingsLadderComOp settings
- $\rightarrow$  "V-SFT Ver. 6 Settings" page 12-13
- $\rightarrow$  "LadderComOp Settings" page 12-15
- PLC programming software settings  $\rightarrow$  "PLC Programming Software Settings" page 12-16

#### V-SFT Ver. 6 Settings

This section describes the settings for ladder transfer using the MITSUBISHI QnU series CPU as an example.

#### [Ladder Transfer Setting] window

1. Click [Communication Setting] → [Hardware Setting] to display the [Hardware Setting] window.



2. Click [Ladder Transfer] to display the [Ladder Transfer Setting] window.

Edit Model	Control Area	Buzzer	Backlight	Local Port IP Address	Video/RGB	Cocal Mode	Ladder Transfer	
					Ladder Trans			
					📰 Use ladd	er transfer with the I	PLC connected to CN1 PLC connected to MJ1 PLC connected to MJ2	

- 3. Select the port to which the PLC is connected and set the port to which the computer is connected (the ladder transfer port) to [LAN] or [LAN2] and specify the port number.
  - \* This port is also used in the LadderComOp settings. Be sure to use a different ladder transfer port for each PLC.

Ladder Transfer Setting	×
Use ladder transfer with the PLC connected to CN1	
PLC1 MITSUBSHI ELECTRIC QAU series CPU	il Setting
Use ladder transfer with the PLC connected to MJ1	
Use ladder transfer with the PLC connected to MJ2	
	Cancel

This completes the necessary settings. Transfer the screen program to the V9 series unit.

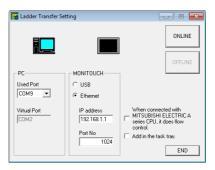
Timeout settings for ladder com Configure these settings when c		d from [Detail Setting].	
Use ladder transfer with the PLC co AN Port No. 10 PLC1 MTSUBISHI ELECTRIC GrU series CPU Use ladder transfer with the PLC co	224 🛫 / 65534 Detail Setting	Detail Setting         Time-out period between characters         Time-out period between frames         Image: Ladder Communication is not Used	30         *
Time-out period between characters	Set the time for checking the operation environment.	at data has been transmitted from the ladd	ler tool. Set a time appropriate for the
Time-out period between frames	Set the time for monitoring to the PLC. Set a time appropriate for th	whether a response is received from the P he operation environment.	LC after the ladder tool has sent data

#### LadderComOp Settings

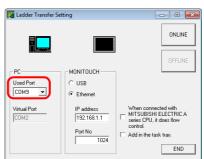
When using the ladder transfer function via USB/Ethernet, the dedicated "LadderComOp" tool must be installed on the PC. For details on the LadderComOp installation procedure, refer to "12.2.1 LadderComOp Installation" page 12-4.

#### [Ladder Transfer Setting] window

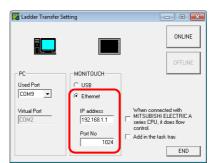
- 1. From the Windows [Start] menu, click [Programs] → [V-SFT V6] → [LadderComOp] → [Ladder Transfer Setting].
- 2. The [Ladder Transfer Setting] window is displayed.



- 3. Select the COM port to use for ladder transfer from the [Used Port] list under [PC].
  - \* This port must match the COM port used in the PLC programming software.

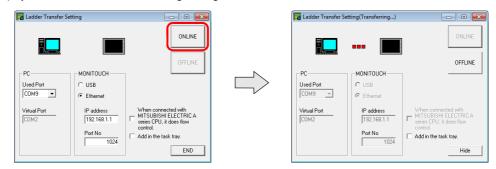


- 4. Select [Ethernet] under [MONITOUCH] and set the IP address of the V9 series unit and the port number to use in ladder transfer.
- \* The port number must match the ladder transfer port number specified in the [Hardware Setting] window of V-SFT Ver. 6.



5. Click the [ONLINE] button.

The display above the ladder transfer settings changes to the connected state.

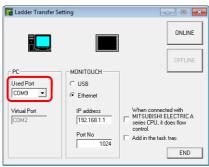


This completes the LadderComOp settings.

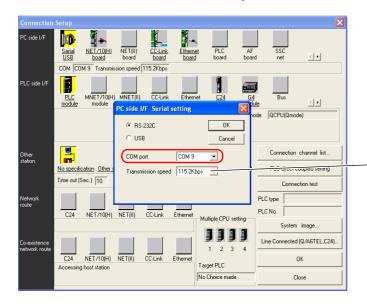
#### **PLC Programming Software Settings**

Set the COM port number configured in the [Ladder Transfer Setting] window of LadderComOp to the following window of the relevant PLC programming software to enable communication with the PLC.

Example: [Ladder Transfer Setting] window, COM port number 9



#### MITSUBISHI ELECTRIC GX Developer/GX Works2



For [Transmission speed], specify the same value as the baud rate between the V9 series unit and the PLC.

#### **OMRON CX-Programmer**

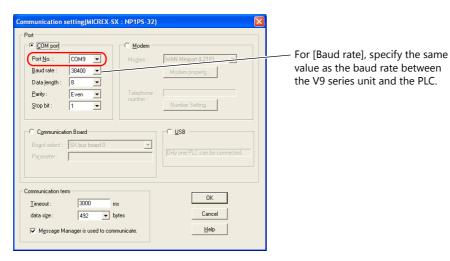
Be sure to select "SYSMAC WAY" for [Network Type]. [Network Settings] dialog  $\rightarrow$  [Driver]  $\rightarrow$  [Port Name] For [Baud Rate], specify the same value between the V9 unit and the PLC.

#### Panasonic "FPWIN GR"

[Communication Settings] dialog  $\rightarrow$  [Port No.] For [Baud Rate], specify the same value between the V9 unit and the PLC.

#### Yokogawa Electric "Wide Field2"

[Environmental Settings] dialog  $\rightarrow$  [Communication Settings]  $\rightarrow$  [COM Port No.]

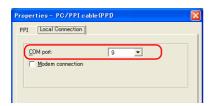


#### Fuji Electric SX-Programmer Expert (D300win)

# 12

#### Siemens "STEP 7-Micro/WIN"

[Set PG/PC Interface] dialog  $\rightarrow$  [PC/PPI cable (PPI)]  $\rightarrow$  [Properties].



The baud rate between the V9 unit and the PC is fixed to 115 Kbps.

#### Siemens SIMATIC Manager

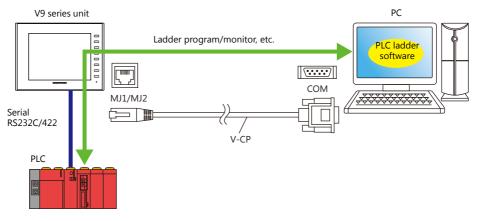
Set PG/PC Interface Properties - PC Adapter(MPI) Access Path LLDP MPI Local Connection	
Access Path LLDP MPI Local Connection	
Access Point of the Application:	
S7ONLINE (STEP 7)> PC Adapter(MPI)	COM1 -
(Standard for STEP 7) Iransmission rate:	38400 💌
Interface Parameter Assignment Used:	
PC Adapter(MPI)	
ISO Ind. Ethernet -> Intel(R) 82578DM (	
Me PC Adapter(Auto)	
Copy	
Delete	
(Parameter assignment of your PC adapter for	
an MPI network) OK Default	Cancel Help
Interfaces	he range of
Add/Remove: Selegt. Set [Connection to:] in t	ne range or
COM1 to 8.	
OK Cancel Help [Transmission rate:] doe:	s not need to

[Transmission rate:] does not need to be changed.

## 12.5 Serial Ladder Transfer

The V9 series unit and PC can be connected using a "V-CP" screen program transfer cable to monitor or write PLC ladder programs through the V9 series unit.





For details on supported PLC models, refer to "Supported PLC Models" page 12-2.

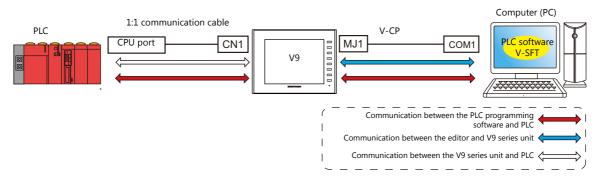


The ladder transfer function is only available when [Hardware Setting]  $\rightarrow$  [PLC Properties]  $\rightarrow$  [Communication Mode] is set to [1 : 1] or [Multi-link2] (with local port number set to "1") in the V-SFT. This function cannot be used for 1:n communication (multi-drop) or multi-link communication.

#### Executing Screen Program Transfer and Ladder Transfer Using the MJ1 Port

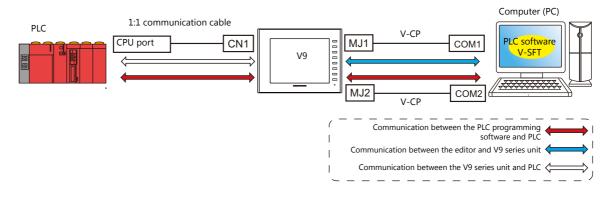
Use the MJ1 port when using the ladder transfer function and performing screen program transfer over a single cable. Screen program transfer and PLC programming software transfers cannot be performed at the same time. Communication of either software is cut off in order to perform transfers.

Screen program transfer is only possible in Local mode. For details, refer to [Ladder Communication is not Used in Local Mode] settings page 12-21.



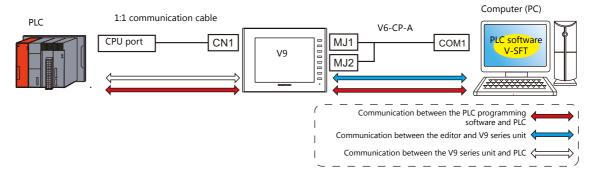
## Executing Screen Program Transfer Using the MJ1 Port and Ladder Transfer Using the MJ2 Port

Screen program transfer and PLC programming software transfers can be performed using separate COM ports and cables. Screen program transfer and PLC programming software transfers cannot be performed at the same time.



