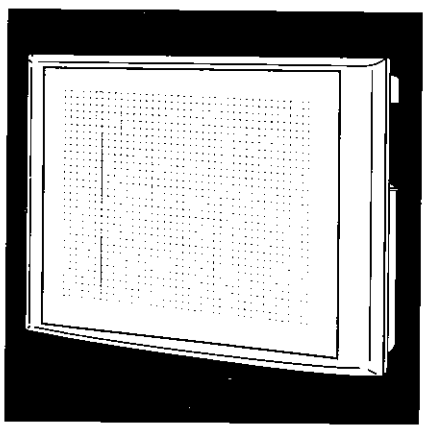
MITSUBISHI

A870/A850/A851GOT Graphic Operation Terminal

Operating Manual (Expanded Functions Manual)



GRAPHIC OPERATION TERMINAL

800

Series

GOT MELSEC

Mitsubishi Graphic Operation Terminal

● Precautions Regarding Safety ●

(Please read carefully before using your equipment)

When using the Graphic Operation Terminal, please read the manuals that are supplied with each of the products, as well as any related manuals available as supplementary manuals. Make sure careful attention is paid to safety, and that the equipment is handled correctly.

These precautions apply to the Graphic Operation Terminal. Refer to the CPU module user's manual for a description of the PC system safety precautions.

In this manual, safety precautions concerning more hazardous items are labeled "DANGER", and those concerning more general safety items are labeled "CAUTION".

⚠ DANGER	**Improper handling could cause hazardous conditions resulting in severe injury or death.**
⚠ CAUTION	**Improper handling could cause hazardous conditions resulting in moderate or light injury, or in physical damage.**

Items marked with an exclamation point in a triangle ⚠ could also cause severe consequences, depending on the circumstances, if not handled properly. They indicate information that should be taken seriously and observed conscientiously.

Manuals supplied with the products should be stored carefully where they can be accessed whenever necessary, and should always be passed on to the end user along with the equipment.

[Precautions Regarding Startup and Maintenance]

⚠ CAUTION
● For a test operation during a run (forced ortput, data change), read the manual thoroughly and check the safety conditions carefully. The machine can be damaged or accidents can occur due to operation error.

Revisions

* The manual number is noted at the lower left of the back cover.

Print Date	*Manual Number	Revision
Jul. 1996	IB-66683-A	First printing

Introduction

Thank you for purchasing the Mitsubishi Graphic Operation Terminal.

Before using the equipment, please read this manual carefully to develop full familiarity with the functions and performance of the graphic operation terminal you have purchased, so as to ensure correct use.

Please forward a copy of this manual to the end user.

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Configuration of the Manual

This manual covers the circuit monitor functions, system monitor functions, and special unit monitor functions that are possible with the GOT Graphic Operation Terminal, and presents an overview, the specifications, and the functions.

[Common Edition]

Chapter 1

This describes the various monitor functions and their features.

Chapter 2

This describes the equipment required in order to use the various monitor functions, and precautions regarding use of these functions.

Chapter 3

This describes the specifications for the various monitor functions.

[Circuit Monitor Functions Operation]

Chapters 4 ~ 6

These present an overview of the operation procedures for the circuit monitor function, as well as the operation procedures for system monitoring of the PC CPU, input and output units, and special function units.

[System Monitor Functions Operation]

Chapters 7 ~ 9

These present an overview of the operation procedures for the system monitor function, as well as operation procedures for system monitoring of the PC CPU, input and output units, and special function units.

[Special Unit Monitor Functions Operation]

Chapters 10 ~ 13

These present an overview of the operation procedures for the special unit monitor function, as well as operation procedures for monitoring special units using the dedicated screens provided for each unit.

POINT

(1) When using the circuit monitor function, read Chapters 1 ~ 3 to confirm the overview, required equipment, and precautions, and then begin operation by referring to Chapters 4 ~ 6.

(2) When using the system monitor function, read Chapters 1 ~ 3 to confirm the overview, required equipment, and precautions, and then begin operation by referring to Chapters 7 ~ 9.

(3) When using the special unit monitor function, read Chapters 1 ~ 3 to confirm the overview, required equipment, and precautions, and then begin operation by referring to Chapters 10 ~ 13.

About the Manuals

The following product manuals are available. Please use this table as a reference to request the appropriate manual as necessary.

Related Manuals

Manual Name	Manual No. (Model Code)
A870GOT Graphic Operation Terminal User's Manual This describes the specifications and performance of the A870GOT main unit, as well as the hardware configuration, procedures for installing optional units, operation in on-line mode, error codes, and troubleshooting guidelines. (Sold separately)	IB-66628 (13J830)
A850GOT Graphic Operation Terminal User's Manual This describes the specifications and performance of the A850GOT main unit, as well as the hardware configuration, procedures for installing optional units, operation in on-line mode, error codes, and troubleshooting guidelines. (Sold separately)	IB-66659 (13JH33)
SW2NIW-A8GOTP Graphic Settings Software Package Operating Manual (Introductory Manual) This manual is designed for the first-time user of the GOT. It describes how to create monitor screens with the A8GOTP, how to send monitor data to the GOT, and what the various screen displays mean. (Sold separately)	IB-66679-A (13J900)
SW2NIW-A8GOTP Graphic Settings Software Package Operating Manual (Startup Manual) This describes the configuration of the A8GOTP system, precautions regarding the configuration, and the specifications of the various functions, as well as the installation procedures, startup procedures, screen configurations, and basic operation procedures. (Sold separately)	IB-66680-A (13J901)
SW2NIW-A8GOTP Graphic Settings Software Package Operating Manual (Monitor Screen Creation Manual) This describes procedures for creating monitor screens, monitor functions that can be used with the GOT, procedures for setting the monitor functions, precautions to be observed when creating monitor screens, and precautions to be observed when appropriating conventional GOT monitor data for use with the GOT. (Sold separately)	IB-66681-A (13J902)
SW2NIW-A8GOTP Graphic Settings Software Package Operating Manual (Data Transmission/Debugging/Document Creation Manual) This manual describes the following items. (1) Procedures for downloading project data to the GOT and uploading data from the GOT (2) Procedures for installing the operating system in the GOT (3) Procedures for using the A8GOTP as a virtual sequencer and for debugging the A870GOT (4) Procedures for outputting created monitor data as a completed document (Sold separately)	IB-66682-A (13J903)
A8GT-MCAM Memory Cassette with Built-in Circuit Monitoring Function User's Manual This manual explains how to install the circuit monitor cassette in the A870GOT. (Sold separately)	IB-66634 (13J831)
A8GT-RS4 RS-422 Serial Communication Unit User's Manual (Hardware Manual) This manual describes the names and settings for the various parts of the interface unit, and how to install it in the A870GOT. (Sold separately)	IB-66635 (13J832)

Manual Name	Manual No. (Model Code)
A7GT-BUS Bus Connection Interface Unit User's Manual (Hardware Manual) This describes the specifications of the bus connection unit, the names of parts, and how to enter settings. (Sold separately)	IB-66556 (13JE92)
A7GT-BUS2 Multi-Drop Bus Connection Interface Unit User's Manual (Hardware Manual) This describes the specifications, names of parts, and settings for the multi-drop bus connection unit. (Sold separately)	IB-66672 (13J849)
A7GT-CNB Bus Connecter Conversion Box Instruction Manual This describes the specifications of the bus connector conversion box, and how connections are made. (Sold separately)	BCN-P5138
A7GT-J71AP23/R23 Data Link User's Manual This manual contains the specifications for the MELSECNET (II) Optical Data Link Unit/ MELSECNET (II) Coaxial Data Link Unit, as well as the names and settings for the various parts.(Supplied with the pertinent data link unit) (Sold separately)	IB-66438 (13JE26)
A7GT-J71AP23B Data Link Unit User's Manual This contains the specifications for the MELSECNET/B Data Link Unit, as well as the names and settings for the various parts. (Sold separately)	IB-66439 (13JE27)
A7GT-J71LP23/BR13 Network Unit User's Manual This manual contains the specifications for the MELSECNET/10 Optical Loop Network Unit/MELSECNET/10 Coaxial Bus Network Unit, as well as the names and settings for the various parts. (Sold separately)	IB-66558 (13JE94)
MELSECNET, MELSECNET/B Data Link System Reference Manual This manual contains an overview of the MELSECNET (II) and MELSECNET/B, as well as the specifications, names of parts, and the various settings. (Sold separately)	IB-66350 (13JF70)
MELSECNET/10 Network System Reference Manual (For PC Networks) This manual contains an overview of the MELSECNET/10, along with the specifications, names of parts, and the settings. (Sold separately)	IB-66440 (13JE33)
Computer Link/Unit User's Manual (Computer Link Functions/Printer Functions Manual) This manual describes the unit settings, wiring, programming, troubleshooting procedures, and other information concerning communication with peripheral equipment using the dedicated protocol, the no-protocol mode and the bi-directional mode for the computer link unit, as well as printer functions. This manual can be used with the following computer link units: A1SJ71UC24-R2, A1SJ71UC24-R4, A1SJ71UC24-PRF, AJ71UC24, A2CCPUC24, A2CCPUC24-PRF, and A1SCPUC24-R2 (Sold separately)	SH-3511 (13JE77)
AJ71UC24 Computer Link/Unit User's Manual (Hardware Manual) This manual explains the system configuration when using the unit, the unit specifications, and the names of parts and the settings, and contains diagrams of the external dimensions. (Sold separately)	IB-66559 (13JE95)
A1SJ71UC24-R4 Computer Link/Unit User's Manual (Hardware Manual) This manual explains the system configuration when using the unit, the unit specifications, and the names of parts and the settings, and contains diagrams of the external dimensions. (Sold separately)	IB-66582 (13J805)

Common Edition

The Common Edition section of this manual describes an overview of the circuit monitor function, the system monitor function, and the special unit monitor function, along with the features of each, the required equipment, precautions concerning the functions, and specifications.

1. Overview

This manual describes the circuit monitor function, system monitor function, and special unit monitor function (hereafter referred to as "expanded functions") which can be used with a GOT in which the SW2NIW-A8SYSP has been installed.

1.1 Preparation Prior to Using Expanded Functions

In order to use the circuit monitor function, system monitor function, and special unit monitor function described in this manual, the graphic settings software must be used to install the operating systems for the various functions in the GOT.

Referring to the manuals noted below, make sure the operating system of the expanded function to be used has been installed in the GOT before attempting to use the function.

SW2NIW-A8GOTP Graphic Settings Software Package Operating Manual (Data Transmission/ Debugging/Document Creation Manual)

1.2 Precautions Concerning Usage

The user should be aware of the following precautions before using the expanded functions.

(1) It may not be possible to use some of the expanded functions, depending on the type of GOT being used.

Expanded functions which can be used with the A870GOT

Circuit monitor function, system monitor function, special unit monitor functionIf using the function that allows screens displayed on the GOT to be printed out (the Hard Copy function), please be aware that not all of the expanded functions noted above can be used. Only two functions from among those noted above can be used when the Hard Copy function is used.

Expanded functions which can be used with the A85_GOT

System monitor function (circuit monitor function and special unit monitor function cannot be used)

(2) There are some functions which cannot be used, depending on the CPU to which the GOT is connected and the connection format.

Functions			Ref. Page	MELSEC -QnACPU				MELSEC -ACPU				MELSEC - FXCPU	OMRON PLC
				Bus connection	CPU direct connection	MELSECNET connection	Calculator link connection	Bus connection	CPU direct connection	MELSECNET connection	Calculator link connection	CPU direct connection	Host link connection
Circuit monitor function	Circuit monitoring	Sequence program monitoring using circuit signals	Page 5.2.1	×				○			×	×	×
	Display switching	Decimal and hexadecimal display of word device values	Page 5.2.2										
		Device comment display											
System monitor function	Entry monitoring	Monitoring of current values by pre-registering monitor devices	Page 8.2	○				○				○	
	Batch monitoring	Monitoring of n points of current values subsequent to specified device	Page 8.3										
	T/C monitoring	Monitoring of m points of current values, set values, contact points, and coils subsequent to specified device	Page 8.4	○			△ Can't monitor T/C set values	○			△ Can't monitor T/C set values	○	
	BM monitoring	Monitoring of x points of current values subsequent to specified buffer memory of specified special unit	Page 8.5	○				○				×	
	Data editing using test operation	Setting/resetting of bit device	Page 8.6	○				○				○	
		Changing of current value for buffer memory of word device		○			△ Can't change V or Z current values	○			△ Can't change V or Z current values	△ Can't change buffer memory current values	
		Changing of current value and set value for T/C (can be used while monitoring T/C)		△ Can't change set values				○			△ Can't change set values	△ Can't change set values	
	Display switching	Device comment display	Page 8.1.2	×				○				×	
		Decimal and hexadecimal display of word device values and buffer memory values		○				○				○	
Special unit monitor function	Monitor test of special function unit	Monitor testing of buffer memory using special screen	Page 11.2	○			△ (Monitoring possible when connected to QC24)	○			×	×	
		Monitoring of PC CPU I/O signals											
	I/O unit monitoring	Monitoring of I/O signal statuses using special screen	Ch. 12										

*1 PC CPU models listed below can do monitoring, (Equal to monitor function)

<Large-sized QnACPU>
AnACPU, Q4ARCPU, AnUCPU, AnACPU, AnNCPU
(Version L or subsequent version with AnN link; Version H or subsequent versions without link)

<Small-sized AnQCPU>
Q2ASCPU, Q2ASHCPU, AnUSCPU, AnSCPU (Version C or subsequent version for A2SCPU), A1SJCPU, A0J2HCPU (Version E or subsequent version), A2CCPU (Version H or subsequent version), A2CJCPU

<Multi-axis controller>
A273UCPU, A273UHCPU, A373UCPU, A373CPU (SW0SRX-SV12H (I, J, K) or subsequent), A171CPU

. The circuit monitor function cannot be used with the QnACPU, Q4ARCPU, Q2ASCPU, and Q2ASHCPU.

*2 For access ranges for the circuit monitor function, please see page 3.1.2.

*3 For access ranges and devices which can be monitored with the system monitor function, please see pages 3.2.2 and 3.2.3.

*4 For access ranges and special function units which can be monitored with the special unit monitor function, please see pages 3.3.1 and 3.3.2.

(3) The capacities of the GOT internal memory when the operating systems of the expanded functions have been installed are as noted below.

(a) With the A870GOT

① When an option driver (Hard Copy function) has been installed in the GOT:
If the expanded function operating systems are not installed ..... 768 KB
If any one expanded function operating system is installed ..... 512 KB
If any two expanded function operating systems are installed ..... 512 KB

② If no option driver (Hard Copy function) has been installed in the GOT:
If any one expanded function operating system is installed ..... 768 KB
If any two expanded function operating systems are installed ..... 512 KB
If three expanded function operating systems are installed ..... 384 KB

POINT
If the special unit monitor function is being used, enough memory space must be reserved in the internal memory to accommodate the special unit monitoring data (see page 3.3.3).

(b) With the A85_GOT

If no expanded function operating systems have been installed ..... 768 KB
(If the system monitor function operating system has been installed ..... 768 KB
(The circuit monitor function, special unit monitor function, and Hard Copy function cannot be used.)

1.3 Features

The monitor functions described in this manual are intended to improve the efficiency of trouble-shooting and maintenance operations for the PC system.

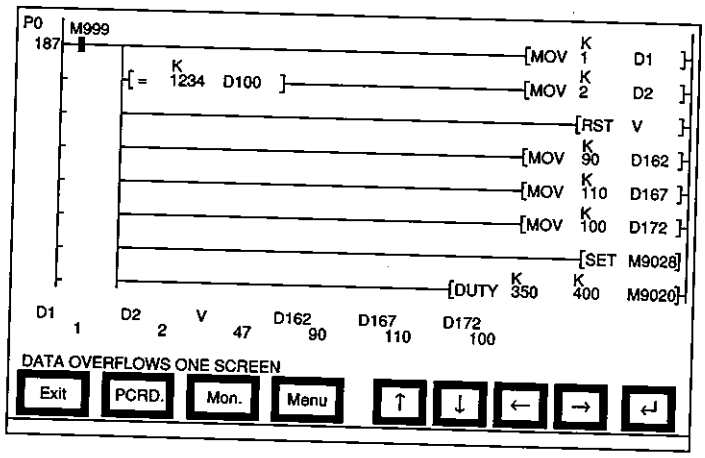
The features of each monitor function are explained in the following sections.

1.3.1 Features of the Circuit Monitor Function

Installing the circuit monitor function operating system into the A870GOT built-in memory using the graphics software enables circuit monitoring of the PC CPU program. The features of the circuit monitor function are shown below.

(1) Monitoring based on circuit symbols (For details, see Section 5.2.)

(Sample display) Circuit monitor screen



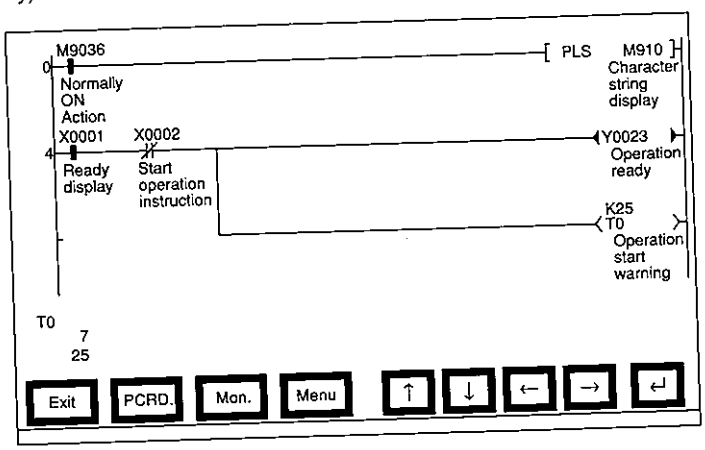
① Circuit monitor screen

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.)

(2) The display format can be changed to show comments for devices. (For details, see Section 5.2.2.)

(Sample display) Circuit 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 for the device used in the sequencer program (comments that are written into the PC CPU) are displayed.

When comments are displayed, 3 lines of the program are shown.

(3) Monitoring other stations

Other stations in data link systems or network systems, including the A870GOT (or stations connected to the A870GOT), can be monitored.

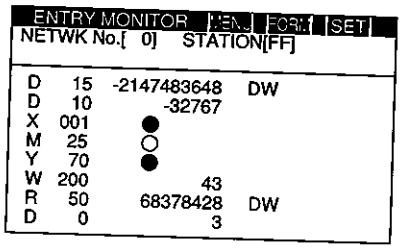
1.3.2 Features of the System Monitor Function

Installing the screen monitor function operating system into the A870GOT built-in memory using the graphics software enables monitoring and testing of the buffer memory for the sequencer CPU program and the special functions unit. The features of the system monitor function are shown below.

(1) Any desired device can be monitored, using 4 dedicated screens

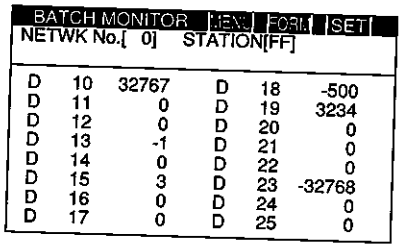
The system monitor function provides an entry monitor, a batch monitor, and a buffer memory monitor, enabling monitoring of any device, for complete flexibility in any application.

Entry monitor



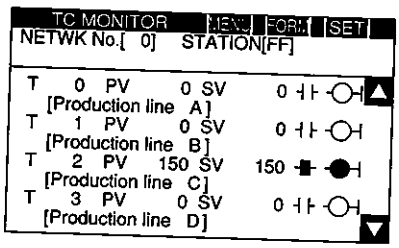
Up to 8 points for a PC CPU device registered by the user can be monitored in one window. (See Section 8.2.)

Batch monitor



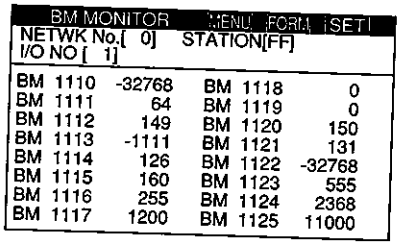
Up to 16 points subsequent to a PC CPU device specified by the user can be monitored in one window. (See Section 8.3.)

T/C monitor



Up to 8 points, including the current value, set value, contact point, and coil can be monitored in a window subsequent to a PC CPU timer (T)/ counter (C) specified by the user. (See Section 8.4.)

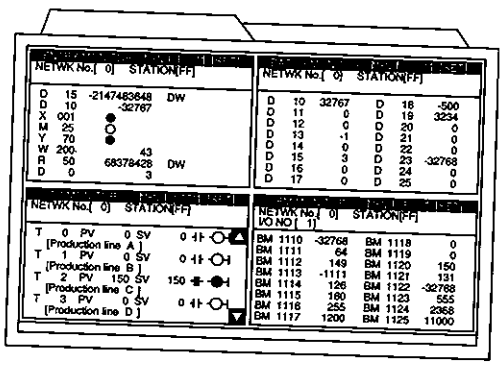
Buffer memory monitor



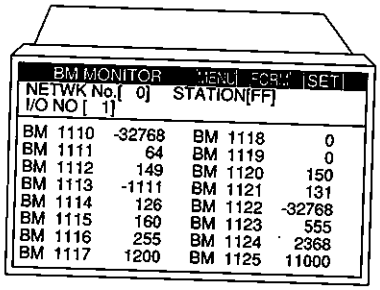
Up to 16 points subsequent to the buffer memory of a special function unit specified by the user can be monitored in one window. (See Section 8.5.)

With the A870GOT, the full screen can be divided into four windows and separate monitoring carried out in all four windows simultaneously.

A870GOT

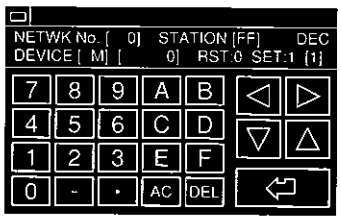


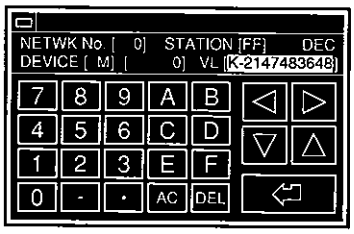
A85□GOT



(2) Data can be changed by test operation. (See Section 8.6 for details.)

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





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

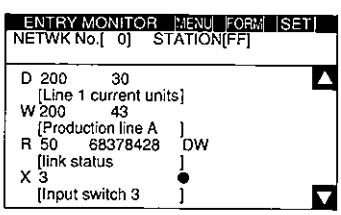
Writes in designated value as current value or set value of device specified by user.

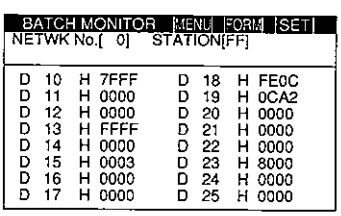
④ Test for buffer memory

Writes designated value into buffer memory specified by user.

(3) Display format can be changed and device comments can be displayed. (See Section 8.1.2 for details.)

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





① Changing display format

The word device values for the entry monitor, batch monitor, T/C monitor, and buffer memory monitor are monitored in decimal or hexadecimal format.

② Device comment display

When the PC CPU device is monitored, the comments written into the PC CPU are displayed.

(4) Other stations can be monitored.

Other stations in data link systems or network systems, including the GOT (or stations connected to the GOT), can be monitored.

1.3.3 Features of the Special Unit Monitor

Installing (or downloading) the special unit monitor function operating system and special unit monitor data into the A870GOT built-in memory using the graphics software enables monitoring and changing of data in the special function unit buffer memory, using dedicated screens.

Signal statuses of I/O units can also be monitored.

The features of the special unit monitor function are shown below.

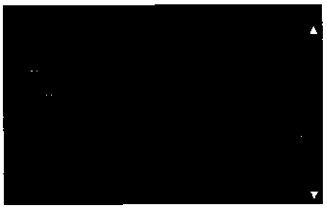
(1) Monitoring can be done with dedicated screens. (See Section 11.2 for details.)

Monitoring is carried out using dedicated screens provided by the manufacturer for the special function unit and I/O unit.

It is not necessary for the user to create monitor screens.

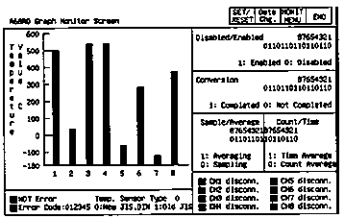
(Sample display 1: for special function unit)

Menu screen after unit selection



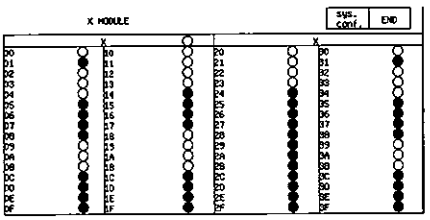
Menu selection

Monitor screen after menu selection



(Sample display 2: for I/O unit)

Monitor screen



① Menu screen

The menu is displayed classified into monitor items for the special function unit only. The applicable monitor screen is displayed by selecting the item from the menu.

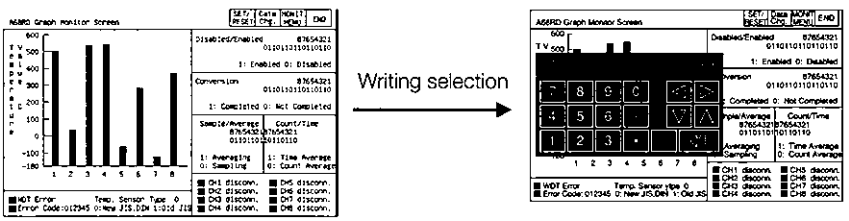
② Monitor screen

With the special function unit, the buffer memory contents and the status of the PC CPU I/O signals are monitored using text, numbers, and graphs.

With the I/O unit, the status of I/O signals to and from an external unit is monitored.

(2) Data can be changed by writing (See Section 11.1.4 for details.)

(Writing example) Monitor screen When changing channel which can be changed



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 unit monitor data can be allocated as user monitor screen data.

The special unit 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 unit monitor data from another project as user monitor screen data.

② Correct the data to match the system used for the initial buffer memory number of the sprite function which has been set.

1.4 Names, Abbreviations, and Terminology Used in This Manual

(1) Circuit monitor cassette (memory cassette) ····· This refers to the A8GT-MCAM circuit monitor cassette.

(2) Graphics software (A8GOTP) ····· This refers to the SW2NIW-A8GOTP Graphic Operation Terminal Software Packages.

(3) System FD ····· This refers to the following floppy disks, which contain the graphics software, the operating system (see below) for monitors covered by this manual, and the data for monitoring special units.

- SW2NIW-A8GOTP : This contains the graphics software. It is installed and run on personal computers which are supported by the software package.
- SW2NIW-A8GMDP : This contains the data for special unit monitoring functions. It is downloaded to the A870GOT and stored in the built-in memory.
- SW2NIW-A8SYSP : This contains the operating system for monitor screen displays created by the user, the operating system for circuit monitor functions, and various other operating system data. It is installed in the built-in memory of the GOT.

(4) Data link system ····· This refers to the MELSECNET (II) and MELSECNET/B data link systems.

(5) Special unit monitor data ····· This is the data for all monitor screens used for the special unit monitor functions displayed on the A870GOT screen.

(6) Built-in memory ····· This is the internal memory (flash ROM) built into the GOT.

(7) Network system ····· This is the MELSECNET/10 network system.

(8) PC ····· This refers to a personal computer which runs Windows and which can run the graphics software described (2).

Windows is a trademark of the U.S. firm Microsoft Corporation.

(9) A870GOT ····· This refers to the A870GOT Graphic Operation Terminal.

(10) A850GOT ..... This refers to the A850GOT Graphic Operation Terminal.

(11) A851GOT ..... This refers to the A851GOT Graphic Operation Terminal.

(12) A85□ ..... This refers to the A850GOT/A851GOT.

(13) GOT ..... This refers to the A870GOT/A850GOT/A851GOT.

(14) FD ..... This is the abbreviation for a floppy disk.

(15) FDD ..... This is the abbreviation for a floppy disk drive (the drive into which the floppy disk is inserted).

(16) OS (program) ..... This is the abbreviation for an operating system. In this manual, it indicates the system software programs for the various applicable monitor functions. The types of floppy disks stored in the OS are those indicated above as the system FD.

MEMO

2. Before Beginning Operation

The required equipment and precautions for using the monitor functions in this manual are described in this section.

2.1 Required Equipment

The chart below shows the equipment required for using the monitor functions.

Required equipment	Application	System monitor	Special function unit monitor (Not supported by A85□GOT)	Circuit monitor (Not supported by A850GOT)
Circuit monitor cassette *1	• Required for executing circuit monitor function installed in the A870GOT. (Circuit monitor dedicated cassette)	—	—	○
PC graphics software *2	• Required for installing the applicable monitor function OS into the GOT and downloading the special unit monitor data. It is necessary to install the graphics software for the applicable PC into the PC.	○		
Connecting cables *3	• Required for connecting the above PC and the GOT when installing the applicable monitor function OS into the GOT and downloading the special unit monitor data.	○		

○ : Required — : Not required

*1 The table below shows the types of circuit monitor cassettes available for circuit monitoring.

Name	Model	Contents
Circuit monitor cassette	A8GT-MCAM	For circuit monitor function
Expanded memory cassette	A8GT-MCA1MFDW	1 MB expansion of internal memory + circuit monitor function
	A8GT-MCA2MFDW	2 MB expansion of internal memory + circuit monitor function
	A8GT-MCA3MFDW	3 MB expansion of internal memory + circuit monitor function

*2 Information concerning the PC for installing and using the graphics software is found in the A8GOTP Operating Manual (Startup Manual).

*3 For information on the cable used to connect the personal computer and the GOT, please refer to the A8GOTP Operating Manual (Data Transmission/Debugging/Document Creation Manual).

MEMO

3. Specifications

In this chapter, the specifications of the circuit monitor function, system monitor function, and special unit monitor function are discussed separately.

3.1 Circuit Monitor Function Specifications

This section includes the function charts for the circuit monitor function, the PC CPUs and ranges that can be monitored, and the memory capacity required to use the circuit monitor function.

POINT

When using the circuit monitor function, a circuit monitor cassette must be used.

3.1.1 PC CPUs which can be monitored

For PC CPUs which can be monitored, please see page 1.2.

3.1.2 Access ranges which can be monitored

(1) Data link system access ranges which can be monitored

(a) Bus connection/CPU direct connection

① If the connected station is the master station (the connected station can be monitored)

- Local stations cannot be monitored.

② If the connected station is a local station (the connected station can be monitored)

- Only the master station can be monitored.
- Other local stations cannot be monitored.

③ If the connected station is a tri-layer master station (the connected station can be monitored)

- Dual-layer master stations and tri-layer local stations can be monitored.
- Dual-layer local stations cannot be monitored.

(b) With a MELSECNET/B or MELSECNET (II) connection

- Only master stations can be monitored.
- Local stations cannot be monitored.

POINT

Even with those stations for which monitoring is listed as possible, it cannot be done if the CPU being monitored is a QnACPU.

