Before using this product, please read this manual and the relevant manuals introduced in this manual carefully and pay full attention to safety to handle the product correctly.

The instructions given in this manual are concerned with this product. For the safety instructions of the programmable controller system, please read the CPU module user's manual.

In this manual, the safety instructions are ranked as "DANGER" and "CAUTION".

Note that the CAUTION level may lead to a serious consequence according to the circumstances. Always follow the instructions of both levels because they are important to personal safety.

Please save this manual to make it accessible when required and always forward it to the end user.

[PRECAUTION WHEN PERFORMING THE TEST OPERATION]

Read the manual carefully and fully understand the operation before the test operation (ON/OFF) of bit devices, modifying current value of a word device, modifying timer/counter setting, modifying the current value, or modifying the current value of a buffer memory) of system monitor, special function module monitor, and ladder monitor.

In addition, never modify data in a test operation to a device which performs a crucial operation to the system.

It may cause an accident by a false output or malfunction.
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<td>SH (NA)-080523ENG-B</td>
<td>Partial correction; Section 12.23, Section 12.28, Section 12.29, Section 12.31, Section 12.32</td>
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<td>Partial correction; Section 2.2, Section 9.1.2, Section 31.2.1, Section 31.2.2–Section 31.2.3, Section 31.3 Partial addition; Section 3.9.3, Section 4.5, Section 6.3.2 Addition; Section 1.1.11, Section 3.10, Section 31.2.2, Chapter 32</td>
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<td>SH(NA)-080523ENG-F</td>
<td>Partial correction; Layouts were revised. Titles of chapters and sections were revised.</td>
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A - 2
INTRODUCTION

Thank you for choosing the Mitsubishi Graphic Operation Terminal.
Please read this manual carefully so that equipment is used to its optimum.

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# ABOUT MANUALS

The following manuals related to this product are available. Obtain the manuals as required according to this table.

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<thead>
<tr>
<th>Related manual</th>
<th>Manual name</th>
<th>Manual number (type code)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GT Designer2 Version2 Operating Manual</td>
<td>Describes methods of operating GT Designer2 and transmitting data to GOT.</td>
<td>SH-080521ENG (1DM216)</td>
</tr>
<tr>
<td>GT Designer2 Version2 Reference Manual</td>
<td>Describes the specifications and settings of each object function used in GT Designer2.</td>
<td>SH-080522ENG (1DM217)</td>
</tr>
<tr>
<td>A985GOT/A975GOT/A970GOT/A960GOT User’s Manual</td>
<td>Provides performance specification, setting method, and communication board/communication module installation method of each GOT.</td>
<td>SH-4005 (1DM099)</td>
</tr>
<tr>
<td>A950GOT/A951GOT/A953GOT/A956GOT User’s Manual</td>
<td>Provides performance specification, setting method, and communication board/communication module installation method of each GOT.</td>
<td>SH-080018 (1DM103)</td>
</tr>
<tr>
<td>GOT-A900 Series User’s Manual (GT Designer2 Version2 compatible Connection System Manual)</td>
<td>Describes the system configuration of which connection method is compatible with GOT-A900 series as well as processing cables.</td>
<td>SH-080524ENG (1DM219)</td>
</tr>
<tr>
<td>GT SoftGOT2 Version1 Operating Manual</td>
<td>Describes the system configuration, screen makeup and usage of GT SoftGOT2.</td>
<td>SH-080400E (1DM210)</td>
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</table>
**ABBREVIATIONS AND GENERIC TERMS IN THIS MANUAL**

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<tr>
<th>Abbreviations and special terms</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>A985GOT-V</td>
<td>Generic term of A985GOT-TBA-V and A985GOT-TBD-V</td>
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<tr>
<td>A985GOT</td>
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<td>Communication board</td>
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<td>Serial communication board</td>
<td>Generic term of A9GT-RS4, A9GT-RS2 and A9GT-RS2T</td>
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<tr>
<td>Data link unit</td>
<td>General term of A9GT-QJ71LP23, A9GT-QJ71BR13, A9GT-QJ71LP23 and A9GT-QJ71BR13</td>
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<tr>
<td>Ethernet unit</td>
<td>General term of A9GT-J71E1-T</td>
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<tr>
<td>Protection sheet</td>
<td>Abbreviation of A9GT-80PS, A9GT-70PS, A9GT-60PS and A9GT-50PS type transparent protection sheets</td>
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<td>Backlight</td>
<td>Abbreviation of A9GT-80LT, A9GT-70LTTB, A9GT-70LTS, A9GT-70LTTBW and A9GT-50LT type backlights</td>
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<tr>
<td>Debug stand</td>
<td>Abbreviation of A9GT-80STAND, A9GT-70STAND and A9GT-50STAND type debug stand</td>
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<td>Memory card</td>
<td>Flash PC card/Commercially available flash PC card/SRAM type PC card</td>
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<td>Flash PC card</td>
<td>General term of A9GT-MEM-10MF, A9GT-MEM-20MF and A9GT-MEM-40MF</td>
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<td>Abbreviation of A9GT-TK ten-key Panel</td>
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<td>A9GT-CN8</td>
<td>Abbreviation of A9GT-CN8 bus connector conversion box</td>
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<td>A9GT-CN9B</td>
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<td>External I/O module</td>
<td>Abbreviation of A9GT-50KBF and A9GT-50KBF type external I/O interface module</td>
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<tr>
<td>Printer interface module</td>
<td>Abbreviation of A9GT-50PRF type printer interface module</td>
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<tr>
<td>Memory card interface module</td>
<td>Abbreviation of A1SD59J-MIF memory card interface module</td>
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<td>Video/RGB mixed input module</td>
<td>Abbreviation of A9GT-80VR1 type Video/RGB mixed input module</td>
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<td>Video input interface module</td>
<td>Abbreviation of A9GT-80V4 type Video input interface module</td>
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<td>RGB input interface module</td>
<td>Abbreviation of A9GT-80R1 type RGB input interface module</td>
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<td>GT Designer2 Version2</td>
<td>Generic term of SW2D5C-01D2E software</td>
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<tr>
<td>GT Designer</td>
<td>Abbreviation of image creation software GT Designer for GOT900</td>
</tr>
<tr>
<td>GT Converter2</td>
<td>Abbreviation of data conversion software GT Converter for GOT900</td>
</tr>
<tr>
<td>GT SoftGOT2</td>
<td>Abbreviation of GT SoftGOT2 monitoring software</td>
</tr>
<tr>
<td>GX Developer</td>
<td>Generic term of SWD5C-GPPW-E/SWD5F-GPPW-E software packages</td>
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<tr>
<td>GX Simulator</td>
<td>Generic term of SWD5C-LLT-E ladder logic test tool function software packages (SW5D5C-LLT-E or later)</td>
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### CPU

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<td>QCPU (Q Mode)</td>
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<td>QCPU (A Mode)</td>
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<td>Remote I/O station</td>
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### Ethernet module

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<td>Yasukawa PLC</td>
<td>Generic term of Yasukawa PLC and Yasukawa PLC</td>
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<td>MicroLogix1000 Series</td>
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<tr>
<td>MicroLogix1500 Series</td>
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### Other PLC

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<td>Large type H series</td>
<td>Generic term of Large type H series and Large type H series</td>
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<td>H200 to 252 Series</td>
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<td>Generic term of H Series board type and H Series board type</td>
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<td>EH-150 Series</td>
<td>EH-150 Series</td>
<td>Generic term of EH-150 Series and EH-150 Series</td>
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### Others

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<th>New Name</th>
<th>Remarks</th>
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<td>Memory</td>
<td>abbreviation of memory (flash memory) in the GOT</td>
</tr>
<tr>
<td>OS</td>
<td>OS</td>
<td>Abbreviation of GOT software system</td>
</tr>
<tr>
<td>Object</td>
<td>Object</td>
<td>Setting data for dynamic image</td>
</tr>
<tr>
<td>Personal Computer</td>
<td>Personal Computer</td>
<td>Personal computer where the corresponding software package is installed</td>
</tr>
<tr>
<td>Servo amplifier</td>
<td>Servo amplifier</td>
<td>Generic term of the Servo amplifier and Servo amplifier</td>
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<td>MELDAS C6/C64</td>
<td>MELDAS C6/C64</td>
<td>Generic term of the MELDAS C6/C64 and MELDAS C6/C64</td>
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In this manual, the following products are called by new names.

<table>
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<tr>
<td>GPPW</td>
<td>GX Developer</td>
<td>Generic term of SW1D5G-GPPW-E/SWD5G-GPPW-E software packages</td>
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</tbody>
</table>
1 OVERVIEW

This manual can be used on a GOT with an operating system installed. These functions include the utility function, ladder monitor function, system monitor function, special module monitor function, network monitor function, list editor function, motion monitor function, servo amplifier monitor function, and CNC monitor function.

Note that some functions cannot be performed depending on the used GOT and the target CPU/connection form.

Refer to Chapter 2 for more information on the functions available for each GOT and the restrictions on the functions per target CPU and connection form.

1.1 Features

The monitor functions described in this manual are intended to improve the efficiency of trouble-shooting and maintenance operations for the PLC system. The features of each monitor function are explained in the following sections.

1.1.1 Features of the utility function

The utility function enables you to use GOT setup and self-tests. To use the utility function, you need to install an operating system for the utility function on the GOT built-in internal memory by using GT Designer2. The features of the utility function are shown below.

Point Some of the utility functions cannot be used with GT SoftGOT2. Refer to the GT SoftGOT2 Version1 Operating Manual for the utility functions available for GT SoftGOT2.

(1) The brightness of a monitor screen can be adjusted (see Section 4.3 for details).
(2) The screen and OS data can be copied between the internal memory and memory card (see Section 4.4 for details).

![Utility Function](image)

The data monitored can be copied to and from the GOT built-in internal memory or a memory card installed on the GOT.
The OS data can only be copied from the GOT to the memory card.

(3) Setting a use environment of the GOT (see Section 4.5 for details).

![Setting Environment](image)

You can set the operating environment of the GOT such as the beep sound, message display language and screen saver's idle time. When using the A985GOT, you can also make settings on the Human sensor.
1.1 Features

1.1.2 Features of the ladder monitor function

Installing the ladder monitor function operating system into the GOT built-in memory using the GT Designer2 enables ladder monitoring of the PLC CPU program as shown in a ladder diagram. The features of the ladder monitor function are shown below.

(1) Monitoring based on ladder symbols (see Section 6.3 for details)
(Sample display) Ladder monitor screen

(4) Running diagnostic checks on GOT hardware (see Section 4.6).

You can run diagnostic checks on the GOT hardware, including the image check, font check, memory card check and so on.

(5) Other functions (see Section 4.7 for details)
- Displaying data on available space in the GOT internal memory.
- Adjusting the clock of the PLC CPU.
- Displaying the display area cleanup screen.
- Changing security levels.
- Limiting access to the Utility Menu screen.
1.1.2 Features of the ladder monitor function

Remark

The Print Screen and Cancel Print buttons are not displayed on the A956WGOT or the GOT whose display screen type is the EL.

1) Ladder monitor screen

A maximum of 8 lines (max. 11 contact points per line; with 12 contact points or more, the line returns) of a sequence program are displayed on one screen. Also, for the current values and other settings of word devices, a maximum of 8 devices are displayed (With 9 devices or more, use the arrow keys to switch displays.).

Remark

Depending on the GOT model, a display is provided on the MELSEC-Q ladder monitor screen as indicated below.

- A985GOT(-V): Max. 15 lines displayed (1 line: Max. 11 contacts)
- A956WGOT: Max. 5 lines displayed (1 line: Max. 7 contacts)

(2) The display format can be changed to show comments for devices (see Section 6.2.2 for details).

Sample display

Ladder monitor screen

1) Switching the display format

The current values monitor of the word devices at the bottom of the screen are executed in decimal or hexadecimal format.

2) Displaying device comments

Comments of for the device used in the PLC program (comments that are written into the PLC CPU) are displayed.

3) Monitoring other stations

Other stations in data link systems, network system or CC-Link system, including the GOT (or stations connected to the GOT), can be monitored.
1.1.3 Features of the system monitor function

Installing the screen monitor function operating system into the GOT built-in memory using the GT Designer2 enables monitoring and testing of the buffer memory for the PLC CPU program and the special functions module. The features of the system monitor function are shown below.

(1) Any desired device can be monitored, using 4 dedicated screens
The system monitor function provides an entry monitor, a batch monitor, and a buffer memory monitor, enabling monitoring of any device, for complete flexibility in any application.

- Up to 8 points for a PLC CPU device registered by the user can be monitored in one window (see Section 9.2).

- Up to 16 points subsequent to the user can be monitored in one window (see Section 9.3).

- Up to 8 points, including the current value, set value, contact point, and coil can be monitored in a window subsequent to a PLC CPU timer (T)/counter (C) specified by the user (see Section 9.4).

- With the GOT, the full screen can be divided into four windows and separate monitoring carried out in all four windows simultaneously.
1.1.3 Features of the system monitor function

(2) Data can be changed by test operation (see Section 9.6 for details).

(Test sample) When M0 is on When changing D0 present value

<table>
<thead>
<tr>
<th>Network No</th>
<th>Station</th>
<th>Device</th>
<th>Value</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>FF</td>
<td>M0</td>
<td>0</td>
<td>SET</td>
</tr>
<tr>
<td>7</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>SET</td>
</tr>
<tr>
<td>9</td>
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<td>24</td>
<td>0</td>
<td>D</td>
<td>24</td>
<td>H</td>
</tr>
</tbody>
</table>

1) Test for bit device
   Device specified by user is turned on or off.
2) Test for word device
   Writes designated value into device specified by user.
3) Test for timer/counter
   Writes in designated value as current value or set values of device specified by user.
4) Test for buffer memory
   Writes designated value into buffer memory specified by user.

(3) Display format can be changed and device comments can be displayed (see Section 9.1.2 for details).

(Sample display) For entry monitor (comment display) For batch monitor (hexadecimal display)

<table>
<thead>
<tr>
<th>Network No</th>
<th>Station</th>
<th>Device</th>
<th>Value</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>4FF0</td>
<td>M0</td>
<td>0</td>
<td>SET</td>
</tr>
<tr>
<td>7</td>
<td>04</td>
<td>1</td>
<td>0</td>
<td>SET</td>
</tr>
<tr>
<td>9</td>
<td>6A</td>
<td>B</td>
<td>0</td>
<td>SET</td>
</tr>
<tr>
<td>8</td>
<td>5B</td>
<td>D</td>
<td>10</td>
<td>H</td>
</tr>
<tr>
<td>10</td>
<td>0R</td>
<td>X</td>
<td>3</td>
<td>SET</td>
</tr>
<tr>
<td>11</td>
<td>0D</td>
<td>D</td>
<td>18</td>
<td>H</td>
</tr>
<tr>
<td>19</td>
<td>0D</td>
<td>D</td>
<td>23</td>
<td>H</td>
</tr>
<tr>
<td>23</td>
<td>0D</td>
<td>D</td>
<td>24</td>
<td>H</td>
</tr>
<tr>
<td>24</td>
<td>0D</td>
<td>D</td>
<td>25</td>
<td>H</td>
</tr>
</tbody>
</table>

1) Changing display format
   The word device values for the entry monitor, batch monitor, T/C monitor, and the buffer memory monitor are monitored in decimal or hexadecimal format.
2) Device comment display
   When the PLC CPU device is monitored, the comments written into the PLC CPU are displayed.

(4) Other stations can be monitored.
   Other stations in data link systems, network systems or CC-Link systems, including the GOT (or stations connected to the GOT), can be monitored.
1.1.4 Features of the special module monitor function

Installing (or downloading) the special module monitor function operating system and special module monitor data into the GOT built-in memory using the GT Designer2 enables monitoring and changing of data in the special function module buffer memory, using dedicated screens. Signal statuses of I/O modules can also be monitored. The features of the special module monitor function are shown below.

(1) Monitoring can be done with dedicated screens (see Section 12.2 for details). Monitoring is carried out using dedicated screens provided by the manufacturer for the special function module and I/O module. It is not necessary for the user to create monitor screens.

(Sample display 1: for special function module)

Menu screen after module selection

Monitor screen after menu selection

(Sample display 2: for I/O module)

Monitor screen

1) Menu screen
   The menu is displayed classified into monitor items for the special function module only. The object monitor screen is displayed by selecting the item from the menu.

2) Monitor screen
   With the special function module, the buffer memory contents and the status of the PLC CPU I/O signals are monitored using text, numbers, and graphs. With the I/O module, the status of I/O signals to and from an external module is monitored.
(2) Data can be changed by writing (see Section 12.1.5 for details).

(Writing example)

<table>
<thead>
<tr>
<th>Monitor screen</th>
<th>When changing channel that can be changed</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Graph monitor screen" /></td>
<td><img src="image" alt="Parameter Data Monitor Screen" /></td>
</tr>
</tbody>
</table>

1) The designated values are written into the user-specified buffer memory by writing the values from the monitor.

2) When changing the buffer memory data, input the numeric value using the auto display key window and write it into the buffer memory.

(3) Special module monitor data can be allocated as user monitor screen data. The special module monitor data installed in the computer can be allocated to serve as user monitor screen data. To do this, the steps below are required.

1) Using the Copy function, allocate special module monitor data from another project as user monitor screen data.

2) Correct the data to match the system used for the BM initial buffer memory number of the Object function which has been set.
1.1.5 Features of the network monitor function

To use the network monitor function, you first must install an operating system (OS) for the network monitor function on your GOT by using GT Designer2. This enables you to monitor the status of the MELSECNET/B, MELSECNET (II), and MELSECNET/10 networks. The following describes the features of the network monitor function.

(1) Network monitor screens are selectable on the own station monitor screen to monitor the own station and other stations on a network.

The own station monitor screen enables you to monitor the status of all the network lines connected to the own station.

A touch of the screen will guide you through various monitor screens to monitor the status of the own station and other stations on a network.

(2) Network information can be obtained from the own station monitor screen.

Dedicated monitor screens are available for each category of station classification, depending on the role that is played by the own station.

Network category: MELSECNET/B, MELSECNET (II) master station
MELSECNET/B, MELSECNET (II) local station
MELSECNET/10, MELSECNET/H control station/ordinary station
MELSECNET/10, MELSECNET/H remote master station

(Sample display) MELSECNET/B, MELSECNET (II) master station
(3) The status of other stations can be monitored on the other-station monitor screen. The other-station monitor screen provides the following type of information on the status of other stations connected on a network:

- Communications status of each station
- Data link status of each station
- Parameters status of each station
- CPU action status of each station
- CPU RUN status of each station
- Loop status of each station

(Sample display) Other station monitor menu screen

![Sample display of other station monitor menu screen]

Other station's communications status monitor screen

![Communication status monitor screen]
### 1.1.6 Features of the List editor function

Installation of the List editor function OS into the memory with the GT Designer2 allows for list edit of the sequence program in the ACPU. The following shows features of the List editor function.

1. **Easy parameters and sequence program maintenance**
   
   Simple key operations allow checks, partial modifications, changes and additions of the parameters and the sequence program in the PLC CPU. Without peripheral equipment other than the GOT, the sequence program can be simply edited.

   Example of command change in the sequence program
   
   ```
   LD X0 Change LD X0
   OUT Y20 MOV D0 D1
   LD X1 LD X1
   ```

2. **Interlock with the ladder monitor function (only when A985/97*/960GOT is used)**
   
   The list edit window can be started from the ladder monitor screen with a single touch. The list can be edited while viewing the ladder. The list can also be displayed from the step line displayed on the ladder monitor.

3. **The list edit screen can be recorded.**
   
   The hard copy function allows recording the edit screen of the list program.

4. **Access to other station is available.**
   
   The sequence program of the PLC CPU in other station can be list edited.

5. **Useful help functions**
   
   Help functions for read, write, insert and delete are available on the interactive menu selection system. Simple operation is facilitated.

6. **Comment for each device can be displayed.**
   
   Comment of the device at the cursor position can be displayed.
Installation of the motion monitor function OS or downloading of motion monitor data into the built-in memory of the GOT using GT Designer2 enables the servo monitoring and parameter setting of the motion controller CPU (Q172CPU, Q173CPU).

The following are the features of the motion monitor function.

(1) Various servo monitor data can be displayed on multiple monitor screens (refer to Section 23.3 for details)

The motion monitor function has multiple monitor screens, on which you can monitor servo data in a variety of patterns.

(Display examples)

**Present Value Monitor**

- Monitors and displays the feed current values and actual current values of all running axes. (Refer to Section 23.3.3)

**Positioning Monitor**

- Monitors the details of the positioning data set to any axis. (Refer to Section 23.3.5)

**Error List**

- Displays the history of errors that occurred on and after the leading edge of PLC ready (M2000). (Refer to Section 23.3.3)

**Error List Designated-Axis**

- Displays the latest errors that occurred on the specified axis. (Refer to Section 23.3.4)
1) By performing write operation from the parameter setting screen, write the servo parameter setting (basic parameters/adjustment parameters) to the motion controller CPU.

2) When changing any servo parameter setting, enter the necessary numeral or option number from the automatically displayed key window to change the servo parameter setting, and write it to the motion controller CPU.
1.1.8 Features of the servo amplifier monitor functions

You can perform various monitor functions, parameter setting changes, test operations and others for the servo amplifier connected to the GOT. The features of the servo amplifier monitor functions are described below.

(1) Servo amplifier status is displayed in real time
(detailed description: Section 26.4, Section 26.5)
The status and alarm definition of the servo amplifier connected to the GOT can be listed in real time.
(Display example: A975GOT)

![Monitor](image1)

- Lists the monitor data of the servo amplifier.
  (Refer to Section 26.4.1.)

![Alarm display](image2)

- Displays the definition (number, name, occurrence time, occurrence factor) of the alarm currently occurring in the servo amplifier. It also allows the alarm to be reset. (Refer to Section 26.4.2.)

(2) Various diagnostics can be run on the servo amplifier
(detailed description: Section 26.4.1)
There are multiple diagnostic functions to run various diagnostics on the connected servo amplifier.
(Display example)

![DI/DO display](image3)

- Lists the ON/OFF states of the external I/O signals of the servo amplifier. (Refer to Section 26.6.1.)

![Amplifier information display](image4)

- Displays the software number of the servo amplifier and the information (model, ID, encoder resolution) of the servo motor. (Refer to Section 26.6.3.)
(3) Servo parameters can be written (detailed description: Section 26.7)

The parameter values of the servo amplifier can be read, changed and written to the servo amplifier.

(4) Various test operations can be performed (detailed description: Section 26.8)

Various test operations can be performed for the connected servo amplifier. (Display example)

**JOG operation**

- While the Forward/Reverse key is touched, the servo amplifier runs. (Refer to Section 26.8.3.)

**Motorless operation**

- Simulates the operation of the servo motor in the servo amplifier if the servo motor is not connected. (Refer to Section 26.8.5.)
1.1.9 Features of the CNC monitor functions

Functions equivalent to the MELDAS dedicated display are available for the MELDAS connected with the GOT, such as Position Display Monitor, Alarm Diagnosis Monitor, Tool Offset/Param, Program Monitor and F0 function.
(detailed description: Section 29.2)
1.1.10 Features of the font change function

This function changes the font displayed on the GOT monitor screen, utility and extended function. (Details: Chapter 31)

Standard font
Chinese (simplified characters) font

1.1.11 Features of the system dialog language switching function

This function switches the language for a system dialog displayed on the GOT monitor screen. (Details: Chapter 32)

For the system dialog language switching function, extended function OS is not required to be installed in the GOT.

Japanese
Chinese (simplified characters)
Chinese (traditional characters)

(1) The language switching is available for the following system dialogs.
1) System dialog displayed when using a monitor function
2) System dialog displayed when starting an extended function and the required extended function OS is not installed

(2) When using Chinese (simplified characters) as system dialog language, it is recommended to set Chinese (simplified characters) font for the character font with the font change function.
2 BEFORE BEGINNING OPERATION

The required equipment for using the monitor functions in this manual is described in this section.

2.1 Before getting started with various functions

When using functions described in this manual, install the OS for each function into the GOT using GT Designer2.
To install an OS for your desired function on your GOT, see GT Designer2 Version2 Operating Manual.

2.2 Precautions before use

(1) The usable functions change depending on the GOT.
Some functions require the memory board or compatible GOT depending on the model.
The following table indicates the functions available for the GOTs and whether or not the memory board or compatible GOT is required.

<table>
<thead>
<tr>
<th>Model</th>
<th>A985GOT(-V)</th>
<th>A97*GOT</th>
<th>A960GOT</th>
<th>A956WGOT</th>
<th>A95*GOT</th>
<th>GT SoftGOT2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required device</td>
<td>Memory board</td>
<td>M3 type GOT (A95*GOT-BD-M3)</td>
<td>None</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utility function</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>System monitor function</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Ladder monitor function</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>X</td>
</tr>
<tr>
<td>Special module monitor function</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Network monitor function</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>X</td>
</tr>
<tr>
<td>List editor function</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>X</td>
</tr>
<tr>
<td>Motion monitor function</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Servo amplifier monitor function</td>
<td>O</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>CNC monitor function</td>
<td>O</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Font change function</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>X</td>
</tr>
<tr>
<td>System dialog language switching function</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>X</td>
</tr>
</tbody>
</table>

*1 The table below shows the models of memory boards available for using the option functions.
To use the ladder monitor function requires the memory board compatible with the PLC CPU to be monitored.

### Memory board for option functions

<table>
<thead>
<tr>
<th>Model</th>
<th>A9GT-FNB</th>
<th>For option function (applicable for MELSEC-A/FX ladder monitor)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>A9GT-QFNB</td>
<td>For option function (applicable for MELSEC-Q/QnA/A/FX ladder monitor)</td>
</tr>
</tbody>
</table>

### Expanded memory board for option functions

<table>
<thead>
<tr>
<th>Model</th>
<th>A9GT-FNB1M</th>
<th>Option function (applicable for MELSEC-A/FX ladder monitor) + internal memory extension 1MB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>A9GT-FNB2M</td>
<td>Option function (applicable for MELSEC-A/FX ladder monitor) + internal memory extension 2MB</td>
</tr>
<tr>
<td>Model</td>
<td>A9GT-FNB4M</td>
<td>Option function (applicable for MELSEC-A/FX ladder monitor) + internal memory extension 4MB</td>
</tr>
<tr>
<td>Model</td>
<td>A9GT-FNB8M</td>
<td>Option function (applicable for MELSEC-A/FX ladder monitor) + internal memory extension 8MB</td>
</tr>
<tr>
<td>Model</td>
<td>A9GT-QFNB4M</td>
<td>Option function (applicable for MELSEC-Q/QnA/A/FX ladder monitor) + internal memory extension 4MB</td>
</tr>
<tr>
<td>Model</td>
<td>A9GT-QFNB8M</td>
<td>Option function (applicable for MELSEC-Q/QnA/A/FX ladder monitor) + internal memory extension 8MB</td>
</tr>
</tbody>
</table>

*2 Only MELSEC-Q ladder monitor may be used.
*3 Unusable for Present Value History Monitor.
*4 Use of the dedicated software allows the equivalent function to be performed.
*5 Use the A9GT-QFNB(1M). (The A9GT-FNB(1M) does not support the font change function.)
*6 When using the font change function, a memory card (4M bytes or more) is required.
(2) Note that some functions are unavailable depending on the connection target CPU and connection form. There are the following restrictions on each function depending on the connection target CPU and connection form.

Refer to Chapter 2 of the GOT-A900 Series User's Manual (Connection System Manual) for the connectable CPU names and the access range for monitoring per connection form.

(a) Connection with QCPU (Q mode)

<table>
<thead>
<tr>
<th>Connecting</th>
<th>BT13</th>
<th>BT15</th>
<th>G4</th>
</tr>
</thead>
<tbody>
<tr>
<td>QCPU(Q Mode)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bus connection</td>
<td>O</td>
<td>O</td>
<td>x</td>
</tr>
<tr>
<td>CPU direct connection</td>
<td>O</td>
<td>O</td>
<td>x</td>
</tr>
<tr>
<td>Computer link connection</td>
<td>O</td>
<td>O</td>
<td>x</td>
</tr>
<tr>
<td>Ethernet connection</td>
<td>O</td>
<td>O</td>
<td>x</td>
</tr>
<tr>
<td>MELSEC NET connection</td>
<td>O</td>
<td>O</td>
<td>x</td>
</tr>
<tr>
<td>CC-Link connection</td>
<td>O</td>
<td>O</td>
<td>x</td>
</tr>
<tr>
<td>H</td>
<td>10</td>
<td>B, II</td>
<td>BT13</td>
</tr>
</tbody>
</table>

* Usable  
△ : Partly restricted  
* : Unusable

<table>
<thead>
<tr>
<th>Function</th>
<th>Ref. Section</th>
<th>QCPU(Q Mode)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utility function</td>
<td>Ch. 4</td>
<td>O</td>
</tr>
<tr>
<td>Ladder monitor function</td>
<td>Sequence program monitoring using ladder signals</td>
<td>Section 6.3.1</td>
</tr>
<tr>
<td>Display switching</td>
<td>Decimal and hexadecimal display of word device values</td>
<td>Section 6.3.3</td>
</tr>
<tr>
<td>Device changing</td>
<td>Changing of device values</td>
<td>Section 6.3.5</td>
</tr>
<tr>
<td>Print out</td>
<td>Printing of ladder</td>
<td>Section 6.3.6</td>
</tr>
<tr>
<td>Entry monitor</td>
<td>Monitoring of current values by pre-registering monitor devices</td>
<td>Section 9.2</td>
</tr>
<tr>
<td>Batch monitor</td>
<td>Monitoring of n points of current values in specified device</td>
<td>Section 9.3</td>
</tr>
<tr>
<td>T/C monitor</td>
<td>Monitoring of m points of current values, set values, contact points, and coils in specified device</td>
<td>Section 9.4</td>
</tr>
<tr>
<td>BM monitor</td>
<td>Monitoring of x points of current values in specified buffer memory in specified special module</td>
<td>Section 9.5</td>
</tr>
<tr>
<td>System monitor function</td>
<td>Setting/resetting of bit device</td>
<td>Section 9.6</td>
</tr>
<tr>
<td>Data editing using test operation</td>
<td>Changing of current value for buffer memory of word device</td>
<td>Section 9.6</td>
</tr>
<tr>
<td></td>
<td>Changing of current value for T/C (can be used while monitoring T/C)</td>
<td>Section 9.6</td>
</tr>
<tr>
<td></td>
<td>Changing of set value for T/C (can be used while monitoring T/C)</td>
<td>Section 9.6</td>
</tr>
<tr>
<td>Quick test</td>
<td>Changing of device values using quick test</td>
<td>Section 9.6.2</td>
</tr>
<tr>
<td>Display switching</td>
<td>Device comment display</td>
<td>Section 9.1.2</td>
</tr>
<tr>
<td></td>
<td>Decimal and hexadecimal display of word device values and buffer memory values</td>
<td>Section 9.1.2</td>
</tr>
<tr>
<td>Special module monitor function</td>
<td>Monitoring of buffer memory of special module on special screen</td>
<td>Ch. 11</td>
</tr>
<tr>
<td>Network monitor function</td>
<td>Monitoring of network status of MELSECNET/B, (II) or /10</td>
<td>Ch. 15</td>
</tr>
<tr>
<td>List editor function</td>
<td>Sequence program in the ACPU is list edited</td>
<td>Ch. 19</td>
</tr>
<tr>
<td>Motion monitor function</td>
<td>Monitoring of servo-related items, such as current values and positioning errors, on various monitor screens</td>
<td>Ch. 22</td>
</tr>
<tr>
<td>Servo amplifier monitor function</td>
<td>Servo amplifier monitor, servo parameter setting change, test operation</td>
<td>Ch. 25</td>
</tr>
<tr>
<td>CNC monitor function</td>
<td>Monitor and parameter change of MELDAS C6/C64</td>
<td>Ch. 28</td>
</tr>
<tr>
<td>Font change function</td>
<td>Changing the font displayed on GOT</td>
<td>Ch. 31</td>
</tr>
<tr>
<td>System dialog language switching function</td>
<td>Changing the language displayed on GOT's system dialogues</td>
<td>Ch. 32</td>
</tr>
</tbody>
</table>

*1 Clock setting cannot be used when the A7GT-J71LP23 or A7GT-J71BR13 is used, and the GOT is connected to the Q00CPU or Q00CPU or Q01CPU.
*2 Clock setting cannot be used when the A8GT-J61BT15 is used (remote device station).
*3 When the A8GT-J61BT15 is used (in the remote device station), only the link devices assigned to the GOT can be monitored.
*4 The T/C set values cannot be monitored if the software version of the A8GT-J61BT13 used is version W or earlier.
*5 Cannot change V or Z current values.
*6 Cannot be monitored if the software version of the A8GT-J61BT13 used is version W or earlier.

*7 If you modified the set value for T/C using the ladder monitor test function, you need to repeat the PC readout procedure to enable the display of the modification.

*8 The target CPUs of the motion monitor function are only the Q172CPU and Q173CPU.

*9 Cannot be monitored when the Q172CPU or Q173CPU is monitored.

*10 The following conditions must be satisfied to perform monitoring when connected to MELSECNET/10.
   (1) GOT
       Communication unit: A9GT-QJ71LP23, A9GT-QJ71BR13
       Communication driver: MNET/10 (A/QnA/Q)
   (2) QCPU or network module (QJ71LP21, QJ71LP21-25, QJ71LP21S-25, QJ71LP21G, QJ71BR11) to be monitored
       The function version should be version B or later.

*11 Q12PRHCPU and Q25PRHCPU cannot be monitored.
(b) Connection with QnACPU

BT13 : Indicates that the A8GT-J61BT13 is used (intelligent device station)

BT15 : Indicates that the A8GT-J61BT15 is used (remote device station).

G4 : Indicates that the A9GT-RS4 or A9GT-50WRS4 is used (via G4).

<table>
<thead>
<tr>
<th>Functions</th>
<th>Ref. Section</th>
<th>QnACPU</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Bus connection</td>
</tr>
<tr>
<td>Session</td>
<td></td>
<td>H</td>
</tr>
<tr>
<td>Utility function</td>
<td>Ch. 4</td>
<td>☐</td>
</tr>
<tr>
<td>Ladder monitor function</td>
<td></td>
<td>☐</td>
</tr>
<tr>
<td>Display switching</td>
<td>Section 6.3.1</td>
<td>☐</td>
</tr>
<tr>
<td>Device changing</td>
<td>Section 6.3.5</td>
<td>☐</td>
</tr>
<tr>
<td>Print out</td>
<td>Section 6.3.6</td>
<td>☐</td>
</tr>
<tr>
<td>Entry monitor</td>
<td>Section 9.2</td>
<td>☐</td>
</tr>
<tr>
<td>Batch monitor</td>
<td>Section 9.3</td>
<td>☐</td>
</tr>
<tr>
<td>T/C monitor</td>
<td>Section 9.4</td>
<td>☐</td>
</tr>
<tr>
<td>BM monitor</td>
<td>Section 9.5</td>
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*1 Clock setting cannot be used when the A8GT-J61BT15 is used (remote device station).

*2 When the A8GT-J61BT15 is used (in the remote device station), only the link devices assigned to the GOT can be monitored.

*3 Cannot monitor T/C set values.

*4 Cannot change V or Z current values.
*5 If you modified the set value for T/C using the ladder monitor test function, you need to repeat the PC readout procedure to enable the display of the modification.

*6 The following conditions must be satisfied to perform monitoring when connected to MELSECNET/10.

(1) GOT
   Communication unit: A9GT-QJ71LP23, A9GT-QJ71BR13
   Communication driver: MNET/10 (A/QnA/Q)

(2) QCPU or network module (QJ71LP21, QJ71LP21-25, QJ71LP21S-25, QJ71LP21G, QJ71BR11) to be monitored
   The function version should be version B or later.
### (c) Connection with ACPU/QCPU (A mode)

- **BT13**: Indicates that the A8GT-J61BT13 is used (intelligent device station).
- **BT15**: Indicates that the A8GT-J61BT15 is used (remote device station).
- **G4**: Indicates that the A9GT-RS4 or A9GT-50WRS4 is used (via G4).

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- *1 Subprograms 2, 3 of the A4UCPU (for computer link connection) cannot be monitored.
- *2 Can be monitored only when the A8GT-J61BT15 is used (in the remote device station).
- *3 When the A8GT-J61BT15 is used (in the remote device station), only the link devices assigned to the GOT can be monitored.
*4 Cannot monitor T/C set values.
*5 Cannot change V or Z current values.
*6 If you modified the set value for T/C using the ladder monitor test function, you need to repeat the PC readout procedure to enable the display of the modification.
*7 Monitor is disabled when the connection target CPU is the AnU type (MELSECNET/10 network card is fitted).
*8 If ACPU is performing E2PROM operation when connected to the GOT, program write is disabled.
(d) Connection with FXCPU, third party PLC or microcomputer

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<td>Can be used independently of the connection form since the RS-232C interface of the GOT is used. (Refer to Section 3.7.3 for the precautions on the servo amplifier monitor function.)</td>
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<td>CNC monitor function</td>
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</table>

*1 Clock setting cannot be made when the GOT is connected with the PLC CPU that does not have the clock function (FX0, FX0N, FX1, FX2NC, FX0S).

The FX2 and FX2C allow clock setting to be made only when the cassette for real-time clock is used.

*2 Clock setting cannot be made when the GOT is connected with the PLC CPU that does not have the clock function.
*3 You can set the clock function only when you are using A9GT-RS2T, which includes a clock element.
*4 T/C set values and coils cannot be monitored.
*5 The FX3UC series can be monitored only in the device range of FX2N series.
Connection with MELDAS C6/C64

BT13 : Indicates that the A8GT-J61BT13 is used (intelligent device station).
BT15 : Indicates that the A8GT-J61BT15 is used (remote device station).
G4 : Indicates that the A9GT-RS4 or A9GT-50WRS4 is used (via G4).

<table>
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<th>Functions</th>
<th>Ref. Section</th>
<th>QCPU(Q Mode)</th>
<th>Bus connection</th>
<th>CPU direct connection</th>
<th>Computer link connection</th>
<th>Ethernet NET connection</th>
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</table>
*1 Clock setting cannot be used.
*2 Only the link devices assigned to the GOT can be monitored.
*3 The following conditions must be satisfied to perform monitoring when connected to MELSECNET/10.

(1) GOT
   Communication unit: A9GT-QJ71LP23, A9GT-QJ71BR13
   Communication driver: MNET/10 (A/QnA/Q)

(2) QCPU or network module (QJ71LP21, QJ71LP21-25, QJ71LP21S-25, QJ71LP21G, QJ71BR11) to be monitored
   The function version should be version B or later.
## Specifying Function

<table>
<thead>
<tr>
<th>Functions</th>
<th>Ref. Section</th>
<th>MLSECNET/H system remote I/O station</th>
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<th>Computer link connection</th>
<th>Ethernet connection</th>
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<td>Ladder monitor function</td>
<td>Sequence program monitoring using ladder signals</td>
<td>Section 6.3.1</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Display switching</td>
<td>Decimal and hexadecimal display of word device values</td>
<td>Section 6.3.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Device changing</td>
<td>Changing of device values</td>
<td>Section 6.3.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Print out</td>
<td>Printing of ladder</td>
<td>Section 6.3.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entry monitor</td>
<td>Monitoring of current values by pre-registering monitor devices</td>
<td>Section 9.2</td>
<td>x</td>
<td>o</td>
<td>o</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Batch monitor</td>
<td>Monitoring of n points of current values subsequent to specified device</td>
<td>Section 9.3</td>
<td>x</td>
<td>o</td>
<td>o</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>T/C monitor</td>
<td>Monitoring of m points of current values, set values, contact points, and coils subsequent to specified device</td>
<td>Section 9.4</td>
<td>x</td>
<td>o</td>
<td>o</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>BM monitor</td>
<td>Monitoring of x points of current values subsequent to specified buffer memory of specified special module</td>
<td>Section 9.5</td>
<td>x</td>
<td>o</td>
<td>o</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>System monitor function</td>
<td>Setting/resetting of bit device</td>
<td></td>
<td></td>
<td>x</td>
<td>o</td>
<td>o</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Data editing using test operation</td>
<td>Changing of current value for buffer memory of word device</td>
<td>Section 9.6</td>
<td>x</td>
<td>o</td>
<td>Δ²</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Changing of current value for T/C (can be used while monitoring T/C)</td>
<td></td>
<td>x</td>
<td>o</td>
<td>o</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Changing of set value for T/C (can be used while monitoring T/C)</td>
<td></td>
<td>x</td>
<td>o</td>
<td>o</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Quick test</td>
<td>Changing of device values using quick test</td>
<td>Section 9.6.2</td>
<td>x</td>
<td>o</td>
<td>o</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Display switching</td>
<td>Device comment display</td>
<td>Section 9.1.2</td>
<td>x</td>
<td>o</td>
<td>o</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Decimal and hexadecimal display of word device values and buffer memory values</td>
<td></td>
<td>x</td>
<td>o</td>
<td>o</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Special module monitor function</td>
<td>Monitoring of buffer memory of special module on special screen</td>
<td>Ch. 11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Network monitor function</td>
<td>Monitoring of network status of MELSECNET/B, (II) or /10</td>
<td>Ch. 15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>List editor function</td>
<td>Sequence program in the ACPU is list edited</td>
<td>Ch. 19</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motion monitor function</td>
<td>Monitoring of servo-related items, such as current values and positioning errors, on various monitor screens</td>
<td>Ch. 22</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parameter setting</td>
<td>Changing of servo parameter values</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Servo amplifier monitor function</td>
<td>Servo amplifier monitor, servo parameter setting change, test operation</td>
<td>Ch. 25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CNC monitor function</td>
<td>Monitor and parameter change of MELDAS C6/C64</td>
<td>Ch. 28</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Font change function</td>
<td>Changing the font displayed on GOT</td>
<td>Ch. 31</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>System dialog language switching function</td>
<td>Changing the language displayed on GOT system dialogs</td>
<td>Ch. 32</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(f) Connection with MELSECNET/H system remote I/O station

- BT13 : Indicates that the A8GT-J61BT13 is used (intelligent device station).
- BT15 : Indicates that the A8GT-J61BT15 is used (remote device station).
- G4 : Indicates that the A9GT-RS4 or A9GT-50WRS4 is used (via G4).

○ : Usable △ : Partly restricted × : Unusable
*1 The clock setting screen is displayed, but the date and time cannot be set. To set the date and time on PLC CPU master station, set the clock using GX Developer.

*2 Cannot change V or Z current value.
(3) If a system program (OS) for the expanded or option functions has been installed, the following space is required in the GOT built-in internal memory to store user-created monitor screen data. Hence, add the memory board as required.

Hence, installing the extended function OS into the GOT decreases the memory space (for monitor screen data storage) available for the user. If the free space is insufficient, fit the extension memory board to increase the memory space.

(a) List of extended function and option function OSs installed

<table>
<thead>
<tr>
<th>Expanded Function OS Name</th>
<th>Space Necessary for Installation in Terms of Memory Count</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>System monitor</td>
<td></td>
<td>---</td>
</tr>
<tr>
<td>Ladder monitor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MELSEC-A ladder monitor</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>MELSEC-QnA ladder monitor *1</td>
<td>2</td>
<td>Only one may be installed.</td>
</tr>
<tr>
<td>MELSEC-Q ladder monitor</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>MELSEC-FX ladder monitor</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Motion monitor *1</td>
<td>2</td>
<td>Only one may be installed</td>
</tr>
<tr>
<td>CNC monitor *1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Special module, recipe, sound</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Network monitor</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>List editor (MELSEC-A) *1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Gateway *1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Servo amplifier Monitor</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESC printer, bar code, report, CSV file, external key input</td>
<td>1</td>
<td>Only one may be installed</td>
</tr>
<tr>
<td>PCL printer, bar code, report, CSV file, external key input</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>ESC printer, bar code, report, CSV file, proximity I/O</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>PCL printer, bar code, report, CSV file, proximity I/O</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>ESC printer, bar code, report, CSV file, video/RGB input</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>PCL printer, bar code, report, CSV file, video/RGB input</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Chinese (Big 5) printer, bar code, report, CSV file, external key input</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Chinese (Big 5) printer, bar code, report, CSV file, proximity I/O</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Chinese (GB) printer, bar code, report, CSV file, external key input</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Chinese (GB) printer, bar code, report, CSV file, proximity I/O</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Chinese (GB) printer, bar code, report, CSV file, video/RGB input</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

*1 When installed into the GOT, this OS uses the memory space twice larger than that of the other extended function OS.

*2 Install the "Other" extended function OSs when using the following functions.

- Report function
- Barcode function
- External I/O function

For this extended function OS, refer to the following 1) and 2) and select the OS that meets the language to be output to the printer or CSV file and the optional device used.

1) Language to be output to the printer connected to the GOT or the CSV file (alarm history display function, recipe function)

- ESC printer: Output in Japanese
- PCL printer: Output in English
- Chinese (Big 5) printer: Output in Chinese (traditional language)
- Chinese (GB) printer: Output in Chinese (simplified language)

2) Used optional device

- External key input: Operation panel, ten-key panel (operation panel function)
- Proximity I/O: External I/O device (external I/O function)
- Video/RGB input: Video camera (video display function), personal computer (RGB display function)
(b) Number of extended function OSs installed and free space of GOT’s built-in memory

<table>
<thead>
<tr>
<th>Number of Extended functions OSs</th>
<th>Memory Space Used [kB]</th>
<th>Free Space (User area) [kB] *1</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>1152</td>
</tr>
<tr>
<td>1</td>
<td>256</td>
<td>896</td>
</tr>
<tr>
<td>2</td>
<td>384</td>
<td>768</td>
</tr>
<tr>
<td>3</td>
<td>640</td>
<td>512</td>
</tr>
<tr>
<td>4</td>
<td>768</td>
<td>384</td>
</tr>
<tr>
<td>5</td>
<td>1024</td>
<td>128</td>
</tr>
<tr>
<td>6</td>
<td>1152</td>
<td>0</td>
</tr>
</tbody>
</table>

*1 Since the A95*GOT-*BD-M3 has the built-in memory of 3200k bytes, the free space is the above value plus 2048k bytes.

**Point**

Using the special module monitor/motion monitor/servo amplifier monitor function requires the built-in memory to have enough memory space to store the special module monitoring data/motion monitor, servo amplifier monitor screens. (Refer to Section 3.3.3, 3.6.4 and 3.7.5.)
3 SPECIFICATIONS

In this chapter, the specifications of the ladder monitor function, system monitor function, special module monitor function, list editor function, motion monitor function, servo amplifier monitor and CNC monitor are explained separately.

3.1 Ladder monitor function specifications

Refer to Section 2.2 for restrictions on the ladder monitor function.

3.1.1 PLC CPUs to be monitored

The PLC CPUs that allow ladder monitoring are the QCPU, QnACPU, ACPU, FXCPU, motion controller CPU (Except Q172CPU and Q173CPU) and MELDAS C6/C64. For details, refer to Section 2.2 (2).

3.1.2 Access ranges to be monitored

For access range for the ladder monitor function, see GOT-A900 Series User’s manual (Connection system manual).

When the capacity of parameter, PLC program, TC setting value, comment and extension comment is 144 k bytes or more, the comment will not be properly displayed.

The local device cannot be monitored on the QCPU(Q mode), QnACPU.

3.1.3 Precautions when using the ladder monitor function

1) When using the ladder monitor function during monitor of the MELDAS C6/C64, install the MELSEC-QnA ladder monitoring OS into the GOT.

2) Changing to the Chinese (simplified characters) font makes the MELSEC-Q/QnA ladder monitor function unusable.
   For specifications of the font change function, refer to Section 3.9.
3.2 System monitor function specifications

Refer to Section 2.2 for restrictions on the system monitor function.

3.2.1 PLC CPUs to be monitored

The PLC CPUs that allow system monitoring are the QCPU, QnACPU, ACPU, FXCPU, motion controller CPU and MELDAS C6/C64. For details, refer to Section 2.2 (2).

3.2.2 Access ranges to be monitored

For access range for the system monitor function, see GOT-A900 Series User’s manual (Connection System Manual).

3.2.3 Names of devices to be monitored

For the names of devices that can be monitored with the system monitor function, see GT Designer2 Version1 Reference Manual.

3.2.4 Precautions when using the system monitor function

The precautions to follow when using the system monitor function are shown below.

1. Monitor and test of real number data
   Real number data cannot be monitored or tested. Monitoring of word devices that save real number data is all done by integer data (binary data).

2. Monitoring in 32-bit modules
   When monitoring word devices (such as T, C, D, W) in 32-bit (2-word) modules, monitor up to the point where 32 bits remain in the monitor processing. A location where 16 bits (1 word) remain cannot be monitored.
   This situation occurs when an odd number has been specified as the initial number in the monitor device.
   Example: When monitoring the A2NCPU data register in 32-bit modules beginning with an odd number (D1, D3...)

   ![Diagram showing monitoring in 32-bit modules]

   Monitor display module
   Nothing displayed
(3) The "Date" column of a Rated Plate shows the date manufactured and function version number. If it reads "9707 B" or a later notation, timer/counter settings can be changed and device comments can be displayed when using any of the large-scale QnACPs or small-scale QnACPs. When changing the timer/counter setup value and performing the device comment display, use the CPU that is described above.

<Viewing the Rated Plate>

(4) Only the main program may be used to change the timer/counter set values on the AnNCPUs, AnACPU, and AnUCPU.

(5) When executing multiple programs with the QCPU (Q mode) and QnACPU, setting values of timer/counter can be changed only to the program (scan execution type program set at the lowest number among them in parameter settings of GX Developer) whose file name is displayed on the TC Monitor screen.

Note that a file to be displayed cannot be changed on the GOT.

Refer to Section 9.4.2 for details.

3.3 Special module monitor function specifications

*Point* Refer to Section 2.2 for restrictions on the special unit monitor.
3.3.1 Access ranges to be monitored

(1) When using bus connection/CPU direct connection/computer link connection
- The special function modules on the bases of the connected station and other stations can be monitored.
- Special module monitoring for computer link connection is enabled for the systems of the following combinations.

<table>
<thead>
<tr>
<th>PLC CPU used</th>
<th>Computer link/serial communication module used</th>
</tr>
</thead>
<tbody>
<tr>
<td>QCPU (Q mode)</td>
<td>QJ71C24</td>
</tr>
<tr>
<td>(Except redundant system)</td>
<td></td>
</tr>
<tr>
<td>QCPU (A mode)</td>
<td>A1SJ71UC24</td>
</tr>
<tr>
<td>QnACPU</td>
<td>AJ71QC24, A1SJ71QC24</td>
</tr>
<tr>
<td>ACPU</td>
<td>AJ71UC24, A1SJ71UC24</td>
</tr>
</tbody>
</table>

*1 For details of module name, refer to GOT-A900 series user’s manual (Connection System Manual)

(2) When using MELSECNET(II) connection/MELSECNET/B connection
- The special function module on the base of the master station can be monitored. (Cannot be monitored when the master station is the QnACPU.)
- The special function modules on the bases of local stations/remote I/O station cannot be monitored.

(3) When using MELSECNET/10 connection
- The special function modules on the bases of the control station and normal stations can be monitored.
  When the QCPU (Q mode)/QnACPU is used for the control/normal station, it cannot be monitored depending on the communication unit.

<table>
<thead>
<tr>
<th>Communication unit</th>
<th>Applicable CPU of the control/normal station</th>
</tr>
</thead>
<tbody>
<tr>
<td>A7GT-J71LP23, A7GT-J71BR13</td>
<td>ACPU, QCPU (A mode)</td>
</tr>
<tr>
<td>A9GT-QJ71LP23, A9GT-QJ71BR13</td>
<td>ACPU, QCPU (A mode), QnACPU, QCPU (Q mode)</td>
</tr>
</tbody>
</table>

- The special function module cannot be monitored when it is mounted on the base of remote I/O station.

(4) When using CC-Link connection (remote device station)
- The special function modules cannot be monitored.

(5) When using CC-Link connection (intelligent device station / via G4)
- The special function modules on the bases of the master and local stations can be monitored.
- The special function module cannot be monitored when it is mounted on the base of remote I/O station.

(6) When using Ethernet connection
- The special function module on the base of the PLC CPU assigned the IP address can be monitored.
  (The station assigned in the Ethernet setting of GT Designer2 can be monitored.)

3.3.2 Special function modules to be monitored

The modules for which special function monitoring can be done are only those types shown in Section 3.3.3. Monitoring of special function modules other than those can be done with the system monitor function "BM Monitor".
### 3.3.3 Memory capacity

The following table indicates memory spaces for special module monitor data. The memory spaces required for storing data into the internal memory of the GOT is the same as the memory spaces required for storing data into the hard disk of a personal computer.