### **Communication with the MITSUBISHI ELECTRIC A Series CPU**

Use Hakko Electronics "V6-CP-A" cable to connect the V9 series unit and PC.



## 12.5.1 Setting Procedure

V-SFT configuration is required. Refer to the following for the setting procedure.

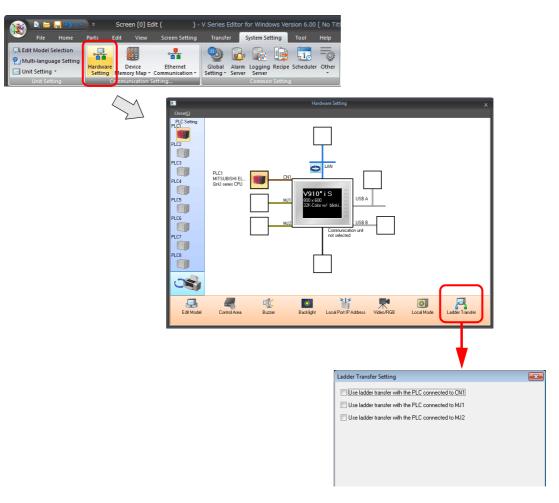
- V-SFT Ver. 6 settings → "V-SFT Ver. 6 Settings" page 12-19
- PLC programming software settings → "PLC Programming Software Settings" page 12-22

## **V-SFT Ver. 6 Settings**

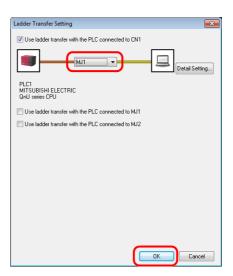
This section describes the settings for ladder transfer using the MITSUBISHI QnH (Q) series CPU as an example.

### [Ladder Transfer Setting] window

1. Click [System Setting]  $\rightarrow$  [Hardware Setting]  $\rightarrow$  [Ladder Transfer]. The [Ladder Transfer Setting] window is displayed.



2. Select the port to which the PLC is connected and set the port to which the computer is connected to [MJ1] or [MJ2].

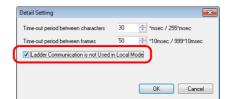


3. Click the [OK] button to complete the necessary settings. Transfer the screen program to the V9 series unit.

Timeout settings for ladder communication can be configured from [Detail Setting].

Ladder Transfer Setting         Use ladder transfer with the PLC connected to CN1         Detail Setting         Detail Setting         PLC1         MITSUBSHIE LECTRIC QnU series CPU	ure these settings when	communication is unstable.		-	
Image: Set south ranker with the FLC Connected to Christian         Image: Set south ranker with the FLC Connected to Christian         Image: Set south ranker with the FLC Connected to Christian         PLC1 MITSUBSHIELECTRIC	Ladder Transfer Setting				
PLC1 MITSUBISHI ELECTRIC       Time-out period between frames       50       10msec / 399*10msec	Use ladder transfer with the PLC connected to CN1			Detail Setting	<b>—</b> ×
Use ladder transfer with the PLC connected to MJ1	PLC1 MITSUBISHI ELECTRIC QrdJ seites CPU			Time-out period between frames	50 T 10msec / 999'10msec
	ters	operation environment.			
cters operation environment.	out period between s	Set the time for monitorin to the PLC. Set a time appropriate for	5		LC after the ladder tool h

### [Ladder Communication is not Used in Local Mode] settings



Whether screen program transfer and ladder transfer can be performed in a particular state of the V9 series unit differs depending on the combination of this setting and the modular jack function.

#### • MJ1: Ladder transfer

[Ladder Communication is not Used in Local Mode]	V9 Series Unit State	Screen Program Transfer	Ladder Transfer
Selected	RUN	×	0
Selected	Local mode	0	Х
Unselected	RUN	×	0
Unselected	Local mode	$\triangle^*$	$\bigtriangleup^*$

### • MJ1: Not connected, MJ2: Ladder transfer

[Ladder Communication is not Used in Local Mode]	V9 Series Unit State	Screen Program Transfer	Ladder Transfer
Selected	RUN	0	0
Selected	Local mode	0	×
Unselected	RUN	0	0
Unselected	Local mode	0	0

#### • MJ1: Not connected/other than ladder transfer, MJ2: Ladder transfer

[Ladder Communication is not Used in Local Mode]	V9 Series Unit State	Screen Program Transfer	Ladder Transfer
Selected	RUN	×	0
Selected	Local mode	0	X
Unselected	RUN	×	0
	Local mode	0	0

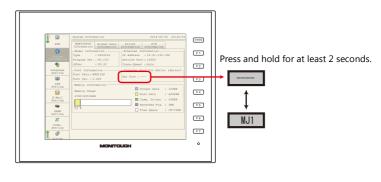
### \* Switching to Local mode

Press the [SYSTEM]  $\rightarrow$  [Local] switch to display the local mode screen.

The [System Information]  $\rightarrow$  [Editor Transfer Port]  $\rightarrow$  [Set Port] setting is [----] (ladder transfer mode).

In this case, screen program transfer using the MJ1 port cannot be performed.

When transferring the screen program, press and hold for more than two seconds near the [Set Port] display and switch [---] to [MJ1] using the  $[\bullet]$  switch.

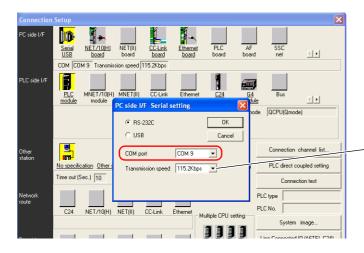


Editor Transfer Port	Screen Program Transfer	Ladder Transfer
	×	0
MJ1	0	×

## **PLC Programming Software Settings**

Set the COM port number to enable communication with the PLC.

## MITSUBISHI ELECTRIC GX Developer/GX Works2



For [Transmission speed], specify the same value as the baud rate between the V9 series unit and the PLC.

### **OMRON CX-Programmer**

Be sure to select "SYSMAC WAY" for [Network Type]. [Network Settings] dialog  $\rightarrow$  [Driver]  $\rightarrow$  [Port Name] For [Baud Rate], specify the same value between the V9 unit and the PLC.

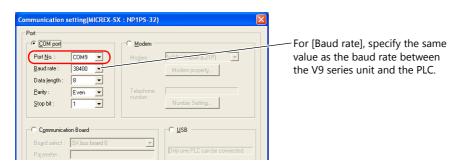
### Panasonic "FPWIN GR"

[Communication Settings] dialog  $\rightarrow$  [Port No.] For [Baud Rate], specify the same value between the V9 unit and the PLC.

## Yokogawa Electric "Wide Field2"

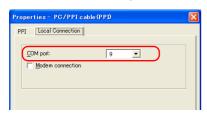
[Environmental Settings] dialog  $\rightarrow$  [Communication Settings]  $\rightarrow$  [COM Port No.]

### Fuji Electric SX-Programmer Expert (D300win)



### Siemens "STEP 7-Micro/WIN"

[Set PG/PC Interface] dialog  $\rightarrow$  [PC/PPI cable (PPI)]  $\rightarrow$  [Properties].



The baud rate between the V9 unit and the PC is fixed to 115 Kbps.

## Siemens SIMATIC Manager

Set PG/PC Interface	
Access Path LLDP <u>A</u> ccess Point of the Application: [\$70NLINE (STEP 7)> PC Adapter(M (Standard for STEP 7) Interface <u>P</u> arameter Assignment Used: PC Adapter(MPD)	PD •
BSO Ind. Ethernet -> Intel(R) 82578DM • A BEPC Adapter(Auto) CPC Adapter(MPD) CPC Adapter(MPD) (Parameter assignment of your PC adapter for an MPI network)	Copy Dejete
Interfaces Add/Remove:	Select-
ОК	Cancel Help

Connection to:	COM1	-
Transmission rate:	38400	-
Apply settings for all modules		
OK Default	Cancel	Help

Set [Connection to:] in the range of COM1 to 8. [Transmission rate:] does not need to be

changed.

# 12.6 Notes

### Screen Program Transfer

- When transferring a screen program via USB cable while executing the ladder transfer function via USB, always perform the following.
  - Change the V9 series unit to Local mode.
  - (Ladder communication is enabled only in RUN mode.)
  - Set LadderComOp Ver. 2 to [OFFLINE] mode.
    - (For details on this setting, refer to "12.2.2 LadderComOp Ver. 2 Detailed Settings" page 12-7.)
- When using Siemens S7-200 PPI or S7-300/400 MPI, always change to local mode before transferring the screen program. (Ladder communication is enabled only in RUN mode.)

### **Other Notes**

- The ladder transfer function can be used for up to three ports with PLC 1 to 8.
- When using a PC with user privileges enabled, perform the following in advance.
  - 1) Log in with administrator privileges.
  - 2) Start the LadderComOp program and set a COM port for [Used Port].
    - \* When settings are configured initially, LadderComOp may take a few moments to exit. Also, if a user logs in without administrator privileges, the following message is displayed and the LadderComOP software cannot be used.
- The following messages are displayed at the top left of the screen on the V9 series unit during access (mainly when transferring a large amount of data, such as programs) to the Siemens S7-200 PPI and S7-300/400 MPI. The V9 series unit automatically returns to normal operation after access is complete.
  - PLC1 Access denied by Loader
  - PLC1 In Reset Service
- The communication states of the PLC programming software and PLC when communication is performed between the editor and the V9 series unit are shown below.