(2) Access Ranges for Network Systems That Can be Monitored

(a) For a bus connection (when the A7GT-BUS Version B, the A7GT-BUS2 Version A or each later version is being used)

① When the connected station is a QnACPU or AnUCPU (The connected station can be monitored.)

- The control station and all ordinary stations on the network can be monitored.
- The control station and all ordinary stations on another network can be monitored. (When monitoring another network, always set the routine parameters.)
- If the connected station is an intermediate station and is mixed with a data link system, the master station and local stations can be monitored.
- When circuit monitoring is being carried out with other stations, please be aware that there may be times when monitoring cannot be done, depending on the PC CPU to which the GOT is connected.

☞ **See (Example 1), (Example 2).**

② When the connected station is an AnA, or AnNCPU (The connected station can be monitored.)

- The control station on the network can be monitored.
- Ordinary stations on the network cannot be monitored.
- Other networks cannot be monitored.

(b) For a bus connection (when the A7GT-BUS Version A is being used)

① When the connected station is an AnUCPU (The connected station can be monitored.)

- The control station and all ordinary stations on the network can be monitored.
- If the connected station is an intermediate station, the unit number to which the network number being monitored is connected should be set using the data link parameter called "Unit No. Effective When Accessing Other Stations".
- Other networks cannot be monitored.

② When the connected station is an AnA or AnNCPU (The connected station can be monitored.)

- The control station on the network can be monitored.
- Ordinary stations on the network cannot be monitored.
- Other networks cannot be monitored.

(c) For CPU direct connections

① When the connected station is a QnACPU

- The access range described in (a) ① applies.

② When the connected station is an AnUCPU

- The access range described in (b) ① applies.

③ When the connected station is an AnA or AnNCPU

- The access range described in (b) ② applies.

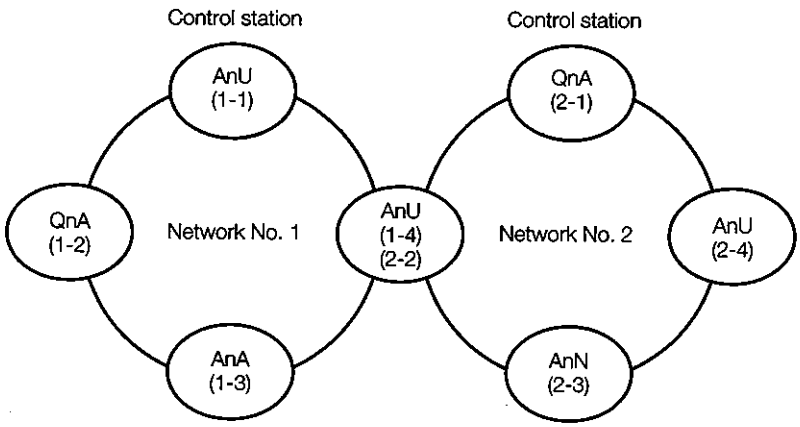
(d) For MELSECNET/10 connections

- The control station and all ordinary stations on the network can be monitored.
- Other networks cannot be monitored.

POINT

Even with access ranges for which monitoring is possible, it cannot be done if the CPU being monitored is a QnACPU.

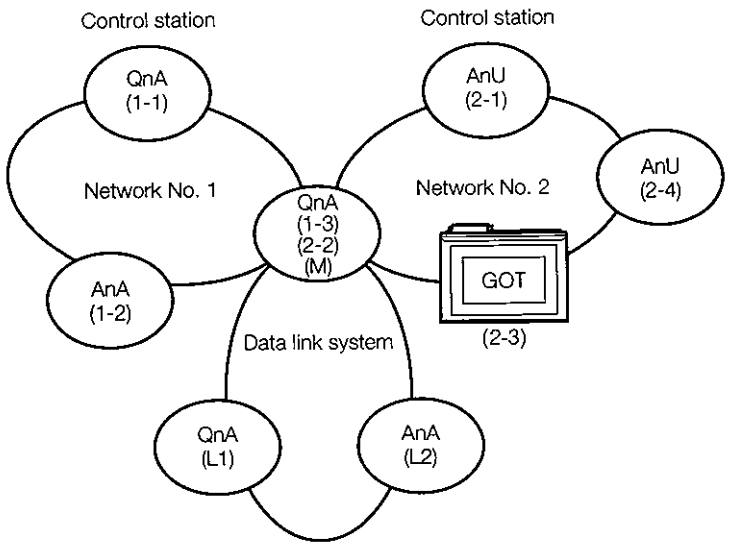
(Example 1) For bus connections (A7GT-BUS Version B, A7GT-BUS 2 Version A or all subsequent versions)



Station being accessed / Station connected to GOT	Network No. 1				Network No. 2			
	AnU (1-1)	QnA (1-2)	AnA (1-3)	AnU (1-4)	QnA (2-1)	AnU (2-2)	AnN (2-3)	AnU (2-4)
AnU (1-1)	O Host station	X	O	O	X	O	X	O
QnA (1-2)	O	X Host station	X	O	X	O	X	O
AnA (1-3)	O	X	O Host station	X	X	X	X	X
AnU (1-4) (2-2)	O	X	X	O Host station	X	O Host station	X	O
QnA (2-1)	O	X	X	O	X Host station	O	O	O
AnN (2-3)	X	X	X	X	X	X	O Host station	X
AnU (2-4)	O	X	X	O	X	O	X	O Host station

O : Can be accessed
X : Can't be accessed

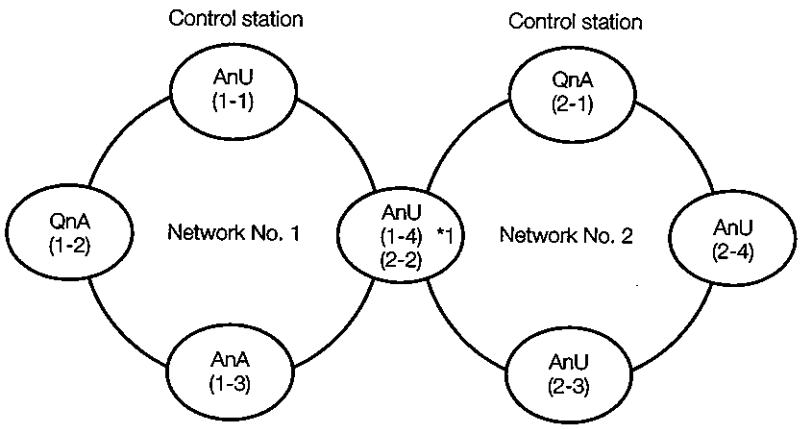
(Example 2) For bus connections (A7GT-BUS Version B, A7GT-BUS 2 Version A or all subsequent versions)



Station being accessed / Station connected to GOT	Network No. 1			Network No. 2				Data link system		
	QnA (1-1)	AnA (1-2)	QnA (1-3)	AnU (2-1)	QnA (2-2)	GOT (2-3)	AnU (2-4)	QnA (M)	QnA (L1)	AnA (L2)
QnA (1-1)	X Host station	O	X	O	X	—	O	X	X	X
AnA (1-2)	X	O Host station	X	X	X	—	X	X	X	X
QnA (1-3) (2-2) (M)	X	X	X Host station	O	X Host station	—	O	X Host station	X	O
AnU (2-1)	X	X	X	O Host station	X	—	O	X	X	X
GOT (2-3)	X	X	X	O	X	—	O	X	X	X
AnU (2-4)	X	X	X	O	X	—	O Host station	X	X	X
QnA (L1)	X	X	X	X	X	—	X	X	X Host station	X
AnA (L2)	X	X	X	X	X	—	X	X	X	O Host station

O : Can be accessed
X : Can't be accessed

(Example 3) For bus connections (when using a QnACPU with A7GT-BUS Version B, A7GT-BUS 2 Version A or each later version, or when using an AnUAnA or AnNCPU with A7GT-BUS Version A)

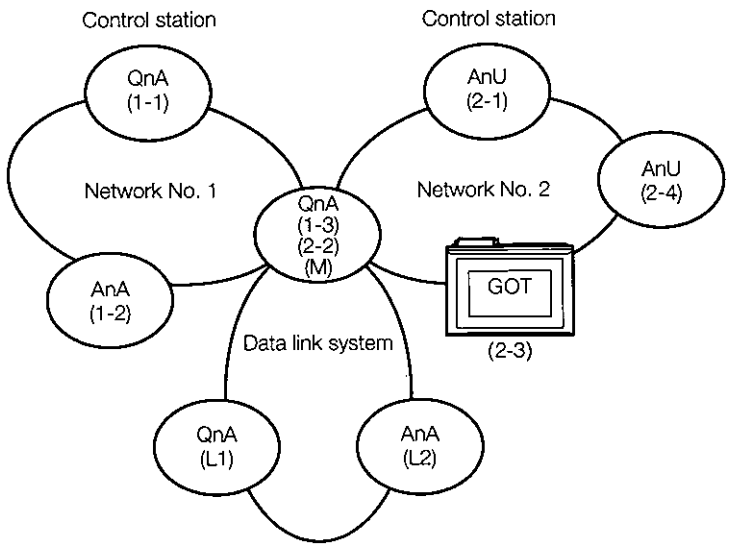


*1. The data link parameter called "Unit No. Effective When Accessing Other Station" should be set to the unit number connected to Network No. 1

Station being accessed / Station connected to GOT	Network No. 1				Network No. 2			
	AnU (1-1)	QnA (1-2)	AnA (1-3)	AnU (1-4)	QnA (2-1)	AnU (2-2)	AnN (2-3)	AnU (2-4)
AnU (1-1)	O Host station	X	O	O	X	X	X	X
QnA (1-2)	O	X Host station	X	O	X	O	X	O
AnA (1-3)	O	X	O Host station	X	X	X	X	X
AnU (1-4) (2-2)	O	X	X	O Host station	X	O Host station	X	X
QnA (2-1)	O	X	X	O	X Host station	O	O	O
AnN (2-3)	X	X	X	X	X	X	O Host station	X
AnU (2-4)	X	X	X	X	X	O	X	O Host station

O : Can be accessed
X : Can't be accessed

(Example 4) For bus connections (when using a QnACPU with A7GT-BUS Version B, A7GT-BUS 2 Version A or each later version, or when using an AnUAnA or AnNCPU with A7GT-BUS Version A)



- Monitoring access ranges of devices of other networks (other than B and W) and other networks

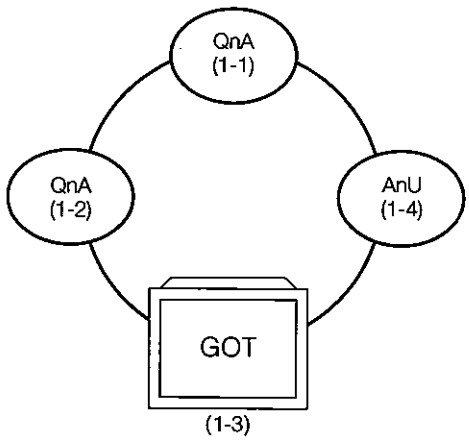
Station being accessed / Station connected to GOT	Network No. 1			Network No. 2				Data link system		
	QnA (1-1)	AnA (1-2)	QnA (1-3)	AnU (2-1)	QnA (2-2)	GOT (2-3)	AnU (2-4)	QnA (M)	QnA (L1)	AnA (L2)
QnA (1-1)	X Host station	O	X	O	X	—	O	X	X	X
AnA (1-2)	X	O Host station	X	X	X	—	X	X	X	X
QnA (1-3) (2-2) (M)	X	X	X Host station	O	X Host station	—	O	X Host station	X	O
AnU (2-1)	X	X	X	O Host station	X	—	O	X	X	X
GOT (2-3)	X	X	X	O	X	—	O	X	X	X
AnU (2-4)	X	X	X	O	X	—	O Host station	X	X	X
QnA (L1)	X	X	X	X	X	—	X	X	X Host station	X
AnA (L2)	X	X	X	X	X	—	X	X	X	O Host station

O : Can be accessed
X : Can't be accessed

(Example 5) For CPU direct connection and calculator link connection

- The monitoring access range is the same as that listed in Example 3 and Example 4.

(Example 6) For MELSECNET/10 connections



Station being accessed / Station connected to GOT	QnA (1-1)	QnA (1-2)	GOT (1-3)	AnU (1-4)
GOT (1-3)	X	X	—	O

O : Can be accessed
X : Can't be accessed

3.2 System Monitor Function Specifications

3.2.1 PC CPUs which can be monitored

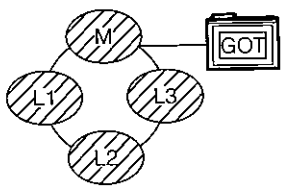
For PC CPUs which can be monitored, please refer to page 1.2.

3.2.2 Access ranges which can be monitored

(1)Access Ranges for Data Link Systems That Can be Monitored

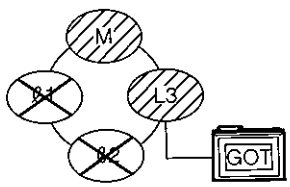
(a) With bus connections, CPU direct connections, and calculator link connections

① When the connected station is the master station (The connected station can be monitored.)



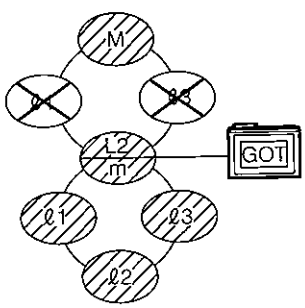
- Local stations can be monitored.
  If the PC CPU of the local station is the QnACPU, however, the only devices which can be monitored are the B and W devices assigned with the link parameter.

② When the connected station is a local station (The connected station can be monitored.)



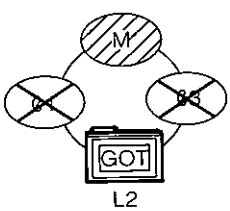
- The master station can be monitored.
  If the PC CPU of the master station is the QnACPU, however, the only devices which can be monitored are the B and W devices assigned with the link parameter.
- Other local stations cannot be monitored.

③ If the connected station is a tri-layer master station (The connected station can be monitored.)



- Dual-layer master stations and tri-layer local stations can be monitored.
  If the PC CPU of the station being monitored is the QnACPU, however, the only devices which can be monitored are the B and W devices assigned with the link parameter.
- Dual-layer local stations cannot be monitored.

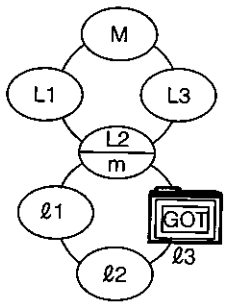
(b) With MELSECNET (II) connections and MELSECNET/B connections



- The GOT acts as a local station, and only the master station can be monitored.If the PC CPU of the master station is the QnACPU, however, the only devices which can be monitored are the B and W devices assigned with the link parameter.
- Local stations cannot be monitored.
  When settings are entered for the monitor device, the settings for the NW number and station number should be entered as shown below.
  When monitoring the B and W devices assigned with the link parameter:
  Set NW number to 0 and local station to host station
  When monitoring any device other than the B and W devices assigned with the link parameter:
  Set NW number to 0 and station number to other station (station number: 0)

(c) Setting the monitor device

The following illustration shows an example of how the NW number and station numbers are set when setting a monitor device.



① When monitoring a connected station (host station) and the B and W devices assigned with the link parameter

Set NW number to 0 and local station to host station

② When monitoring devices of another station

Set NW number to 0 and local station to (see table below).

Station connected to GOT \ Station being accessed	M	L1	L2 m	L3	ℓ1	ℓ2	ℓ3
M	Host station	Other station 1	Other station 2	Other station 3	—	—	—
L1	Other station 0	Host station	—	—	—	—	—
L2 m	Other station 0	—	Host station	—	Other station 1	Other station 2	—
L3	Other station 0	—	—	Host station	—	—	—
ℓ1	—	—	Other station 0	—	Host station	—	—
ℓ2	—	—	Other station 0	—	—	Host station	—
ℓ3 (GOT)	—	—	Other station 0	—	—	—	—

(2) Access Ranges for Network Systems That Can be Monitored

(a) For a bus connection (when the A7GT-BUS Version B, the A7GT-BUS2 Version A or each later version is being used)

① When the connected station is a QnACPU or AnUCPU (The connected station can be monitored.)

- The control station and all ordinary stations on the network can be monitored.
- The control station and all ordinary stations on another network can be monitored. (When monitoring another network, always set the routine parameters.)
- If the connected station is an intermediate station and is mixed with a data link system, the master station and local stations can be monitored.
- If the connected station is an intermediate station, the data link parameters for the "Unit No. Effective When Accessing Other Stations" (other than the B and W devices assigned with the network parameter) do not need to be set in the PC CPU of the connected station. (If set, the settings will be ignored.)
- When the devices of another station (other than the B and W devices assigned with the network parameter) are being monitored, there may be times when monitoring cannot be done, depending on the PC CPU of the station being monitored.

☞ **See (Example 1), (Example 2).**

② When the connected station is an AnA, or AnNCPU (The connected station can be monitored.)

- The control station on the network can be monitored.

  If the PC CPU of the control station is a QnACPU, however, the only devices which can be monitored are the B and W devices assigned with the network parameter.
- Ordinary stations on the network cannot be monitored.
- Other networks cannot be monitored.

(b) For a bus connection (when the A7GT-BUS Version A is being used)

When using the A850GOT, the A7GT-BUS Version A cannot be used.

When using the A870GOT and the connected station is a QnACPU, the A7GT-BUS Version A cannot be used.

① When the connected station is an AnUCPU (The connected station can be monitored.)

- The control station and all ordinary stations on the network can be monitored.When the devices of another station (other than the B and W devices assigned with the network parameter) are being monitored, however, monitoring cannot be done if the PC CPU of the station being monitored is a QnACPU.
- If the connected station is an intermediate station, the unit number to which the network number being monitored is connected should be set using the data link parameter called "Unit No. Effective When Accessing Other Stations".

② WhenWhen the connected station is an AnA or AnNCPU (The connected station can be monitored.)

- The control station on the network can be monitored.

  If the PC CPU of the control station is a QnACPU, however, the only devices which can be monitored are the B and W devices assigned with the network parameter.

- Ordinary stations on the network cannot be monitored.
- Other networks cannot be monitored.

(c) For CPU direct connections or calculator link connections

① WhenWhen the connected station is a QnACPU

- The access range described in (a) 1 applies.

② WhenWhen the connected station is an AnUCPU

- The access range described in (b) 1 applies.

③ When the connected station is an AnA or AnNCPU

- The access range described in (b) 2 applies.

(d) For MELSECNET/10 connections

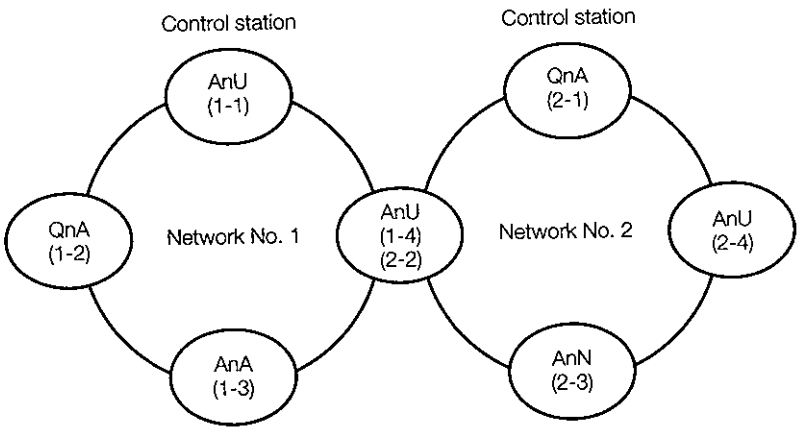
- The GOT acts as an ordinary station, and the control station and all ordinary stations on the network can be monitored.

  However, if the PC CPU being monitored is a QnACPU, monitoring can be done within the AnA device range.

- Other networks cannot be monitored.
- When monitoring devices of other stations (other than the B and W devices assigned with the network parameter), there may be times when monitoring cannot be done, depending on the PC CPU of the station being monitored.

☞ **See (Example 6).**

(Example 1) For bus connections (A7GT-BUS Version B, A7GT-BUS 2 Version A or all subsequent versions)



- Monitoring access ranges of devices of other networks (other than B and W) and other networks

Station being accessed / Station connected to GOT	Network No. 1				Network No. 2			
	AnU (1-1)	QnA (1-2)	AnA (1-3)	AnU (1-4)	QnA (2-1)	AnU (2-2)	AnN (2-3)	AnU (2-4)
AnU (1-1)	O Host station	X	O	O	X	O	X	O
QnA (1-2)	O	O Host station	X	O	O	O	X	O
AnA (1-3)	O	X	O Host station	X	X	X	X	X
AnU (1-4) (2-2)	O	X	X	O Host station	X	O Host station	X	O
QnA (2-1)	O	O	X	O	O Host station	O	O	O
AnN (2-3)	X	X	X	X	X	X	O Host station	X
AnU (2-4)	O	X	X	O	X	O	X	O Host station

O : Can be accessed
X : Can't be accessed

- Setting NW numbers and station numbers when setting monitor devices

  (1) When monitoring the B and W devices of the connected station (host station) assigned with the network parameter

  Set the NW number to 0 and the station number to the host station.

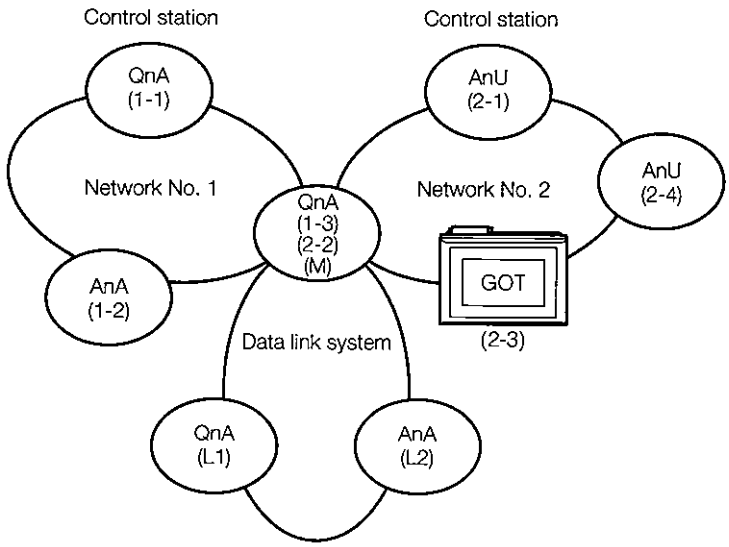
  (2) When monitoring another station (other than B and W) or another network

Station being accessed / Station connected to GOT	Network No. 1				Network No. 2			
	AnU (1-1)	QnA (1-2)	AnA (1-3)	AnU (1-4)	QnA (2-1)	AnU (2-2)	AnN (2-3)	AnU (2-4)
AnU (1-1)	0, host station	—	1, other station (3)	1, other station (4)	—	2, other station (2)	—	2, other station (4)
QnA (1-2)	1, other station (1)	0, host station	—	1, other station (4)	2, other station (1)	2, other station (2)	—	2, other station (4)
AnA (1-3)	0, other station (0)	—	0, host station	—	—	—	—	—
AnU (1-4) (2-2)	1, other station (1)	—	—	0, host station	—	0, host station	—	2, other station (4)
QnA (2-1)	1, other station (1)	1, other station (2)	—	1, other station (4)	0, host station	2, other station (2)	2, other station (3)	2, other station (4)
AnN (2-3)	—	—	—	—	—	—	0, host station	—
AnU (2-4)	1, other station (1)	—	—	1, other station (4)	—	2, other station (2)	—	0, host station

How to read the table: 2 , other station (2)

NW no. setting Station no. setting

(Example 2) For bus connections (A7GT-BUS Version B, A7GT-BUS 2 Version A or all subsequent versions)



- Monitoring access ranges of devices of other networks (other than B and W) and other networks

Station connected to GOT \ Station being accessed	Network No. 1			Network No. 2				Data link system		
	QnA (1-1)	AnA (1-2)	QnA (1-3)	AnU (2-1)	QnA (2-2)	GOT (2-3)	AnU (2-4)	QnA (M)	QnA (L1)	AnA (L2)
QnA (1-1)	O Host station	O	O	O	O	—	O	O	X	X
AnA (1-2)	X	O Host station	X	X	X	—	X	X	X	X
QnA (1-3) (2-2) (M)	O	X	O Host station	O	O Host station	—	O	O Host station	X	O
AnU (2-1)	X	X	X	O Host station	X	—	O	X	X	X
GOT (2-3)	X	X	X	O	△	—	O	△	X	X
AnU (2-4)	X	X	X	O	X	—	O Host station	X	X	X
QnA (L1)	X	X	X	X	X	—	X	X	O Host station	X
AnA (L2)	X	X	X	X	X	—	X	X	X	O Host station

O: Can be accessed
△: Access possible within AnA range (for T/C, the range is 0 ~ 255)
×: Can't be accessed

- Setting NW numbers and station numbers when setting monitor devices

  (1) When monitoring the B and W devices of the connected station (host station) assigned with the network parameter

  Set the NW number to 0 and the station number to the host station.

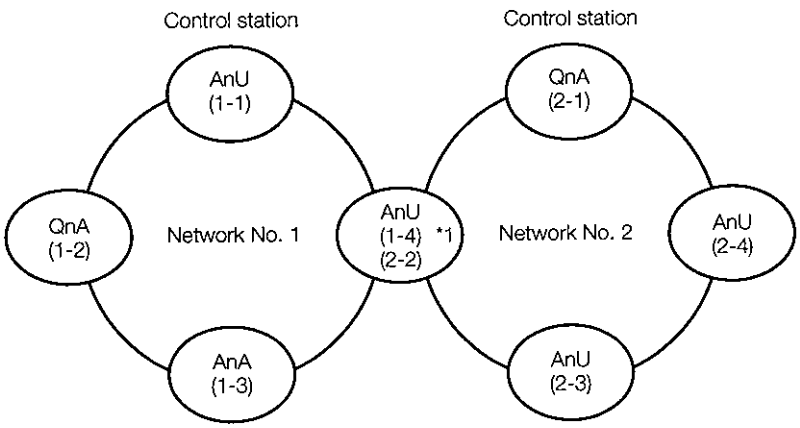
  (2) When monitoring another station (other than B and W) or another network

Station being accessed / Station connected to GOT	Network No. 1			Network No. 2				Data link system		
	QnA (1-1)	AnA (1-2)	QnA (1-3)	AnU (2-1)	QnA (2-2)	GOT (2-3)	AnU (2-4)	QnA (M)	QnA (L1)	AnA (L2)
QnA (1-1)	0, host station	1, other station (2)	1, other station (3)	2, other station (1)	2, other station (2)	–	2, other station (4)	1, other station (3) or 2, other station (2)	–	–
AnA (1-2)	–	0, host station	–	–	0, host station	–	–	–	–	–
(1-3) QnA (2-2) (M)	1, other station (1)	–	0, host station	2, other station (2)	0, host station	–	2, other station (4)	0, host station	–	0, other station (2) *1
AnU (2-1)	–	–	–	0, host station	–	–	2, other station (4)	–	–	–
GOT (2-3)	–	–	–	0, other station (1)	0, other station (2)	–	0, other station (4)	0, other station (2)	–	–
AnU (2-4)	–	–	–	2, other station (1)	–	–	0, host station	–	–	–
QnA (L1)	–	–	–	–	–	–	–	–	0, host station	–
AnA (L2)	–	–	–	–	–	–	–	–	–	0, host station

*1 When monitoring a data link system, set the NW No. to 0.

How to read the table: 2 (NW no. setting), other station (2) (Station no. setting)

(Example 3) For bus connections (when using a QnACPU with A7GT-BUS Version B, A7GT-BUS 2 Version A or each later version, or when using an AnUAnA or AnNCPU with A7GT-BUS Version A)



*1. The data link parameter called "Unit No. Effective When Accessing Other Station" should be set to the unit number connected to Network No. 1.

- Monitoring access ranges of devices of other networks (other than B and W) and other networks

Station being accessed / Station connected to GOT	Network No. 1				Network No. 2			
	AnU (1-1)	QnA (1-2)	AnA (1-3)	AnU (1-4)	QnA (2-1)	AnU (2-2)	AnN (2-3)	AnU (2-4)
AnU (1-1)	O Host station	X	O	O	X	X	X	X
QnA (1-2)	O	O Host station	X	O	O	O	X	O
AnA (1-3)	O	X	O Host station	X	X	X	X	X
AnU (1-4) (2-2)	O	X	X	O Host station	X	O Host station	X	X
QnA (2-1)	O	O	X	O	O Host station	O	O	O
AnN (2-3)	X	X	X	X	X	X	O Host station	X
AnU (2-4)	X	X	X	X	X	O	X	O Host station

O : Can be accessed
X : Can't be accessed

- Setting NW numbers and station numbers when setting monitor devices

  (1) When monitoring the B and W devices of the connected station (host station) assigned with the network parameter

  Set the NW number to 0 and the station number to the host station.

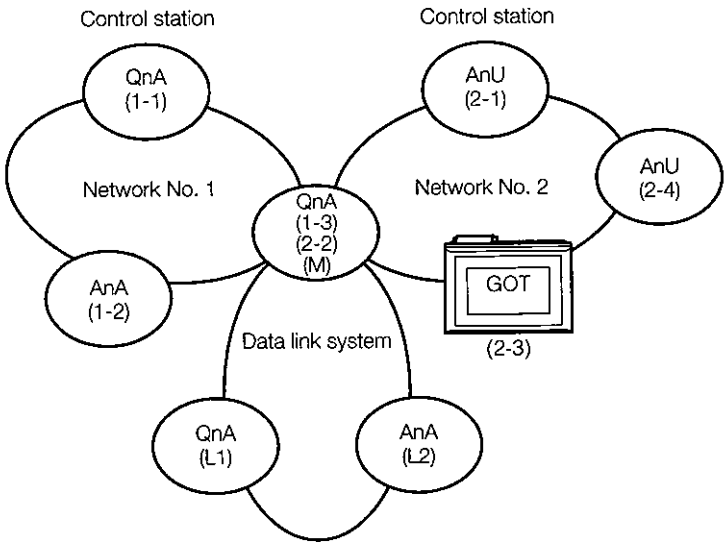
  (2) When monitoring another station (other than B and W) or another network

Station being accessed / Station connected to GOT	Network No. 1				Network No. 2			
	AnU (1-1)	QnA (1-2)	AnA (1-3)	AnU (1-4)	QnA (2-1)	AnU (2-2)	AnN (2-3)	AnU (2-4)
AnU (1-1)	0, host station	–	0, other station (3)	0, other station (4)	–	0, other station (4)	–	–
QnA (1-2)	1, other station (1)	0, host station	–	1, other station (4)	2, other station (1)	2, other station (2)	–	2, other station (4)
AnA (1-3)	0, other station (0)	–	0, host station	–	–	–	–	–
AnU (1-4) (2-2)	0, other station (1)	–	–	0, host station	–	0, host station	–	–
QnA (2-1)	1, other station (1)	1, other station (2)	–	1, other station (4)	0, host station	2, other station (2)	2, other station (3)	2, other station (4)
AnN (2-3)	–	–	–	–	–	–	0, host station	–
AnU (2-4)	–	–	–	–	–	0, other station (2)	–	0, host station

How to read the table: 2 , other station (2)

NW no. setting Station no. setting

(Example 4) For bus connections (when using a QnACPU with A7GT-BUS Version B, A7GT-BUS 2 Version A or each later version, or when using an AnUAnA or AnNCPU with A7GT-BUS Version A)



- Monitoring access ranges of devices of other networks (other than B and W) and other networks

Station connected to GOT \ Station being accessed	Network No. 1			Network No. 2				Data link system		
	QnA (1-1)	AnA (1-2)	QnA (1-3)	AnU (2-1)	QnA (2-2)	GOT (2-3)	AnU (2-4)	QnA (M)	QnA (L1)	AnA (L2)
QnA (1-1)	O Host station	O	O	O	O	—	O	O	X	X
AnA (1-2)	X	O Host station	X	X	X	—	X	X	X	X
QnA (1-3) (2-2) (M)	O	X	O Host station	O	O Host station	—	O	O Host station	X	O
AnU (2-1)	X	X	X	O Host station	X	—	O	X	X	X
GOT (2-3)	X	X	X	O	△	—	O	△	X	X
AnU (2-4)	X	X	X	O	X	—	O Host station	X	X	X
QnA (L1)	X	X	X	X	X	—	X	X	O Host station	X
AnA (L2)	X	X	X	X	X	—	X	X	X	O Host station

O: Can be accessed
△: Access possible within AnA range (for T/C, the range is 0 ~ 255)
×: Can't be accessed

- Setting NW numbers and station numbers when setting monitor devices

  (1) When monitoring the B and W devices of the connected station (host station) assigned with the network parameter

  Set the NW number to 0 and the station number to the host station.