<table>
<thead>
<tr>
<th>For QCPU(A mode), QnACPU, ACPU</th>
<th>For QCPU(Q mode)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stored data</td>
<td>Memory space [k bytes]</td>
</tr>
<tr>
<td>Special module monitor data common information</td>
<td>13.4</td>
</tr>
<tr>
<td>A61LS</td>
<td>14.5</td>
</tr>
<tr>
<td>AD61</td>
<td>8.14</td>
</tr>
<tr>
<td>A62A-S1</td>
<td>6.91</td>
</tr>
<tr>
<td>A62LS</td>
<td>69.8</td>
</tr>
<tr>
<td>A68AD(S2)</td>
<td>9.97</td>
</tr>
<tr>
<td>A68ADN</td>
<td>15</td>
</tr>
<tr>
<td>A68RD3</td>
<td>17.8</td>
</tr>
<tr>
<td>A68RD4</td>
<td></td>
</tr>
<tr>
<td>A616AD</td>
<td>123</td>
</tr>
<tr>
<td>A616DAI</td>
<td>33.5&lt;sup&gt;3&lt;/sup&gt;</td>
</tr>
<tr>
<td>A616ADV</td>
<td></td>
</tr>
<tr>
<td>A616TD</td>
<td>230</td>
</tr>
<tr>
<td>AD70</td>
<td>20.5</td>
</tr>
<tr>
<td>AD70D</td>
<td>29.3</td>
</tr>
<tr>
<td>AD71(S1/S2/S7)</td>
<td>546</td>
</tr>
<tr>
<td>AD72</td>
<td>562</td>
</tr>
<tr>
<td>AD75P1(P2/P3)</td>
<td>520&lt;sup&gt;3&lt;/sup&gt;</td>
</tr>
<tr>
<td>A1SD75P1(P2/P3)</td>
<td></td>
</tr>
<tr>
<td>AJ71PT32-S3</td>
<td>43.5</td>
</tr>
<tr>
<td>AJ71ID1(ID2)-R4</td>
<td>40.5</td>
</tr>
<tr>
<td>A1SJ71ID1(ID2)-R4</td>
<td></td>
</tr>
<tr>
<td>A84AD</td>
<td>20.2</td>
</tr>
<tr>
<td>A1SD61</td>
<td>36.9</td>
</tr>
<tr>
<td>A1S62DA</td>
<td>5.12</td>
</tr>
<tr>
<td>A1S62RD</td>
<td>12.5</td>
</tr>
<tr>
<td>A1S63ADA</td>
<td>16.4</td>
</tr>
<tr>
<td>A1S64AD</td>
<td>12.3</td>
</tr>
<tr>
<td>A1S68AD</td>
<td>9.75</td>
</tr>
<tr>
<td>A1S68DAI</td>
<td>25.8&lt;sup&gt;3&lt;/sup&gt;</td>
</tr>
<tr>
<td>A1S68DAV</td>
<td></td>
</tr>
<tr>
<td>A1SD70</td>
<td>21.1</td>
</tr>
<tr>
<td>A1SJ71JP132-S3</td>
<td>43.2</td>
</tr>
<tr>
<td>A1S64TCTT/RT-S1</td>
<td>45.7</td>
</tr>
<tr>
<td>Input module</td>
<td>0.0</td>
</tr>
<tr>
<td>Output module</td>
<td>0.0</td>
</tr>
</tbody>
</table>

*1: The AD75M1(M2/M3) can be monitored within the range of the AD75P1(P2/P3).
*2: The A1SD75M1(M2/M3) can be monitored within the range of the A1SD75P1(P2/P3).
*3: Downloading either data enables both special function modules to be monitored.
3.3.4 Precautions when using the special module monitor function

The precautions to follow when using the special module monitor function are discussed below.

(1) Special function modules that cannot be monitored
Modules displayed as "special" on the system configuration screen cannot be monitored using the special module monitor function.
To monitor these modules, use the system monitor function "BM Monitor".

(2) Display when connecting the small building-block type PLC CPU
This precaution pertains to a situation where an expansion base unit for a large building block type of setup is connected to a small building-block type CPU (such as the A1SCPU) in a station connected to the GOT.
In such a case, the special function module on the large expansion base unit is displayed on the system configuration screen with the same model name as that of the small building-block type special function module.
If there is no small building-block type special function module, "special" is displayed and the object module cannot be monitored.

(Example)

<table>
<thead>
<tr>
<th>[Module Model]</th>
<th>[Model Name Displayed]</th>
</tr>
</thead>
<tbody>
<tr>
<td>AD72</td>
<td>A1SD71</td>
</tr>
<tr>
<td>AJ71ID</td>
<td>A1SJ71ID</td>
</tr>
<tr>
<td>AJ71PT32-S3</td>
<td>A1SJ71PT32-S3</td>
</tr>
<tr>
<td>AD75P</td>
<td>A1SD75P</td>
</tr>
<tr>
<td>A68AND [CH1 to CH8]</td>
<td>A1S64AD [CH1 to CH4]</td>
</tr>
<tr>
<td>A68RD [CH1 to CH8]</td>
<td>A1S62RD [CH1 to CH4]</td>
</tr>
</tbody>
</table>

(3) Monitoring restricted special function modules
(a) When monitoring the AD71 (S1, S2, S7)
When the slot on front of the AD71 module is an empty slot, monitoring is done in the following way.
1) The AD71 is treated as the AD72, and "AD72" is displayed on the system configuration screen.
   In this case, when monitoring the AD71, select the AD72 in the object display position.
2) The monitor screen that is displayed by 1) above is for the AD72.
   The number obtained by subtracting 10H from the I/O signal number on the display is the number to be used when installing the AD71 in the 0 slot.
   * If you do not want the AD1 to be treated as the AD72, execute "Shift the installation position of AD71 forward" or "In the I/O assignments, assign the empty slot in front of AD71 to the 16 X-Y points."
3.3 Special module monitor function specifications

3.3.4 Precautions when using the special module monitor function

(b) When monitoring the A68AD, A68ADN or A68RD used with a small building block type PLC CPU

A special function module installed in a large building block type extension base unit connected to a small building block type PLC CPU (e.g. A1SCPU) is recognized and monitored by the GOT as a small building block type special function module. Hence, there are the following instructions for use of the A68AD, A68ADN and A68RD.

<table>
<thead>
<tr>
<th>Special function module</th>
<th>Instruction</th>
</tr>
</thead>
<tbody>
<tr>
<td>A68AD</td>
<td>The A68AD cannot be displayed correctly because of the buffer memory map differences between the A68AD and A1S68AD.</td>
</tr>
<tr>
<td>A68ADN</td>
<td>Among CH1 to CH8 of the A68ADN, CH5 to CH8 cannot be displayed since the A1S64AD has only CH1 to CH4.</td>
</tr>
<tr>
<td>A68RD</td>
<td>Among CH1 to CH8 of the A68RD, CH3 to CH8 cannot be displayed since the A1S62RD has only CH1 and CH2.</td>
</tr>
</tbody>
</table>

The above special function modules can be monitored properly if they are installed in a base unit connected to a large building block type PLC CPU (e.g. AnUCPU).

(c) When monitoring the A1SD75M, AD75M

The A1SD75M/AD75M is displayed as A1SD75P/AD75P. The A1SD75M/AD75M can be monitored within the monitoring range of the A1SD75P/AD75P.

(d) When monitoring the A81CPU

The A81CPU is monitored in the following way.

<table>
<thead>
<tr>
<th>Item</th>
<th>64 points in first half</th>
<th>64 points in last half</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment of A81CPU</td>
<td>Change to module that cannot be monitored.</td>
<td>Change to input module.</td>
</tr>
<tr>
<td>System configuration screen</td>
<td>Display &quot;Special X, Y  &quot;</td>
<td>Display &quot;Input 64 X  &quot;</td>
</tr>
<tr>
<td>Possibility of monitoring</td>
<td>Not possible</td>
<td>Can be monitored as input.</td>
</tr>
</tbody>
</table>

(e) When monitoring an I/O composite module

1) With an I/O composite module for which "Output  " is displayed on the system configuration screen, only the output signal can be monitored.

For the input signal, monitor X of the PLC CPU device with the system monitor function.

(4) Editing and allocating of special module monitor data

Data displayed on a special module monitor screen cannot be edited by modifying or adding an object, except that the data can be used on a user-created monitor screen.
(5) Precaution for I/O allocation setting

(a) When the QnACPU is connected, the head XY numbers are displayed in due order on the special module monitoring system configuration screen if the I/O allocation setting is random as shown below.

When performing special module monitoring, always perform the I/O allocation in order from slot 0.

(b) If the slot assigned to Output in I/O allocation is not fitted with a module, the GOT displays Input. (Common to ACPU and QnACPU)

(6) Display provided when the QA1S6 extension base unit is used with the QCPU(Q mode)

The following instruction is given for the case where the QA1S6 extension base unit is connected to the QCPU(Q mode) which is a GOT-connected station.

In this case, any of the following special function modules is displayed as the abbreviated format on the system configuration screen.

You can use the Unit detail information to confirm the formal format of the module which was displayed as the abbreviated format.

Unsupported special function modules are displayed as "Special" and the corresponding modules cannot be monitored.

<table>
<thead>
<tr>
<th>Loaded module</th>
<th>Displayed format</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1S63ADA</td>
<td>63ADA</td>
</tr>
<tr>
<td>A1SJ71PT32-S3</td>
<td>J71PT32-</td>
</tr>
<tr>
<td>A1SJ71ID1-R4</td>
<td>J71ID</td>
</tr>
<tr>
<td>A1SJ71ID2-R4-S1</td>
<td></td>
</tr>
<tr>
<td>A1S64TCTT(BW)-S1</td>
<td>64TCTT/R</td>
</tr>
<tr>
<td>A1S64TCRT(BW)-S1</td>
<td></td>
</tr>
</tbody>
</table>
3.4 Network monitor function specifications

Refer to Section 2.2 for restrictions on the network monitor function.

3.4.1 Network information to be monitored

The following table shows the types of network information that can be monitored.

Table 3.1 Network Information To be Monitored

<table>
<thead>
<tr>
<th>Function</th>
<th>Network Information</th>
<th>MELSECNET (II)/B Master Station</th>
<th>MELSECNET (II)/B Local Station</th>
<th>MELSECNET/10, MELSECNET/H Control Station</th>
<th>MELSECNET/10, MELSECNET/H Ordinary Station</th>
<th>MELSECNET/10, MELSECNET/H Remote Master Station</th>
</tr>
</thead>
<tbody>
<tr>
<td>Own station monitor</td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>Network category display</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Network No. display</td>
<td>x</td>
<td>x</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>Station No. display</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>Own station operation mode</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>Own station loop line status</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>Loop back execution status</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>Link scan time display</td>
<td></td>
<td>x</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>Data link system loop status</td>
<td></td>
<td>x</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>Own station communications status</td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Own station information</td>
<td>Own station’s station No.</td>
<td></td>
<td>x</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>Own station</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>Network No.</td>
<td></td>
<td>x</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>Group No.</td>
<td></td>
<td>x</td>
<td>x</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Control-station information</td>
<td>Specified control station</td>
<td></td>
<td>x</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>Current control station</td>
<td></td>
<td>x</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>Communications information</td>
<td></td>
<td>x</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>Sub-control-station link</td>
<td></td>
<td>x</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>Remote-I/O-master-station station No.</td>
<td></td>
<td>x</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Detailed own station monitor</td>
<td>Total of linked stations</td>
<td></td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>Largest connected station</td>
<td></td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>Largest data-linked station</td>
<td></td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>Communications status</td>
<td></td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>Causes of interrupted communications</td>
<td></td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>Causes of data link stoppage</td>
<td></td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Constant link scan</td>
<td>Constant link scan</td>
<td></td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>BWY receive</td>
<td>BWY from the master station</td>
<td></td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>BW receive</td>
<td>BW from the master station in the higher loop</td>
<td></td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Loopback</td>
<td>F-loop status</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>R-loop status</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>F-loopback station</td>
<td></td>
<td>x</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>R-loopback station</td>
<td></td>
<td>x</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>Loop switching frequency</td>
<td></td>
<td>x</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Own station status</td>
<td>Parameter settings</td>
<td></td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>Designation of reserved stations</td>
<td></td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>Communications mode</td>
<td></td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>Designation of transmission</td>
<td></td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>Transmission status</td>
<td></td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Other station monitor</td>
<td>Communications status of each station</td>
<td></td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>Data link status of each station</td>
<td></td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>Parameter status of each station</td>
<td></td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>CPU action status of each station</td>
<td></td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>CPU RUN status of each station</td>
<td></td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>Loop status of each station</td>
<td></td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>

*1 Accessible only when connected to a MELSECNET (II) local station.
*2 Accessible only in a MELSECNET/10 or MELSECNET/H loop system.
O : Accessible  x : Not accessible
3.4.2 Access ranges to be monitored

For access range for monitoring, see Chapter 2 of the GOT-A900 Series User’s manual (Connection System Manual).

3.4.3 Precautions when using the network monitor function

The following describes precautions that should be followed when using the network monitor function.

1. When the GOT is connected to an AnNCPU or AnACPU, a screen display shows a screen of the MELSECNET II network even when you are connected to the MELSECNET/10 network (the monitor screen shows the display contents of the MELSECNET II).

2. There may be a possibility that the network monitor function cannot be used, depending on which CPU to connect and which connection method to use.

<table>
<thead>
<tr>
<th>CPU to Be Connected</th>
<th>Connection Method</th>
<th>Network Monitor Function</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Own Station Monitor</td>
</tr>
<tr>
<td>QCPU, QnACPU, ACPU,</td>
<td>Bus connection</td>
<td>o</td>
</tr>
<tr>
<td>Motion controller cpu</td>
<td>Direct CPU connection</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MELSECNET connection *1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Computer link connection *2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CC-Link connection</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ethernet connection</td>
<td></td>
</tr>
<tr>
<td>FXCPU</td>
<td>CPU direct connection</td>
<td>x</td>
</tr>
<tr>
<td>Other manufacturer’s PLC</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*1 Monitoring cannot be done when connected to MELSECNET/B or MELSECNET(II) and the master station is the Q/QnACPU.

Monitoring may not be done depending on the applied conditions, when connected to the MELSENET/10 and the control station is the Q/QnACPU.

<table>
<thead>
<tr>
<th>Applicable CPU of the control/normal station</th>
<th>Communication unit</th>
<th>GOT communication driver</th>
<th>Hardware version of the CPU or network module to be monitored</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACPU, QCPU (A mode)</td>
<td>A7GT-J71LP23, A7GT-J71BR13</td>
<td>MNET10(A)</td>
<td>---</td>
</tr>
<tr>
<td>ACPU, QCPU (A mode), QnACPU, QCPU (Q mode)</td>
<td>A9GT-QJ71LP23, A9GT-QJ71BR13</td>
<td>MNET10(A/Qu/A/Q)</td>
<td>Version B or later</td>
</tr>
</tbody>
</table>

*2 Monitoring cannot be done when the target CPU is the AnUCPU and the MELSECNET/10 network module is used.

*3 When the target CPU is the Q172CPU or Q173CPU, monitoring cannot be done.

3. When connected to a QnACPU and the master station of the MELSECNET(II), monitoring cannot be done with the keyword being defined.

4. If the MELSECNET/H network module is being monitored, a MELSECNET/10 display is provided in either of the following cases:
   The normal station has been started due to a communication error (cable disconnection, etc.)
   The monitor target is the remote master station.
3.5 List editor function specifications

Refer to Section 2.2 for restrictions on the List editor function.

3.5.1 PLC CPU that allows for list edit

PLC CPUs that allow list edit are either the QCPU(A mode) or the ACPU. For details, refer to Section 2.2 (2).

In using the A2USH-S1/A2SH-S1/A2SH/A1SH/A1SJHCPU, the following restrictions should be observed in the range of list edit.

In using the A2USHCPU-S1 : In the range of the A3UCPU
In using the A2SH-S1/A2SH/A1SH/A1SJHCPU : In the range of the A3NCPUR

3.5.2 Access range that allows for list edit

For information about the access range that allows for list edit, see Chapter 2 of the GOT-A900 Series User’s manual (Connection System Manual).

3.5.3 Precautions for List editor function

Precautions for the List editor function are as follows:

1. Precaution for reading with the specified command
   The command cannot be specified to read the ladder.

2. Precaution for use with the ladder monitor function
   If list edit is performed while the ladder monitor function is started, the edit details are not shown on the ladder monitor screen. To show the edit details, the ladder monitor must be read from the PLC again.

3. Precaution for list edit
   While the corresponding PLC is at stop status, perform list edit. The list cannot be edited during PLC running.

4. Precaution for parameter changing on the other peripheral device
   If parameter settings are changed on the other peripheral device during use of the list edit function, they will be different from the settings of the internal parameters of the list edit function. For this reason, reset the GOT unit or make PC No. setting again to read the parameters.

5. Precaution for Ethernet connection
   To use the list editing function for Ethernet connection, the host setting on GT Designer2 must be preset to the ACPU or QCPU (A mode).
3.5.4 List of key arrangement and key functions

Key arrangement and key functions of the list edit window are shown below.

When the A985/97*/960GOT is used:

1) Control key
- Key that declares start of step number input or automatic scroll.
- Switch key that makes the lower character valid on each key with dual functions.
- Whether upper or lower character is valid can be checked on the display.
- If the Clear key is pressed when the system is not in the Parameter mode, Other mode or Help function, the screen returns to the initial status of the mode selection. (The input commands or device numbers except for the mode are cleared.)
- This is used for repeating the procedure if incorrect keys are pressed.
- In the Parameter mode, the process is cancelled. After restarting, continue the operation.
- In the Other mode, the screen returns to the previous display.
- When the Help function is used, the screen returns to the display at the input of the Help key.

2) Mode key
- Key that selects each mode of the List editor function.
- Check the details of key operations on the display before pressing this key.

3) Help key
- Key that selects the help function in the mode supporting the help function.

4) Command key
- Advice key
- Key that inputs K/H at the input of command, device name and constant input.
- Only when the valid key of upper/lower character needs to be switched, switching is allowed with input of the Shift and Set keys.

5) Command key
- Device No./Constant setting key
- Key that inputs the command, device number and constant.
- Only when the valid key of upper/lower character needs to be switched, switching is allowed with input of the Shift and Set keys.

When the A95*/956WGOT is used:

1) Control key
- Key that provides blank space at the command and at between device names.

2) Mode key
- Key that selects each mode of the List editor function.
- Switch the upper/lower character mode with the Shift key.

3) Help key
- Key that selects the help function in the mode supporting the help function.

4) Command key
- Advice key
- Key that inputs K/H at the input of command, device name and constant input.
- Only when the valid key of upper/lower character needs to be switched, switching is allowed with input of the Shift and Set keys.

5) Command key
- Device No./Constant setting key
- Key that inputs the command, device number and constant.
- Only when the valid key of upper/lower character needs to be switched, switching is allowed with input of the Shift and Set keys.
- Movement of the cursor key between steps, between the menu items and in the input area is explained below.

(1) Keep pressing the cursor key to repeat the movement toward the specified key direction.

(2) Movement between steps and between menu items
   To display the program immediately before/after the current step number command, Input either
   
   |   O   D   N   U   K   D   123 |
   | 1   L   A   N   D   M   2   |
   | 2   ®   O   U   T   T   0   |
   | 3   K   1   2   3   |
   
   : Program immediately before the command (no change after 0 step)
   : Program immediately after the command (no change after the last step)

   "   " moves to the specified direction (upward/downward) with  or  key.

(3) Movement in the input area
   To move the cursor between command names, between sources, and between destinations, input
   either  or  key.

   Display example for DWOVP K2147483647 D1000

   "   " moves to the specified direction (left/right) with  or  key.
In this operating manual, the List editor function key is represented in the following abbreviation form.

1. Expression of Key 1 → Key 2 → ... → Key n means the sequential input from Key 1 to Key n.

2. Expression of Key 1 + Key 2 means input of Key 1 and Key 2 at the same time.

3. As in RST 0 key or MOV M key, keys with dual functions for input of the command or the device/constant or control keys that control the List editor function are represented as follows:
   (a) The mode command or only alphanumeric characters are described.

      Example
      \[\text{RST} \rightarrow \text{RST} \text{ or } 0, \quad \text{MOV} \rightarrow \text{MOV} \text{ or } \text{M}\]

   (b) Only commands are shown for explanation of command input. (Alphanumeric characters are omitted.)
       Only alphanumeric characters are shown for explanation of alphanumeric characters.
       (Command expressions are omitted.)

      Example
      To express MOV M key
      When input of command is explained: \[\text{MOV}\]
      When input of alphanumeric characters is explained: \[\text{M}\]
3.5.5 Display format on the display

The following describes the position and content of each data field in the display area provided by the List editor function.

(1) Mode and valid key display
The following describes the mode and valid key display.
The mode display shows the list editor function mode selected by the user.
The valid key display shows which of the two functions assigned to each key is currently available: the function indicated at the upper part of the key or the function indicated at the lower part of the key.

![Diagram of display format]

To switch between two functions of keys (functions indicated at upper and lower parts of the keys), press the [SHIFT] and [SET] keys.
For details, see Section 20.1.1.
(2) Cursor display
The GOT controls the display of the cursor when the user has to input data; it displays a "■" at the cursor position. For more information, see Paragraph (6) below. If the cursor overlaps the display of a character, however, the character and "■" alternate on the display.

(3) Indication of the selected line
When a program list is displayed, the line currently selected for editing is indicated by "▸" appearing immediately after the step number. 

You can use the ▲ and ▼ keys to move "▸" up and down.

(4) Step number display
A step number is displayed as a decimal number.
On the 1st and 2nd lines in the display area, significant digits in the lower four digits of a step number are displayed.
On the 3rd and 4th lines in the display area, up to five significant digits in a step number are displayed.

(5) Device display
Two or more device specifications attached to a basic or application instruction are displayed using the same step number.
For information on the step numbers, see Paragraph (4) above.

(6) Display of data input from the keys
Data input from the keys will appear at the cursor position. As more characters are input, the cursor moves to the right.
The cursor appears as "■".
Example: The user enters [SET ▸ 1 ▸ 0]

---

3 - 16
3.5 List editor function specifications
3.5.5 Display format on the display
(7) Shifting of data to the left during the input of a program

When the user inputs a program, the codes entered before a touch on the GO key will appear on the 4th (bottom) line of the display area.

If the codes cannot appear on a single line, the display on the 4th line only will shift by a single character position to the left each time the user touches a key. (Each character that goes out of the display area by the left-shift operation is retained in the memory.)

<table>
<thead>
<tr>
<th>W</th>
<th>1 1 5</th>
<th>M 5</th>
<th>X 0 0 0 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 0</td>
<td>L D</td>
<td>M 3</td>
<td></td>
</tr>
<tr>
<td>1 2 1</td>
<td>N</td>
<td>O P</td>
<td></td>
</tr>
</tbody>
</table>

The user has entered "DMOV K2147483647 D1000".

(8) Numerical display

The following describes the display of numerical values in devices and of constants in a program input by the user. Note, however, that only some examples are shown. For details, see Chapter 20.

Example: D1000 4231H

1) Display in decimal format

Only significant digits are displayed with zero-suppression.

M D 1 0 0 0 1 6 4 9 5

2) Display in hexadecimal format

Four digits are displayed without zero-suppression.

M D 1 0 0 0 H 4 2 3 1

3) Display in octal format

Six digits are displayed without zero-suppression.

M D 1 0 0 0 0 0 4 1 0 6 1

4) ASCII format

A numerical value in the specified device is read in byte units and converted into associated character codes.

If a value fell outside the ranges 20H through 7FH and A0H through DFH, dots ".." will appear.

M D 1 0 0 0 a s c i i B 1

(9) Display of an error message

An error message will appear on the 4th line of the display area.

If an error message appears, perform corrective action as described in Chapter 21. An error message on the display is cleared when you press any key. Then the display resumes the state before the appearance of the error message.
### 3.5.6 List of List editor function

<table>
<thead>
<tr>
<th>Mode (mode display)</th>
<th>Function</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Write (W)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Help</td>
<td>Write</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Display/write</td>
<td>Displays a list of instructions that start with the specified character and allows the user to choose from them.</td>
</tr>
<tr>
<td></td>
<td>Read step</td>
<td>Reads a program after allowing the user to specify a step number.</td>
</tr>
<tr>
<td></td>
<td>NOP continuous</td>
<td>Declares the specified part of the program NOP.</td>
</tr>
<tr>
<td></td>
<td>Comment display</td>
<td>Displays a comment for the specified device.</td>
</tr>
<tr>
<td>Read (R)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Help</td>
<td>Read</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Step</td>
<td>Corresponds to program read and automatic scroll functions described above.</td>
</tr>
<tr>
<td></td>
<td>Instruction</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Device</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Automatic scrolling</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Comment display</td>
<td>Displays a comment for the specified device.</td>
</tr>
<tr>
<td>Insert (I)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Help</td>
<td>Insert</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Display/write</td>
<td>Displays a list of instructions that start with the specified character and allows the user to choose from them.</td>
</tr>
<tr>
<td></td>
<td>Read step</td>
<td>Reads a program after allowing the user to specify a step number.</td>
</tr>
<tr>
<td></td>
<td>Move</td>
<td>Moves the selected part of the program to a specified part of the program.</td>
</tr>
<tr>
<td></td>
<td>Copy</td>
<td>Copies the selected part of the program to a specified part of the program.</td>
</tr>
<tr>
<td></td>
<td>Comment display</td>
<td>Displays a comment for the specified device.</td>
</tr>
<tr>
<td>Delete (D)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Help</td>
<td>Delete</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Specified block</td>
<td>Deletes the specified block in the program.</td>
</tr>
<tr>
<td></td>
<td>All NOPs</td>
<td>Deletes all NOP instructions found in program codes described before the END instruction. (NOPLF instructions will not be deleted.)</td>
</tr>
<tr>
<td></td>
<td>Comment display</td>
<td>Displays a comment for the specified device.</td>
</tr>
<tr>
<td>Parameter (P)</td>
<td>Clear all parameters</td>
<td>Clears all parameters in the ACPU only.</td>
</tr>
<tr>
<td></td>
<td>Set parameter</td>
<td>Sets or changes various parameters like those for the memory capacity, timer/counter, and latching range.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sets or changes a keyword.</td>
</tr>
<tr>
<td>Mode (mode display)</td>
<td>Function</td>
<td>Action</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------</td>
<td>--------</td>
</tr>
<tr>
<td>PC check</td>
<td>Change T/C set values</td>
<td>Changes values set to timer/counter devices.</td>
</tr>
<tr>
<td></td>
<td>Read erroneous step</td>
<td>Displays details of an error in the ACPU and the associated step number.</td>
</tr>
<tr>
<td></td>
<td>Program check</td>
<td>Checks duplex coils, instruction codes, and other elements in the program.</td>
</tr>
<tr>
<td>Monitor</td>
<td>Buffer memory batch monitor</td>
<td>With regard to a special function unit of the specified I/O number, monitors the contents of the buffer memory at the specified address.</td>
</tr>
<tr>
<td>Monitor</td>
<td>Clock monitor</td>
<td>Monitors the ACPU clock (D9025 through D9027).</td>
</tr>
<tr>
<td>Monitor</td>
<td>PC memory</td>
<td>Clears all contents of the ACPU memory and resets it to the initial state.</td>
</tr>
<tr>
<td>Monitor</td>
<td>Program</td>
<td>Clears the program (Main/Sub) currently selected.</td>
</tr>
<tr>
<td>Monitor</td>
<td>Device memory</td>
<td>Clears all device memories except for special-D, special-M, and R.</td>
</tr>
<tr>
<td>Switch</td>
<td>PC No. setup</td>
<td>Switches the target ACPU in GOT operations in each mode.</td>
</tr>
<tr>
<td>Switch</td>
<td>Switch Main/Sub</td>
<td>Switches the target program (Main/Sub) in GOT operations in each mode.</td>
</tr>
<tr>
<td>Others (O)</td>
<td>Remote RUN/STOP</td>
<td>Forcibly changes the ACPU running status between RUN and STOP.</td>
</tr>
<tr>
<td></td>
<td>Machine language read/write</td>
<td>Performs a read or write operation to the ACPU memory in the machine language.</td>
</tr>
</tbody>
</table>
3.6 Specifications of the motion monitor function

Refer to Section 2.2 for the restrictions on the motion monitor function.

3.6.1 PLC CPUs that can be monitored

The motion controller CPUs that can be monitored are only the Q172CPU and Q173CPU. Refer to Section 2.2 (2) for details.

3.6.2 Access ranges that can be monitored

For the access ranges where the motion monitor function can be performed, refer to Chapter 2 of the GOT-A900 Series User's Manual (Connection System Manual).

3.6.3 Precautions for use of the motion monitor function

(1) When using the motion monitor function, use the motion controller CPU (Q172CPU, Q173CPU) that satisfies the following conditions.
   • Installed motion controller OS version: "00E" or later
   • Serial No.: "K******" or later (Q172CPU)
     "J******" or later (Q173CPU)

(2) When the CNC monitor function is used, the motion monitor function cannot be used.

3.6.4 Memory space necessary to use the motion monitor function

The following indicates the memory spaces for motion monitor data. The memory space needed to store data into the built-in memory of the GOT is the same as the memory space needed to store data into the hard disk of the personal computer.

<table>
<thead>
<tr>
<th>Stored Data</th>
<th>Memory Space [k bytes]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information common to motion monitor data</td>
<td>13.4</td>
</tr>
<tr>
<td>A985GOT</td>
<td>200</td>
</tr>
<tr>
<td>A97*GOT</td>
<td>200</td>
</tr>
<tr>
<td>A960GOT</td>
<td>200</td>
</tr>
<tr>
<td>A956WGOT</td>
<td>115</td>
</tr>
<tr>
<td>A95*GOT</td>
<td>110</td>
</tr>
</tbody>
</table>
3.7 Specifications of the Servo Amplifier Monitor Functions

Refer to Section 2.2 for the restrictions on the servo amplifier monitor functions.

3.7.1 List of servo amplifier models that can be monitored and functions

The following table lists the servo amplifier models, where the servo amplifier monitor functions can be performed, and the functions.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>MR-J2M-P8A</td>
<td>MR-J2M-□DU</td>
<td>MR-J2M-□DU</td>
</tr>
<tr>
<td>Setup</td>
<td>Model selection</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>Baudrate</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>Station number selection</td>
<td>O</td>
<td>O</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>Station number setting</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>IFU station number</td>
<td>---</td>
<td>---</td>
<td>O</td>
</tr>
<tr>
<td>Monitor</td>
<td>Batch display</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Alarm</td>
<td>Alarm display</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>Alarm history</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Diagnostics</td>
<td>DI/DO display</td>
<td>O</td>
<td>O</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>Function device display</td>
<td>---</td>
<td>---</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>Amplifier information display</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>ABS data display</td>
<td>O</td>
<td>O</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>Module composition list display</td>
<td>---</td>
<td>---</td>
<td>O</td>
</tr>
<tr>
<td>Parameters</td>
<td>Parameter setting</td>
<td>O</td>
<td>O</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>Parameters (IFU)</td>
<td>---</td>
<td>---</td>
<td>O</td>
</tr>
<tr>
<td></td>
<td>Parameters (DRU)</td>
<td>---</td>
<td>---</td>
<td>O</td>
</tr>
<tr>
<td>Test</td>
<td>JOG operation</td>
<td>O</td>
<td>O</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>Positioning operation</td>
<td>O</td>
<td>O</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>Motorless operation</td>
<td>O</td>
<td>O</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>DO forced output</td>
<td>O</td>
<td>O</td>
<td>---</td>
</tr>
</tbody>
</table>

O: Function available  ---: Function unavailable

3.7.2 Access range that can be monitored

The access range where the servo amplifier monitor functions can be performed is as follows.

1. When RS-232C communication function is used
   Only the connected servo amplifier can be monitored.

2. When RS-422 communication function is used (multidrop communication)
   The servo amplifier from among up to 32 axes of servo amplifiers, stations 0 to 31, on the same bus as the connected servo amplifier can be monitored.
3.7.3 Precautions for use of the servo amplifier monitor functions

(1) Before starting test operations, always read the precautions in Section 26.7.1.

(2) The maximum communication speed between the GOT and servo amplifier is 38400bps. Set the servo side communication speed to 38400bps or less.

(3) If the PLC CPU connected to the GOT does not have clock data, the time displayed by the servo amplifier monitor functions is not precise.

(4) The settings of the GOT side servo amplifier monitor functions (setup screen (refer to Section 26.3.1)) should be the same as the servo amplifier side settings. If they are different, normal communication may not be made.

(5) When the servo amplifier monitor functions are used, communication from GT Designer2 (OS installation/monitor screen data downloading) cannot be made. Before starting communication from GT Designer2, terminate the servo amplifier monitor functions.

(6) When the servo amplifier is connected, the bar code function cannot be used.

(7) The transparent function cannot be used on the GOT where the servo amplifier monitor function operating system (OS) has been installed.

3.7.4 System configuration for servo amplifier connection

The system configurations for servo amplifier connection are shown below.

<table>
<thead>
<tr>
<th>Connection Condition</th>
<th>System Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>When only one servo amplifier is connected</td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>When multiple (^*3) (2 to 32) servo amplifiers are connected</td>
<td><img src="image" alt="Diagram" /></td>
</tr>
</tbody>
</table>

*1 Connect the GOT side connector into the RS-232C interface at the bottom of the GOT used for downloading the monitor screen data.

*2 Connect the servo amplifier side connector to CN3.

*3 As the servo amplifier to be monitored, select one from among the 32 servo amplifiers.
3.7.5 Screens and memory capacity

The monitor screens used for the servo amplifier monitor functions change depending on the GOT model and monitored servo amplifier model. The following tables indicate the monitor screen types and memory capacities necessary to use the servo amplifier monitor functions.

(1) When A985GOT is used

<table>
<thead>
<tr>
<th>Function Details</th>
<th>Stored Screen Data</th>
<th>Memory Capacities [Bytes]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alarm display</td>
<td>613 &quot;Servo (A985) Alarms: ALL&quot;</td>
<td>For MR-J2S-□CP monitor: 4132</td>
</tr>
<tr>
<td>Alarm history</td>
<td>615 &quot;Servo (A985) Alarms Hist.: ALL&quot;</td>
<td>For MR-J2M-P8A monitor: 2268</td>
</tr>
<tr>
<td>For MR-J2M-□DU monitor: 3020</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DI/D0 display</td>
<td>617 &quot;Servo (A985) I/O Display: S-A&quot;</td>
<td>---</td>
</tr>
<tr>
<td>618 &quot;Servo (A985) I/O Display: S-CP&quot;</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>619 &quot;Servo (A985) I/O Display: M-A IFU&quot;</td>
<td>2608</td>
<td></td>
</tr>
<tr>
<td>620 &quot;Servo (A985) I/O Display: M-A D01&quot;</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>Function display</td>
<td>624 &quot;Servo (A985) Function Dev.: S-CP&quot;</td>
<td>---</td>
</tr>
<tr>
<td>625 &quot;Servo (A985) Function Dev.: M-A IFU&quot;</td>
<td>4522</td>
<td></td>
</tr>
<tr>
<td>626 &quot;Servo (A985) Function Dev.: M-A DRU&quot;</td>
<td>3488</td>
<td></td>
</tr>
<tr>
<td>Diagnostic function</td>
<td>628 &quot;Servo (A985) Amp inf.: S-A&quot;</td>
<td>4744</td>
</tr>
<tr>
<td>629 &quot;Servo (A985) Amp inf.: S-CP&quot;</td>
<td>2436</td>
<td></td>
</tr>
<tr>
<td>630 &quot;Servo (A985) Amp inf.: M-A IFU&quot;</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>631 &quot;Servo (A985) Amp inf.: M-A DRU&quot;</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>Amplifier information display</td>
<td>635 &quot;Servo (A985) ABS data: S-A&quot;</td>
<td>2948</td>
</tr>
<tr>
<td>636 &quot;Servo (A985) ABS data: S-CP&quot;</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>637 &quot;Servo (A985) ABS data: M-A IFU&quot;</td>
<td>2916</td>
<td></td>
</tr>
<tr>
<td>Unit composition list display</td>
<td>639 &quot;Servo (A985) Unit Comp.: M-A IFU&quot;</td>
<td>4808</td>
</tr>
<tr>
<td>640 &quot;Servo (A985) Unit Comp.: M-A DRU&quot;</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>Parameter setting</td>
<td>643 &quot;Servo (A985) Parameters: S-*&quot;</td>
<td>4744</td>
</tr>
<tr>
<td>644 &quot;Servo (A985) Parameters: M-A IFU&quot;</td>
<td>3656</td>
<td></td>
</tr>
<tr>
<td>645 &quot;Servo (A985) Parameters: M-A DRU&quot;</td>
<td>3444</td>
<td></td>
</tr>
<tr>
<td>Test</td>
<td>678 &quot;Servo (A985) Jog op.: S-*&quot;</td>
<td>3432</td>
</tr>
<tr>
<td>679 &quot;Servo (A985) Jog op.: M-A DRU&quot;</td>
<td>3656</td>
<td></td>
</tr>
<tr>
<td>682 &quot;Servo (A985) Positioning: S-*&quot;</td>
<td>2112</td>
<td></td>
</tr>
<tr>
<td>683 &quot;Servo (A985) Positioning: M-A DRU&quot;</td>
<td>2188</td>
<td></td>
</tr>
<tr>
<td>685 &quot;Servo (A985) Motor-less op: S-*&quot;</td>
<td>6356</td>
<td></td>
</tr>
<tr>
<td>688 Servo (A985) DO Forced Out: S-A&quot;</td>
<td>2476</td>
<td></td>
</tr>
<tr>
<td>689 Servo (A985) DO Forced Out: S-CP&quot;</td>
<td>2700</td>
<td></td>
</tr>
<tr>
<td>690 &quot;Servo (A985) DO Forced Out: M-A IFU&quot;</td>
<td>2916</td>
<td></td>
</tr>
<tr>
<td>691 &quot;Servo (A985) DO Forced Out: M-A D01&quot;</td>
<td>2928</td>
<td></td>
</tr>
<tr>
<td>692 Servo (A985) DO Forced Out: M-A D01&quot;</td>
<td>2928</td>
<td></td>
</tr>
</tbody>
</table>
### Specifications of the Servo Amplifier Monitor Functions

#### 3.7.5 Screens and memory capacity

<table>
<thead>
<tr>
<th>Function Details</th>
<th>Stored Screen Data</th>
<th>Memory Capacities [Bytes]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>For MR-J2S-□A monitor</td>
</tr>
<tr>
<td>Monitor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alarm display</td>
<td>700 &quot;Servo (A97*) Monitor: ALL*</td>
<td>18416</td>
</tr>
<tr>
<td>Alarm history</td>
<td>713 &quot;Servo (A97*) Alarms: ALL*</td>
<td></td>
</tr>
<tr>
<td>Alarm history</td>
<td>715 &quot;Servo (A97*) Alarms Hist.: ALL*</td>
<td></td>
</tr>
<tr>
<td>Diagnostic function display</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DI/DO display</td>
<td>717 &quot;Servo (A97*) I/O Display: S-A”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>718 &quot;Servo (A97*) I/O Display: S-CP”</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>719 &quot;Servo (A97*) I/O Display: M-A IFU”</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>720 &quot;Servo (A97*) I/O Display: M-A D01”</td>
<td>---</td>
</tr>
<tr>
<td>Function device display</td>
<td></td>
<td></td>
</tr>
<tr>
<td>724 &quot;Servo (A97*) Function Dev.: S-CP”</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>725 &quot;Servo (A97*) Function Dev.: M-A IFU”</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>726 &quot;Servo (A97*) Function Dev.: M-A DRU”</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>Diagnostic function</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diagnostic function display</td>
<td>731 &quot;Servo (A97*) Amp inf.: M-A DRU”</td>
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<tr>
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<td>735 &quot;Servo (A97*) ABS data: S-A”</td>
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<td></td>
<td>736 &quot;Servo (A97*) ABS data: S-CP”</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>737 &quot;Servo (A97*) ABS data: M-A DRU”</td>
<td>---</td>
</tr>
<tr>
<td>Unit composition list display</td>
<td>739 &quot;Servo (A97*) Unit Comp.; M-A IFU”</td>
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<tr>
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<td>740 &quot;Servo (A97*) Unit Comp.; M-A DRU”</td>
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<tr>
<td>Parameter setting</td>
<td>741 &quot;Servo (A97*) Parameters: S-**”</td>
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<td></td>
<td>742 &quot;Servo (A97*) Parameters: M-A IFU”</td>
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<td>743 &quot;Servo (A97*) Parameters: M-A DRU”</td>
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<tr>
<td>Jog operation</td>
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</tr>
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<td></td>
<td>778 &quot;Servo (A97*) Jog op.: M-A D01”</td>
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<tr>
<td>Positioning operation</td>
<td>782 &quot;Servo (A97*) Positioning: S-**”</td>
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</tr>
<tr>
<td></td>
<td>783 &quot;Servo (A97*) Positioning: M-A DRU”</td>
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<td></td>
<td>785 &quot;Servo (A97*) Motor-less op: S-**”</td>
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</tr>
<tr>
<td></td>
<td>786 &quot;Servo (A97*) Motor-less op: M-A DRU”</td>
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</tr>
<tr>
<td>DO forced output</td>
<td>788 Servo (A97*) DO Forced Out: S-A”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>789 Servo (A97*) DO Forced Out: S-CP”</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>790 &quot;Servo (A97*) DO Forced Out: M-A IFU”</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>791 &quot;Servo (A97*) DO Forced Out: M-A D01”</td>
<td>---</td>
</tr>
</tbody>
</table>
### 3.7 Specifications of the Servo Amplifier Monitor Functions

#### 3.7.5 Screens and memory capacity

<table>
<thead>
<tr>
<th>Function Details</th>
<th>Stored Screen Data</th>
<th>Memory Capacities [Bytes]</th>
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<td>Servo amplifier monitor data common information</td>
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<td></td>
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<tr>
<td>Monitor</td>
<td>800 &quot;Servo (A95*) Monitor: ALL&quot;</td>
<td></td>
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<tr>
<td>Alarm</td>
<td>Alarm display</td>
<td>822 &quot;Servo (A95*) Alarms: ALL&quot;</td>
</tr>
<tr>
<td>Alarm history</td>
<td>824 &quot;Servo (A95*) Alarms Hist.: ALL&quot;</td>
<td></td>
</tr>
<tr>
<td>DI/DO display</td>
<td>826 &quot;Servo (A95*) I/O Display: S-A&quot;</td>
<td>1944</td>
</tr>
<tr>
<td></td>
<td>827 &quot;Servo (A95*) I/O Display: S-CP&quot;</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>828 &quot;Servo (A95*) I/O Display: M-A IFU&quot;</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>829 &quot;Servo (A95*) I/O Display: M-A D01&quot;</td>
<td>---</td>
</tr>
<tr>
<td>Function device display</td>
<td>833 &quot;Servo (A95*) Func.Dev.: S-CP&quot;</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>834 &quot;Servo (A95*) Func.Dev.In1: M-A IFU&quot;</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>835 &quot;Servo (A95*) Func.Dev.In2: M-A IFU&quot;</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>836 &quot;Servo (A95*) Func.Dev.Out1: M-A IFU&quot;</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>837 &quot;Servo (A95*) Func.Dev.Out2: M-A IFU&quot;</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>838 &quot;Servo (A95*) Func.Dev.In1: M-A IFU&quot;</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>839 &quot;Servo (A95*) Func.Dev.In2: M-A DRU&quot;</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>840 &quot;Servo (A95*) Func.Dev.Out1: M-A DRU&quot;</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>841 &quot;Servo (A95*) Func.Dev.Out2: M-A DRU&quot;</td>
<td>---</td>
</tr>
<tr>
<td>Diagnostic function</td>
<td>843 &quot;Servo (A95*) Amp inf.: S-A&quot;</td>
<td>1396</td>
</tr>
<tr>
<td></td>
<td>844 &quot;Servo (A95*) Amp inf.: S-CP&quot;</td>
<td>1472</td>
</tr>
<tr>
<td></td>
<td>845 &quot;Servo (A95*) Amp inf.: M-A IFU&quot;</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>846 &quot;Servo (A95*) Amp inf.: M-A DRU&quot;</td>
<td>---</td>
</tr>
<tr>
<td>Amplifier information display</td>
<td>850 &quot;Servo (A95*) ABS data Cur.: S-A&quot;</td>
<td>1744</td>
</tr>
<tr>
<td></td>
<td>851 &quot;Servo (A95*) ABS data Orig.: S-A&quot;</td>
<td>1816</td>
</tr>
<tr>
<td></td>
<td>852 &quot;Servo (A95*) ABS data Cur.: S-CP&quot;</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>853 &quot;Servo (A95*) ABS data Orig.: S-CP&quot;</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>854 &quot;Servo (A95*) ABS data Cur.: M-A DRU&quot;</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>855 &quot;Servo (A95*) ABS data Orig.: M-A DRU&quot;</td>
<td>---</td>
</tr>
<tr>
<td>ABS data display</td>
<td>857 &quot;Servo (A95*) Unit Comp.: M-A IFU&quot;</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>858 &quot;Servo (A95*) Unit Comp.: M-A DRU&quot;</td>
<td>---</td>
</tr>
<tr>
<td>Unit composition list display</td>
<td>861 &quot;Servo (A95*) Parameters: S-**&quot;</td>
<td>2860</td>
</tr>
<tr>
<td></td>
<td>862 &quot;Servo (A95*) Parameters: M-A IFU&quot;</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>863 &quot;Servo (A95*) Parameters: M-A DRU&quot;</td>
<td>---</td>
</tr>
<tr>
<td>Parameter setting</td>
<td>906 &quot;Servo (A95*) Jog operation: S-**&quot;</td>
<td>1944</td>
</tr>
<tr>
<td></td>
<td>907 &quot;Servo (A95*) Jog operation: M-A DRU&quot;</td>
<td>---</td>
</tr>
<tr>
<td>Jog operation</td>
<td>910 &quot;Servo (A95*) Positioning: S-**&quot;</td>
<td>2328</td>
</tr>
<tr>
<td></td>
<td>911 &quot;Servo (A95*) Positioning: M-A DRU&quot;</td>
<td>---</td>
</tr>
<tr>
<td>Positioning operation</td>
<td>913 &quot;Servo (A95*) Motor-less op: S-**&quot;</td>
<td>1584</td>
</tr>
<tr>
<td></td>
<td>914 &quot;Servo (A95*) Motor-less op: M-A DRU&quot;</td>
<td>---</td>
</tr>
<tr>
<td>Test</td>
<td>916 Servo (A95*) DO Forced Out: S-A&quot;</td>
<td>2128</td>
</tr>
<tr>
<td></td>
<td>917 Servo (A95*) DO Forced Out: S-CP&quot;</td>
<td>2008</td>
</tr>
<tr>
<td></td>
<td>918 &quot;Servo (A95*) DO Forced Out: M-A IFU&quot;</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>919 &quot;Servo (A95*) DO Forced Out: M-A D01&quot;</td>
<td>---</td>
</tr>
</tbody>
</table>
3.8 CNC monitor function specifications

Refer to Section 2.2 for the GOTs that can use the CNC monitor function.

3.8.1 CNC models that can be monitored

The model for which the CNC monitor function can be performed is only the MELDAS C6/C64.

3.8.2 CNC functions that can be monitored

The CNC monitor function allows the following functions to be monitored. For details of the functions, refer to the MELDAS C6/C64 manual.

- Position Display Monitor
- Alarm Diagnosis Monitor
- Tool Offset/Param
- Program Monitor
- F0

3.8.3 Access ranges to be monitored

The CNC monitor function is usable only when connected to the MELSECNET/10 or Ethernet. For connection with the MELDAS C6/C64 in the MELSECNET/10 or Ethernet, refer to GOT-A900 Series User’s Manual (Connection System Manual).

(1) Ethernet connection
   One GOT can monitor up to 64 MELDAS units.
   One MELDAS unit can be monitored by up to eight GOTs.

(2) MELSECNET/10 connection
   GOT monitors the control station only.

3.8.4 Precautions when using the CNC monitor function

(1) When the motion monitor function is used, the CNC monitor function cannot be used.
### 3.9 Font change function specifications

**Point**  
For GOTs that support the font change function, refer to Section 2.2.

#### 3.9.1 Available fonts

This function changes the font to/from the following.

- Standard font
- Chinese (simplified characters) font

#### 3.9.2 Applicable range for each font

The following table shows the applicable range for each font.

<table>
<thead>
<tr>
<th>Item</th>
<th>Details</th>
<th>Standard font</th>
<th>Chinese (simplified characters) font</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitor screen</td>
<td>The font displayed on the monitor screen</td>
<td>○</td>
<td>○*1</td>
</tr>
<tr>
<td>Utility</td>
<td>The font displayed on the utility.</td>
<td>○</td>
<td>○*2</td>
</tr>
<tr>
<td>Extended function</td>
<td>The font displayed on the screen for the following functions.</td>
<td>○</td>
<td>○<em>2</em>3</td>
</tr>
<tr>
<td></td>
<td>· Ladder monitor</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>· Special function module monitor</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>· List editor function</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>· Servo amplifier monitor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Offline screen</td>
<td>The font displayed on the screen for OS installation or monitor data download.</td>
<td>○</td>
<td>x</td>
</tr>
</tbody>
</table>

*1 As the ASCII display/input function supports the ASCII codes and Shift JIS codes only, the Chinese characters other than these codes cannot be displayed. Therefore, when displaying Chinese characters, use the comment display or text figure.

*2 Applicable only when the message (utility set-up) is displayed in Japanese.

*3 Please note that the ladder monitor supports MELSEC-A/FX ladder monitor only. (MELSEC-Q/QnA ladder monitor is not supported.)
3.9.3 Precautions when using the font change function

(1) Changing to the Chinese (simplified characters) font makes the MELSEC-Q/QnA ladder monitor function unusable. Do not install the extended function OS for MELSEC-Q/QnA ladder monitor function into the GOT. If this function is started, this deletes the font data installed in the GOT. In this case, it is required to install the font data again to use the font change function.

(2) To use HQ fonts of Chinese (simplified characters) font for characters and comments, the font environment of the GT Designer2 is required to be changed to Chinese (simplified characters). For how to change the font environment of the GT Designer2, refer to "Section 31.2.3 Installing font data".
When not changing the font environment, the characters and comments set in HQ fonts will be displayed in standard fonts.

(3) To preview in Chinese (simplified characters), the font environment of the GT Designer2 is required to be changed to Chinese (simplified characters).
When not changing the font environment, the characters and comments will be previewed in standard fonts.

(4) When changing the font environment of the monitor data created in standard fonts to Chinese (simplified characters), the Chinese (simplified characters) font can be displayed by downloading and uploading the data with the following procedure.

Change the font environment of GT Designer2 to Chinese (simplified characters). (Refer to Section 31.2.3)

Download all monitor data (such as screens, common settings) to the GOT from the GT Designer2.

Upload the downloaded data to the GT Designer2.

Download the uploaded data to the GOT again.

When opening the data created in standard font environment with the GT Designer2 where the font environment is changed to Chinese (simplified characters) and then downloading it to the GOT, HQ characters of standard font may be displayed.
3.10 System dialog language switching function specifications

The following shows the specifications of the system dialog language switching function. For the system dialog language switching function, extended function OS is not required to be installed in the GOT.

3.10.1 Switchable languages

The following languages are available for language switching.

- Japanese
- English
- Chinese (simplified characters)
- Chinese (traditional characters)

3.10.2 Precautions when using the system dialog language switching function

(1) The system dialog language switching function is applicable to some system dialogs. For system dialogs to which language switching is applicable, refer to Section 32.3.

(2) When using Chinese (simplified characters) for the system dialog language, set Chinese (simplified characters) font.