Editor	PLC Programming Software
Writing to V9 series unit	Communication stops (normal communication after writing finishes)
Reading from V9 series unit	Normal communication
Checking with V9 series unit	Normal communication

• Baud rate

The baud rate used between the V9 series unit and the PLC is the value set in the editor for [Hardware Setting]  $\rightarrow$  [PLC Properties]  $\rightarrow$  [Baud Rate].

However, when communication (monitoring etc.) with the PLC programming software occurs with the ladder transfer function, the baud rate value changes to that of the PLC programming software. This baud rate is retained until power to the V9 series unit is turned off and on again.

For this reason, set the same baud rate setting for [Hardware Setting]  $\rightarrow$  [PLC Properties]  $\rightarrow$  [Baud Rate] as the PLC programming software.

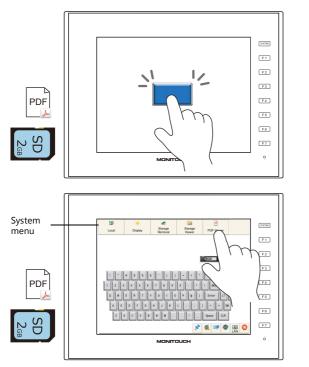
- When [Use Ladder Tool] is set to [Yes], monitor registration of the V9 series unit and PLC communication is prohibited even if the PLC programming software is not running. This means that the screen display speed is slightly slower than usual.
- When transferring ladder programs when the V9 series unit is in RUN mode, the performance of both the V9 series unit and the PLC programming software decreases because communication between the two is performed in synchronization.

# **13 PDF Viewer**

## 13.1 Overview

### **PDF Viewer**

- PDF files can be viewed on the V9 series unit without the need for preparing a computer or a paper manual. By saving PDF files of the machine's operation and troubleshooting manuals to a storage device, they can be easily viewed using the dedicated PDF viewer.
- The storage device to refer to can be selected (between the SD card and USB flash drive) from the PDF viewer.
- The PDF viewer can be displayed using switches (a switch part with the [PDF Viewer Display] function or from the system menu) or by a command from a PLC.





\* The PDF viewer can be displayed in Local mode as well by using the system menu.

For details on the setting method, refer to the following sections. "13.3.1 Displaying by Switch "Function: PDF Viewer Display"" page 13-4 "13.3.2 Displaying by Commanding from PLC" page 13-6

## Search function

<u>/</u>]

The bookmarks of the PDF file can be displayed and text can be searched for. The display can be enlarged for easy viewing as well.

DOOKI	nark display									Sea	i chi						
Select a page you want to view											Ente	r a keyv	vord to	search fo	or		
EXT0000/PDF/Trouble.pdf Notes on Safe Usage of M Contents	Pee of MONITOUCH  Anny bank with the part water Stretch" part CUUTOY.      Makes the bank with the part water Stretch" part CUUTOY.      Mich. Text and the stretch of the part water stretch open of the part of the par		- 1						l find antour idea Indiana er <u>inni</u> a	etty handson shark	sys	tem m	emor	/			_
<ul> <li>1 System</li> <li>2 Overlap</li> <li>3 Switch</li> <li>4 Lamp</li> <li>5 Data Display</li> <li>6 Entry</li> </ul>	In the second se						l	Note that there is a part of the second seco	authibity that kerns bad opened of the 's mangaping, Please it republic analysis of brough may may a classing when prior of brough may may be between a solid of mailers contacts of the last game is not mailers contacts.	These of well and possible of the possible of		Rey Parcell, Oberein, Gerogek, Borot Ingen Und Kitter Dy of the Mount Settery	Fe balad liquid rysta no dispose of the life flow Two conditions			8	3 CI
<ul> <li>₱ 7 Trends</li> <li>₱ 8 Alarm</li> <li>₱ 9 Graph Display</li> <li>₱ 10 Calendar</li> <li>11 Cambias and Asimption</li> </ul>	Autronal Insertie from a discognization in Acuta Manaro Inter- Integra annapura. Instituta Suffare seguranti, microalita Annaholaneo Technismana dei statisticiariana. Adaministica in soliticare fini, Inserge annapura Annaholaneo Integratione data in andiatare Inserge annapura dei statisticiariana. Adaministica in soliticare fini, Inserge annapura dei statisticiaria data integratione tari constituti. Soliti sense data dei data integratione Technismana dei statisticiaria data integratione Insertie data integratione Inser		- 1					<ul> <li>Rep back to first a</li> <li>For anota a back plane consult particular plane consult particular plane constant particular plane constant particular plane constant plane</li></ul>	other VP series and occi derivage, or de noting anciencement or othere there is a pr last with therweit operations, high for othere excession of prior and in a local	which is organized Christen dates from soluble the nuclear in the candidates induce without the solution of methods are an and methods and website in the solution of the solution in a solution detection.	roix pa, farmal der sordfors, auf oricity an propert should also be	demage or defermation radical, traffic apagener distanci manuali. Poluri Defension, faito or deev legas, antivens, growing has wind, cast, or direct fait reasonitiest cast institute trachest ins-	hah, e serepat se uriget	n 1. 10.			
<ul> <li>11 Graphics and Animation</li> <li>12 Message</li> </ul>	a ar regard topped (HCAN) with growing may cause the write individual, mathematics, or increased listed, and finateses; are thenly lightneed, causered sciences or with all Pos VB existence are speak-integrate (F) is to bit and bit its interview, an other series mathematic.		q	N	, ,	e	r	t	Γ	у	u	i	0		p	BS	
13 Others	<ul> <li>A physical debts in the west Difference is for come can be dramped and physical debts in the second of the second second physical west-relative and the second of the second of providing constances loss - Advances for the west and all the second of providing constances loss - Advances of the second and the second of providing constances loss - Advances of the second and the second of providing constances loss - Advances of the second and the second of providing constances and the data - Advances of the second of the second of providing constances and the data - Advances of the second of the second of providing constance and the data - Advances of the second of the sec</li></ul>			a	s	d		f	g	h	Τ	j	k	Î	D	EL	
1 System			Û	z		x	С	v		b	n	m	Τ,	Τ			+
View 🚫 Clo	se	Dpen 🚫 Close		A	1		-			L.	-		÷		F ,		-

To search for Japanese text, the [System Setting]  $\rightarrow$  [Japanese Conversion Function Setting] checkbox must be selected.

For details, refer to "13.5 Operating the PDF Viewer" page 13-8.

# 13.2 Preparation of PDF Files

This section describes the specifications of PDF files that can be viewed on the PDF viewer and the procedure for saving a PDF file to a storage device.

### **PDF File Specifications**

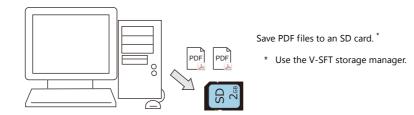
The specifications are as follows:

Item	Specifications
File Name	<ul> <li>PDFxxxxx.pdf (xxxxx: 00000 to 99999) (For specification by file number)</li> <li>xxxxxxx.pdf (64 or less one-byte characters or 32 or less two-byte characters)</li> </ul>
File size	No limitation *1
Number of pages	Maximum 65,535 pages in one file
Supported languages	Languages selected at [System Setting] $\rightarrow$ [Multi-language Setting] $\rightarrow$ [Transfer Font Setting] tab window. <sup>*2</sup>
PDF version	1.0 to 1.7
PDF file storage location	Computer C:\MONITOUCH\User\PDF (default) Storage device • When displaying by selecting on the PDF viewer: No settings are required. • When displaying by giving a command (control device memory) from a PLC: (output drive)\access folder\PDF EXT0000 (default access folder name) PDF PDF PDF PDF00000.pdf Trouble.pdf

- \*1 Larger PDF files and those with many figures and images will take longer to open
- \*2 PDF files created with font information embedded can be displayed regardless of the fonts selected in the [Transfer Font Setting] tab window.

### Storing Files on a Storage Device (Storage Manager)

When displaying PDF files by giving a command (control device memory) from a PLC, a PDF file on the PC must be saved to the "PDF" folder in the storage device. This section describes the procedure for saving PDF files to a storage device.

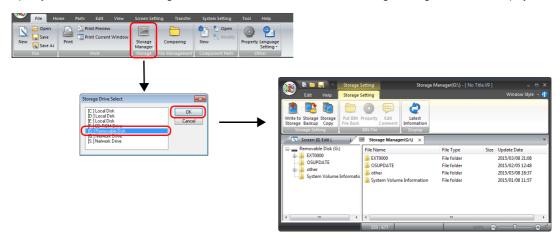


1. Save PDF files to the following location. C:\MONITOUCH\User\PDF (default)

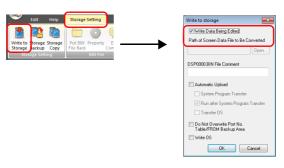
C:\MONITOUCH\User\PD 😺 🕘	F		👻 🄶 🛛 Search PD	)F
File Edit View Tools Help				
Organize 🔻 Include in library 💌	Share with 💌 🛛 🛛	Burn New folde	r 📧 🕶 🛄	0
Name	Date modifie	d Type	Size	
🔁 Hardware_Reference_C.pdf	7/2/2014 12:	L5 AM Adobe Ad	robat D 38,344 H	B
🔁 Hardware_Reference_E.pdf	6/3/2014 12:	00 AM Adobe Ad	robat D 37,530 I	(B
📩 Hardware_Reference_F.pdf	1/16/2005 4:	33 PM Adobe Ad	robat D 5,173 H	œ
🔁 Hardware_Reference_G.pdf	4/7/2009 7:3	B PM Adobe Ad	robat D 25,886 H	(B
🔁 Hardware_Reference_K.pdf	7/2/2014 12:	L3 AM Adobe Ad	robat D 38,012 H	(B
🔁 Hardware_Reference_T.pdf	7/2/2014 12:	LO AM Adobe Ad	robat D 39,277 H	(B
🔁 Install.pdf	10/11/2012 7	:58 PM Adobe Ad	robat D 346 H	(B

2. Click [File]  $\rightarrow$  [Storage Manager] in V-SFT.

Specify the drive where the storage device is inserted and click [OK]. The [Storage Manager] window is displayed.