  (2) When monitoring another station (other than B and W) or another network

Station being accessed / Station connected to GOT	Network No. 1			Network No. 2				Data link system		
	QnA (1-1)	AnA (1-2)	QnA (1-3)	AnU (2-1)	QnA (2-2)	GOT (2-3)	AnU (2-4)	QnA (M)	QnA (L1)	AnA (L2)
QnA (1-1)	0, host station	1, other station (2)	1, other station (3)	2, other station (1)	2, other station (2)	–	2, other station (4)	1,other station (3) or 2,other station (2)	–	–
AnA (1-2)	–	0, host station	–	–	–	–	–	–	–	–
(1-3) QnA (2-2) (M)	1, other station (1)	–	0, host station	2, other station (1)	0, host station	–	2, other station (4)	0, host station	–	0, other station (2) *1
AnU (2-1)	–	–	–	0, host station	–	–	2, other station (4)	–	–	–
GOT (2-3)	–	–	–	0, other station (1)	0, other station (2)	–	0, other station (4)	0, other station (2)	–	–
AnU (2-4)	–	–	–	2, other station (1)	–	–	0, host station	–	–	–
QnA (L1)	–	–	–	–	–	–	–	–	0, host station	–
AnA (L2)	–	–	–	–	–	–	–	–	–	0, host station

*1 When monitoring a data link system, set the NW No. to 0.

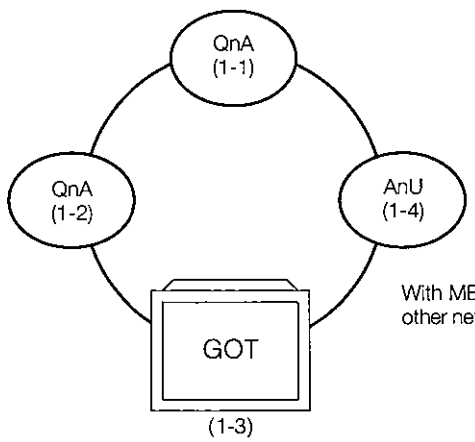
How to read the table: 2 (NW no. setting) , other station (2) (Station no. setting)

(Example 5) For CPU direct connection and calculator link connection

- The monitoring access range for devices of other stations (other than B and W) and other networks is the same as that listed in Example 3 and Example 4.
- Setting the NW number and station number for monitor devices

  The settings for the NW number and station number for monitor devices are the same as those listed in Example 3 and Example 4.

(Example 6) For MELSECNET/10 connections



With MELSECNET/10 connections, other networks cannot be monitored.

- Monitoring access ranges for devices of other stations (other than B and W)

Station being accessed / Station connected to GOT	QnA (1-1)	QnA (1-2)	GOT (1-3)	AnU (1-4)
GOT (1-3)	△	△	—	○

○: Can be accessed
△: Access possible within AnA range (for T/C, the range is 0 ~ 255)
×: Can't be accessed

- Setting NW numbers and station numbers when setting monitor devices

  (1) When monitoring the B and W devices of the connected station (host station) assigned with the network parameter

  Set the NW number to 0 and the station number to the host station.

  (2) When monitoring another station (other than B and W)

Station being accessed / Station connected to GOT	QnA (1-1)	QnA (1-2)	GOT (1-3)	AnU (1-4)
GOT (1-3)	0, other station (1)	0, other station (2)	—	0, other station (4)

How to read the table: 0 (NW no. setting) , other station (2) (Station no. setting)

3.2.3 Names of devices which can be monitored

(1) With a MELSEC-ACPU

Bit devices which can be monitored

Device name	Range of monitors which can be set
Input (X)	X0 ~ X1FFF
Output (Y)	Y0 ~ Y1FFF
Internal relay (M)	M0 ~ M8191
Annunciator (F)	F0 ~ F2047
Link relay (B)	B0 ~ B1FFF
Special internal relay (M)	M9000 ~ M9255
Timer	T0 ~ T2047
Counter	C0 ~ C1023
Word device bit	Specified bit of word device noted above (except for index register and buffer memories)
GOT bit register (GB)	GB0 ~ 1023

Word devices which can be monitored

Device name		Range of monitors which can be set
Data register (D)		D0 ~ D8191
Special data register (D)		D9000 ~ D9255
Link register (W)		W0 ~ W1FFF
Timer (current value) (T)		T0 ~ T2047
Counter (current value) (C)		C0 ~ C1023
File register (R)		R0 ~ R8191
Expanded file register (ER)	Block	1 ~ 255
	Device	R0 ~ R8191
Index register	(Z)	Z0 ~ Z6 (Z0 = Z)
	(V)	V0 ~ V6 (V0 = V)
Accumulator (A)		A0 ~ A1
Buffer memory (special function unit) (BM)		BM0 ~ BMn (*1)
GOT data register (GD)		GD0 ~ GD1023

*1. This can be specified only for the special function unit of a station connected to the A870GOT.

It should be specified as a value within the address range of the buffer memory existing in the applicable special function unit.

(2) With a MELSEC-QnACPU

Bit devices which can be monitored

Device name	Range of monitors which can be set
Input (X)	X0 ~ X1FFF
Output (Y)	Y0 ~ Y1FFF
Internal relay (M)	M0 ~ M32767
Annunciator (F)	F0 ~ F32767
Link relay (B)	B0 ~ B7FFF
Timer	T0 ~ T32767
Counter	C0 ~ C32767
Special relay (SM)	SM0 ~ SM2047
Word device bit	Specified bit of word device noted above (except for index register and buffer memories)
GOT bit register (GB)	GB0 ~ 1023

Word devices which can be monitored

Device name		Range of monitors which can be set
Data register (D)		D0 ~ D32767
Special register (SD)		SD0 ~ SD2047
Link register (W)		W0 ~ W7FFF
Timer (current value) (T)		T0 ~ T32767
Counter (current value) (C)		C0 ~ C32767
File register (R)		R0 ~ R32767 (*1)
Expanded file register (ER)	Block	0 ~ 31
	Device	R0 ~ 32767
Expanded file register (ZR)		ZR0 ~ ZR1042431 (*2)
Index register (Z)		Z0 ~ Z15
Buffer memory (special function unit((BM)		BM0 ~ BMn (*3)
GOT data register (GD)		GD0 ~ GD1023

*1. This applies to the file registers of blocks switched using the RSET instruction.

*2. This applies to the file registers of blocks switched using the QFRSET instruction.

*3. This can be specified only for the special function unit of a station connected to the A879GOT.

It should be specified as a value within the address range of the buffer memory existing in the applicable special function unit.

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.

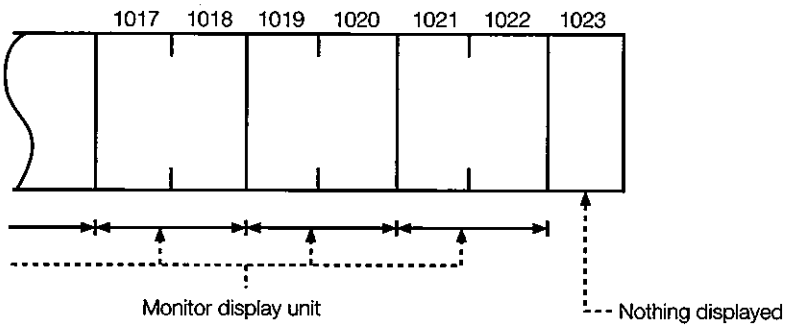
Monitoring of word devices that save real number data is all done by integer data (binary data).

(2) Monitoring in 32-bit units

When monitoring word devices (such as T, C, D, W) in 32-bit (2-word) units, 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 units beginning with an odd number (D1, D3...):



3.3 Special Unit Monitor Function Specifications

3.3.1 Access ranges which can be monitored

(1) With a bus connection, CPU direct connection, or calculator link connection

- A special function unit on the base of a connected station can be monitored.
- Special function units on the bases of other stations cannot be monitored.

(2) With a MELSECNET (II) connection or MELSECNET/B connection

- A special function unit on the base of a master station can be monitored.
- Special function units on the bases of local stations cannot be monitored.

(3) With a MELSECNET/10 connection

- A special function unit on the base of a control station can be monitored.
- Special function units on the bases of ordinary stations cannot be monitored.

3.3.2 Special Function Units That Can Be Monitored

The units for which special function monitoring can be done are only those types shown in Section 3.3.3.

Monitoring of special function units other than those can be done with the system monitor function "BM Monitor".

3.3.3 Memory Capacity Required for Using the Special Unit Monitor Function

The memory capacity required when saving special unit monitor data to the A870GOT built-in memory and the memory capacity required when saving to a PC hard disk are shown below.

(Unit: kilobytes)

Software to be saved	Memory capacity required when saving to A870GOT built-in memory	Memory capacity required when saving to PC hard disk	Remarks
Special unit monitor data	—		
A61LS	20.0		
AD61	11.0		
A62DA-S1	8.1		
S62LS	95.0		———
A68AD (S2)	12.0		
A68ADN	19.0		
A68RD3 A68RD4	22.0		
A616AD	140.0		
A616DAI	20.0		
A616DAV	20.0		By merely downloading either, both sides can be monitored.
A616TD	260.0		
AD70	28.0		
AD70D	40.0		
AD71 (S1/S2/S7)	740.0		
AD72 A1SD71-S2 (S7)	750.0		
AD75P1 (P2/P3)	470.0		
AJ71PT32-S3	63.0		———
AJ71ID1 (ID2)-R4	43.0		
A84AD	26.0		
A1SD61	51.0		
S1S62DA	4.1		
A1S62RD	16.0		
A1S63ADA	22.0		
A1S64AD	15.0		
A1S68AD	12.0		

Software to be saved	Memory capacity required when saving to A870GOT built-in memory	Memory capacity required when saving to PC hard disk	Remarks
Special unit monitor data	—		———
A1S68DAI	16.0		By merely downloading either, both sides can be monitored.
A1S68DAV	16.0		
A1SD70	28.0		———
A1SJ71JPT32-S3	63.0		
A1SJ71 (ID1)(ID2)-R4	43.0		
A1SD75P1 (P2/P3)	470.0		
Input unit	0.0		
Output unit	0.0		

3.3.4 Precautions When Using the Special Unit Monitor Function

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

(1) Special function units that cannot be monitored

Units displayed as "special" on the system configuration screen cannot be monitored using the special unit monitor function.

To monitor these units, use the system monitor function "BM Monitor".

(2) Display when connecting the small building-block type PC CPU

This precaution pertains to a situation where an expansion base unit for a building block type of setup is connected to a small building-block type CPU (such as the A1SCPU) in a station connected to the A870GOT.

In such a case, the special function unit on the 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 unit.

If there is no small building-block type special function unit, "special" is displayed and the applicable unit cannot be monitored.

(Example)

With the AD70, "A1SD70" is displayed on the system configuration screen.

(3) Monitoring restricted special function units

(a) When monitoring the AD71 (S1, S2, S7)

When the slot on front of the AD71 unit 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 applicable 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 AD71 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."

(b) When monitoring the AD61 installed in the small building-block type PC CPU

With the A870GOT, the AD61 that is installed in the expansion base unit for the building-block type setup connected to the small building-block type CPU (such as the A1SCPU) is recognized as the A1SD61 and monitored as such.

Since the buffer memory composition of the AD61 and the A1SD61 is not the same, different data is displayed on the screen when monitoring the AD61.

* An AD61 that is installed in the base unit of the building-block type PC CPU (such as the AnUCPU) can be monitored normally.

(c) When monitoring the A81CPU

The A81CPU is monitored in the following way.

	64 points in first half	64 points in last half
Treatment of A81CPU	Change to unit that cannot be monitored.	Change to input unit.
System configuration screen	Display "X, Y □"	Display "Input 64 X □"
Possibility of monitoring	Not possible	Can be monitored as input.

(d) When monitoring an I/O composite unit

1) With an I/O composite unit 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 PC CPU device with the system monitor function.

(4) Editing and allocating of special unit monitor data.

Monitor screen data for the special unit monitor function cannot be edited and cannot be allocated to monitor screens created by the user. Monitoring should be done using the various monitor functions as they are set when the unit is shipped.

MEMO

Circuit Monitor Function Operation Manual

The Circuit Monitor Function Operation Manual gives a summary of the procedures for using the circuit monitor function and describes the method of operating the circuit monitor function.

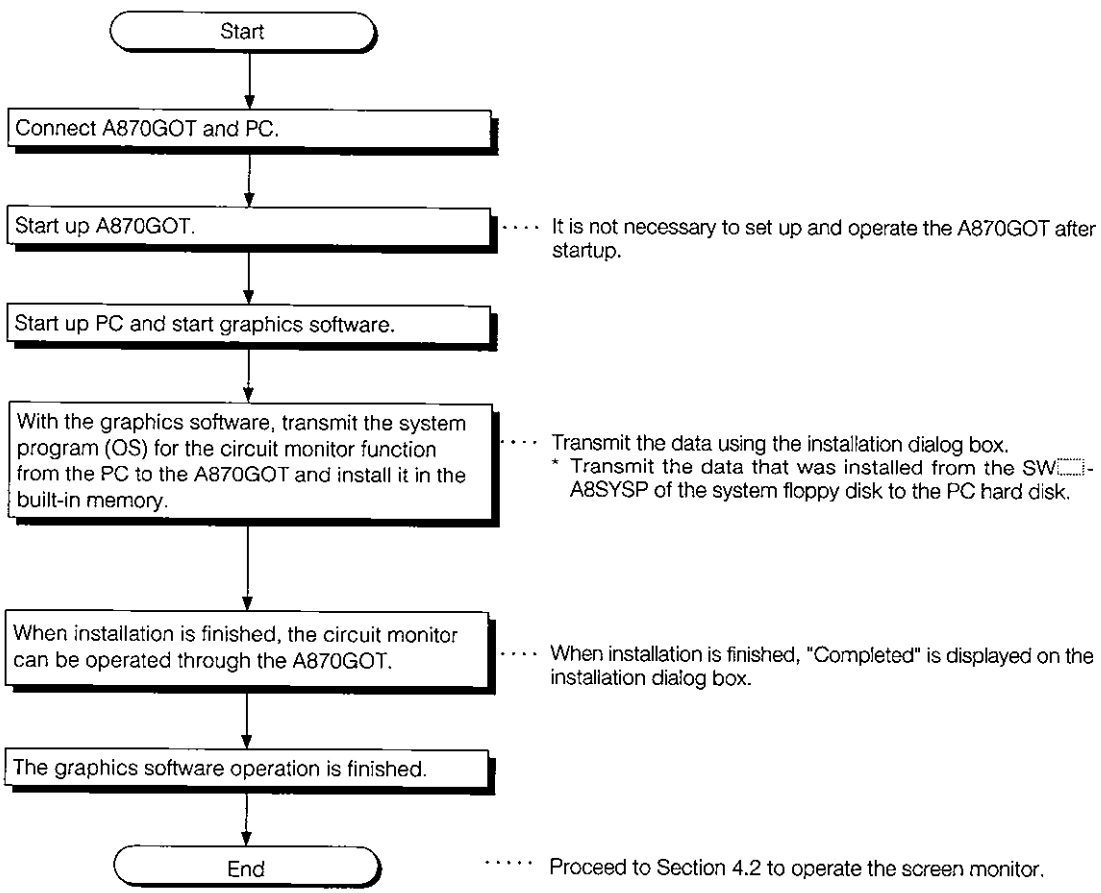
4. Operating Procedures for the Circuit Monitor Function

The operating procedures to follow when using the circuit monitor function are explained in the following sections.

4.1 Operating Procedures Before Starting Circuit Monitoring

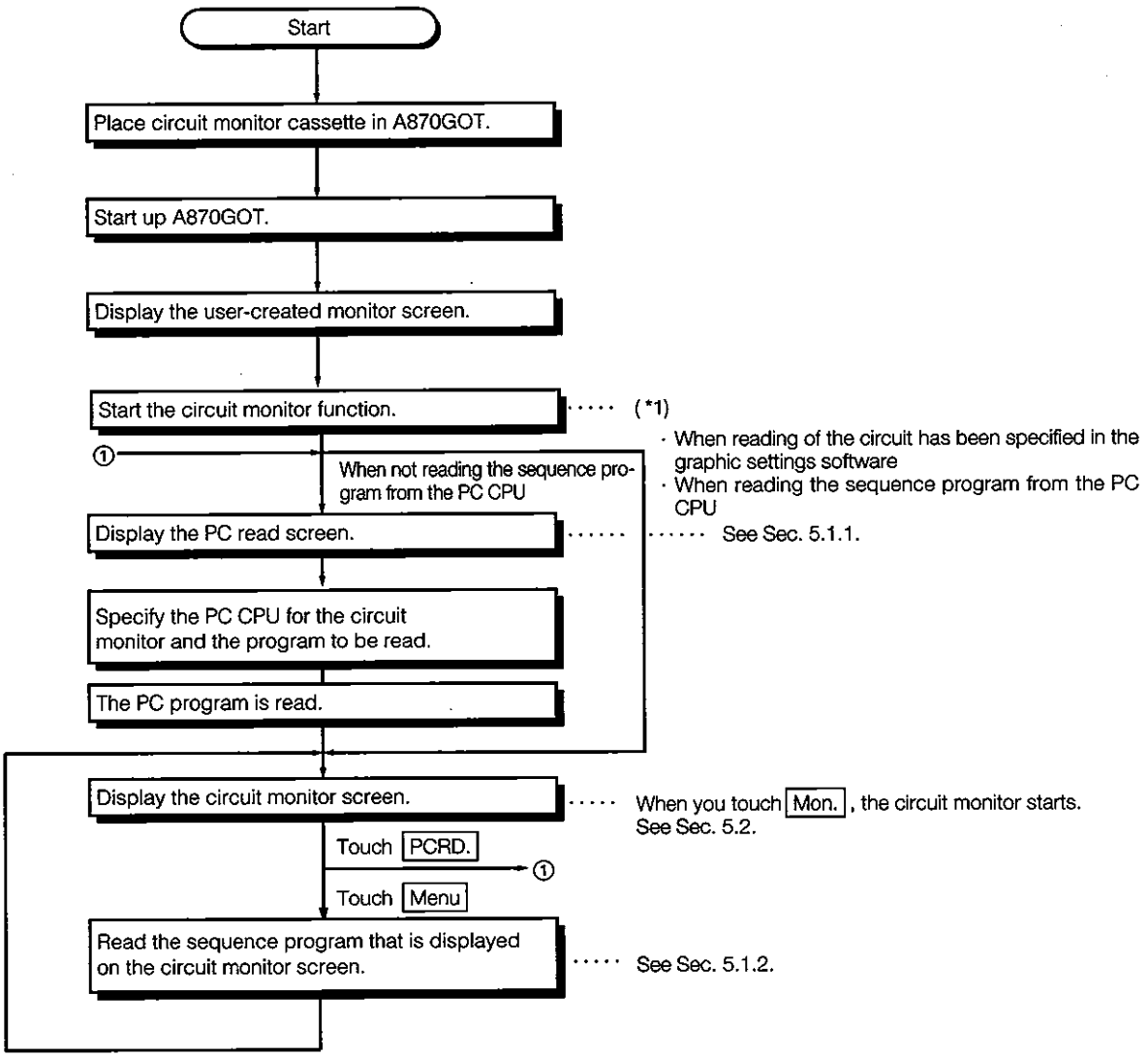
This section contains a summary of the procedures for transmitting the system program (OS) for the circuit monitor function from the PC to the A870GOT until it is installed in the built-in memory.

For details, please refer to the A8GOTP Operating Manual (Data Transmission, Debugging, Document Creation Manual). Details of the screen display and key operation are shown below.



4.2 Operating Procedure from Display of User-Created Monitor Screen to Start of Circuit Monitoring

This section shows the operating procedures for the A870GOT when starting each operation of the circuit monitor function after the circuit monitor function system program (OS) has been installed in the A870GOT built-in memory.



*1 With the graphics software, touch the key where the touch switch (expanded) function is set, and start the circuit monitor function.

When the Utility Menu screen is displayed, start the circuit monitor function by touching LADDER MON. .

5. Operating the Various Circuit Monitor Screens

The following sections describe each screen operation when using the circuit monitor function.

5.1 Screen Operation and Screen Changes When Monitoring

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

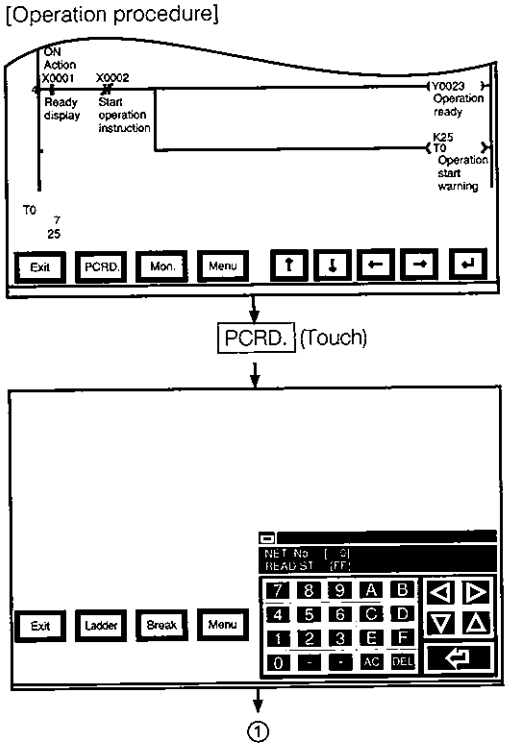
5.1.1 Reading Data From the PC

The operation of reading the sequence program for the circuit monitor from the PC CPU is described below.

All of the keys used with the operation are touch keys displayed on the screen. Touch the position where the applicable key is displayed and enter the data.

> **POINT**
>
> If circuit readout has been specified with the graphic settings software, this step does not need to be carried out. When circuit readout has been specified, touch the icon for the circuit monitor on the Utility screen, or touch the key specifying the touch key (expanded) function.
>
> If key words have been specified in the PC CPU, however, please be aware that the circuit monitor screen will not be displayed even if circuit readout is specified; instead, the PC readout screen will be displayed.

[Operation procedure]



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

> When the circuit monitor function starts up, execution begins from the specified operation with the network no. and PC no. of the applicable PC CPU noted below.

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

(1) Specify the network no. and PC no. for the applicable PC CPU. (*1)

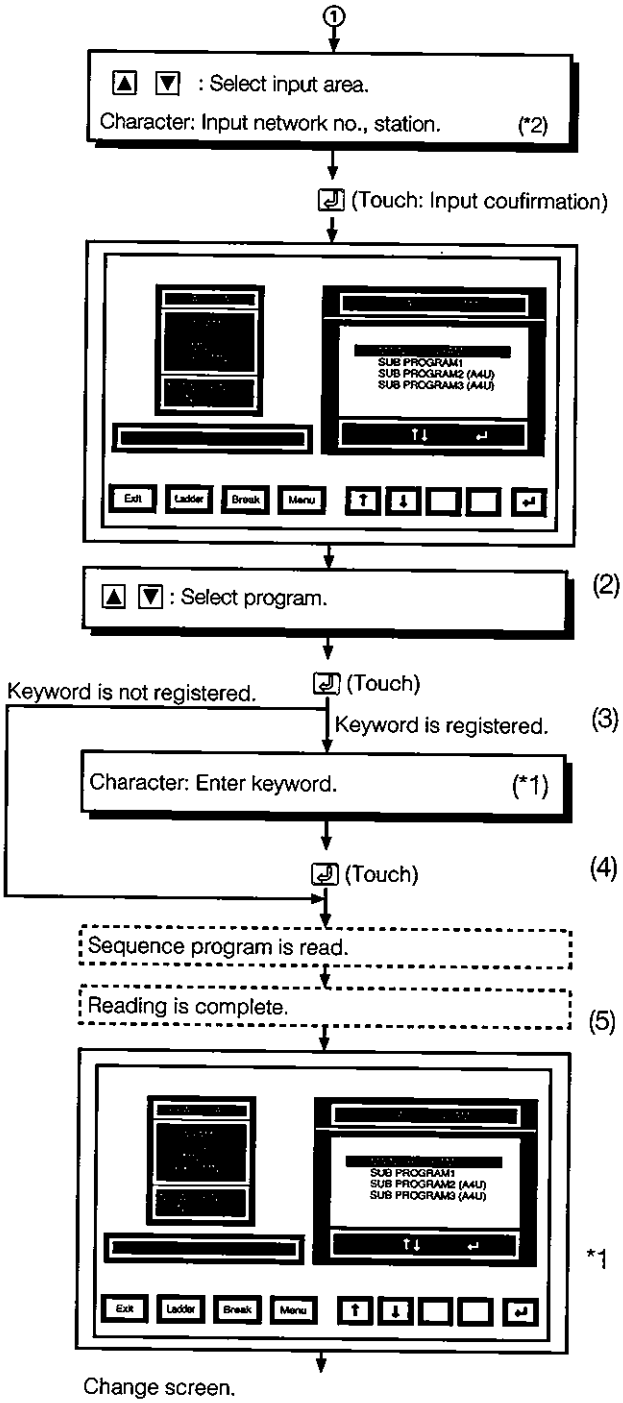
(For data link system)

Network no. : 0

PC no. : FF (Host station)

0 (Master station)

1-64 (Local stations)



Exit : Moves to screen where circuit monitor function starts.

Ladder : Moves to circuit monitor screen.

PCRD. : Moves to PC read screen.

(For network system)

Network no. : 0 (Host loop)

PC no. : FF (Host station)

0 (Control station)

1-64 (Normal stations)

(2) In "Read Program", specify the sequence program to be read from the applicable station.

(3) Input the keyword that is registered to that station.

If no keyword has been registered, nothing has to be entered.

(4) 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.

(5) "Finished" is displayed.

*1 Set "0" for the network no.

For the PC no., with either system, show the PC CPU to be accessed, or specify "0" ~ "64".

*2 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.

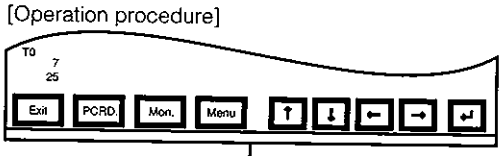
POINT

Once this data has been read from the PC, 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.

5.1.2 Circuit Read Operation

This section describes the applicable sequence program of the circuit monitor that is read from the PC CPU, for the operation displayed on the circuit monitor screen.

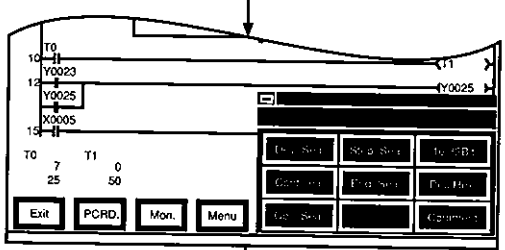
[Operation procedure]



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

Menu (Touch)

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



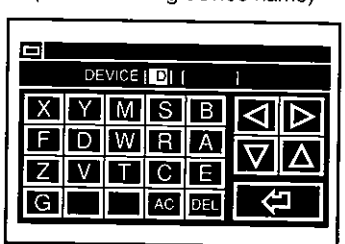
The circuit read operation is executed.

When specifying and reading the device, contact point or coil used in the program

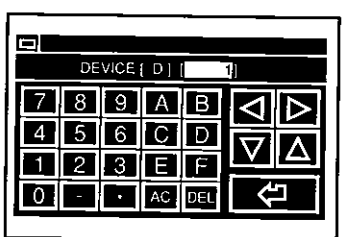
(Touch any of these.)

Dev. Sea. Cont. Sea. Coil. Sea.

(When entering device name)



(When entering device no.)



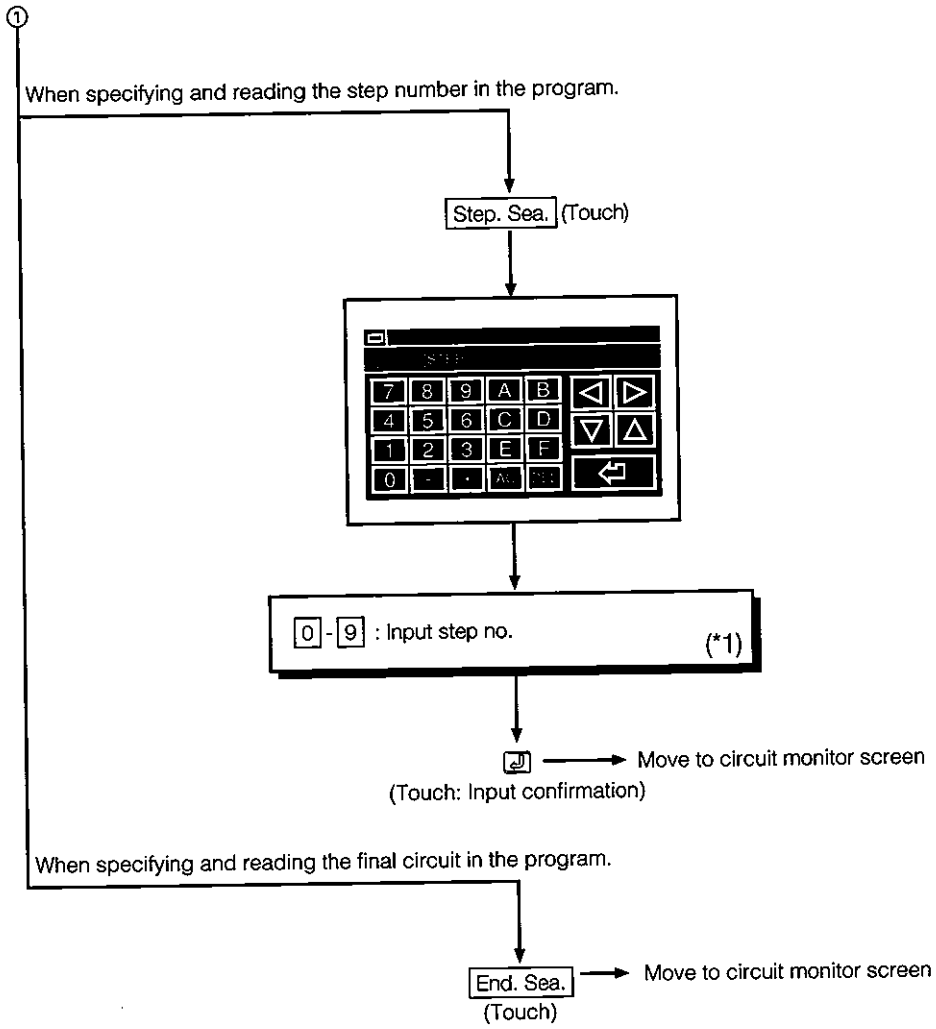
▶ ◀ : Select input area.