(3) When using Chinese (traditional characters) for the system dialog language, set standard font. Refer to "Chapter 31 FONT CHANGE FUNCTION" for character font setting.
## OPERATING THE UTILITY FUNCTION

### 4.1 Utility function table

<table>
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<tr>
<th>Functions</th>
<th>Description</th>
<th>Remarks</th>
<th>Ref. section</th>
</tr>
</thead>
<tbody>
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<td>Brightness/contrast adjustment</td>
<td>Adjusting the brightness/contrast of a monitor screen.</td>
<td>This function changes with the GOT used.</td>
<td>Section 4.3</td>
</tr>
<tr>
<td>System monitor</td>
<td>Monitoring or changing devices in a PLC CPU.</td>
<td>This function can be executed only after installing an OS, monitor data on the GOT by using GT Designer2.</td>
<td>Chapter 9</td>
</tr>
<tr>
<td>Special module monitor</td>
<td>Monitoring or changing buffer memory of a special module.</td>
<td>This function can be executed only when the GOT memory is extended and the OS is installed from the GT Designer2 to the GOT.</td>
<td>Chapter 12</td>
</tr>
<tr>
<td>Screen &amp; OS copy</td>
<td>Copying of screen data between internal memory and memory card.</td>
<td>Refer to the GT Designer2 Version2 Operating Manual to install the OS (from memory card to internal memory).</td>
<td>Section 4.4</td>
</tr>
<tr>
<td>Setup</td>
<td>The options of settings include:</td>
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<td>Section 4.5</td>
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<td></td>
<td></td>
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<td></td>
<td>• Buzzer sound adjustment</td>
<td></td>
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<td></td>
<td>• Sounds from an external speaker</td>
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<td>• Idle time for a screen saver</td>
<td></td>
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<tr>
<td></td>
<td>• Backlighting for a screen saver</td>
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</tr>
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<td></td>
<td>• Protocol and baud rate when connected to a microcomputer</td>
<td></td>
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<td></td>
<td>• Reverse display</td>
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</tr>
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<td></td>
<td>• Extension number and slot number for bus with QCPU</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>• Transmission speed for Computer link connection</td>
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</tr>
<tr>
<td></td>
<td>• Transmission speed for Omron/Yaskawa/Hitachi/Matsushita PLC connection</td>
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</tr>
<tr>
<td></td>
<td>• Startup time, transmission delay and CCU monitor registration (Matsushita Electric Works PLC only) for Yaskawa/Matsushita Electric Works PLC connection</td>
<td></td>
<td></td>
</tr>
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<td></td>
<td>• Transmission speed and address for SIEMENS/Allen-Bradley PLC connection</td>
<td></td>
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<td>• Transmission time-out setting for CC-Link (ID) driver installation</td>
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<td>• Setting of disable-enable/detection sensitivity/OFF delay for screen save/human sensor</td>
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<td></td>
<td>• Adjusting the color balance/contrast/brightness/color power of a video window.</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>• Adjusting the clock phase H-Position/V-Position of an RBG window.</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>• Adjusting the color balance/contrast/brightness/color power of a video window.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Adjusting the color balance/contrast/brightness/color power of a video window.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Adjusting the color balance/contrast/brightness/color power of a video window.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-test</td>
<td>The self-test include diagnostic checks on GOT hardware as follows:</td>
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<td>• Drawing check</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>• Font check</td>
<td></td>
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</tr>
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<td></td>
<td>• Memory card check</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>• User-space-in-the-internal-memory check</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• OS-space-in-the-internal-memory check</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• CPU communications check</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Touch key check</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Memory information</td>
<td>The contents of GOT memory information include:</td>
<td></td>
<td>Section 4.7</td>
</tr>
<tr>
<td></td>
<td>• OS version number</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Status of communications with the PLC CPU</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Available space in the internal memory</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Availability of memory cards and available space in a memory card</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Availability of the ladder monitor function</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ladder monitor</td>
<td>Monitoring the sequence programs on the PLC CPU.</td>
<td>This function can be executed only when the GOT memory is extended and the OS is installed from the GT Designer2 to the GOT.</td>
<td>Chapter 6</td>
</tr>
<tr>
<td>Clock</td>
<td>Setting date and time</td>
<td></td>
<td>Section 4.8</td>
</tr>
<tr>
<td>Screen cleanup</td>
<td>Displaying the display area cleanup screen.</td>
<td></td>
<td>Section 4.9</td>
</tr>
<tr>
<td>Network monitor</td>
<td>Monitoring the line status of MELSECNET.</td>
<td>This function can be executed only when the GOT memory is extended and the OS is installed from the GT Designer2 to the GOT.</td>
<td>Chapter 17</td>
</tr>
<tr>
<td>Security password</td>
<td>Changing the security levels of numeric input and objects.</td>
<td>If a security password is defined by using GT Designer2, security levels can be changed.</td>
<td>Section 4.10</td>
</tr>
<tr>
<td>Password</td>
<td>Defining a password for limited access to the utility menu screen.</td>
<td></td>
<td>Section 4.11</td>
</tr>
<tr>
<td>List edit</td>
<td>List editing of PLC programs in PLC CPU</td>
<td>This function can be executed only when the GOT memory is extended and the OS is installed from the GT Designer2 to the GOT.</td>
<td>Chapter 19</td>
</tr>
<tr>
<td>Motion/CNC monitor</td>
<td>Motion controller CPU (Q172CPU/Q173CPU)</td>
<td>This function can be executed only when the GOT memory is extended and the OS is installed from the GT Designer2 to the GOT.</td>
<td>Chapter 22</td>
</tr>
<tr>
<td>Servo amplifier monitor</td>
<td>Servo amplifier monitor, servo parameter setting change, test operation</td>
<td></td>
<td>Chapter 25</td>
</tr>
</tbody>
</table>
4.2 Selecting the utility function

This section describes how to select the utility function. The utility function can be activated with a touch of the screen.

To select the utility function, follow either of the following two steps.

1. Touch the upper right and left corners of the screen at the same time.

2. Touch a touch key displayed on the monitor screen. A touch key can be set in the touch key (expanded) function settings. The following flowchart outlines the steps involved in selecting the utility function.

*1 If you have set the password for the utility menu, the utility menu will appear after you enter the password. For the way of entering the password, refer to Section 4.11.

*2 How to adjust the brightness/contrast differs with the GOT used. For more information, refer to Section 4.3.

*3 Changing any setting in Setup and touching resets the GOT and returns to the monitor screen.

*4 Not available on the A95*GOT.
### 4.3 Utility Menu Screen

<table>
<thead>
<tr>
<th>Screen Example</th>
</tr>
</thead>
<tbody>
<tr>
<td><em><em>A985/97</em>/960GOT</em>*</td>
</tr>
</tbody>
</table>

![Utility Menu Screen Example](image1)

| **A95*/A956WGOT** |

![Utility Menu Screen Example](image2)

(1) Display screen

- The display screen differs with the GOT used.

(2) Function

- Menu screen used to select any of the utility functions.
- Used to adjust the brightness/contrast of the monitor screen.
(3) Operation
(a) Basic operation
Directly touch the portion where the function you will select is being displayed.

(b) Return to the monitor screen
Touch \( \bullet \) to return to the monitor screen.

(c) Brightness/contrast adjustment
• Touch \( \bullet \) and \( \circ \) at top of the screen to make contrast adjustment.
• You can adjust the contrast in about 20 steps.
• Touch \( \bullet \) at top right of the screen to show the brightness adjustment screen.
• For details of the adjustment method on the brightness adjustment screen, refer to Section 4.12.

**Point**

• If the OS is not installed on the GOT, items are displayed on the system monitor, but they cannot be selected.
• If the following conditions for use of the corresponding functions are not satisfied, the special function module monitor, ladder monitor, network monitor, motion monitor, servo amplifier monitor and CNC monitor items are displayed in the utility menu but cannot be selected.
(a) A985/97*/960GOT/956WGOT
  • The memory board is loaded in the GOT.
  • The extended function OS is installed in the GOT.
(b) A95*GOT
  • The compatible model (A95*GOT-*BD-M3) is used.
  • The extended function OS is installed in the GOT.
• If the GOT is connected to the PLC CPU without clock function, items are displayed on the clock window, but they cannot be selected.

(4) On-screen error messages

<table>
<thead>
<tr>
<th>Message</th>
<th>Cause</th>
<th>Corrective Action</th>
</tr>
</thead>
</table>
| Can't be selected (When system monitor, special module monitor, ladder monitor, motion/CNC monitor, servo amplifier monitor or clock setting is selected) | • The OS is not installed on the GOT.  
• The memory board is not installed in the A985/97*/960/960WGOT.  
• The A95*GOT used is other than the A95*GOT-*BD-M3.  
• The GOT is connected to a PLC CPU without a clock function. | • Install the OS.  
• Install the memory board in the A985/97*/960/960WGOT.  
• Use the A95*GOT-*BD-M3.  
• Replace the CPU with one with a clock function or do not use the clock setting. |
4.4 Screen & OS Copy

(1) Display screen

Sample screen

(2) Features
- Project data stored in the internal memory can be saved to the memory card.
- Project data stored in the memory card can be saved to the internal memory.
- OS data can be backed up by copying them from the internal memory to the memory card.

(3) Procedure
(a) Basic operation
- Touch ↑ or ↓ to select options.
- Touching ↓ will display a message asking you to answer the question "Do you want to execute?"
- If you answers Yes to the question, touch ← again. Touch ↑ or ↓ to select another option. To quit the backup copy, touch → to return to the Utility Menu screen.

(b) To return to the Utility Menu screen:
- Touch ← to return to the Utility Menu screen.

(4) On-screen error messages

<table>
<thead>
<tr>
<th>Message</th>
<th>Cause</th>
<th>Corrective Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancel write protect function</td>
<td>The memory card is write-protected.</td>
<td>Release write protection of the memory card.</td>
</tr>
<tr>
<td>Install memory card</td>
<td>A memory card is not installed on the GOT.</td>
<td>Install a memory card on the GOT.</td>
</tr>
<tr>
<td>Format memory card</td>
<td>The installed memory card is not yet formatted.</td>
<td>Format the memory card.</td>
</tr>
<tr>
<td>Write Error (M-CARD capacity shortage)</td>
<td>Memory card loaded has memory space less than</td>
<td>Change the memory card for the one having</td>
</tr>
<tr>
<td>Data transfer error</td>
<td>written data.</td>
<td>enough memory space.</td>
</tr>
<tr>
<td>M-CARD error Data transfer error</td>
<td>Write error occurred in the memory card during</td>
<td>Change the memory card, or increase</td>
</tr>
<tr>
<td></td>
<td>copying, or the memory card used has no free</td>
<td>the free space of the memory card.</td>
</tr>
<tr>
<td></td>
<td>space.</td>
<td></td>
</tr>
<tr>
<td>Memory card error</td>
<td>The hardware of the installed memory card is</td>
<td>Replace the memory card with a new one.</td>
</tr>
<tr>
<td></td>
<td>defective.</td>
<td></td>
</tr>
</tbody>
</table>
(5) Directory tree in a memory card
The directory tree in a memory card is shown as follows.

(File structure)
```
\[ALARMHST ......... For alarm history file storage
   \[RECIPE ........... For recipe file storage
   \[REPORT .......... For report file storage
   \[SNAPSHOT ......... For screen image file storage
   \[SNAPDCP.BMP .... Work file for printer printout
   \[USERDATA .......... For monitor screen data storage (for screen copy)
   \[OS ................. For OS storage (for OS copy)
   \[SYSTEMD .......... For OS system screen storage (for OS copy)
   \[SPCDATA .......... For special function module monitor data storage (for screen copy)
                   For motion monitor data storage (for screen copy)
                   For servo amplifier monitor data storage (for screen copy)
```

(a) The copied screen data is stored under the UserData folder.
Since the OS and screen data are managed by the Dlist.ini file and the Flist.ini files in the
corresponding folders, always install or download the GT Designer2 OS (specify the memory
card as the download destination) to create the memory card.
If Explorer or like in the personal computer is used to copy the OS, the GOT cannot recognize
the data in the memory card.

(b) Do not edit the screen data in the memory card directly using GT Designer2.
When edit the screen data, use the following method.
• Connect the GOT to a PC with the RS-232C cable and edit the uploaded screen data.
• Copy the data in the memory card to a PC and edit the data.

(c) When copy a file (alarm history data, recipe data) in the memory card to a PC or delete it,
install the memory card to the PC and copy/delete the file by the Explorer.

(d) The SRAM type memory card can be formatted on the GOT.
Check the memory card with the self-diagnostics of the utility function.
When the memory card is checked, the memory card is formatted after the check.
The compact flash PC card cannot be formatted on the GOT.
Use the personal computer to format it.
For the way to format the memory card, refer to the GT Designer2 Version2 Operating Manual.

(e) The dat format file is used in the GOT system.
Therefore, the user must not create the file with the extension of "dat".

Point You cannot use this function to install the OS (from memory card to internal memory).
For details of OS installation, refer to the GT Designer2 Version2 Operating Manual.
4.5 Setup

**Point**

After changing any of the items in Setup, touching automatically resets the GOT and shows the monitor screen.

(1) Display screen
The display screen differs with the GOT used.

<table>
<thead>
<tr>
<th>GOT Used</th>
<th>Screen Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>A97*GOT/A960GOT</td>
<td><img src="image1" alt="Screen Example" /></td>
</tr>
<tr>
<td></td>
<td>This screen example assumes that the communication driver &quot;Computer&quot; has been installed.</td>
</tr>
<tr>
<td>A985GOT (-V)</td>
<td><img src="image2" alt="Screen Example" /></td>
</tr>
<tr>
<td></td>
<td>This screen example assumes that the communication driver &quot;Bus (Q)&quot; has been installed. A video window (channel, etc.) and RGB screen (H-Position, etc.) may be set only when the A985GOT-V is used.</td>
</tr>
</tbody>
</table>
### Functions

(a) Data that can be set on any GOT

- **Buzzer volume**
  You can select the length of the beep sound. (Factory-set to SHORT)

- **Outside speaker sound**
  You can select whether or not voice output is provided from the external speaker (only the voice specified for the touch input sound on the GT Designer2). (Factory-set to OFF)

- **Screen save time**
  Set the time until the monitor screen display is switched off by the screen saver function. You can set the time between "00 minutes" and "60 minutes". When this setting is "0", the monitor screen is always displayed. (Factory-set to 0)

- **Screen save light**
  When this setting is OFF, the backlight goes off as soon as the display is erased by the screen saver function. When this setting is ON, the display will disappear but the backlight will not go off.

- **Language**
  You can select the language (Japanese or English) of the messages to be displayed on the screen. (Factory-set to Japanese)

---

**Point**

As message display languages, four languages (Japanese/English/Chinese (simplified characters)/Chinese (traditional characters)) are available for some system dialogs, while two languages (Japanese/English) are available normally. (Refer to Section 3.10, Section 32.)
(b) Data that can be set when the corresponding communication driver is installed

1) When communication driver for bus connection (Q) is installed
   - QBUS extension number
     Set the GOT extension number for bus connection to the QCPU.
     (Factory set to extension 7)
   - QBUS slot number
     Set the slot number where the GOT is assigned for bus connection to the QCPU. (Factory set to slot 0)

2) When communication driver for microcomputer connection is installed
   - Microcomputer connection baud rate
     You can select the transmission speed when the GOT is connected to a microcomputer. (Factory-set to 19200)
   - Microcomputer connection communication form
     You can select the protocol when the GOT is connected to a microcomputer. (Factory-set to FORM-1)

3) When communication driver for computer link connection (AJ71QC24) is installed
   - QC24 Baud rate
     Set the transmission speed for connection with the QC24N.
     (Factory-set to 19200bps)

4) When communication driver for OMRON/Hitachi PLC connection is installed
   - Baud rate
     Choose the transmission speed for connection with the Omron or Hitachi PLC. (Factory-set to 19200bps)

5) When communication driver for Yasukawa PLC connection is installed
   - Baud rate
     Choose the transmission speed (4800, 9600, 19200, 38400).
     (Factory-set to 19200bps)
   - Startup time
     Set when (seconds) to start communication with the PLC CPU after power-on of the GOT. (Factory-set to 16 seconds for the GL series or 1 second for other than the GL series)
   - Send message delay
     Set the waiting time from when the GOT has received data from the PLC CPU until the GOT send the next data to the PLC CPU. (Factory-set to 0msec)

6) When communication driver for SIEMENS PLC connection is installed
   - Baud rate
     Choose the transmission speed (4800, 9600, 19200, 38400).
     (Factory-set to 19200bps)
   - Adapter address
     Specify the MPI address on PROFIBUS assigned to the HMI adaptor connected to the GOT. (Factory-set to 2)
   - Host (FF) address
     Specify the MPI address on PROFIBUS assigned to the HMI adaptor connected to the GOT. The specified PLC CPU is the "host" when monitor device setting is made on GT Designer2. 
     For details of monitor device setting, refer to the GT Designer2 Version2 Reference Manual. (Factory-set to 2)
7) When communication driver for Allen-Bradley PLC connection is installed
   • Baud rate
     Choose the transmission speed (4800, 9600, 19200, 38400).
     (Factory-set to 19200bps)
   • Adapter address
     Set the address on the DH-485 network assigned to the HMI adaptor connected to the
     GOT. This setting is required only when multiple CPUs are connected to the GOT.
     Set the same address as the DH-485 Node Address specified for the adaptor.
     The DH-485 Node Address specified should not overlap the Node Address of the PLC on
     the DH-485 network. (Factory-set to 1)
   • Host (FF) address
     Specify the address on the DH-485 network assigned to the PLC CPU to which the HMI
     adaptor is connected.
     The specified PLC CPU is the "host" when monitor device setting is made on GT
     Designer2.
     For details of monitor device setting, refer to the GT Designer2 Version2 Reference
     Manual. (Factory-set to 1)

8) When communication driver for Matsushita Electric Works PLC connection is installed
   • Baud rate
     Choose the transmission speed (4800, 9600, 19200, 38400).
     (Factory-set to 19200bps)
   • Startup time
     Set when (seconds) to start communication with the PLC CPU after power-on of the GOT.
     (Factory-set to 0msec)
   • Send message delay
     Set the waiting time from when the GOT has received data from the PLC CPU until the
     GOT send the next data to the PLC CPU. (Factory-set to 3msec)
   • C.C.U monitor registration
     Choose whether CCU monitor registration is made or not.
     When multiple GOTs/peripheral devices are connected to one CPU via the C.C.U., up to
     one unit(When the CPU is the FP10SH, up to five units can be set) can be registered for
     C.C.U. monitor. When two or more GOTs are used or they are used with peripheral
     devices together, set "No" for C.C.U. monitor registration.

9) When communication driver for Ethernet connection is installed

10) When extended function OS for gateway functions is installed
11) When A9GT-J71E71-T module is connected

- GOT NET No.
  Set the network number of the GOT. (Factory-set to 1)
- GOT PC No.
  Set the station number of the GOT.
  Do not set the same number as the PC No. of the Ethernet module to be monitored.
  (Factory-set to 1)
- GOT IP address
  Set the IP address of the GOT.
- GOT port No.
  Set the port number of the GOT. (Factory-set to 5001)
- Router address
  When the network is connected to the other network by a router, set the router address of
  the network where the GOT is connected.
  (Factory-set to 000.000.000.000)
- Sub-net mask
  When the GOT is connected to the Ethernet network which is controlled the sub-network,
  set the sub-network mask set commonly to the networks. When the sub-network is not
  used, operation is performed at the default value. (Factory-set to 255.255.255.000)
- Send message wait
  Set the transmission wait time to reduce loads on the network and target PLC. (Factory-
  set to 0)
- Send message time
  Set the time-out period. (Factory-set to 3)
- Startup time
  Set when (seconds) to start communication after power-on of the GOT. (Factory-set to
  3msec)

12) When communication driver for CC-Link connection (CC-Link (ID)) is installed.

- Send message time
  Set the time-out period. (Factory-set to 3)
(c) Data that can be set when the specific GOT is used

1) Setting of display mode (may be made for the A95*GOT-LBD(-M3) only)
   - Reverse display
     The display mode (normal display (No)/highlighted display (Yes)) is selected.
     (Only A95*GOT-LBD (-M3) can be selected. Normal display is set at the time of
     shipment.)

2) Setting of human sensor (may be made for the A985GOT(-V) only)
   - Screen save Human sensor
     You can select whether the screen saver is deactivated or not when the Human sensor
     has detected a man’s motion. (Available for the A985GOT only, factory-set to Invalid)
   - Human sensor detection sensitivity
     You can select the detection sensitivity of the Human sensor in any of 11 steps, levels 0 to
     10, so that the sensor will not detect a motion such as a man passing before the GOT.
     (Available for the A985GOT only, factory-set to 10)

   | Detection sensitivity setting | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
   | Monitor time [sec]           | 0  | 0.1 | 0.2 | 0.4 | 0.8 | 1 | 1.5 | 2 | 2.5 | 3 | 4 |

   - Human sensor OFF delay
     The Human sensor can be turned off when it does not detect a man’s motion after it has
     turned on. You can set that period between "00 min. 10 sec." and "60 min. 00
     sec.". (Available for the A985GOT only, factory-set to 00 min. 10 sec.)

3) Setting of grip switch (may be made for the A950 handy GOT only)
   - Grip switch
     You can set whether the grip switch will be used or not.
     When the setting is USE, hold down the grip switch and perform operation.
     Setup and self-diagnostic operations can be performed independently of the grip switch.
     (May be set only for the A950 handy GOT, factory-set to USE)
   - If it is released
     You can set whether the touch key pressed on the GOT display will be turned off or not at
     the time of grip switch cancel.
     At the setting of "NO ACTION", the pressed touch key is turned off when it is
     released. (May be set only for the A950 handy GOT, factory-set to KEY OFF)

4) Setting of video window (may be selected only when the A9GT-80V4 is fitted to the
   A985GOT-V)
   - Channel
     You can choose the video channel for which video window settings are made.
     The settings can be made per video channel.
   - Signal
     You can choose the video picture input system (NTSC/PAL).
   - Video width
     You can choose the video window resolution (720_480 dots/640_480 dots)
   - Color balance/contrast/brightness/color power
     You can adjust the contrast, brightness and others of the video picture displayed on the
     GOT. (May be selected only when the A9GT-80V4 is fitted to the A985GOT-V, factory-set
to 50%)
5) Setting of RGB screen (may be selected only when the A9GT-80R1 is fitted to the A985GOT-V)

- Clock phase
  You can adjust the flicking of the RGB screen displayed on the GOT.

- H-Position/V-Position
  You can adjust the position of the RGB screen displayed on the GOT.

- RGB close key
  You can select which position of the screen to touch to switch from the RGB screen to the GOT monitor screen.
  You can also turn on/off the bit device (RGB display controlling bit) to switch the screen.
  For the RGB display controlling bit, refer to the GT Designer2 Version2 Reference Manual.
  (Factory set to FULL)

**Point**

- If the touch panel is not touched within the specified time, the screen saver function switches off the display to prevent "burn-in" of the display device. Especially for the display screen type of EL, it is recommended to use this function.

- Dedicated to the A985GOT, the Human sensor function automatically deactivates the screen saver, without any touch on the touch panel, by means of a signal detected by the Human sensor.

- Using the system information function of the GOT, the signal detected by the Human sensor may also be controlled by the PLC CPU. For full information on the system information function, refer to the GT Designer2 Version2 Reference Manual.

Signal detection timings are shown below.

<table>
<thead>
<tr>
<th>Detection</th>
<th>No detection</th>
</tr>
</thead>
<tbody>
<tr>
<td>System signal 2</td>
<td>Human sensor (operator motion)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Activation</th>
<th>Deactivation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screen saver status</td>
<td></td>
</tr>
</tbody>
</table>

| 1) Motion that the Human sensor cannot detect (outside the range or too low moving speed) |
| 2) Detection error of Human sensor (approx. 0.5 sec) + delay due to Human sensor detection sensitivity |
| 3) Human sensor OFF delay time + communication processing time |
| 4) Time when screen saver is being deactivated |
| 5) Human sensor OFF delay setting is required since the Human sensor outputs Detection and No detection alternately. |
| 6) Human sensor OFF delay + screen save time |
(3) Operation

(a) Basic operation

- Touch [O] or [V] to select the necessary item.
- When the A985GOT, A950 handy GOT is used, select the last item on Page 1/2 and touch [D] to show Page 2/2.
- For the setting item whose value will be changed, highlight the digit to be set by touching [I] and set the value by touching [O] or [U].
  (If you are going to select another setting item after that, return the highlight to the setting item by touching [I], and make selection by touching [O] or [U].)
- After setting, touch [O].
  After touching [O], the GOT is automatically reset and the monitor screen appears.

(b) Return to each screen

- If any change has been made to the Setup settings, touching [I] resets and restarts the GOT.
- If any change has been made to the Setup settings, touching [I] resets and restarts the GOT.
  The display returns to the utility menu or monitor screen.
4.6 Self-Test

(1) Display screen

(2) Features

Diagnostic checks on GOT hardware include the following options:

- Graphic Check ................. Allows you to perform visual inspection on screen display for discoloration and lack of display.
- Fontrom Check .................. Allows you to perform visual inspection for deformation in font size.
  The font changed by the font change function can be also checked.
  For changing fonts, refer to Section 31.
- Memcard Check .................. Allows you to make a check on the hardware of a memory card. After checking, a memory card are initialized.
- Userrom Check ................... Allows you to check for user space in the internal memory.
  The password must be entered to check the user area of the built-in memory.
  The password is "1111" (fixed).
  (The entered password is displayed as "****" on the screen.)
  After checking, user space is cleared to delete any data contained in the user space.
- OS Area Check ................... Allows you to check for OS space in the internal memory.
- Comm. Check ..................... Allows you to check for GOT-to-PLC CPU communica-
                                          tions.
- Touchsw Check ................... Allows you to check for touch keys.

(3) Procedure

(a) Basic operation
  - Select the desired button to perform a diagnostic check.
  - Select options as instructed on-screen.
  - You will see a message indicating that the selected diagnostic check was successfully completed.
  - If an error is detected, you will see a message indicating the occurrence of the error.
  - The Image Check allows you to view the following elements:
    1) The entire screen is displayed in one color. Display colors are changed in the order of red-green-blue.
    2) Basic figures are displayed, including circles and squares.
    3) Ellipses and checkered patterns are tiled or cascaded on-screen.
4.7 Memory Information

(1) Display screen

Sample screen

![Sample screen]

(2) Features

The contents of GOT memory information include:
- OS version number
- Status of communications with the PLC CPU
- Available space in the internal memory
- Availability of memory cards and available space in a memory card
- Availability of the ladder monitor function

(3) Procedure

(a) Basic operation

Touch ☸, ☞ to scroll screens.

(b) To return to the Utility Menu screen

Touch ☐ to return to the Utility Menu screen.
4.8 Clock

(1) Display screen

Sample screen

![Sample screen](image)

* The time when the Clock Settings screen was displayed is shown in the window panel. The time indicator in the upper-right corner of the screen shows the current time. After correcting the date or time, check the clock for the current time.

(2) Features

- The date, time, and a day of the week can be set to adjust the clock of the PLC CPU and the A9GT-RS2T.

(3) Procedure

(a) Basic operation

- Touch ‹→› to select the desired option.
- Touch ↑ or ↓ to change numeric values.
- Touch ‹+10› or ‹-10› to change the numerical values in increments of 10.
- Touch ‹SET› to set the clock of the PLC CPU.

(b) To return to the Utility Menu screen

- Touch ‹EXIT› to return to the Utility Menu screen.

**Point**

- Adjust the clock when you start up the system.
- The clock cannot be properly adjusted while reading or writing clock data by running sequence programs on the PLC CPU side (or when M9028 is turned on by sequence programs in the case of the ACPU).
- Selecting the clock setting screen (above screen) within the utility displays "This function can't be used now.", when connected to the PLC CPU that does not include the clock function.

For the PLC CPUs that include the function, refer to the GT Designer2 Version2 Reference Manual.
4.9 Screen Cleanup

(1) Display screen

(2) Features
• A black screen is displayed when cleaning up the display area. This makes the screen easy to view.

(3) Procedure
(a) Basic operation
• Touch the upper right and left corners of the screen at the same time to return to the Utility Menu screen.

Touch at the same time.
4.10 Security Password

(1) Screen display

![Password Entry Screen]

(2) Features

- If objects (numeric input or touch keys, etc.) are secured by using GT Designer2, their security levels can be changed by entering a password.
- If the characters entered match a password, a message appears on-screen, telling that the security levels have been properly changed. Touching ← will return to the Utility Menu screen.
- If the characters entered do not match a password, an error message appears on-screen. Touching ← will return to the Utility Menu screen.
- Numerical numbers and alphabets A to F can be used for a password.
- Details about security levels, see the GT Designer2 Version2 Reference Manual.

(3) Procedure

- To enter a password, follow these steps:
  - Touch 0 to 9 and A to F to enter a password. Touch ← to confirm the password entered.
  - To correct the password entered, touch [DEL] to delete wrong characters and enter correct characters again.

(a) To quit entering a password:
  - Touch ← to return to the previous monitor screen.
4.11 Password

(1) Screen display

![Password screen](image.png)

(2) Features

- Password protection can be set on the GOT by using GT Designer2. If access to the Utility Menu screen is password-protected, a screen asking you to enter a password is displayed when you touch the upper right and left corners of the screen or when you touch a touch key on the screen. A dialog box for defining a password is contained in the common settings menu of GT Designer2.
- If the characters entered match a password, the Utility Menu screen appears.
- If the characters entered do not match a password, an error message appears on-screen.

Touching Exit will return to the previous monitor screen.

- Numerical numbers and alphabets A to F can be used for a password.

(3) Procedure

(a) To enter a password, follow these steps:

- Touch 0 to 9 and A to F to enter a password.
- Touch C to confirm the password entered.
- To correct the password entered, touch DEL to delete wrong characters and then enter correct characters again.

(b) To quit entering a password:

- Touch Exit to return to the previous monitor screen.
4.12 Brightness/Contrast Adjustment

(1) Display screen

<table>
<thead>
<tr>
<th>Screen Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
</tr>
<tr>
<td><img src="image1.png" alt="Screen 1" /></td>
</tr>
<tr>
<td>3)</td>
</tr>
<tr>
<td><img src="image3.png" alt="Screen 3" /></td>
</tr>
</tbody>
</table>

(2) Function

- Adjust the brightness of the monitor screen.

(3) Operation

(a) Basic operation
- The basic operation differs depending on the GOT.

(b) Brightness/contrast adjustment

For screen 1)
- Touch \[ ] to select the brightness.
- Touch \[ \] to adjust the contrast.
- Touch [Enter] to store the settings into the GOT.

For screen 2)
- Touch \[ ] to select the brightness.
- Touch [Enter] to store the settings into the GOT.

For screen 3)
- Touch \[ \] to adjust the contrast.
- Every time CONTRAST is touched, the setting is stored into the GOT.

For screen 4)
- Touch \[ \] to adjust the contrast.
- Touch [Enter] to store the settings into the GOT.

(c) Returning to the utility menu screen
- Touch [ ] to return to the utility menu screen.
Some GOTs display the brightness adjustment switch on the screen though they cannot use the brightness adjustment function.

The brightness adjustment switch can be hidden in the following method.

1. **Corresponding GOTs**
   - **Type:** A975GOT-TBA, A970GOT-TBA
   - **Serial number:** 9806AA to 9807AA
   - Confirm the serial number in the DATE field of the product rating plate.

2. **Method**
   - Install the system programs into the GOT.
     - Install all system programs (except ROM_BIOS) that have been installed into the target GOT. The system programs installed in the GOT can be confirmed in the following method.
     - **1) Confirmation on the GOT**
       - You can confirm the system programs in the memory information of the utility function.
     - **2) Confirmation from GT Designer2**
       - You confirm the system programs in the built-in memory information of GT Designer2.
       - Refer to GT Designer2 Version2 Operating Manual for details of the built-in memory information.
5 OPERATING LADDER MONITOR

The operation procedures to follow when using the ladder monitor function are explained in the following section.

5.1 Operation procedures before starting ladder monitoring

This section contains a summary of the procedures for transmitting the system program (OS) for the ladder monitor function from the personal computer to the GOT until it is installed in the built-in memory. For details, please refer to the GT Designer2 Version2 Operating Manual. Details of the screen display and key operation are shown in the Help.

Start

Connect GOT to Personal computer.

Start up GOT.  --- It is not necessary to set up and operate the GOT after startup.

Start up Personal computer to start GT Designer2.

With the GT Designer2, transmit the system program (OS) for the ladder monitor function from the Personal computer to the GOT and install it in the built-in memory.  --- Transmit the data using the installation dialog box.

When installation is finished, the ladder monitor can be operated through the GOT.  --- When installation is finished, "Completed" is displayed on the installation dialog box.

The GT Designer2 operation is finished.  --- Proceed to Section 5.2 to operate the screen monitor.

End
5.2 Operation procedures from display of user-created monitor screen to start of ladder monitoring

This section shows the operation procedures for the GOT when starting each operation of the ladder monitor function after the ladder monitor function system program (OS) has been installed in the GOT built-in memory.

1. Start up GOT.
2. Display the user-created monitor screen.
3. Start the ladder monitor function. *(1)*
   - When not reading the sequence program from the PLC CPU
     - Display the PLC read screen.
     - Specify the PLC CPU for the ladder monitor and the program to be read.
     - The PC program is read.
   - When reading the sequence program from the PLC CPU
     - Display the ladder monitor screen.
     - Touch |PLCRD|.
     - Touch |Menu| 1)
     - Read the sequence program that is displayed on the ladder monitor screen.
     - When you touch |Mon|, the circuit monitor starts.
     - See Section 6.3
     - See Section 6.2.2

*(1)* The ladder monitor function can be started in either of the following two methods.
- Starting from the touch key: Touch the touch key where the extension key (ladder monitor) has been set.
- Starting from the utility menu of the GOT: Touch |LADDER MON.| in the utility menu.
6 OPERATING THE VARIOUS LADDER MONITOR SCREENS

The following sections describe each screen operation when using the ladder monitor function. The screens used for explanations in this chapter are mainly those of the A975GOT. The ladder monitor display screen varies slightly with the GOT used. Refer to Section 6.1 for differences between the display screens.

6.1 Display screens

The ladder monitor display screen varies with the used GOT and target PLC CPU.

(1) MELSEC-A/FX ladder monitor

- Sequence program: Max. 8 lines (1 line: Max. 11 contacts) displayed
- When the display screen type is the EL, the [Print Screen] and [Cancel Print] keys are not displayed.

(2) MELSEC-QnA ladder monitor

- Sequence program: Max. 8 lines (1 line: Max. 11 contacts) displayed
- When the display screen type is the EL, the [Print Screen], [Cancel Print], [JUMP ] and [JUMP ] keys are not displayed.
### 6.1 Display screens

<table>
<thead>
<tr>
<th>Used GOT</th>
<th>PLC read screen</th>
<th>Ladder monitor screen</th>
</tr>
</thead>
<tbody>
<tr>
<td>A985GOT</td>
<td><img src="image1" alt="PLC Read Screen" /></td>
<td><img src="image2" alt="Ladder Monitor Screen" /></td>
</tr>
<tr>
<td></td>
<td><img src="image3" alt="A985GOT Display" /></td>
<td><img src="image4" alt="A985GOT Display" /></td>
</tr>
</tbody>
</table>

- **Sequence program**: Max. 15 lines (1 line: Max. 11 contacts) displayed.

<table>
<thead>
<tr>
<th>Used GOT</th>
<th>PLC read screen</th>
<th>Ladder monitor screen</th>
</tr>
</thead>
<tbody>
<tr>
<td>A97*/960Got</td>
<td><img src="image5" alt="PLC Read Screen" /></td>
<td><img src="image6" alt="Ladder Monitor Screen" /></td>
</tr>
<tr>
<td></td>
<td><img src="image7" alt="A97*/960 Display" /></td>
<td><img src="image8" alt="A97*/960 Display" /></td>
</tr>
</tbody>
</table>

- **Sequence program**: Max. 8 lines (1 line: Max. 11 contacts) displayed.
- When the display screen type is the EL, the [Print Screen], [Cancel Print], [JUMP †] and [JUMP †] keys are not displayed.

<table>
<thead>
<tr>
<th>Used GOT</th>
<th>PLC read screen</th>
<th>Ladder monitor screen</th>
</tr>
</thead>
<tbody>
<tr>
<td>A956WGot</td>
<td><img src="image9" alt="PLC Read Screen" /></td>
<td><img src="image10" alt="Ladder Monitor Screen" /></td>
</tr>
<tr>
<td></td>
<td><img src="image11" alt="A956W Display" /></td>
<td><img src="image12" alt="A956W Display" /></td>
</tr>
</tbody>
</table>

- Headings are not displayed in the file list.

- **Sequence program**: Max. 5 lines (1 line: Max. 7 contacts) displayed.
- The [Print Screen] and [Cancel Print] keys are not displayed.
6.2 Screen operation and screen changes when monitoring

This section includes an explanation of the PLC read operation that reads out the sequence program from the PLC CPU when executing the ladder monitor, the ladder read operation that specifies the sequence program to be displayed on the ladder monitor screen, and the screen movement when executing the ladder monitor.

6.2.1 Reading data from the PLC

The operation of reading the sequence program for the ladder monitor from the PLC CPU is described below. The operation procedures vary depending on the PLC CPU to be monitored. All of the keys used with the operation are touch keys displayed on the screen. Touch the position where the object key is displayed and enter the data.

(1) When the MELSEC-A/FX ladder monitor is executed

**[Operation procedure]**

1) Touch the ladder monitor starting touch switch on the monitor screen prepared by the user or touch the **LADDER MON.** on the utility screen to start the ladder monitor function.

2) Specify the network No. and station No. for the object PLC CPU.
   (For data link system, CC-Link system)
   - **NET NO.**: 0
   - **READ ST.**: FF (Own station)
   - **READ ST.**: 0 (Master station)
   - 1 to 64 (Local stations)
   (For network system)
   - **NET NO.**: 1 to 255 (Host Net)
   - **READ ST.**: 0 (Master station)
   - **READ ST.**: FF (Own station)
   - 1 to 64 (Control station)
   - 1 to 64 (Normal station)
3) In "Read Selection", specify the sequence program to be read from the object station. Specify whether or not to perform comment read.

4) Input the keyword that is registered to that station. If no keyword has been registered, nothing has to be entered.

5) The contents and capacity of the read procedure are displayed. When you touch Break, the read procedure is interrupted. When reading resumes, it starts at the beginning.

6) "Completed" is displayed.
6.2 Screen operation and screen changes when monitoring

6.2.1 Reading data from the PLC

Once this data has been read from the PLC, it does not need to be read again. If data for screens created by the user is downloaded from the computer after this data has been read, however, the data will have to be read again.

*1 Data being entered can be cleared by the following keys.

- **Exit**: Moves to screen where ladder monitor function starts.
- **Ladder**: Moves to ladder monitor screen.
- **PLCRD.**: Moves to PLC read screen.
- **AC**: Clears all data being entered to the object area.
- **DEL**: Clears one character at the cursor position.

**Point**

2) Change screen.
(2) When the MELSEC-Q/QnA ladder monitor is executed

[Operation procedure]

1) Touch the ladder monitor starting touch switch on the monitor screen prepared by the user or touch the LADDER MON. on the utility screen to start the ladder monitor function.

Point If ROM_BIOS is not installed, an error message is displayed. Touch the END button and install the ROM_BIOS (H version or later).

2) The key window is displayed. Set the network No./station No./CPU No. *1 of the applicable PLC CPU with the following keys.

   : Select the input area.
   Alphanumeric : Input the network No. and the station No.
   AC : Clear all input data to the applicable area.
   : Define the input.

Point Designate the network No./the station No. and CPU No. *1 of the applicable PLC CPU.
(For CC-Link system)
Network No. : 0
Station No. : 0 (mask station)
(For network system)
Network No. : 1 to 255 (self-loop)
Station No. : 1 to 255 (control station)
   1 to 64 (normal station)
(For Ethernet connection) *2
Network No. : 1 to 239
Station No. : 1 to 64
(For multi-CPU system)
CPU No. : 0 to 4 (CPU number)

*1 Displayed for MELSEC-Q ladder monitor only.
*2 The monitor target must be preset using GT Designer2.
   For MELSEC-A ladder monitor, specify the network number/station number set on GT Designer2.
   Refer to the GOT-A900 series User’s Manual (Connection System Manual) for details of the monitor target setting for Ethernet connection.

3) The PLC read screen appears.

First, touch the Set Up key to display the setting window.

To the following page
4) The setting window appears. Make the setting for initial ladder monitor start. Touching the MEMORY key changes the setting choice as indicated below.

   DISPLAY USE OF EXISTING DATA, SELECT USE OR CLEAR.

   CLEAR EXISTING DATA.

   USE OF EXISTING DATA.

   After the setting is over, touch the button.

5) Then, touch the Drive key to select the drive (applicable memory) which stores the applicable ladder data to be monitored.
6.2 Screen operation and screen changes when monitoring

6.2.1 Reading data from the PLC

6) The Drive Selection Window is displayed. Select the drive (applicable memory) with the following keys.

- Input the drive number.
- Clear all input data on the drive.
- Define the input.

7) The file list of the selected drive is displayed. Select the ladder to be read with the following keys.

- Move the cursor upward.
- Move the cursor downward.
- Display the previous page.
- Display the next page.
- Move the cursor and touch the key to change select (*)/cancel.
- Start reading the selected ladder.

Point

- MELSEC-Q ladder monitor
  When a password is registered at the PLC CPU, a file password window is displayed at the start of reading. Input the password. (It does not have to be input if it is not registered.)
- MELSEC-QnA ladder monitor
  When a keyword is registered at the PLC CPU, a key window is displayed at the start of reading. Input the keyword. (It does not have to be input if it is not registered.)

8) Contents and capacity of the reading process are displayed.

Touch Break to stop the reading process.
To read the ladder again, start from the beginning.

9) When the message "Completed" is displayed, reading is completed. Change the screen with the following keys.

- Move to the screen when the ladder monitor is started.
- Move to the ladder monitor screen.
- Start from setting window (2) for the network No./station No.

Point

Once PLC reading is performed, operations for PLC reading are not required from the next time onward.
6.2.2 Ladder read operation

This section describes the object sequence program of the ladder monitor that is read from the PLC CPU, for the operation displayed on the ladder monitor screen.

[Operation procedure]

1. **Ladder read operation** is executed.
2. When specifying and reading the device, contact point or coil used in the program (*4)
   - (Touch any of these.)
   - (When entering device name)
   - (When entering device No.)
3. : Select input area.
   - Alphanumeric: Enter device name and device No. (*1)
4. Move to ladder monitor screen (*2)

* When there is a at the upper left of the screen, touch it to return to the original screen.

When the screen below is currently displayed, it is not necessary to touch this.

When entering device name or device No.: Touch the space to input.
1) When specifying and reading the step number in the program.

When specifying and reading the final ladder in the program.

*1 Data being entered can be cleared by the following keys.

- **AC**: Clears all data being entered to the target area.
- **DEL**: Clears one character at the cursor position.

*2 When specifying and reading a device, contact point or coil used in the program, the search targets all programs starting from the step number displayed on the previous ladder monitor screen, to the program immediately previous to the one displayed.

After moving to the screen monitor screen, continuous reading by the same device is enabled by touching [ ] on the screen.

If you touch any other key but [ ], the continuous read function is canceled.
*3 When device search, contact point search, or coil search is performed during ladder monitoring, only the ladder block which includes the read search device is displayed.

Example) 1) When the device name to be searched is entered as "X0001"

   <Ladder monitor screen>

   Displayed in the top area.

2) When the same search is repeated

   <Ladder monitor screen>

   Displayed on the next line.

*4 Please note that the indirect specification device (index register (z)) cannot be specified and read while the MELSEC-QnA ladder monitor is executed.
6.2.3 Using the defect search

The defect search enables you to examine an ladder block that caused a failure. It helps you to search from the ladder block backward so that you can determine why any coil was turned ON or OFF during the ladder monitoring, or whether its contact is conductive or nonconductive.

While the MELSEC-QnA ladder monitor is performed, the factor search function cannot be used.
(The touch key of Fact.Sea. is not displayed.)

[Operation procedure]

1. Search for and display a ladder block where a failure occurred.
   Example: When a valve connected to Coil Y0030 does not operate properly, begin searching for Coil Y0030 and view its ladder block on the screen.

2. Touch Mon. to start the ladder monitoring.

3. Touch Menu and then select Fact.Sea. from among options that appear on-screen.
   If you touch Fact.Sea. without executing the ladder monitor function, operation changes depending on the type of the ladder monitor used.
   For MELSEC-A ladder monitor: The "No MONITORING" message appears and the following operation cannot be performed.
   (Operation is enabled after execution of monitor.)
   For MELSEC-Q ladder monitor: Monitor is executed automatically and the following operation is enabled.
   After termination of a defect search, monitor stops automatically with the search result retained.

4. Another dialog box where you can specify a device name or device number is displayed on-screen. Specify any contact of which coil is not turned ON as a search device.
   Example: Specify "M120" as the search device.

5. Start searching for a device that caused a failure and view search results on the ladder monitor screen. Search from the last step number backward as displayed on the ladder monitor screen.
   Please note that any touch keys other than Esc and Exit are enabled until the defect search is completed.
Search results reveal any occurrences of the search device. They are useful when you determine whether a defective device is conductive or nonconductive. If any occurrence of the search device is not found as a result of the search, a message appears on-screen, telling that "PROGRAM NOT FOUND."

(1) When an occurrence of the search device is found:
If an occurrence of the search device is found as a result of the search, the search for another defective device will automatically be started.
Example: After searching for Device M120 that is in the OFF state, "M669" will be displayed as a device that caused a failure.

After searching for Coil M120 that is in the OFF state, "M669" is displayed as a device that is not conductive.
Example: M669

* After searching for a device that is in the ON state, a device that is conductive is displayed. The entire field of the device name and number is highlighted on-screen.
Example: 6 9L

After searching for Coil M669 that is in the OFF state, "M111" is displayed as a device that is not conductive.
Example: 1 11

A search for another defect is repeated.
(2) When two occurrences of the search device are found. If there are two or more devices that caused a failure, the "the defect search is interrupted" message appears and the defect search is terminated.

Example: After searching for Device M120 that is in the OFF state, "M669" and "X0025" will be displayed as devices that caused a failure.

After searching for Coil M120 that is in the OFF state, "M669" and "X0025" are displayed as devices that are not conductive.
Example: 6 9L, 0 2

* After searching for a device that is in the ON state, devices that are conductive are displayed. The entire field of the device name and number is highlighted on-screen.
Example: 1,

When resuming the defect search, specify either of the found contacts M669 and X0025.
(After touching Esc to change it into Menu, execute the defect search.)
6.2 Screen operation and screen changes when monitoring

6.2.3 Using the defect search

(3) Precautions for making defect search
(a) If a B-contact is found defective as a result of the defect search, a search for the cause of the ON/OFF state will be automatically switched.

(b) After the end of the defect search, the GOT stops monitor and displays the search result. Hence, the monitor screen of the GOT shows the result retained during the defect search.

(c) While the search result is displayed after the end of the defect search, the searched ladder can be displayed backwards by pressing (single ladder block scroll) or (10 ladder block jump (available for only the MELSEC-Q ladder monitor function)).
Up to 100 ladders can be displayed on-screen. The following messages will appear at the start or the end of the search results.
• When viewing the start of search results: "This is the start of search results."
• When viewing the end of the search results: "This is the end of search results."

(d) The ON/OFF of the contact and coil is displayed as described below.
1) During automatic search execution
   MELSEC-A ladder monitor: Displays ON/OFF in the entire ladder displayed on the screen.
   MELSEC-Q ladder monitor: Displays ON/OFF in the ladder displayed last.
2) During search result display
   The ON/OFF of the ladder block searched last and the monitor results of word devices are displayed.

(e) When the defect search starts, changes into .

   Touch during the defect search to stop the defect search and display the search result.
   Further, touch to change into and display the normal ladder.

(f) The screen during the defect search operates as described below.
1) If the display data exceeds one screen during the defect search
   The screen is scrolled automatically.
2) If the ladder step searched during the defect search exceeds one screen
   MELSEC-A ladder monitor: The screen is scrolled automatically to the last line of the ladder step.
   MELSEC-Q ladder monitor: The screen is not scrolled automatically to display the ladder step.

(g) Touching can stop the defect search. Search results are continuously displayed on-screen until is touched.
The ladder step searched last is displayed as described below.
• MELSEC-A ladder monitor: ON/OFF display is not provided.
• MELSEC-Q ladder monitor: ON/OFF display is provided.
6.2.4 Touch search operation

A touch search is the function designed to search for the coil of a device when its contact displayed in the ladder monitor is touched and to search for the contact of a device when its coil is touched. A search can be made from the beginning of a ladder to its last step. This function is always valid when a normal ladder is displayed.

- The touch search function cannot be used when MELSEC-A/FX/QnA ladder monitor is executed.
- The function cannot be used for instructions other than contacts and coils and for word devices.
- When the defect search function is in use, the touch search function cannot be used.
  (Touch Esc to terminate the defect search.)

[Operation procedures (when contact is touched to search for coil)]

1. Touch the contact on the ladder monitor screen.

2. The coil of the device whose contact was touched is searched for, and the single ladder block including the coil found is added to the display.
   (The found device is highlighted.)

3. Touch to search the ladder downward continuously.
[Operation procedures (when coil is touched to search for contact)]

(1) Touch the coil on the ladder monitor screen.

(2) The contact of the device whose coil was touched is searched for, and the single ladder block including the contact found is added to the display.
   (The found device is highlighted.)

(3) Touch ↓ to search the ladder downward continuously.
6.2.5 Changing from one screen to another

This section describes the screen movements when executing the ladder monitor from the status where the user-created monitor screen is displayed.

![Diagram showing screen movements]

*1 Touch the key where the touch switch (expanded) function was set with the GT Designer2, and start the system monitor function.

When the Utility screen is displayed, touch LADDER MON. to start the system monitor function.

The system monitor function and special module monitor function can also be started from the Utility screen.

---

Start

User-created monitor screen

Utility screen

Ladder monitor screen (see Section 6.3)

PLC read screen (see Section 6.2.1)

Ladder read screen (see Section 6.2.2)
6.3 Ladder monitor

The ladder monitor screen display and the keys that are shown at the top of the screen are explained in this section.

6.3.1 Ladder monitor screen display and key functions

The ladder monitor screen varies depending on the type of PLC CPU to be monitored.

Point After executing PLC read, if the PLC CPU comment or comment capacity is changed, the comment may not be correctly displayed on the ladder monitor screen. When changing the comment or comment capacity, re-start the GOT.

(1) When MELSEC-A/FX ladder monitor is executed

(a) Display

<table>
<thead>
<tr>
<th>Display</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>ON/OFF status display for ladder monitor</td>
<td></td>
</tr>
<tr>
<td>- ON status</td>
<td>![ON status icon]</td>
</tr>
<tr>
<td>- OFF status</td>
<td>![OFF status icon]</td>
</tr>
</tbody>
</table>

* The MCR command is normally displayed as ![MCR icon].

(b) Key functions

This table shows the key functions used with the operations on the ladder monitor screen.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exit</td>
<td>Return to screen where ladder monitor function starts.</td>
</tr>
<tr>
<td>PLCRD.</td>
<td>Move to PLC read screen to read sequence program being monitored from PLC CPU (PLC read).</td>
</tr>
<tr>
<td>Menu</td>
<td>Move to ladder monitor menu screen, to specify sequence program to be displayed on ladder monitor screen (Ladder read).</td>
</tr>
<tr>
<td>Mon.</td>
<td>Start monitoring of sequence program that is displayed on ladder monitor screen.</td>
</tr>
<tr>
<td>List</td>
<td>Activates the List editor function. (For details of the List editor function, see Chapter 19.)</td>
</tr>
<tr>
<td>![Switch display device icon]</td>
<td>Switch display device when there are nine or more devices displaying current values and set values.</td>
</tr>
<tr>
<td>![Display one ladder icon]</td>
<td>Display one ladder; scroll up or down.</td>
</tr>
<tr>
<td>![When reading ladder with device specification icon]</td>
<td>When reading ladder with device specification, read next program with same device specification (see *2 in Sec. 6.2.2.).</td>
</tr>
</tbody>
</table>
When MELSEC-Q/QnA ladder monitor is executed

(a) Display

When comment is not displayed : maximum 8 lines
When comment is displayed : maximum 3 lines

ON/OFF status display for ladder monitor
- ON status : [●]  [●]  [●]  [●]
- OFF status : [●]  [●]  [●]  [●]

* The MCR command is normally displayed as [●].

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exit</td>
<td>Return to screen where ladder monitor function starts.</td>
</tr>
<tr>
<td>PLCRD.</td>
<td>Move to PLC read screen to read sequence program being monitored from PLC CPU (PLC read).</td>
</tr>
<tr>
<td>Menu</td>
<td>Move to ladder monitor menu screen, to specify sequence program to be displayed on ladder monitor screen (Ladder read).</td>
</tr>
<tr>
<td>Mon.</td>
<td>Start monitoring of sequence program that is displayed on ladder monitor screen.</td>
</tr>
<tr>
<td></td>
<td>Switch display device when there are nine or more devices displaying current values and set values.</td>
</tr>
<tr>
<td></td>
<td>Display one ladder; scroll up or down.</td>
</tr>
<tr>
<td></td>
<td>When reading ladder with device specification, read next program with same device specification (see *2 in Sec. 6.2.2.).</td>
</tr>
<tr>
<td>Sea.</td>
<td>Displays the search history of the device/contact/coil search or touch search one place backward.</td>
</tr>
<tr>
<td>JUMP↑</td>
<td>JUMP↓</td>
</tr>
</tbody>
</table>
6 - 21 6.3 Ladder monitor
6.3.1 Ladder monitor screen display and key functions

Point About the Sea. key

• Immediately after the Sea. key has been pressed to go back in the history, a continuous device search using the key cannot be executed.

• Using the Sea. key, you can go back into the history up to 100 ladders.

• When any of the following operations is performed, the search history is cleared to return to the normal ladder display.
  1. When the key is touched
     (When a single ladder block takes up more than one screen, scrolling can be made within the block.)
  2. When the JUMP key is touched
  3. When a step search, END search or defect search is executed
  4. When a comment display is changed
  5. When a new ladder is read by touching CRD.
6.3.2 Precaution during ladder monitoring

(1) When making connection to the FXCPU
   (a) The comment display is kana comments only.
   (b) During PLC read operation, the PLC read can only be performed for own station only.
   (c) STL (step ladder), the FXCPU exclusive instruction, is not a contact point, but treated as an instruction and displayed in the following manner:

   ![Diagram of ladder monitoring with FXCPU and GOT]

   (d) When searching for STL instruction, search for "S (state)" in the device search.
   (e) The ladder data in which the following instructions are used cannot be displayed on the GOT. Do not use the following instructions when executing the ladder monitoring on the GOT.