3. On the [Storage Setting] ribbon menu, click [Write to Storage]. On the displayed window, select the relevant screen program.



4. When the settings are complete, click [OK]. PDF files are written to the "PDF" folder under the access folder. (output drive)\access folder\PDF

Screen [0] Edit (		Storage Manager(G:\) ×			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
😑 👝 Removable Disk (G:)	*	File Name	File Type	Size	Update Date
EXT0000		Hardware_Reference_C.pdf	Adobe Acrobat D	3	2014/07/02 00:15
ALARM		Hardware_Reference_E.pdf	Adobe Acrobat D	3	2014/06/03 00:00
BITMAP		Hardware_Reference_F.pdf	Adobe Acrobat D	5,	2005/01/16 17:33
HDCOPY		Hardware_Reference_G.pdf	Adobe Acrobat D	2	2009/04/07 19:33
JPEG		Hardware_Reference_K.pdf	Adobe Acrobat D	3	2014/07/02 00:13
LADDER		Hardware_Reference_T.pdf	Adobe Acrobat D	4	2014/07/02 00:10
LIST		🔁 Install.pdf	Adobe Acrobat D	3	2012/10/11 19:58
LOGGING	E	🔁 Trouble.pdf	Adobe Acrobat D	4	2015/02/19 15:12
		🔁 Update.pdf	Adobe Acrobat D	3	2014/04/30 22:32
MSG					
B OPELOG					
C PDF					
M RECIPE					
🔒 SNAP					
SRAM					
WAV					
OSUPDATE	-				
< III	•	<	III		•
		333 : 677	100%	6	) — – – – 🕀 -

\* If there already is a "PDF" folder under the access folder, PDF files can be directly copied into it.

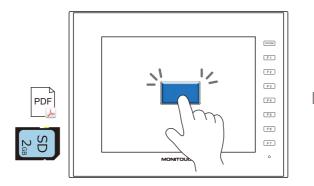
# **13.3 Setting Example**

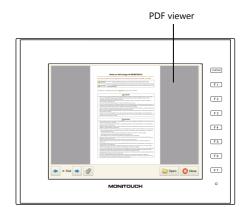
The PDF viewer can be displayed using switches (a switch part with the [PDF Viewer Display] function or from the system menu) or by a command from a PLC.

# 13.3.1 Displaying by Switch "Function: PDF Viewer Display"

Press a switch with the [PDF Viewer Display] function to display the PDF viewer.

## **Conceptual Operation**





Press the [Open] switch to select and display a PDF file.

### **Settings for PDF Viewer**

1. Click [System Setting]  $\rightarrow$  [Other]  $\rightarrow$  [PDF Viewer Setting].



2. In the [PDF Viewer Setting] window, select the [Use PDF viewer] checkbox and select a [Storage Connection].

	PDF Viewer Setting		
Select the default		uilt-in Socket S8 Port	
The drive to refer to can be changed on the PDF	Control devices	Internal v 0 ku v 16500	
viewer as necessary.	Page device	\$u16501	
	File Designation		
		File Name     , pdf	
		© Device Internal ▼ 0 ▲ \$u ▼ 16510	4
		- \$u16511 0`99999	
	Information Output Device	Internal 🔻 0 🐥 \$u 💌 16520	
	Page No. output device	\$u16521	
		OK Cancel	

3. Click [OK]. This completes the configuration of settings.

## **Switch Settings**

- 1. Place a switch part.
- 2. Select [PDF Viewer Display] in the [Function] settings.

Displaying page 1 of a PDF file named "PDF00000.pdf"

	Switch	, ,
Style Char. Prop.	Function Standard  Cive lap Control Return Word Operation Language changeover Storges Removal PDF Verser Dreptoy  Explanation Used for displaying the PDF viewer.	
Function Detail	File Designation         Image: File No.         No.         Image: 0         Image: 99999         [PDF00000.pdf]           Image: 0         File Name         , pdf         , pdf           Image: 0         Device         Internal v 0         Image: 3u v 00000         Image: 3u v 00000           -\$u00101         0         99999         99999         Image: 3u v 00000         Image: 3u v 000	
Other Settings 👻	Page No. designation Page No. No. 1 n	
Preview Display	Comment SW_00000	Finish Cancel

Item	Description					
File Designation	Specify the method for specifying files.					
	[File No.]:0 to 99999 (Filename: PDF00000.pdf to PDF99999.pdf)[File Name]:Maximum of 64 one-byte uppercase alphanumeric characters, or 32 two-byte characters[Device]:Set the device memory address (2 words) for specifying the file number (No. 0 to 99999)					
Page No. designation	Specify the page number specification method. [Page No.]: 1 to 65535 (Filename: PDF00000.pdf to PDF99999.pdf) [Device]: Set the device memory address for specifying the page number (No. 1 to 65535)					

The necessary settings have been completed.

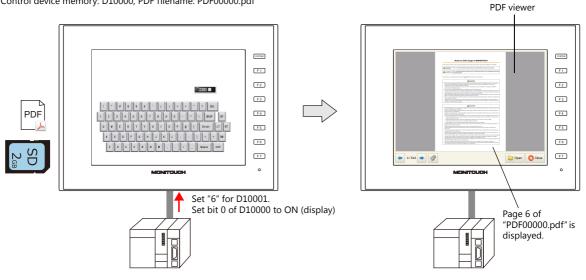
For details on operation on the V9 series unit, refer to "13.5 Operating the PDF Viewer" page 13-8.

## 13.3.2 Displaying by Commanding from PLC

The PDF viewer can be displayed by turning the relevant PLC device memory bit ON. The page to display can be specified as well.

## **Conceptual Operation**

Control device memory: D10000, PDF filename: PDF00000.pdf



### V-SFT Settings (Settings for PDF Viewer)

1. Click [System Setting]  $\rightarrow$  [Other]  $\rightarrow$  [PDF Viewer Setting].

File Home	Hardware Setting	Memory Map *	Screen Setting	Global Setting *	<b>1</b>		<u>i</u>	Tool 10 Scheduler	Help Data transfer service	Oth		Macro Setting Date/Time Display Format S Japanese Conversion Funct	
Unit Setting		Communication	Setting			C	ommon	Setting			Stora	ge Setting(C)	
											Mem	ory Card Setting(M)	
											MES S	Setting(E)	
											Oper	ation log Setting(O)	
										<b>A</b>	Secur	rity Setting(S)	
										2	Remo	te Desktop Table Setting(R)	
										0	Netw	ork Camera Table Setting(N)	
										()	Time	Display Format Setting(D)	
										180	Flowi	ing Message(F)	
										Far	PDE \	/iewer Setting(P)	

2. In the [PDF Viewer Setting] window, select the [Use PDF viewer] checkbox and make the following settings.

	PDF Viewer Setting	×
	V Use PDF viewer	
Select the default	Storage Connection	
The drive to refer to can be changed on the PDF	○ USB Port           ☑ Control devices           PLC1         ○         □ <td< td=""><td></td></td<>	
viewer as necessary.	Page device D10001	
	File Designation	
	File Name     , pdf	
	Device     Internal     V     (     )     (     )     (     )     (     )     (     )     )     (     )     (     )     )     (     )     )	
	- \$u16511 D`99999	-
	Information Output Device PLC1 V 0 C D V 10010	
	Page No. output device D10011	
	CKCancel	

3. Click [OK]. This completes the configuration of settings.

### **PLC Commands**

Set the control device memory D10001 to "6". When bit 0 of D10000 turns ON, page 6 of the "PDF00000.pdf" file is displayed.

For details on operation on MONITOUCH, refer to "13.5 Operating the PDF Viewer" page 13-8. 1¢P

# 13.4 Detailed Settings

	PDF Viewer Setting					
	Vise POF viewer         Storage Connection          Bull+in Socket					
Item	Description					
Storage Connection Target	Select the storage device to refer to for PDF files. This can be changed on the PDF viewer as necessary.					
Control Device	Showing and hiding is performed according to the value of the least significant bit. $^{\star1}$					
	15       14       13       12       11       10       9       8       7       6       5       4       3       2       1       0         0					
	Reserved for systemPDF viewer $1 \rightarrow 0$ : Hide $0 \rightarrow 1$ : Show					
Page device	Specify the page number to display initially. No.: 1 to 65535 *2					
File Designation	Specify the filename format for files to specify.         [File No.]:       0 to 99999 (Filename: PDF00000.pdf to PDF99999.pdf)         [File Name]:       Maximum of 64 one-byte uppercase alphanumeric characters, or 32 two-byte characters         [Device]:       Set the device memory address (2 words) for specifying the file number (No. 0 to 99999)					
Information Output Device	The state of the PDF viewer is output.					
	15     14     13     12     11     10     9     8     7     6     5     4     3     2     1     0					
0       0						
	1: PDF file does not exist PDF viewer status					
Page No. output device	0: Hide 1: Show The page number that is currently displayed is output. No.: 1 to 65535					
rage No. output device	ne page number that is currently displayed is output. NO., 1 to 00000					

Select the [Use PDF viewer] checkbox to enable the following items.

\*1  $\:$  If the display bit is ON when entering RUN mode, the PDF viewer is displayed.

\*2 If a page number that does not exist is specified and the PDF viewer is displayed, the first page of the PDF file is displayed.