Character : Enter network no. and PC no. (*1)

↵ → Move to circuit monitor screen (*2)

(Touch: Input confirmation)

①



*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.

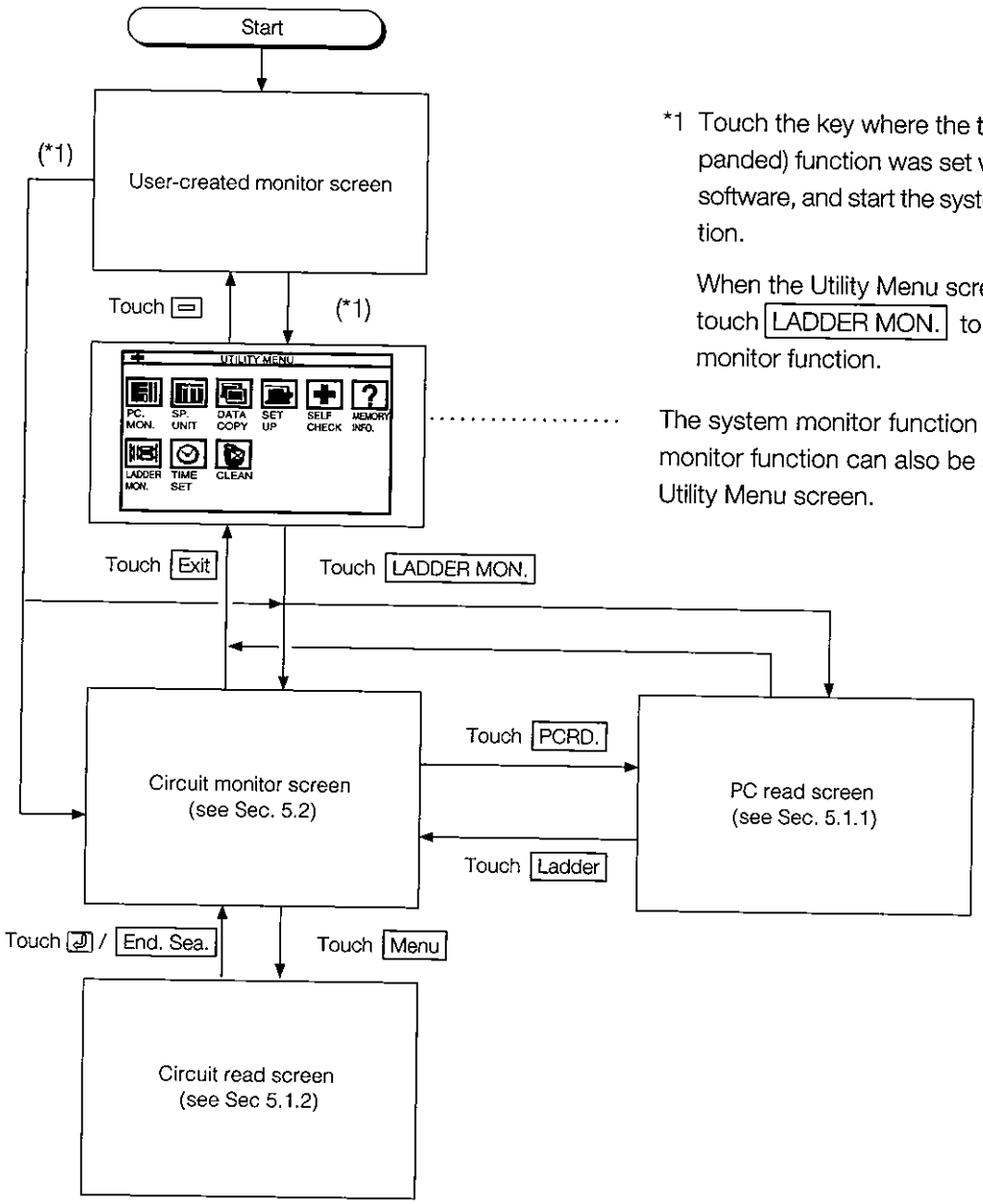
*2 When specifying and reading a device, contact point or coil used in the program, the search targets all programs starting from the step number displayed on the previous circuit monitor screen, to the program immediately previous to the one displayed.

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 cancelled.

5.1.3 Changing From One Screen to Another

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



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

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

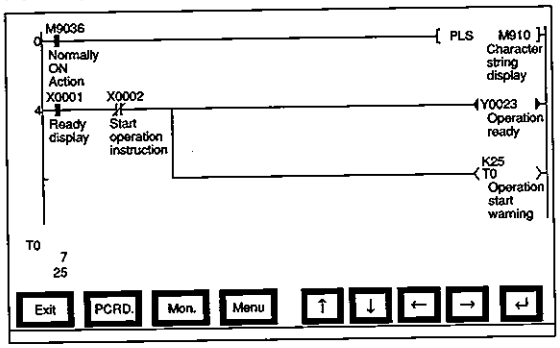
The system monitor function and special unit monitor function can also be started from the Utility Menu screen.

5.2 Circuit Monitor

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

5.2.1 Circuit Monitor Screen Display and Key Functions

(1) Display



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

ON/OFF status display for circuit monitor

- ON status :
- OFF status :

* The MCR command is normally displayed as .

①	Sequence program is displayed. A maximum of 11 contact points is displayed in one line of a circuit; for 12 contact points or more, move to the next line. When a comment display is specified, a comment is also displayed; expanded comments are given priority. (For the method of displaying comments, see Sec. 5.2.2.)
②	A maximum of eight devices is displayed for the word device current value, timer and counter current value (upper row), and set value (lower row). When the set value is an indirect specification, the value of the indirectly specified device is displayed. (To switch between decimal and hexadecimal for the displayed value, see Sec. 5.2.2.)
③	Display the keys used with the operation on the circuit monitor screen shown in (2). (Touch input)

(2) Key functions

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

Key	Function
Exit	Return to screen where circuit monitor function starts.
PCRD.	Move to PC Read screen to read sequence program being monitored from PC CPU. (PC read)
Menu	Move to circuit monitor menu screen, to specify sequence program to be displayed on circuit monitor screen. (Circuit read)
Mon.	Start monitoring of sequence program that is displayed on circuit monitor screen.
→ ←	Switch display device when there are nine or more devices displaying current values and set values.
↑ ↓	Display one circuit; scroll up or down.
↵	When reading circuit with device specification, read next program with same device specification. (See *2 in Sec. 5.1.2.)

POINT

After executing PC Read, if the PC CPU comment or comment capacity is changed, the comment may not be correctly displayed on the circuit monitor screen.

When changing the comment or comment capacity, re-start the A870GOT.

5.2.2 Switching the Display Form (Decimal/Hexadecimal) and Turning the Comment Display On/Off

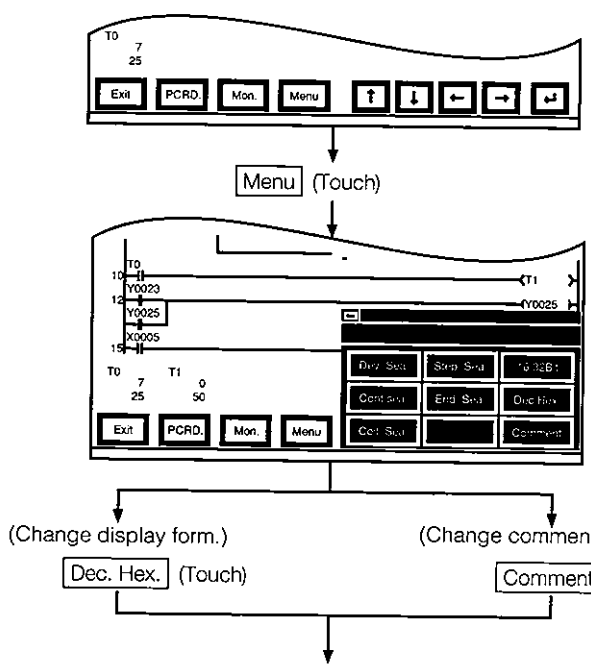
You can switch the display form (decimal/hexadecimal) of the word device value or the timer/counter value that is displayed on the circuit monitor screen. You can also specify whether or not to display a comment for the applicable device.

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 applicable PC CPU. (When no comment is displayed, this turns on the comment display. Comment display priority order: expansion comment > Japanese character comment or Japanese kana comment)

The display change operation is explained below.

[Operation procedure]



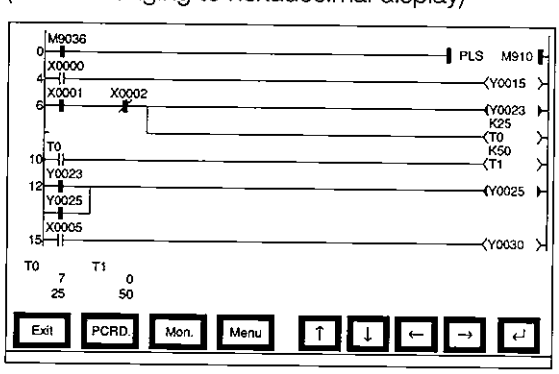
* When there is a ▭ at the upper left of the screen, touch it to return to the original screen.

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

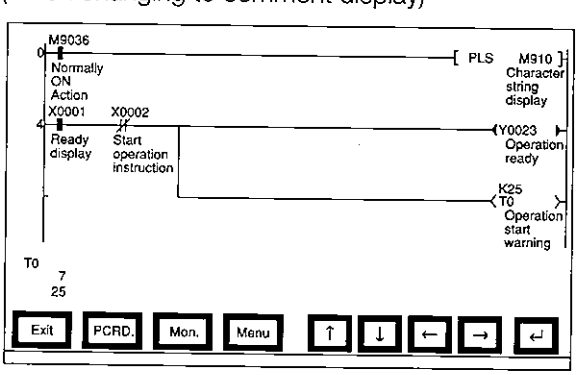
Touch the appropriate display position on the circuit monitor menu.

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

(When changing to hexadecimal display)



(When changing to comment display)



MEMO

6. Error Display and Handling With Circuit Monitoring

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

Error Message	Description	Method of Handling
Keywords do not match.	The specified keyword is different from the keyword that is registered in the applicable PC CPU.	Check the keyword that is registered in the applicable PC CPU and specify again.
No applicable program	An attempt was made to switch to the circuit monitor screen when a sequence program had not been read.	Read the sequence program that is written in the applicable PC CPU. (Ex.) A sub-sequence program can only be specified as A3□CPU/A4UCPU.
Cannot communicate with CPU	Cannot communicate with CPU of the specified network no. or PC no.	Check and correct the following: (1) Does the specified PC CPU exist? (2) Is it online? (Data communication status?) (3) Has an error occurred?

MEMO

System Monitor Function Operation Manual

In the System Monitor Function Operation Manual, the overall procedures for using the system monitor function and the method of operating the system monitor function are explained.

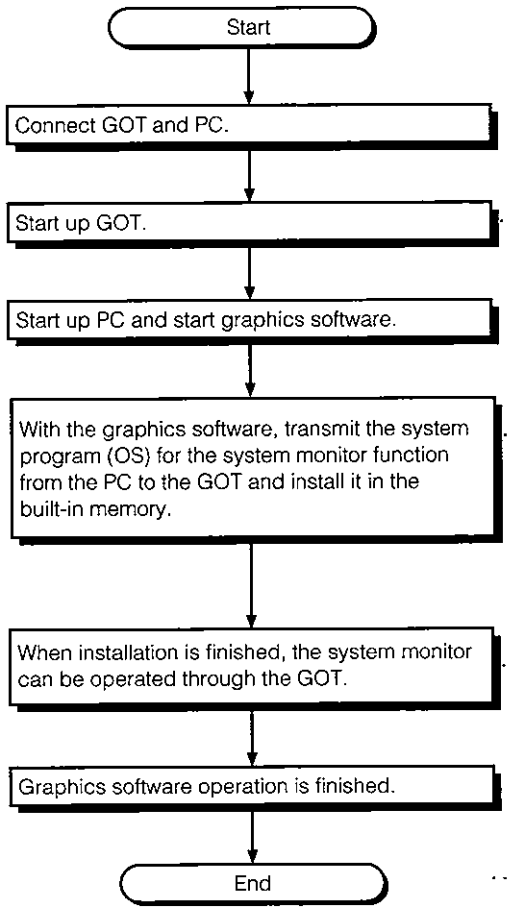
7. Operation Procedure for the System Monitor Function

The operation procedure for using the system monitor function is explained in this section.

7.1 Operation Procedure 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 PC to the GOT until it is installed in the built-in memory.

For details, please refer to the A8GOTP Operation Manual (Data Transmission, Debugging, Document Creation Manual). Details of the screen display and key operation are shown below.



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

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

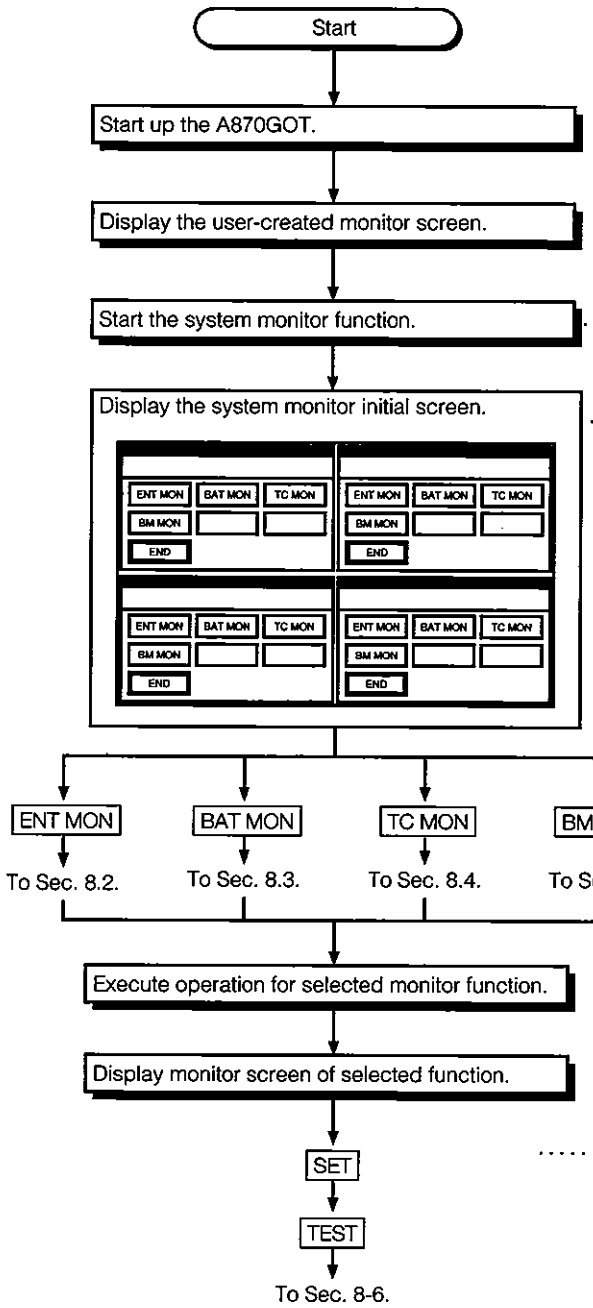
*Transmit the data that was installed from the SW□-A8SYSP of the system floppy disk to the PC hard disk.

···· When installation is finished, "End" is displayed on the installation dialog box.

····· Proceed to Section 7.2 to operate the system monitor.

7.2 Operation Procedure from User-Created Monitor Screen Display to Start of System Monitoring

This section explains the operating 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.



With the A870GOT, the screen is divided to display four windows.
Execute the system monitor operation for each window as shown below.
With the A850GOT, one window is displayed.
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.

Touch display position of selected monitor function.

Refer to Sec. 8.1 for common operations.

The procedure for testing is as follows:

- Set/reset bit device.
- Change current values of word device.
- Change current value, set values of T or C.

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

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

8. Operation of the Various System Monitor Screens

This chapter contains an explanation of each screen operation when using the system monitor function.

POINT

If the A870GOT is being used, with any of the four windows, when using 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.

8.1 Screen Configuration, Common Operations and Changing Screens When Monitoring

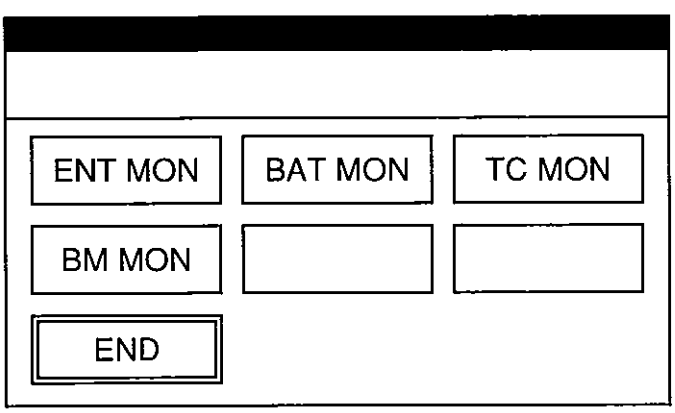
The common operations of each monitor function such as screen configuration and target PC CPU specification when executing system monitoring are described below.

8.1.1 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.

With the A870GOT, the following four windows are displayed. (One A85□ is displayed.)

(1) Display



(2) Key functions

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

Key	Function
ENT MON	The entry monitor is executed with the applicable window. (See Sec. 8.2.)
BAT MON	The batch monitor is executed with the applicable window. (See Sec. 8.3.)
TC MON	The timer/counter monitor is executed with the applicable window. (See Sec. 8.4.)
BM MON	The buffer memory monitor is executed with the applicable window. (See Sec. 8.5.)
END	System monitoring ends; display returns to screen for starting system monitor function.

8.1.2 Switching the Display Form (Decimal/Hexadecimal) and Turning the Comment Display On/Off (FORM)

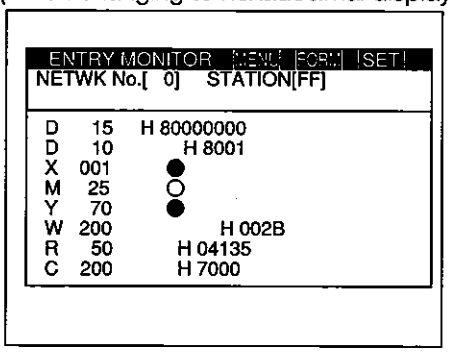
(1) Switching the display form (decimal/hexadecimal)

Display the word device present value or the timer/counter present value or set value in decimal or hexadecimal.

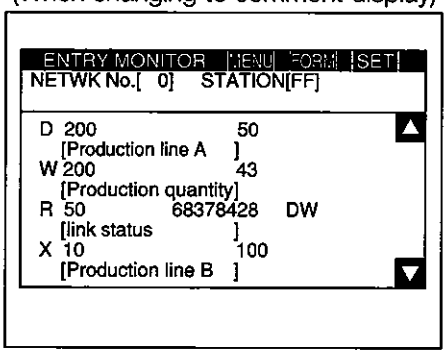
(2) Switching the comment display on and off

Display the comment that is written in the applicable PC CPU. (Comment display priority order: expanded comment > Japanese character comment or Japanese kana comment)

(When changing to hexadecimal display)



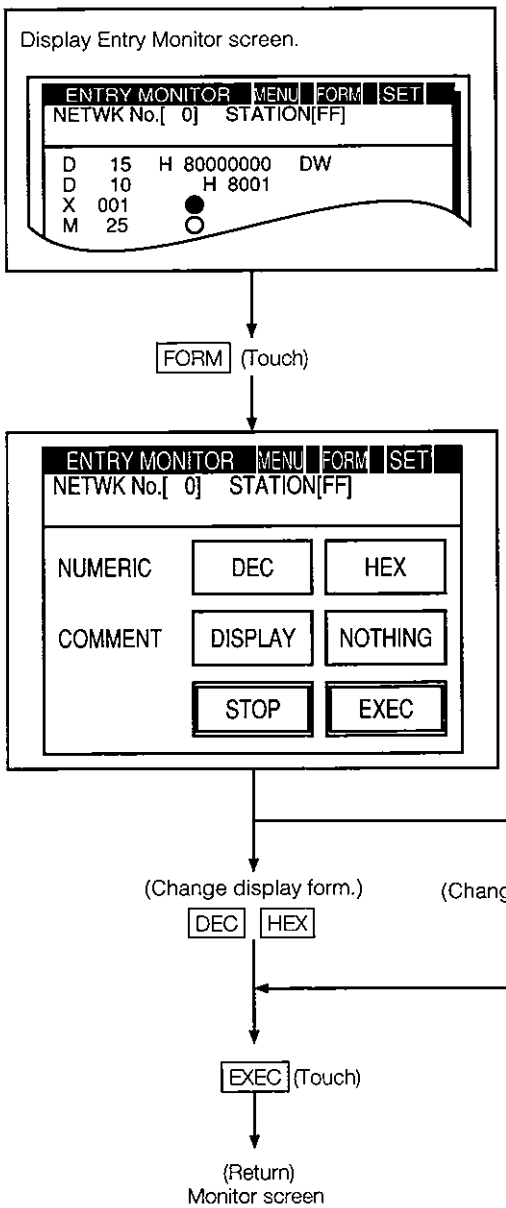
(When changing to comment display)



Below is an explanation of the operation for changing the display, using the Entry Monitor window as an example.

The operating procedure is the same for changing the display when selecting windows other than Entry Monitor.

[Operation procedure]



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

When you touch [SET], the monitor station and device can be specified. (See Sec. 8.1.3.)

When you touch [FORM], you can change this display.

The selected [FORM] display is also found on the screen displayed after selecting the monitor function with the basic screen and on each menu screen, in addition to each monitor screen.

Display monitor station network no. and station.

* When you touch [STOP], the display change is interrupted and the display returns to the monitor screen.

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

POINT

After starting the system monitor, if the PC 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.

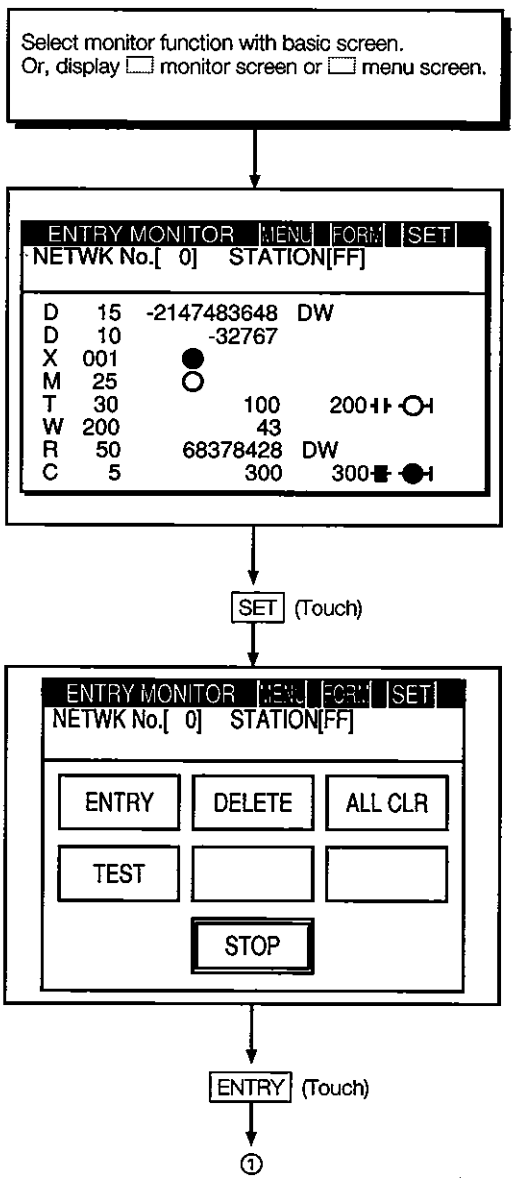
8.1.3 Specifying the Monitor Station and Device (SET)

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 an example.

The operation procedure is the same for specifying the monitor station and device when selecting windows other than Entry Monitor.

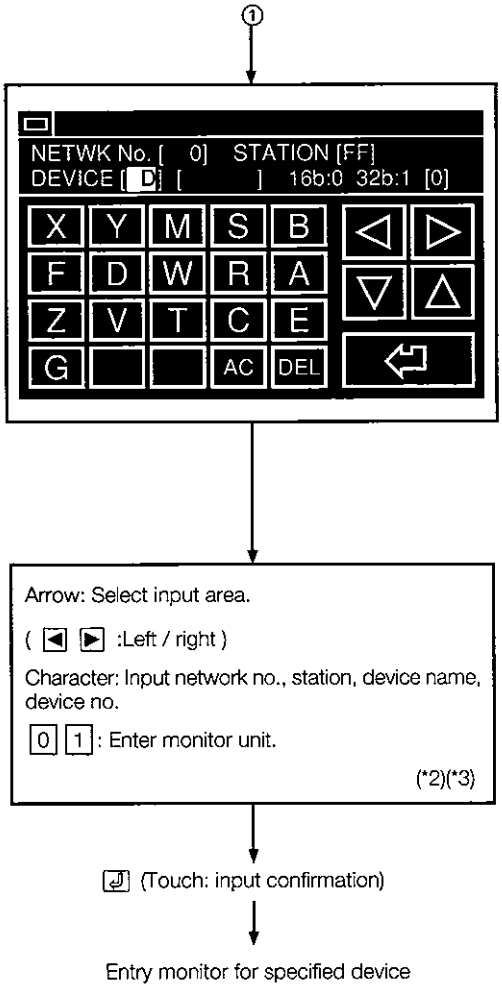
* When there is a ⇦ (keywindow), touching it to returns to the monitor screen.

[Operation procedure]



····· See Sec. 8.1.1.
····· See the explanatory section for each monitor screen and the menu screen.

)···· When you touch MENU you return to the basic screen.
When you touch FORM, you can change this display. (See Sec. 8.1.2.)
When you touch SET, you can specify the monitor station and device.



(1) Specify network no. and station of applicable PC CPU. (*1)

(For data link system)

Network no. : 0

Station : FF (Host station)

0 (Master station)

1-64 (Local station)

(For network system)

Network No.: 0 (Host loop)

1-255 (Specified loop)

Station : FF (Host station)

0 (Control station)

1-64 (Normal station)

(2) Specify the device to be monitored.

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

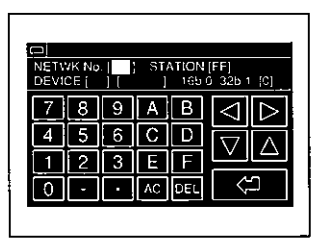
0: 16-bit (1-word) unit

1: 32-bit (2-word) unit

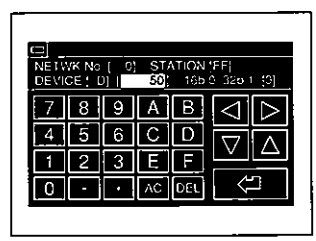
* Match the data to be entered; the touch key display at the bottom of the screen will change.

(Ex.)

(When entering network no.)



(When entering device no.)



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

*2 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.

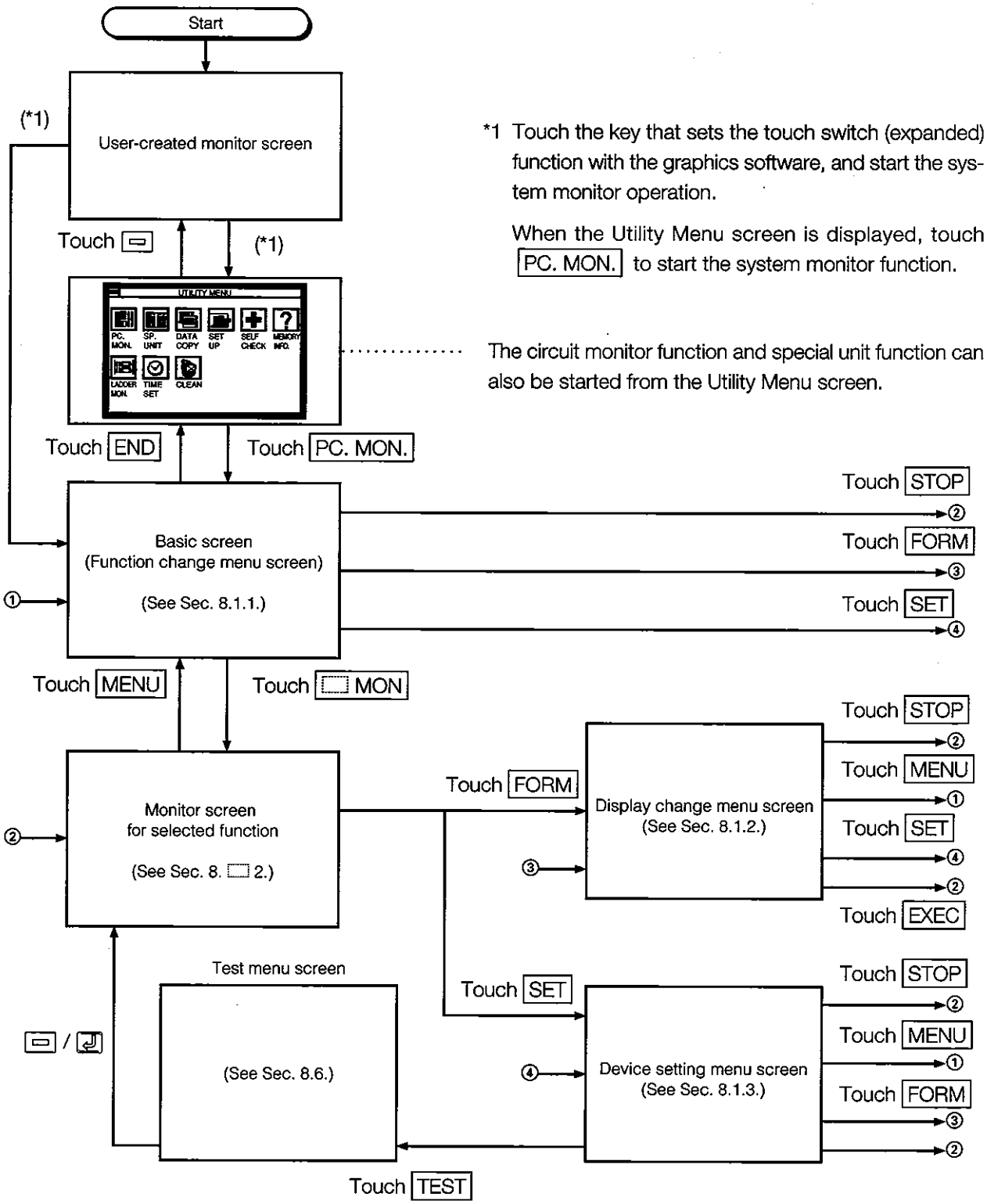
*3 The form of data to be entered is displayed at the right side of the screen.