<table>
<thead>
<tr>
<th>FNC No.</th>
<th>Instruction</th>
<th>FNC No.</th>
<th>Instruction</th>
<th>FNC No.</th>
<th>Instruction</th>
</tr>
</thead>
<tbody>
<tr>
<td>87</td>
<td>RS2</td>
<td>164</td>
<td>HTOS</td>
<td>256</td>
<td>LIMIT</td>
</tr>
<tr>
<td></td>
<td>Floating point</td>
<td>165</td>
<td>STOH</td>
<td>257</td>
<td>BAND</td>
</tr>
<tr>
<td>112</td>
<td>EMOV</td>
<td>184</td>
<td>RND</td>
<td>259</td>
<td>SCL</td>
</tr>
<tr>
<td>116</td>
<td>ESTR</td>
<td>188</td>
<td>CRC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>117</td>
<td>EVAL</td>
<td>189</td>
<td>HCMOV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>124</td>
<td>EXP</td>
<td>202</td>
<td>S+</td>
<td>270</td>
<td>IVCK</td>
</tr>
<tr>
<td>125</td>
<td>LDGE</td>
<td>203</td>
<td>LEN</td>
<td>271</td>
<td>IVDR</td>
</tr>
<tr>
<td>128</td>
<td>ENEG</td>
<td>204</td>
<td>RIGHT</td>
<td>272</td>
<td>ICRD</td>
</tr>
<tr>
<td>133</td>
<td>ASIN</td>
<td>205</td>
<td>LEFT</td>
<td>273</td>
<td>ICBR</td>
</tr>
<tr>
<td>134</td>
<td>ACOS</td>
<td>206</td>
<td>MIDR</td>
<td>274</td>
<td>IVCB</td>
</tr>
<tr>
<td>135</td>
<td>ATAN</td>
<td>207</td>
<td>MWD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>136</td>
<td>RAD</td>
<td>208</td>
<td>SMOV</td>
<td>280</td>
<td>HSCT</td>
</tr>
<tr>
<td>137</td>
<td>DEG</td>
<td>212</td>
<td>POP</td>
<td>290</td>
<td>LOADR</td>
</tr>
<tr>
<td>150</td>
<td>DSZR</td>
<td>213</td>
<td>SFR</td>
<td>291</td>
<td>SAVER</td>
</tr>
<tr>
<td>151</td>
<td>DVIT</td>
<td>214</td>
<td>SFL</td>
<td>292</td>
<td>INITR</td>
</tr>
<tr>
<td></td>
<td>---</td>
<td>293</td>
<td>LOGR</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

When monitoring with the peripheral device for FX

```
S0
STL
X0000
X0000
```

When ladder monitoring with GOT

```
Y0000
STL S0
X0000
X0000
```

When searching for STL instruction, search for "S (state)" in the device search.

Do not use the following instructions when executing the ladder monitoring on the GOT.
(f) The FX3UC series can be monitored only in the device range of FX2N series. Create the ladder data within the device range of FX2N series when executing the ladder monitoring on the GOT. The ladder data including devices that are not provided for the FX2N series cannot be displayed on the GOT.

(g) Make the memory capacity of the ladder data monitored on the GOT to 16000 or less. The ladder data with memory capacity of 32000 or more cannot be displayed on the GOT.

(2) When making connection with the motion controller CPU
(a) When the OS version is "SV5***" in the SVST instruction, "J***" appears as the tag name of MC.

(3) When making connection to the QCPU (Q mode) and QnACPU
Set more than 16 characters for a comment. If 15 characters or less are set, the comment will not be displayed correctly.

This setting can be made on the following screen or tab of GX Developer.
• "Setup comment range" screen
• Common tab on "Write to PLC" screen
6.3.3 Switching displays

You can switch the display form (decimal/hexadecimal) of the word device value or the timer/counter value that is displayed on the ladder monitor screen. You can also specify whether or not to display a comment for the object device or switch the language.

1) Switching the display form (decimal/hexadecimal)
When monitoring, display the word device current value, the timer/counter current value (upper row) or the set value (lower row) in decimal or hexadecimal (When decimal is displayed, the display changes to hexadecimal.).

2) Switching the comment display on and off
Display the comment that is written in the object PLC CPU (When no comment is displayed, this turns on the comment display). Comment display priority order: expanded comment > Japanese character comment or Japanese kana comment

3) Language switching (for MELSEC-Q ladder monitor only)
In the MELSEC-Q ladder monitor, language switching (Japanese/Korean) is available for displaying the following items of a sequence program.
(To switch the language, register the following items with the language (Japanese/Korean) used for the PLC READING DATA DISPLAY. To display Korean, for example, register the following items with Korean on GX Developer.)
- File name
- Title
- Comment
Items other than the above (such as menu) are displayed with the language set on [GOT setup]. For details, refer to Section 6.3.4 Language switching of the sequence program (MELSEC-Q ladder monitor).

The display change operation is explained below.
[Operation procedure]

* When there is a [ ] at the upper left of the screen, touch it to return to the original screen.

When the screen below is currently displayed, it is not necessary to touch this.

Touch the appropriate display position on the ladder monitor menu.

After moving to the ladder monitor screen, the word device value is __ Mon. when you touch __ Mon. __.

Move to circuit monitor screen.

(When changing to hexadecimal display)

(When changing to comment display)
6.3.4 Language switching (MELSEC-Q ladder monitor)

In the MELSEC-Q ladder monitor, language switching (Japanese/Korean) is available for displaying the following items of a sequence program.

(To switch the language, register the following items with the language (Japanese/Korean) used for the PLC READING DATA DISPLAY. To display Korean, for example, register the following items with Korean on GX Developer.)

- File name
- Title
- Comment

Items other than the above (such as menu) are displayed with the language set on [GOT setup].

(1) Switching method

1) Touch the \textbf{Set Up} key. The setting window appears.

Example) PLC reading screen

Example) Ladder monitor screen

Display procedure for the PLC reading screen (Section 6.2.1)

(Continued to next page)
2) The setting window appears. Perform the PLC READING DATA DISPLAY.
   The settings shown below switch with every touching of the key.

   Japanese (S-JIS)

   Korean (KS)

3) After completing the setting, touch the button to close the setting window.

4) The display is switched.
(2) Precautions on language switching

(a) Precautions on switching displayed characters

When switching displayed characters (Japanese/Korean), the characters may not be displayed depending on the line wrapping position.

In such a case, the display becomes normal by an operation such as scrolling the screen and then displaying it again.

(b) Precautions on displaying Korean

Some character codes of Unicode1.1 can be used for Korean. The following shows displayability of Korean character codes.

<table>
<thead>
<tr>
<th>KS character code</th>
<th>Displayability</th>
<th>KS character code</th>
<th>Displayability</th>
</tr>
</thead>
<tbody>
<tr>
<td>8141H to A1A1H</td>
<td>N/A</td>
<td>A8A6H</td>
<td>Available</td>
</tr>
<tr>
<td>A1A2H to A1FEH</td>
<td>Available</td>
<td>A8A7H</td>
<td>N/A</td>
</tr>
<tr>
<td>A241H to A2A0H</td>
<td>N/A</td>
<td>A8A8H to A8AFH</td>
<td>Available</td>
</tr>
<tr>
<td>A2A1H to A2E5H</td>
<td>Available</td>
<td>A8B0H</td>
<td>N/A</td>
</tr>
<tr>
<td>A2E6H to A3A0H</td>
<td>N/A</td>
<td>A8B1H to A8FEH</td>
<td>Available</td>
</tr>
<tr>
<td>A3A1H to A3FEH</td>
<td>Available</td>
<td>A941H to A9A0H</td>
<td>N/A</td>
</tr>
<tr>
<td>A441h to A4A0H</td>
<td>N/A</td>
<td>A9A1h to A9FEH</td>
<td>Available</td>
</tr>
<tr>
<td>A4A1H to A4FEH</td>
<td>Available</td>
<td>AAA1H to AAA6H</td>
<td>N/A</td>
</tr>
<tr>
<td>A541H to A5A0H</td>
<td>Available</td>
<td>AAF4h to ABA0H</td>
<td>N/A</td>
</tr>
<tr>
<td>A5A1H to A5AFH</td>
<td>N/A</td>
<td>ABA1h to ABF6H</td>
<td>Available</td>
</tr>
<tr>
<td>A5B0H to A5B9H</td>
<td>Available</td>
<td>ABA7H to ACA0H</td>
<td>N/A</td>
</tr>
<tr>
<td>A5BAH to A5C0H</td>
<td>N/A</td>
<td>ACA1H to ACC1H</td>
<td>Available</td>
</tr>
<tr>
<td>A5C1H to A5D8H</td>
<td>Available</td>
<td>ACC2H to ACD0H</td>
<td>N/A</td>
</tr>
<tr>
<td>A5D9H to A5E0H</td>
<td>N/A</td>
<td>ACD1H to ACF1H</td>
<td>Available</td>
</tr>
<tr>
<td>A5E1H to A5F8H</td>
<td>Available</td>
<td>ACF2H to B0A0H</td>
<td>N/A</td>
</tr>
<tr>
<td>A5F9H to A6A0H</td>
<td>N/A</td>
<td>B0A1H to B0FEH</td>
<td>Available</td>
</tr>
<tr>
<td>A6A1H to A6E4H</td>
<td>Available</td>
<td>B141H to C6FEH</td>
<td>Lower **41 to **A0</td>
</tr>
<tr>
<td>A6E5H to A7A0H</td>
<td>N/A</td>
<td>B141H to C6FEH</td>
<td>Lower **A1 to **FE</td>
</tr>
<tr>
<td>A7A1H to A7EFH</td>
<td>Available</td>
<td>C7A1H to C8FEH</td>
<td>Available</td>
</tr>
<tr>
<td>A7F0H to A8A0H</td>
<td>N/A</td>
<td>C9A1H to C9FEH</td>
<td>N/A</td>
</tr>
<tr>
<td>A8A1H to A8A4H</td>
<td>Available</td>
<td>CAA1H to DFEH</td>
<td>Available</td>
</tr>
<tr>
<td>A8A5H</td>
<td>N/A</td>
<td>FEA1H to FEFEH</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Characters displayable on the GOT can be displayed on the GT Designer2.

Accordingly, displayability of Korean characters, displayed on the GX Developer, on the GOT can be confirmed by copying the text data to the GT Designer2.

**Remark**

Copy texts.

By copying a comment to be checked to a text figure or an object of the GT Designer2, displayability of the comment can be confirmed.
6.3.5 Changing the device value

**CAUTION**

Read the manual carefully and fully understand the operation before the test operation (ON/OFF of bit devices, modifying current value of a word device, modifying timer/counter setting, modifying the current value, or modifying the current value of a buffer memory) of ladder monitor.

In addition, never modify data in a test operation to a device, which performs a crucial operation to the system. It may cause an accident by a false output or malfunction.

Changing the device value on the screen during ladder monitoring is described. Switches for the timer/counter value display format (decimal/hexadecimal), and the comment display for the corresponding device (on/off) can be performed.

*Point*

When the FXCPU or MELDAS C6/C64 is monitored, the timer and counter values cannot be changed.

(1) Device value changing method

The device value changing method during ladder monitoring is described below:

1. Display the ladder monitor screen by touching `LADDER MON.`.
2. 1) Display the screen shown in 2) by touching `Menu`. 2) Display the test window by touching `TEST`.
3. As the test window will open, perform the operation by seeing Sec. 9.6. After the device change is complete, the changed contents can be verified in the ladder monitor.

**Note**

The current value display of the word device becomes hidden from view due to the test window. Using the `← →` key entries, the hidden current value display can be displayed by scrolling to the right/left.
### 6.3.6 About Hardcopy Output

This section describes the way to print the ladder monitor screen with the printer or to save it in the memory card in the BMP/JPEG file format during ladder monitor.

![Diagram showing hardcopy output options: Memory card, BMP/JPEG file, Printer]

Depending on the used GOT, output the hardcopy in the following corresponding method.

1. **When A985GOT or A97*GOT is used**
   - Touch the [Print Screen] or [Cancel Print] key displayed on the ladder monitor screen to output the hardcopy.

2. **When A95*GOT or A956WGOT is used**
   - Set the start/stop triggering device of the hardcopy function on GT Designer2 and turn that device ON/OFF to output the hardcopy.

#### Point

- When printing out the ladder monitor screen, always install the option driver into the GOT.
- Set the output destination (Memory card/printer) of the hardcopy in the hardcopy setting of GT Designer2.

Refer to GT Designer2 Version2 Reference Manual for details of the hardcopy setting.
# 7 ERROR MESSAGES FOR LADDER MONITOR

The following chart shows the error messages that are displayed during the ladder monitor operation and the method of handling them.

<table>
<thead>
<tr>
<th>Error Message</th>
<th>Description</th>
<th>Method of Handling</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENTRY CODE MISMATCH</td>
<td>The specified keyword is different from the keyword that is registered in the object PLC CPU.</td>
<td>Check the keyword that is registered in the object PLC CPU and specify again.</td>
</tr>
<tr>
<td>FILE NOT FOUND</td>
<td>(1) An attempt was made to switch to the ladder monitor screen when a sequence program had not been read. (2) When the file is selected and the Read key is pressed, the selected file does not exist in the PLC drive.</td>
<td>Read the sequence program that is written in the object PLC CPU. (Ex.) A sub-sequence program can only be specified as A3 CPU/A4UCPU.</td>
</tr>
<tr>
<td>PLC COMMUNICATION ERROR</td>
<td>(1) Cannot communicate with PLC CPU of the specified network No. or station No. (2) The specified drive does not exist.</td>
<td>Check and correct the following: (1) Does the specified PLC CPU exist? (2) Is it online? (Data communication status?) (3) Has an error occurred?</td>
</tr>
<tr>
<td>LOCK ON OTHER MACHINE. PLEASE CANCEL</td>
<td>File is locked with the peripheral equipment (GX Developer, GPPQ).</td>
<td>After reading and writing with the peripheral equipment (GX Developer, GPPQ), read the file again.</td>
</tr>
<tr>
<td>NOT EXISTING DRIVE, DRIVE ERROR</td>
<td>(1) The specified drive does not exist. (2) The specified drive is faulty.</td>
<td>(1) Check whether the specified drive exists or not. (2) Check whether the specified drive is faulty or not.</td>
</tr>
<tr>
<td>ENTRY CODE MISMATCH</td>
<td>The specified file password differs from the one registered as the file password of the corresponding PLC CPU.</td>
<td>Confirm the file password registered to the drive of the corresponding PLC CPU, and specify it again.</td>
</tr>
<tr>
<td>FILE NOT FOUND</td>
<td>When you selected the file and pressed the Read key, the selected file did not exist in the PLC CPU drive.</td>
<td></td>
</tr>
<tr>
<td>USE BY OTHER MACHINE. PLEASE CANCEL</td>
<td>The sequence or comment is being used by the peripheral device (GX Developer).</td>
<td>Perform file read again after completion of read/write from/to the peripheral device (GX Developer).</td>
</tr>
<tr>
<td>2M bytes of comments were read since they exceeded 2M bytes.</td>
<td>Only 2M bytes of the comment file was read because its size is greater than 2M bytes.</td>
<td>...</td>
</tr>
<tr>
<td>Outside CPU reset/device range/ special module illegal access</td>
<td>The accessed special module is faulty or does not exist.</td>
<td>Check the system configuration.</td>
</tr>
</tbody>
</table>
The operation procedures for using the system monitor function are explained in this section.

8.1 Operation procedures before starting system monitoring

This section contains a summary of the procedure for transmitting the system program (OS) for the system monitor function from the Personal computer to the GOT until it is installed in the built-in memory.

For details, please refer to the GT Designer2 Version2 Operating Manual.

Details of the screen display and key operation are shown in the Help.

Connect GOT to Personal computer.
Start up Personal computer and drawing software.
Start up GOT.
When installation is finished, the system monitor can be operated through the GOT.
Drawing software operation is finished.

*** It is not necessary to set up and operate the GOT after startup.

*** Transmit the data using the installation dialog box.

*** When installation is finished, "Completed" is displayed on the installation dialog box.

*** Proceed to Section 8.2 to operate the screen monitor.
8.2 Operation procedures from user-created monitor screen display to start of system monitoring

This section explains the operation procedure for the GOT when starting each operation of the system monitor function, after the system program (OS) of the system monitor function has been installed in the GOT built-in memory.

![Diagram of operation procedure]

---

### Step 1: Start
- Start up the GOT

### Step 2: Display the user-created monitor screen.
- Touch display position of monitor function to be selected.
- See Sec. 9.1 for common operations.

### Step 3: Display the system monitor initial screen.
- Display the system monitor initial screen.
- Touch the key where the touch switch (expanded) function was set with the drawing software, and start the system monitor function.
- When the Utility screen is displayed, touch PLC. MON. to start the system monitor function.

### Step 4: Execute operation for selected monitor function.
- Execute operation for selected monitor function.
- Set/reset bit device.
- Change current values of word device.
- Change current value, set values of T or C.

### Step 5: Display monitor screen of selected function.
- Display monitor screen of selected function.
- See Section 9.1 for common operations.

---

*(1) The A985/97*/960GOT displays 4 divided windows. Operation for each window is described. The A95*GOT displays 1 window. When END is selected in any window, the system monitor ends and the display moves to the original screen where the system monitor function started.

---

See Section 9.1 for common operations.
This chapter contains an explanation of each screen operation when using the system monitor function.

With any of the four windows, when changing the station/monitor device or executing the test operation, it is not possible to do an operation with another window until that series of operations is finished.

9.1 Screen configuration, common operations and changing screens when monitoring

The common operations of each monitor function such as screen configuration and target PLC CPU specification when executing system monitoring are described below.

9.1.1 Basic screen configuration and key functions (menu)

The basic screen configuration displayed in the windows and the key functions displayed on the screen are shown below.

(1) Display

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEV MON</td>
<td>The entry monitor is executed with the applicable window (see Sec. 9.2.).</td>
</tr>
<tr>
<td>BAT MON</td>
<td>The batch monitor is executed with the applicable window (see Sec. 9.3.).</td>
</tr>
<tr>
<td>TC MON</td>
<td>The timer/counter monitor is executed with the applicable window (see Sec. 9.4.).</td>
</tr>
<tr>
<td>BM MON</td>
<td>The buffer memory monitor is executed with the applicable window (see Sec. 9.5.).</td>
</tr>
<tr>
<td>END</td>
<td>System monitoring ends; display returns to the screen where system monitors function started.</td>
</tr>
</tbody>
</table>

(2) Key functions

The functions of keys that are used with the basic screen operation are shown in the chart below.
9.1.2 Switching displays

1) Switching the display form (decimal/hexadecimal)
Display the word device present value or the timer/counter present value or set value in decimal or hexadecimal.

2) Switching the comment display on and off
Display the comment that is written in the object PLC CPU (Comment display priority order: expanded comment > Japanese character comment or Japanese kana comment).

3) Precautions for comment display
(a) When any of the following CPUs is being monitored, comments are not displayed.
   1) FXCPU
   2) Motion controller CPU (Q172CPU, Q173CPU)
   3) QnACPU whose serial number indicated in the DATE field of the rating plate is earlier than 9707B
   4) MELDAS C6/C64
(b) When any of the following devices is being monitored, comments are not displayed.
   1) Internal device (GB, GD, GS) of GOT
   2) Host device (B, W, SB, SW) at the time of MELSECNET connection
   3) Host device (X, Y, WW, WR) at the time of CC-Link connection
(c) When monitoring the QCPU (Q mode) or QnACPU, comments are not displayed if any of the following settings has been made in the PLC parameter setting (PLC file setting).
   1) "Not used" has been selected for the comment file.
   2) "Use the same file name as the program" has been selected for the comment file.
   3) Password has been set to the comment file for the QCPU (Q mode).
   4) Keyword has been registered to each memory for the QnACPU.
* Comments are displayed if the setting is changed using GX Developer or like.
(d) When the Q00J/Q00/Q01CPU is being monitored, comments are not displayed if the comment file "MAIN" does not exist in the program memory.
Below is an explanation of the operation for changing the display, using the Entry Monitor window as an example. The operation procedure is the same for changing the display when selecting windows other than Entry Monitor.

**Operation procedure**

1. **Display Entry Monitor screen.**

2. **FORM** (Touch)

3. **DEVICE MONITOR TEST MENU FORM SET**

   - NETWK No.[ 0] STATION[FF]
   - NUMERIC DEC HEX
   - COMMENT DISPLAY NOTHING CANCEL EXECUTE

4. (Change display form.) **DEC HEX**
   (Change comment display) **YES NO**

5. (1) Touch the display position of the selected menu.

6. **EXECUTE** (Touch)

7. (Return) Monitor screen

---

Point

After starting the system monitor, if the PLC CPU comment or comment capacity is changed, the comment may not be correctly displayed on each monitor screen. When changing the comment or comment capacity, re-start the GOT.

---

9.1 Screen configuration, common operations and changing screens when monitoring
9.1.2 Switching displays
9.1.3 Specifying the monitor station and device (SET)

An explanation of the procedure for specifying the monitor station and the device for executing the system monitor is explained below, using the Entry Monitor window as example. The operation procedure is the same for specifying the monitor station and device when selecting windows other than Entry Monitor.

* When there is a  (key window), touching it returns to the monitor screen.

......See Sec. 9.1.1.
......See the explanatory section for each monitor screen and the menu screen.

......When you touch  you return to the basic screen.
When you touch  you change this display. (See Sec. 9.1.2.)
When you touch , you can specify the monitor station and device.

**[Operation procedure]**

Select monitor function with basic screen. Or, display monitor screen or menu screen.

When you touch  you return to the basic screen.
When you touch  you change this display. (See Sec. 9.1.2.)
When you touch , you can specify the monitor station and device.
9.1.3 Specifying the monitor station and device (SET)

*1 For the station, with either system, specify "FF", which shows the PLC CPU to be accessed, or "0" to "64".

*2 Displayed for QCPU monitor only.

*3 The monitor target must be preset using GT Designer2.
   - For ACPU monitor, specify the network number/station number set on GT Designer2.
   - Refer to the GOT-A900 series User's Manual (Connection System Manual) for details of the monitor target setting for Ethernet connection.

*4 Data being entered can be cleared by the following keys.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC</td>
<td>Clears all data being entered to the target area.</td>
</tr>
<tr>
<td>DEL</td>
<td>Clears one character at the cursor position.</td>
</tr>
</tbody>
</table>

*5 The form of data to be entered is displayed at the right side of the screen.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEC</td>
<td>Enter in decimal</td>
</tr>
<tr>
<td>HEX</td>
<td>Enter in hexadecimal</td>
</tr>
</tbody>
</table>

(1) Specify network No., station No.\(^*1\) and CPU No.\(^*2\) of object PLC CPU.

   (For data link system)
   - NET WK No.: 0
   - STATION : FF (Host station)
   - 0 (Master station)
   - 1 to 64 (Local station)

   (For network system)
   - NET WK No.: 0 (Host loop)
   - 1 to 255 (Specified loop)
   - STATION : FF (Host station)
   - 0 (Control station)
   - 1 to 64 (Normal station)

   (For Ethernet connection) \(^*3\)
   - NET WK No.: 1 to 239
   - STATION : 1 to 64
   - CPU No. 0 to 4 (CPU number)

(2) Specify the device to be monitored.

(3) When specifying the word device or buffer memory as a monitor device, specify the monitor module.

0: 16-bit (1-word) module
1: 32-bit (2-word) module

* Match the data to be entered; the touch key display at the bottom of the screen will change.

(4) (5)

(When entering network no.) (When entering device no.)

*1 For the station, with either system, specify "FF", which shows the PLC CPU to be accessed, or "0" to "64".

*2 Displayed for QCPU monitor only.

*3 The monitor target must be preset using GT Designer2.
   - For ACPU monitor, specify the network number/station number set on GT Designer2.
   - Refer to the GOT-A900 series User's Manual (Connection System Manual) for details of the monitor target setting for Ethernet connection.

*4 Data being entered can be cleared by the following keys.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC</td>
<td>Clears all data being entered to the target area.</td>
</tr>
<tr>
<td>DEL</td>
<td>Clears one character at the cursor position.</td>
</tr>
</tbody>
</table>

*5 The form of data to be entered is displayed at the right side of the screen.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEC</td>
<td>Enter in decimal</td>
</tr>
<tr>
<td>HEX</td>
<td>Enter in hexadecimal</td>
</tr>
</tbody>
</table>
9.1.4 Changing screens

This section shows the screen changes when executing each monitoring operation of the system monitor function from the status where the user-created monitor screen is displayed.

1. **Start**

   - **User-created monitor screen**
     - Touch (Function change menu screen)
       - (See Section 9.1.1.)
       - Touch END
       - Touch PLC.MON.

   - **Utility screen**
     - Touch END
     - Touch PLC.MON.

   - **Basic screen** (Function change menu screen)
     - (See Section 9.1.1.)
     - Touch 
     - Touch [PLC.MON.]

   - **Monitor screen for selected function** (See Sec. 9.1.2.)
     - Touch FORM
     - Touch SET

   - **Test menu screen** (See Section 9.6.)
     - Touch TEST

   - **Display change menu screen** (See Section 9.1.2.)
     - Touch FORM
     - Touch SET

   - **Device setting menu screen** (See Section 9.1.3.)
     - Touch MENU
     - Touch STOP

*1 Touch the key that sets the touch switch (expanded) function with the GT Designer2 and start the system monitor operation.

When the Utility screen is displayed, touch [PLC.MON.] to start the system monitor function.

The circuit monitor function and special module function can also be started from the Utility screen.
9.2 Entry monitor

Enter the device to be monitored in advance. The function that monitors only the device that was entered is called the "entry monitor". The entry monitor operation when executing the system monitor function is explained below.

9.2.1 Basic operation

The entry monitor operation procedure is shown below.

See Sec. 9.1.1.

......When a screen other than the basic screen is displayed, touch [MENU] at the top of the currently displayed screen, display the basic screen, and select Device Monitor.

......When you touch [MENU], you return to the basic screen.

When you touch [FORM], you can change this display (See Sec. 9.1.2.).

When you touch [SET], you can specify the monitor station and device (See Sec. 9.1.3.).

......Set the station and device to be monitored.
For the setting method, see Sec. 9.1.3.

*1 Monitor device entry is in station modules.
If you change the station for the monitor device, all monitor devices entered before that are invalid.

*2 A maximum of 8 entry devices can be entered.
To enter more than 8, delete in order from the old entry device. The 8 most recent entry device will be monitored.
As needed, re-enter after deleting the entry device.
(For the method of deletion, see Sec. 9.2.3.)

......Do if needed.
For the display change method, see Sec. 9.1.2.
9.2.2 Entry monitor screen display and key functions

In this section, the Entry Monitor screen display and the functions of the keys displayed at the top of the screen are explained.

(1) Display

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>MENU</td>
<td>Move to basic screen (function change menu screen) to change to another monitor function or ending the system monitor (See Sec. 9.1.1.).</td>
</tr>
<tr>
<td>FORM</td>
<td>Move to the display change menu screen to change the numerical display on the Entry Monitor screen (decimal, hexadecimal) or changing the comment display (on/off) (See Sec. 9.1.2.).</td>
</tr>
<tr>
<td>SET</td>
<td>Move to device setting menu screen to enter the monitor device, delete the device, or execute a test.</td>
</tr>
<tr>
<td></td>
<td>• Entry of monitor device (See Sec. 9.1.3.)</td>
</tr>
<tr>
<td></td>
<td>• Deletion of entry device (See Sec. 9.2.3.)</td>
</tr>
<tr>
<td></td>
<td>• Test (See Sec. 9.6.)</td>
</tr>
<tr>
<td>▲ ▼</td>
<td>Scroll the display up or down one line, and display the monitor device that is not displayed (just before or after the current display). When five or more monitor devices are entered, operation is enabled when the monitor device comment is displayed.</td>
</tr>
<tr>
<td>▲</td>
<td>Scrolls up one line.</td>
</tr>
<tr>
<td>▼</td>
<td>Scrolls down one line.</td>
</tr>
</tbody>
</table>

2) Displays the keys that are used with the operation of the Entry Monitor screen shown in (2) (Touch input).

3) Displays the status and current value of the device.

*1 Displayed for QCPU monitor only.

(2) Key functions

The chart below shows the functions of the keys that are used with the Entry Monitor screen operation.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEVICE MONITOR</td>
<td>Displays the monitor station network No., station No. and CPU No.*1</td>
</tr>
<tr>
<td>TEST</td>
<td>Displays the status and current value of the device.</td>
</tr>
<tr>
<td>MENU FORM SET</td>
<td>Move to basic screen (function change menu screen) to change to another monitor function or ending the system monitor (See Sec. 9.1.1.).</td>
</tr>
<tr>
<td>NETWK No.[ 0]</td>
<td>Move to the display change menu screen to change the numerical display on the Entry Monitor screen (decimal, hexadecimal) or changing the comment display (on/off) (See Sec. 9.1.2.).</td>
</tr>
<tr>
<td>D 200</td>
<td>Move to device setting menu screen to enter the monitor device, delete the device, or execute a test.</td>
</tr>
<tr>
<td>W 200</td>
<td>• Entry of monitor device (See Sec. 9.1.3.)</td>
</tr>
<tr>
<td>[Station FF]</td>
<td>• Deletion of entry device (See Sec. 9.2.3.)</td>
</tr>
<tr>
<td>R 50 68376428</td>
<td>• Test (See Sec. 9.6.)</td>
</tr>
<tr>
<td>[Input switch 3]</td>
<td>When comment is not displayed: max. 8 devices</td>
</tr>
<tr>
<td>[link status]</td>
<td>When comment is displayed : max. 4 devices</td>
</tr>
<tr>
<td>[link status]</td>
<td>Display when system monitoring</td>
</tr>
<tr>
<td>[link status]</td>
<td>Bit device........: ON       : OFF</td>
</tr>
<tr>
<td>[link status]</td>
<td>Word device.....Current value</td>
</tr>
</tbody>
</table>

*1 Displayed for QCPU monitor only.
9.2.3 Deleting a registered device

The operation of deleting (erasing) the entry of the device being monitored with the Entry Monitor screen is explained below.
The following two methods can be used to delete the registered device.
• Random deletion .......... Deletes only one specified device.
• Batch deletion .............. Deletes all devices that are currently registered.

* If there is a ▶ at the upper left of the screen, touching the ▶ returns to the monitor screen.

...... See Sec. 9.2.2.

[Operation procedure]
Display Device Monitor screen.

Display device setting menu screen.

(Batch deletion) (Random deletion)

Display device deletion screen.

(1) Specify the device to be deleted.
* Match the data to be entered; the touch key display at the bottom of the screen will change.

*1 Data being entered can be cleared by the following keys.
AC : Clears all data being entered to the object area.
DEL : Clears one character at the cursor position.
9.3 Batch monitor

When monitoring, the function of specifying the device at the beginning of an optional device range and monitoring it is called the "batch monitor". The batch monitor operation when executing the system monitor is explained below.

9.3.1 Basic operation

The batch operation procedure is shown below.

See Sec. 9.1.1.

......When a screen other than the basic screen is displayed, touch [MENU] at the top of the currently displayed screen, display the basic screen, and select "Batch monitor".

......When you touch [MENU], you return to the basic screen.

When you touch [FORM], you can change this display (See Sec. 9.1.2.).

When you touch [SET], the monitor station and device can be specified (See Sec. 9.1.3.)

(1) Specify the station and device to be monitored. For the method of specifying, see Sec. 9.1.3.

......Do if needed. For the display change method, see Sec. 9.1.2.
9.3.2 Batch monitor screen display and key functions

In this section, the Batch Monitor screen display and the functions of keys displayed at the top of the screen are explained.

(1) Display

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOVE</td>
<td>Move to basic screen (function change menu screen) for changing to another monitor function or ending the system monitor (See Sec. 9.1.1.).</td>
</tr>
<tr>
<td>FORM</td>
<td>Move to display change menu screen for changing the numerical display on the Batch Monitor screen (decimal/hexadecimal) or changing the comment display (on/off) (See Sec. 9.1.2.).</td>
</tr>
<tr>
<td>SET</td>
<td>Move to device setting menu screen to change the monitor device or execute a test. • Change of monitor device (See Sec. 9.1.3.) - Test (See Sec. 9.6.)</td>
</tr>
<tr>
<td></td>
<td>Scroll the display up or down one line, and display the monitor device that is not displayed (just before or after the current display).</td>
</tr>
<tr>
<td></td>
<td>▲ ▼ : Scrolls up one line.</td>
</tr>
<tr>
<td></td>
<td>▼ : Scrolls down one line.</td>
</tr>
</tbody>
</table>

(2) Key functions

The chart below shows the functions of the keys that are used with the Batch Monitor screen operation.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>When comment is not displayed: max. 16 devices</td>
</tr>
<tr>
<td></td>
<td>When comment is displayed: max. 8 devices</td>
</tr>
<tr>
<td></td>
<td>Display when system monitoring</td>
</tr>
<tr>
<td></td>
<td>Bit device........● : ON  O : OFF</td>
</tr>
<tr>
<td></td>
<td>Word device......Current value</td>
</tr>
<tr>
<td>D 10</td>
<td>32767 ( )</td>
</tr>
<tr>
<td>D 11</td>
<td>0 (Inventory quantity)</td>
</tr>
<tr>
<td>D 12</td>
<td>0 (Shipment quantity)</td>
</tr>
<tr>
<td>D 13</td>
<td>-1 ( )</td>
</tr>
<tr>
<td>D 14</td>
<td>0 (Warehouse A temperature)</td>
</tr>
<tr>
<td>D 15</td>
<td>3 (Warehouse B temperature)</td>
</tr>
<tr>
<td>D 16</td>
<td>0 ( )</td>
</tr>
<tr>
<td>D 17</td>
<td>0 (Production plan)</td>
</tr>
</tbody>
</table>

*1 Displayed for QCPU monitor only.
9.4 TC Monitor (monitor of timer and counter)

The function that monitors only the time (T) and counter (c) when monitoring is called the TC monitor. The TC monitor operation when executing the system monitor is explained below.

9.4.1 Basic operation

The TC operation procedure is shown below.

See Sec. 9.1.1.

...... When a screen other than the basic screen is displayed, touch [MENU] at the top of the currently displayed screen, display the basic screen, and select "TC Monitor".

...... When you touch [MENU], you return to the basic screen.

When you touch [FORM], you can change this display (See Sec. 9.1.2.).

When you touch [SET], the monitor station and device can be specified (See Sec. 9.1.3.).

(1) Specify the station and device to be monitored. For the method of the specifying, see Sec. 9.1.3.

...... Do if needed. For the display change method, see Sec. 9.1.2.
9.4.2 TC Monitor screen display and key functions

In this section, the TC Monitor screen display contents and the function of keys displayed at the top of the screen are explained.

(1) Display

<table>
<thead>
<tr>
<th>TC MONITOR</th>
<th>TEST</th>
<th>MENU</th>
<th>FORM</th>
<th>SET</th>
</tr>
</thead>
<tbody>
<tr>
<td>NETWK No.</td>
<td>STATION</td>
<td>[ABCDEF.PRG]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T 0 PV 0</td>
<td>SV 0</td>
<td>[Production line A]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T 1 PV 0</td>
<td>SV 0</td>
<td>[Production line B]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T 2 PV 150</td>
<td>SV 150</td>
<td>[Production line C]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T 3 PV 0</td>
<td>SV 0</td>
<td>[Production line D]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1) Displays the keys that are used with the operation of the TC Monitor screen shown in (2) (Touch input).

2) Displays the monitor station network No., station No. and CPU No.*1

   When connected to QCPU and QnACPU, the execution file name is displayed (If there are more than one file, the first file name is displayed.).

3) Displays the current value, set value, contact point and coil status of the monitor device (The screen above shows when the monitor module is 16 bits.).

*1 Displayed for QCPU monitor only.

(2) Key functions

The chart below shows the function of the keys that are used with the operation of the TC Monitor screen.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>MENU</td>
<td>Move to basic screen (function change menu screen) for changing to another monitor function or ending the system monitor (See Sec. 9.1.1.).</td>
</tr>
<tr>
<td>FORM</td>
<td>Move to display change menu screen for changing the numerical display on the TC monitor screen (decimal/hexadecimal) or changing the comment display (on/off) (See Sec. 9.1.2).</td>
</tr>
<tr>
<td>SET</td>
<td>Move to device setting menu screen to change the monitor device or execute a test.</td>
</tr>
<tr>
<td></td>
<td>• Change of monitor device (See Sec. 9.1.3.)</td>
</tr>
<tr>
<td></td>
<td>• Test (See Sec. 9.6.)</td>
</tr>
<tr>
<td>▲ ▼</td>
<td>Scroll the display contents up or down one line to display the monitor device that is not displayed (just before or after the current display).</td>
</tr>
<tr>
<td></td>
<td>Operation is enabled when monitor device comment is displayed.</td>
</tr>
<tr>
<td></td>
<td>▲ : Scrolls up one line.</td>
</tr>
<tr>
<td></td>
<td>▼ : Scrolls down one line.</td>
</tr>
</tbody>
</table>
9.5 BM Monitor (monitor of buffer memory)

When monitoring, the function that monitors the buffer memory of the special function module is called the "BM monitor".
The BM monitor screen when executing the system monitor is explained below.

9.5.1 Basic operation

The BM Monitor operation procedure is shown below.

See Sec. 9.1.1.

...... When a screen other than the basic screen is displayed, touch [MENU] at the top of the currently displayed screen, display the basic screen, and select "BM Monitor".

...... When you touch [MENU], you return to the basic screen.

When you touch [FORM], you can change this display (See Sec. 9.1.2.).

When you touch [SET], the monitor station and device can be specified (See Sec. 9.1.3.).

(1) Specify the station and device to be monitored, and the monitor module (16-/32-bit module).

(2) For the method of the specifying, see Sec. 9.1.3.

Specify the module to be monitored and the buffer memory as follows.

...... Switching between decimal and hexadecimal display is enabled. Do this as needed. For the display change method, see Sec. 9.1.2.
### 9.5.2 BM Monitor screen display and key functions

In this section, the BM Monitor screen display and the functions of keys displayed at the top of the screen are explained.

(1) Display

![BM Monitor Screen Display Example](image)

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BM MONITOR</strong></td>
<td>This moves to basic screen (function change menu screen) for changing to another monitor function or ending the system monitor (See Sec. 9.1.1).</td>
</tr>
<tr>
<td><strong>TEST</strong></td>
<td>This moves to display change menu screen for changing the number display on the BM monitor screen (decimal/hexadecimal) (See Sec. 9.1.2).</td>
</tr>
<tr>
<td><strong>MENU</strong></td>
<td>This moves to device setting menu screen to change the monitor device or execute a test.</td>
</tr>
<tr>
<td><strong>FORM</strong></td>
<td>Change of monitor device (See Sec. 9.1.3.)</td>
</tr>
<tr>
<td><strong>SET</strong></td>
<td>Test (See Sec. 9.6.)</td>
</tr>
</tbody>
</table>

(1) Displays the keys that are used with the operation of the BM Monitor screen shown in (2) (Touch input).

(2) Key functions

The chart below shows the function of the keys that are used with the operation of the BM Monitor screen.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NETWK No.</strong></td>
<td>Displays the current value of a maximum of 16 devices.</td>
</tr>
<tr>
<td><strong>STATION</strong></td>
<td>Displays the monitor station network No., station No., CPU No.*1 and the first 2 digits of the I/O signal No. of the object module.</td>
</tr>
<tr>
<td><strong>I/O NO</strong></td>
<td>Displays the current values of the buffer memory (The screen above shows when the monitor module is 16 bits.).</td>
</tr>
</tbody>
</table>

*1 Displayed for QCPU monitor only.
When monitoring with the system monitor function, you can specify an optional station or device to be monitored and test it.

The operation of testing a bit device, word device, or special module buffer memory of the PLC CPU is explained in this section.

\[\text{CAUTION}\]

- Read the manual carefully and fully understand the operation before the test operation (ON/OFF of bit devices, modifying current value of a word device, modifying timer/counter setting, modifying the current value, or modifying the current value of a buffer memory) of system monitor.

In addition, never modify data in a test operation to a device which performs a crucial operation to the system. It may cause an accident by a false output or malfunction.
9.6.1 Basic operation

The operation procedure for testing when monitoring with the system monitor function is shown below.

See Sec. 9.6.2.

...... When a screen other than the monitor screen is displayed, display any monitor screen according to the explanatory section for each monitor function.
When Device Monitor screen is displayed.

...... When you touch [CANCEL], the display moves (returns) to the previous monitor screen.

...... When you touch [CANCEL], the display moves (returns) to the previous monitor screen.
9.6 Test

9.6.1 Basic operation

Select test item.

When [SET/RST] is selected.

When [VALUE16] or [VALUE32] is selected.

(1) Touch either, depending on test contents.

- **SET/RST**
  - SET/RST (set/reset) bit device.

- **VALUE16** or **VALUE32**
  - Change current value of word device.

- **SET VALUE**
  - Change T, or C set value.

- **VALUE16** or **VALUE32**
  - Change current value of buffer memory.

* With VALUE16 or BM VAL16, 16 bits is the object module.
* With VALUE32 or BM VAL32, 32 bits is the object module.

(2) Specify the network No., station No. and CPU No. of the object PLC CPU (See Sec. 9.1.3, *1*). (For data link system)

  - Network No.: 0
  - Station: FF (Own station)
  - 0 (Master station)
  - 1 to 64 (Local station)

(For network system)

  - Network No.: 0 (Host loop)
  - 1 to 255 (Specify loop)
  - Station: FF (Own station)
  - 0 (Control station)
  - 1 to 64 (Normal station)

(For Ethernet connection)

  - Network No.: 1 to 239
  - Station: 1 to 64

(For multi-CPU system) *

  - CPU No. 0 to 4 (CPU number)

* Displayed for QCPU monitor only.

(3) Specify object device.

(4) Specify test value.

- With SET/RST (set/reset) of bit device, specify 0 (RST) or 1 (SET).

- When changing current value of word device
  - When changing T or C set value or
  - When changing current value of buffer memory

  - Match current display form (decimal/hexadecimal) and specify change value. (*4)
*1 The data being entered can be cleared by using the following keys.

- **AC** : Clear all data being entered in the object area.
- **DEL** : Clear one character from the cursor position.

*2 The format for the data being entered is displayed on the right side of the screen.

- **DEC** : Enter in decimal.
- **HEX** : Enter in hexadecimal.

*3 The monitor target must be preset using GT Designer2.

For ACPU monitor, specify the network number/station number set on GT Designer2.
Refer to the GOT-A900 series User’s Manual (Connection System Manual) for details of the monitor target setting for Ethernet connection.

*4 Even when the setting value/current value is changed after the timer (T) has timed out and the counter (C) has finished counting, the time-up status/count-up status do not change. The current status is maintained.

(When the setting value is changed to a large value/when the current value is changed to a small value)

*5 When an index-qualified T/C set value is changed, only its constant part is changed. Its index-qualified part is not changed.

Example) Changing the set value of T5 from "300" to "200"
9.6.2 Quick test function

In addition to the existing tests for the direct input of device, station No., etc. during monitoring with the system monitor function, this function enables the bit device SET/RESET, word device, buffer memory data to change by a single touch.

1) Operation to set the quick test function on
   To perform the quick test functions, perform the following operations:

   [Operation procedure]
   1. Display one of the system monitor screen.

   ...... When displaying the device monitor screen.

   ...... The quick test is turned on by clicking on **OK**.

   ...... Status when the quick test function is on.
2) Operation to turn off the quick test function

When [TEST] is touched when the quick test function is on, a dialog box is displayed. When [OK] is touched, the quick test can be canceled.

3) Bit device quick test

...... When the device monitor screen is displayed.
   Touch the device name or device no. display position for the bit device to be SET/RESET.

...... The device name and device no. touched is displayed highlighted.
   When the on/off display (, ) of the highlighted display is touched, the status is SET/RESET.
   * When the current bit device is ON, then it is turned OFF (RESET).
   When OFF, it will be (SET).

The on/off display area (, ) of the X0001 device is highlighted.
4) Quick test for the word device, T/C monitor, and buffer memory

...... When displaying the device monitor screen.
Touch the display position of the device to be changed.

...... The change value input screen is displayed.
Enter the current value to be changed in the KEY window.
See Section 9.1.3 for the KEY window operations.
# 10 ERROR MESSAGES FOR SYSTEM MONITOR

The following chart shows the error messages that may be displayed when operating the system monitor and the method of handling them.

<table>
<thead>
<tr>
<th>Error Message</th>
<th>Description</th>
<th>Method of Handling</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLC communications error</td>
<td>Communication could not be established with the PLC CPU.</td>
<td>Check the following:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Connections between the PLC CPU and the GOT (disconnected or cut cables).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Has an error occurred in the PLC CPU?</td>
</tr>
</tbody>
</table>
OPERATION OF THE VARIOUS SYSTEM MONITOR SCREENS

ERROR MESSAGES FOR SYSTEM MONITOR

OPERATING SP MODULE MONITOR SCREEN

ERROR MESSAGES FOR SP MODULE MONITOR

SWITCHING THE NETWORK MONITOR SCREENS

OPERATING NETWORK MONITOR

ERROR MESSAGES FOR I/O MODULE MONITOR SCREENS

OPERATING I/O MODULE MONITOR SCREEN
The operation procedure when using the special module monitor function is explained in this chapter.

### 11.1 Operation procedures before starting special module monitoring

This section contains a summary of the procedure for transmitting the system program (OS) for the special module monitor function and the special module monitor data from the personal computer to the GOT until it is installed in built-in memory. For details, please refer to the GT Designer2 Version2 Operating Manual. Details of the screen display and key operation are shown in the Help.

1. Connect GOT and personal computer.
2. Start up GOT.
3. Start up personal computer and start GT Designer.
4. Transmit the data using the installation dialog box.
   - Installation is complete.
   - With the GT Designer2, transmit the OS for the special module monitor function from the personal computer to the GOT and install it in the built-in memory.
   - Transmit the data using the installation dialog box.

5. When installation is finished, "Completed" is displayed on the installation dialog box.
6. With the GT Designer2, transmit the special module monitor data from the personal computer to the GOT and install it in the built-in memory. (Download)
   - Transmit the data using the download dialog box.

7. When download is finished, the special module monitor can be operated through the GOT.
8. GT Designer2 operation is finished.

... Proceed to Section 12.2 to operate the special module monitor.
11.2 Operation procedures from user-created monitor screen display to start of special module monitor

This section describes the operation procedure for the GOT when starting each operation of the special module monitor function after the system program (OS) of the special module monitor function has been installed in the GOT built-in memory, and downloading the special module monitor data.

1. Install memory board on the GOT.
2. Start up GOT.
3. Display the use-created monitor screen.
4. Display the special module monitor function.  
   (-1)
5. Display the system configuration screen.  
   (-1) When starting, the module format and related data are not displayed. When reading of module data from the PLC CPU is complete, the module format and related data is displayed. When using the QCPU(Q mode), you can also check the PLC CPU status (PC Information) and module error information, etc. (Unit Detail info). See Section 12.1.1.
   When END is selected, the special module monitoring ends and the display moves to the original screen where the special module monitor function was begun.
6. Specify the module to be monitored.  
   (-1) See Secs. 12.1.3, 12.1.4.
7. Display the special module monitor menu.  
   (-1) See Section 12.1.4.
8. Select from the menu.  
   (-1) The Special Module Monitor Screen is displayed by selecting it from the menu. See Section 12.1.4.
   (-1) See Section 12.1.2.  
   (-1) See Secs. 12.2 to 12.27.
9. Display the monitor screen for the special module.  
   Check the data for the module with the displayed contents.
10. Change the data.
11. Change the current value of the specified area.

*1 Touch the key where the touch switch (expanded) function was set with the drawing software, and start the system monitor function.
   When the Utility screen is displayed, touch SP.Mon. to start the special module monitor function.
12 OPERATING SPECIAL MODULE MONITOR SCREEN

Each screen operation when using the special module monitor function is explained in this chapter.

12.1 Screen configuration, common operation and changing screens when monitoring

The screen configuration and common operations used when executing the special module monitor are explained in this section.

12.1.1 Composition of system configuration screen and key functions

This section describes the structure of the system configuration screen that is displayed after starting the special module monitor function and the key functions displayed on the screen.

(1) When using the QCPU(A mode), QnACPU or ACPU

(a) Display

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>Displays network No. and station No. of monitor station.</td>
</tr>
<tr>
<td>2)</td>
<td>With the module installed in the monitor station, the special function module displays the format and the initial no. of the I/O signal with the sequencer CPU; the I/O module displays &quot;Input&quot;/&quot;Output&quot; and the I/O points. For a special function module that cannot be monitored, &quot;Special&quot; and the initial no. of the I/O signal are displayed. The display position of the module is the key for moving the special function module monitor of that module to the screen where it is executed (Touch input)</td>
</tr>
<tr>
<td>3)</td>
<td>The keys used for the operation with the System Configuration screen shown in (b) are displayed. (Touch input)</td>
</tr>
</tbody>
</table>
12.1 Screen configuration, common operation and changing screens when monitoring

12.1.1 Composition of system configuration screen and key functions

(b) Key functions

The chart below shows the functions of the keys that are used with the System Configuration screen operation.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>END</td>
<td>Monitoring ends; and display returns to the screen where the special module monitor function was begun.</td>
</tr>
<tr>
<td>Module display position</td>
<td>Moves to screen where the special module monitor for that module is executed. Slots 0 through 7 are valid for each base module.</td>
</tr>
<tr>
<td></td>
<td>Scrolls display up or down one level to display the system configuration of the level number just before or after the one that is currently displayed. Operation of these keys is enabled when the system configuration extends to three levels or more.</td>
</tr>
<tr>
<td>▼</td>
<td>Scrolls down one level.</td>
</tr>
<tr>
<td>▲</td>
<td>Scrolls up one level.</td>
</tr>
</tbody>
</table>

(2) When using the QCPU(Q mode)

(a) Display

1) Displays the network number and station number of the monitor station.

2) The module format and related data are displayed on completion of module data read from the PLC CPU. (OS executes it automatically.)

3) For the modules installed in the monitor station, their formats, I/O points and first I/O numbers are displayed.

For special function modules which cannot be monitored, their formats are displayed as “Special”.

The module display position acts as the key to shift to the screen where the module will be monitored. (Touch input)

In case of a multi-CPU system, the CPU No. is displayed for the CPU and the control CPU No. is displayed for the installed module.

3) The keys used for the operation on the System Configuration screen shown in (b) are displayed. (Touch input)
(b) Key functions

The following table indicates the functions of the keys used to perform operation on the System Configuration screen.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>END</strong></td>
<td>Monitoring ends, and the display returns to the screen where the special module monitor function was started.</td>
</tr>
<tr>
<td><strong>QCPU</strong></td>
<td>Shifts to the PC Information screen. (Refer to Section 12.1.3)</td>
</tr>
</tbody>
</table>
| **Module display position** | Basic mode: Shifts to the screen where that special module will be monitored.  
                          | Info. mode: Shifts to the screen which shows the detail information of the selected module. |
| **Basic mode** | Switches the System Configuration screen to the info. mode. (Refer to Section 12.1.4) |
| **Info. mode** | Switches the System Configuration screen to the Basic mode.              |
| **▲ ▼**    | Scrolls the display one base up or down to display the system configuration of the currently undisplayed base immediately before/after the currently displayed base. This operation cannot be performed when the system has three or more extension bases.  
                          | ▼ : Scrolls one base down.  
                          | ▲ : Scrolls one base up. |
12.1.2 Setting method for remote station monitoring

The setting method to perform remote station monitoring during special module monitoring is described below.

<Special Module Monitor>

Touch **SP.UNIT** to display the system configuration screen. Depending on the connection method, the screen first displayed will be different as indicated below.

<table>
<thead>
<tr>
<th>Connection Method</th>
<th>Screen Displayed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bus connection and CPU direct connection</td>
<td>The base of the connection station is displayed.</td>
</tr>
<tr>
<td>Ethernet connection</td>
<td>The base of the station set as the host is displayed.</td>
</tr>
<tr>
<td>CC-Link (via G4) connection</td>
<td>The base of the master station is displayed.</td>
</tr>
<tr>
<td>MELSECNET (II), /B connection</td>
<td>No system configuration display</td>
</tr>
<tr>
<td>MELSECNET/10 connection</td>
<td>No system configuration display</td>
</tr>
<tr>
<td>CC-Link connection (Intelligent device station)</td>
<td>No system configuration display</td>
</tr>
</tbody>
</table>

For MELSECNET/CC-Link connections, the following operations will always be required:

1) Touch **NETPCNo.** to display the window shown in 2)
2) Touch **Alphanumeric** to specify the network No. and PLC station No..