# 13.5 Operating the PDF Viewer

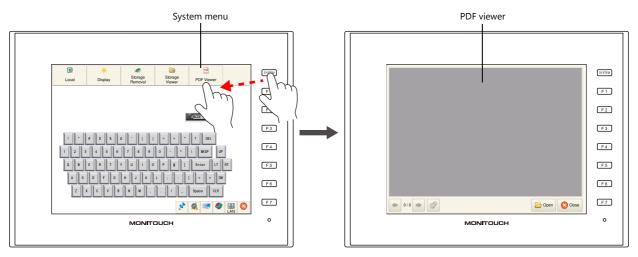
## 13.5.1 Displaying from the System Menu

The PDF viewer can be displayed by pressing the [PDF Viewer] switch on the system menu. Therefore it can be displayed in both RUN mode and Local mode.

The PDF viewer can also be displayed in RUN mode by the following methods.

- Switch Function → "13.3.1 Displaying by Switch "Function: PDF Viewer Display"" page 13-4
- PLC Commands →"13.3.2 Displaying by Commanding from PLC" page 13-6

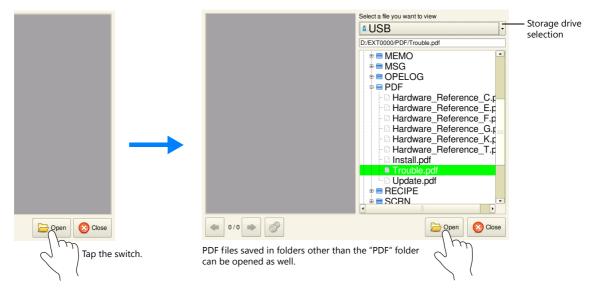
Press the [SYSTEM] switch to display the system menu. Tap the [PDF Viewer] switch to display the PDF viewer.



\* If the [PDF Viewer] is not shown on the system menu, scroll the system menu sideways.

## 13.5.2 Changing PDF Files to Display

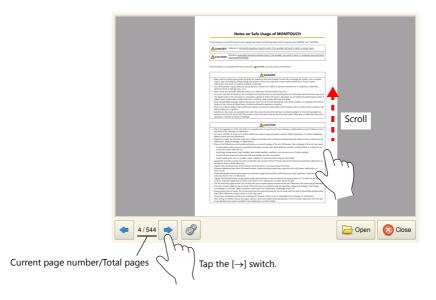
Tap the [Open] switch on the PDF viewer. Select the PDF file to display and tap the [Open] switch.



\* Larger PDF files will take more time to open.

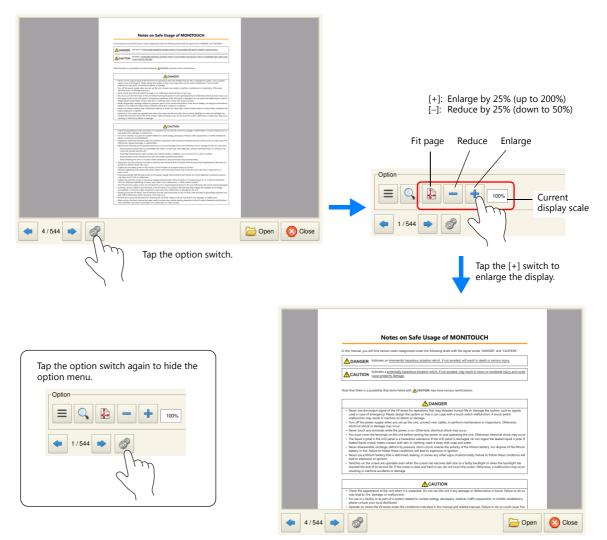
## 13.5.3 Changing the Display Page

Tap the  $[\leftarrow]$  and  $[\rightarrow]$  switches on the PDF viewer or scroll the display to change the displayed page.



## 13.5.4 Display Scale

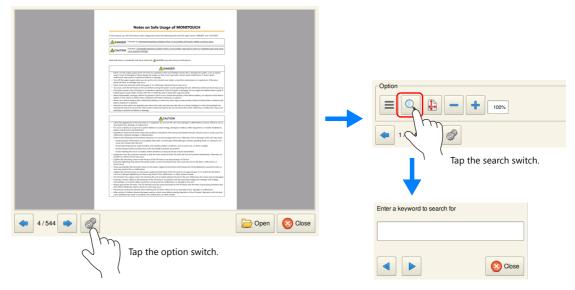
Tap the option switch on the PDF viewer. The following menu is displayed. Tap the [+] and [–] switches to enlarge and reduce the display respectively.



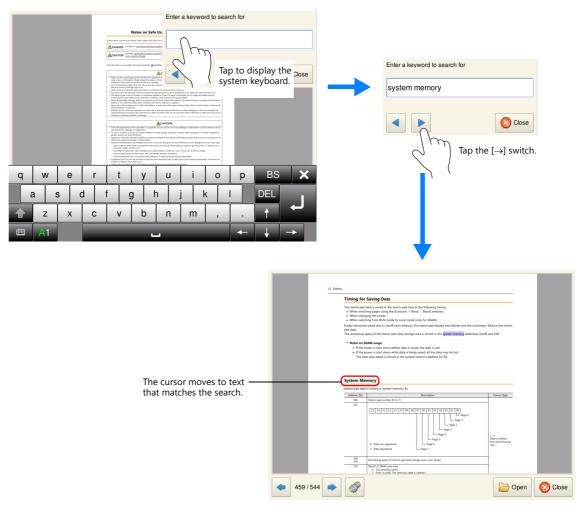
## **13.5.5 Search Function**

### Text

Tap the option switch on the PDF viewer. The following menu is displayed. Tap the search switch on the PDF viewer to display the search window.



Tap the [Enter a keyword to search for] field. The system keyboard appears. Enter the text to search for and tap the [ $\leftarrow$ ] or [ $\rightarrow$ ] switch. The cursor moves to text that matches the search.



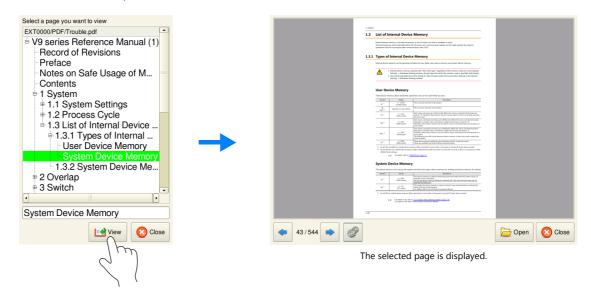
\* To enter Japanese text, the [System Setting]  $\rightarrow$  [Japanese Conversion Function Setting] checkbox must be selected.

### **Bookmarks**

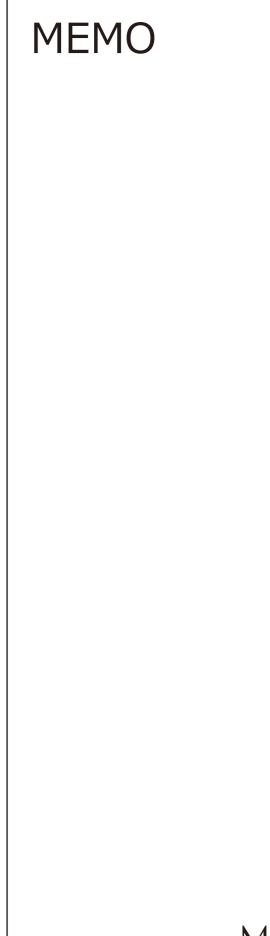
Tap the option switch on the PDF viewer. The following menu is displayed. Tap the bookmark switch on the PDF viewer.

Optio Q = ÷ 100% Tap the bookmark switch. **4/544** Dpen 🛛 🚫 Close Tap the option switch. Select a page you want to view EXT0000/PDF/Trouble.pdf V9 series Reference Manual (1) Record of Revisions Preface Notes on Safe Usage of M... Bookmarks -Contents 1 System
 2 Overlap 3 Switch 4 Lamp
5 Data Display
6 Entry
7 Trends 8 Alarm 9 Graph Display 10 Calendar Þ View 😢 Close Dpen 🛛 🚫 Close

Select a bookmark and tap the [View] switch.



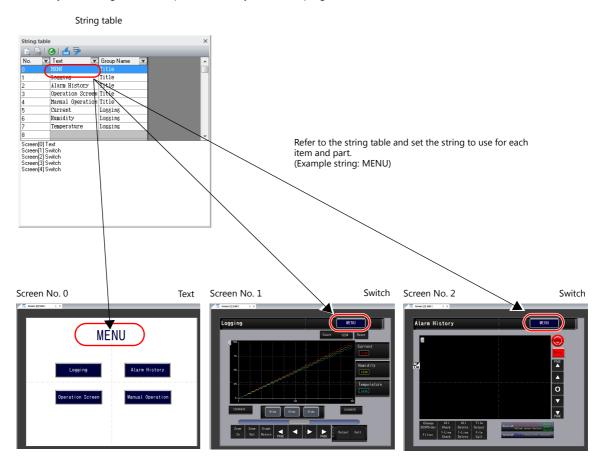
13



# **14 String Table Function**

## 14.1 Overview

Strings that are used many times throughout the screen program can be registered to a string table. Once registered, they
can be used for text items as well as switches and lamps by simply selecting the string from the string table.
 If a string needs to be changed, changing the string in the string table will change all occurrences in the screen program,
thereby shortening the time required to modify the screen program.



• Additions and modifications can be made on the string table from each item and part as well.

	Switch				x	
Style Style Char: Prop. Output Device Function Transition	OFF ON	3 Oper 4 Manu 5 Curr	t Sins Thistory ration Screen tal Operation rent			String table
				Logging		~
	Copy only characters	011-	-ON I			-

### Items and Parts that can Use the String Table

- Switch
- Lamp
- Text
- Multi-text

14

# 14.2 Registration Method

This section describes how to register strings to the string table and how to use the registered strings. There are two registration methods.