DEC : Enter in decimal

HEX : Enter in hexadecimal

8.1.4 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 Touch the key that sets the touch switch (expanded) function with the graphics software, and start the system monitor operation.

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

The circuit monitor function and special unit function can also be started from the Utility Menu screen.

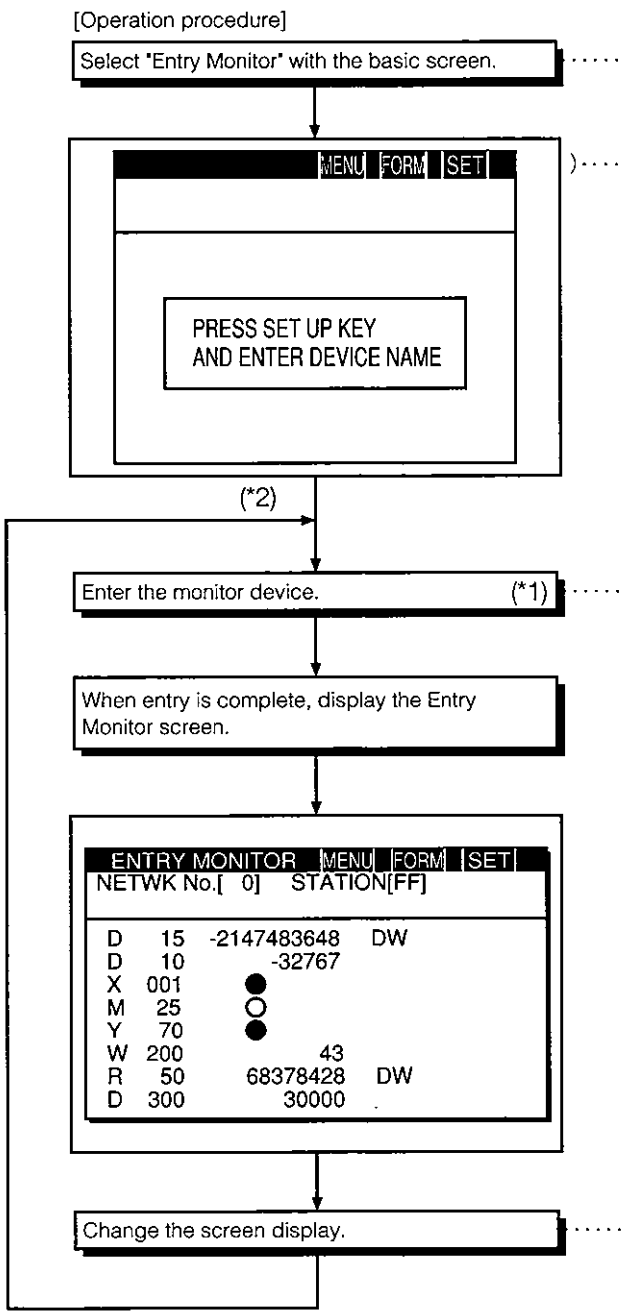
8.2 Entry Monitor

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.

8.2.1 Basic Operation

The entry monitor operation procedure is shown below.



See Sec. 8.1.1.

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 Entry Monitor.

When you touch [MENU], you return to the basic screen.
When you touch [FORM], you can change this display. (See Sec. 8.1.2.)
When you touch [SET], you can specify the monitor station and device. (See Sec. 8.1.3.)

Set the station and device to be monitored.
For the setting method, see Sec. 8.1.3.

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

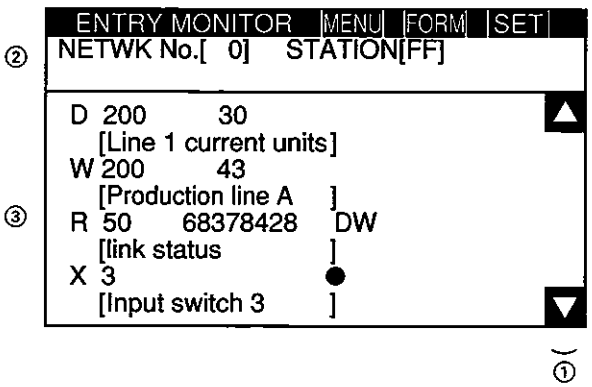
*2 A maximum of 8 entry devices can be entered.
To enter more than 8, delete in order from the old entry device. The 8 most recent entry devices will be monitored.
As needed, re-enter after deleting the entry device.
(For the method of deletion, see Sec. 8.2.3.)

Do if needed.
For the display change method, see Sec. 8.1.2.

8.2.2 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



When comment is not displayed: max. 8 devices
When comment is displayed: max. 4 devices
Display for system monitor

* Bit device ·····●: ON ○: OFF
* Word device ····Current value

①	Displays the keys that are used with the operation of the Entry Monitor screen shown in (2). (Touch input)
②	Displays the monitor station network no. and station.
③	Displays the status and current value of the entry device.

(2) Key functions

Shows the functions of the keys that are used with the operation of the Entry Monitor screen.

Key	Function
MENU	Move to basic screen (function change menu screen) to change to another monitor function or ending the system monitor. (See Sec. 8.1.1.)
FORM	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. 8.1.2.)
SET	Move to device setting menu screen to enter the monitor device, delete the entry device, or execute a test. * Entry of monitor device (See Sec. 8.1.3.) * Deletion of entry device (See Sec. 8.2.3.) * Test (See Sec. 8.6.)
▲ ▼	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 a monitor device with five or more points is entered, operation is enabled when the monitor device comment is displayed. ▼: Scrolls down one line. ▲: Scrolls up one line.

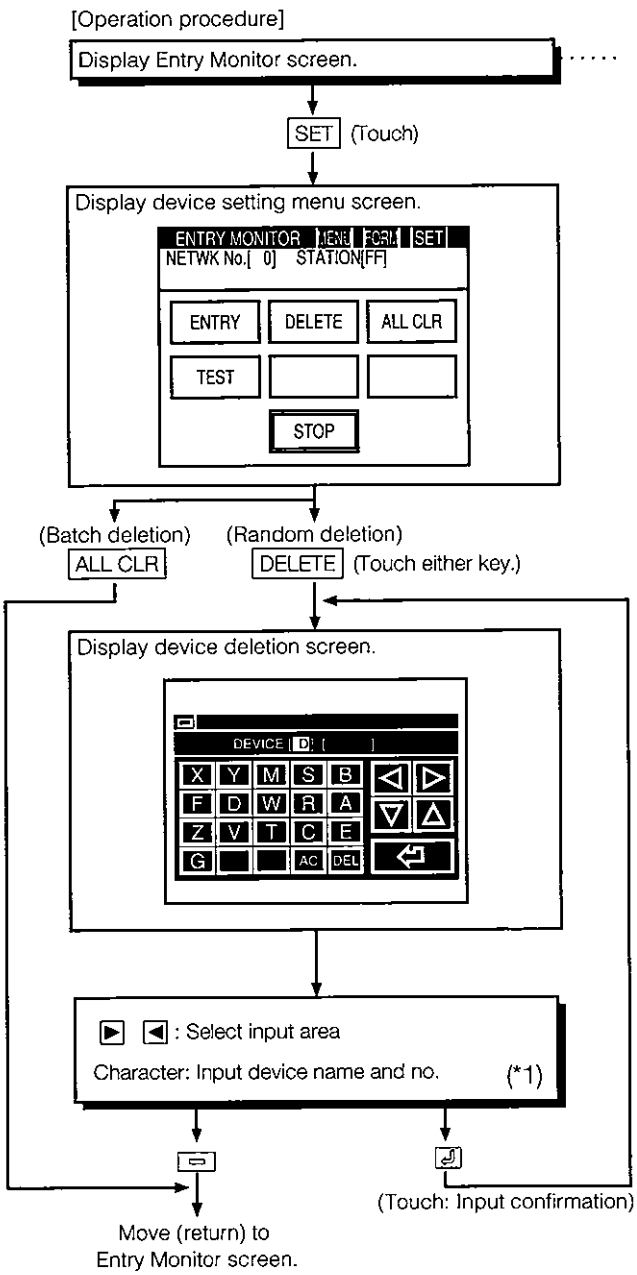
8.2.3 Deleting a Registered Device

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. 8.2.2.

(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 target area.

DEL : Clears one character at the cursor position.

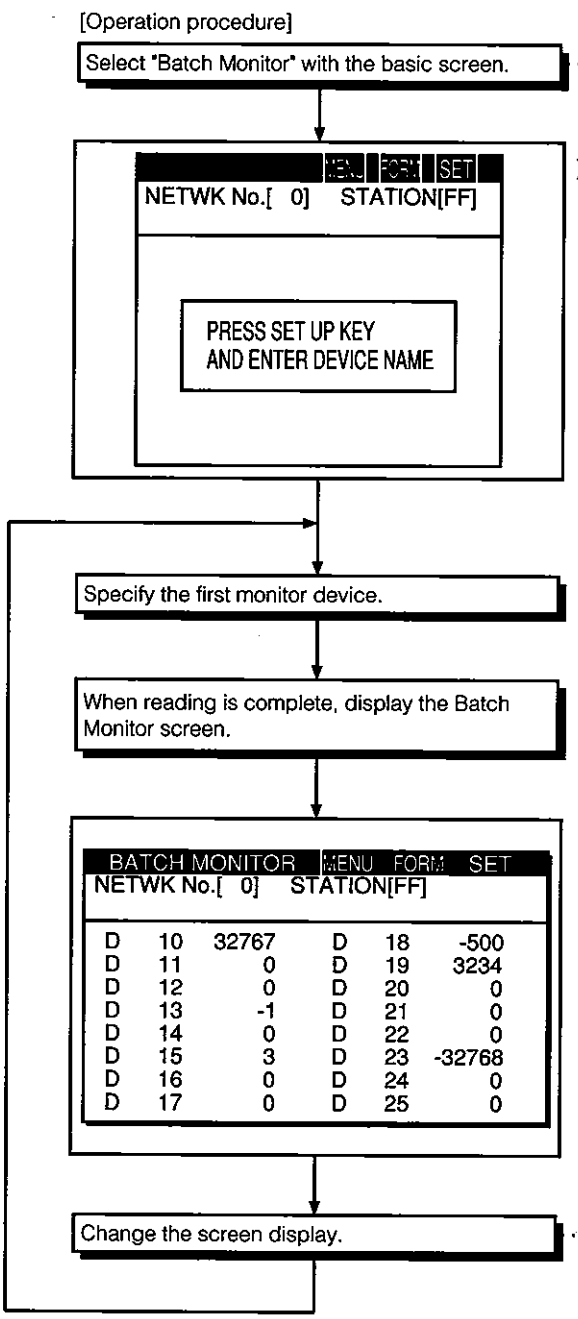
8.3 Batch Monitor

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.

8.3.1 Basic Operation

The batch operation procedure is shown below.



See Sec. 8.1.1.
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. 8.1.2.)
When you touch SET, the monitor station and device can be specified. (See Sec. 8.1.3.)

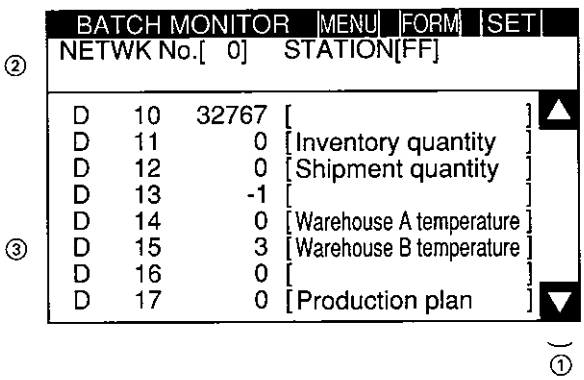
(1) Specify the station and device to be monitored.
For the method of specifying, see Sec. 8.1.3.

Do if needed.
For the display change method, see Sec. 8.1.2.

8.3.2 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



When comment is not displayed: max. 16 devices
When comment is displayed:max. 8 devices
Display for system monitor
* Bit device ·····●: ON ○: OFF
* Word device ····Current value

①	Displays the keys that are used with the operation of the Batch Monitor screen shown in (2). (Touch input)
②	Displays the monitor station network no. and station no.
③	Displays the status and current value of the monitor device (when the monitor unit in the screen above is 16 bits).

(2) Key functions

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

Key	Function
MENU	Move to basic screen (function change menu screen) for changing to another monitor function or ending the system monitor. (See Sec. 8.1.1.)
FORM	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. 8.1.2.)
SET	Move to device setting menu screen to change the monitor device or execute a test. • Change of monitor device (See Sec. 8.1.3.) • Test (See Sec. 8.6.)
▲ ▼	Scroll the display up or down one line, and display the monitor device that is not displayed (just before or after the current display). ▼ : Scrolls down one line. ▲ : Scrolls up one line.

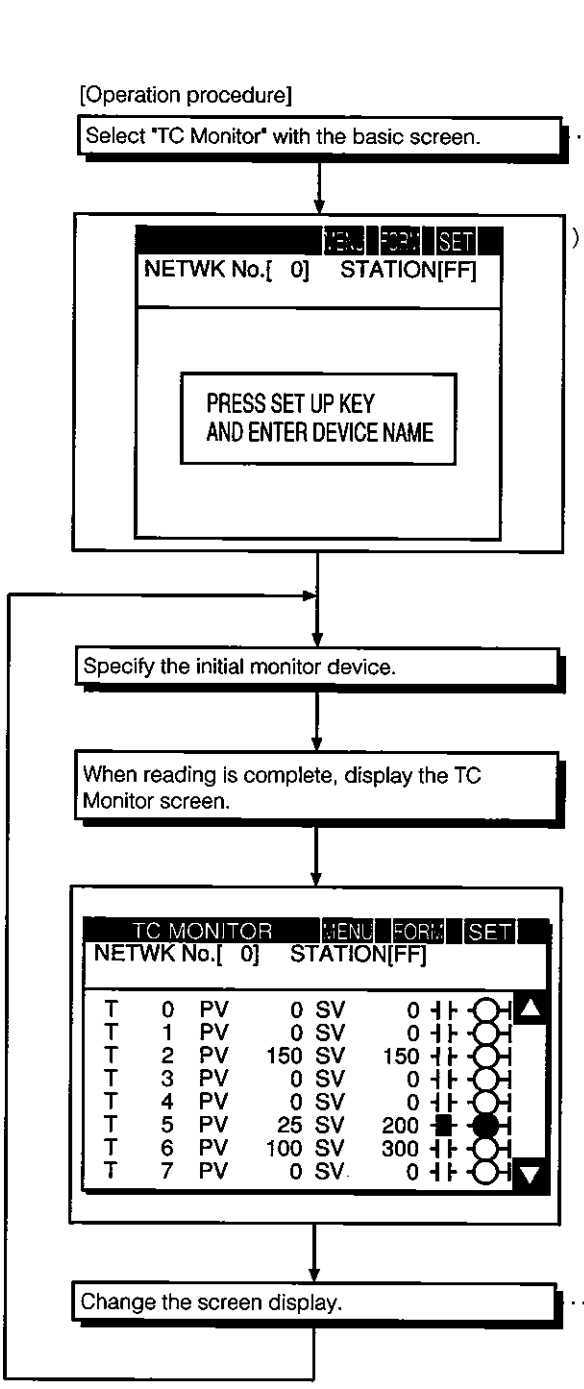
8.4 TC Monitor

The function that monitors only the timer (T) and counter (C) when monitoring is called the TC monitor.

The TC monitor operation when executing the system monitor is explained below.

8.4.1 Basic Operation

The TC operation procedure is shown below.



See Sec. 8.1.1.
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. 8.1.2.)
When you touch SET, the monitor station and device can be specified. (See Sec. 8.1.3.)

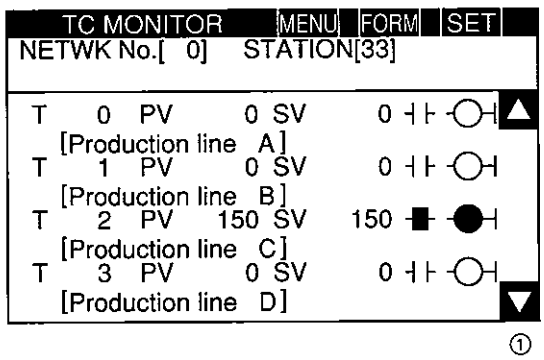
(1) Specify the station and device to be monitored .
For the method of specifying, see Sec. 8.1.3.

Do if needed.
For the display change method, see Sec. 8.1.2.

8.4.2 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



When comment is not displayed:max. 8 devices
When comment is displayed:max. 4devices
Display when system monitor
* T/C ..... current value, set value
(Contact point, coil) :ON :OFF

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. and station no.
③	Displays the current value, set value, contact point and coil status of the monitor device (when the monitor unit in the screen above is 16 bits).

(2) Key functions

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

Key	Function
MENU	Move to basic screen (function change menu screen) for changing to another monitor function or ending the system monitor. (See sec 8.1.1.)
FORM	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. 8.1.2.)
SET	Move to device setting menu screen to change the monitor device or execute a test. • Change of monitor device (See Sec. 8.1.3.) • Test (See Sec. 8.6.)
▲ ▼	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). Operation is enabled when monitor device comment is displayed. ▼ : Scrolls down one line. ▲ : Scrolls up one line.

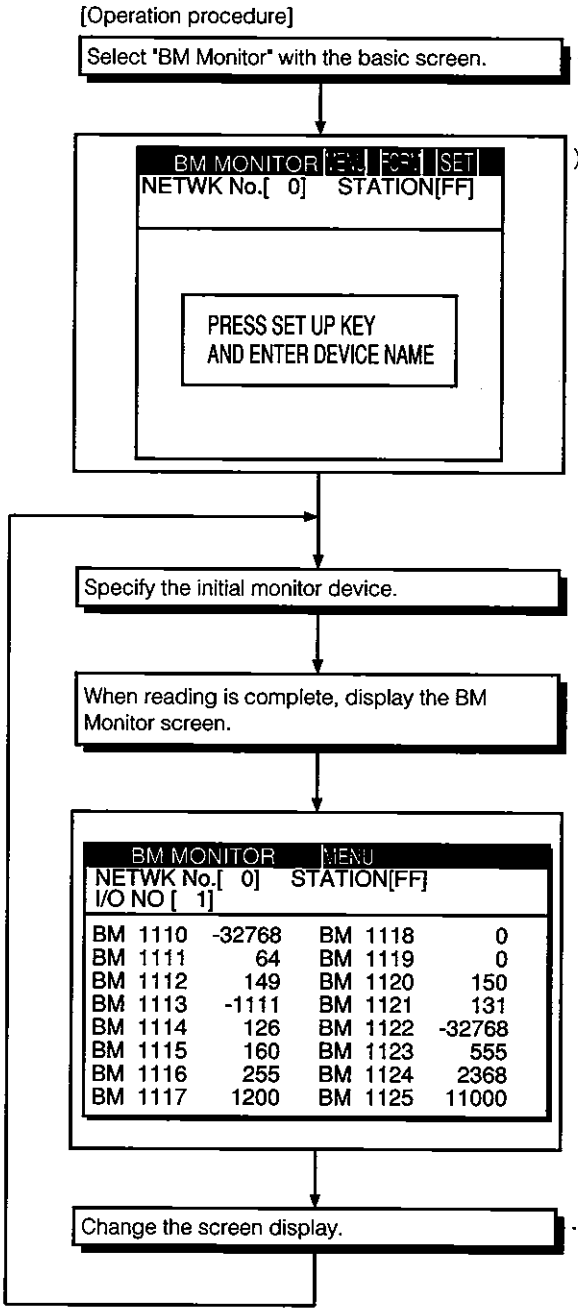
8.5 BM Monitor

When monitoring, the function that monitors the buffer memory of the special function unit is called the "BM monitor".

The BM monitor operation when executing the system monitor is explained below.

8.5.1 Basic Operation

The BM operation procedure is shown below.



See Sec. 8.1.1.
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. 8.1.2.)
When you touch SET, the monitor station and device can be specified. (See Sec. 8.1.3.)

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

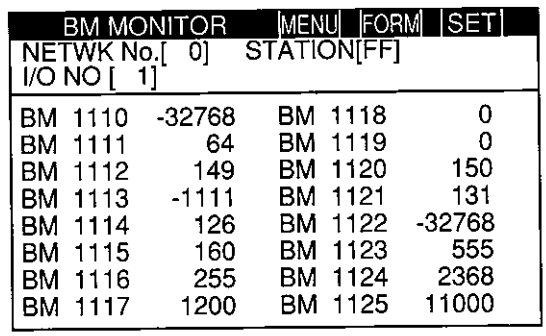
(2) For the method of specifying, see Sec. 8.1.3.
Specify the unit to be monitored and the buffer memory as follows.
Initial Y [ ] [ ]
Specify the initial address of the buffer memory in decimal.
When the initial I/O signal of unit is displayed with three digits, specify the first two digits.

Switching between decimal and hexadecimal display is enabled. Do this as needed.For the display change method, see Sec. 8.1.2.

8.5.2 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



Displays current values of a maximum of 16 devices

①	Displays the keys that are used with the operation of the BM Monitor screen shown in (2). (Touch input)
②	Displays the monitor station network no. and station no. and the first 2 digits of the I/O signal no. of the applicable unit.
③	Displays the current values of the buffer memory (when the monitor unit in the screen above is 16 bits).

(2) Key functions

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

Key	Function
MENU	This moves to the basic screen (function change menu screen) for changing to another monitor function or ending the system monitor. (See Sec. 8.1.1.)
FORM	This moves to the display change menu screen for changing the number display on the BM monitor screen (decimal/ hexadecimal). (See Sec. 8.1.2.)
SET	This moves to the device setting menu screen to change the monitor device or execute a test. • Change of monitor device (See Sec. 8.1.3.) • Test (See Sec. 8.6.)

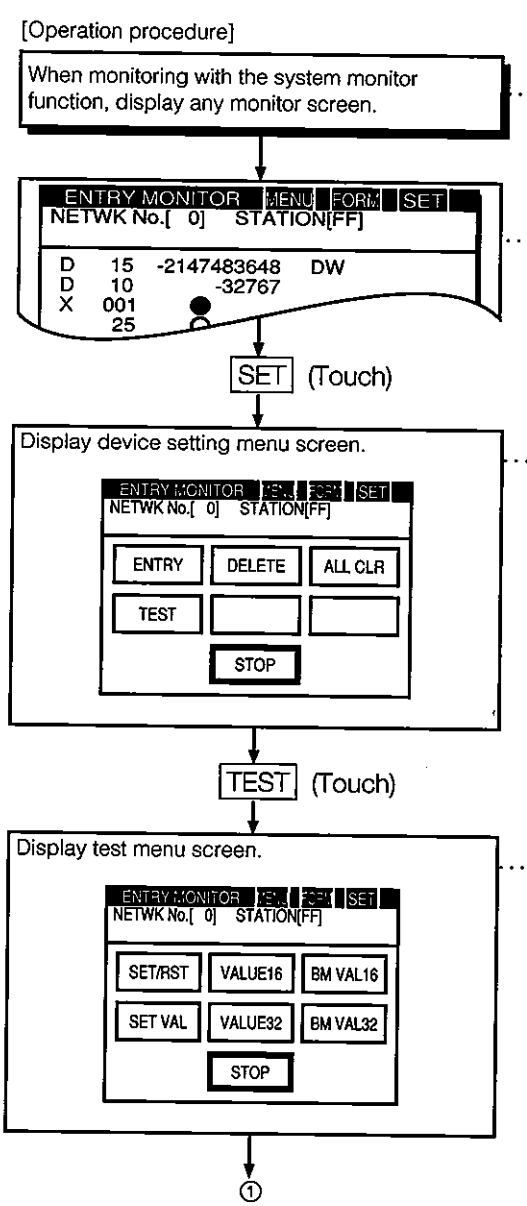
8.6 Test

When monitoring with the system monitor function, you can specify an optional station or device that can be monitored and test it.

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

8.6.1 Basic Operation

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

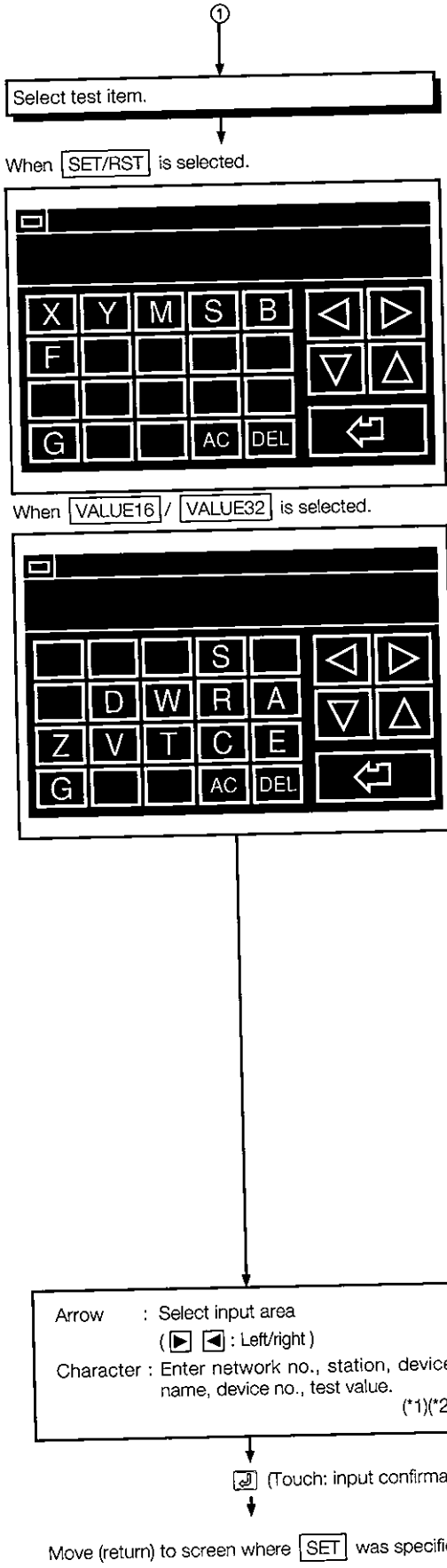


See sec 8.□. 2.
When a screen other than the monitor screen is displayed, display any monitor screen according to the explanatory section for each monitor function.

When Entry Monitor screen is displayed

When you touch STOP , the display moves (returns) to the previous monitor screen.

When you touch STOP , the display moves (returns) to the previous monitor screen.



(1) Touch either, depending on test contents.

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

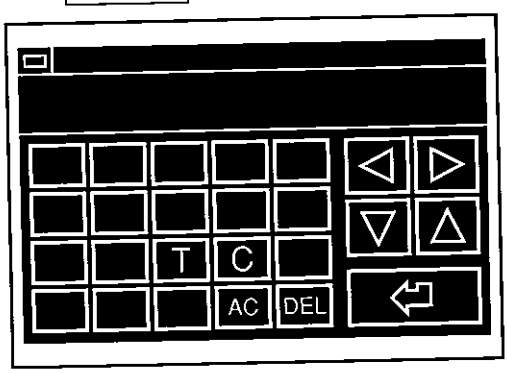
VALUE16 or VALUE32
Change current value of word device.

SET VALUE
Change T, or C set value.

BM VAL16 or BM VAL32
Change current value of buffer memory.

* With VALUE16 or BM VAL16, 16 bits is the applicable unit.
With VALUE32 or BM VAL32, 32 bits is the applicable unit.

When SET VALUE is selected.



(2) Specify the network no. and station no. of the applicable PC CPU.
(See Sec. 8.1.3, *1.)

(For data link system)
Network no. : 0
Station : FF (Host station)
0 (Master station)
1-64 (Local station)

(For network system)
Network no. : 0 (Host loop)
1-255 (Specify loop)
Station : FF (Host station)
0 (Control station)
1-64 (Normal station)

(3) Specify applicable 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. (*3)

9. Error Display and Handling With System Monitoring

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

Error Message	Description	Method of Handling
PC communications error	Communication could not be established with the PC CPU.	Check the following: • Connections between the PC CPU and the GOT (disconnected or cut cables). • Has an error occurred in the PC CPU ?

Special Unit Monitor Function Operation Manual

The Special Unit Monitor Function Operation Manual contains a summary of the procedures for using the special unit monitor function and the method of operating the special unit monitor function.

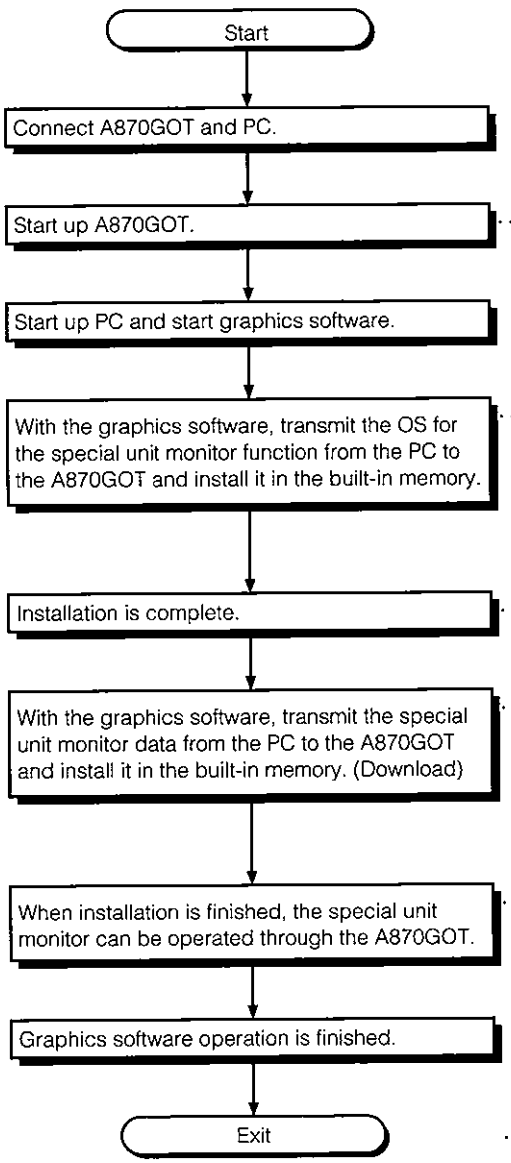
10. Operation Procedure for Special Unit Monitor Function

The operation procedure when using the special unit monitor function is explained in this chapter.