![Diagram of network configuration](image)

For Ethernet connection *1:

- **NETWK NO.:** 1 to 239
- **STATION:** 0 to 64

For Ethernet connection *1:

- **NETWK NO.:** 1 to 239
- **STATION:** 0 to 64

*1 The monitor target must be preset using GT Designer2. For ACPU monitor, specify the network number/station number set on GT Designer2. Refer to the GOT-A900 series User's Manual (Connection System Manual) for details of the monitor target setting for Ethernet connection.

When the setting is finished, the system configuration of the specified station is displayed. See Sec. 12.1.6 for operations which come after these operations.
12.1.3 Composition of PC Information screen and key functions (only when QCPU(Q mode) is used)

This section describes the structure of the PC Information screen that is displayed by specifying the QCPU(Q mode) on the System Configuration screen, and the key functions displayed on the screen.

(1) Display

![PC Information Screen](image)

1) Displays the network number and station number of the monitor station.

2) Displays the operating status, error information and the like of the corresponding PLC CPU.

3) The keys used for the operation on the System Configuration screen shown in (2) are displayed. (Touch input)

(2) Key functions

The following table indicates the functions of the keys used to perform operation on the System Configuration screen.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>END</td>
<td>Monitoring ends, and the display returns to the screen where the special module monitor function was started.</td>
</tr>
<tr>
<td>sys.</td>
<td>Shifts to the System Configuration screen. (Refer to Section 12.1.1)</td>
</tr>
<tr>
<td>conf.</td>
<td>Scrolls the display one page up or down.</td>
</tr>
<tr>
<td>▲</td>
<td>Scrolls one page down.</td>
</tr>
<tr>
<td>▼</td>
<td>Scrolls one page up.</td>
</tr>
</tbody>
</table>

---

12.1 Screen configuration, common operation and changing screens when monitoring
12.1.3 Composition of PC Information screen and key functions (only when QCPU(Q mode) is used)
12.1.4 Composition of Unit Detail info screen and key functions (only when QCPU(Q mode) is used)

This section describes the structure of the Unit Detail info screen that is displayed by specifying the module in the info. mode of the System Configuration screen, and the key functions displayed on the screen.

(1) Display

![Unit Detail Info Screen]

1) Displays the network number and station number of the monitor station.

2) Displays the module information, error information and the like of the corresponding module.

3) The keys used for the operation on the System Configuration screen shown in (2) are displayed. (Touch input)

(2) Key functions

The following table indicates the functions of the keys used to perform operation on the System Configuration screen.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>END</td>
<td>Monitoring ends, and the display returns to the screen where the special module monitor function was started.</td>
</tr>
<tr>
<td>sys. conf.</td>
<td>Shifts to the System Configuration screen. (Refer to Section 12.1.1)</td>
</tr>
</tbody>
</table>

Scrolls the display one page up or down.

▲ ▼ : Scrolls one page down.

▲ : Scrolls one page up.
12.1.5 Monitor screen configuration and key functions

This section describes the structure of the monitor screen that is displayed by specifying the module on the system configuration screen (in the Basic mode when the QCPU(Q mode) is used), and the key functions displayed on the screen.

(1) Display (with A68RD)

![Monitor Screen Configuration Diagram]

- **1)** Displays format of module being monitored.
- **2)** Displays buffer memory data of object module in its current form, or in a graph. Display status of I/O signal with the PLC CPU.
  - When testing, tests after moving the cursor to the display position of the target data.
- **3)** The keys used for the operation with the monitor screen shown in (2) are displayed. (Touch input)

(2) Key functions

The chart below shows the functions of the keys that are used with the System monitor screen operation.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>END</td>
<td>Monitoring ends; and display returns to the screen where the special module monitor function was begun.</td>
</tr>
<tr>
<td>MONIT</td>
<td>Ends current monitoring and moves to screen that shows monitor menu.</td>
</tr>
<tr>
<td>MENU</td>
<td>Operation can be used only if the special function module has a Monitor menu.</td>
</tr>
<tr>
<td>Data Chg.</td>
<td>Starts change of current values for buffer memory of special function module displayed on screen.</td>
</tr>
<tr>
<td>SET/RESET</td>
<td>Starts test set/reset for I/O signal between PLC CPU and special function module.</td>
</tr>
</tbody>
</table>

All types of data are displayed when the readout from the special function module is complete. (OS executes it automatically.)
12.1.6 Specifying monitor module and selecting monitor menu

The operation when starting the special module monitor for an optional module is explained, using the positioning module (AD71) as an example.

[Operation procedure]

1. Display System Configuration screen. (See Section 12.1.1.)
2. [Specify module to be monitored] (Touch display position of module.)
3. Display screen that shows monitor menu.
4. [Specify menu to be monitored] (Touch display position of menu.)
5. Display monitor screen of specified menu.

(1) From among the modules installed in the corresponding base unit, specify the special function module whose format is displayed.
   * For modules where the format is not displayed, monitor with the system monitor function (See Sec. 9.5.). Specify input/output modules according to Sec. 13.1.

(2) Specify the menu corresponding to the type of data to be monitored.

(3) With modules for which the monitor menu cannot all be displayed in one screen, touch the ▲▼ keys at the right of the screen to scroll the display menu.

(4) Check the contents of the display. Carry out the subsequent operation according to Sec. 12.2 to 12.31.

(5) Carry out tests for the displayed data according to Sec. 12.1.7.
   - Change current value of buffer memory
   - Turn output signal from PLC CPU on and off

Proceed to Sec. 12.1.7 and Secs. 12.2 to 12.31.
12.1.7 Test for special function module

⚠️ CAUTION ⚠️

Read the manual carefully and fully understand the operation before the test operation (modifying the current value of a buffer memory) of special function module monitor.
In addition, never modify data in a test operation to a device which performs a crucial operation to the system. It may cause an accident by a false output or malfunction.

Testing can be performed for all buffer memory data displayed on the current monitor screen. This section describes the operation for changing the current value of the buffer memory and turning the output signal from the PLC CPU to the special module on and off.

(1) When testing, test for the buffer memory to be written in from the PLC CPU and the output signal that is output from the PLC CPU.
(2) Be sure to carry out the test operation with the PLC CPU in STOP status. If the PLC CPU is tested during RUN status, it returns to the output values and output status from the sequence program.

[Operation procedure]

1) Display monitor screen.
2) Data Chg.
3) SET/RESET (Touch)

CAUTION

Read the manual carefully and fully understand the operation before the test operation (modifying the current value of a buffer memory) of special function module monitor.
In addition, never modify data in a test operation to a device which performs a crucial operation to the system. It may cause an accident by a false output or malfunction.
12.1 Screen configuration, common operation and changing screens when monitoring

12.1.7 Test for special function module

*1 Do not perform the following tests.
When testing, the module may not operate correctly or the buffer memory/input signal may return to the output value/output status from the special function module.
1) Test the buffer memory for reading-only from the PLC CPU.
2) Test the input signal to the PLC CPU from the special function module.

*2 When testing buffer memory data, specify the change value in the following way.
1) For data where 16/32 bits is displayed with one number, specify the change value in decimal.
2) For data where one number of 16/32 bits is displayed as a percent, such as with an A/D conversion module specify the change value corresponding to the percentage in decimal.

Example:
When the set value of the offset or gain is 0 to 2000, when specifying a change value of 50%, input 1000.
3) For data where 16 bits is displayed one bit at a time as "0" and "1", specify the change value of 16 bits in decimal.
12.1.8 Changing the screen

This section describes how to change the screen when executing each monitor function of the special module monitor function from the status where the user-created monitor screen is displayed.

```
Start

User-created monitor screen

Touch

Utility screen

Touch

System Configuration screen
(See Sec. 12.1.1.)

Touch sys.conf.

Monitor menu display screen
for specified module
(See Sec. 12.1.6.)

Touch MONIT MENU

Touch END

Go to user-created monitor screen
or utility screen.
```

---

```
1) Touch the key where the touch switch (expanded) function was set with the GT Designer2, and start the special module monitor operation.
When the Utility screen is displayed, touch SP.UNIT and start the special module monitor function.

The system monitor function and special module monitor function can also be started from the Utility menu screen.
```

---

```
(*1) When the Utility screen is displayed, touch SP.UNIT and start the special module monitor function.
```

---

```
1) Touch the key where the touch switch (expanded) function was set with the GT Designer2, and start the special module monitor operation.
When the Utility screen is displayed, touch SP.UNIT and start the special module monitor function.

The system monitor function and special module monitor function can also be started from the Utility menu screen.
```

---

```
When I/O module is selected

Touch DataChg.

Touch SET/RESET

Touch QCPU.

Touch System Configuration.

Touch the display module in info. mode.

Touch the display module.

When special function module is selected

Touch on monitor menu.

Touch MONIT MENU

1)

Go to user-created monitor screen
or utility screen.
```

---

```
(See Sec. 12.1.3.)

PC Information screen

Unit Dtail info screen
(See Sec. 12.1.4.)

Key window display screen
for test
(See Sec. 12.1.7.)

Monitor screen for specified
monitor menu
(See Section 12.1.5.)

(See Section 12.1.6.)

(See Section 12.1.7.)

(See Section 12.1.3.)
```

---

```
(See Section 12.1.1.)

(See Section 12.1.4.)

(See Section 12.1.3.)

(See Section 12.1.4.)

(See Section 12.1.7.)

(See Section 12.1.5.)
```

---
12.2 A61LS Module Monitor

Screen Image

A61LS Operation Monitor Screen

- N415 Operation Monitor Screen
  - SET/ Data [ ] MONIT [ ] END

<table>
<thead>
<tr>
<th>No.</th>
<th>Buffer memory address</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>11 000B</td>
</tr>
<tr>
<td>2)</td>
<td>4 0004</td>
</tr>
<tr>
<td>3)</td>
<td>10 000A</td>
</tr>
<tr>
<td>4)</td>
<td>5, 6 0005, 0006</td>
</tr>
<tr>
<td>5)</td>
<td>3 0003</td>
</tr>
<tr>
<td>6)</td>
<td>12 000C</td>
</tr>
<tr>
<td>7)</td>
<td>7 0007</td>
</tr>
<tr>
<td>8)</td>
<td>0 0000</td>
</tr>
<tr>
<td>9)</td>
<td>8 0008</td>
</tr>
<tr>
<td>10)</td>
<td>2 0002</td>
</tr>
<tr>
<td>11)</td>
<td>1 0001</td>
</tr>
<tr>
<td>12)</td>
<td>9 0009</td>
</tr>
<tr>
<td>13)</td>
<td>13 to 44 000D to 002C</td>
</tr>
</tbody>
</table>

A61LS Input/Output Monitor Screen

- N415 Input/Output Monitor Screen
  - SET/ Data [ ] MONIT [ ] END

<table>
<thead>
<tr>
<th>No.</th>
<th>Inputs (X)</th>
<th>Outputs (Y)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>

- 1) --- ---
12.3 AD61 Module Monitor

<table>
<thead>
<tr>
<th>Screen Image</th>
<th>No.</th>
<th>Buffer memory address</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1)</td>
<td>0004, 0005, 0024, 0025</td>
</tr>
<tr>
<td></td>
<td>2)</td>
<td>0006, 0007, 0026, 0027</td>
</tr>
<tr>
<td></td>
<td>3)</td>
<td>0003, 0023</td>
</tr>
<tr>
<td></td>
<td>4)</td>
<td>---</td>
</tr>
</tbody>
</table>
### 12.4 A1SD61 Module Monitor

#### Screen Image

<table>
<thead>
<tr>
<th>No.</th>
<th>Buffer memory address</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>---</td>
</tr>
<tr>
<td>2)</td>
<td>---</td>
</tr>
<tr>
<td>3)</td>
<td>11 000B</td>
</tr>
<tr>
<td>4)</td>
<td>12 to 147 000C to 0093</td>
</tr>
<tr>
<td>5)</td>
<td>12 to 147 000C to 0093</td>
</tr>
<tr>
<td>6)</td>
<td>5 0005</td>
</tr>
<tr>
<td>7)</td>
<td>---</td>
</tr>
<tr>
<td>8)</td>
<td>0, 1 0000, 0001</td>
</tr>
<tr>
<td>9)</td>
<td>2, 3 0002, 0003</td>
</tr>
<tr>
<td>10)</td>
<td>6, 7 0006, 0007</td>
</tr>
<tr>
<td>11)</td>
<td>8, 9 0008, 0009</td>
</tr>
<tr>
<td>12)</td>
<td>4 0004</td>
</tr>
<tr>
<td></td>
<td>---</td>
</tr>
</tbody>
</table>

#### A1SD61 Operation Monitor Screen (Bit 1, 2)

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>Count Enable</td>
<td>1</td>
</tr>
<tr>
<td>2)</td>
<td>Decrement count</td>
<td>0</td>
</tr>
<tr>
<td>3)</td>
<td>Ring Counter</td>
<td>0</td>
</tr>
<tr>
<td>4)</td>
<td>Sampling/Periodic</td>
<td>0</td>
</tr>
<tr>
<td>5)</td>
<td>External Preset</td>
<td>0</td>
</tr>
<tr>
<td>6)</td>
<td>Preset Command</td>
<td>0</td>
</tr>
<tr>
<td>7)</td>
<td>Counter Function Start</td>
<td>0</td>
</tr>
<tr>
<td>8)</td>
<td>Counter Function</td>
<td>0</td>
</tr>
<tr>
<td>9)</td>
<td>Counter Value</td>
<td>0</td>
</tr>
<tr>
<td>10)</td>
<td>Ring Counter Value</td>
<td>0</td>
</tr>
<tr>
<td>11)</td>
<td>Counter Disable</td>
<td>0</td>
</tr>
</tbody>
</table>

#### A1SD61 Input/Output Monitor Screen

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>Muit Error</td>
<td>0</td>
</tr>
<tr>
<td>2)</td>
<td>Alarm Output CH.1</td>
<td>0</td>
</tr>
<tr>
<td>3)</td>
<td>Alarm Output CH.2</td>
<td>0</td>
</tr>
<tr>
<td>4)</td>
<td>Count Enable</td>
<td>1</td>
</tr>
<tr>
<td>5)</td>
<td>Decrement Count</td>
<td>0</td>
</tr>
<tr>
<td>6)</td>
<td>Counter Function</td>
<td>0</td>
</tr>
<tr>
<td>7)</td>
<td>Counter Value</td>
<td>0</td>
</tr>
<tr>
<td>8)</td>
<td>Ring Counter Value</td>
<td>0</td>
</tr>
<tr>
<td>9)</td>
<td>Counter Disable</td>
<td>0</td>
</tr>
</tbody>
</table>

#### Switching the Network Monitor Screen

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>

---

**Note:** The images show the screen images for the A1SD61 Module Monitor, detailing various settings and values for the module.
### 12.5 A62DA-S1 Module Monitor

#### Screen Image

<table>
<thead>
<tr>
<th>No.</th>
<th>Buffer memory address</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>0, 1</td>
</tr>
<tr>
<td></td>
<td>0000, 0001</td>
</tr>
<tr>
<td>2)</td>
<td>2 to 5</td>
</tr>
<tr>
<td></td>
<td>0002 to 0005</td>
</tr>
<tr>
<td>3)</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>---</td>
</tr>
</tbody>
</table>

#### 12.5 A62DA-S1 Operation Monitor Screen

### 12.5 A62DA-S1 Graph Monitor Screen

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## 12.6 A1S62DA Module Monitor

### Screen Image

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<td>2 0002</td>
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<td>7)</td>
<td>11 000B</td>
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<td>8)</td>
<td>9 0009</td>
</tr>
<tr>
<td>9)</td>
<td>--</td>
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<td>10)</td>
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### Operating SP Module Monitor

*Screen Image of A1S62DA Operation Monitor Screen*

- Analog Output Enable/Disable
  - Channel No.: 51
  - 0100101010110100

- Error Flag
  - D/A Conversion RX/DY
  - Error Flag

- V Output
  - Channel 1
    - 0.4 V
  - Channel 2
    - 0 V

- AC Output
  - Channel 1
    - 0.4 V
  - Channel 2
    - 0 V

- D/A Check Code
  - 0123
  - Resolution Setting: 11/13/15/17
### 12.7 A62LS Module Monitor

#### Screen Image

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<tr>
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<tr>
<td>6)</td>
<td>10, 11</td>
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<tr>
<td>7)</td>
<td>9</td>
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<td>8)</td>
<td>5</td>
</tr>
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<td>9)</td>
<td>6</td>
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<tr>
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#### A62LS Operation Monitor Screen

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<td>10, 11</td>
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<tr>
<td>7)</td>
<td>9</td>
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<td>5</td>
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#### A62LS Input/Output Monitor Screen

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<td>0, 1</td>
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<tr>
<td>6)</td>
<td>10, 11</td>
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<td>7)</td>
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12.8 A1S62RD Module Monitor

Screen Image

A1S62RD Operation Monitor Screen

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<td>2, 3</td>
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A1S62RD Input/Output Module Screen

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A1S62RD Graph Monitor Screen

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### 12.9 A1S63ADA Module Monitor

**Screen Image**

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</tr>
<tr>
<td>3)</td>
<td>0001</td>
</tr>
<tr>
<td>4)</td>
<td>0002, 0003</td>
</tr>
<tr>
<td>5)</td>
<td>0008, 000C</td>
</tr>
<tr>
<td>6)</td>
<td>0004</td>
</tr>
<tr>
<td>7)</td>
<td>0005</td>
</tr>
<tr>
<td>8)</td>
<td>000A</td>
</tr>
<tr>
<td>9)</td>
<td>000D</td>
</tr>
<tr>
<td>10)</td>
<td>0010</td>
</tr>
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<td>000E</td>
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**A1S63ADA Simple Loop Control Monitor Screen**

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<td>0007, 0008, 0009</td>
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<td>4)</td>
<td>0012 to 0025</td>
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</tr>
<tr>
<td>6)</td>
<td>0010</td>
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**A1S63ADA Input/Output Monitor Screen**

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12.10 A1S64AD Module Monitor

Screen Image

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<td>10 to 13</td>
<td>000A to 000D</td>
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<td>18</td>
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### 2) Error Messages

- --- ---
- --- ---
- --- ---
Screen Image

A68AD Operation Monitor Screen

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<td>1 0001</td>
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<tr>
<td>3)</td>
<td>2 to 9 0002 to 0009</td>
</tr>
<tr>
<td>4)</td>
<td>10 to 17 000A to 0011</td>
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<tr>
<td>5)</td>
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<td>6)</td>
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A68AD Input/Output Monitor Screen

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<th>Outputs (Y)</th>
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<table>
<thead>
<tr>
<th>Inputs (X)</th>
<th>Outputs (Y)</th>
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A68AD Graph Monitor Screen

Input [%]

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<tr>
<td>0</td>
<td>50</td>
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- MRT Error

1) 10 to 17 000A to 0011

2) --- ---
### 12.12 A1S68AD Module Monitor

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<td>0002</td>
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<td>2</td>
<td>0002</td>
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<td>28</td>
<td>001C</td>
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<td>5)</td>
<td>10 to 17</td>
<td>000A to 0011</td>
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<td>6)</td>
<td>20 to 27</td>
<td>0014 to 001B</td>
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#### A1S68AD Module Monitor Screen

![Screen Image]

#### A1S68AD Input/Output Monitor Screen

![Screen Image]

#### A1S68AD Graph Monitor Screen

![Screen Image]
### 12.13 A68ADN Module Monitor

**Screen Image**

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<td>3)</td>
<td>1 0001</td>
</tr>
<tr>
<td>4)</td>
<td>2 to 9 0002 to 0009</td>
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<td>10 to 17 000A to 0011</td>
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**A68ADN Input/Output Monitor Screen**

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**A68ADN Graph Monitor Screen**

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12.13 A68ADN Module Monitor
12.14 A68RD Module Monitor

Screen Image

### A68RD Operation Monitor Screen

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<td>2)</td>
<td>18 to 33 0012 to 0021</td>
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<td>4)</td>
<td>35 0023</td>
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<tr>
<td>5)</td>
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<td>7)</td>
<td>36 0024</td>
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### A68RD Input/Output Monitor Screen

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<th>Outputs (VI)</th>
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### A68RD Graph Monitor Screen

1. **Operation of the Various System Monitor Screens**
2. **Error Messages for System Monitor**
3. **Operating SP Module Monitor**
4. **Operating SP Module Monitor Screens**
5. **Operating I/O Module Monitor Screens**
6. **Operating NET-Work Monitor**
7. **Switching the NET-Work Monitor Screens**
8. **Error Messages for SP Module Monitor**
9. **Operating SP Module Monitor Screens**
10. **Operating I/O Module Monitor Screens**
11. **Operating NET-Work Monitor**
12. **Switching the NET-Work Monitor Screens**
13. **Error Messages for SP Module Monitor**
14. **Operating SP Module Monitor Screens**
15. **Operating I/O Module Monitor Screens**
16. **Operating NET-Work Monitor**

---

12.14 A68RD Module Monitor 12 - 24
## 12.15 A1S68DAI, A1S68DAV Module Monitor

### Screen Image

#### A1S68DAV Movement Monitor Screen

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#### A1S68DAV Input/Output Monitor Screen

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#### A1S68DAV Graph Monitor Screen

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### Diagrams

- **A1S68DAV Movement Monitor Screen**
- **A1S68DAV Input/Output Monitor Screen**
- **A1S68DAV Graph Monitor Screen**
12.16 A616AD Module Monitor

Screen Image

A616AD Operation Monitor Screen

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<td>3</td>
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A616AD Operation Monitor Screen

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A616AD Input/Output Monitor Screen

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### Screen Image

#### A616AD Graph Monitor Screen

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**Scale A (0):**

- Data Format 0
- Data Format 1

**Scale B (1):**

- Data Format 0
- Data Format 1

#### A616AD Graph Monitor Screen CONNECT No. 0

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**Scale A (0):**

- Data Format 0
- Data Format 1

**Scale B (1):**

- Data Format 0
- Data Format 1

#### Parameters

- **FEEDBACK/6400**
- **Data Format (0100 to 017F)**
- **Enable (0100 to 0111)**
12.17 A616DAI, A616DAV Module Monitor

**Screen Image**

### Operation of the Various System Monitor Screens

#### Error Messages for System Monitor

**Operating SP Module Monitor**

**Operating I/O Module Monitor Screens**

**Operating Network Monitor**

**Switching the Network Monitor Screens**
OPERATION OF THE
VARIOUS SYSTEM MONITOR SCREENS

ERROR MESSAGES
FOR SYSTEM MONITOR

OPERATING SP MODULE MONITOR
SCREEN

OPERATING I/O MODULE MONITOR
SCREENS

ERROR MESSAGES
FOR SP MODULE MONITOR

SWITCHING THE
NETWORK MONITOR
SCREENS

Screen Image

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16 to 23 0010 to 0017

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16 to 23 0070 to 007F

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16 to 23 000F

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16 to 23 0000

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16 to 23 0070 to 007F

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16 to 23 0000

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16 to 23 0000
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**Screen Image**

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*Screen Image No.*

Buffer memory address:

- 1) ---
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- 3) 512 to 639, 0200 to 027F
- 4) ---
- 5) 0, 0000, 16 to 23, 0010 to 0017
## 12.19 AD70,A1SD70 Module Monitor

### Screen Image

![AD70 Positioning & Parameter Data Monitor Screen](image)

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### AD70 Input/Output Monitor Screen

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12.19 AD70, A1SD70 Module Monitor
### 12.20 AD70D Module Monitor

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OPERATION OF THE VARIOUS SYSTEM MONITOR SCREENS

ERROR MESSAGES FOR SYSTEM MONITOR

OPERATING SP MODULE MONITOR

OPERATING I/O MODULE MONITOR SCREENS

ERROR MESSAGES FOR SP MODULE MONITOR

OPERATING NETWORK MONITOR SCREEN

SWITCHING THE NETWORK MONITOR SCREENS
12.21 AD71 Module Monitor

### AD71 Positioning Data Monitor Screen

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12 - 37 12.21 AD71 Module Monitor
### OPERATION OF THE VARIOUS SYSTEM MONITOR SCREENS

#### ERROR MESSAGES FOR SYSTEM MONITOR

#### OPERATING SP MODULE MONITOR

#### OPERATING I/O MODULE MONITOR

#### ERROR MESSAGES FOR SP MODULE MONITOR

#### OPERATING NETWORK MONITOR

#### SWITCHING THE NETWORK MONITOR SCREENS

### Screen Image

#### AD71 Parameter Data Monitor Screen

#### Screen Image

#### AD71 M Code Data Monitor Screen

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### Diagram

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4) 7884 1ECC 7904 1EED
5) 7875 1EC2 7894 1E6D
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7) 7876 1EC4 7896 1E8D
8) 7877 1EC5 7897 1E9D
9) 7878 1EC6 7898 1EDA
10) 7879 1EC7 7899 1EDB
11) 7880 1EC8 7900 1EDC
12) 7881 1EC9 7901 1EDD
13) 7882 1ECA 7902 1EDE
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15) 7886 1ECE 7906 1EE2
16) 7872 1EC0 7892 1ED4

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1) --- --- --- ---
2) 47 002F 347 015B
3) 46 002E 346 015A
4) 45 002D 345 0159
5) 46 002E 346 015A
6) 49 0031 349 015D
7) 48 0030 348 015C
8) 39 0027 339 0153
9) 45 002D 345 0159
10) 43 002B 343 0157

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### AD71 Module Monitor

#### Buffer Memory Address

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#### Screen Image

1. **AD71 Input/Output Monitor Screen**
   - **Inputs (CO)**: X - X Posit. Start, Y - Y Posit. Start
   - **Outputs (CO)**: X - X Posit. Start, Y - Y Posit. Start

2. **AD71 Positioning Data Monitor Screen**
   - **Address (Dec.)**: 001, 002, 003, 004, 005, 006, 007, 008, 009, 010, 011, 012, 013, 014, 015, 016, 017, 018, 019, 020
   - **Address (Hex.)**: 015, 016, 017, 018, 019, 020, 021, 022, 023, 024, 025, 026, 027, 028, 029, 030, 031, 032, 033
   - **Speed (Dec.)**: 012, 012, 012, 012, 012, 012, 012, 012, 012, 012, 012, 012, 012, 012, 012, 012, 012, 012
   - **Speed (Hex.)**: 012, 012, 012, 012, 012, 012, 012, 012, 012, 012, 012, 012, 012, 012, 012, 012, 012, 012
   - **Dwell M Code**: 012, 012, 012, 012, 012, 012, 012, 012, 012, 012, 012, 012, 012, 012, 012, 012, 012, 012

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These screens provide detailed monitoring of input/output and positioning data, allowing for precise control and monitoring of the AD71 module's operations.
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Screen Image

Buffer memory address

No.

- 12.22 AD72-A1SD71 Module Monitor

- 12 - 41

- AD72-A1SD71

- Module Monitor

- --- --- --- ---

- 47 002F 347 015B

- 7873 1EC1 7893 1ED5

- 7884 1ECC 7904 1EE0

- 7885 1ECD 7905 1EE1

- 7874 1EC2 7894 1ED6

- 7875 1EC3 7895 1ED7

- 7876 1EC4 7896 1ED8

- 7877 1EC5 7897 1ED9

- 7878 1EC6 7898 1EDA

- 7879 1EC7 7899 1EDB

- 7880 1EC8 7900 1EDC

- 7881 1EC9 7901 1EDD

- 7882 1ECA 7902 1EDE

- 7883 1ECB 7903 1EDF

- 7886 1ECE 7906 1EE2

- 7887 1ECF 7907 1EE3

- 46 002E 346 015A

- 45 002D 345 0159

- 7884 1ECC 7904 1EE0

- 7885 1ECD 7905 1EE1

- 7886 1ECE 7906 1EE2

- 7887 1ECF 7907 1EE3

- 46 002E 346 015A

- 45 002D 345 0159

- 49 to 200 0031 to 00C8

- 349 to 500 015D to 01F4

- 48 0030 348 015C

- 39 0027 339 0153

- 45 002D 345 0159

- 43 002B 343 0157
### 12.22 AD72.A1SD71 Module Monitor

#### Operation of the Various System Monitor Screens

##### Error Messages for System Monitor

#### Operating SP Module Monitor

#### Operating I/O Module Monitor

#### Error Messages for SP Module Monitor

#### Switching the Network Monitor Screens
### 12.23 AD75, A1SD75 Module Monitor

#### Screen Image

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#### AD75 Operation Monitor Screen

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#### AD75 Basic Parameter 1

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### 12.23 AD75, A1SD75 Module Monitor

12 - 43
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</tr>
<tr>
<td>1)</td>
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### A075F

#### CFR Basic Parameter

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<tr>
<th>Parameter</th>
<th>Valid Range</th>
<th>dec.</th>
<th>hex.</th>
<th>dec.</th>
<th>hex.</th>
<th>dec.</th>
<th>hex.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) EEPROM</td>
<td>1st EEPROM</td>
<td>0</td>
<td>0000</td>
<td>1</td>
<td>0010</td>
<td>0</td>
<td>0000</td>
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<td>0000</td>
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#### CFR Extended Parameter

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<th>hex.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) EEPROM</td>
<td>1st EEPROM</td>
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<td>0000</td>
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<td>0010</td>
<td>0</td>
<td>0000</td>
</tr>
<tr>
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<td>2nd EEPROM</td>
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### A075P

#### Data Format

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<td>15</td>
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#### Error History

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<td>O</td>
<td>012</td>
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<td>012</td>
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<td>6</td>
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<td>012</td>
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<tr>
<td>16</td>
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<td>012</td>
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### Screen Image

**AD75F Original Point Return**

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<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AXes</td>
<td>012</td>
<td>[ ]</td>
<td>012</td>
<td>[ ]</td>
<td>012</td>
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</table>

**Torque Limit**

<table>
<thead>
<tr>
<th>AXes</th>
<th>012</th>
<th>AXes[ ]</th>
<th>AXes</th>
<th>012</th>
<th>AXes</th>
<th>012</th>
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</table>

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### Buffer memory address

<table>
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<tr>
<td></td>
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<td>hex.</td>
<td>dec.</td>
</tr>
<tr>
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<td>0336</td>
<td>922</td>
</tr>
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<td>2)</td>
<td>823</td>
<td>0337</td>
<td>923</td>
</tr>
<tr>
<td>3)</td>
<td>824</td>
<td>0338</td>
<td>924</td>
</tr>
<tr>
<td>4)</td>
<td>825</td>
<td>0339</td>
<td>925</td>
</tr>
<tr>
<td>5)</td>
<td>826</td>
<td>033A</td>
<td>926</td>
</tr>
<tr>
<td>6)</td>
<td>816</td>
<td>033B</td>
<td>916</td>
</tr>
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### Axis Control Data

<table>
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<th>012</th>
<th>AXes</th>
<th>012</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
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<td>0482</td>
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<td>04B4</td>
<td>1254</td>
<td>04E6</td>
<td></td>
<td></td>
</tr>
<tr>
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<td>0483</td>
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<td>04B5</td>
<td>1255</td>
<td>04E7</td>
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<td>1156</td>
<td>0484</td>
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<td>04B6</td>
<td>1256</td>
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<td>04B7</td>
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<td>04B9</td>
<td>1259</td>
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<td></td>
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<td>0494</td>
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<td>04C7</td>
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### Output Speed

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<th>AXes</th>
<th>012</th>
<th>AXes</th>
<th>012</th>
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</thead>
<tbody>
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<td>920</td>
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<td>1020</td>
<td>03FC</td>
<td></td>
<td></td>
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<td>2)</td>
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<td>0335</td>
<td>921</td>
<td>0399</td>
<td>1021</td>
<td>03FD</td>
<td></td>
<td></td>
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<td>3)</td>
<td>810</td>
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<td>910</td>
<td>038E</td>
<td>1010</td>
<td>03F2</td>
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</table>

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**A1SD75 Module Monitor**
12.23 AD75, A1SD75 Module Monitor

**OPERATION OF THE VARIOUS SYSTEM MONITOR SCREENS**

**ERROR MESSAGES FOR SYSTEM MONITOR**

**OPERATING SP MODULE MONITOR**

**OPERATING I/O MODULE MONITOR SCREENS**

**ERROR MESSAGES FOR SP MODULE MONITOR**

**OPERATING NETWORK MONITOR**

**SWITCHING THE NETWORK MONITOR SCREENS**

---

**Screen Image**

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>1)</td>
<td>818 0332 918 0396 1018 03FA</td>
</tr>
<tr>
<td>2)</td>
<td>802 0322 902 0386 1002 03EA</td>
</tr>
</tbody>
</table>

**Screen Image**

<table>
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</thead>
<tbody>
<tr>
<td>1)</td>
<td>816 0330 916 0394 1016 03FB</td>
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</tbody>
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**Screen Image**

<table>
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</thead>
<tbody>
<tr>
<td>1)</td>
<td>817 0331 917 0395 1017 03FA</td>
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</tbody>
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**Screen Image**

<table>
<thead>
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<th>No.</th>
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</thead>
<tbody>
<tr>
<td>1)</td>
<td>2299 08FB 3299 08FC 3300 to 4299 0CE 4 to 10C B</td>
</tr>
</tbody>
</table>

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**Screen Image**

<table>
<thead>
<tr>
<th>No.</th>
<th>Buffer memory address</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>2299 08FB 3299 08FC 3300 to 4299 0CE 4 to 10C B</td>
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</table>
12.24 AJ71PT32-S3, A1SJ71PT32-S3 Module Monitor

Screen Image

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<tr>
<td>2)</td>
<td>0</td>
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<td>3)</td>
<td>70 to 77</td>
</tr>
<tr>
<td>4)</td>
<td>195</td>
</tr>
<tr>
<td>5)</td>
<td>107</td>
</tr>
<tr>
<td>6)</td>
<td>90 to 93</td>
</tr>
<tr>
<td>7)</td>
<td>100 to 103</td>
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<tr>
<td>8)</td>
<td>598</td>
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<td>9)</td>
<td>599</td>
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A1J71PT32-S3 Link Data Monitor Screen

<table>
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<tr>
<th>No. of Remote Station(s)</th>
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</tr>
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<td>0 0000</td>
</tr>
<tr>
<td>2) 70 to 77</td>
<td>0046 to 004D</td>
</tr>
<tr>
<td>3) 195</td>
<td>00C3</td>
</tr>
<tr>
<td>4) 107</td>
<td>006B</td>
</tr>
<tr>
<td>5) 90 to 93</td>
<td>005A to 005D</td>
</tr>
<tr>
<td>6) 100 to 103</td>
<td>0064 to 0067</td>
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<td>7) 598</td>
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<tr>
<td>8) 599</td>
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12.24 AJ71PT32-S3, A1SJ71PT32-S3 Module Monitor

A1J71PT32-S3 Batch Refresh Data Monitor Screen

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<tr>
<th>Station number</th>
<th>Remote terminal unit or no. communication</th>
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</thead>
<tbody>
<tr>
<td>1) 10 to 41</td>
<td>000A to 0029</td>
</tr>
<tr>
<td>2) 110 to 141</td>
<td>006E to 008D</td>
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</tbody>
</table>

Remote Terminal Unit Faulty Station

Remote terminal or remote terminal for Partial Refresh

Remote terminal or remote terminal for Partial Refresh
ERROR MESSAGES FOR SP MODULE MONITOR

<table>
<thead>
<tr>
<th>Screen Image</th>
<th>No.</th>
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Station 0 Invalid Data
Either Transmission or Receive Data Valid
### 12.25 AJ71ID1(ID2) -R4, A1SJ71ID1(ID2) -R4 Module Monitor

#### Screen Image

**A71ID Movement Monitor Screen**

<table>
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<tbody>
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<td>0064</td>
</tr>
<tr>
<td></td>
<td>to</td>
<td>to</td>
</tr>
<tr>
<td>163</td>
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<td>4163</td>
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</table>

**A71ID Input/Output Monitor Screen**

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<td>0000</td>
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<tr>
<td></td>
<td>1</td>
<td>0001</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>0002</td>
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#### Table: Buffer Memory Address

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<th>X (hex.)</th>
<th>Y (dec.)</th>
<th>Y (hex.)</th>
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<td>to</td>
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<td>to</td>
<td>to</td>
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### AJ71ID Set Up Information Monitor Screen

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</tr>
<tr>
<td></td>
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<td>0008</td>
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12 - 51 12.25 AJ71ID1(ID2) -R4, A1SJ71ID1(ID2) -R4 Module Monitor
Screen Image

### A84AD Operation Monitor Screen

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<td>2)</td>
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<td>0012 to 0015</td>
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<td>3)</td>
<td>28 to 31</td>
<td>001C to 001F</td>
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<tr>
<td>4)</td>
<td>22 to 25</td>
<td>0016 to 0019</td>
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<td>5)</td>
<td>22 to 25</td>
<td>0016 to 0019</td>
<td></td>
</tr>
<tr>
<td>6)</td>
<td>26</td>
<td>001A</td>
<td></td>
</tr>
<tr>
<td>7)</td>
<td>27</td>
<td>001B</td>
<td></td>
</tr>
<tr>
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<td>---</td>
<td>---</td>
<td></td>
</tr>
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### A84AD Setting Monitor Screen

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### A84AD Input/output Monitor Screen

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1) ---
12.27 A1S64TCTT(BW)-S1, A1S64TCRT(BW)-S1 Module Monitor

Screen Image

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Screen Image

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### OPERATION OF THE VARIOUS SYSTEM MONITOR SCREENS

#### 12.27 A1S64TCTT(BW)-S1, A1S64TCRT(BW)-S1 Module Monitor

**Screen Image**

- **12.27 A1S64TCTT(BW)-S1 Alert details**
  - PV exceeds the specified temperature measurement range in the input range.
  - PV is below the specified temperature measurement range in the input range.
  - Hardware error occurs.
  - Alert alarm 1 is turned on.
  - Alert alarm 2 is turned on.
  - Alert alarm 3 is turned on.
  - Alert alarm 4 is turned on.
  - The heater disconnection alarm is detected.
  - The loop disconnection is detected.
  - The current error when the output is off is detected.

- **Buffer memory address**

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#### Error Messages for System Monitor

**Screen Image**

- **Input range**
  - R
  - Measurement units
  - Switching Location

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### Graph Monitor

1) 11 to 18  000B to 0012

2) ---     ---

---

### Module Monitor

- Screen Image
- Graph Monitor
### Screen Image

#### Q62DA/Q64DA Operation Monitor

1. **Digital value**: 012345
2. **4-digit binary**: 0010
3. **Hexadecimal value**: 0004
4. **Binary value**: 0000
5. **Value range setting**: 0000 to 0013

#### Q62DA/Q64DA Input/Output Monitor

1. **Module status**: 00 00 00 00
2. **Input status**: 00 00 00 00
3. **Output status**: 00 00 00 00

#### Q62DA/Q64DA Graph Monitor

1. **Input values**: 00 00 00 00
2. **Output values**: 00 00 00 00
3. **Graph values**: 00 00 00 00

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### 12.30 QD62,QD62D Module Monitor

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12.31 QD75P,QD75D Module Monitor

Screen Image

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0149, 01DF

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0018 to 0019

174 to 175

00AE to 00AF

324 to 325

0144 to 0145

474 to 475

01DA to 01DB

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4)

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332, 482

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0024 to 0029

186 to 191

00BA to 00BF

336 to 341

0150 to 0155

486 to 491

01E6 to 01EB

42 to 47

002A to 002F

192 to 197

00C0 to 00C5

342 to 347

0156 to 015B

492 to 496

01EC to 01F0

48 to 49

0030 to 0031

198 to 199

00C6 to 00C7

348 to 349

015C to 015D

498 to 499

01F2 to 01F3

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0032, 00C8,

350, 500

015E, 01F4

51, 501,

0033, 01F5,

351, 501

015F, 01F5

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14

OPERATING NETWORK MONITOR

15

16
SWITCHING THE
NETWORK MONITOR SCREENS

2)

2)

OPERATION OF THE
VARIOUS SYSTEM
MONITOR SCREENS

27, 177,
327, 477

ERROR MESSAGES
FOR SYSTEM MONITOR

5)
1)

hex.

OPERATING SP
MODULE MONITOR

2)

dec.

OPERATING SP
MODULE MONITOR
SCREEN

1)

9

Buffer memory address

OPERATING I/O
MODULE MONITOR
SCREENS

No.

ERROR MESSAGES
FOR SP MODULE
MONITOR

Screen Image

12.31 QD75P,QD75D Module Monitor

12 - 60


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## 12.31 QD75P,QD75D Module Monitor

### Operation of the Various System Monitor Screens

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### Operating SP Module Monitor Screens

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### Operating I/O Module Monitor Screens

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### Diagram 1: Control data-1

- Item: [Data 001 to 004]
- Axes: [Data 005 to 006]
- Direction: [Data 007]
- Value: [Data 008 to 009]

### Diagram 2: Control data-2

- Item: [Data 010 to 017]
- Axes: [Data 018 to 019]
- Direction: [Data 020]
- Value: [Data 021 to 022]

### Diagram 3: Control data-3

- Item: [Data 023 to 031]
- Axes: [Data 032 to 033]
- Direction: [Data 034]
- Value: [Data 035 to 036]
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12.32 QD75M Module Monitor

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### QD75M DPR basic parameters

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### QD75M I/O signal & Status

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#### Diagram

- The diagram shows various sections labeled ABCD, with each section containing smaller sub-sections labeled 1-9.
- The top left of the diagram features a title "TOTAL BRK Method A1."
- There are several lines indicating different measurements and settings, each accompanied by decimal and hexadecimal values.

#### Notes

- The numbers and values seem to represent specific configurations or measurements for different sections of the system.
- The diagram likely serves as a reference for configuring or troubleshooting specific modules or systems within the described network.
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### Screen Image

#### QD75M Axis monitor data-4

- **Parameter error No.**
  - [010101010101]

#### Error status

- **Error status**
  - [010101010101]

#### Error memories

- **Error memories**
  - [010101010101]

### Buffer memory address

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#### QD75M IPR

- **Buffer memory address**
  - [0234567890]

#### Torque limit (deg.×10°)

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#### QD75M Speed-position control

- **SPEC movement count change register**
  - [0234567890]

#### Spacing movement register change register

- **Spacing movement register change register**
  - [0234567890]
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## Operation of the Various System Monitor Screens

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<td>0759B, 075FF</td>
<td></td>
</tr>
<tr>
<td>14)</td>
<td>3012, 30210</td>
<td>07663, 076C7</td>
<td></td>
</tr>
<tr>
<td>15)</td>
<td>3013, 30211</td>
<td>0759C, 07600</td>
<td></td>
</tr>
<tr>
<td>16)</td>
<td>3014, 30212</td>
<td>07664, 076C8</td>
<td></td>
</tr>
<tr>
<td>17)</td>
<td>3015, 30213</td>
<td>0759D, 07601</td>
<td></td>
</tr>
<tr>
<td>18)</td>
<td>3016, 30214</td>
<td>07665, 076C9</td>
<td></td>
</tr>
</tbody>
</table>
## Error Messages for System Monitor

### Operating SP Module Monitor

<table>
<thead>
<tr>
<th>No.</th>
<th>Buffer memory address</th>
<th>dec.</th>
<th>hex.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>30143, 30243, 30343, 30443</td>
<td>075B6, 076C4, 076E2, 076F0</td>
<td></td>
</tr>
<tr>
<td>2)</td>
<td>30144, 30244, 30344, 30444</td>
<td>075C5, 076D6, 076E3, 076F1</td>
<td></td>
</tr>
<tr>
<td>3)</td>
<td>30145, 30245, 30345, 30445</td>
<td>075C6, 076D7, 076E4, 076F2</td>
<td></td>
</tr>
<tr>
<td>4)</td>
<td>30149, 30249, 30349, 30449</td>
<td>075C9, 076D9, 076E5, 076F3</td>
<td></td>
</tr>
<tr>
<td>5)</td>
<td>30150, 30250, 30350, 30450</td>
<td>075CA, 076DA, 076EB, 076FC</td>
<td></td>
</tr>
<tr>
<td>6)</td>
<td>30151, 30251, 30351, 30451</td>
<td>075CB, 076DB, 076EC, 076FD</td>
<td></td>
</tr>
</tbody>
</table>

### Operating SP Module Monitor Screens

<table>
<thead>
<tr>
<th>Screen Image</th>
<th>No.</th>
<th>Buffer memory address</th>
<th>dec.</th>
<th>hex.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>30143, 30243, 30343, 30443</td>
<td>075B6, 076C4, 076E2, 076F0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2)</td>
<td>30144, 30244, 30344, 30444</td>
<td>075C5, 076D6, 076E3, 076F1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3)</td>
<td>30145, 30245, 30345, 30445</td>
<td>075C6, 076D7, 076E4, 076F2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4)</td>
<td>30149, 30249, 30349, 30449</td>
<td>075C9, 076D9, 076E5, 076F3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5)</td>
<td>30150, 30250, 30350, 30450</td>
<td>075CA, 076DA, 076EB, 076FC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6)</td>
<td>30151, 30251, 30351, 30451</td>
<td>075CB, 076DB, 076EC, 076FD</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
13 OPERATING I/O MODULE MONITOR SCREENS

This section explains how the various screens are operated in the special module monitor function, when monitoring input or output modules.

13.1 Specifying the module to be monitored

This describes how to start monitoring an optional special input or output module.

[Operation procedure]

Display the System Configuration screen.

To Sec. 13.2

(Touch the position at which the module is displayed.)

Specify the module to be monitored

(1) From among the modules installed in the corresponding base unit, specify the module whose "Input" or "Output" is displayed.

Refer to Section 12.1.3 for the way to specify the special function module.

(2) For information on confirming the displayed contents and subsequent operation, please see Section 13.2.

* Tests cannot be conducted on input or output modules.

To Section 13.2
13.2 Monitor screen configuration and key functions

This section describes the configuration of monitor screens displayed by specifying the input module on the system configuration screen, and explains the functions of the keys displayed on the screen.

(1) Display (for an input module)

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>END</td>
<td>Monitoring ends; and display returns to the screen where the special module monitor function was begun.</td>
</tr>
<tr>
<td>sys. conf.</td>
<td>The current monitoring ends; and returns to the system configuration screen.</td>
</tr>
</tbody>
</table>

(2) Key functions

The chart below shows the functions of the keys that are used with the Monitor Screen operation.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>END</td>
<td>Monitoring ends; and display returns to the screen where the special module monitor function was begun.</td>
</tr>
<tr>
<td>sys. conf.</td>
<td>The current monitoring ends; and returns to the system configuration screen.</td>
</tr>
</tbody>
</table>
# 14 ERROR MESSAGES FOR SPECIAL MODULE MONITOR

The following chart shows the error messages that may be displayed when operating the special module monitor and the method of handling them.

<table>
<thead>
<tr>
<th>Error message</th>
<th>Description</th>
<th>Method of Handling</th>
</tr>
</thead>
</table>
| Can not Communication  | Communication could not be established with the PLC CPU. | (1) To try the operation again, touch "Retry". When the operation is retried, the error message disappears and monitoring resumes automatically, so no action is required. If monitoring is not resumed for a long period of time, however, check the following:  
1) Connections between the PLC CPU and the GOT (disconnected or cut cables).  
2) Has an error occurred in the PLC CPU?  
Etc. |


<table>
<thead>
<tr>
<th>14</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>12</td>
<td>11</td>
</tr>
<tr>
<td>13</td>
<td>12</td>
</tr>
<tr>
<td>14</td>
<td>13</td>
</tr>
</tbody>
</table>

14 - 2
10 - 9
11 - 10
12 - 11
13 - 12
14 - 13

OPERATION OF THE
VARIOUS SYSTEM
MONITOR SCREENS

ERROR MESSAGES
FOR SYSTEM MONI-
TOR

OPERATING SP
MODULE MONITOR
SCREEN

OPERATING SP
MODULE MONITOR

ERROR MESSAGES
FOR SP MODULE
MONITOR

OPERATING NET-
WORK MONITOR

SWITCHING THE
NETWORK MONI-
TOR SCREENS

OPERATING I/O
MODULE MONITOR
SCREENS

Memo
15 OPERATING NETWORK MONITOR

This chapter describes how to operate the network monitor function.

15.1 Steps in getting started with the network monitor function

The following flowchart outlines how to transmit and install an operating system (OS) for the network monitor function in the GOT internal memory using the Personal computer. For further information on screen displays and key operations, see the online GT Designer2 Version2 Operating Manual.

Start

Connect the GOT and the Personal computer.

Start up the GOT.

Start up the Personal computer and start the GT Designer2.

With the GT Designer2, transmit the OS for the network monitor function from the Personal computer to the GOT and install it in the built-in memory.

After the installation is finished, the network monitor is ready to start through the GOT.

Finish operating the GT Designer2.

Exit.

The GOT does not require further setup procedures or operations after the startup.

Transmit the data in the installation dialog box.

After the installation is complete, a message indicating "End" appears in the installation dialog box.

Proceed to Section 15.2 to operate the network monitor.
15.2 Steps in starting the network monitor function from the user-created monitor screen

The following flowchart outlines how to start the network monitor function after the operating system (OS) for the network monitor has been installed in the GOT built-in internal memory.

Start

- Install a memory board on the GOT.
- Start up the GOT.
- Go to the user-created monitor screen.
- Start the network monitor function. \(\text{...}(^*1)\)
- Go to the own station monitor screen. \(\text{... See Section 17.1.}\)
- Select the detailed own station monitor or other station monitor option.
- Go to the detailed own station monitor or other station monitor menu. \(\text{... See Sections 17.2 and 17.3.}\)

\(^*1\) Touch the key assigned to the network monitor function (set in the touch switch expanded function of the GT Designer2). In the Utility Menu screen, touch [NET.MON.] to start the network monitor function.
The following flowchart outlines the steps involved in switching the network monitor screens.

Utility menu screen
or
user-created monitor screen

Host-station monitor screen
(Touch a touch key for the network monitor function)

Other station monitor menu screen
(Select a module)

Detailed own station monitor screen
(Touch a box)
(Select a box)

Other station monitor screen
(Select a menu item)

Other station monitor screen

END
<table>
<thead>
<tr>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERROR MESSAGES FOR SYSTEM MONITOR</td>
<td>OPERATING SP MODULE MONITOR</td>
<td>OPERATING I/O MODULE MONITOR SCREENS</td>
<td>OPERATING SP MODULE MONITOR SCREEN</td>
<td>SWITCHING THE NETWORK MONITOR SCREENS</td>
<td>OPERATING NET-WORK MONITOR</td>
<td>Memo</td>
</tr>
</tbody>
</table>
17 USING THE NETWORK MONITOR SCREENS

This chapter describes how to use various monitor screens when you execute the network monitor function.

17.1 Own station monitor

This section describes the structure of the monitor screen and the common operations used when executing the own station monitor.

17.1.1 Display contents and keys functions: own station monitor

This section describes the own station monitor screen and the function of on-screen keys, all of which are displayed and used when executing the network monitor function.

1) Display contents

<table>
<thead>
<tr>
<th>No.</th>
<th>Contents of Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>This shows the action mode of the own station: On-line, Off-line, loop test.</td>
</tr>
<tr>
<td>2)</td>
<td>This shows the status of the F-loop (primary loop): OK, NG.</td>
</tr>
<tr>
<td>3)</td>
<td>This shows the status of the R-loop (secondary loop): OK, NG.</td>
</tr>
<tr>
<td>4)</td>
<td>This shows whether the loopback was executed or not: Executed, Not executed.</td>
</tr>
<tr>
<td>5)</td>
<td>This shows link scan time required for the control station and the ordinary station, for the remote master station and the remote I/O station, and for the master station and all the sub-stations.</td>
</tr>
<tr>
<td></td>
<td>(a) Maximum (the maximum value of link scan time)</td>
</tr>
<tr>
<td></td>
<td>(b) Minimum (the minimum value of link scan time)</td>
</tr>
<tr>
<td></td>
<td>(c) Current (the current value of link scan time)</td>
</tr>
<tr>
<td>2)</td>
<td>This shows the network category, network number, and station number.</td>
</tr>
</tbody>
</table>
### 3) Display contents and keys functions: own station monitor

This shows the loop status of a network system as follows: (Primary loop: F, Secondary loop: R)

<table>
<thead>
<tr>
<th>No.</th>
<th>Contents of Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>Primary loop : OK</td>
</tr>
<tr>
<td></td>
<td>Secondary loop : OK</td>
</tr>
<tr>
<td>(b)</td>
<td>Primary loop : OK</td>
</tr>
<tr>
<td></td>
<td>Secondary loop : NG</td>
</tr>
<tr>
<td>(c)</td>
<td>Primary loop : NG</td>
</tr>
<tr>
<td></td>
<td>Secondary loop : OK</td>
</tr>
<tr>
<td>(d)</td>
<td>Executing loopback</td>
</tr>
<tr>
<td>(e)</td>
<td>Primary loop : NG</td>
</tr>
<tr>
<td></td>
<td>Secondary loop : NG</td>
</tr>
<tr>
<td>(f)</td>
<td>MELSECNET/10 coaxial bus (OK)</td>
</tr>
<tr>
<td>(g)</td>
<td>MELSECNET/10 coaxial bus (NG)</td>
</tr>
</tbody>
</table>

### 4) Display contents and keys functions: own station monitor

The following loop status in the data link system is displayed. (Primary loop: F, Sub-loop: R)

<table>
<thead>
<tr>
<th>No.</th>
<th>Contents of Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>Data is linked in the Primary loop.</td>
</tr>
<tr>
<td>(b)</td>
<td>Data is linked in the sub-loop.</td>
</tr>
<tr>
<td>(c)</td>
<td>Loop-back is performed in the Primary/sub loop direction.</td>
</tr>
<tr>
<td>(d)</td>
<td>Loop-back is performed in the Primary loop direction only.</td>
</tr>
<tr>
<td>(e)</td>
<td>Loop-back is performed in the sub-loop direction only.</td>
</tr>
<tr>
<td>(f)</td>
<td>Data link is not available.</td>
</tr>
</tbody>
</table>
### Key functions
This section describes the function of keys to be used on the own station monitor screen.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exit the own station monitor screen and returns to the previous monitor screen where the network monitor function was executed.</td>
<td></td>
</tr>
<tr>
<td>Switches to the detailed monitor screen that corresponds to the module displayed on the current monitor screen. This key is effective for each screen.</td>
<td></td>
</tr>
<tr>
<td>Switches to the other station monitor menu that corresponds to the network displayed on the current monitor screen. This key is effective for each screen.</td>
<td></td>
</tr>
<tr>
<td>Changes the details on the window. (only for A95*GOT)</td>
<td></td>
</tr>
<tr>
<td>Changes the monitoring destination CPU using the CPU No. (For multi-PLC system connection only) The CPU No. is displayed according to the number of CPUs loaded.</td>
<td></td>
</tr>
</tbody>
</table>
17.2 Detailed own station monitor

This section describes the structure of the monitor screen and the common operations used when executing the detailed own station monitor.