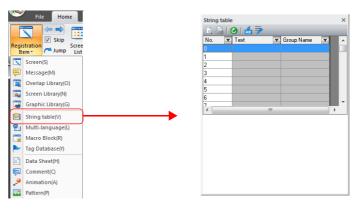
- Registration from the string table
- Direct registration from each part and item

# 14.2.1 Registration from String Table

This section describes the procedure for preparing the following string table as an example and selecting strings for switches from the prepared string table.

Text	Group Name		
MENU .ogging Alarm History Dperation Screen Manual Operation	Title	String table       Image: String table	×
Current Humidity Temperature	Logging	4 Marmal Operation Title 5 Ourrent Lossins 6 Rhumidity Lossins 7 Temperature Logsins	

1. Click [Home]  $\rightarrow$  [Registration Item]  $\rightarrow$  [String table] to open a string table.



2. Double-click a [Text] field and enter the string.



When entering multiple lines in the displayed field, press the [Enter] key.

3. Double-click a [Group Name] field and enter the name for categorizing the string.

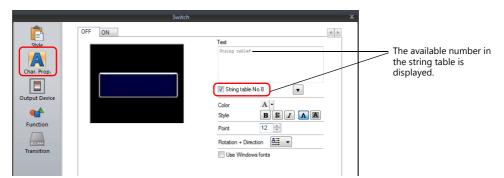
String ta	able		×
	0 🙆		_
No.	🔽 Text	Group Name	<b>Y</b> ^
		Title	
1			
2			
3			
4			
5			
6			
7			
•			•

This field can be left blank if a group name is not required.

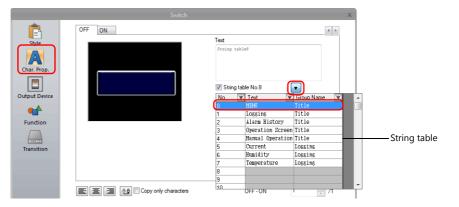
4. Register the other strings in the same procedure by following steps 2 and 3.

String tab	le		×
🗟 昌 I	3 🔬 😼		
No.	🛛 Text 🔍	Group Name 🛛 💌	
	MENU		
1	Logging	Title	
2	Alarm History	Title	
3	Operation Screen	Title	-
4	Manual Operation	Title	
5	Current	Logging	
6	Humidity	Logging	-
7	Temperature	Logging	-

- 5. Double-click a switch to display its settings window.
- 6. Click [Char. Prop.] in the left menu pane and select the [String table No. XX] checkbox.



7. Click the down button to display the string table and then select the string to use from the table.



8. Click inside the [Text] field of the settings window. The selected string is displayed in the [Text] field.

	Switch	x
Style Char. Prop. Output Device Function Transition		Ind MERU Click String table No.0 Solor A Solor B Solor A Solor B Solor A Solor A Sol
Other Settings 💌	E      E      Copy only characters     Set line spacing     Use the same style for all patterns     Auto-adjust the size according to the style     Retain the coordinates when changing character string	OFF - ON 1 2

For switch and lamp parts, the text display will vary according to the setting for [Auto-adjust the size according to the style].

- Selected
  - The part will be resized according to the length of the string.
- Unselected

Only the characters that will fit in the current part size are displayed. (The number of rows that can be displayed depends on the maximum number of rows for the part/item type. Switches and lamps: 4 rows, Multi-text: 38 rows)

This completes the necessary settings.

Configure the font size and color as necessary.

## 14.2.2 Direct Registration from Parts and Items

This section describes the procedure for registering a string from a text item to the string table as an example.

1. Click or double-click a text item placed on the screen to display its item view window. Select the [String table] checkbox.



Text	<	Text ×	
Style ^ Empt y String table Char. Color A Style B S Z Transparency A A		Style  String table No.8  Char. Color  Style  B  Z  Transparency  A  A	The available number in the string table is displayed by default.
Point Point Rotation + Direction Character Position Use Windows fonts		Point 12 2 7399 Rotation + Direction A reference (Character Position E Reference) Use Windows fonts	
Coordinates         ^           Start X         144         Start Y         122		Coordinates	
Language   Interface Language Language 2 : Japanese Gothic TTF  Set coordinates for each language		Language   Interface Language Language 2: Japanese Gothic TIF  Set coordinates for each language	

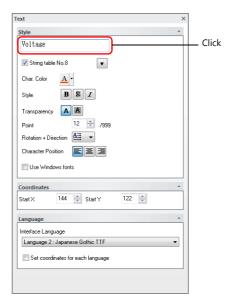
2. Click the down button to display the string table and then enter a string in an available number.

Text			×	
Style			*	
String table	n 8			Direct entry is also possible.
🔽 String tab	ole No.8	•		(The group name must be registered on the string table.)
No. 💌		Group Name 🛛 🔽	<b>^</b>	registered on the string table.)
0	MENU	Title		
1	Logging	Title		
2	Alarm History	Title		
3	Operation Screen			
4	Manual Operation			
5	Current	Logging		C
6	Humidity	Logging		String table
7	Temperature	Logging		
8	Voltage 🖍			
9	_			
10 Character P		<u>k</u>		
🗌 I Ise Win	dows fonts			
Coordinates			*	
Start X	144 📑 Start	122 🚔		

3. Register the group name.

tyle String tabl	1-8	*				
String tabl	160					
🔽 String ta	able No.8	•				
No.	r Text 💌	Group Name 💌 🔺				
0	MENU	Title				
1	Logging	Title				
2	Alarm History	Title				
3	Operation Screen					
4	Manual Operation	Title				
5	Current	Logging				
6	Humidity	Logging				
7	Temperature	Logging				
8	Voltage	Logging				
9						
10 Character H	Position 📰 🔳 :					
🗖 Use Wi	ndows fonts					
oordinate	s	*				
itart X	144 法 Start*	122 🚔				

4. With the relevant string table number selected, click on the text field. The string is displayed in the text field.



This completes the registration process. Configure the font size and color as necessary.

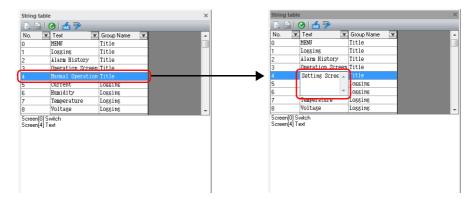
# 14.3 Changing Strings

This section describes the procedure for changing a string that is referencing the string table. There are two methods.

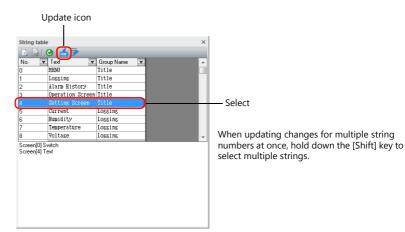
- Changing from the string table
- Changing from parts and items

# 14.3.1 Changing from String Table

1. Click [Home]  $\rightarrow$  [Registration Item]  $\rightarrow$  [String table] to open the string table and modify the relevant string.



2. With the changed string number selected, click the update icon.



All locations where the string is used are updated.



This completes the change.



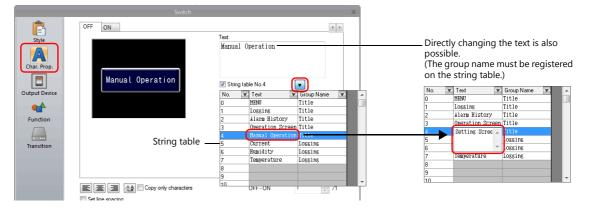
If a string has been changed, be sure to click the update icon.

Locations where the string is currently in use will not be updated unless the icon is clicked.

## 14.3.2 Changing from Parts and Items

This section describes the procedure for changing the text on a switch.

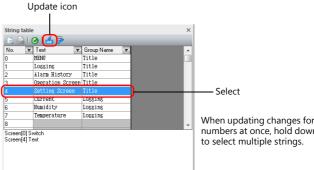
- 1. Double-click a switch to display its settings window.
- 2. Click [Char. Prop.] in the left menu pane.
- 3. Click the down button to display the string table and then change the relevant string on the table.



4. With the relevant string table number selected, click on the text field. The string is displayed in the text field. (The string table is updated as well.)

	Switch	x
Char. Prop. Char. Prop. Output Device	OFF ON Setting Screen	Text Setting Screen Click String table No.4 Color A Style B Style B Style A Point 18 Rotation + Direction A Use Windows forts
Other Settings 💌	Copy only characters     Set line spacing     Use the same style for all patterns     VAto-edjust the size according to the style     Retain the coordinates when changing character string	OFF-ON 1 7
Preview Display	Comment Language 2 -	Finish Cancel

5. Click [Home]  $\rightarrow$  [Registration Item]  $\rightarrow$  [String table] to open the string table. With the changed string number selected, click the update icon.



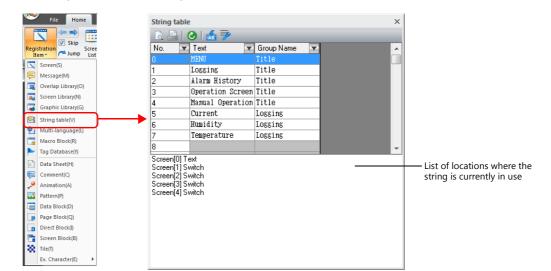
When updating changes for multiple string numbers at once, hold down the [Shift] key

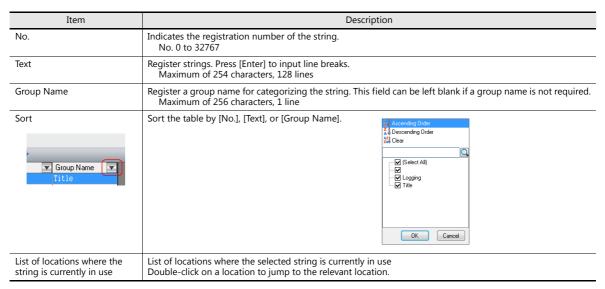
All locations where the string is used are updated.