10.1 Operation Procedure Before Starting Special Unit Monitoring

This section contains a summary of the procedure for transmitting the system program (OS) for the special unit monitor function and the special unit monitor data from the PC to the A870GOT until it is installed in built-in memory.

For details, please refer to the A8GOTP Operating Manual (Data Transmission, Debugging, Document Creation Manual). Details of the screen display and key operation are shown below.



··· It is not necessary to set up and operate the A870GOT after startup.

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

* Transmit the data that was installed from the SW□-A8SYSP of the system floppy disk to the PC hard disk.

··· When installation is finished, "End" is displayed on the installation dialog box.

··· Transmit the data using the download dialog box.

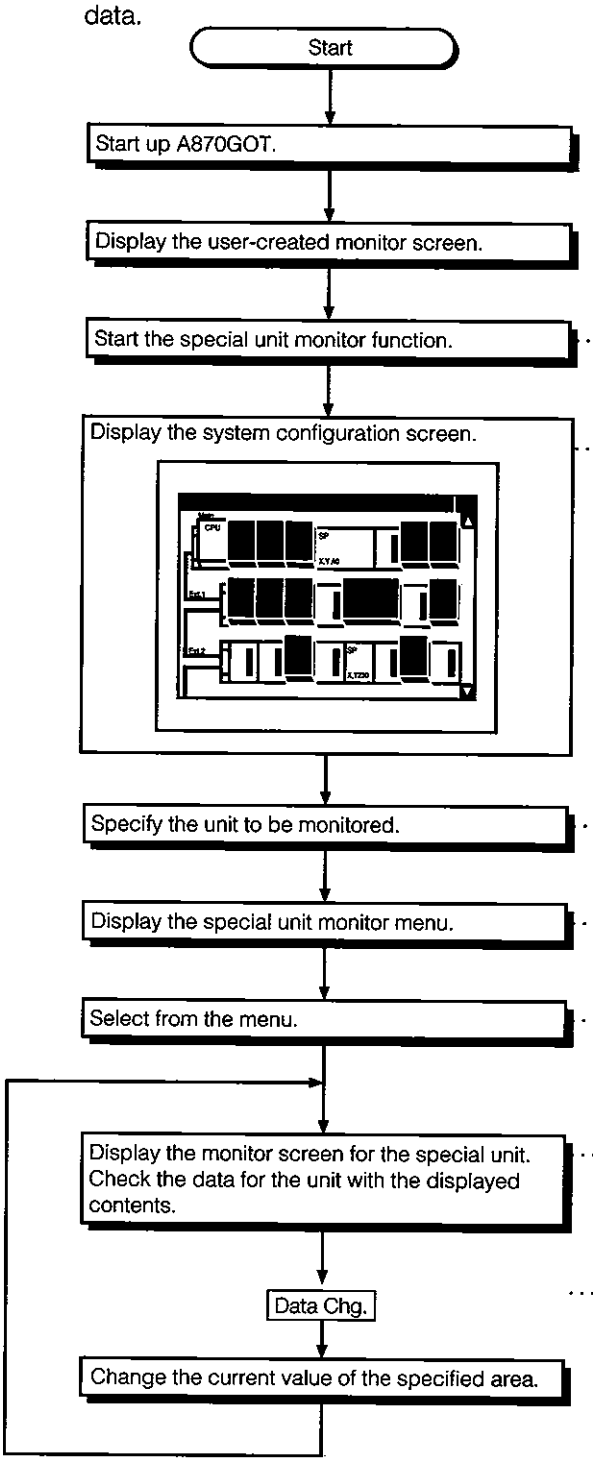
* Transmit the data that was installed from the SW□-A8SYSP of the system floppy disk to the PC hard disk.

··· When download is finished, "End" is displayed on the download dialog box.

··· Proceed to section 10.2 to operate the special unit monitor.

10.2 Operation Procedure From User-Created Monitor Screen Display to Start of Special Unit Monitor

This section describes the operation procedure for the A870GOT when starting each operation of the special unit monitor function after the system program (OS) of the special unit monitor function has been installed in the A870GOT built-in memory, and downloading the special unit monitor data.



··· (*1)

··· When starting, the unit format and related data are not displayed.
When reading of unit data from the PC CPU is complete, the unit format and related data is displayed.
See sec. 11.1.1.
When END is selected, the special unit monitoring ends and the display moves to the original screen where the special unit monitor function was begun.

···· See Sec. 11.1.3.

···· See Sec. 11.1.3.

···· The Special Unit Monitor Screen is displayed by selecting it from the menu.
See Sec. 11.1.3.

···· See Sec. 11.1.2.
See Secs. 11.2 ~ 11.26.

····· Carry out the following operation when changing the current values of the buffer memory that is displayed on the monitor screen.
See Sec. 11.1.4.

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

When the Utility Menu screen is displayed, touch SP. UNIT to start the special unit monitor function.

11. Operation of Each Special Unit Monitor Screen

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

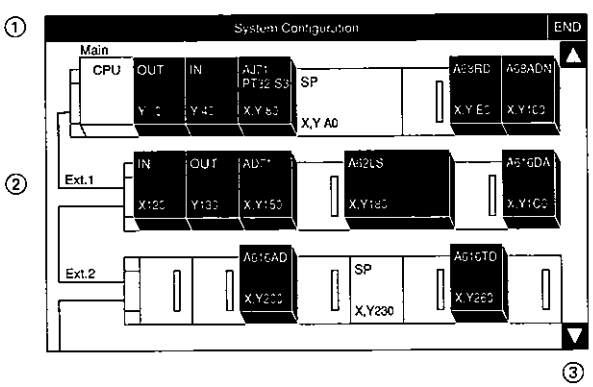
11.1 Screen Configuration, Common Operation and Changing Screens When Monitoring

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

11.1.1 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 unit monitor function and the key functions displayed on the screen.

(1) Display



The unit format and related data are displayed at the end of the unit data read-out from the PC CPU.

(OS is automatically executed.)

①	Displays network no. and station no. of monitor station.
②	With the unit installed in the monitor station, the special function unit displays the format and the initial no. of the I/O signal with the sequencer CPU; the I/O unit displays "Input"/"Output" and the I/O points. For a special function unit that cannot be monitored, "Special" and the initial no. of the I/O signal are displayed. The display position of the unit is the key for moving the special function unit monitor of that unit to the screen where it is executed. (Touch input)
③	The keys used for the operation with the System Configuration screen shown in (2) are displayed. (Touch input)

(2) Key functions

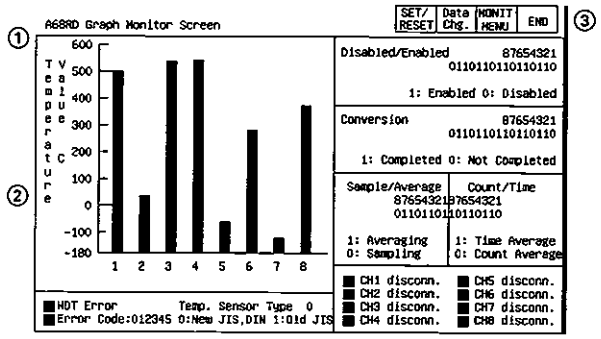
The chart below shows the functions of keys that are used with the System Configuration screen operation.

Key	Function
END	Monitor ends, and display returns to the screen where the special unit monitor function was begun.
Unit display position	Moves to screen where the special unit monitor for that unit is executed. Slots 0 through 7 are valid for each base unit.
▲ ▼	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. ▼ : Scrolls down one level. ▲ : Scrolls up one level.

11.1.2 Monitor Screen Configuration and Key Functions

This section describes the structure of the monitor screen that is displayed by specifying the unit with the system configuration screen, and the key functions that are displayed at the top of the screen.

(1) Display (with A68RD)



All types of data are displayed when the readout from the special function unit is complete.
(OS is automatically executed.)

①	Displays format of unit being monitored.
②	Displays buffer memory data of applicable unit in its current form, or in a graph. Display status of I/O signal with the PC 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

Monitor screen operation is used to indicate the function of the key to be used.

Key	Function
END	Monitoring ends; display returns to the screen where the special unit monitor function was begun.
MONIT MENU	Ends current monitoring and moves to screen that shows monitor menu. Operation can be used only if the special function unit has a Monitor menu.
Data Chg.	Starts change of current values for buffer memory of special function unit displayed on screen.
SET / RESET	Starts test set/reset for I/O signal between PC CPU and special function unit.

11.1.3 Specifying Monitor Unit and Selecting Monitor Menu

The operation when starting the special unit monitor for an optional unit is explained, using the positioning unit (AD71) as an example.

[Operation procedure]

Display System Configuration screen. ···· See Sec. 11.1.1.

↓

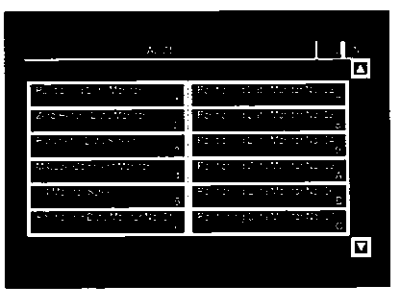
Specify unit to be monitored (Touch display position of unit).

(1) From the units assigned to slots 0 through 7 of each base unit, specify the special function unit where the format is displayed.

* For units where the format is not displayed, monitor with the system monitor function. (See Sec. 8.5.)

↓

Display screen that shows monitor menu.



(2) Specify the menu corresponding to the type of data to be monitored.

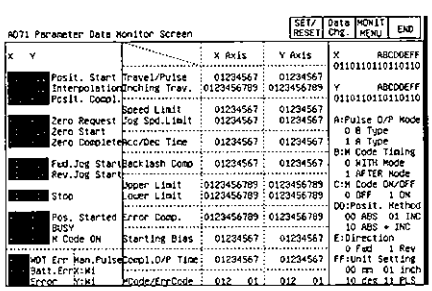
(3) With units for which the monitor menu cannot all be displayed in one screen, touch the ▲ ▼ keys at the right of the screen to scroll the display menu.

↓

Specify menu to be monitored (Touch display position of menu).

↓

Display monitor screen of specified menu.



(4) Check the contents of the display. Carry out the subsequent operation according to Secs. 11.2 ~ 11.26.

(5) Carry out tests for the displayed data according to Sec. 11.1.4.

- Change current value of buffer memory
- Turn output signal from PC CPU on and off.

↓

Proceed to Sec. 11.1.4 and Secs. 11.2 ~ 11.26.

11.1.4 Test for Special Function Unit

You can test the data displayed on the current monitor screen.

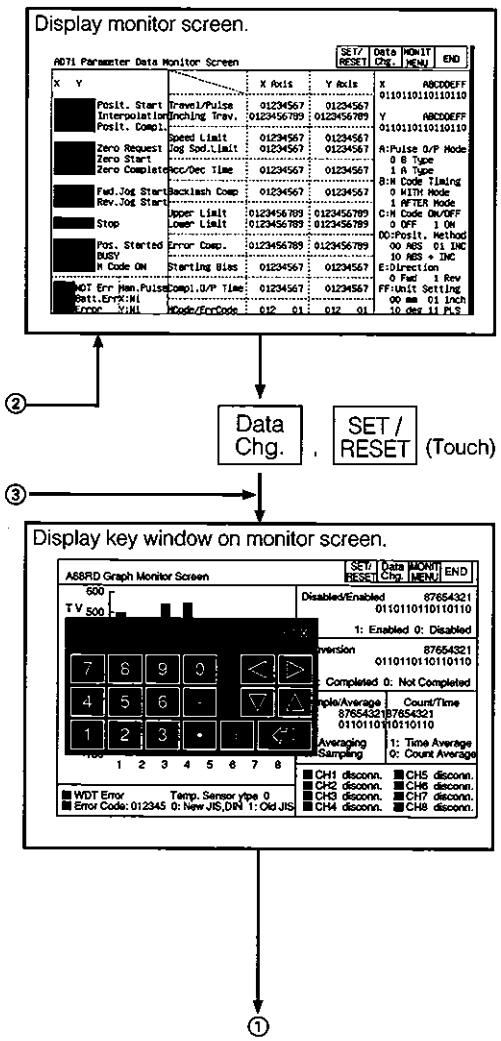
This section describes the operation for changing the current value of the buffer memory and turning the output signal from the PC CPU to the special function unit on and off.

POINT

(1) When testing, test for the buffer memory that can be written in from the PC CPU and the output signal that is output from the PC CPU.

(2) Be sure to carry out the test operation with the PC CPU in STOP status.
If the PC CPU is tested during RUN status, it returns to the output values and output status from the sequence program.

[Operation procedure]



When Data Chg. is touched
(changes current value of buffer memory)

- All of the following operations can be carried out by touching the keys in the displayed key window.
- When you touch ▭ at the upper left of the key window, the key window closes and the display returns to the monitor screen.

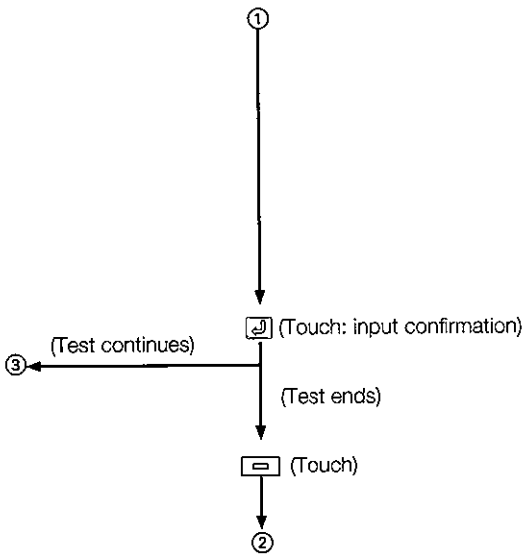
(1) Move the cursor to the position where the data to be tested is displayed. (*1)
(▲ ▼: Up/down ▶ ◀: Left/right)

(2) Use the numeric keys to specify the value to be changed. (*2)
The DEL key can be used to clear individual characters among those input.

When SET / RESET is touched (tests the I/O signal)

- All of the following operations can be carried out by touching the keys in the displayed key window.
- When you touch ▭ at the upper left of the key window, the key window closes and the display returns to the monitor screen.

(1) Use the alphabetic character keys to specify the name of the device to be tested, and then touch ▶. (*1)



(2) Use the numeric keys to specify the device number, and then touch ▶.

(3) Use the numeric keys to specify "Set" or "Reset".

0 : OFF 1 : ON

*1 Do not perform the following tests.

When testing, the unit may not operate correctly or the buffer memory/input signal may return to the output value/output status from the special function unit.

① Read out from the PC CPU and test the special purpose buffer memory.

② Test the input signal to the PC CPU from the special function unit.

*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 unit, specify the change value corresponding to the percentage in decimal.

Ex:

When the set value of the offset or gain is 0 ~ 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.

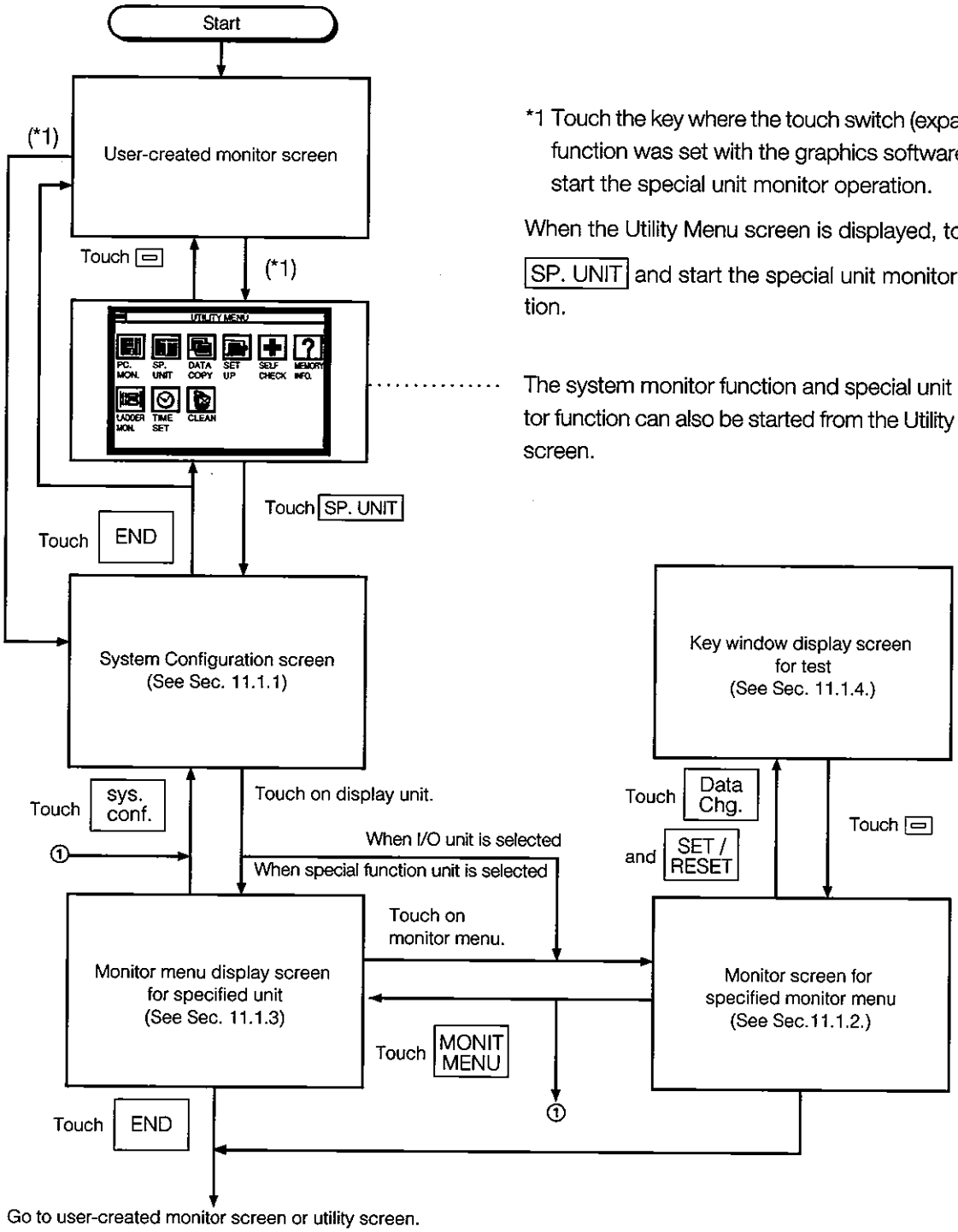
⚠CAUTION

- For a test operation during a run (forced output, data change), read the manual thoroughly and check the safety conditions carefully.

  The machine can be damaged or accidents can occur due to operation error.

11.1.5 Changing the Screen

This section describes how to change the screen when executing each monitor function of the special unit monitor function from the status where the user-created monitor screen is displayed.



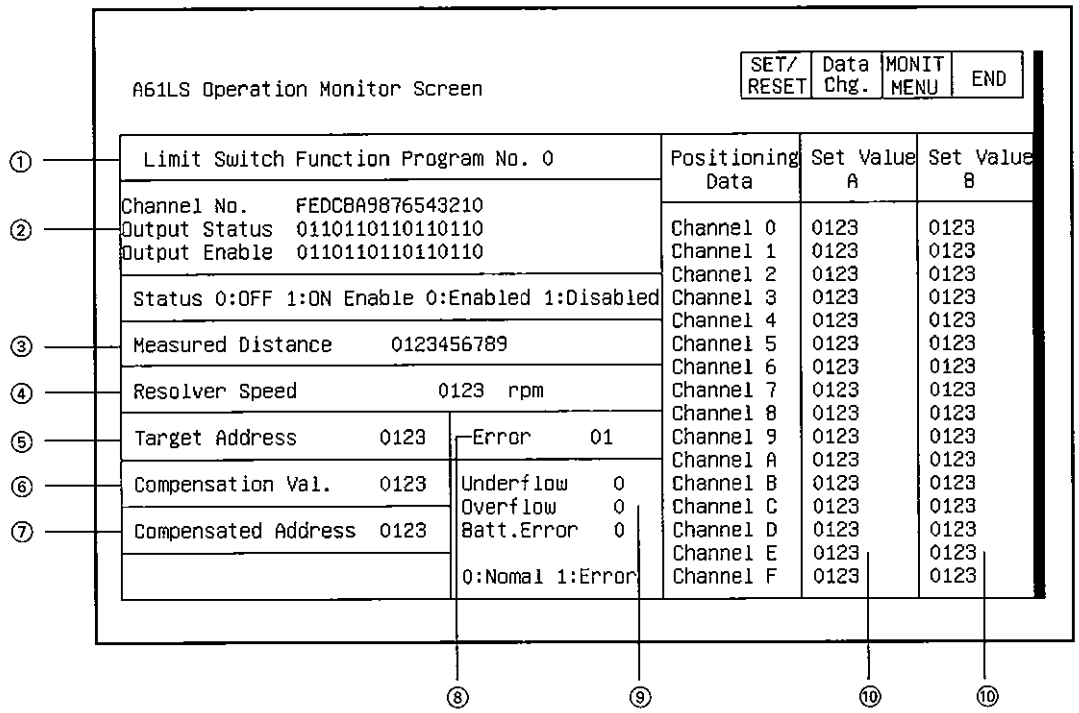
*1 Touch the key where the touch switch (expanded) function was set with the graphics software, and start the special unit monitor operation.

When the Utility Menu screen is displayed, touch SP. UNIT and start the special unit monitor function.

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

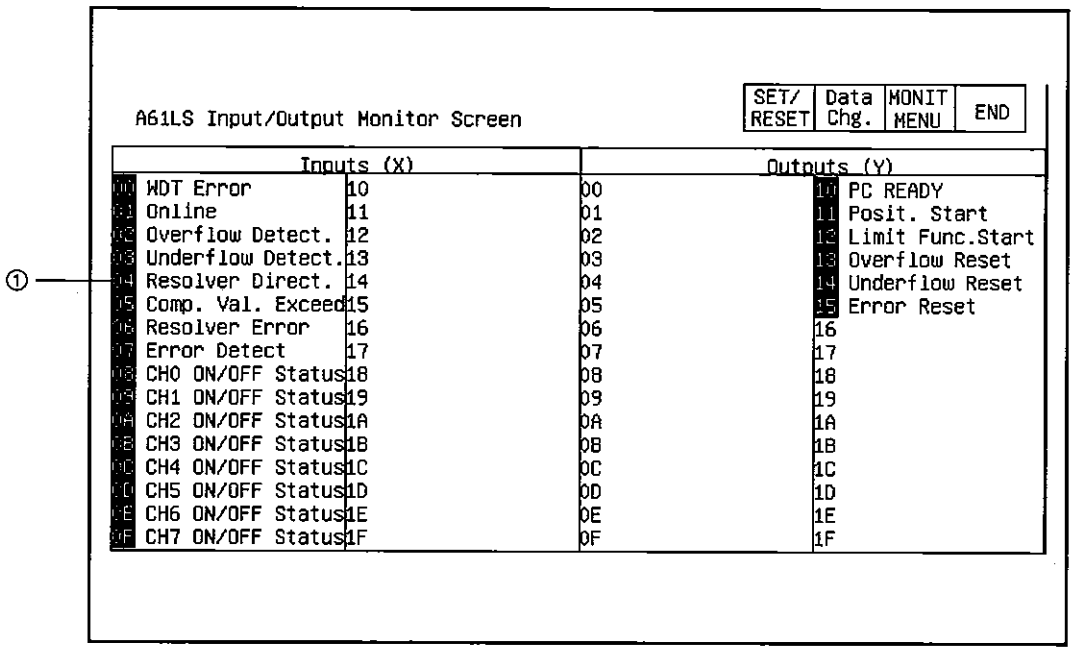
11.2 A61LS Unit Monitor

11.2.1 Operation Monitor



No.	Contents of display	Buffer memory address to reference (decimal)
①	The number of the program being used is displayed.	11
②	The output status of each channel is displayed.	4
	The specified status for the Output Enable command of each channel is displayed.	10
③	The measured distance value for the distance detection function is displayed.	5, 6
④	The rotation speed of the resolver connected to A61LS is displayed.	3
⑤	The set value of the target address for the positioning function is displayed.	12
⑥	The compensation value for the zero point compensation function is displayed.	7
⑦	The current value of the resolver after compensation by the zero point compensation function is displayed.	0
⑧	The error code is displayed when an error occurs.	8
⑨	When an A61LS resolver underflow is detected, "1" is displayed.	2
	When an A61LS resolver overflow is detected, "1" is displayed.	1
	When a low battery charge is detected, "1" is displayed.	9
⑩	The set values A and B for executing the positioning function are displayed for each channel.	13 ~ 44

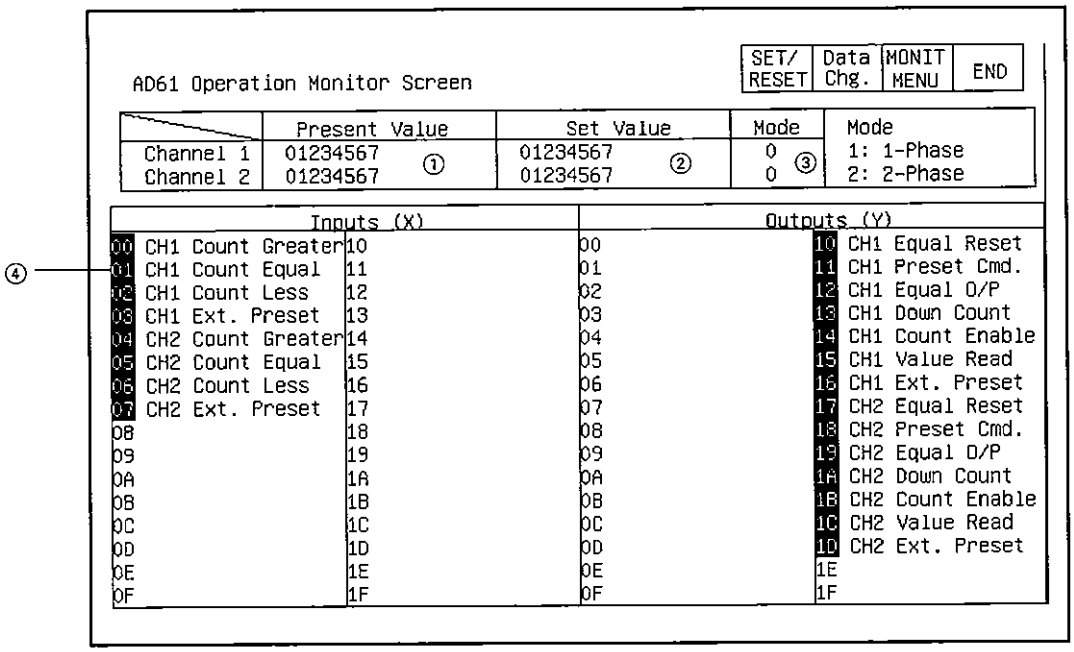
11.2.2 I/O Monitor



No.	Contents of display
①	The ON/OFF status of the I/O signal corresponding to the PC CPU is displayed. The I/O signal is ON when displayed in a reverse display.

11.3 AD61 Unit Monitor

11.3.1 Operation Monitor

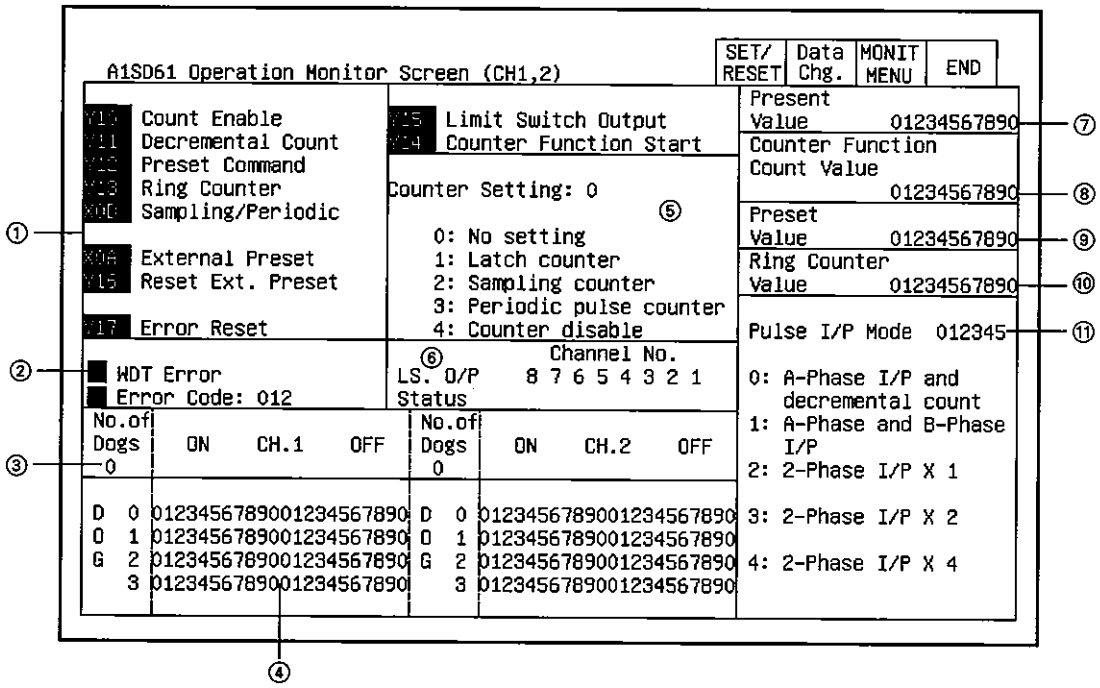


No.	Contents of display	Buffer memory address to reference (decimal)
①	The current values of channels 1 and 2 are displayed.	4, 5, 36, 37
②	The set values of channels 1 and 2 are displayed.	6, 7, 38, 39
③	The specified status of the mode register of channels 1 and 2 is displayed.	3, 35
④	The ON/OFF status of the I/O signal corresponding to the PC CPU is displayed. The I/O signal is ON when displayed in a reverse display.	—

11.4 A1SD61 Unit Monitor

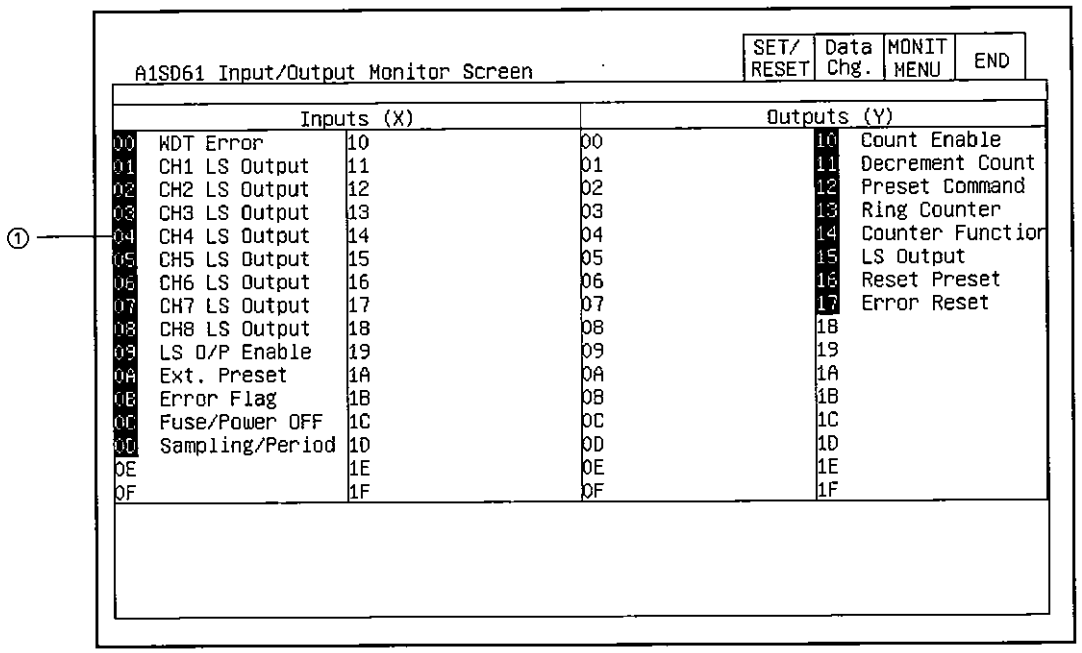
11.4.1 Operation Monitor

The Channel 1 and 2 Monitor Screen is used as an example.