17.2.1 MELSECNET/B, MELSECNET (II) master station

This section describes the detailed own station monitor screen and the function of on-screen keys, all of which are displayed and used when the own station acts as the master station on the MELSECNET/B or MELSECNET (II).

(1) Display contents

<table>
<thead>
<tr>
<th>No.</th>
<th>Section</th>
<th>Contents of Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>TsSt's Info</td>
<td>• This Station's #&lt;br&gt;Indicates the station number of the own station.  &lt;br&gt;• This Station's: Indicates the category of the own station.</td>
</tr>
<tr>
<td>2)</td>
<td>D-Link Info</td>
<td>• Total of L-Sta:&lt;br&gt;Indicates the maximum number of the stations to be linked. The maximum number is defined by common parameters.</td>
</tr>
<tr>
<td>3)</td>
<td>LoopBK Info</td>
<td>• FLoop:&lt;br&gt;Shows the status of the primary loop lines of the own station. (Normal/NG)&lt;br&gt;• RLoop:&lt;br&gt;Shows the status of the secondary loop lines of the own station. (Normal/NG)&lt;br&gt;• Floop Back Station:&lt;br&gt;Indicates the station number of a station that executes the loopback along the primary loop.&lt;br&gt;• Rloop Back Station:&lt;br&gt;Indicates the station number of a station that executes the loopback along the secondary loop.&lt;br&gt;• # of Loop Switching:&lt;br&gt;Indicates the cumulative number of times for which loops have been switched.</td>
</tr>
</tbody>
</table>

(2) Key functions

The table below shows the function of keys that are used on the detailed own station monitor screen.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>RET</td>
<td>Returns to the own station monitor screen.</td>
</tr>
<tr>
<td>END</td>
<td>Exits the detailed own station monitor screen and returns to the previous monitor screen where the network monitor function was executed.</td>
</tr>
<tr>
<td></td>
<td>Changes the details on the window. &lt;br&gt;(only for A95*GOT)</td>
</tr>
</tbody>
</table>
17.2.2 MELSECNET/B, MELSECNET (II) local station

This section describes the detailed own station monitor screen and the function of on-screen keys, all of which are displayed and used when the own station acts as the local station on the MELSECNET/B or MELSECNET (II).

(1) Display contents

<table>
<thead>
<tr>
<th>No.</th>
<th>Section</th>
<th>Contents of Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>TsSt' Info</td>
<td>• This Station’s # Indicates the station number of the own station.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• This Station’s: Indicates the category of the own station.</td>
</tr>
<tr>
<td>2)</td>
<td>D-Link Info</td>
<td>• Total of L-Sta: Indicates the maximum number of the stations to be linked. The maximum number is defined by common parameters.</td>
</tr>
<tr>
<td>3)</td>
<td>Com Status</td>
<td>• Com Status: Displays the communications status of the own station. (Parameter wait, Cyclic comm, NG)</td>
</tr>
<tr>
<td>4)</td>
<td>BWY From Master</td>
<td>• This shows the status of receiving Device BWY from the master station. OK: Data is being received by cyclic receiving.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• NG: The own station cannot receive data because of column reading.</td>
</tr>
<tr>
<td>5)</td>
<td>BW From Hostmaster</td>
<td>• This shows the status of receiving Device BW from the master station of a dual-layer system. OK: Data is being received by cyclic receiving.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• NG: The own station cannot receive data due to column reading.</td>
</tr>
<tr>
<td>6)</td>
<td>LoopBK Info</td>
<td>• FLoop: Shows the status of the primary loop lines of the own station. (Normal/NG)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• RLoop: Shows the status of the secondary loop lines of the own station. (Normal/NG)</td>
</tr>
</tbody>
</table>

(2) Key functions

The table below shows the functions of keys that are used on the detailed own station monitor screen.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>RET</td>
<td>Returns to the own station monitor screen.</td>
</tr>
<tr>
<td>END</td>
<td>Exits the detailed own station monitor screen and returns to the previous monitor screen where the network monitor function was executed.</td>
</tr>
<tr>
<td></td>
<td>Changes the details on the window. (only for A95*GOT)</td>
</tr>
</tbody>
</table>
17.2.3 MELSECNET/10 Control station/ordinary Station

This section describes the contents of the detailed own station monitor screen and the function of on-screen keys. All these are displayed and used when the own station acts as the control station/ordinary station on the MELSECNET/10, MELSECNET/H.

(1) Display contents

<table>
<thead>
<tr>
<th>No.</th>
<th>Section</th>
<th>Contents of Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>TsSt' Info</td>
<td>• This Station’s #: Indicates the station number of the own station.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Network #: Indicates the network number.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Group #: Indicates the group number.</td>
</tr>
<tr>
<td>2)</td>
<td>Ctrl St Info</td>
<td>• Spc Ctrl Sta: Indicates the station number of a station that is specified as a control station.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Curr Ctrl Sta: Indicates the station number of a station that is currently acting as the control station.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Com Info: Indicates whether the own station is communicating with the control station or the sub control station.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• SubCtrl Sta Com: Indicates the availability of a sub control station. (Available/None)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Rmt I/O Mst Sta: *1 Indicates the station number of a remote I/O master station in Block 1 or Block 2. If the master station is not available, this indicates &quot;None&quot; instead.</td>
</tr>
</tbody>
</table>

*1 Not displayed when the CPU type of the GOT connection target is the AnNCP or AnACPU.
<table>
<thead>
<tr>
<th>No.</th>
<th>Section</th>
<th>Contents of Display</th>
</tr>
</thead>
</table>
| 3)  | D-Link Info | • Total of L-Sta: Indicates the maximum number of the stations to be linked. The maximum number is defined by common parameters.  
• Largest Nrm Sta: Indicates the station number of the largest station that is connected in a normal condition.  
• Largest DL-Sta: Indicates the station number of the largest station that is data-linked.  
• Com Status: Show the current communications status of the own station. (D–Link in prog, D–Link Stop (A), D–Link Stop (H), B–Pass excut, Disconnection, Testing, Reset. in prgr.)  
• Causes of Ssp: Indicates the causes why the communications were interrupted. This indicates "OK" if communications is in a normal condition. (Normal, Offline, Offline Test, Others (error codes))  
• Causes of Stop: Indicates the causes why the data link was stopped. This indicate "OK" if the data link is in a normal condition. (No common para, Host Para error, Instructed by Other Station (n station), Essential Parameter Not Matched, Instructed by Host Station, Improper I/O Allocation, Instructed by All Stations (n stations), Others (error codes)) |
| 4)  | Constant LS | • Constant LS: Indicates the predetermined time of constant link scans. |
| 5)  | LoopBK Info | • FLoop: Shows the status of the primary loop lines of the own station. (Normal/LoopBK Trans/D-Link Impo)  
• RLoop: Shows the status of the secondary loop lines of the own station. (Normal/LoopBK Trans/D-Link Impo)  
• FLoop Back Station: Indicates the station number of a station that executes the loopback along the primary loop.  
• RLoop Back Station: Indicates the station number of a station that executes the loopback along the secondary loop.  
• # of Loop Switching: Indicates the cumulative number of times for which loops have been switched.  
• "---" is displayed when coaxial bus connections are established. |
17.2 Detailed own station monitor

17.2.3 MELSECNET/10 Control station/ordinary Station

USING THE NETWORK MONITOR SCREENS

ERROR MESSAGES FOR NETWORK MONITOR

OPERATING LIST EDITOR

OPERATION OF EDITING SCREEN FOR EACH LIST

ERROR MESSAGES FOR LIST EDITOR

OPERATING MOTION MONITOR

OPERATIONS OF VARIOUS MOTION MONITOR SCREENS

ERROR MESSAGES FOR MOTION MONITOR

* "---" is displayed when coaxial bus connections are established.

(2) Key functions

The table below shows the function of keys that are used on the detailed own station monitor screen.

<table>
<thead>
<tr>
<th>No.</th>
<th>Section</th>
<th>Contents of Display</th>
</tr>
</thead>
</table>
| 6)  | TsSt' Sta | • Parameter Setting: Common Param, Common + Spec if, Default Param, Default + Specif
|     |         | • Reserved Sta: Indicates the availability of a reserved station. (Have/None) |
|     |         | • Communication Mode: Indicates either of "Normal mode" or "Constant LS." |
|     |         | • Transmission Mode: Indicates either of "Normal Trans" or "Multipl Trans." * |
|     |         | • Transmission Stat: Indicates either of "Normal Trans" or Multipl Trans." * |

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>RET</td>
<td>Returns to the own station monitor screen.</td>
</tr>
<tr>
<td>END</td>
<td>Exits the detailed own station monitor screen and returns to the previous monitor screen where the network monitor function was executed.</td>
</tr>
<tr>
<td></td>
<td>Changes the details on the window. (only for A95*GOT)</td>
</tr>
</tbody>
</table>
17.2.4 MELSECNET/10, MELSECNET/H remote master station

This section describes the detailed own station monitor screen and the function of on-screen keys, all of which are displayed and used when the own station acts as the remote master station on the MELSECNET/10, MELSECNET/H.

**1) Display contents**

<table>
<thead>
<tr>
<th>No.</th>
<th>Section</th>
<th>Contents of Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>TsSt' Info</td>
<td>• This Stations #: Indicates the station number of the own station.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Network #: Indicates the network number.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Group #: Not displayed.</td>
</tr>
<tr>
<td>2)</td>
<td>Ctrl St Info</td>
<td>• Spc Ctrl Sta: Not displayed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Curr Ctrl Sta: Not displayed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Com Info: Not displayed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• SubCtrl-Sta Com: Not displayed</td>
</tr>
</tbody>
</table>

The display details are the same as the ones on the A985/97*/960GOT.

Touch button to change the display.

(display example)
<table>
<thead>
<tr>
<th>No.</th>
<th>Section</th>
<th>Contents of Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>3)</td>
<td>D-Link Info</td>
<td>• Total of L-Sta: Indicates the maximum number of the stations to be linked. The maximum number is defined by common parameters.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Largest Nrm Sta: Indicates the station number of the largest station that is connected in a normal condition.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Largest DL-Sta: Indicates the station number of the largest station that is data-linked.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Com Status: Show the current communications status of the own station.  (D–Link in prog, D–Link Stop (A), D–Link Stop (H), B–Pass excut, Disconnection, Testing, Reset, in prgr.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Causes of Ssp: Indicates the reason why the communications were interrupted. This indicates &quot;OK&quot; if communications is in a normal condition.  (Normal, Offline, Offline Test, Others (error codes))</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Causes of Stop: Indicates the causes why the data link was stopped. This indicates &quot;OK&quot; if the data link is in a normal condition.  (No common para, Host Para error, Instructed by Other Station (n station), Essential Parameter Not Matched, Instructed by Host Station, Improper I/O Allocation, Instructed by All Stations (n stations), Others (error codes))</td>
</tr>
<tr>
<td>4)</td>
<td>Constant LS</td>
<td>• Constant LS: Indicates the predetermined time of constant link scans.</td>
</tr>
<tr>
<td>5)</td>
<td>LoopBK Info</td>
<td>• FLoop: Shows the status of the primary loop lines of the own station.  (Normal/LoopBK Trans/D-Link Impo)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• RLoop: Shows the status of the secondary loop lines of the own station.  (Normal/LoopBK Trans/D-Link Impo)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• FLoop Back Station: Indicates the station number of a station that executes the loopback along the primary loop.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• RLoop Back Station: Indicates the station number of a station that executes the loopback along the secondary loop.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• # of Loop Switching: Indicates the cumulative number of times for which loops have been switched.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• &quot;---&quot; is displayed when coaxial bus connections are established.</td>
</tr>
</tbody>
</table>
### 17.2 Detailed own station monitor

#### 17.2.4 MELSECNET/10, MELSECNET/H remote master station

*"---" is displayed when coaxial bus connections are established.

<table>
<thead>
<tr>
<th>No.</th>
<th>Section</th>
<th>Contents of Display</th>
</tr>
</thead>
</table>
| 6)  | TsSt Sta| • Parameter Setting: Not displayed.  
• Reserved Sta: Indicates the availability of a reserved station. (Have/None)  
• Communication Mode: Indicates either of "Normal mode" or "Constant LS."  
• Transmission Mode: Indicates either of " Normal Trans " or " Multipl trans."  
• Transmission Stat: Indicates either of " Normal Trans " or " Multipl trans."  |

(2) **Key functions**

The table below shows the function of keys that are used on the detailed own station monitor screen.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>RET</td>
<td>Returns to the own station monitor screen.</td>
</tr>
<tr>
<td>END</td>
<td>Exits the detailed own station monitor screen and returns to the previous monitor screen where the network monitor function was executed.</td>
</tr>
<tr>
<td></td>
<td>Changes the details on the window. (only for A95*GOT)</td>
</tr>
</tbody>
</table>
17.3 Other station monitor

This section describes the structure of the monitor screen and the common operations used when executing the other station monitor.

17.3.1 Other station monitor menu

This section describes the other station monitor menu screen and the function of on-screen keys. The menu screen for the other station monitor is displayed by touching a module number displayed on the own station monitor screen. The menu screen provides many options for the other station monitor.

1) Display contents

<table>
<thead>
<tr>
<th>No.</th>
<th>Touch Key</th>
<th>Contents of Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>Communications Status</td>
<td>Switches to a monitor screen that shows the communications status of other stations. *</td>
</tr>
<tr>
<td>2)</td>
<td>Data Link</td>
<td>Switches to a monitor screen that shows the data link status of other stations. *</td>
</tr>
<tr>
<td>3)</td>
<td>Parameters</td>
<td>Switches to a monitor screen that shows the parameter status of other stations. *</td>
</tr>
<tr>
<td>4)</td>
<td>CPU Action</td>
<td>Switches to a monitor screen that shows the CPU action status of other stations.</td>
</tr>
<tr>
<td>5)</td>
<td>CPU RUN</td>
<td>Switches to a monitor screen that shows the CPU RUN status of other stations.</td>
</tr>
<tr>
<td>6)</td>
<td>Loop</td>
<td>Switches to a monitor screen that shows the loop status of other stations.</td>
</tr>
</tbody>
</table>

* This is not selectable when connected to a MELSECNET/B or MELSECNET (II) local station.

2) Key Functions

The table below shows the function of keys that are used on the other station monitor screen.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>RET</td>
<td>Returns to the own station monitor screen.</td>
</tr>
<tr>
<td>END</td>
<td>Exits the other station monitor screen and returns to the previous monitor screen where the network monitor function was executed.</td>
</tr>
</tbody>
</table>
17.3.2 Other station communication status monitor

This section describes the other station communications status monitor screen and the function of on-screen keys.

(1) Display contents

<table>
<thead>
<tr>
<th>No.</th>
<th>Contents of Display</th>
<th>When the A985/97*/960GOT is used</th>
<th>When the A95*/956WGOT is used</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>Station numbers are shown up to the maximum number of linked stations.</td>
<td></td>
<td>The display details are the same as the ones on the A985/97*/960GOT.</td>
</tr>
<tr>
<td>2)</td>
<td>Any station in an abnormal condition is highlighted on-screen.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3)</td>
<td>Any station specified as a reserved station is treated as a station that stays in a normal condition.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(2) Key Functions

The table below shows the function of keys that are used on the other station communications status monitor screen.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>RET</td>
<td>Returns to the own station monitor screen.</td>
</tr>
<tr>
<td>END</td>
<td>Exits the other station communications status monitor screen and returns to the previous monitor screen where the network monitor function was executed.</td>
</tr>
</tbody>
</table>
17.3.3 Other station data link status monitor

This section describes the other station data link status monitor screen and the function of on-screen keys.

(1) Display contents

<table>
<thead>
<tr>
<th>No.</th>
<th>Contents of Display</th>
<th>When the A985/97*/960GOT is used</th>
<th>When the A95*/956WGOT is used</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>Station numbers are shown up to the maximum number of linked stations.</td>
<td></td>
<td>The display details are the same as the ones on the A985/97* /960GOT. (Display example)</td>
</tr>
<tr>
<td>2)</td>
<td>Any station that is not data-linked is highlighted on-screen.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3)</td>
<td>Any station specified as a reserved station is treated as a station that stays in a normal condition.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(2) Key Functions

The table below shows the function of keys that are used on the other station data link status monitor screen.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>RET</td>
<td>Returns to the own station monitor screen.</td>
</tr>
<tr>
<td>END</td>
<td>Exits the other station data link status monitor screen and returns to the previous monitor screen where the network monitor function was executed.</td>
</tr>
</tbody>
</table>
17.3.4 Other station parameter status monitor

This section describes the other station parameter status monitor screen and the function of on-screen keys.

(1) Display contents

<table>
<thead>
<tr>
<th>No.</th>
<th>Contents of Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>Station numbers are shown up to the maximum number of linked stations.</td>
</tr>
<tr>
<td>2)</td>
<td>Any station whose parameters are monitored is highlighted on-screen. *</td>
</tr>
<tr>
<td>3)</td>
<td>Any station that stays in an abnormal condition is highlighted on-screen.</td>
</tr>
<tr>
<td>4)</td>
<td>A station specified as a reserved station is treated as a station that stays in a normal condition.</td>
</tr>
</tbody>
</table>

* Not highlighted when connected to a MELSECNET/B or MELSECNET (II) master station.

(2) Key Functions

The table below shows the function of keys that are used on the other station parameter status monitor screen.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>RET</td>
<td>Returns to the own station monitor screen.</td>
</tr>
<tr>
<td>END</td>
<td>Exits the other station parameter status monitor screen and returns to the previous monitor screen where the network monitor function was executed.</td>
</tr>
</tbody>
</table>
17.3.5 Other station CPU action status monitor

This section describes the other station CPU action status monitor screen and the function of on-screen keys. This option is not selectable when connecting to a remote I/O network system.

(1) Display contents

<table>
<thead>
<tr>
<th>No.</th>
<th>Contents of Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>Station numbers are shown up to the maximum number of linked stations.</td>
</tr>
<tr>
<td>2)</td>
<td>Any station that stays in an abnormal condition or out of action is highlighted on-screen.</td>
</tr>
<tr>
<td>3)</td>
<td>A station specified as a reserved station is treated as a station that stays in a normal condition.</td>
</tr>
</tbody>
</table>

When the A985/97*/960GOT is used

![Display example](image)

When the A95*/956WGOT is used

The display details are the same as the ones on the A985/97* /960GOT.

(2) Key Functions

The table below shows the function of keys that are used on the other station CPU action status monitor screen.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>RET</td>
<td>Returns to the own station monitor screen.</td>
</tr>
<tr>
<td>END</td>
<td>Exits the other station CPU action status monitor screen and returns to the previous monitor screen where the network monitor function was executed.</td>
</tr>
</tbody>
</table>
17.3.6 Other station CPU RUN status monitor

This section describes the other station CPU RUN status monitor screen and the function of on-screen keys. This option is not selectable when connecting to a remote I/O network system.

(1) Display contents

<table>
<thead>
<tr>
<th>No.</th>
<th>Contents of Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>Up to 64 station numbers are shown.</td>
</tr>
<tr>
<td>2)</td>
<td>Any station in an abnormal condition is highlighted on-screen.</td>
</tr>
</tbody>
</table>

(2) Key Functions

The table below shows the function of keys that are used on the other station CPU RUN status monitor screen.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>RET</td>
<td>Returns to the own station monitor screen.</td>
</tr>
<tr>
<td>END</td>
<td>Exits the other station CPU RUN status monitor screen and returns to the previous monitor screen where the network monitor function was executed.</td>
</tr>
</tbody>
</table>
17.3.7 Other station loop status monitor

This section describes the other station loop status monitor screen and the function of on-screen keys. * This option is not selectable when connecting to a MELSECNET/B or MELSECNET (II) local station or establishing MELSECNET/10 coaxial bus connections.

(1) Display contents

<table>
<thead>
<tr>
<th>No.</th>
<th>Contents of Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>The F-loop (primary loop) status and the R-loop (secondary loop status are displayed.</td>
</tr>
<tr>
<td>2)</td>
<td>Station numbers are shown up to the maximum number of linked stations.</td>
</tr>
<tr>
<td>3)</td>
<td>Any station that stays in an abnormal condition is highlighted on-screen.</td>
</tr>
<tr>
<td>4)</td>
<td>A station specified as a reserved station is treated as a station that stays in a normal condition.</td>
</tr>
</tbody>
</table>

When the A985/97*/960GOT is used

![Display example](image)

When the A965*/956WGOT is used

The display details are the same as the ones on the A985/97* /960GOT.

(2) Key Functions

The table below shows the function of keys that are used on the other station loop status monitor screen.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>RET</td>
<td>Returns to the own station monitor screen.</td>
</tr>
<tr>
<td>END</td>
<td>Exits the other station loop status monitor screen and returns to the previous monitor screen where the network monitor function was executed.</td>
</tr>
</tbody>
</table>
The following chart shows the error messages that are displayed during the network monitor operation and how to handle them.

<table>
<thead>
<tr>
<th>Error message</th>
<th>Contents of error</th>
<th>Action to take</th>
</tr>
</thead>
</table>
| Can not Communication | Communication could not established with the PLC CPU. | • Check the connections between the PLC CPU and the GOT for disconnected connectors and cables.  
• Check if an error has occurred in the PLC CPU. |
| Key Word error      | The PLC CPU to be connected is keyword-protected by the QnA. | • Release the keyword.                                                        |
19 OPERATING LIST EDITOR

This section describes the operation procedures for use of list editor function.

19.1 Operation procedures before starting the list edit

Procedures for transferring the operating system (OS) for the list editor function from the personal computer to the GOT and for installing the system into the memory. For details, refer to the GT Designer2 Version2 Operating Manual. Detailed information including displays and key operations is provided.

Start

Connect the GOT to the personal computer.

Start the GOT.

Start the personal computer and the GT Designer2.

Transfer the OS for the list editor function from the personal computer to the GOT. Install it into the memory.

After installation, the GOT allows editing the list.

End the GT Designer2.

End

........

........

........

........

........

........

For list edit, go to Section 19.2.
19.2 Operation procedures from user-created monitor screen display to starting list editing

This section explains how you should operate the GOT to access the list editor function after having installed the list editor function operating system (OS) to the GOT internal memory.

Start

1. Start up the GOT.
2. Display the user-created monitor screen.
3. Start the list editor function.

(The screen switches automatically after about one second.)

If no keyword is stored:

4. Is a keyword stored in the ACPU?
   - If no keyword is stored:
     - Enter the keyword stored in the connected ACPU.
   - If a keyword is stored:
     - Select the list editor function mode.

*** MODE SELECTION ***

(READ) (INS) (PARAM)

PRESS MODE KEY

*** MODE SELECTION ***

(WRITE) (DEL) (OTHERS)

PRESS MODE KEY

5. Activate the list editor function by touching a touch key to which you have assigned this expanded function using the GT Designer2.

If the utility menu or ladder monitor screen is displayed, touch the LIST EDITER key to activate the list editor function.

7. See Section 19.2.2.
8. See Chapter 20.
19.2.1 Operation of keyword input

If a keyword is registered in the ACPU when the connected ACPU or the ACPU PLC No. corresponding to the operation is changed, the GOT requests for input of the registered keyword. Input the keyword registered in the ACPU and press the GO key. If a keyword is not registered in the ACPU, this operation is not required.

(The operation automatically changes to Selection of Function and Mode in 19.2.2.)

*1 When the input keyword does not match with the registered keyword, only the following operations in Chapter 20 can be allowed.

- For operations not shown in other modes, clear (delete) the registered keyword with the "PLC memory all clear" in the following page if you do not remember the keyword registered in the ACPU. When "PLC memory all clear" is performed, the user data including sequence program is also cleared.
- The keyword registered in the ACPU can be changed or a new keyword can be registered as shown in Chapter 20.
When input of a keyword is requested, all parameters and sequence programs can be cleared together with the keyword registered in the ACPU using the operation below.

(Step 1) Display the keyword input request.

```
KEYWORD = [ ]
```

(Step 2) Stop operation of ACPU

(Step 3) Operation of PC memory all clear

Input "ALLCLR" and press the GO key.

```
A L C R GO
```

(Step 4) Display of P3C memory all clear process

When the GOT starts clearing the process, the display in the left appears. "***" column and the total number of bytes change sequentially.

```
* ALL CLEAR
20KB ********
```

*** (maximum 10 per process) is displayed according to the memory capacity to be cleared.

As the clearing process proceeds, each *** is deleted.

One *** shows 10% of memory capacity.

The memory capacity (total number of bytes) to be cleared is displayed in k bytes.

As the clearing process proceeds, 1 k byte is decreased.

(Step 5) Completion of PC memory all clear process

When the GOT completes the clearing process, the screen in the left appears. (status before the mode selection)

```
** MODE SELECTION **
(READ) (INS) (PARAM)
PRESS MODE KEY
```

(Step 6) Select the mode as in 19.2.2 and start the following operation.
19.2.2 Selection and operation of mode

After the keyword input, select the mode in the list editor function for operations in Chapter 20.

(1) Selection and change of mode with mode key
Select the mode with the mode key (Refer to Section 3.5.5.) so that operation corresponding to the
mode in Chapter 20 may be performed.
The mode can be freely changed when operations in Chapter 20 are performed. Various operations
can be continued while changing modes. *1

<table>
<thead>
<tr>
<th>Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read</td>
<td>Read mode</td>
</tr>
<tr>
<td>WRITE</td>
<td>Write mode</td>
</tr>
<tr>
<td>INSERT</td>
<td>Insert mode</td>
</tr>
<tr>
<td>DELETE</td>
<td>Delete mode</td>
</tr>
<tr>
<td>PARAM</td>
<td>Parameter mode</td>
</tr>
<tr>
<td>OTHER</td>
<td>Other mode</td>
</tr>
</tbody>
</table>

*1 Mode key input is always valid.
Input of the mode key clears the input data except for the step numbers. The display returns to the initial status of
the mode selection.

(2) Operation in each mode
The mode selected in (1) allows for operation corresponding to the mode in Chapter 20. Operation
procedures of each mode are described in Chapter 20. Operate the GOT according to the
description.

If an error message appears during operation, take action according to Chapter 21.
20 OPERATION OF EDITING SCREEN FOR EACH LIST

This section describes the operation procedures of the list edit screen.

20.1 Basic operation of key input

After starting the list editor function, basic operations of key input are described.

20.1.1 Switching of valid key (function indicated at the upper/lower part of the key)

When the list edit has started, whether the upper or the lower key available for two purposes is valid is displayed on the second line at the left end of the display. The GOT controls and displays the valid key. A user may switch the valid key with the following keys.

SHIFT*: Upper character key is valid.
Set Up*: Lower character key is valid.

* The following keys can be input if the valid key is at the lower character.
  (Input of SHIFT key is not required.)
  - Comparison symbol key at the command input of comparison operation instruction.
    <, >, \n  - Minus key at the source data of command.

The valid key after setting each mode switches as follows:

Read mode, Write mode, Insert mode : Upper character key
  (When the cursor position is at the setting value and the device step is in
   the Write mode, the "lower character" key is valid.)
Parameter mode and other modes : Always lower character key
Help of each mode : Always lower character key
  (When "Command Read" is selected from the Help in the Read mode,
   the upper character key is valid.)

When SHIFT key is input and the valid key is switched, the switched side is valid until the mode key and the control key are input.
For details of each key, refer to Section 3.5.4.
20.1.2 Command input procedures

Command input procedures can be classified as follows:

1) Input the command key to use the command on the key.
2) Input the alphanumeric keys corresponding to each character of command sequentially.
3) Select and input the command to be used from the Help function.

Command input procedures for 1) and 2) above are as follows.
For command input procedure 3) from the Help function, refer to Section 20.2.5.

### Point

When the command is input, the input details are displayed at the 4th line (the bottom line) on the display. In the following description, the input of key may be omitted when a blank space between the input command and the cursor position is automatically inserted. Refer to the example in each description.

1) For command code only
   1) When the command available on the keyboard is input

   **Command → [GO]**

   (Ex) When END is input

   ![Diagram for END input]

   ![Diagram for END input]

   2) When the command not available on the keyboard is input

   (Ex) When FOR K5 is input

   ![Diagram for FOR K5 input]

   ![Diagram for FOR K5 input]
(2) For command code and device (1)

Command → SP → DEVICE → DEVICE No. → GO

(Ex) When LD X0 is input

```
W    1 1 2 0  OUT    T 0
1 1 2 K 1 2 3
1 1 4 N 0 P
```

LD → X → 0 → GO

```
W    1 1 2       K 1 2 3
1 1 3  L D       X 0 0 0 0
1 1 4 N 0 P
1 1 5 N 0 P
```

(3) For commands other than above

Input the SP key between the command and the device, the source data, and the destination data.

(Ex 1) When FMOV K-2 DO K5 is input

```
W    1 1 5       M 5
1 2 0 L D       M 3
1 2 1 N 0 P
1 2 2 N 0 P
```

F → MOV → K → 2 → SP → D → 0 → SP → K → 5 → GO

```
W    1 2 1   D 0
1 2 1 K 5
1 3 0 N 0 P
1 3 1 N 0 P
```

(Ex 2) When OUT T1 K10 is input

```
W    1 1 2       K 1 2 3
1 1 3  L D       X 0 0 0 0
1 1 4 N 0 P
1 1 5 N 0 P
```

OUT → T → 1 → SP → K → 1 → 0 → GO

```
W    1 1 4 0  OUT    T 1
1 1 4 K 1 0
1 1 5 N 0 P
1 1 6 N 0 P
```
(Ex 3) When MC N3 M5 is input

(W1 1 1 4 0 UT T1)
(MC N 3 SP M 5 GO)

(Ex 4) When LD = K10 D10 is input

(W1 1 2 9 0 UT T1 0)
(LD K 1 0 D 1 0 GO)

(Ex 5) When ANDD<=H7FFFF D20 is input

(W1 1 3 5 H 0 0 7 F F F)
(AND D <= H 7 F F F GO)

(4) Handling of devices M, L and S

Devices M, L and S in the Test, Monitor, Write and Insert modes change the display depending on the set parameters.

If LD L0 is input for the parameter setting of M0 to 999 and L1000 to L2047, the result is LD M0.
(5) For extension timer/extension counter of AnA and AnUCPU
When the extension timer (T256 to T2047) and the extension counter (C256 to C1023) are input as the first device of the command, input the first device and the device number.
(Ex) When OUT T256 D500 is input

```
W  9 9 0 UT M 1 0
  1 0 0 0 L D
  1 0 1 N O P
  1 0 2 N O P
```

```
OUT T 2 5 6 6
```

The device (D500) for the T256 setting value on the parameter is automatically displayed.

**Point**

When the extension timer and the extension counter are used, be sure to set the 257 points or more and the setting value device (D, W, R) on the parameter for both the timer and the counter.
20.1.3 Action if an incorrect key is input

(1) Input the CLEAR key before the GO key. Then input the correct key.

Input of the CLEAR key clears the command and the device number that have been input immediately. The display returns to the status (status before change in the Write mode) when the mode is selected.

(2) When the GO key is input, repeat the intended operation.

Command input procedures can be classified as follows:

**Remark**

When the key is input in the parameter mode, the GOT stops the process. To continue the operation, carry on the key input.
20.2 Basic operation of list edit

This section describes basic operations of list edit with simple operation examples.

20.2.1 Reading sequence program

The sequence program is read to check its content.

[Operation example]

1) [Read]

2) [SET] → 0 → [GO]

3) [GO]

Select the "Read" mode.

Read the 0th step.

Scroll the screen with the [GO] key.
20.2.2 Changing (overwriting) command

The following example shows the changing procedure of the sequence program.

**[Operation example]**

1) **Read**

```
W 7 K80
2 7 K5
7 D20
14 END
```

Select the "Write" mode.

2) **SET \rightarrow 4 \rightarrow GO**

```
W 3 OUT Y0010
4 OUT T0
4 K10
5 LD T0
```

Read the 4th step that changes the setting value.

3) **↓ \rightarrow GO**

```
W 3 OUT Y0010
4 OUT T0
4 K10
K10
```

Move the cursor to setting value "K10" of T0.

4) **K \rightarrow 1 \rightarrow 0 \rightarrow 0 \rightarrow GO**

```
W 4 OUT T0
4 K100
5 LD T0
6 ANI M0
```

The setting value of timer T0 was changed from "K10" to "K100".
20.2.3 Adding (inserting) command

The following example shows the procedure of adding the command to the sequence program.

[Operation example]

1) **INSERT**

2) **SET** → 1 → 4 → GO

3) **MOV** → D → 2 → 0 → SP → K
   → 2 → Y → 1 → 8 → GO

Select the "Insert" mode.

Read the 14th step to insert the command.

The command of "MOV D20 K2Y0018" was added to Step 14.
20.2.4 Deleting command

The following example shows the procedure of deleting the command from the sequence program.

Before deletion

```
5 LD T0
6 ANI M0
7 +P K80 K5 D20
```

After deletion

```
5 LD T0
7 +P K80 K5 D20
```

Delete the ANI MO command.

[Operation example]

1) **SHIFT** → **DELETE**

Select the "Delete" mode

2) **SET** → **6** → **GO**

Read the 6th step

3) **GO**

The "ANI MO" command was deleted.

The GO key deletes the command at the cursor position.
The step number is brought forward.
20.2.5 Using Help function

HELP is input to use the Help function.
Input of HELP displays the Help function menus in each mode. Select the corresponding item for execution.

(1) Reading the command in the sequence program
Example of reading the area using the "MOV" command in the sequence program.

[Operation example]

1) Read → HELP
   Input the HELP key in the Read mode.

2) 1
   Select "Read".

3) 2
   Select "Command".

4) MOV
   Set the "MOV" command.

5) GO
   Reading "MOV D20 K2Y0018" of the 13th step.

6) GO
   Message when the "MOV" command is not present after the 13th step.

Now, reading the command with the Help function command specification is completed.
(2) Displaying Kana comment
The following example shows the procedure of displaying the Kana comment in the Read mode.

[Operation example]

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Input/Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>HELP</td>
<td><em><strong>HELP MENU</strong></em>&lt;br&gt;1: READ&lt;br&gt;2: COMMENT DISPLAY&lt;br&gt;CLEAR:END</td>
</tr>
<tr>
<td>2)</td>
<td>2</td>
<td><em><strong>COMMENT DISP.</strong></em>&lt;br&gt;1: YES&lt;br&gt;2: NO&lt;br&gt;CLEAR:END HELP:MENU</td>
</tr>
<tr>
<td>3)</td>
<td>1</td>
<td>R 0 LD X0000&lt;br&gt;1 OUT Y0020&lt;br&gt;2 LD X0000&lt;br&gt;Motor start limit</td>
</tr>
<tr>
<td>4)</td>
<td>1</td>
<td>R 0 LD X0000&lt;br&gt;1 OUT Y0020&lt;br&gt;2 LD X0000&lt;br&gt;Motor start check</td>
</tr>
</tbody>
</table>

Input the HELP key in the Read mode.

2: Select the Kana comment display.

Select "1: Kana comment display".

Display the Kana comment of the device at the cursor position.
## 20.3 Operation procedure list of list edit

### 20.3.1 Common operation

<table>
<thead>
<tr>
<th>Details</th>
<th>Purpose</th>
<th>Procedures (key input sequence)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input of keyword at start-up</td>
<td>Input when the keyword is registered in the ACPU.</td>
<td>Keyword → 30</td>
</tr>
<tr>
<td>Mode selection</td>
<td>Select the mode.</td>
<td>Mode key (READ, INSERT, PARAM)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SHIFT → Mode key (WRITE, DELETE, OTHERS)</td>
</tr>
<tr>
<td>Switching of valid key</td>
<td>Switch the valid key (function indicated at the upper/lower part of the key) by a user.</td>
<td>SHIFT or SET</td>
</tr>
<tr>
<td>Action for incorrect input</td>
<td>Perform the operation for incorrect key input.</td>
<td>CLEAR. Mode key or SHIFT → Mode key</td>
</tr>
<tr>
<td>Operation of command help function</td>
<td>Perform operation with the Help function command specification.</td>
<td>Help command display → 1 → 1 → 1 → Input the capital letter of the command.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>END → Input the corresponding command number.</td>
</tr>
<tr>
<td>Display of Comment</td>
<td>Display the comment stored in the ACPU.</td>
<td>Command display operation → HELP → 2 → 1 → 2.</td>
</tr>
</tbody>
</table>

#### Command input operation

<table>
<thead>
<tr>
<th>Details</th>
<th>Purpose</th>
<th>Procedures (key input sequence)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Command code only</td>
<td>Input the command code only.</td>
<td>Command → 30</td>
</tr>
<tr>
<td>Command code and 1 device</td>
<td>Input the command code and 1 device.</td>
<td>Command → SP → Device → Device No. → 30</td>
</tr>
<tr>
<td>Other than above command key input</td>
<td>Input the command other than above with the command key.</td>
<td>Input the SP between the device, the source data and the destination.</td>
</tr>
<tr>
<td>Other than above (device key input)</td>
<td>Input the command other than above without the command key.</td>
<td>Input the SP between the command, the device, the source data and the destination.</td>
</tr>
</tbody>
</table>

### 20.3.2 Operation in Write mode (W)

<table>
<thead>
<tr>
<th>Details</th>
<th>Purpose</th>
<th>Procedures (key input sequence)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuous write in NOP</td>
<td>Set the specified range in the program to NOP.</td>
<td>Program display in the Write mode → HELP → 1 → 2.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 → Start step specification → 30 → Final step specification → 30.</td>
</tr>
<tr>
<td>Write/modify (change) of program</td>
<td>Write the new program/modify (change)</td>
<td>SHIFT → WRITE → SET → Step number → 30 → Command.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 → 2 → Start step specification → 30.</td>
</tr>
</tbody>
</table>
## 20.3.3 Operation in Read mode (R)

<table>
<thead>
<tr>
<th>Details</th>
<th>Purpose</th>
<th>Procedures (key input sequence)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Command reading with the specified step number</td>
<td>Read the command of the specified step number in the program.</td>
<td>READ [SET] [GO] Step number [GO] Command [GO]</td>
</tr>
<tr>
<td>Read the command with the specified command.</td>
<td>Read the specified command in the program.</td>
<td>READ [Command] Device [Device number] [GO]</td>
</tr>
<tr>
<td>Read the command with the specified device.</td>
<td>Read the command with the specified device used in the program.</td>
<td>READ [SET] Device [Device number] [GO]</td>
</tr>
<tr>
<td>Automatic scroll</td>
<td>Display the program with automatic scroll.</td>
<td>Read operation above</td>
</tr>
</tbody>
</table>

## 20.3.4 Operation in Insert mode (I)

<table>
<thead>
<tr>
<th>Details</th>
<th>Purpose</th>
<th>Procedures (key input sequence)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insert a command in the program.</td>
<td>Insert a command in the program.</td>
<td>INSERT [SET] [GO] Step number [GO] Command [GO]</td>
</tr>
<tr>
<td>Move the program.</td>
<td>Move the whole program.</td>
<td>Display the program [HELP] [GO] [GO] Specify the movement start step. [GO] Specify the movement destination step.</td>
</tr>
<tr>
<td>Copy the program.</td>
<td>Copy the program.</td>
<td>Display the program [HELP] [GO] [GO] [GO] Specify the copy start step. [GO] Specify the copy destination step.</td>
</tr>
</tbody>
</table>

## 20.3.5 Operation in Delete (D) mode

<table>
<thead>
<tr>
<th>Details</th>
<th>Purpose</th>
<th>Procedures (key input sequence)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delete a command from the program.</td>
<td>Delete a command from the program.</td>
<td>[SHIFT] [DELETE] [SET] [GO] Step number [GO]</td>
</tr>
<tr>
<td>Delete the specified range of the program.</td>
<td>Specify the range of the program for deletion.</td>
<td>Display the program [HELP] [GO] [GO] Specify the deletion start step. [GO] Specify the deletion end step.</td>
</tr>
<tr>
<td>Delete the whole NOP.</td>
<td>Delete the whole NOP in the program.</td>
<td>Display the program [HELP] [GO] [GO]</td>
</tr>
</tbody>
</table>
### 20.3.6 Operation in Parameter mode (P)

<table>
<thead>
<tr>
<th>Details</th>
<th>Purpose</th>
<th>Procedures (key input sequence)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clearing all parameters</td>
<td>Return the parameters to the initial setting status.</td>
<td>PARAM \rightarrow 1 \rightarrow A \rightarrow END \rightarrow A \rightarrow END</td>
</tr>
<tr>
<td>Parameter setting (for A0J2HCPU)</td>
<td>Set the parameters for the A0J2HCPU.</td>
<td>PARAM \rightarrow 2 \rightarrow 1</td>
</tr>
<tr>
<td>Setting of latch range</td>
<td>Select the latch range from &quot;No latch&quot;, &quot;1/2 latch&quot; and &quot;All latch&quot;.</td>
<td>1) \rightarrow 1 \rightarrow A \rightarrow END \rightarrow 2</td>
</tr>
<tr>
<td>Setting of step relay</td>
<td>Set the availability (S1536 to 2047) of the step relay.</td>
<td>1) \rightarrow 1 \rightarrow A \rightarrow END \rightarrow 2</td>
</tr>
<tr>
<td>Completion of setting (write)</td>
<td>When the parameter setting is complete, write the PLC CPU. Setting for multiple items is also available.</td>
<td>CLEAR \rightarrow END \rightarrow 1</td>
</tr>
<tr>
<td>Parameter setting (other than A0J2HCPU)</td>
<td>Set the parameters other than A0J2HCPU.</td>
<td>PARAM \rightarrow 2 \rightarrow 1</td>
</tr>
</tbody>
</table>
| Setting of memory capacity | Set the main sequence program capacity and the file register capacity. | 1) \rightarrow 1 \rightarrow Capacity \rightarrow END \rightarrow 2 | (For main, input unit: 1K step)  
| | | 1) \rightarrow 1 \rightarrow Capacity \rightarrow END \rightarrow 2 | (For sub, input unit: 1K step)  
| | | 1) \rightarrow 1 \rightarrow Capacity \rightarrow END \rightarrow 2 | (For file register, input unit: 1K point)  |
| M, L, S setting (other than AnA, AnUCPU) | Set the top device number used in the latch relay/step relay. | 1) \rightarrow 2 \rightarrow Top number of L \rightarrow END \rightarrow 2 |
| M, L, S setting (AnA, AnUCPU only) | Set the top device used in the latch relay/step relay/internal relay. | 1) \rightarrow 2 \rightarrow Top number of L \rightarrow END \rightarrow 2 |
| Timer setting (other than AnACPU) | Set the top device used in the low speed/high speed/retentive timers. | 1) \rightarrow 3 \rightarrow Top number of timer \rightarrow END \rightarrow 2 |
| Timer setting (AnACPU) | Set the number of timers used, the top device number that stores the setting value after T256, and the top device used in the low speed/high speed/retentive timers. | 1) \rightarrow 3 \rightarrow No. of timers \rightarrow END \rightarrow 2 |
| Counter setting (AnACPU only) | Set the number of counters used, and the top device number that stores the setting value after C255. | 1) \rightarrow 4 \rightarrow No. of counters \rightarrow END \rightarrow 2 |
| Setting of latch range | Set the range of the device for latch setting. | 1) \rightarrow 5 \rightarrow Top number of latch \rightarrow END \rightarrow 2 |
| WDT setting | Set the value of the watchdog timer in the unit of 10 ms. | 1) \rightarrow 5 \rightarrow WDT value \rightarrow END \rightarrow 2 | (input unit: 10 ms) |
### 20.3.7 Operation in Other modes (O)

<table>
<thead>
<tr>
<th>Details</th>
<th>Purpose</th>
<th>Procedures (key input sequence)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parameter setting (other than A0J2HCPU)</td>
<td>Set the parameters other than A0J2HCPU.</td>
<td>![PARAM ➔ 2 ➔ 1)](PARAM ➔ 2 ➔ 1)</td>
</tr>
<tr>
<td>Setting of I/O control system (only for A3CPU and A3MCPU)</td>
<td>Set the I/O control system.</td>
<td>![7 ➔ A ➔ SO ➔ 2)](7 ➔ A ➔ SO ➔ 2)</td>
</tr>
<tr>
<td>Completion of setting (write)</td>
<td>When parameter setting is complete, write the PLC CPU.</td>
<td>![CLEAR ➔ END ➔ ](CLEAR ➔ END ➔ )</td>
</tr>
<tr>
<td></td>
<td></td>
<td><img src="GO" alt="GO" />  (End of writing is displayed.)</td>
</tr>
</tbody>
</table>

- **Details**: Purpose
- **Procedures (key input sequence)**

#### Error check
- Operation that checks the error step number/error code for the current error in the ACPU. (other than AnA and AnUCPU)
  - ![SHIFT ➔ OTHER ➔ 2 ➔ 1](SHIFT ➔ OTHER ➔ 2 ➔ 1)  (Except AnA, AnUCPU)
  - ![SHIFT ➔ OTHER ➔ 2 ➔ 1](SHIFT ➔ OTHER ➔ 2 ➔ 1)  (AnA, AnUCPU)

#### Program check
- Check the program (double coil, command code, END command).
  - ![SHIFT ➔ OTHER ➔ 2 ➔ 2](SHIFT ➔ OTHER ➔ 2 ➔ 2)  Step number

#### Buffer memory batch monitoring
- Monitor the buffer memory details of the special function unit.
  - ![SHIFT ➔ OTHER ➔ 3 ➔ 1 ➔ 2 ➔ Y ➔ Step I/O number of unit](SHIFT ➔ OTHER ➔ 3 ➔ 1 ➔ 2 ➔ Y ➔ Step I/O number of unit)
  - ![Buffer memory ➔ SO ➔ H ➔ K](Buffer memory ➔ SO ➔ H ➔ K)

#### Clock monitor
- Monitor the clock data of the ACPU.
  - ![SHIFT ➔ OTHER ➔ 3 ➔ 1 ➔ 3](SHIFT ➔ OTHER ➔ 3 ➔ 1 ➔ 3)

#### Clearing of all PC memories
- Clear all memories in the ACPU.
  - ![SHIFT ➔ OTHER ➔ 3 ➔ 2 ➔ SO ➔ 1 ➔ SO](SHIFT ➔ OTHER ➔ 3 ➔ 2 ➔ SO ➔ 1 ➔ SO)

#### Clearing of all programs
- Clear all sequence program, microcomputer program and T/C setting value areas.
  - ![SHIFT ➔ OTHER ➔ 3 ➔ 2 ➔ 2 ➔ 1 ➔ SO](SHIFT ➔ OTHER ➔ 3 ➔ 2 ➔ 2 ➔ 1 ➔ SO)

#### Clearing of all device memories
- Clear all details of the bit device and the word device in the ACPU.
  - ![SHIFT ➔ OTHER ➔ 3 ➔ 2 ➔ 3 ➔ 1 ➔ SO](SHIFT ➔ OTHER ➔ 3 ➔ 2 ➔ 3 ➔ 1 ➔ SO)

#### PLC No. setting
- Set the PLC No. of other stations for access on the MELSECNET II/II(B) or MELSECNET/10.
  - ![SHIFT ➔ OTHER ➔ 3 ➔ 3 ➔ 1](SHIFT ➔ OTHER ➔ 3 ➔ 3 ➔ 1)
  - ![1 ➔ PC No. ➔ SO](1 ➔ PC No. ➔ SO)
  - ![2 ➔ Network No. ➔ SO ➔ Station No. ➔ SO](2 ➔ Network No. ➔ SO ➔ Station No. ➔ SO)

#### Main/sub-program switching
- Select the main/sub-program displayed on the list edit screen.
  - ![SHIFT ➔ OTHER ➔ 3 ➔ 3 ➔ 2](SHIFT ➔ OTHER ➔ 3 ➔ 3 ➔ 2)
  - ![3 ➔ 1 ➔ SO](3 ➔ 1 ➔ SO)

#### Remote run/stop
- Operate the run/stop status of the ACPU from the GOT.
  - ![SHIFT ➔ OTHER ➔ 3 ➔ 4 ➔ 1](SHIFT ➔ OTHER ➔ 3 ➔ 4 ➔ 1)
<table>
<thead>
<tr>
<th>Details</th>
<th>Purpose</th>
<th>Procedures (key input sequence)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read/write of machine language</td>
<td>Specify the memory address (absolute address) of the ACPU. Read the memory details and write the machine language to the memory.</td>
<td><img src="image-url" alt="Diagram" /></td>
</tr>
</tbody>
</table>
21 ERROR MESSAGES FOR LIST EDITOR

21.1 Error detected with the list editor function

If an error is detected with the list editor function during operation of each mode, an error message appears at the 4th line of the display. Error messages, display conditions and corrective actions are displayed below. If an error message appears, take the following actions to resume operation.

1) Check the error message.
2) Remove the cause of the error.
3) Input the corresponding key.

(The error message disappears. The screen returns to the status before error.)

(Example)

```
R 0 L D X 0 0 0 0
1 O R Y 0 0 2 0
2 A N I M 1 0 0
3 O U T Y 0 0 2 0
```

- **Reading the step with the RST command.**

```
RST M 0 GO
```

- **Display the error message.**

```
R 0 L D X 0 0 0 0
1 O R Y 0 0 2 0
2 A N I M 1 0 0
```

```
SET
```

- **Delete the error message.**

```
R 0 L D X 0 0 0 0
1 O R Y 0 0 2 0
2 A N I M 1 0 0
```

- **The error message disappears. The next operation is resumed.**
<table>
<thead>
<tr>
<th>Error message</th>
<th>Display condition</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address error</td>
<td>• In machine language writing, the address which was tried to be written was at the write-protect area.</td>
<td>• Set the correct address.</td>
</tr>
<tr>
<td>No corresponding program</td>
<td>• The specified command was not found.</td>
<td>• Check the program.</td>
</tr>
</tbody>
</table>
| Memory cassette check        | • In communication with the CPU for clearing the keyword or writing the parameter, the memory cassette is insufficient or not mounted. | • Mount the memory cassette properly.  
• Replace the memory cassette with a new one. |
| Step over error             | • The set step number is larger than the maximum step number.                      | • Set the correct step number.                                       |
| Setting error               | • Setting value is not correct.                                                    | • Set the correct value.                                             |
| Not selectable              | • The function which cannot be executed was selected.                              | • Select other function.                                             |
| Operation error             | • The set device symbol is incorrect.                                              | • Perform the correct key operation.                                 |
| Device error                | • The specified command was not found.                                             | • Set the correct device symbol.                                     |
|                            | • The device number exceeds the range.                                             | • Set the number within the range of CPU device.                     |
| Identical coil              | • The identical coil is found in the sequence program.                              | • Proceed to the next operation if it does not affect the control.  
• Correct the program if it affects the control. |
| Command error               | • When the program is read, it cannot be converted to the proper command.          | • When the CPU has detected the error, stop running of the operation. After resetting the CPU, check the command around the error. Write the correct command. (For check of the error step, refer to Section 20.3.7.) |
| Command setting error       | • The command set at the time of read, write or insert is not correct.              | • Set the correct command.                                           |
| Memory protect              | • When writing in the Write or the Insert/Delete mode, the memory protect switch in the memory cassette is ON. | • Turn OFF the memory protect switch in the memory cassette.         |
| Capacity over               | • Memory assignment set in the parameter exceeded the capacity of the memory cassette. | • Set the parameter within the capacity of the memory cassette.      |
| No END command              | • There is no END command.                                                          | • Write the END command at the last step of the program.             |
| PLC communication error     | • When the list editor function is started, proper communication with the PLC is not made. | • Restart the list editor function. If communication is not made properly, check the following:  
GOT main unit  
Connection of the cable  
CPU main unit (if any error has occurred) |
<p>| PC write error              | • Correct writing was not made in the Write or Insert mode.                        | • Check the setting of RAM/ROM.                                     |
|                            |                                                                                  | • Check the RAM mounting.                                           |
|                            |                                                                                  | • Check the setting of the memory protect switch in the CPU.         |
| PLC is running              | • Writing, insertion or deletion was attempted during running of the CPU.          | • Stop the CPU.                                                     |
| PC No. error                | • The PLC number is set to other station.                                          | • Change the PLC number and set the station for access to the host.  |</p>
<table>
<thead>
<tr>
<th>Error message</th>
<th>Display condition</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>KS over</strong></td>
<td>• The value exceeding the range of the program capacity by <strong>K</strong> steps was attempted to be set.</td>
<td>• Reduce the program capacity by <strong>K</strong> steps for setting.</td>
</tr>
<tr>
<td><strong>KP over</strong></td>
<td>• The value exceeding the range of the file register capacity by <strong>K</strong> points was attempted to be set.</td>
<td>• The value exceeding the range of the file register capacity by <strong>K</strong> points was attempted to be set.</td>
</tr>
<tr>
<td>Not available for QnACPU.</td>
<td>• The CPU at the list edit destination is QnACPU.</td>
<td>• Set the PLC number and change the station for access.</td>
</tr>
<tr>
<td>Set the PLC No.</td>
<td>• The GO key was pressed without input of the keyword on the keyword input screen.</td>
<td>• Set the PLC number and change the station for list edit. Or select the same station and input the keyword.</td>
</tr>
<tr>
<td>The keyword is not input.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Set the PLC No.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The PLC parameter was changed.</td>
<td>• The PLC parameter exceeding the file (R) register capacity was set.</td>
<td>• Restart the GOT system if required.</td>
</tr>
<tr>
<td>Restart the GOT system.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The PLC parameter was changed.</td>
<td>• The capacity of the file (R) register was set.</td>
<td>• Read the ladder monitor on the PLC again if required.</td>
</tr>
<tr>
<td>Read the ladder monitor again.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The PLC program was edited.</td>
<td>• Edit the PLC program.</td>
<td>• Set the PLC number and change the station for access.</td>
</tr>
<tr>
<td>Read the ladder monitor again.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
21.2 Error of PLC CPU

When the error step read in other mode is performed, the error message and the error step of the current error in the ACPU are displayed.