This completes the change.

# 14.4 Editing the String Table

Click [Home]  $\rightarrow$  [Registration Item]  $\rightarrow$  [String table].





#### Enlarged view



Item	Description
1. Print preview	Preview printer output of the string table.
2. Print current window	Print the string table.
3. Refresh	Refresh to the latest state.
4. Update	Update the locations where the currently selected string is used. Use this icon for updating after editing strings on the string table.
<ol> <li>Multi-language edit setting</li> </ol>	<ul> <li>Specify the display language for the [Text] and [Group Name] columns on the string table.</li> <li>* The window displayed from this icon is also displayed from [Home] → [Registration Item] → [Multi-language].</li> </ul>

# 14.5 Multi-language Configuration

 When creating a multi-language screen program, a string table can be prepared per language. Change the language for editing from the [View] → [Display Change] group.

🛞 🛯 🗖 🖉 🛞	) <del>a</del>				
File Home F	Parts Edit	View Screen Se	tting	Transfer	System Se
OFF -	Project	: Function Item	<b>H</b>	Grid	
🐑 1: English/Western Eu 🔹	🛄 Catalog 📍	Component Device		ON Grid	
	📰 Item List 🍷	Component Text	Grid Setting	Point Sear	ch Env
Display Change		View		Grid	

• The [Text] and [Group Name] columns of the string table are displayed in the languages selected in the [Multi-language edit Setting] window.

When displaying languages using Windows fonts, the display and editing of such languages is also possible regardless of the settings configured in the [Font Setting] window.

ing ta				×	Multi-language	e Edit Setting
) 📑 ).		<ul> <li>Group Name</li> </ul>	<b>V</b>		Language 1	English/Western Euro
<i>)</i> .	MENU	Title		Â	Language 2	Japanese
	Logging	Title				
	Alarm History	Title			Language 3	Chinese (Simplified)
	Operation Scre				Language 4	Korean
	Manual Operati				Language 5	
	Current Humidity	Logging	-			
	Temperature	Logging			Language 6	
_	Temperature	2000110		-	Language 7	
en(1	)]Text ]Switch				Language 8	
	2] Switch 3] Switch				Language 9	
	[] Switch				Language 10	
					Language 11	
					Language 12	
					Language 13	
					Language 14	
					Language 15	
					Language 16	
					OK	Cancel

\* The settings made on the [Multi-language edit Setting] window are saved to the screen program.

# 14.6 Notes

### **Multi-language Screen Programs**

- When using the string table for a part or item, all of the text displayed on that part or item must be selected on the string table.
- When exporting from [System Setting] → [Font Setting], only the string table is exported. The locations where the strings are used are not exported.

If strings are changed on the exported file, the locations where the relevant string is used will be updated when the file is imported.

 In the [Multi-language Edit] tab window ([Home] → [Registration Item] → [Multi-language]), the string table is displayed but the locations where the strings are used are not.

Changes made to the string table on the [Multi-language Edit] tab window are reflected to the locations where the string is used.

## **Other Notes**

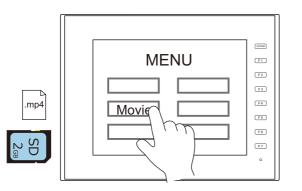
- When a string registered to the string table with multiple rows is selected for a text item, all line breaks are ignored and the entered characters are displayed in one line.
- When all numbers of the string table are used (No. 0 to 32767) and there is no available number, if the checkbox for using the string table is selected on any item settings window, No. 0 will be automatically selected.

# 15 Video Player

# 15.1 Video Player

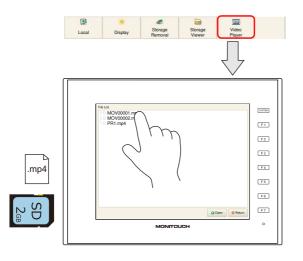
## 15.1.1 Overview

- Video files in MP4 format (.mp4) can be saved to a storage device and played back using the video player on the V9 series.
- The video player can be displayed using a switch part, the [Video Player] switch on the system menu, or by a command from a PLC.
  - Switch



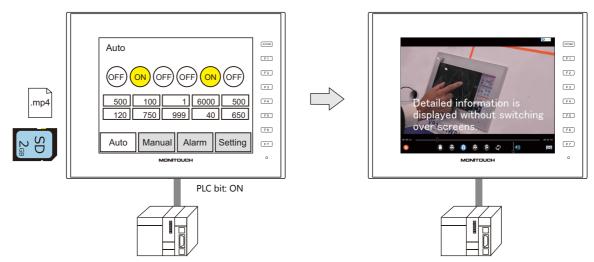


- System menu





- PLC command



- Videos can be played back repeatedly by using the [Enable repeat playback] function.
- Operation buttons on the lower part of the video player can be hidden.
- The video player can also be used on portrait-orientated V9 series units.

# 15.1.2 Specifications

# Applicable Models

Model	Audio Output	OS	SYSTEM PROGRAM	V-SFT-6	Other Notes
V910xiWRLD V910xiWLD V9150iX V9150iXD V9120iS V9120iSD V9100iS V9100iSD V9080iSD	0*	V2.10 or later	V1.130 or later	Version 6.0.12.0 or later	Storage device (SD card or USB flash drive)
V9100iC V9100iCD V9080iCD V907xiWRLD V907xiWLD V9060iTD	×				

\* Connect an external speaker to the AUDIO port for audio output.

## **Video File Specifications**

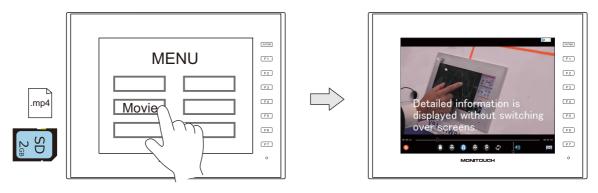
Item	Specifications						
File format	MPEG-4 (extension: .mp4)	MPEG-4 (extension: .mp4)					
Resolution	1920 × 1080 maximum	1920 × 1080 maximum					
Frame rate	Up to 30 FPS	Up to 30 FPS					
Audio format	ACC, MP3	ACC, MP3					
File size	No limitation *						
Filename	MOVxxxxx.mp4 (xxxxx: 00000 to 99999)						
	Filename specification	(arbitrary filename).mp4 (64 or less one-byte characters or 32 or less two-byte characters)					
Storage destination	Store files using the sto Storage device (output drive)\access fo	C:\MONITOUCH\User\VIDEO (default) Store files using the storage manager. Storage device (output drive)\access folder\VIDEO EXT0000 (default access folder name) VIDEO VIDEO					
		MOV00000.mp4 MOV00001.mp4 PR.mp4					

\* Larger files will take more time to load.

# 15.1.3 Setting Example

## **Displaying Using a Switch Part**

The video player can be displayed by using a switch part.



## **V-SFT** settings

1. Click [System Setting]  $\rightarrow$  [Other]  $\rightarrow$  [Video Player Settings].

File 😻	Home	Parts	Edit View	Screen Setting	Transfe	er 🔒	System Set	tting	Tool	Help					
Edit Model S	age Setting	Hardware Setting		Ethernet Communication *	Global Setting *	Alarm Server	Server			r Data transfe service	Oth		Macro Setting Date/Time Display F Japanese Conversio		-
Unit Set	ling		Communication	n Setting			c	ommon	Setting			Stora	ge Setting(C)		
												Mem	ory Card Setting(M)		
												MES :	Setting(E)		
												Oper	ation log Setting(O)		
											6	Secur	ity Setting(S)		
											2	Remo	te Desktop Table Setti	ng(R)	
											Q,	Netw	ork Camera Table Setti	ng(N)	
											()	Time	Display Format Setting	(D)	
											68C	Flowi	ng Message(F)		
											100	PDF \	/iewer Setting(P)		
											1753	Video	Diaver Settingc00	1	

2. In the [Video Player Settings] window, select the [Use video player] checkbox and select a [Storage Connection].

Video Player Settings		×
Use video player Storage Connection	Bult-in Socket USP Port	
Control devices	PLC1 - 0 M - 00000	
File Designation	Image: Pice Name         Image: Nam         Image: Name         Image: Name	
Information Output	Internal V 0 (16590 V	
		incel

3. Click [OK].

## **Placing a switch**

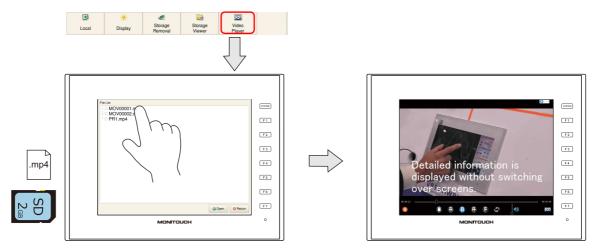
- 1. Place a switch from the [Parts] menu.
- 2. Click [Function]  $\rightarrow$  [Standard]  $\rightarrow$  [Video Player Settings], and configure the necessary settings.

			Switch	×
Char. Prop.	Function Standard Overlap Control Return Word Operation Language changeou Undeo Reyver Display Explanation Used for displaying th		Daplay Al	_
Detail	File Designation	<ul> <li>File No.</li> <li>File Name</li> <li>Device</li> </ul>	No. 0	
	Enable repeat	<ul> <li>Fixed</li> <li>Device</li> </ul>	-\$400101 0 ~ [Internal +]0 [☆][\$4 +]00100 [☆]	
Other Settings 💌 Preview Display	Comment SW_000	000		Finish Cancel

### **Displaying from the System Menu**

The video player can be displayed by pressing the [Video Player] switch on the system menu. Select the file for playback on the File List screen.