No.	Contents of display	Buffer memory address to reference (decimal)
①	The ON/OFF status of the I/O signal corresponding to the PC CPU is displayed. The I/O signal is ON when displayed in a reverse display.	—
②	A "■" is displayed when a watchdog timer error occurs.	—
	A "■" is displayed when a writing data error occurs; the channel where it occurred and the error code are displayed.	11
③	The number of multi-dogs that are set is displayed.	12 ~147
④	The set value for the on position and off position of the multi-dog no. is displayed for each channel.	12 ~147
⑤	The specified status of the counter function selection is displayed.	5
⑥	The limit switch output status of each channel is displayed. 0: OFF 1: ON	—
⑦	The current value of the counter is displayed for the following situations: in pulse input mode, when preset, when the ring counter function is being executed, and when the counter is disabled.	0, 1
⑧	The count value for execution of the latch counter, sampling counter, and periodic pulse counter set with the counter function selection (5) is displayed.	2, 3
⑨	The preset value is displayed.	6, 7
⑩	The ring counter value that was set is displayed.	8, 9
⑪	The set status of the pulse input mode is displayed.	4

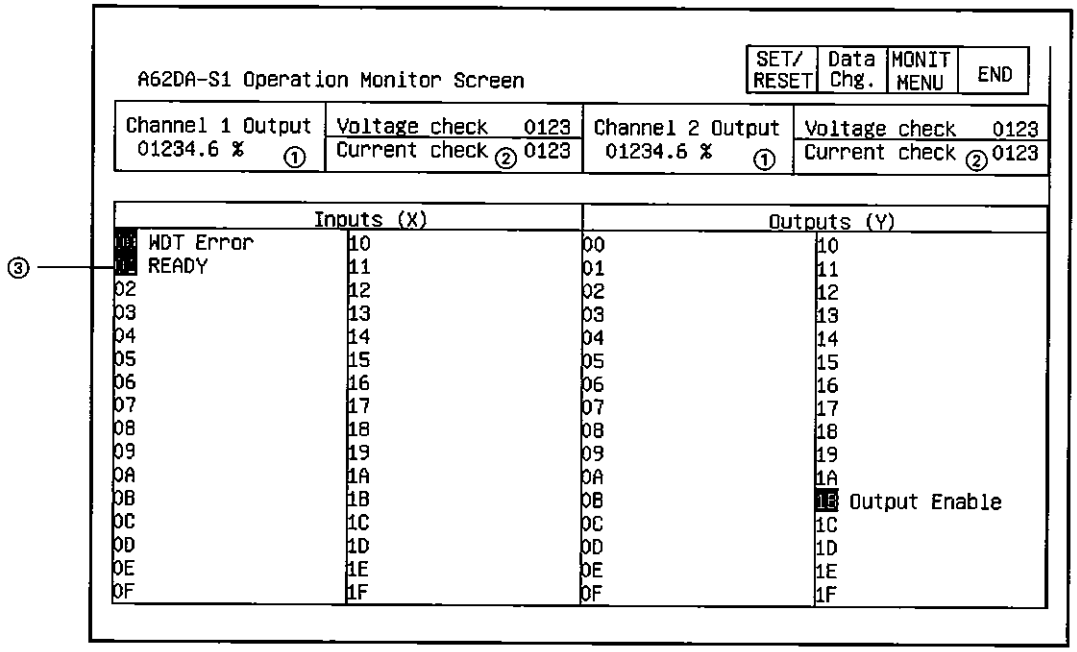
11.4.2 I/O Monitor



No.	Contents of display
①	The ON/OFF status of the I/O signal corresponding to the PC CPU is displayed. The I/O signal is ON when displayed in a reverse display.

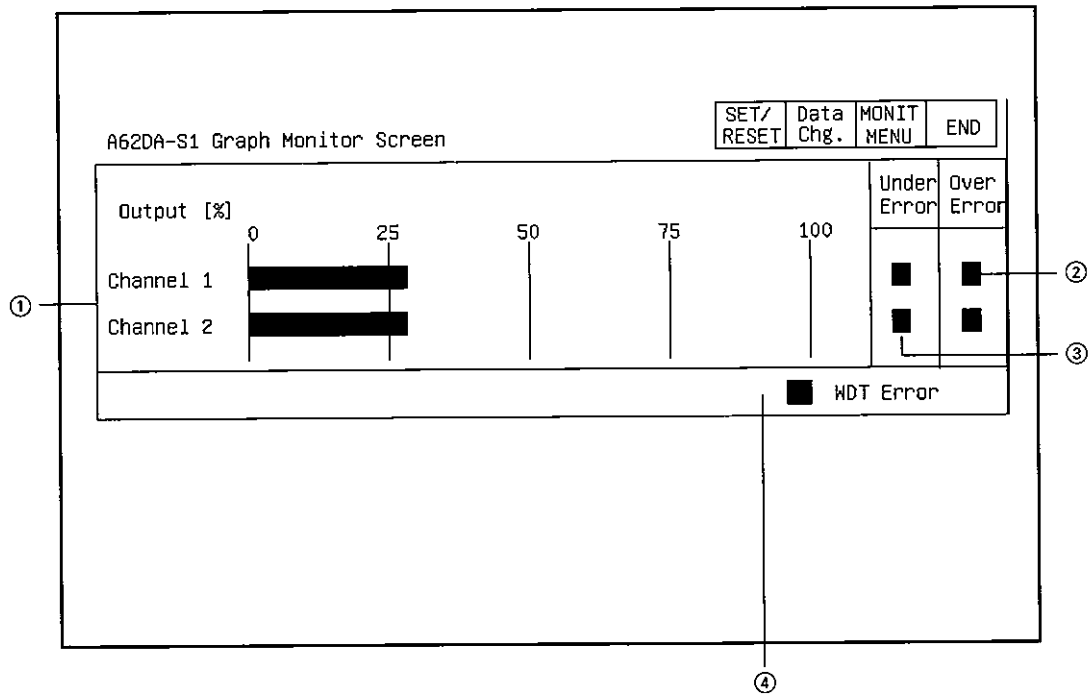
11.5 A62DA-S1 Unit Monitor

11.5.1 Operation Monitor



No.	Contents of display	Buffer memory address to reference (decimal)
①	The current input value, a value between 0 ~ 4000 for the digital input value of channels 1 and 2, is displayed as a percentage ranging from 0 to 100%.	0, 1
②	"1" is displayed for Output Over when an input value of 4001 or greater was set for channel 1 or 2; "1" is displayed for Output Under when a negative number was set.	2 ~ 5
③	The ON/OFF status of the I/O signal corresponding to the PC CPU is displayed. The I/O signal is ON when displayed in a reverse display.	—

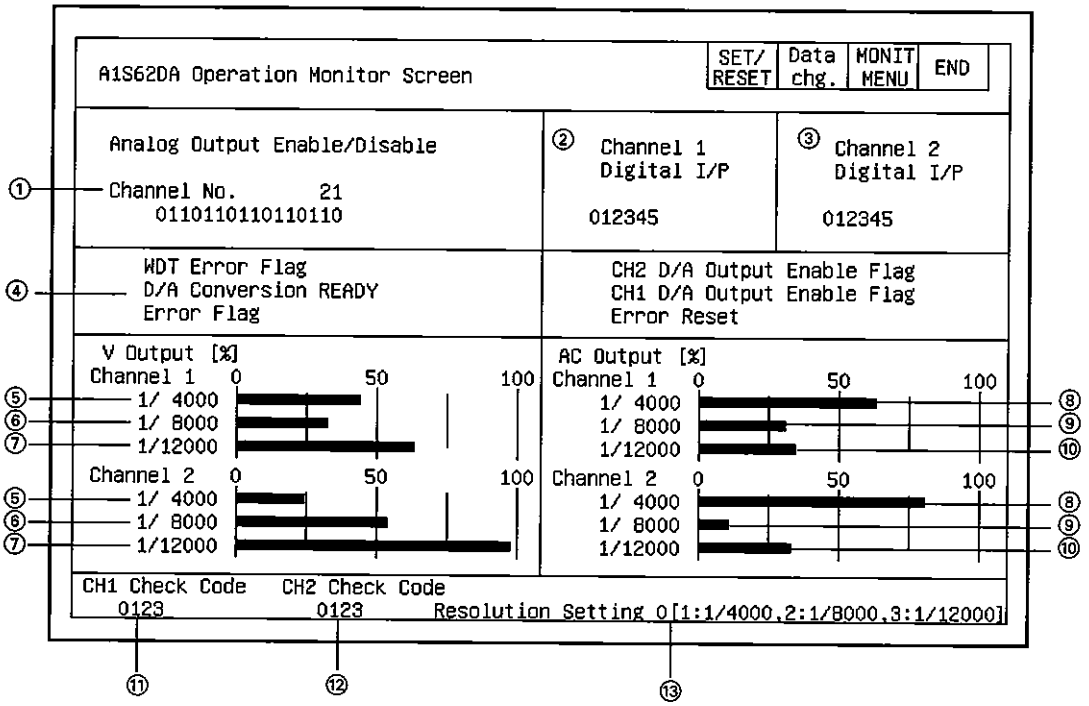
11.5.2 Graph Monitor



No.	Contents of display	Buffer memory address to reference (decimal)
①	The current input value, a value between 0 ~ 4000 for the digital input value of channels 1 and 2, is displayed as a percentage ranging from 0 to 100%.	0, 1
②	A "■" is displayed in the Over Error column when an input value of 4001 or greater was set for channel 1 or 2.	2, 4
③	A "■" is displayed in the Under Error column when an input value consisting of a negative number was set for channel 1 or 2.	3, 5
④	A "■" is displayed when a watchdog timer error occurs.	—

11.6 A1S62DA Unit Monitor

11.6.1 Operation Monitor

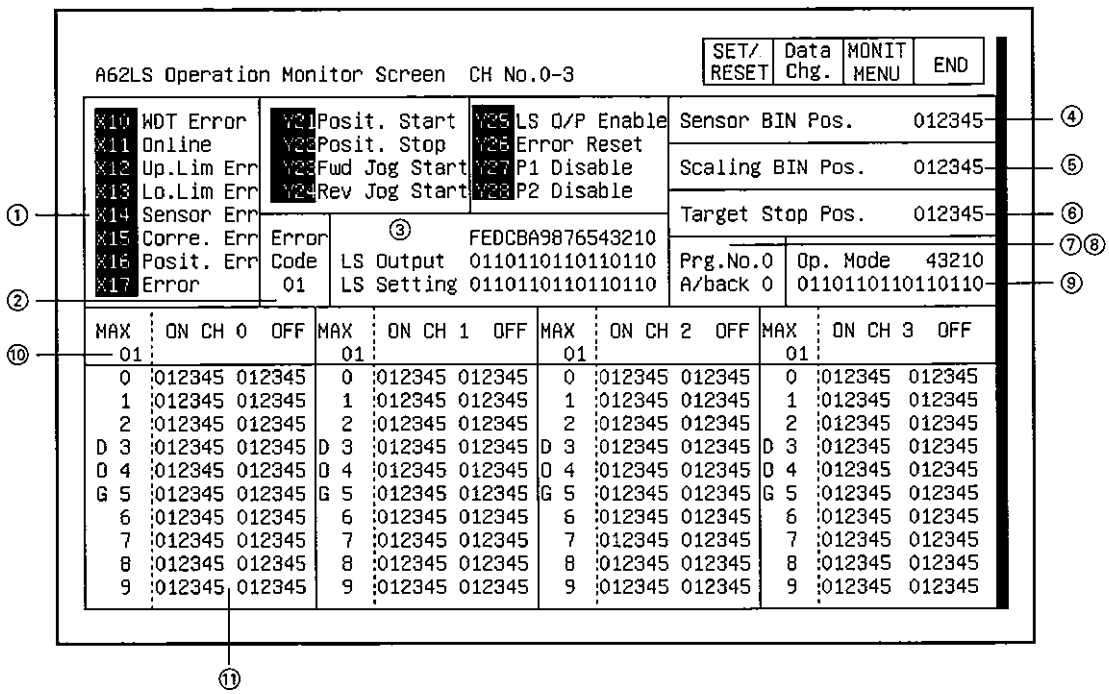


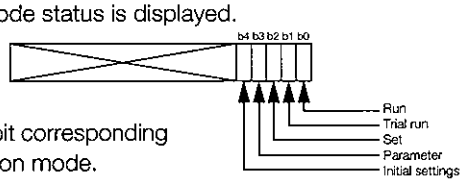
No.	Contents of display	Buffer memory address to reference (decimal)
①	The specified enable/disable status for the analog output of each channel is displayed. 0: Enable 1: Disable	0
②	The channel 1 digital input value is displayed.	1
③	The channel 2 digital input value is displayed.	2
④	The ON/OFF status of the I/O signal corresponding to the PC CPU is displayed. The I/O signal is ON when displayed in a reverse display.	—
⑤	The current input value, a value between -4000~4000 for the digital input value of channels 1 and 2, is displayed in a graph as a percentage ranging from 0 to 100%.	1, 2
⑥	The current input value, a value between -8000~8000 for the digital input value of channels 1 and 2, is displayed in a graph as a percentage ranging from 0 to 100%.	
⑦	The current input value, a value between -12000~12000 for the digital input value of channels 1 and 2, is displayed in a graph as a percentage ranging from 0 to 100%.	
⑧	The current input value, a value between 0~4000 for the digital input value of channels 1 and 2, is displayed in a graph as a percentage ranging from 0 to 100%.	
⑨	The current input value, a value between 0~8000 for the digital input value of channels 1 and 2, is displayed in a graph as a percentage ranging from 0 to 100%.	
⑩	The current input value, a value between 0~12000 for the digital input value of channels 1 and 2, is displayed in a graph as a percentage ranging from 0 to 100%.	
⑪	When the channel 1 digital input value was set outside the allowable setting range, a check code is displayed.	10
⑫	When the channel 2 digital input value was set outside the allowable setting range, a check code is displayed.	11
⑬	The set resolution selection is displayed. 1: 1/4000 2: 1/8000 3: 1/12000	9

11.7 A62LS Unit Monitor

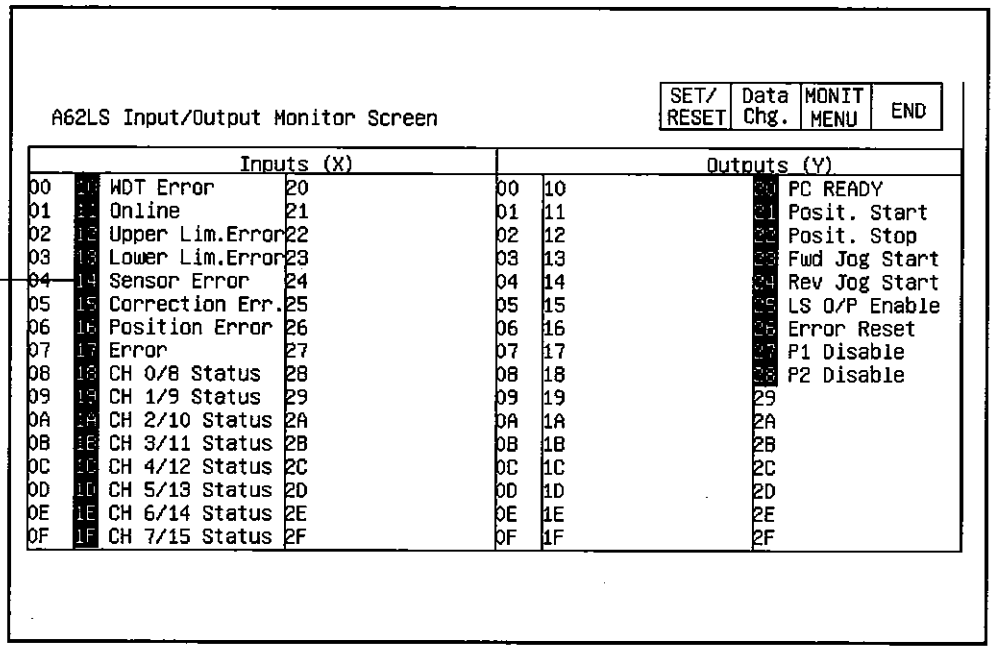
11.7.1 Operation Monitor

As a screen example, we will store the monitor screens from CH. 0 ~ CH. 3 in the memory.



No.	Contents of display	Buffer memory address to reference (decimal)
①	The ON/OFF status of the I/O signal corresponding to the PC CPU is displayed. The I/O signal is ON when displayed in a reverse display.	—
②	The error code is displayed when an error occurs.	7
③	The output status of each channel is displayed. 0: OFF 1: ON	4
	The set limit switch output enable/disable status for each channel is displayed. 0: Enable 1: Disable	8
④	The sensor binary current value is displayed.	2, 3
⑤	After unit conversion of the sensor binary current value to mm or inches, the value added to the minimum current value is displayed as the scaling binary current value.	0, 1
⑥	The set value of the positioning target stop position is displayed.	10, 11
⑦	The program number used with the limit switch output function is displayed.	9
⑧	The answer back program number corresponding to the program number used with the limit switch output function is displayed.	5
⑨	The A62LS operation mode status is displayed. "1" is displayed in the bit corresponding to the selected operation mode. 	6
⑩	The number of multi-dogs that are set is displayed.	12 ~ 226
⑪	The set value for the on position and off position of the multi-dog no. is displayed for each channel.	12 ~ 226

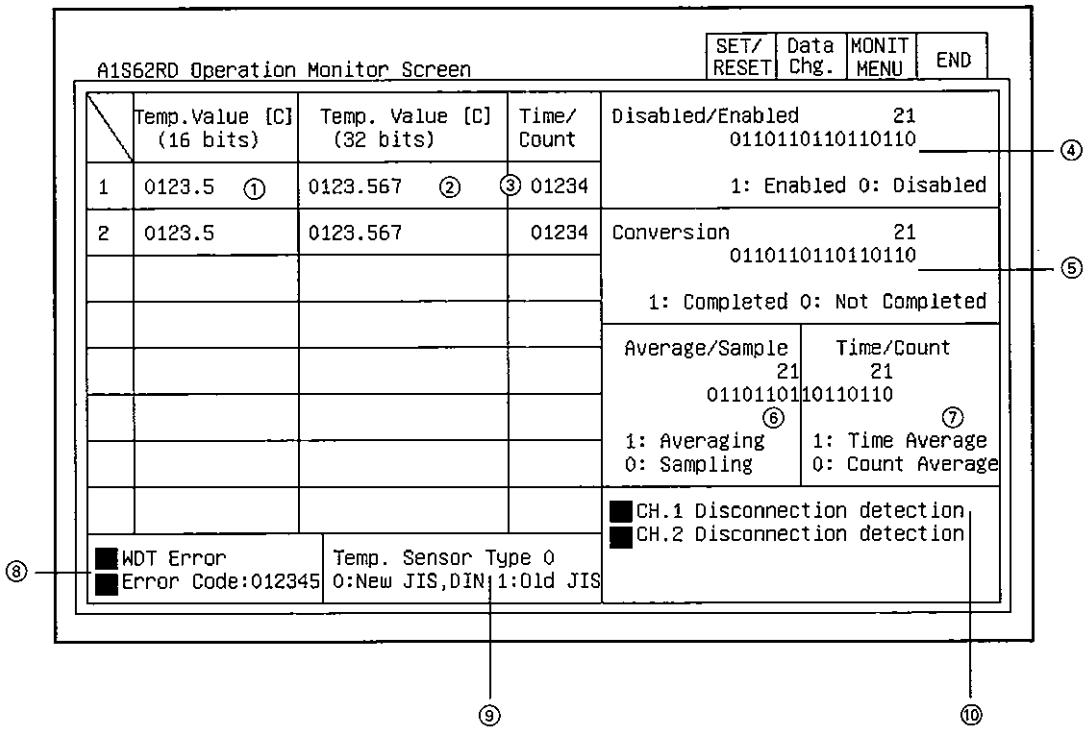
11.7.2 I/O Monitor



No.	Contents of display
①	The ON/OFF status of the I/O signal corresponding to the PC CPU is displayed. The I/O signal is ON when displayed in a reverse display.

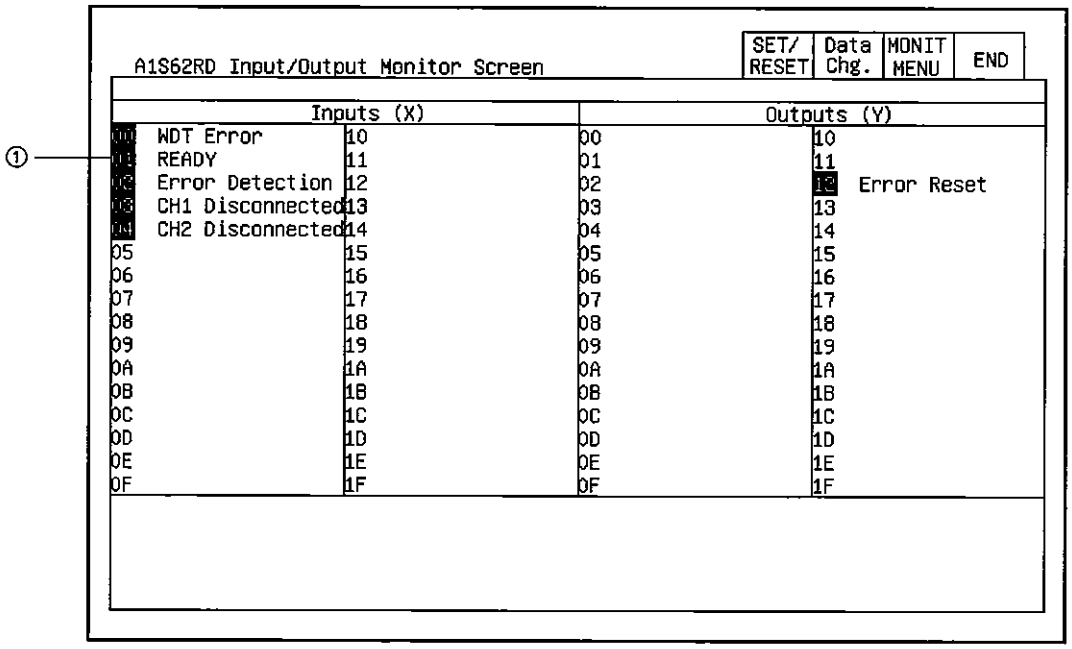
11.8 A1S62RD Unit Monitor

11.8.1 Operation Monitor



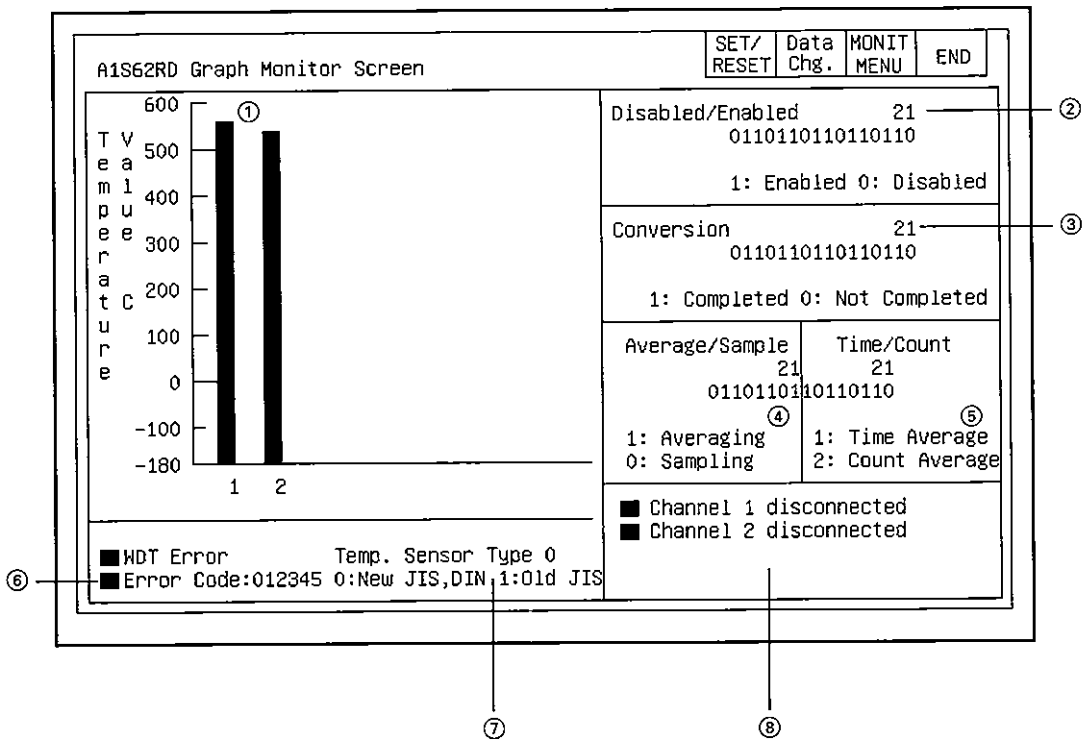
No.	Contents of display	Buffer memory address to reference (decimal)
①	The temperature detection value of each channel is displayed up to 1 digit after the decimal point.	10, 11
②	The temperature detection value of each channel is displayed up to 3 digits after the decimal point.	18 ~ 21
③	The values set for the time and count of times for averaging processing of each of the channels is displayed.	2, 3
④	The specified conversion enabled/disabled status of each channel is displayed.	0
⑤	The Conversion Completed flag status for each channel is displayed.	35
⑥	The specified status for the averaging processing/sampling processing of each channel is displayed.	1
⑦	The specified status for the averaging processing of each channel is displayed.	1
⑧	A "■" is displayed when a watchdog timer error occurs.	—
	A "■" is displayed when a writing data error occurs; the channel where it occurred and error code are displayed.	34
⑨	The specified status of the platinum temperature sensor that is used is displayed.	36
⑩	For A1S62RD3 A "■" is displayed in a channel where broken wire was detected. For A1S62RD4 A "■" is displayed in CH1 when a broken wire is detected in any channel.	—

11.8.2 I/O Monitor



No.	Contents of display
①	The ON/OFF status of the I/O signal corresponding to the PC CPU is displayed. The I/O signal is ON when displayed in a reverse display.