Error messages, error details and corrective actions are displayed below. If an error message appears, take the following actions to resume operation.

1) Check the error message.
2) If the error code is not displayed, check the error code of special register D9008 with the system monitor function (Refer to Section 8.).
3) Remove the cause of the error.

(Display)

Example of display for an error in the CPU other than AnA and AnU

<table>
<thead>
<tr>
<th>ERR_STEP</th>
<th>25</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNITDOWN</td>
<td></td>
</tr>
<tr>
<td>ERR_CODE</td>
<td>41</td>
</tr>
<tr>
<td>INFO</td>
<td></td>
</tr>
</tbody>
</table>

Example of display for an error in the AnA or AnUCPU

<table>
<thead>
<tr>
<th>ERR_STEP</th>
<th>25</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNITDOWN</td>
<td></td>
</tr>
<tr>
<td>ERR_CODE</td>
<td>41</td>
</tr>
<tr>
<td>INFO</td>
<td>411</td>
</tr>
</tbody>
</table>

Example of next display for the display of "_" above (error history is available)

<table>
<thead>
<tr>
<th>ERR_STEP</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC DOWN</td>
<td></td>
</tr>
<tr>
<td>ERR_CODE</td>
<td>9</td>
</tr>
<tr>
<td>99/07/12</td>
<td>11:55:10</td>
</tr>
</tbody>
</table>

Point

When an error message of the PLC CPU appears, refer to the ACPU programming manual (Common Command) and the user's manual for each CPU for corrective actions.
21.3 Error using list editor function on the link system

When the list editor function is used on the link system, the "PLC communication error (**)" may appear. In this case, check the error details and the corrective actions.

<table>
<thead>
<tr>
<th>Error No.</th>
<th>Error message</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Time-out error: No response to the request</td>
<td>Check the cable wiring.</td>
</tr>
<tr>
<td>4</td>
<td>Process cancel: New process request was given to the list editor function while the CPU is processing.</td>
<td>Perform correct key operations on the GOT.</td>
</tr>
<tr>
<td>5</td>
<td>Sum check error: A sum check error from the link communication has occurred.</td>
<td>There may be noise interference. Check the system again.</td>
</tr>
<tr>
<td>16</td>
<td>PLC No. error: There is no station corresponding to the PLC number.</td>
<td>Check the PLC number setting. Set the correct number.</td>
</tr>
<tr>
<td>19</td>
<td>This error may occur when the ACPU is reset during monitoring.</td>
<td>Perform the monitor setting again.</td>
</tr>
<tr>
<td>24</td>
<td>Remote error: Although remote stop/pause is performed from the computer link unit, remote run/stop is additionally performed.</td>
<td>Perform the remote run/stop/pause from either unit.</td>
</tr>
<tr>
<td>32</td>
<td>Link error: While the slave station is monitoring the master station, the master station is reset.</td>
<td>Perform the monitor setting again.</td>
</tr>
<tr>
<td>34</td>
<td>EEPROM failure: The EEPROM cannot be written due to EEPROM failure.</td>
<td>Replace the EEPROM with a new one.</td>
</tr>
</tbody>
</table>

If error number "25" appears, the following causes are possible. Check the details and the corrective actions.

(1) When connected to the master station

<table>
<thead>
<tr>
<th>Device number</th>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>M9210</td>
<td>Link card error (for master station)</td>
<td>OFF: Normal ON: Error The control depends on whether there is an error at the hardware of the link card. The link card in the CPU link unit is judged at the CPU. Replace the link unit.</td>
</tr>
<tr>
<td>M9224</td>
<td>Link status</td>
<td>OFF: Online ON: Offline, station-to-station test, or self-loopback test The control depends on whether the master station itself is online or offline, or in the station-to-station mode or the self-loopback mode. Check the mode switch.</td>
</tr>
<tr>
<td>M9227</td>
<td>Loop test status</td>
<td>OFF: Not executed ON: Normal loop test and sub-loop test are being executed. The control depends on whether the master station itself is executing the normal loop test or the sub-loop test.</td>
</tr>
</tbody>
</table>

(2) When connected to the local station

<table>
<thead>
<tr>
<th>Device number</th>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>M9211</td>
<td>Link card error (for local station)</td>
<td>OFF: Normal ON: Error The control depends on whether there is an error at the hardware of the link card. The link card in the CPU link unit is judged at the CPU. Replace the link unit.</td>
</tr>
<tr>
<td>M9240</td>
<td>Link status</td>
<td>OFF: Online ON: Offline, station-to-station test, or self-loopback test The control depends on whether the local station itself is online or offline, or in the station-to-station mode or the self-loopback mode. Check the mode switch.</td>
</tr>
<tr>
<td>M9257</td>
<td>Loop test status</td>
<td>OFF: Not executed ON: Normal loop test and sub-loop test are being executed. The control depends on whether the local station itself is executing the normal loop test or the sub-loop test.</td>
</tr>
</tbody>
</table>
(3) When connected to the CPU in MELSECNET/10
An error in the MELSECNET/10 is reported using a four digit (hexadecimal) error number. For details of the errors and corrective actions, see the MELSECNET/10 Network System Reference Manual.

**Point**

If an error code not listed in the previous page is displayed, contact the nearest of our system service centers, agents, and branch offices.
22 OPERATING MOTION MONITOR

The operation procedure when using the motion monitor function is explained in this chapter.

22.1 Operation procedures before starting motion monitoring

This section contains a summary of the procedure for transmitting the system program (OS) for the motion monitor function and the motion monitor data from the personal computer to the GOT until it is installed in built-in memory.

For details, please refer to the GT Designer2 Version2 Operating Manual. Details of the screen display and key operation are shown in the Help.

- Connect GOT and personal computer.
- Start up GOT.
- Start up personal computer and start GT Designer2.
- With the GT Designer2, transmit the OS for the motion monitor function from the personal computer to the GOT and install it in the built-in memory.
- Installation is complete.
- With the GT Designer2, transmit the motion monitor data from the personal computer to the GOT and install it in the built-in memory. (Download)
- When download is finished, the motion monitor can be operated through the GOT.
- GT Designer2 operation is finished.

*** It is not necessary to set up and operate the GOT after startup.

*** Transmit the data using the installation dialog box.

*** Transmit the data using the download dialog box.

*** When installation is finished, "Completed" is displayed on the installation dialog box.

*** When download is finished, "Completed" is displayed on the download dialog box.

*** Proceed to Section 22.2 to operate the servo amplifier monitor.
22.2 Operation procedures from user-created monitor screen display to start of motion monitor

This section describes the operation procedure for the GOT when starting each operation of the motion monitor function after the system program (OS) of the motion monitor function has been installed in the GOT built-in memory, and downloading the motion monitor data.

1. Install memory board on the GOT
2. Start up GOT.
3. Display the user-created monitor screen.
4. Start the motion monitor function. (*1)
5. Display the system configuration screen.
   - When starting, the module format and related data are not displayed.
   - When reading of module data from the PLC CPU is complete, the module format and related data is displayed.
   - When [END] is selected, the motion monitoring ends and the display moves to the original screen where the motion monitor function was begun.
6. Specify the motion controller CPU to be monitored.
   - See Section 23.1

*1 Touch the key where the touch switch (expanded) function was set with the drawing software, and start the system monitor function.
When the Utility screen is displayed, touch [MOTION MON.] to start the motion monitor function.
Select the motion monitor function to be used.

Parameter setting

Motion monitor

Monitor menu screen appears.

Select the menu item. ...Refer to Section 23.3.

The monitor screen of the selected function appears.

Perform operation for the selected monitor function.

Present Value Mon. ...Refer to Section 23.3.1.
SFC Error History ...Refer to Section 23.3.2.
Error List ...Refer to Section 23.3.3.
Error List Axis ...Refer to Section 23.3.4.
Positioning Monitor ...Refer to Section 23.3.5.
Servo Monitor ...Refer to Section 23.3.6.
Present Value Hist. ...Refer to Section 23.3.7.

Has the motion parameter changing password been registered?

No

Yes

Enter the parameter changing password. ...Section 22.2.1

Parameter setting screen appears.

Select the servo parameter to be set. ...Refer to Section 23.4.1.

Change the servo parameter setting. ...Refer to Section 23.4.2.

Write the new servo parameter setting. ...Refer to Section 23.4.2.
22.2.1 Password entry operation procedure

With the motion parameter changing password written to the GOT using GT Designer2, the password entry screen appears if you attempt to access the parameter setting screen of the motion monitor function.

![Password Entry Screen]

(1) Features
- If the characters entered match a password, the Parameter Setting screen appears.
- If the characters entered do not match a password, an error message appears on-screen.
  - Touching [Esc] will return to the previous monitor screen.
- Numerical numbers and alphabets A to F can be used for a password.
- Use GT Designer2 to set the motion parameter changing password.
  Refer to the GT Designer2 Version2 Reference Manual for details of password setting.

(2) Procedure
(a) To enter a password, follow these steps:
  - Touch 0 to 9 and A to F to enter a password.
  - Touch to confirm the password entered.
  - To correct the password entered, touch DEL to delete wrong characters and then enter correct characters again.

(b) To quit entering a password:
  - Touch to return to the previous monitor screen.
This chapter explains screen operations to be performed when using the motion monitor function. The display screen of the motion monitor function varies slightly with the GOT used. This chapter mainly uses the screen of the A975GOT for explanation.

23.1 Screen layout, common operations and screen changes for monitoring

This section describes the screen layout and common operations for execution of motion monitoring.

23.1.1 System configuration screen layout and key functions

This section explains the layout of the system configuration screen that is displayed after starting the motion monitor function and the key functions that appears on-screen.

(1) Displayed data

1) The CPU No. is displayed as the CPU and the control CPU No. as the loaded module. (Only the CPU is displayed when the A95*GOT/A956WGOT is used.) To choose the motion controller CPU for servo monitor/servo parameter setting, touch its display position.

2) The keys used for performing operation on the system configuration screen, shown in (2), are displayed. (Touch input)
(2) Key functions

The following indicates the functions of the keys used for performing operation on the system configuration screen.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>END</td>
<td>Used to end monitoring and return to the screen where the motion monitor function was started.</td>
</tr>
<tr>
<td>Motion Monitor</td>
<td>Used to change the system configuration screen to the motion monitor menu screen. (Refer to Section 23.4)</td>
</tr>
<tr>
<td>Parameter Set.</td>
<td>Used to change the system configuration screen to the parameter setting screen. (Refer to Section 23.5)</td>
</tr>
<tr>
<td></td>
<td>Used to scroll the display data up/down one level to display the currently undisplayed, preceding/succeeding level of the system configuration.</td>
</tr>
<tr>
<td>▼</td>
<td>Scrolls down one level.</td>
</tr>
<tr>
<td>▲</td>
<td>Scrolls up one level.</td>
</tr>
</tbody>
</table>
23.2 Changing the screen

This section describes how to change the screen when executing each monitor function of the motion monitor function from the status where the user-created monitor screen is displayed.

Start

User-created monitor screen

Utility screen

System Configuration screen (Refer to Section 23.1.1.)

Monitor menu screen (Refer to Section 23.3.)

Monitor screen of selected function (Refer to Section 23.3.1 and later.)

Parameter setting screen (Refer to Section 23.4.1)

Password entry window (Refer to Section 22.2.1)

1) Touch the key where the touch switch (expanded) function was set with the GT Designer2, and start the motion monitor operation.

2) Touch MOTION MON. and start the motion monitor function.

3) When END was pressed to end the motion monitor function, starting the motion monitor function the next time will display the previously ended screen.

The system monitor function and special module monitor function can also be started from the Utility menu screen.

Touch sys.conf. Utility screen

Touch Monitor menu screen

Touch the monitor menu item.

Touch END Go to user-created monitor screen or utility screen.

Touch Parameter Set.

Touch END
23.3 Motion monitor

The motion monitor function allows you to monitor various servo monitor data on multiple monitor screens. To display any of the monitor screens, make selection on the monitor menu screen.

(Monitor menu screen)

1) Present Value Mon.............. Monitors and displays the feed current values and actual current values of all running axes. (Refer to Section 23.3.1)
2) SFC Error History.............. Displays the history of errors that occurred in SFC programs from when the motion CPU was powered on or reset. (Refer to Section 23.3.2)
3) Error List........................ Displays the history of errors (eight latest errors) that occurred on and after the leading edge of PLC ready (M2000). (Refer to Section 23.3.3)
4) Error List Axis.................. Displays the latest errors that occurred on the specified axis. (Refer to Section 23.3.4)
5) Positioning Monitor............. Monitors the details of the positioning data set to any axis. (Refer to Section 23.3.5)
6) Servo Monitor.................. Monitors the servo motor/servo amplifier. (Refer to Section 23.3.6)
7) Present Value Hist.............. Displays the history of encoder present values, servo command values and monitor present values of the ABS axis at servo amplifier power-on/off or at home position return. (Refer to Section 23.3.7)
   (Not displayed when the A95*GOT is used.)
23.3.1 Display data and key functions of present value monitor screen

This section explains the display data of the present value monitor screen and the key functions displayed on-screen.

(1) Displayed data

![Present Value Monitor Screen](image)

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ax</td>
<td>The axis Nos. of the running axes being monitored are displayed.</td>
</tr>
<tr>
<td>2</td>
<td>Actual PV, Feed PV</td>
<td>The feed present values or actual present values of the running axes are displayed. Touching the display part of the monitored value switches to the positioning monitor screen of the touched axis No. (Refer to Section 23.3.5)</td>
</tr>
<tr>
<td>3</td>
<td>SV RDY, ERR DT, SV ERR</td>
<td>Whether the servo ready signals, major/minor errors and servo error detection signals are ON (lit) or OFF (extinguished) are displayed. Touching the error indication part switches to the error list designated-axis screen of the touched axis No. (Refer to Section 23.3.4)</td>
</tr>
<tr>
<td>4</td>
<td>Bit device screen *1</td>
<td>The common bit devices are always monitored and displayed.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Error detection type bit devices Displayed red</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• General status type bit devices Displayed green</td>
</tr>
</tbody>
</table>

*1 Not displayed when the A95*GOT/A956WGOT is used.

(2) Key functions

The following indicates the functions of the keys used for operation of the present value monitor screen.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feed PV, Actual PV</td>
<td>Touching the key alternates the monitor item between the “feed present value” and “actual present value”. (Only in the real mode)</td>
</tr>
<tr>
<td>Menu</td>
<td>Used to return to the monitor menu screen.</td>
</tr>
<tr>
<td>END</td>
<td>Used to end the present value monitoring and return to the screen that was being displayed when the motion monitor function was started.</td>
</tr>
<tr>
<td>▲▼</td>
<td>Used to change the displayed axis No. (Displayed only for Q173CPU monitoring.)</td>
</tr>
</tbody>
</table>
23.3.2 Display data and key functions of SFC error history screen

This section explains the display data of the SFC error history screen and the key functions displayed on-screen.

(1) Displayed data

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>M/D H: M</td>
<td>The dates and times when SFC errors occurred are displayed.</td>
</tr>
<tr>
<td>2)</td>
<td>Program No.</td>
<td>The SFC program Nos. where SFC errors occurred are displayed.</td>
</tr>
<tr>
<td>3)</td>
<td>Err Code</td>
<td>The error codes of the errors that occurred are displayed.</td>
</tr>
<tr>
<td>4)</td>
<td>Error Definition *1</td>
<td>The definitions of the SFC errors that occurred are displayed.</td>
</tr>
</tbody>
</table>

*1 Not displayed when the A95*GOT/A956WGOT is used.

(2) Key functions

The following indicates the functions of the keys used for operation of the SFC error history screen.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mon. Menu</td>
<td>Used to return to the monitor menu screen.</td>
</tr>
<tr>
<td>END</td>
<td>Used to end the SFC error history and return to the screen that was being displayed when the motion monitor function was started.</td>
</tr>
<tr>
<td>▲ ▼</td>
<td>Used to scroll the SFC error history display. (Displayed only when the A95*GOT/A956WGOT is used.)</td>
</tr>
</tbody>
</table>
23.3.3 Display data and key functions of error list screen

This section explains the display data of the error list screen and the key functions displayed on-screen.

(1) Displayed data

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>H/D H: M</td>
<td>The dates and times when errors occurred are displayed.</td>
</tr>
<tr>
<td>2</td>
<td>Ax</td>
<td>The axis Nos. and axis types of the axes where errors occurred are displayed.</td>
</tr>
<tr>
<td></td>
<td>Virtual axis</td>
<td>Virtual</td>
</tr>
<tr>
<td></td>
<td>Synchronous encoder axis</td>
<td>Sync</td>
</tr>
<tr>
<td>3</td>
<td>SV P. No.</td>
<td>The servo program Nos. that were being executed at error occurrence are displayed.</td>
</tr>
<tr>
<td></td>
<td>The execution destination of the servo program in error is not displayed. Using the servo program No., refer to the execution destination.</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Err Code</td>
<td>The types and error codes of the errors that occurred are displayed.</td>
</tr>
<tr>
<td></td>
<td>The error types are displayed as indicated below.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Minor error</td>
<td>Minor</td>
</tr>
<tr>
<td></td>
<td>• Major error</td>
<td>Major</td>
</tr>
<tr>
<td></td>
<td>• Servo error</td>
<td>Servo</td>
</tr>
<tr>
<td></td>
<td>• Servo program setting error</td>
<td>Servo P</td>
</tr>
<tr>
<td></td>
<td>• Real/virtual switching</td>
<td>Switch</td>
</tr>
<tr>
<td></td>
<td>• Test mode request error</td>
<td>Test</td>
</tr>
<tr>
<td></td>
<td>• Manual pulse generator setting error</td>
<td>Manual</td>
</tr>
<tr>
<td></td>
<td>• PCPU ERROR</td>
<td>P-WDT</td>
</tr>
<tr>
<td></td>
<td>• SSCNET ERROR</td>
<td>Communication error</td>
</tr>
<tr>
<td>5</td>
<td>Error Definition *1</td>
<td>The definitions of the errors that occurred are displayed.</td>
</tr>
<tr>
<td>6</td>
<td>Set Data *1</td>
<td>The program number in error is displayed if the set data have any errors.</td>
</tr>
</tbody>
</table>

*1 Not displayed when the A95*GOT/A956WGOT is used.

(2) Key functions

The following indicates the functions of the keys used for operation of the error list screen.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Menu</td>
<td>Used to return to the monitor menu screen.</td>
</tr>
<tr>
<td>END</td>
<td>Used to end the error list and return to the screen that was being displayed when the motion monitor function was started.</td>
</tr>
</tbody>
</table>
23.3.4  Display data and key functions of error list designated-axis screen

This section explains the display data of the error list designated-axis screen and the key functions displayed on-screen.

(1) Displayed data

**In real mode**

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1Ax</td>
<td>The axis No. currently monitored is displayed.</td>
</tr>
<tr>
<td>2</td>
<td>Out Module</td>
<td>The output module axis No. currently monitored is displayed.</td>
</tr>
<tr>
<td>3</td>
<td>Virt. Axis</td>
<td>The virtual axis No. currently monitored is displayed.</td>
</tr>
<tr>
<td>4</td>
<td>Syne. Enco.</td>
<td>The synchronous encoder axis No. currently monitored is displayed.</td>
</tr>
<tr>
<td>5</td>
<td>Program No.</td>
<td>The servo program No. that was being executed at error occurrence is displayed.</td>
</tr>
<tr>
<td>6</td>
<td>Err Code</td>
<td>The error codes of the minor/major/servo error, servo program setting error, real/virtual switching error information (error code: hexadecimal), personal computer link communication error code and motion CPU WDT error that are currently occurring are displayed.</td>
</tr>
<tr>
<td>7</td>
<td>Err Definition *1</td>
<td>The definitions of the errors that occurred are displayed.</td>
</tr>
<tr>
<td>8</td>
<td>MAN-PLS Axis AX ERR</td>
<td>The axes where a 1-pulse input magnification setting error occurred are displayed.</td>
</tr>
<tr>
<td>9</td>
<td>Test REQ ERR</td>
<td>The axis Nos. that are being started at a test mode request are displayed.</td>
</tr>
</tbody>
</table>

**In virtual mode**

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1Ax</td>
<td>The axis No. currently monitored is displayed.</td>
</tr>
<tr>
<td>2</td>
<td>Out Module</td>
<td>The output module axis No. currently monitored is displayed.</td>
</tr>
<tr>
<td>3</td>
<td>Virt. Axis</td>
<td>The virtual axis No. currently monitored is displayed.</td>
</tr>
<tr>
<td>4</td>
<td>Syne. Enco.</td>
<td>The synchronous encoder axis No. currently monitored is displayed.</td>
</tr>
<tr>
<td>5</td>
<td>Program No.</td>
<td>The servo program No. that was being executed at error occurrence is displayed.</td>
</tr>
<tr>
<td>6</td>
<td>Err Code</td>
<td>The error codes of the minor/major/servo error, servo program setting error, real/virtual switching error information (error code: hexadecimal), personal computer link communication error code and motion CPU WDT error that are currently occurring are displayed.</td>
</tr>
<tr>
<td>7</td>
<td>Err Definition *1</td>
<td>The definitions of the errors that occurred are displayed.</td>
</tr>
<tr>
<td>8</td>
<td>MAN-PLS Axis AX ERR</td>
<td>The errors of the axis Nos. set to the manual pulse generators P1 to P3 are displayed.</td>
</tr>
<tr>
<td>9</td>
<td>Test REQ ERR</td>
<td>The axis Nos. that are being started at a test mode request are displayed.</td>
</tr>
</tbody>
</table>

*1 Not displayed when the A955GOT/A956WGOT is used.
(2) Key functions
The following indicates the functions of the keys used for operation of the error list designated-axis screen.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>ＡＸＡＲxes</td>
<td>Used to change the axis to be monitored.</td>
</tr>
<tr>
<td></td>
<td>(In real mode only),</td>
</tr>
<tr>
<td></td>
<td>(In virtual mode only)</td>
</tr>
<tr>
<td>Sync, Err,</td>
<td>(Display example: When axis 1 is monitored)</td>
</tr>
<tr>
<td>ＡＲxes</td>
<td></td>
</tr>
<tr>
<td>END</td>
<td>Used to end the error list designated-axis monitoring and return to the screen that was being displayed when the motion monitor function was started.</td>
</tr>
</tbody>
</table>

Used to return to the previous screen.

Used to return to the monitor menu screen.
23.3.5 Display data and key functions of positioning monitor screen

This section explains the display data of the positioning monitor screen and the key functions displayed on-screen.

(1) Displayed data

**In real mode**

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Data Item</td>
<td>The axis No. of the running axis being monitored is displayed. For the virtual axis, the axis type is displayed.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Roller</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Ball screw</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Rotary table</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Cam</td>
</tr>
<tr>
<td>2</td>
<td>Feed PV</td>
<td>The data during positioning control of the PCPU are displayed.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Feed present value : Target address output to the servo amplifier (value of the roller surface speed for the roller axis)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Actual present value : Actually traveled present value (no value is displayed for the roller axis)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Deviation counter : Difference between feed present value and actual present value</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Executed program No. : Servo program No. in execution</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Minor/major/servo error : Error code of the latest minor/major/servo error</td>
</tr>
<tr>
<td>3</td>
<td>EXE Cam No.</td>
<td>The cam No. currently controlled is displayed.</td>
</tr>
<tr>
<td>4</td>
<td>ExE Stroke</td>
<td>The stroke amount currently controlled is displayed.</td>
</tr>
<tr>
<td>5</td>
<td>Cam Ax.1 Rev.</td>
<td>The present value within one cam axis revolution pulse is displayed.</td>
</tr>
<tr>
<td>6</td>
<td>Status *1</td>
<td>The ON and OFF of the symbols that represent the axis-by-axis control statuses are displayed.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• In the ON status, the symbol is lit green.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• At error or servo error detection, the symbol is lit red.</td>
</tr>
<tr>
<td>7</td>
<td>CMD Signal *1</td>
<td>The ON and OFF of the positioning command signals are displayed. In the ON status, the signal is lit green.</td>
</tr>
</tbody>
</table>

*1 Not displayed when the A95*GOT/A956WGOT is used.

**In virtual mode**
(2) Key functions
The following indicates the functions of the keys used for operation of the positioning monitor screen.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Item LAX</td>
<td>Used to change the axis to be monitored.</td>
</tr>
<tr>
<td>(Display example: When axis 1 is monitored)</td>
<td></td>
</tr>
<tr>
<td>RET</td>
<td>Used to return to the previous screen.</td>
</tr>
<tr>
<td>Menu</td>
<td>Used to return to the monitor menu screen.</td>
</tr>
<tr>
<td>END</td>
<td>Used to end the positioning monitoring and return to the screen that was being displayed when the motion monitor function was started.</td>
</tr>
</tbody>
</table>
23.3.6 Display data and key functions of servo monitor screen

This section explains the display data of the servo monitor screen and the key functions displayed on-screen.

(1) Displayed data

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>Ax</td>
<td>The axis No. of the running axis currently monitored is displayed.</td>
</tr>
<tr>
<td>2)</td>
<td>Motor Speed</td>
<td>The actual speed of the servo motor is displayed.</td>
</tr>
<tr>
<td>3)</td>
<td>Motor Current</td>
<td>The motor current value at the rated current of 100% is displayed.</td>
</tr>
<tr>
<td>4)</td>
<td>Servo Alarm</td>
<td>The alarm detected by the servo amplifier is displayed.</td>
</tr>
</tbody>
</table>

(2) Key functions

The following indicates the functions of the keys used for operation of the servo monitor screen.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1Ax</td>
<td>Used to change the axis to be monitored.</td>
</tr>
<tr>
<td>Mon., Menu</td>
<td>Used to return to the monitor menu screen.</td>
</tr>
<tr>
<td>END</td>
<td>Used to end the servo monitoring and return to the screen that was being displayed when the motion monitor function was started.</td>
</tr>
</tbody>
</table>
23.3.7 Display data and key functions of present value history monitor screen

This section explains the display data of the present value history monitor screen and the key functions displayed on-screen.

(1) Displayed data

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ax</td>
<td>The axis No. of the axis currently monitored is displayed.</td>
</tr>
<tr>
<td>2</td>
<td>HP Data</td>
<td>The following values monitored at home position return are displayed.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Home position return completion time</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Encoder present value</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Multi-revolution data of absolute position reference point data</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Within-one-revolution position of absolute position reference point data</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Servo command value</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Monitor present value</td>
</tr>
<tr>
<td>3</td>
<td>MON Val</td>
<td>The following present monitor values are displayed.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Present time</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Encoder present value</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Present multi-revolution data of encoder present value</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Present within-one-revolution position of encoder present value</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Present servo command value</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Present monitor present value</td>
</tr>
<tr>
<td>4</td>
<td>PWR ON/</td>
<td>The four past present values of the ABS axis at servo amplifier power-on/off</td>
</tr>
<tr>
<td></td>
<td>PWR OFF</td>
<td>are displayed.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[At power-on]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Power-on time</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Encoder present value</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Multi-revolution data of initial encoder</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Single-revolution data of initial encoder</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Servo command value after recovery</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Monitor present value after recovery</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Alarm occurrence information at present value recovery (error code of minor/major error)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[At power-off]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Servo amplifier power-off time</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Encoder present value</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Multi-revolution data of encoder present value before servo amplifier power-off</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Single-revolution data of encoder present value before servo amplifier power-off</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Servo command at servo amplifier power-off</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Monitor present value at servo amplifier power-off</td>
</tr>
</tbody>
</table>
(2) Key functions
The following indicates the functions of the keys used for operation of the present value history monitor screen.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1AX</td>
<td>Used to change the axis to be monitored.</td>
</tr>
<tr>
<td>(Display example: When axis 1 is monitored)</td>
<td></td>
</tr>
<tr>
<td>Mon. Menu</td>
<td>Used to return to the monitor menu screen.</td>
</tr>
<tr>
<td>END</td>
<td>Used to end the present value history monitoring and return to the screen that was being displayed when the motion monitor function was started.</td>
</tr>
</tbody>
</table>
23.4 Parameter setting

With the parameter setting function, you can set the servo parameters (basic parameters/adjustment parameters) of the connected motion controller CPU (Q172CPU, Q173CPU).

23.4.1 Display data and key functions of parameter setting screen

This section explains the display data of the parameter setting screen and the key functions displayed on-screen.

(1) Display screen

![Parameter Setting Screen]

(2) Key functions

The following indicates the functions of the keys used for operation of the parameter setting screen.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHG</td>
<td>Used to change the servo parameter setting of the selected item.</td>
</tr>
<tr>
<td>▲</td>
<td>Used to choose the servo parameter setting item.</td>
</tr>
<tr>
<td>▼</td>
<td>Used to change the axis whose parameter setting will be made.</td>
</tr>
<tr>
<td>AXNO</td>
<td>Used to return to the system configuration screen.</td>
</tr>
<tr>
<td>END</td>
<td>Used to end the parameter setting and return to the screen that was being displayed when the motion monitor function was started.</td>
</tr>
</tbody>
</table>
23.4.2 Parameter setting operation

The following describes the procedure of changing the setting of the "Auto Tuning" item as an example of parameter setting operation.

1) Choose the item whose parameter will be set with the ▲, ▼ key, and touch the CHG key.

2) As the parameter setting window appears, enter the parameter setting data with Alphanumeric, and touch ▼ to confirm the setting.
   If you do not confirm it, touch ► to close the parameter setting window.

3) As the confirmation window appears, touch the OK key to write the parameter setting to the motion controller CPU.
   When you do not write the parameter setting, touch the CANCEL key.

4) After completion of write, the parameter setting screen whose display has been updated to the new parameter setting appears.
23.5 About Hardcopy Output

This section describes the way to print the motion monitor screen with the printer or to save it in the memory card in the BMP/JPEG file format during motion monitor.

The printout method varies with the used GOT as described below.

(1) When A985GOT or A97*GOT is used
   To start printout, touch the [Print Screen] key displayed on the motion monitor screen.

(2) When A95*GOT or A956WGOT is used
   To start printout, set the hardcopy function start/stop triggering device using GT Designer2, and turn that set device on/off.

**Point**

- Before printing out the motion monitor screen, always install the option driver into the GOT.
- Set the output destination (Memory card/printer) of the hardcopy in the hardcopy setting of GT Designer2.
  Refer to GT Designer2 Version2 Reference Manual for details of the hardcopy setting.
This section gives the errors that may be displayed during motion monitoring operation and their corrective actions.

<table>
<thead>
<tr>
<th>Error message</th>
<th>Error Definition</th>
<th>Corrective Action</th>
</tr>
</thead>
</table>
| No. PLC Communications             | Communication with the monitor destination PLC CPU cannot be made.               | • Check the connection status of the PLC CPU and GOT (for unplugged connector, open cable).  
• Check the PLC CPU for error occurrence. |
| This PLC type is not supported     | The CPU selected on the system configuration screen is other than the Q172CPU or Q173CPU. | Choose the Q172CPU or Q173CPU on the system configuration screen.                  |
| Controllers’ OS type is different  | The motion controller OS installed into the monitor destination motion controller CPU (Q172CPU, Q173CPU) is other than SV13 or SV22. | Install SV13 or SV22 into the monitor destination motion controller CPU (Q172CPU, Q173CPU) as the motion controller OS. |
| It is not a version for GOT        | The version of the motion controller OS installed into the monitor destination motion controller CPU is not compatible with the motion monitor function. | Install the motion controller OS whose version is "00E" or later into the motion controller CPU. |
| Monitor data not found             | Monitor data was not installed or was deleted.                                   | Download the monitor data of the motion monitoring.                               |
| Unused axis selected               | The axis No. selected has not been set.                                          | • Choose the axis No. that has been set.                                           
• Set the axis using the peripheral software. |
| It is not possible to select       | During servo parameter setting, the item that cannot be set has been selected.    | Choose the item that can be set.                                                   |
| Incorrect setting range            | The value that is outside the setting range has been set.                        | Set the value within the setting range.                                            |
| Unmatched password                 | The password entered as the motion parameter changing password is illegal.       | Enter the correct password.                                                       |
25 OPERATING SERVO AMPLIFIER MONITOR

The operation procedure when using the servo amplifier monitor function is explained in this chapter.

25.1 Operation procedures before starting motion monitoring

This section contains a summary of the procedure for transmitting the system program (OS) for the servo amplifier monitor function and the motion monitor data from the personal computer to the GOT until it is installed in built-in memory. For details, please refer to the GT Designer2 Version2 Operating Manual. Details of the screen display and key operation are shown in the Help.

1. Connect GOT and personal computer.
2. Start up GOT.
3. Start up personal computer and start GT Designer2.
4. With the GT Designer2, transmit the OS for the servo amplifier monitor function from the personal computer to the GOT and install it in the built-in memory.
5. Installation is complete. When installation is finished, "Completed" is displayed on the installation dialog box.
6. Transmit the data using the installation dialog box.
7. With the GT Designer2, transmit the servo amplifier monitor data from the personal computer to the GOT and install it in the built-in memory. (Download)
8. When download is finished, the servo amplifier monitor can be operated through the GOT.
9. Transmit the data using the download dialog box.
10. GT Designer2 operation is finished.

... Proceed to Section 26.1 to operate the servo amplifier monitor.
25.2 Operation procedures from user-created monitor screen display to start of motion monitor

This section provides the GOT operating procedure for starting the operation of any servo amplifier monitor function after completion of the installation of the "servo amplifier monitor function OS".

Start up GOT.

Display the user-created monitor screen.

Start the servo amplifier monitor function.

Have you started servo amplifier monitor function for the first time after powering on the GOT?

YES

The setup screen appears.

The function selection menu screen appears.

Select the servo amplifier monitor function to be used.

Setup (Section 26.3)  ··· Selects the model to be monitored, baud rate and station number presence/absence.
Monitor (Section 26.4)  ··· Displays the monitor data of the servo amplifier in real time.
Alarm (Section 26.5)  ··· Displays/resets the alarm currently occurring.
Diagnostics (Section 26.6)  ··· Runs various diagnostics on the monitored servo amplifier/servo motor.
  ··· ON/OFF states of external I/O signals and I/O function devices
  ··· Indications of the servo amplifier software number, servo motor model, ID and encoder resolution
  ··· Listing of the absolute position data and unit composition
Parameters (Section 26.7)  ··· Displays the parameter data list and changes the parameter setting.
Test (Section 26.8)  ··· Performs various test operations (JOG operation, positioning operation, motorless operation, DO forced output).

NO

··· Start in either of the following methods.
  ··· Touch the key for which the touch key (extended) function has been set on GT Designer2.
  ··· Display the utility menu screen and touch AMP. MON. .

··· Appears at the initial start only. Set the communication baud rate, servo amplifier model, etc. Powering off the GOT returns the setup screen settings to the initial states.
This chapter describes the screen operations to be performed when using the servo amplifier monitor functions. The display screens of the servo amplifier monitor functions change slightly depending on the used GOT. This chapter mainly uses the screens of the A975GOT for explanation.

### 26.1 Screen Transition

This section gives the screen transition from the user-created monitor screen display status to the servo amplifier monitor function screen operations.

1. **User-created monitor screen**
   - Touch any of the functions.
   - **Setup**
   - **Monitor**
   - **Alarm**
   - **Diagnostics**
   - **Parameters**
   - **Test**

2. **Function selection menu screen** (refer to Section 26.2)
   - Touch AMP. MON.

3. **Utility screen**
   - **END**
   - **AMP. MON.**

4. **Start**

   *1* Start the servo amplifier monitor functions by touching the key for which the touch key (extended) function has been set on GT Designer2.

   *2* Touch AMP. MON. to start the servo amplifier monitor functions.

   *3* When [End] was touched to terminate the servo amplifier monitor functions, the screen on which the functions were terminated appears when the servo amplifier monitor functions are started next time.
26.2 About the Servo Amplifier Monitor Functions

The servo amplifier monitor functions allow various monitor functions, parameter setting changes, test operations and others to be performed for the servo amplifier connected to the GOT. Select and display the required function from the function selection menu screen.

(Function selection menu screen)

1) Setup ....................................
   (Refer to Section 26.2)
   Selects the model of the servo amplifier to be monitored by the servo amplifier function, the communication baudrate, station number setting (station number presence/absence, station number selection), and IFU station number.

2) Monitor .................................
   (Refer to Section 26.3)
   Displays all monitor data of the servo amplifier in real time.

3) Alarm .................................
   (Refer to Section 26.4)
   Displays the currently occurring alarm and displays the history. Also resets the alarm or clears the history.

4) Diagnostics ...........................
   (Refer to Section 26.5)
   Runs the following various diagnostics on the connected servo amplifier.
   • DI/DO display
     Displays the ON/OFF states of the external I/O signals.
   • Function device display
     Displays the ON/OFF states of the I/O function devices.
   • Amplifier information display
     Displays the model, ID and encoder resolution of the servo motor connected to the servo amplifier.
   • ABS data display
     Displays the absolute position data of the absolute position detection system.
   • Unit composition list display
     Displays the servo amplifier unit composition list.

5) Parameters ...........................
   (Refer to Section 26.6)
   Displays the parameter data and changes the parameter setting.

6) Test ....................................
   (Refer to Section 26.7)
   Performs various test operations (JOG operation, positioning operation, motorless operation, DO forced output).
26.3 Setup

Set communication with the servo amplifier.

- **Point**
  1. Before making the settings on the setup screen, also make the same settings on the servo amplifier side.
     - If the settings on this screen differ from the settings on the servo amplifier side, normal communication may not be performed.
  2. The settings on the setup screen return to the initial states when the GOT is powered off or reset.
     - After powering on the GOT, make settings on the setup screen again.

26.3.1 Setup screen

This section explains the display data of the setup screen and the key functions displayed on the screen.

---

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>Model</td>
<td>Displays the servo amplifier model to be connected.</td>
</tr>
<tr>
<td>2)</td>
<td>Baudrate</td>
<td>Displays the station number (00 to 31) of the servo amplifier to communicate with.</td>
</tr>
<tr>
<td>3)</td>
<td>Station supp.</td>
<td>Displays the station number presence/absence.</td>
</tr>
<tr>
<td>4)</td>
<td>Station</td>
<td>Displays the station number (00 to 31) of the servo amplifier to communicate with.</td>
</tr>
<tr>
<td>5)</td>
<td>IFU Station</td>
<td>Displays the serial communication station number of the IFU (interface unit).</td>
</tr>
</tbody>
</table>

---

(1) About the display data

(2) About the key functions

The following table indicates the functions of the keys used for the operations of the alarm display screen.

---

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>Sets the servo amplifier model to be connected.</td>
</tr>
<tr>
<td>Baudrate</td>
<td>Sets the communication baudrate (38400/19200/9600) with the servo amplifier.</td>
</tr>
<tr>
<td>Station supp.</td>
<td>Set the communication baudrate parameter on the servo amplifier side to 38400 or less.</td>
</tr>
<tr>
<td>Station</td>
<td>Sets the station number presence/absence.</td>
</tr>
<tr>
<td>IFU Station</td>
<td>Sets the station number (00 to 31) of the servo amplifier to communicate with.</td>
</tr>
<tr>
<td>Key</td>
<td>Function</td>
</tr>
<tr>
<td>---------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>IFU Station</td>
<td>Sets the serial communication station number of the IFU (interface unit).</td>
</tr>
<tr>
<td>Fix</td>
<td>Confirms the settings and returns to the function selection menu screen.</td>
</tr>
<tr>
<td>End</td>
<td>Terminates the servo amplifier monitor functions.</td>
</tr>
</tbody>
</table>

*1: Valid only when the MR-J2S-A is connected.

*2: Valid only when the MR-J2MA series is connected.
## 26.4 Monitor Functions

All monitor data of the servo amplifier are displayed in real time.

### 26.4.1 Monitor screen

This section explains the display data of the monitor screen and the key functions displayed on the screen.

#### (1) About the display data

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
</table>
| 1)  | Cumulative feedback pulses | Counts and displays the feedback pulses from the servo motor encoder.  
- When the setting exceeds 9999999, it starts from 0.  
- The - sign appears for reverse rotation. |
| 2)  | Servo motor speed | Displays the servo motor speed.  
- The value is displayed with the 0.1r/min unit rounded off.  
- The - sign appears for reverse rotation. |
| 3)  | Droop pulses | Displays the droop pulses of the deviation counter.  
- The - sign appears for reverse rotation. |
| 4)  | Cumulative command pulses | Counts and displays the position command input pulses.  
- Since the value before multiplication of the electronic gear (CMX/CDV) is displayed, this value may not match the indication of the cumulative feedback pulses.  
- The - sign appears for the reverse rotation command. |
| 5)  | Command pulse frequency | Displays the position command input pulse frequency.  
- The value before multiplication of the electronic gear (CMX/CDV) is displayed.  
- The - sign appears for the reverse rotation command. |
| 6)  | Analog speed command voltage (In speed control mode) *1 | Displays the input voltage of the analog speed command (VC). |
| 7)  | Analog speed limit voltage (In torque control mode) *1 | Displays the input voltage of the analog speed limit (VLA). |
| 8)  | Analog torque command voltage (In position/speed control mode) *1 | Displays the voltage of the analog torque command (TC). |
| 9)  | Effective load ratio | Displays the voltage of the analog torque limit (TLA). |

*1 Displayed only when the MR-J2S-A is connected.
26.4 Monitor Functions

26.4.1 Monitor screen

The following table indicates the functions of the keys used for the operations of the monitor screen.

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
</table>
| 8)  | Regenerative load ratio | Displays the ratio of the regenerative power to the permissible regenerative power in %.  
- The permissible regenerative power changes depending on the presence/absence of the regenerative brake option.  
- Set the parameter No. 0 value correctly according to the regenerative option. (Set 80% or less as a guideline.) |
| 9)  | Effective load ratio  | Displays the continuous effective load torque.  
- The effective value is displayed on the assumption that the rated torque is 100%.                                                                                           |
| 10) | Peak load ratio       | Displays the maximum torque generated.  
- The maximum value for the past 15 seconds is displayed on the assumption that the rated torque is 100%.                                                                  |
| 11) | Instantaneous torque  | Displays the instantaneously generated torque.  
- The value of the generated torque is displayed in real time on the assumption that the rated torque is 100%.                                                                   |
| 12) | Within one-revolution position | Displays the within one-revolution position in the servo motor in pulse units of the encoder.  
- When the value exceeds the maximum pulse count, it returns to 0.                                                                                                 |
| 13) | ABS counter           | Displays the distance from the home position (0) in the absolute position detection system as the multi-revolution counter value of the absolute position encoder.                                                                                                               |
| 14) | Load inertia moment ratio | Displays the estimated ratio of the servo motor shaft-equivalent load inertia moment to the servo motor's inertia moment.                                                                                                  |
| 15) | Bus voltage           | Displays the voltage (across P - N) of the main circuit converter.                                                                                                                                                                                                               |

(2) About the key functions
The following table indicates the functions of the keys used for the operations of the monitor screen.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Clear" /></td>
<td>Clears the &quot;cumulative feedback pulses&quot; or &quot;cumulative command pulses&quot; to 0.</td>
</tr>
<tr>
<td><img src="image" alt="Menu" /></td>
<td>Returns to the function selection menu screen.</td>
</tr>
<tr>
<td><img src="image" alt="End" /></td>
<td>Terminates the servo amplifier monitor functions.</td>
</tr>
</tbody>
</table>
| ![Scroll](image) | Scrolls the monitor items in units of six items.  
(Displayed only when the A95*GOT/A956WGOT is used.) |
26.5 Alarm Function

The following alarm definitions are displayed.
• Alarm display: Displays the currently occurring alarm.
  (Refer to Section 26.5.1.)
• Alarm history: Displays the history of alarms that occurred.
  (Refer to Section 26.5.2.)

The following shows the screen transition after selection of Alarm on the function selection menu screen.

If the alarm display screen data has not been downloaded to the GOT, "Monitor data not found" appears and the subsequent screen is not displayed.
26.5.1 Alarm display screen

This section describes the display data of the alarm display screen and the key functions displayed on the screen.

(1) About the display data

```
<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>Alarm Number</td>
<td>Displays the number of the alarm that occurred.</td>
</tr>
<tr>
<td>2)</td>
<td>Alarm Name</td>
<td>Displays the name of the alarm that occurred.</td>
</tr>
<tr>
<td>3)</td>
<td>Time of Alarm</td>
<td>Displays the date and time when the alarm occurred.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• The alarm occurrence time is displayed on the basis of the clock data of the PLC CPU connected to the GOT.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• If a fault occurred in the servo amplifier before it is connected to the GOT, an alarm is displayed when the servo amplifier is connected to the GOT.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In that case, the time when the GOT and servo amplifier was connected is displayed as the alarm occurrence time.</td>
</tr>
<tr>
<td>4)</td>
<td>Cause of Alarm</td>
<td>Displays the cause of the currently occurring alarm.</td>
</tr>
</tbody>
</table>
```

(2) About the key functions

The following table indicates the functions of the keys used for the operations of the alarm display screen.

```
<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reset</td>
<td>Resets the alarm.</td>
</tr>
<tr>
<td></td>
<td>• Sets the servo amplifier model to be connected.</td>
</tr>
<tr>
<td>Cause of Alarm</td>
<td>Displays the cause of the alarm on the window screen.</td>
</tr>
<tr>
<td></td>
<td>(Displayed only when the A95*GOT/A956WGOT is used.)</td>
</tr>
<tr>
<td>AlarmHist</td>
<td>Changes to the alarm history screen (refer to Section 26.5.2).</td>
</tr>
<tr>
<td>Menu</td>
<td>Confirms the settings and returns to the function selection menu screen.</td>
</tr>
<tr>
<td>End</td>
<td>Terminates the servo amplifier monitor functions.</td>
</tr>
</tbody>
</table>
```
26.5.2 Alarm history screen

This section describes the display data of the alarm history screen and the key functions displayed on the screen.

(1) About the display data

The following table indicates the functions of the keys used for the operations of the alarm history screen.

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>Sequence No.</td>
<td>Displays the alarm history, starting from the newest alarm, in order.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>· The newer alarms have smaller history numbers. (0 is the newest.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>· Six alarms are displayed.</td>
</tr>
<tr>
<td>2)</td>
<td>Alarm No.</td>
<td>Displays the number of the alarm that occurred</td>
</tr>
<tr>
<td>3)</td>
<td>Alarm Name</td>
<td>Displays the name of the alarm that occurred.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Displayed only when the A95*GOT/A956WGOT is used.)</td>
</tr>
<tr>
<td>4)</td>
<td>Time (hour)</td>
<td>Displays the energization time of the servo amplifier until alarm occurrence on the assumption that the time at shipment from the factory is &quot;0&quot;.</td>
</tr>
<tr>
<td>5)</td>
<td>Detail (hex)</td>
<td>Displays the code of the alarm detail information.</td>
</tr>
</tbody>
</table>

(2) About the key functions

The following table indicates the functions of the keys used for the operations of the alarm history screen.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clear</td>
<td>Clears the alarm history stored in the servo amplifier.</td>
</tr>
<tr>
<td>AlarmDiso.</td>
<td>Changes to the alarm display screen (refer to Section 26.5.1).</td>
</tr>
<tr>
<td>Menu</td>
<td>Confirms the settings and returns to the function selection menu screen.</td>
</tr>
<tr>
<td>End</td>
<td>Terminates the servo amplifier monitor functions.</td>
</tr>
</tbody>
</table>
Run the following various diagnostics on the connected servo amplifier.

- **DI/DO display**
  (Refer to Section 26.6.1): Displays the ON/OFF states of the external I/O signals.

- **Function device display**
  (Refer to Section 26.6.2): Displays the ON/OFF states of the I/O function devices.

- **Amplifier information display**
  (Refer to Section 26.6.3): Displays the model, ID and encoder resolution of the servo motor connected to the servo amplifier.

- **ABS data display**
  (Refer to Section 26.6.4): Displays the absolute position data of the absolute position detection system.

- **Unit composition list display**
  (Refer to Section 26.6.5): Displays the servo amplifier unit composition list.
(1) Screen transition

The following shows the screen transition after selection of [Diagnostics] on the function selection menu screen.
Some screens may not be displayed depending on the model of the connected servo amplifier.
For the screens that cannot be displayed, refer to (2).
If the DI/DO display screen data or function device display screen (for MR-J2M-DU monitor only) data has not been downloaded to the GOT, "Monitor data not found" appears and the subsequent screens are not displayed.

(2) Display screens
The screens that can be displayed are indicated on a servo amplifier model basis.

<table>
<thead>
<tr>
<th>Item</th>
<th>MR-J2S-□A</th>
<th>MR-J2S-□CP</th>
<th>MR-J2M A Series</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MR-J2M-P8A</td>
<td>MR-J2M-DU</td>
<td></td>
</tr>
<tr>
<td>DI/DO display screen</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Function device display screen</td>
<td>---</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Amplifier information display screen</td>
<td>○</td>
<td>○</td>
<td>---</td>
</tr>
<tr>
<td>ABS data display screen</td>
<td>○</td>
<td>○</td>
<td>---</td>
</tr>
<tr>
<td>Unit composition list display screen</td>
<td>---</td>
<td>---</td>
<td>○</td>
</tr>
</tbody>
</table>

○: Screen present  ---: Screen absent
26.6.1 DI/DO display screen

This section describes the display data of the DI/DO display screen and the key functions displayed on the screen.

(1) About the display data

![Display Data](image)

The following table indicates the functions of the keys used for the operations of the DI/DO display screen.

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>Input/Output Signal</td>
<td>Indicates the ON (lit)/OFF (extinguished) of the DI/DO signal.</td>
</tr>
</tbody>
</table>

(2) About the key functions

The following table indicates the functions of the keys used for the operations of the DI/DO display screen.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Input/Output Signal]*1</td>
<td>Displays the DI/DO signals of the extension IO unit.</td>
</tr>
<tr>
<td>![Func.Dev. ]</td>
<td>Changes to the function device screen (refer to Section 26.6.2).</td>
</tr>
<tr>
<td>![Amp.Inf ]</td>
<td>Changes to the amplifier information screen (refer to Section 26.6.3).</td>
</tr>
<tr>
<td>![UnitCompo. ]</td>
<td>Changes to the unit composition list screen (refer to Section 26.6.5).</td>
</tr>
<tr>
<td>![ABSdata ]</td>
<td>Changes to the ABS data screen (refer to Section 26.6.4).</td>
</tr>
<tr>
<td>![Menu ]</td>
<td>Confirms the settings and returns to the function selection menu screen.</td>
</tr>
<tr>
<td>![End ]</td>
<td>Terminates the servo amplifier monitor functions.</td>
</tr>
</tbody>
</table>

*1: Displayed only when the MR-J2M A series is connected.
26.6.2 Function device display screen

This section describes the display data of the function device display screen and the key functions displayed on the screen.