Video files can be played in Local mode as well by using the system menu.



## **V-SFT Settings**

1. Click [System Setting]  $\rightarrow$  [Other]  $\rightarrow$  [Video Player Settings].



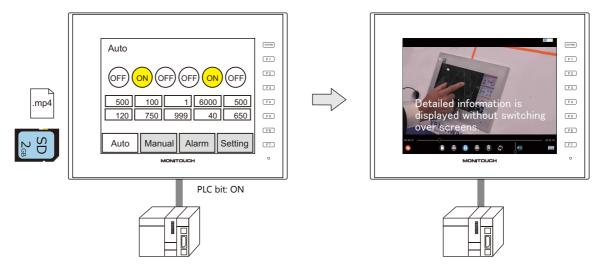
2. In the [Video Player Settings] window, select the [Use video player] checkbox and select a [Storage Connection].

Use video player			
Storage Connection	Built-in Socket		
	USB Port	]	
Control devices	PLC1 ~		
File Designation	③ File No.	No. 1 /99999 [MOV00001.mp4]	
	File Name	. mp4	
	O Device	Internal v 0 x \$16580	
		- \$u16581 0 ~ 99999	
Information Output	Internal 👻	0 🕆 \$u 🔻 16590 🍝 🖸	
			OK Cancel

3. Click [OK]. This completes the configuration of settings.

### **Displaying by Commanding from PLC**

The video player can be displayed by setting the relevant PLC device memory bit ON.



### **V-SFT** settings

1. Click [System Setting]  $\rightarrow$  [Other]  $\rightarrow$  [Video Player Settings].



15-5

15

2. In the [Video Player Settings] window, select the [Use video player] checkbox and then configure [Storage Connection] and [Control devices].

Storage Connection	Built-in Socket					
O	USB Port					
Control devices	PLC1 • 0	÷ M •	00000	÷ 🛈		
File Designation	File No. No.			[MOV00001.mp4]		
File Designation	Pile No. No.		/99999	[HOYOOODI.III]		
(	File Name			. mp4		
(	Device     Integration	ernal v 0	I	16580	A	
	- \$0	110201	0 × aaaaa	-		
Information Output	Internal 💌 0	÷ \$u -▼	16590	10 ج		

3. Click [OK]. This completes the configuration of settings.

## **PLC commands**

When the control device memory "M0" is set to ON, playback of the "MOV00001.mp4" file begins.

# **15.1.4 Detailed Settings**

### **Video Player Settings**

Select the [Use video player] checkbox to enable the following items.

		Video Playe	r Setting	IS													×	
		🗸 Use vid	leo playe	er														
		Storag	e Connec	tion @	) Built-in S	Socket												
				C	) USB Por	t												
		Con	itrol devi	ces	PLC1	•	0 ×	M	00000			<b>(</b> )						
		File	Designat	ion	File N File N	Name	No. 1				MOV00001							
		Inform	ation Out	tput	Devic     Interna	,	Interna - \$u165	81	0~9999	·/L	16580			Å				
													C	OK		Cancel		
	Item									De	escrip <sup>.</sup>	tion						
Stora	ge Connection	Select	the st	torage	e dev	ice to	refer	to fo	r vide	o files								
Cont	rol devices	Specify	the	bit to	use f	or co	ntrolli	ng th	e vide	o play	/er.							
		15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	7
		0	0	0	0	0	0	0	0	0	0	0	0	0				-
				-		-		-		-	-	-	-	-	-		1	
		Reserved for systemOperation buttonsVideo player $^{*1}$ 0: Show $1 \rightarrow 0$ (edge): Hide																
		1: Hide $^{*3}$ 1 $\rightarrow$ 0 (edge): Hide $0 \rightarrow 1$ (edge): Show																
		Repeat playback *2 O: No repeat 1: Repeat																
	File Designation	Specify	the	meth	od fo	r spec	cifying	files										
[File No.]: 0 to 99999 (Filename: MOV00000.mp4 to MOV99999.mp4) [File Name]: Maximum of 64 one-byte uppercase alphanumeric characters, or 32 two-byte o [Device]: Set the device memory address (2 words) for specifying the file number (No. 0																		
Infor	mation Output	Use for													,	-		<b>,</b> ,
		The sta								5	-							
		15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	
		0	0	0	0	0	0	0	0	0	0	0	0					-
	n	Reserved for system  C: None  1: Occurring											– Video player 0: Hide 1: Show <sup>*4</sup>					
							1: Oj	oerati	on bu	ttons	are no	ot dis	playe	d —			1: Rep	beat playback is valid
	n+1	The file	e num	nber d	of the	curre	ently p	olayec	l file i	s outp	ut. No	o. 0 t	o 999	99				
	n+2																	
	n+3	Error C 0: N	ode o erre	ors														
	-				d file	does	not e	xist.										

 $^{\star1}$   $\,$  If the display bit is ON when entering RUN mode, the video player is displayed.

\*2 If performing repeated playback with a [File Designation: Device] configuration, the file number that is stored in the specified device memory is acquired when the file currently in playback ends and playback starts again.

\*3 Even if operation buttons are hidden, the "quit" button is displayed when playback of the video file ends.

\*4 When displaying the video player using the system menu, this bit is set to "1" when the File List screen is displayed.

### **Switch Function**

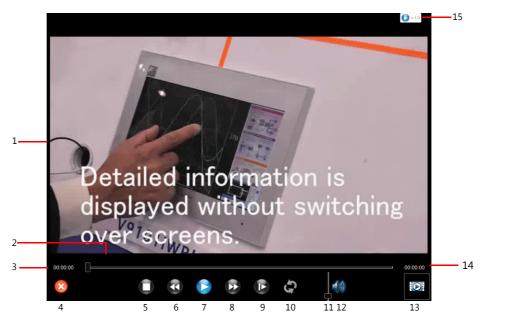
The following settings are available when a switch is set as [Function: Video Player Settings].

		Switch ×
Function Standard		
Style		Display All
Overlap Control		A
Word Operation		
har. Prop. Storage Removal Video Player Displa	over	E
Video Player Displa	iy	
tput Device Explanation		
Used for displaying	the video player.	
unction		
File Designation		
Detail	File No. N	No. 0 /99999
Detail	File Name	PR1 . mp4
	Device	Internal 👻 0 📩 \$u 👻 00100
		- \$u00101 0 ~
🔄 Enable repea	t playback	
	Fixed	
	O Device	Internal v 0 h \$u v 00100
📃 Hide operatio	n buttons	
er Settings 💌		
view Display Comment SW_0	0000	Finish Cancel

Item	Description						
File Designation	Specify the method for specifying files.						
	[File No.]:0 to 99999 (Filename: MOV00000.mp4 to MOV99999.mp4)[File Name]:Maximum of 64 one-byte uppercase alphanumeric characters, or 32 two-byte chara[Device]:Set the device memory address (2 words) for specifying the file number (No. 0 to 99						
Enable repeat playback	Repeat playback of a specified file.         [Fixed]:       Repeat playback while the video player is displayed.         [Device]:       Control repeated playback. 0: No repeat, 1: Repeat						
Hide operation buttons	Hides the operation buttons on the lower part of the video player. If this is selected, the "quit" button is displayed when playback of a file ends.						

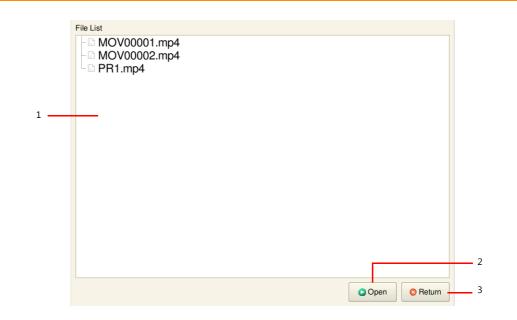
# 15.1.5 Configuration of Video Player

## Video Player



No.	Item	Details	No.	Item	Details
1	Playback screen	Videos are displayed in full-screen without changing the aspect ratio.	9	Slow playback	0.8 ×, 0.4 ×, 0.2 ×, 1.0 ×
2	Seekbar	Operable from 0 to 100	10	Repeat	Turn on/off repeat
3	Playing time		11	Volume slider	Volume changeable from 0 to 10
4	Quit	Returns to RUN or Local mode	12	Speaker	Turn on/off audio
5	Stop		13	File Select	Displays the File List screen
6	Rewind	2.0 ×, 4.0 ×, 8.0 ×, 1.0 ×	14	Total time	
7	Play/pause		15	Playback speed	Displays the current speed of rewind,
8	Fast forward	2.0 ×, 4.0 ×, 8.0 ×, 1.0 ×			fast forward, or slow playback

## **File List**



	No.	Item	Details	No.	Item	Details
	1	File List	A list of files currently on the SD card	3	Back	Returns to RUN or Local mode
_	2	Open	Plays the selected file			

## 15.1.6 Notes

- If the playback bit of a control device memory is set to ON while a video is currently being played back on the video player that was displayed using a switch part or the system menu, playback of the video file specified by the control device memory starts after the current video ends.
- When a video is in playback because a playback bit was set to ON, if that playback bit is set to OFF again, the video player is hidden immediately even if the video is still playing.
- The video player cannot be displayed on the VNC Viewer screen.
- Display Priority

The video player is displayed superimposed over items and overlap displays placed on the screen.

However, the playback screen is hidden when the system menu or status bar, which have higher priority, are displayed. The playback screen is displayed again when the system menu or status bar are hidden.



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