(1) About the display data

(1) When MR-J2S-CP is monitored

(2) About the key functions

The following table indicates the functions of the keys used for the operations of the function device display screen.

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>Input/Output Function</td>
<td>Indicates the ON (■)OFF (□) state of each I/O signal.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-Func.</td>
<td>Changes the indication of the I/O signal.</td>
</tr>
<tr>
<td></td>
<td>(Displayed only when the A95*GOT/A956WGOT is used.)</td>
</tr>
<tr>
<td>DI/DO</td>
<td>Changes to the DI/DO display screen (refer to Section 26.6.1).</td>
</tr>
<tr>
<td>AESdata</td>
<td>Changes to the ABS data screen (refer to Section 26.6.4).</td>
</tr>
<tr>
<td>Amp.Int.</td>
<td>Changes to the amplifier information screen (refer to Section 26.6.3).</td>
</tr>
<tr>
<td>UnitComp.</td>
<td>Changes to the unit composition list screen (refer to Section 26.6.5).</td>
</tr>
<tr>
<td>Menu</td>
<td>Confirms the settings and returns to the function selection menu screen</td>
</tr>
<tr>
<td>End</td>
<td>Terminates the servo amplifier monitor functions</td>
</tr>
<tr>
<td>▲ ▼</td>
<td>Scrolls the I/O signal items in units of 10 items.</td>
</tr>
<tr>
<td></td>
<td>(Displayed only when the A95*GOT/A956WGOT is used.)</td>
</tr>
</tbody>
</table>
26.6.3 Amplifier information display screen

This section describes the display data of the amplifier information display screen and the key functions displayed on the screen.

(1) About the display data

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Amplifier Firmware Version</td>
<td>Displays the software number of the servo amplifier connected to the GOT.</td>
</tr>
<tr>
<td>2</td>
<td>Motor model</td>
<td>Displays the model of the servo motor connected to the servo amplifier.</td>
</tr>
<tr>
<td>3</td>
<td>Motor ID</td>
<td>Displays the ID of the servo motor connected to the servo amplifier.</td>
</tr>
<tr>
<td>4</td>
<td>Encoder resolution</td>
<td>Displays the encoder resolution of the servo motor connected to the servo amplifier.</td>
</tr>
</tbody>
</table>

*1 Not displayed for MR-J2M-P8A monitor.

(2) About the key functions

The following table indicates the functions of the keys used for the operations of the amplifier information display screen.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>DT/DO</td>
<td>Changes to the DI/DO display screen (refer to Section 26.6.1).</td>
</tr>
<tr>
<td>Func.Dev.</td>
<td>Changes to the function device screen (refer to Section 26.6.2).</td>
</tr>
<tr>
<td>ABSdata</td>
<td>Changes to the ABS data screen (refer to Section 26.6.4).</td>
</tr>
<tr>
<td>UnitCompos...</td>
<td>Changes to the unit composition list screen (refer to Section 26.6.5).</td>
</tr>
<tr>
<td>Menu</td>
<td>Confirms the settings and returns to the function selection menu screen.</td>
</tr>
<tr>
<td>End</td>
<td>Terminates the servo amplifier monitor functions.</td>
</tr>
</tbody>
</table>
26.6.4 ABS data display screen

This section describes the display data of the ABS data display screen and the key functions displayed on the screen.

(1) About the display data

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>Absolute position data</td>
<td>Displays the following items of the absolute position data in the absolute position detection system.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Motor edge pulse value</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Command pulse value</td>
</tr>
<tr>
<td>2)</td>
<td>Encoder data</td>
<td>Displays the following items of the encoder data.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Current position</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Absolute encoder data</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• CYC (Motor edge pulse value)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• CYC (Command pulse value)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Number of motor rotations ABS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Position at power loss</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Absolute encoder data</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• CYC0 (Motor edge pulse value)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• CYC0 (Command pulse value)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Number of motor rotations ABS0</td>
</tr>
</tbody>
</table>

(2) About the key functions

The following table indicates the functions of the keys used for the operations of the ABS data display screen.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current position</td>
<td>Changes the indication between the current value and home position information of the encoder data. (Displayed only when the A95*/GOT/A956WGOT is used.)</td>
</tr>
<tr>
<td>DI/DO</td>
<td>Changes to the DI/DO display screen (refer to Section 26.6.1).</td>
</tr>
<tr>
<td>Func.Dev.</td>
<td>Changes to the function device screen (refer to Section 26.6.2).</td>
</tr>
<tr>
<td>UnitCompo.</td>
<td>Changes to the unit composition list screen (refer to Section 26.6.5).</td>
</tr>
<tr>
<td>Amp.Inf</td>
<td>Changes to the amplifier information screen (refer to Section 26.6.3).</td>
</tr>
<tr>
<td>Menu</td>
<td>Confirms the settings and returns to the function selection menu screen.</td>
</tr>
<tr>
<td>End</td>
<td>Terminates the servo amplifier monitor functions.</td>
</tr>
</tbody>
</table>
26.6.5 Unit composition list display screen

This section describes the display data of the unit composition list display screen and the key functions displayed on the screen.

(1) About the display data

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>Type name</td>
<td>Displays the types of the drive unit (DRU), interface unit (IFU) and option unit installed to the slots.</td>
</tr>
<tr>
<td>2)</td>
<td>Axis No.</td>
<td>Displays the axis numbers of the drive unit (DRU) and interface unit (IFU).</td>
</tr>
<tr>
<td>3)</td>
<td>State</td>
<td>Displays the states and alarm/warning numbers of the drive unit (DRU) and interface unit (IFU).</td>
</tr>
<tr>
<td>4)</td>
<td>Motor model</td>
<td>Displays the motor model connected to the drive unit (DRU).</td>
</tr>
<tr>
<td>5)</td>
<td>S/W version</td>
<td>Displays the software numbers of the drive unit (DRU) and interface unit (IFU).</td>
</tr>
</tbody>
</table>

(2) About the key functions

The following table indicates the functions of the keys used for the operations of the unit composition list display screen.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>DI/DO</td>
<td>Changes to the DI/DO display screen (refer to Section 26.6.1).</td>
</tr>
<tr>
<td>ABSdata</td>
<td>Changes to the ABS data screen (refer to Section 26.6.4).</td>
</tr>
<tr>
<td>Amp.Inf</td>
<td>Changes to the amplifier information screen (refer to Section 26.6.3).</td>
</tr>
<tr>
<td>Func.Dev.</td>
<td>Changes to the function device screen (refer to Section 26.6.2).</td>
</tr>
<tr>
<td>Menu</td>
<td>Confirms the settings and returns to the function selection menu screen.</td>
</tr>
<tr>
<td>End</td>
<td>Terminates the servo amplifier monitor functions.</td>
</tr>
<tr>
<td>▲▼</td>
<td>Scrolls the list display in units of three items.</td>
</tr>
</tbody>
</table>

(Displayed only when the A96®GOT/A966WGOT is used.)
26.7 Parameter Setting

Using the parameter setting function, you can set the servo parameters (basic parameters/extension parameters 1, 2) for the connected servo amplifier.

After the password has been set on GT Designer2, an attempt to access the parameter setting screen of the servo amplifier monitor displays the password input screen.

After selection of [Parameters] on the function selection menu screen, the screen transition is as shown below.

*1 Set the servo parameter changing password on GT Designer2.
For details of the parameter setting, refer to the GT Designer2 Version2 Reference Manual.
26.7.1 Password entry operation procedure

The following gives the servo parameter changing password input operation procedure.

(1) Features
   • If the characters entered match a password, the Parameter Setting screen appears.
   • If the password does not match, the error message appears.
      Touching  returns to the function selection menu screen.
   • Numerical numbers and alphabets A to F can be used for a password.

(2) Procedure
   (a) To enter a password, follow these steps:
      • Touch 0 to 9 and A to F to enter a password.
      • Touch  to confirm the password entered.
      • To correct the password entered, touch  DEL  to delete wrong characters and then enter
        correct characters again.
   (b) To quit entering a password:
      • Touch  to return to the previous monitor screen.
26.7.2 Parameter setting screen

This section describes the display data of the parameter setting screen and the key functions displayed on the screen.

**Point**

The * mark preceding the parameter name indicates that the parameter is made valid when power is switched off once and then on again after the parameter value has been set.

(1) Display screen

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>Pr.*1</td>
<td>Displays the parameter number.</td>
</tr>
<tr>
<td>2)</td>
<td>Name</td>
<td>Displays the parameter name.</td>
</tr>
<tr>
<td>3)</td>
<td>Value*1</td>
<td>Displays the current setting of the parameter.</td>
</tr>
<tr>
<td>4)</td>
<td>Unit*1</td>
<td>Displays the setting unit of each parameter.</td>
</tr>
</tbody>
</table>

*1: When the A956W/A95*GOT is used, the information of only the selected parameter is displayed at the bottom of the screen.

(2) About the key functions

The following table indicates the functions of the keys used for the operations of the parameter setting screen.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="▲" /> <img src="image" alt="▼" /></td>
<td>Scrolls the parameter items in units of one screen.</td>
</tr>
<tr>
<td><img src="image" alt="Change" /></td>
<td>Changes the servo parameter setting read to the GOT internal memory.</td>
</tr>
<tr>
<td><img src="image" alt="Write" /></td>
<td>Writes the servo parameter setting of the selected item to the servo amplifier.</td>
</tr>
<tr>
<td><img src="image" alt="Verify" /></td>
<td>Verifies all parameter values currently displayed on the GOT and the parameter values of the servo amplifier.</td>
</tr>
<tr>
<td><img src="image" alt="Write All" /></td>
<td>Writes all parameter values currently displayed on the GOT to the parameters of the servo amplifier.</td>
</tr>
<tr>
<td><img src="image" alt="Read All" /></td>
<td>Reads all parameter values from the servo amplifier to the GOT and displays them there.</td>
</tr>
<tr>
<td><img src="image" alt="default" /></td>
<td>Returns all parameter values to the initial values.</td>
</tr>
</tbody>
</table>
### 26.7 Parameter Setting

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Param. DRU*1</td>
<td>Every time touched, changes the parameter display between the drive unit (DRU) and interface unit (IFU).</td>
</tr>
<tr>
<td>Slot:*1</td>
<td>Selects the slot number of the drive unit (DRU).</td>
</tr>
<tr>
<td>Fn. 0</td>
<td>Displays the specified parameter number on the parameter list screen.</td>
</tr>
<tr>
<td></td>
<td>(Displayed only when the A95*GOT/A956WGT is used.)</td>
</tr>
<tr>
<td>Menu</td>
<td>Confirms the settings and returns to the function selection menu screen.</td>
</tr>
<tr>
<td>End</td>
<td>Terminates the servo amplifier monitor functions.</td>
</tr>
</tbody>
</table>

*1: Displayed only when the MR-J2M A series is connected.
26.7.3 Parameter setting operation

The following describes the procedure of changing the setting of the "Auto tuning" item as an example of parameter setting operation.

1) Touch the [Read All] key. The parameter values in the servo amplifier are read and displayed on the screen.

2) The parameter read confirmation window appears. Touch the [OK] key to read the parameter values in the servo amplifier to the GOT.

3) The parameter values read from the servo amplifier are displayed on the screen. The parameters disabled for write/read are not displayed on the parameter setting screen.

4) Choose the item whose parameter will be set with the ▲,▼ key, and touch the [Change] key.
(From previous page)

5) As the parameter setting window appears, enter the parameter setting data with **Alphanumeric**, and touch [Write] to confirm the setting. If you do not confirm it, touch [ ] to close the parameter setting window.

6) The parameter value changes on the parameter setting screen.

Choose the changed parameter item and touch the [Write] key.

When you have changed the settings of two or more parameter items, touch the [Write All] key to write all the parameter items whose settings have been changed.

7) The confirmation window appears.

Touch the [OK] key to write the parameter setting to the servo amplifier. When you do not write the parameter setting, touch the [CANCEL] key.

This completes the parameter setting write operation.

**Point**

1) The changes made to the parameter settings are written to the E²PROM of the servo amplifier. Hence, if the amplifier is powered off, the written parameter values are retained.

2) When you have changed any parameter setting on the servo amplifier side, also change that setting to the same value on the setup screen of the GOT (Section 26.2).

   If the setup screen settings and servo amplifier side settings do not match, normal communication cannot be made with the servo amplifier.
   - Serial communication baudrate selection
   - Protocol station number selection
   - Station number setting
The following test operations are performed for the connected servo amplifier.

- **JOG operation** (Refer to Section 26.8.3.)
  - The servo motor runs while you are touching the Forward or Reverse key.

- **Positioning operation** (Refer to Section 26.8.4.)
  - When you touch the Forward or Reverse key, this operation starts and runs the servo motor by the preset distance.

- **Motorless operation** (Refer to Section 26.8.5.)
  - Simulates the operation of the servo motor in the servo amplifier if the servo motor is not connected.

- **DO forced output** (Refer to Section 26.8.6.)
  - Forcibly turns ON/OFF the output signals independently of the output conditions of the servo amplifier output signals.
(1) The following shows the screen transition after selection of **Test** on the function selection menu screen.

Some screens may not be displayed depending on the model of the connected servo amplifier. For the screens that cannot be displayed, refer to (2).

If the JOG operation screen data has not been downloaded to the GOT, "Monitor data not found" appears and the subsequent screens are not displayed.
(2) **Display screens**

The screens that can be displayed are indicated on a servo amplifier model basis.

<table>
<thead>
<tr>
<th>Item</th>
<th>MR-J2S-□ A</th>
<th>MR-J2S-□ CP</th>
<th>MR-J2M A Series</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MR-J2M-P8A</td>
<td>MR-J2M-□DU</td>
<td></td>
</tr>
<tr>
<td>JOG operation</td>
<td>o</td>
<td>o</td>
<td>---</td>
</tr>
<tr>
<td>Motorless operation</td>
<td>o</td>
<td>o</td>
<td>---</td>
</tr>
<tr>
<td>Positioning operation screen</td>
<td>o</td>
<td>o</td>
<td>---</td>
</tr>
<tr>
<td>DO forced output screen</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
</tbody>
</table>

○: Screen present  ---: Screen absent
26.8.1 Precautions for test operations

This section gives the precautions for using the test operations of the servo amplifier monitor functions.

⚠️ WARNING
- Do not operate the servo amplifier switches with wet hands. Doing so can cause an electric shock.
- Do not perform operations with the front cover of the servo amplifier removed. Doing so can cause an electric shock since the high-voltage terminals and charging section are exposed.
- Do not open the front cover of the servo amplifier while power is on and during operation. Doing so can cause an electric shock.

⚠️ CAUTION
- Before starting test operations, always read the precautions for test operations in the manual of the corresponding servo amplifier.
- Before starting operation, check the servo amplifier parameters. Depending on the machine, unexpected operation may be performed.
- While power is on or for some time after power-off, the servo amplifier's heat sink and regenerative brake resistor, the servo motor, and others may be hot. Do not touch them and bring the parts (cables, etc.) close to them. Doing so can cause a burn and damage to the parts.

(1) Servo on
In the JOG operation and positioning operation among the test operations, the SON digital input signal of the servo amplifier is turned ON automatically in the servo amplifier to start operation, independently of whether the SON signal is ON or OFF.
The servo amplifier does not accept any external command pulses and input signals (expect the emergency stop) until the test operation screen is closed.
SON turns ON automatically by touching the [Forward] or [Reverse] key on the JOG operation screen or positioning operation screen.
26.8 Test Operations

26.8.2 Preparations for test operations

To start test operations, you need to make settings for test operations on the connected servo amplifier. For details of the servo amplifier side settings for performing test operations, refer to the manual of the connected servo amplifier.

(2) Stop

Point To make an emergency stop, turn OFF the emergency stop signal of the servo amplifier or switch off the input power.

(a) The operation for stopping the test operation on the servo amplifier monitor screen is as described below.

- JOG operation: Release the Forward or Reverse key.
- Positioning operation: Touch the Pause key.

(b) The servo motor stops if any of the following states occurs during test operation.

- The communication cable is disconnected.
- The servo amplifier monitor screen is switched to that of the other servo amplifier, or the servo amplifier monitor function is terminated.
- However, during motorless operation, the test mode is not canceled until the servo amplifier is powered off.
26.8.3 JOG operation screen

This section describes the display data of the JOG operation screen and the key functions displayed on the screen.

(1) About the display data

![JOG operation screen diagram]

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>Motor speed</td>
<td>Displays the set speed of the servo motor.</td>
</tr>
<tr>
<td>2)</td>
<td>Acc/dec time</td>
<td>Displays the set acceleration/deceleration time constant of the servo motor.</td>
</tr>
</tbody>
</table>

(2) Operation

- **Operation start**
  
  Touch the **Forward** or **Reverse** key.

- **Operation stop**
  
  Release the **Forward** or **Reverse** key.

(3) About the key functions

The following table indicates the functions of the keys used for the operations of the JOG operation screen.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Forward</strong></td>
<td>Runs the servo motor in the forward rotation (CCW) direction while being touched.</td>
</tr>
<tr>
<td><strong>Reverse</strong></td>
<td>Runs the servo motor in the reverse rotation (CW) direction while being touched.</td>
</tr>
<tr>
<td><strong>Motor speed</strong></td>
<td>Changes the servo motor speed.</td>
</tr>
<tr>
<td><strong>Acc/dec time</strong></td>
<td>Changes the acceleration/deceleration time constant.</td>
</tr>
<tr>
<td><strong>Positioning</strong></td>
<td>Changes to the positioning operation screen (refer to Section 26.8.4).</td>
</tr>
<tr>
<td><strong>Without Motor</strong></td>
<td>Changes to the motorless operation screen (refer to Section 26.8.5).</td>
</tr>
<tr>
<td><strong>DO ForcedOutput</strong></td>
<td>Changes to the DO forced output screen (refer to Section 26.8.6).</td>
</tr>
<tr>
<td><strong>Menu</strong></td>
<td>Confirms the settings and returns to the function selection menu screen.</td>
</tr>
<tr>
<td><strong>End</strong></td>
<td>Terminates the servo amplifier monitor functions.</td>
</tr>
</tbody>
</table>
26.8.4 Positioning operation screen

This section describes the display data of the positioning operation screen and the key functions displayed on the screen.

(1) About the display data

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>Motor speed</td>
<td>Displays the set speed of the servo motor.</td>
</tr>
<tr>
<td>2)</td>
<td>Acc/dec time</td>
<td>Displays the set acceleration/deceleration time constant.</td>
</tr>
<tr>
<td>3)</td>
<td>Move distance</td>
<td>Displays the set distance.</td>
</tr>
</tbody>
</table>

(2) Operation

- Operation start
  Touch the [Forward] or [Reverse] key.
  To resume the operation stopped temporarily, retouch the [Forward] button for forward rotation or the [Reverse] button for reverse rotation.

- Operation stop
  Operation stops when the axis has moved the preset distance. Alternatively, touch the [Pause] key to stop the operation temporarily.
  After a temporary stop, retouch the [Pause] key to erase the remaining distance.

(3) About the key functions

The following table indicates the functions of the keys used for the operations of the positioning operation screen.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Forward]</td>
<td>Runs the servo motor in the forward rotation (CCW) direction.</td>
</tr>
<tr>
<td>[Reverse]</td>
<td>Runs the servo motor in the reverse rotation (CW) direction.</td>
</tr>
<tr>
<td>[Pause]</td>
<td>Stops the running servo motor temporarily.</td>
</tr>
<tr>
<td>[Motor speed]</td>
<td>Changes the servo motor speed.</td>
</tr>
<tr>
<td>[Acc/dec time]</td>
<td>Changes the acceleration/deceleration time constant.</td>
</tr>
<tr>
<td>[Move distance]</td>
<td>Changes the distance.</td>
</tr>
<tr>
<td>[JOG]</td>
<td>Changes to the JOG operation screen (refer to Section 26.8.3).</td>
</tr>
<tr>
<td>Key</td>
<td>Function</td>
</tr>
<tr>
<td>-----------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Without Motor</td>
<td>Changes to the motorless operation screen (refer to Section 26.8.5).</td>
</tr>
<tr>
<td>DO ForcedOutput</td>
<td>Changes to the DO forced output screen (refer to Section 26.8.6).</td>
</tr>
<tr>
<td>Menu</td>
<td>Confirms the settings and returns to the function selection menu screen.</td>
</tr>
<tr>
<td>End</td>
<td>Terminates the servo amplifier monitor functions.</td>
</tr>
</tbody>
</table>
26.8.5 Motorless operation screen

This section describes the display data of the motorless operation screen and the key functions displayed on the screen.

(1) About the display data

```
    Select 'Start' to enter 'Operation without Motor' Mode.
    Deselect amplifier power to restore normal mode.
```

(2) Operation

- **Operation start**
  
  Touch the **Start** key.

- **Operation stop**
  
  Power off the servo amplifier to cancel the motorless operation.

(3) About the key functions

The following table indicates the functions of the keys used for the operations of the motorless operation screen.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Start</strong></td>
<td>Starts motorless operation.</td>
</tr>
<tr>
<td><strong>JOG</strong></td>
<td>Changes to the JOG operation screen (refer to Section 26.8.3).</td>
</tr>
<tr>
<td><strong>Positioning</strong></td>
<td>Changes to the positioning operation screen (refer to Section 26.8.4).</td>
</tr>
<tr>
<td><strong>DO ForcedOutput</strong></td>
<td>Changes to the DO forced output screen (refer to Section 26.8.6).</td>
</tr>
<tr>
<td><strong>Menu</strong></td>
<td>Confirms the settings and returns to the function selection menu screen.</td>
</tr>
<tr>
<td><strong>End</strong></td>
<td>Terminates the servo amplifier monitor functions.</td>
</tr>
</tbody>
</table>
26.8.6 DO forced output screen

This section describes the display data of the DO forced output screen and the key functions displayed on the screen.

(1) About the display data

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>Output signal ON/OFF state</td>
<td>Displays the ON (●) / OFF (○) of each output signal of the servo amplifier. After this screen has been switched to another screen, all external I/O signals are turned OFF.</td>
</tr>
</tbody>
</table>

(2) Operation

Touch the required output signal name to invert the ON/OFF status of the corresponding signal and write it to the servo amplifier.

(3) About the key functions

The following table indicates the functions of the keys used for the operations of the DO forced output screen.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>CNH-3 (Signal names of output signals)</td>
<td>By touching the signal name of the required output signal, SET/RESET the corresponding signal status (●: ON, ○: OFF). If the current output signal is ON, it is turned OFF (reset). If it is OFF, it is turned ON (set).</td>
</tr>
<tr>
<td>[ ]</td>
<td>Displays the external output signals of the extension I/O unit.</td>
</tr>
<tr>
<td>JOG</td>
<td>Changes to the JOG operation screen (refer to Section 26.8.3)</td>
</tr>
<tr>
<td>Positioning</td>
<td>Changes to the positioning operation screen (refer to Section 26.8.4).</td>
</tr>
<tr>
<td>Without Motor</td>
<td>Changes to the motorless operation screen (refer to Section 26.8.5).</td>
</tr>
<tr>
<td>Menu</td>
<td>Confirms the settings and returns to the function selection menu screen.</td>
</tr>
<tr>
<td>End</td>
<td>Terminates the servo amplifier monitor functions.</td>
</tr>
</tbody>
</table>

*1 Displayed only when the MR-J2M-P8A is connected.
26.9 About Hardcopy Output

This section describes the way to print the ladder monitor screen with the printer or to save it in the memory card in the BMP/JPEG file format during ladder monitor.

Depending on the used GOT, output the hardcopy in the following corresponding method.

(1) When A985GOT or A97*GOT is used
   Touch the [Start hardcopy] or [Stop hardcopy] key displayed on the ladder monitor screen to output the hardcopy.

(2) When A95*GOT or A956WGOT is used
   Set the start/stop triggering device of the hardcopy function on GT Designer2 and turn that device ON/OFF to output the hardcopy.

Point

- When printing out the ladder monitor screen, always install the option driver into the GOT.
- Set the output destination (Memory card/printer) of the hardcopy in the hardcopy setting of GT Designer2.
Refer to GT Designer2 Version2 Reference Manual for details of the hardcopy setting.
This chapter provides the error indications given during servo amplifier monitor operation and their corrective actions.

<table>
<thead>
<tr>
<th>Error Message</th>
<th>Error Definition</th>
<th>Corrective Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitor data not found</td>
<td>Monitor data have not been installed, or monitor data have been deleted.</td>
<td>Download the monitor data of the servo amplifier monitor.</td>
</tr>
</tbody>
</table>
| No AMP Communications | Communication cannot be made with the servo amplifier set as the monitor destination. | • Check the connection state (connector disconnection, cable wire break) of the servo amplifier and GOT.  
• Check the servo amplifier for error occurrence.  
• Set the same values to the servo amplifier monitor function setup screen and servo amplifier side parameters. |
| This test mode cannot be selected. Operation without Motor rotation | The other test operation function has started. | End the other test operation function. |
| SON Make sure that operation is at a stop. | The SON signal of the servo amplifier is ON. | Turn OFF the SON signal of the servo amplifier. |
| Servo alarm has occurred. Alarm: * * | A value outside the setting range was set in the servo parameter setting. | Set the servo amplifier parameter values inside the setting ranges. |
| Emergency is stopping | An alarm occurred in the connected servo amplifier. | Reset the alarm of the servo amplifier. |
| Unit not found | The selected slot is not loaded with the drive unit. | Select the slot where the drive unit is loaded. |
| Unmatched password | The password entered as the servo amplifier changing password is illegal. | Enter the correct password. |
| Please confirm forward or reversal stroke end (LSP or LSN) | The LSP/LSN signal of the servo amplifier is OFF. | Turn ON the LSP/LSN signal of the servo amplifier. |
Before using CNC monitor function, please read the manual of the MELDAS C6/C64 to be connected thoroughly to fully understand it.

The operation procedure when using the CNC monitor function is explained in this chapter.

28.1 Operation procedures before starting CNC monitoring

This section provides an outline of the procedures; from the step of transferring CNC monitor function operating system (OS) and communication driver from a personal computer to GOT, up to the step of installing them into the built-in memory.

For details, please refer to the GT Designer2 Version2 Operating Manual.

---

1. Connect GOT and personal computer.
2. Start up GOT.
3. Start up personal computer and start GT Designer2.
4. Use the GT Designer2 to transfer the standard monitor OS (*1) and CNC monitor function OS (*2) and communication driver OS (*3) from the personal computer to the GOT, and install them into the built-in memory.
   - Perform the transfer operation using the installation dialog box.
   - *1: Standard monitor OS (Ver9.2.0 or later)
   - *2: CNC monitor
   - *3: QJ71E71/AJ71(Q)E71 (Ver9.2.0 or later) or MNET/10(A/QnA/Q)
5. Installation finished.
   - When installation is finished, "Completed" is displayed on the installation dialog box.
6. Use the GT Designer2 to transfer the Ethernet settings (common settings) data from the personal computer to the GOT.
   - Perform the transfer operation using the download dialog box.
7. When download is finished, the CNC monitor can be operated through the GOT.
   - When download is finished, "Completed" is displayed on the download dialog box.
8. GT Designer2 operation is finished.
   - Proceed to Section 29.2 to operate the CNC monitor.
Memo


29 OPERATING THE CNC MONITOR FUNCTION SCREEN

This chapter describes the screen operations to be performed when using the CNC monitor function.

29.1 Changing screens

This section shows screen transition from the user-created monitor screen to the CNC monitor screen.

*1 Start the CNC monitor functions by touching the key for which the touch key (extended) function has been set on GT Designer2.

*2 Touch MOTION/CNC MON. to start the CNC monitor functions.

*3 When [RET] was touched to terminate the CNC monitor functions, the screen on which the functions were terminated appears when the CNC monitor functions are started next time.

Function selection menu screen (refer to Section 29.2)
## 29.2 About the CNC Monitor Functions

This section explains the display data of the CNC monitor screen and the key functions displayed on the screen.

### No. | Item | Display Data
--- | --- | ---
1) | Function switching area | Selects the function to be displayed and CNC monitor termination.

- **MONITOR**
  - Switches the monitor area to position display monitor.

- **DIAGN IN/OUT**
  - Switches the monitor area to alarm diagnostics monitor.

- **TOOL PARAM**
  - Switches the monitor area to tool compensation parameter.

- **EDIT MDI**
  - Switches the monitor area to program monitor.

- **F0**
  - Switches the monitor area to the APLC screen.
  - If the monitored MELDAS C6/C64 unit does not include the APLC function, the screen turns blank.
  - (In this case, use a function switching key to switch the monitor to other function.)

  - **CNC CHG**
    - For Ethernet connection
      - Switches the monitor between the MELDAS C6/C64 units when connected with multiple MELDAS C6/C64 units.
      - The MELDAS C6/C64 units are switched in the order set in the Ethernet setting of GT Designer2.
    - For MELSENET/10 connection
      - Unusable as only control station can be monitored (switching not required).

- **RET**
  - Terminates the CNC monitor function and returns to the monitor screen or utility screen of the GOT.

2) | Monitor area | Functions equivalent to the MELDAS dedicated display are available, such as Position Display Monitor, Alarm Diagnosis Monitor, Tool Offset/Param, Program Monitor and F0 function.

  - The graphic and ladder editor functions are unavailable.
3) **3) Menu1 to Menu5**

Switches to the monitor that corresponds to each item in the menu area. In the case of the above screen, the menu items are as follows.

- **Menu1**: Relative value
- **Menu2**: PLC switch
- **Menu3**: Common editing
- **Menu4**: Local variable
- **Menu5**: Menu switching

When the MELDAS dedicated display is valid, the "Other display operating" message and "Key operation right" menu are displayed.

When performing key operation on the GOT, select the "Key operation right" menu.

4) **Keyboard**

Sets data to the monitor area.

**Alphanumeric/symbol key**

Enters alphabets (upper case only), numerals, spaces or symbols.

The grayed symbol can be entered after the **SHIFT** key is touched.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>↑, ↓, ←, →</td>
<td>Moves the cursor up or down or to the left or right. (Repeat function available)</td>
</tr>
<tr>
<td>↑, ↓, ←, →</td>
<td>Moves the cursor to the previous or subsequent block. (Repeat function available)</td>
</tr>
<tr>
<td>DEL</td>
<td>Deletes one character in the cursor position.</td>
</tr>
<tr>
<td>INS</td>
<td>Switches the insert mode.</td>
</tr>
<tr>
<td>↓↓</td>
<td>Erases one block while editing machining program. After touching the <strong>SHIFT</strong> key, touch the <strong>CAN C-B</strong> key to erase all blocks being displayed on the screen.</td>
</tr>
<tr>
<td>EOB</td>
<td>Enters EOB(;) into the machining program.</td>
</tr>
<tr>
<td>Input</td>
<td>Determines the entry.</td>
</tr>
<tr>
<td>SHIFT</td>
<td>Switches the key function.</td>
</tr>
</tbody>
</table>
This chapter provides the error indications given during CNC monitor operation and their corrective actions. If two or more of the following errors have occurred, the error with the higher priority is displayed.

<table>
<thead>
<tr>
<th>Priority</th>
<th>Error Message</th>
<th>Error Definition</th>
<th>Corrective Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher</td>
<td>The GOT which can operate is only A985GOT.(CNC MONITOR)</td>
<td>CNC monitor was started on the GOT other than the A985GOT.</td>
<td>Start monitor on the A985GOT.</td>
</tr>
<tr>
<td></td>
<td>Support communication driver is not installed.(CNC MONITOR)</td>
<td>The compatible communication driver is not installed in the GOT.</td>
<td>Install the compatible communication driver into the GOT.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ethernet connection: QJ71E71/AJ71(Q)/E71</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MELSECNET/10 connection: MNET/10(A/QnA/Q)</td>
</tr>
<tr>
<td></td>
<td>The E71 communication driver being used doesn't cope with a CNC monitor.</td>
<td>The communication driver for Ethernet connection (QJ71E71/ (Q) E71) installed in the GOT is not compatible with CNC monitor.</td>
<td>Install into the GOT the communication driver for Ethernet connection (QJ71E71/ (Q) E71) compatible with CNC monitor.</td>
</tr>
<tr>
<td></td>
<td>E71 communication driver [Ver9.2.0 or more] is to install a rest again.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The MNET10 communication driver being used doesn't cope with a CNC monitor.</td>
<td>The communication driver for MELSECNET/10 connection (MNET/10) installed in the GOT is not compatible with CNC monitor.</td>
<td>Install into the GOT the communication driver for MELSECNET/10 connection (MNET/10) compatible with CNC monitor.</td>
</tr>
<tr>
<td></td>
<td>MNET10 communication driver is to install a rest again.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The IP address of CNC to monitor is not set up.(CNC MONITOR)</td>
<td>The IP address of the CNC has not been set.</td>
<td>After setting the IP address of the CNC to be monitored in the Ethernet setting of GT Designer2, download the monitor data to the GOT.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower</td>
<td>The Standard monitor OS being used doesn't cope with a CNC monitor.</td>
<td>The standard monitor OS installed in the GOT does not support CNC monitor.</td>
<td>Install into the GOT the standard monitor OS that supports CNC monitor (Ver. 9.2.0 or later).</td>
</tr>
<tr>
<td></td>
<td>Standard monitor OS [Ver9.2.0 or more] is to install a rest again.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
31 FONT CHANGE FUNCTION

31.1 Preparation to use the font change function

Before using the font change function, check the required devices, ROM_BIOS/OS version and GOT settings.

31.1.1 Checking the required devices

For devices required to use the font change function, refer to Section 2.2.

31.1.2 Checking the ROM_BIOS version

The following ROM_BIOS must be installed into the GOT to use the font change function.

<table>
<thead>
<tr>
<th>Function</th>
<th>Compatible ROM_BIOS version</th>
</tr>
</thead>
<tbody>
<tr>
<td>Font change function</td>
<td>Version X or later.</td>
</tr>
</tbody>
</table>

If the ROM_BIOS version older than above is installed in the GOT, install the compatible version. For installing ROM_BIOS, refer to GT Designer2 Version2 Operating Manual.

(1) How to check the ROM_BIOS version.
   The ROM_BIOS version installed in the GOT can be checked from the GOT memory information or rating plate.
   However, if the ROM_BIOS version has been upgraded since purchase, check it from the memory information.
   The ROM_BIOS version installed in the GOT at purchase, can be checked from the rating plate.

   

   MEMORY INFORMATION
   -----------------------------------------------
   [ S/W Version ]  ROM BIOS  Ver.9.4.0  [X]
   SYSTEM           Ver.9.4.0
   COMM. DRIVER     Ver.9.4.0
   PLC MONITOR      Ver.9.4.0
   ESC PRINT S-CODE Not Installed
   ADDER (A)        Ver.9.4.0
   SP. UNIT MON     Ver.9.4.0
   SP. UNIT DATA    Not Installed
   NET WORK MON     Ver.9.4.0

   MEMORY INFORMATION
   -----------------------------------------------
   ROM_BIOS Version

   Rating plate
   -----------------------------------------------
   ROM_BIOS Version

<Example of displaying the memory information>

Simultaneously touch the upper right/upper left corners of the screen.
Select the utility memory information.
Start and operate the utility with reference to Chapter 4.

Remark

The GOT memory information is with in the Utility.
31.1.3 Checking the OS

The following OS must be installed into the GOT to use the font change function.

<table>
<thead>
<tr>
<th>OS</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard monitor OS</td>
<td>Version 9.4.0 or later</td>
</tr>
</tbody>
</table>

1) Checking the OS
The information of the standard monitor OS and extended function OS information installed in the GOT is obtainable from the GT Designer2 memory information.
If the extended function OS version older than above is installed in the GOT, install the compatible version.
For installing/checking the OS, refer to GT Designer2 Version2 Operating Manual.

2) Precautions for installing the extended function OS
Install the extended function OS while paying attention to Section 2.2, as some OSs should not be combined with others.
31.2 Operation of the font change function

31.2.1 Setting the font change device

Font change is performed by writing the value corresponding to each font into the GOT internal device (font change device: GS453(b7 to b0)).

<table>
<thead>
<tr>
<th>Value in GS453</th>
<th>Corresponding font</th>
</tr>
</thead>
<tbody>
<tr>
<td>b15 to b8</td>
<td>Font change device</td>
</tr>
<tr>
<td>b7 to b0</td>
<td></td>
</tr>
<tr>
<td>System dialog</td>
<td></td>
</tr>
<tr>
<td>language</td>
<td>00H Standard font</td>
</tr>
<tr>
<td>switching</td>
<td></td>
</tr>
<tr>
<td>device</td>
<td></td>
</tr>
<tr>
<td>(Refer to Section 32.2.1)</td>
<td>01H Chinese (simplified characters) font</td>
</tr>
<tr>
<td></td>
<td>02H or later Used prohibited (The previous fond is held.)</td>
</tr>
</tbody>
</table>

The following example shows how to make the settings so that the status observation function will work to automatically store "1" (Chinese (simplified characters) font) into the font change device after the GOT is powered ON.

<Example of setting the status observation function>

Make the following settings in the "Status Observation" screen.
- The GOT internal device (device that is always ON: GS0.b4) functions as a trigger.
- "1" is stored into the font change device when the trigger turns ON.

With this settings, the status observation function works and "1" is stored into the font change device after the GOT is powered ON.

For details of the observation status function, refer to GT Designer2 Version2 Reference Manual.

- Make the settings in the "Project" tab within the "Status Observation" screen.
- Put the settings in the first line. ("1" is stored into the font change device right after the GOT is powered ON.)
- Set "Observe Cycle" to "Ordinary".

*1: The font may not be switched to the Chinese (simplified characters) font, when the GOT is started. (The Chinese (simplified characters) font will appear by switching the screen to another one.)

Design screens while paying attention to the above.
31.2.2 Displaying Chinese (simplified characters) fonts with Preview of GT Designer2

To preview in Chinese (simplified characters), the font environment of GT Designer2 is required to be changed to Chinese (simplified characters). The following describes how to change the font environment of GT Designer2.

(1) When preview the standard characters (other than HQ fonts) in Chinese (simplified characters) fonts
   (a) Change the font environment of GT Designer2 to Chinese (simplified characters)
       1) Delete the [unicode.fnt] in the GT Designer2 installation folder.

       2) Copy the [unicode_gb.fnt] in the same folder and change the file name to [unicode.fnt].
(b) Change the font environment of GT Designer2 back to using Japanese
   1) Delete the [unicode. fnt] created by "(a) Change the font environment of GT Designer2 to Chinese (simplified characters)".

   2) Copy the [unicode_jp. fnt] in the same folder and change the file name to [unicode. fnt].
(2) When preview the HQ fonts characters in Chinese (simplified characters) fonts
(a) Change the font environment of GT Designer2 to use Chinese (simplified characters)
1) Delete the [hqfont.dat] in the GT Designer2 installation folder.

2) Copy the [hqfont_gb.dat] in the same folder and change the file name to [hqfont.dat].

Change the file name to [hqfont.fnt].
(b) Change the font environment of GT Designer2 back to using Japanese

1) Delete the [hqfont.dat] created by "(a) Change the font environment of GT Designer2 to Chinese (simplified characters)".

2) Copy the [hqfont_jp.dat] in the same folder and change the file name to [hqfont.dat].

Change the file name to [hqfont.fnt].
31.2.3 Installing font data

1) Displaying standard characters (other than HQ fonts) of Chinese (simplified characters) on the GOT

Install the font data of standard characters (other than HQ fonts) with the following procedure from (a) to (c) to display standard characters (other than HQ fonts) of Chinese (simplified characters) on the GOT.

(a) Writing OS (standard monitor OS, communication driver, extended function OS) into memory card.

Use GT Designer2 to write the required OSs into a memory card.

For details of writing into a memory card, refer to GT Designer2 Version2 Operating Manual.

(b) Copying font data

Use the Windows® Explorer or similar to copy the font data (font_gb.bin) from "C\MELSEC\GTD2\OS\font" into "OS" folder within the memory card.
(c) Transferring font data to GOT
Set a memory card to the GOT, and install the OS.
(Before data transfer, mount a memory board to the GOT.)
The font data will be transferred together with the OS into the GOT.
For details of installing into GOT, refer to GT Designer2 Version2 Operating Manual.

If the installation is completed, the following message appears on the GOT.

```
Setup completed
Cycle power on unit.
```

---

**Point**

- Data transfer through the RS-232C communication is not available.
- The font data and OS are copied into a memory card by executing "DATA & OS CPY" within the utility.
  By using the same memory card, the font data can be installed into another GOT.

---

(2) How to display HQ fonts with Chinese (simplified characters) on the GOT
To use HQ fonts for characters and comments, change the font environment of GT Designer2 to Chinese (simplified characters) and download the monitor data to the GOT from the changed GT Designer2.
For how to change the font environment of the GT Designer2, refer to Section 31.2.2 (2).

---

**Point**

31.3 Troubleshooting when font cannot be changed.

The following shows the corrective actions when font cannot be changed.

Font cannot be changed.

Are the following ROM_BIOS and standard monitor OS installed in the GOT?
ROM_BIOS: Version X or later
Standard monitor OS: 9.4.0 or later

NO

Install the applicable ROM_BIOS and standard monitor OS.

YES

Are the extended function OS for MELSEC-Q/QnA ladder monitor installed in the GOT?

YES

Uninstall the extended function OS for MELSEC-Q/QnA ladder monitor. And then install the font data again.

NO

Is the value in the function change device (GS453(b7 to b0)) correct?

YES

Store the value corresponding to the font in the function change device (GS453(b7 to b0)).

NO

Is the A9GT-QFNB (□MB) mounted?

YES

Mount the A9GT-QFNB(□MB) and install the font data into the GOT again.

NO

Did an error message appear during installation?

YES

Font cant be installed was displayed?

YES

The A9GT-QFNB(□MB) might be faulty.

NO

The possible causes are as follows.
• The memory card is faulty.
• The memory card is unformatted.
• The memory card is incompatible with GOT.

NO

Check if the font data has been copied into the OS folder within the memory card.
32.1 Preparation to use the system dialog language switching function

Before using the system dialog language switching function, check the required devices, ROM_BIOS/OS version and GOT settings.

32.1.1 Checking the required devices

For devices required to use the system dialog language switching function, refer to Section 2.2.

32.1.2 Checking the ROM_BIOS version

The ROM_BIOS version has no restrictions when using the system dialog language switching function.

When using the system dialog language switching function with the font change function, check the required devices, ROM_BIOS/OS version, and GOT settings referring to "Chapter 31 FONT CHANGE FUNCTION".

32.1.3 Checking the OS

The following OS must be installed into the GOT to use the system dialog language switching function.

<table>
<thead>
<tr>
<th>OS</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard monitor OS</td>
<td>Version 9.7.6 or later</td>
</tr>
</tbody>
</table>

(1) Checking the OS
The information of the standard monitor OS and extended function OS information installed the GOT is obtainable from the GT Designer2 memory information.
If the extended function OS version older than above is installed in the GOT, install the compatible version.
For installing/checking the OS, refer to GT Designer2 Version2 Operating Manual.
32.2 Operation of the system dialog language switching function

32.2.1 Setting the system dialog language switching device

System dialog language switching is performed by writing the value corresponding to each language into the GOT internal device (system dialog language switching device: GS453(b15 to b8)).

<table>
<thead>
<tr>
<th>Value in GS453</th>
<th>Corresponding language</th>
</tr>
</thead>
<tbody>
<tr>
<td>b15 to b8</td>
<td>System dialog language switching device</td>
</tr>
<tr>
<td>b7 to b0</td>
<td>Font change device</td>
</tr>
<tr>
<td>00h</td>
<td>Japanese/English (The language can be switched by the utility.*1)</td>
</tr>
<tr>
<td>01h</td>
<td>Chinese (simplified characters)</td>
</tr>
<tr>
<td>02h</td>
<td>Chinese (traditional characters)</td>
</tr>
<tr>
<td>03h or later</td>
<td>Used prohibited</td>
</tr>
</tbody>
</table>

*1 Switching of the language to be displayed (Japanese/English) is set with the followings.

- Setting the language with the language selection key on the Utility Menu screen (Refer to Section 4.3.)
- Setting the language with [Language] in Setup of the utility function (Refer to Section 4.5.)
### 32.3 Example of system dialog language display

The following shows system dialogs for which language switching (system dialog language switching function) is available.

<table>
<thead>
<tr>
<th>Occurrence factor</th>
<th>Set language: Japanese (Set font: Standard font)</th>
<th>Set language: English (Set font: Standard font)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The touch panel is pressed when an event as base screen switching has occurred.</td>
<td>画面変更（切換え、移動など）または、警告流れが発生しました。画面から手をはなしてください。</td>
<td>The screen change (switching screen and moving screen, etc.) or alarm flow was detected. Remove your finger from the display.</td>
</tr>
<tr>
<td>The execution condition was not satisfied when starting an extended function (such as ladder monitor function) from the utility menu or monitor screen. For example, the required extended function OSS was not installed.</td>
<td>[When using A985GOT(-V)/A97*GOT/A960GOT] 現在この機能は使えない</td>
<td>[When using A985GOT(-V)/A97*GOT/A960GOT] This function cannot be used now.</td>
</tr>
<tr>
<td>Objects are overlapped.</td>
<td>オブジェクトが重なっています</td>
<td>Coordinates error</td>
</tr>
<tr>
<td>The input numerical or ascii data exceeded the max. input digits.</td>
<td>最大入力桁をオーバーしました</td>
<td>Input data error, number too large/small</td>
</tr>
<tr>
<td>The integer part of the input numerical data exceeded the max. input digits.</td>
<td>整数部最大入力桁をオーバーしました</td>
<td>Input data error, too many integer places</td>
</tr>
<tr>
<td>The decimal part of the input numerical data exceeded the max. input digits.</td>
<td>小数部最大入力桁をオーバーしました</td>
<td>Input data error, too many decimal places</td>
</tr>
<tr>
<td>The numerical data out of range was input.</td>
<td>規定外のデータが入力されました</td>
<td>Input data error, out of range</td>
</tr>
<tr>
<td>The condition was not satisfied when pressing the RET key, while the condition was satisfied when selecting the object and displaying the cursor in numerical/ascii input.</td>
<td>入力条件が成立していません</td>
<td>Interlock not set</td>
</tr>
<tr>
<td>The RET key of numerical/ascii input was pressed while the GOT internal device GS450.b0 was &quot;1&quot; (ON).</td>
<td>下記値に変更しますか</td>
<td>Do you want to change?</td>
</tr>
<tr>
<td>Occurrence factor</td>
<td>Displayed message</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>The touch panel is pressed when an event as base screen switching has occurred.</td>
<td>画面変更了(切换,移动等),或是发生了浮动报警。请不要触摸画面。</td>
<td></td>
</tr>
<tr>
<td></td>
<td>畫面變更了(切換、移动等)，或是發生了浮動報警。請不要觸摸畫面。</td>
<td></td>
</tr>
<tr>
<td>The execution condition was not satisfied when starting an extended function (such as ladder monitor function) from the utility menu or monitor screen. For example, the required extended function OS was not installed.</td>
<td>不能使用此功能</td>
<td></td>
</tr>
<tr>
<td></td>
<td>不能使用此功能</td>
<td></td>
</tr>
<tr>
<td>Objects are overlapped.</td>
<td>对象有重叠</td>
<td></td>
</tr>
<tr>
<td></td>
<td>對象有重叠</td>
<td></td>
</tr>
<tr>
<td>The input numerical or ascii data exceeded the max. input digits.</td>
<td>超过了最大输入位数</td>
<td></td>
</tr>
<tr>
<td></td>
<td>超過了最大輸入位數</td>
<td></td>
</tr>
<tr>
<td>The integer part of the input numerical data exceeded the max. input digits.</td>
<td>整数部分超过了最大输入位数</td>
<td></td>
</tr>
<tr>
<td></td>
<td>整數部分超过了最大輸入位數</td>
<td></td>
</tr>
<tr>
<td>The decimal part of the input numerical data exceeded the max. input digits.</td>
<td>小数部分超过了最大输入位数</td>
<td></td>
</tr>
<tr>
<td></td>
<td>小數部分超过了最大輸入位數</td>
<td></td>
</tr>
<tr>
<td>The numerical data out of range was input.</td>
<td>输入了范围外的数据</td>
<td></td>
</tr>
<tr>
<td></td>
<td>輸入了範圍外的數據</td>
<td></td>
</tr>
<tr>
<td>The condition was not satisfied when pressing the RET key, while the condition was satisfied when selecting the object and displaying the cursor in numerical/ascii input.</td>
<td>输入条件不成立</td>
<td></td>
</tr>
<tr>
<td></td>
<td>輸入條件不成立</td>
<td></td>
</tr>
<tr>
<td>The RET key of numerical/ascii input was pressed while the GOT internal device GS450.b0 was &quot;1&quot; (ON).</td>
<td>更改成下列数值吗</td>
<td></td>
</tr>
<tr>
<td></td>
<td>更改成下列數值嗎</td>
<td></td>
</tr>
</tbody>
</table>
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Warranty

Please confirm the following product warranty details before using this product.

1. Gratis Warranty Term and Gratis Warranty Range
   If any faults or defects (hereinafter "Failure") found to be the responsibility of Mitsubishi occurs during use of the product within the gratis warranty term, the product shall be repaired at no cost via the sales representative or Mitsubishi Service Company.
   However, if repairs are required onsite at domestic or overseas location, expenses to send an engineer will be solely at the customer's discretion. Mitsubishi shall not be held responsible for any re-commissioning, maintenance, or testing on-site that involves replacement of the failed module.

[Gratis Warranty Term]
The gratis warranty term of the product shall be for one year after the date of purchase or delivery to a designated place.
Note that after manufacture and shipment from Mitsubishi, the maximum distribution period shall be six (6) months, and the longest gratis warranty term after manufacturing shall be eighteen (18) months. The gratis warranty term of repair parts shall not exceed the gratis warranty term before repairs.

[Gratis Warranty Range]
(1) The range shall be limited to normal use within the usage state, usage methods and usage environment, etc., which follow the conditions and precautions, etc., given in the instruction manual, user's manual and caution labels on the product.
(2) Even within the gratis warranty term, repairs shall be charged for in the following cases.
   1. Failure occurring from inappropriate storage or handling, carelessness or negligence by the user. Failure caused by the user's hardware or software design.
   2. Failure caused by unapproved modifications, etc., to the product by the user.
   3. When the Mitsubishi product is assembled into a user's device, Failure that could have been avoided if functions or structures, judged as necessary in the legal safety measures the user's device is subject to or as necessary by industry standards, had been provided.
   4. Failure that could have been avoided if consumable parts (battery, backlight, fuse, etc.) designated in the instruction manual had been correctly serviced or replaced.
   5. Failure caused by external irresistible forces such as fires or abnormal voltages, and Failure caused by force majeure such as earthquakes, lightning, wind and water damage.
   6. Failure caused by reasons unpredictable by scientific technology standards at time of shipment from Mitsubishi.
   7. Any other failure found not to be the responsibility of Mitsubishi or that admitted not to be so by the user.

2. Onerous repair term after discontinuation of production
   (1) Mitsubishi shall accept onerous product repairs for seven (7) years after production of the product is discontinued.
   Discontinuation of production shall be notified with Mitsubishi Technical Bulletins, etc.
   (2) Product supply (including repair parts) is not available after production is discontinued.

3. Overseas service
   Overseas, repairs shall be accepted by Mitsubishi's local overseas FA Center. Note that the repair conditions at each FA Center may differ.

4. Exclusion of loss in opportunity and secondary loss from warranty liability
   Regardless of the gratis warranty term, Mitsubishi shall not be liable for compensation of damages caused by any cause found not to be the responsibility of Mitsubishi, loss in opportunity, lost profits incurred to the user by Failures of Mitsubishi products, special damages and secondary damages whether foreseeable or not, compensation for accidents, and compensation for damages to products other than Mitsubishi products, replacement by the user, maintenance of on-site equipment, start-up test run and other tasks.

5. Changes in product specifications
   The specifications given in the catalogs, manuals or technical documents are subject to change without prior notice.

6. Product application
   (1) In using the Mitsubishi MELSEC programmable logic controller, the usage conditions shall be that the application will not lead to a major accident even if any problem or fault should occur in the programmable logic controller device, and that backup and fail-safe functions are systematically provided outside of the device for any problem or fault.
   (2) The Mitsubishi programmable logic controller has been designed and manufactured for applications in general industries, etc. Thus, applications in which the public could be affected such as in nuclear power plants and other power plants operated by respective power companies, and applications in which a special quality assurance system is required, such as for Railway companies or Public service purposes shall be excluded from the programmable logic controller applications.
   In addition, applications in which human life or property that could be greatly affected, such as in aircraft, medical applications, incineration and fuel devices, manned transportation, equipment for recreation and amusement, and safety devices, shall also be excluded from the programmable logic controller range of applications.
   However, in certain cases, some applications may be possible, providing the user consults their local Mitsubishi representative outlining the special requirements of the project, and providing that all parties concerned agree to the special circumstances, solely at the users discretion.
GOT-A900 Series Operating Manual


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When exported from Japan, this manual does not require application to the Ministry of Economy, Trade and Industry for service transaction permission.

Specifications subject to change without notice.