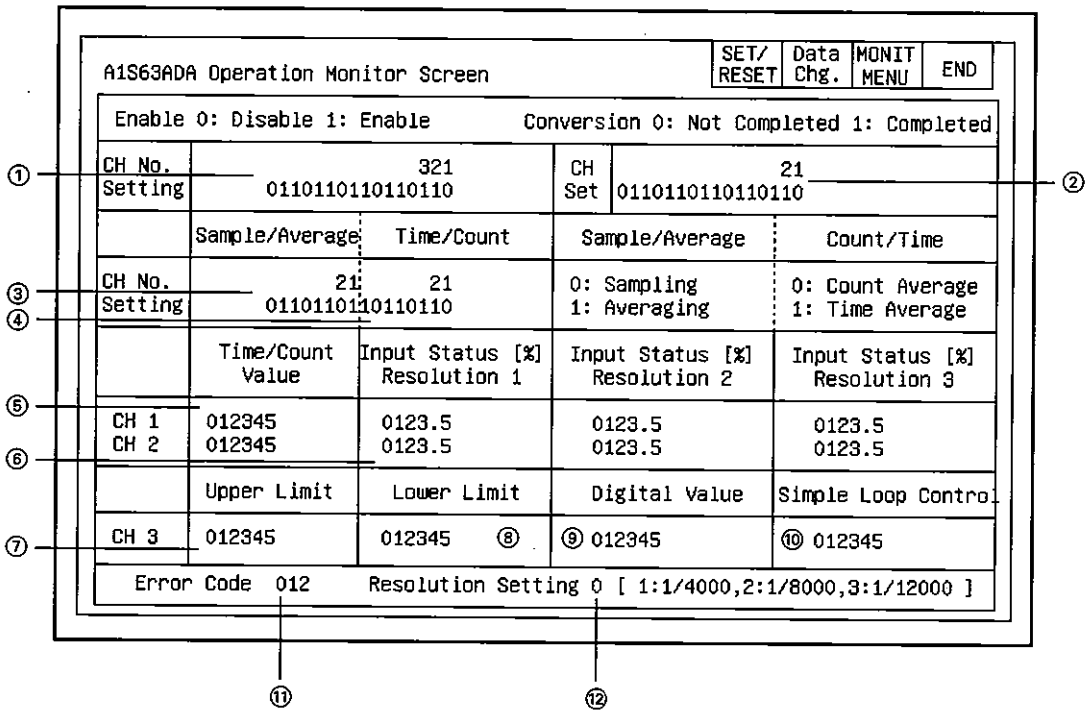
11.8.3 Graph Monitor



No.	Contents of display	Buffer memory address to reference (decimal)
①	The temperature detection value of each channel is displayed as a graph.	10, 11
②	The specified conversion enabled/disabled status for each channel is displayed.	0
③	The status of the Conversion Complete flag for each channel is displayed.	35
④	The specified status for the averaging processing/sampling processing of each channel is displayed.	1
⑤	The specified status for the averaging processing of each channel is displayed.	1
⑥	A "■" is displayed when a watchdog timer error occurs.	—
	A "■" is displayed when a writing data error occurs; the channel where it occurred and the error code are displayed.	34
⑦	The specified status of the platinum temperature sensor that is used is displayed.	36
⑧	For A1S62RD3 A "■" is displayed in a channel where a broken wire was detected. For A1S62RD4 A "■" is displayed in CH1 when a broken wire is detected in any channel.	—

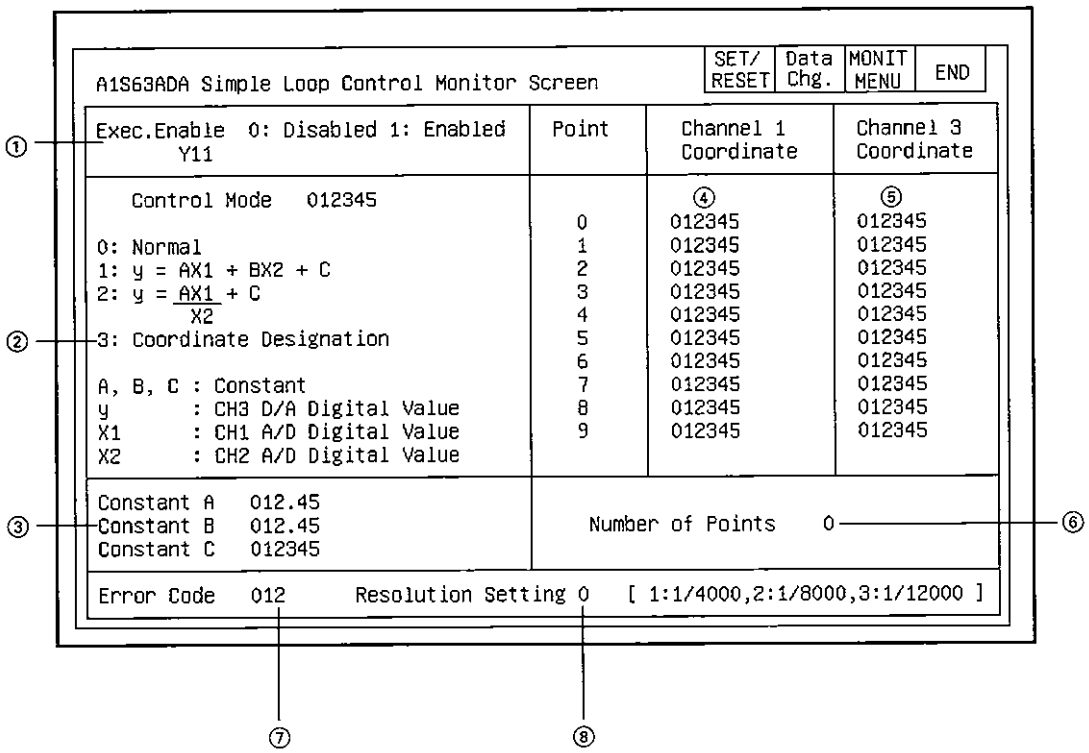
11.9 A1S63DA Unit Monitor

11.9.1 Operation Monitor



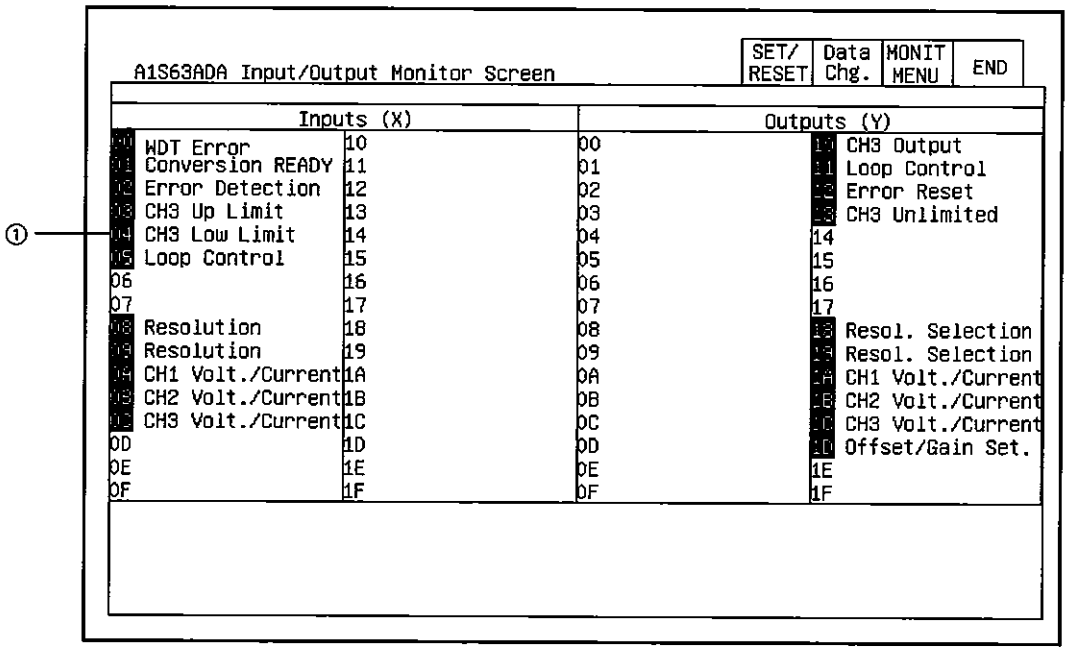
No.	Contents of display	Buffer memory address to reference (decimal)
①	The specified conversion enabled/disabled status for each channel is displayed.	0
②	The Conversion Completed flag status for channels 1 and 2 is displayed.	15
③	The specified status for the averaging processing/sampling processing of channels 1 and 2 is displayed.	1
④	The specified status for the averaging processing of channels 1 and 2 is displayed.	
⑤	The values set for the time and number of times for averaging processing of channels 1 and 2 is displayed.	2, 3
⑥	The current output value, a value between 0 ~ 4000 for the digital output value of channels 1 and 2, is displayed as a percentage ranging from 0 to 100%. (Resolution selection: 2: 0~8000, 3: 0~12000)	11, 12
⑦	The upper limit of the digital value following D/A conversion with channel 3 is displayed.	4
⑧	The lower limit of the digital value following D/A conversion with channel 3 is displayed.	5
⑨	The set value of the digital value following D/A conversion with channel 3 is displayed.	10
⑩	The digital value of channel 3 calculated by simple loop control is displayed.	13
⑪	The error code is displayed when a writing data error occurs.	16
⑫	The set resolution selection is displayed.	14

11.9.2 Simple Loop Monitor



No.	Contents of display	Buffer memory address to reference (decimal)
①	The specified simple loop control execution enabled/disabled status is displayed.	—
②	The control mode set status is displayed.	6
③	The set value of the simple loop control constant is displayed.	7, 8, 9
④	The set values of channel 1 coordinates that were set in each point are displayed.	18 ~ 37
⑤	The set values of channel 3 coordinates that were set in each point are displayed.	
⑥	The number of coordinate points of the simple loop control that was set is displayed.	17
⑦	The error code is displayed when a writing data error occurs.	16
⑧	The set resolution selection is displayed.	14

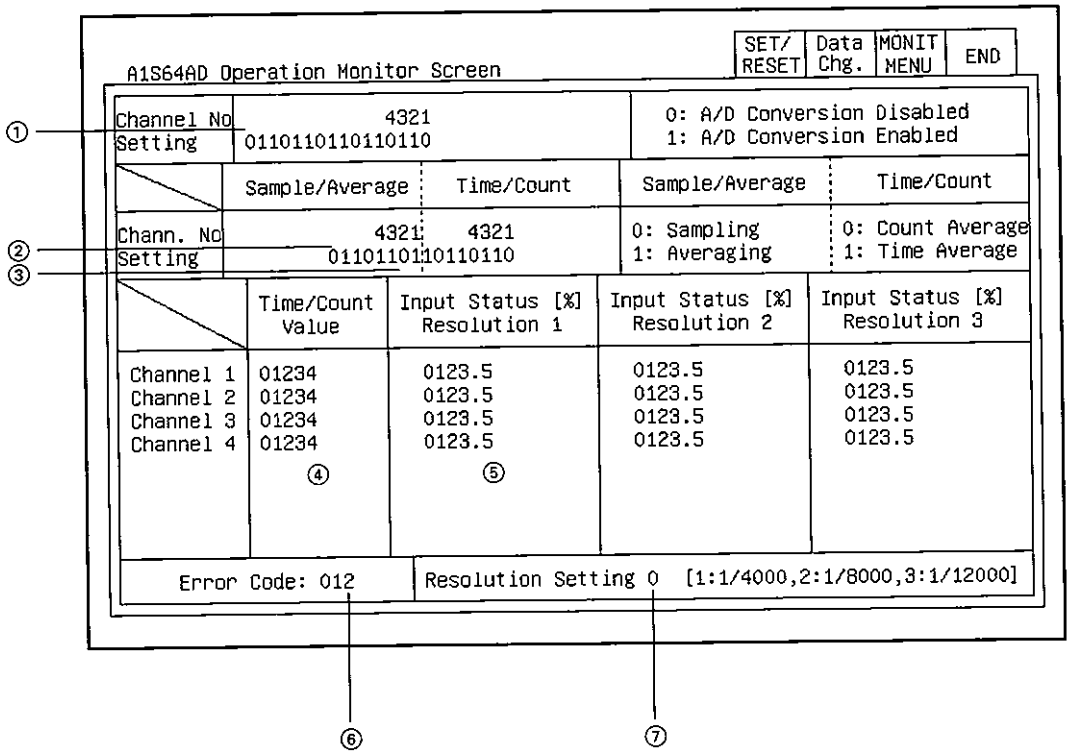
11.9.3 I/O Monitor



No.	Contents of display
①	The ON/OFF status of the I/O signal corresponding to the PC CPU is displayed. The I/O signal is ON when displayed in a reverse display.

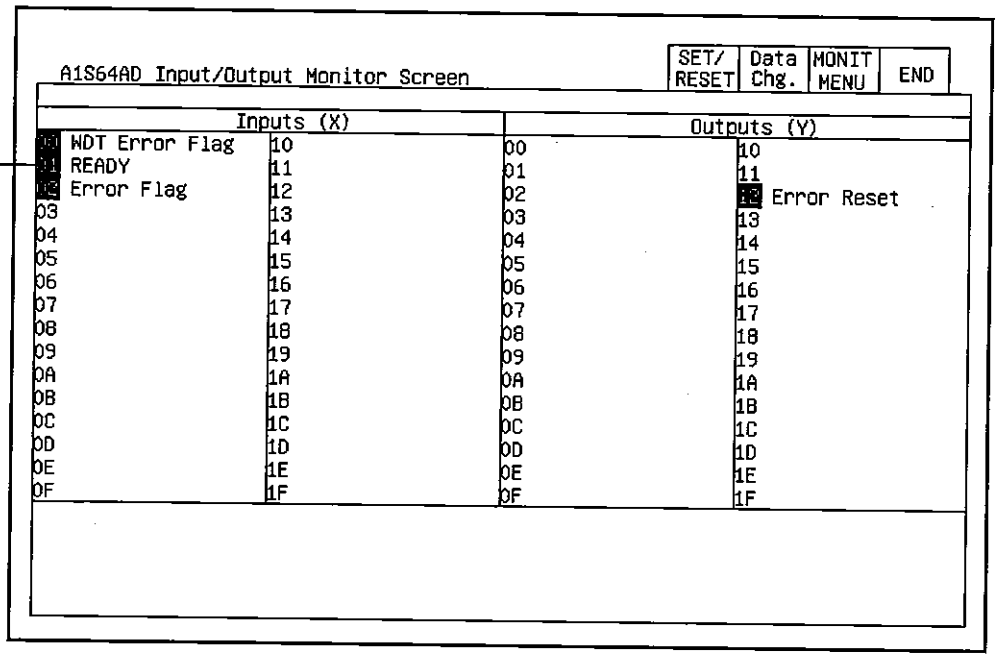
11.10 A1S64DA Unit Monitor

11.10.1 Operation Monitor



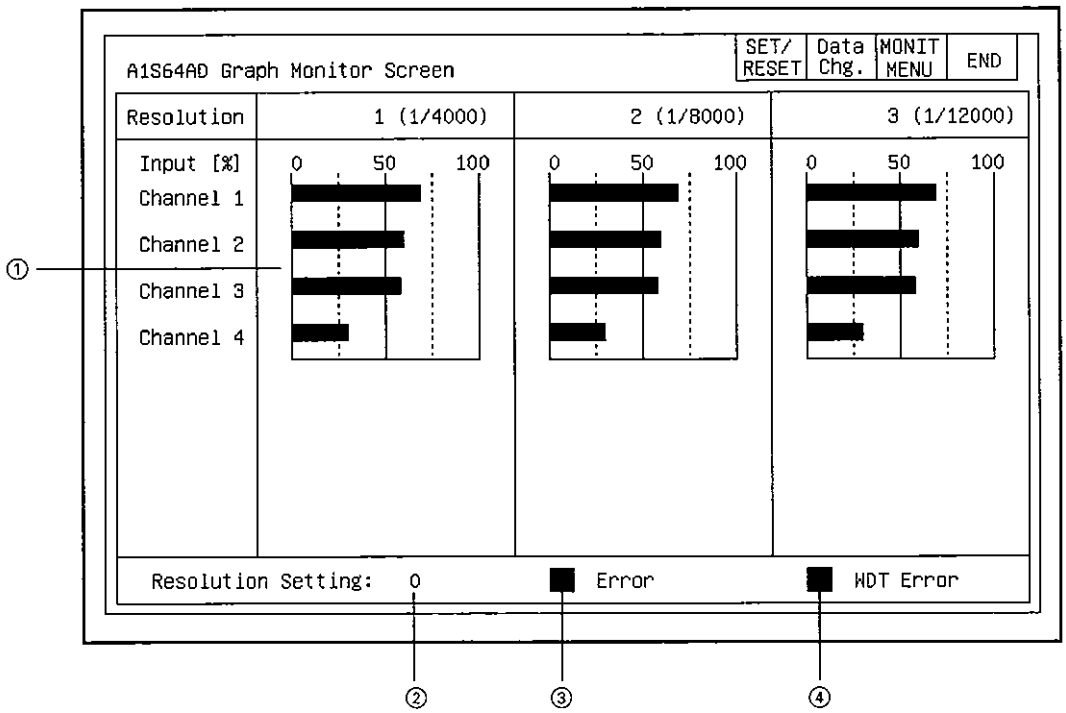
No.	Contents of display	Buffer memory address to reference (decimal)
①	The specified conversion enabled/disabled status of each channel is displayed.	0
②	The specified status for the averaging processing/sampling processing of each channel is displayed.	1
③	The specified status for the averaging processing of each channel is displayed.	1
④	The values set for the time and number of times for averaging processing of each channel is displayed.	2 ~ 5
⑤	The current output value, a value between 0 ~ 4000 for the digital output value of each channel, is displayed as a percentage ranging from 0 to 100%. (Resolution selection: 2: 0~8000, 3: 0~12000)	10 ~ 13
⑥	The error code is displayed when a writing data error occurs.	18
⑦	The set resolution selection is displayed.	20

11.10.2 I/O Monitor



No.	Contents of display
①	The ON/OFF status of the I/O signal corresponding to the PC CPU is displayed. The I/O signal is ON when displayed in a reverse display.

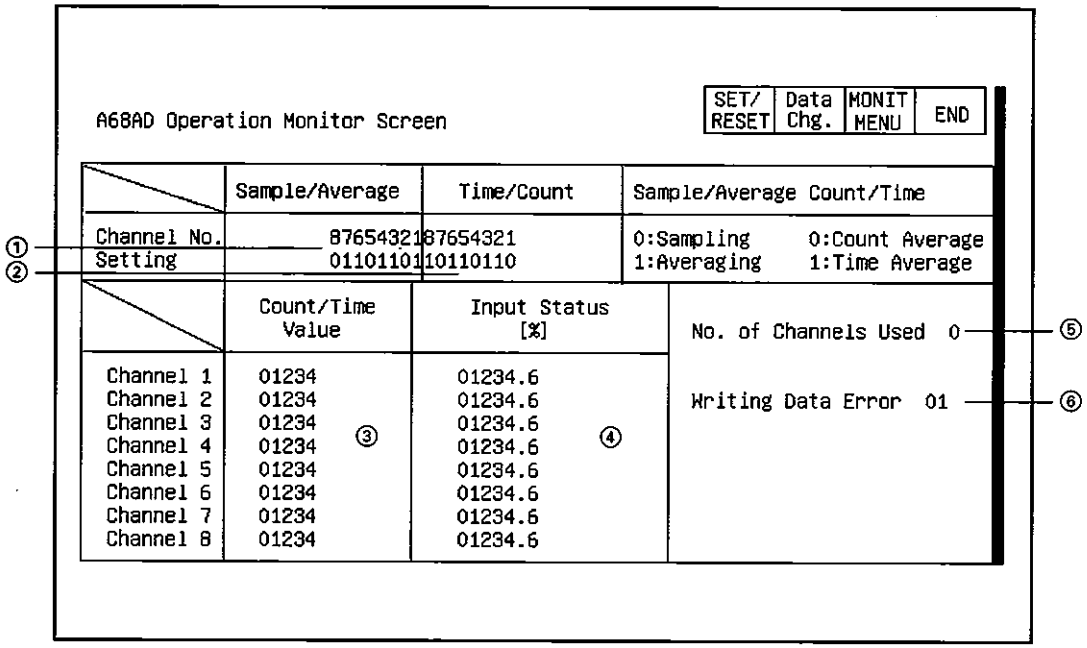
11.10.3 Graph Monitor



No.	Contents of display	Buffer memory address to reference (decimal)
①	The current output value, a value between 0 ~ 4000 for the digital output value of each channel, is displayed in a graph as a percentage ranging from 0 to 100%. (Resolution selection: 2: 0~8000, 3: 0~12000)	10 ~ 13
②	The set resolution selection is displayed. 1: 1/4000 2: 1/8000 3: 1/12000	20
③	A "■" is displayed when a writing data error occurs.	—
④	A "■" is displayed when a watchdog timer error occurs.	—

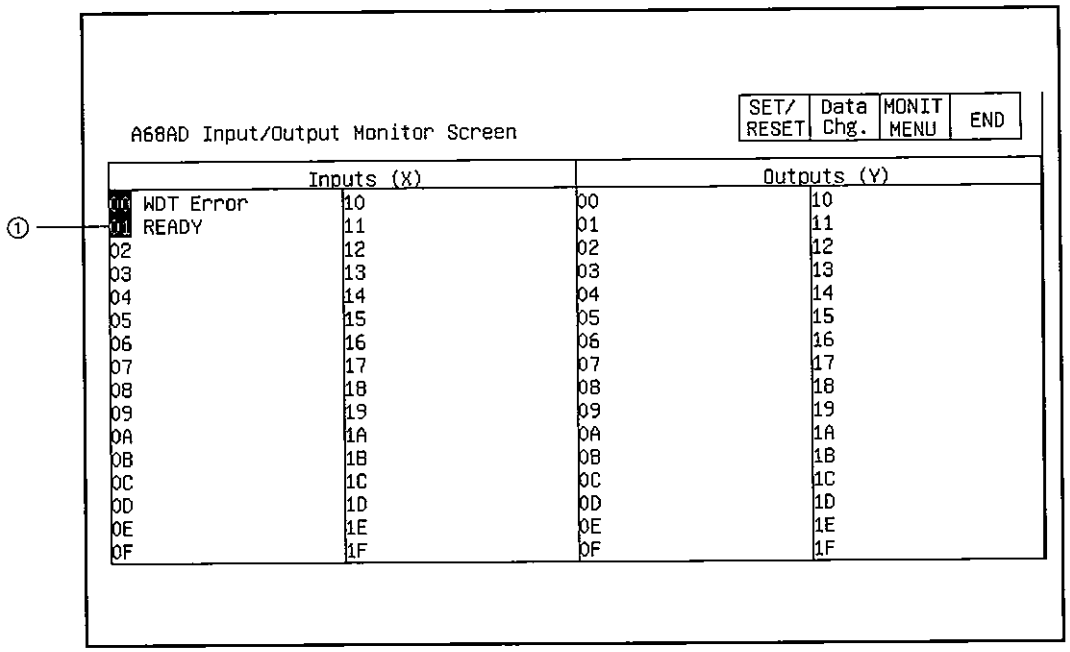
11.11 A68AD Unit Monitor

11.11.1 Operation Monitor



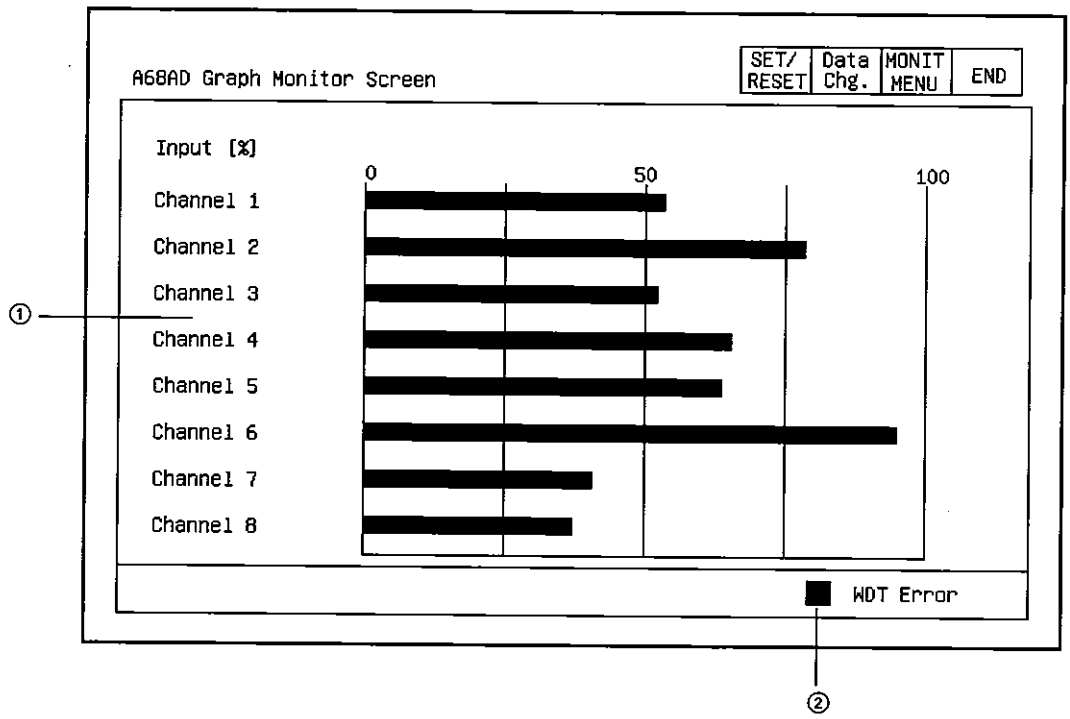
No.	Contents of display	Buffer memory address to reference (decimal)
①	The specified status for the averaging processing/sampling processing of each channel is displayed.	1
②	The specified status for the averaging processing of each channel is displayed.	1
③	The values set for the time and number of times for averaging processing of each channel is displayed.	2 ~ 9
④	The current output value, a value between 0 ~ 2000 for the digital output value of each channel, is displayed as a percentage ranging from 0 to 100%.	10 ~ 17
⑤	The number of channels that are used is displayed. (With A68AD-S2 monitoring, the display value is invalid.)	0
⑥	The error code is displayed when a writing data error occurs.	34

11.11.2 I/O Monitor



No.	Contents of display
①	The ON/OFF status of the I/O signal corresponding to the PC CPU is displayed. The I/O signal is ON when displayed in a reverse display.

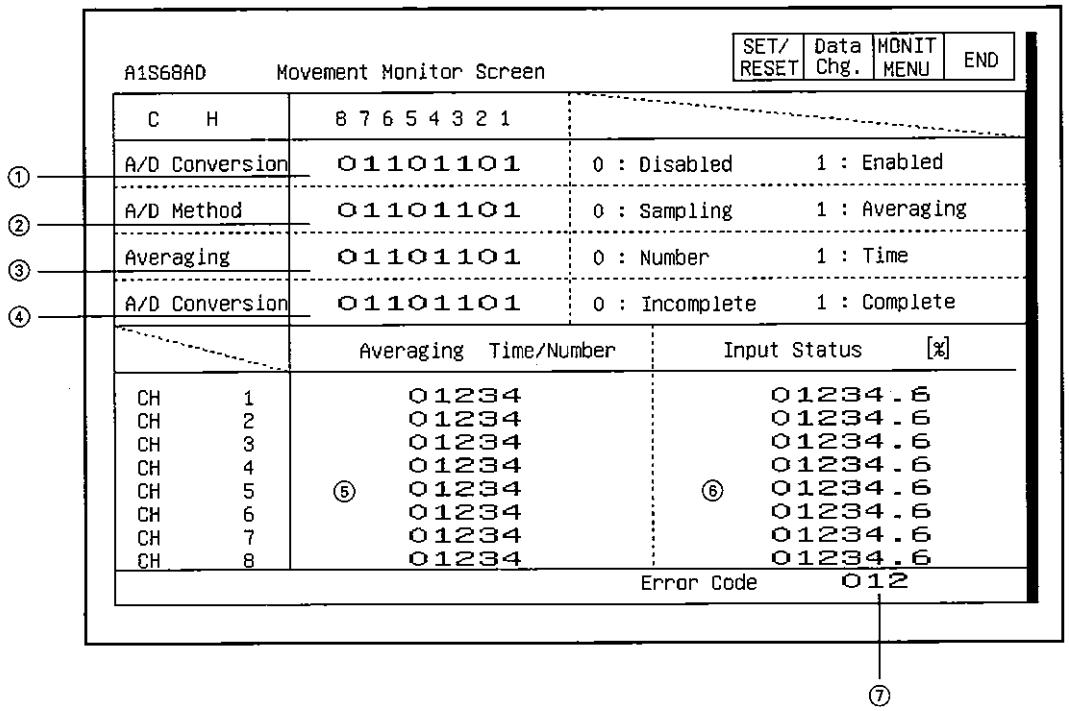
11.11.3 Graph Monitor



No.	Contents of display	Buffer memory address to reference (decimal)
①	The current output value, a value between 0 ~ 2000 for the digital output value of each channel, is displayed in a graph as a percentage ranging from 0 to 100%.	10 ~ 17
②	A "■" is displayed when a watchdog timer error occurs.	—

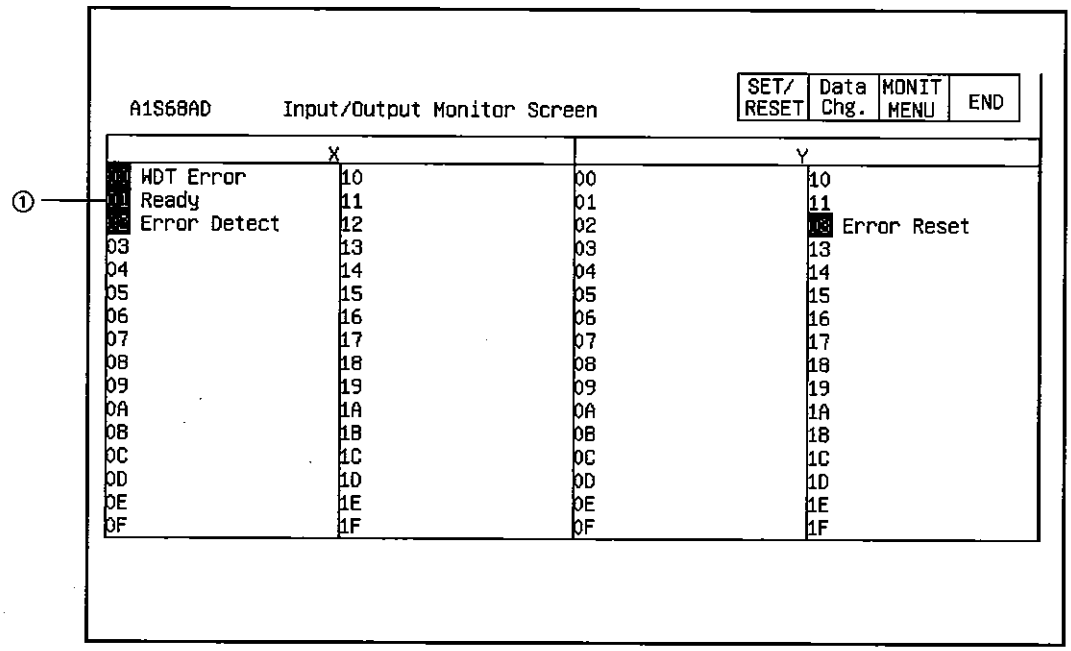
11.12 A1S68AD Unit Monitor

11.12.1 Operation Monitor



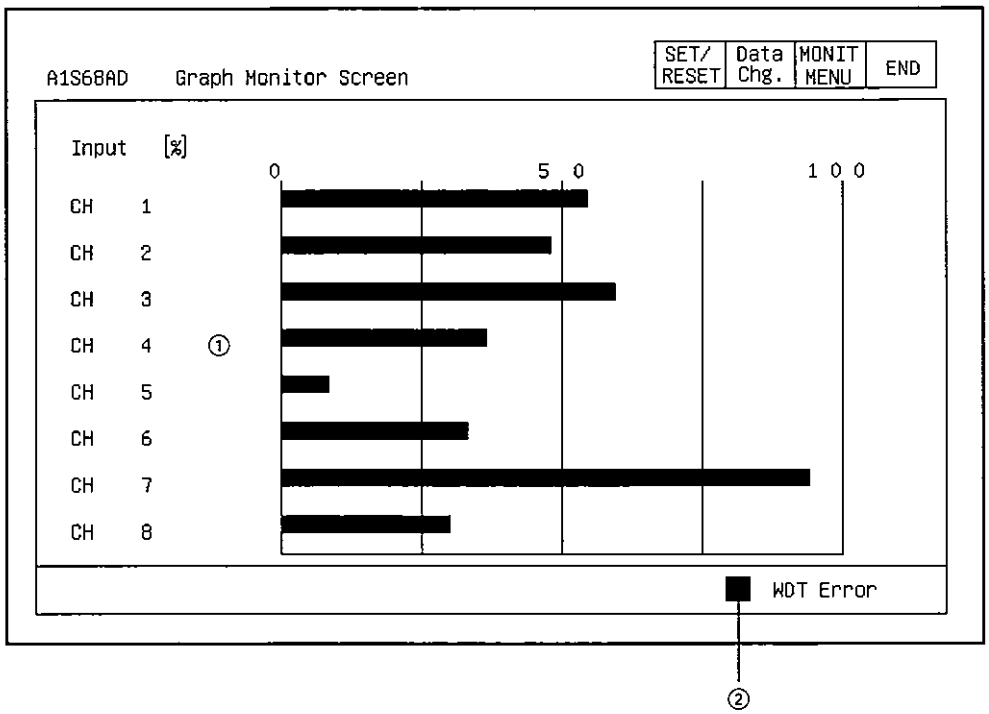
No.	Contents of display	Buffer memory address to reference (decimal)
①	The A/D conversion enabled/disabled status of each channel is displayed.	0
②	The specified status for the averaging processing/sampling processing of each channel is displayed.	2
③	The specified status for the averaging processing of each channel (Time/count) is displayed.	2
④	The A/D Conversion Complete flag status for each channel is displayed.	28
⑤	The values set for the time and count of times for averaging processing of each channel is displayed.	10 ~ 17
⑥	The current output value, a value between 0 ~ 2000 for the digital output value of each channel, is displayed as a percentage ranging from 0 to 100%.	20 ~ 27
⑦	The error code is displayed when a writing data error occurs.	1

11.12.2 I/O Monitor



No.	Contents of display
①	The ON/OFF status of the I/O signal corresponding to the PC CPU is displayed. The I/O signal is ON when displayed in a reverse display.

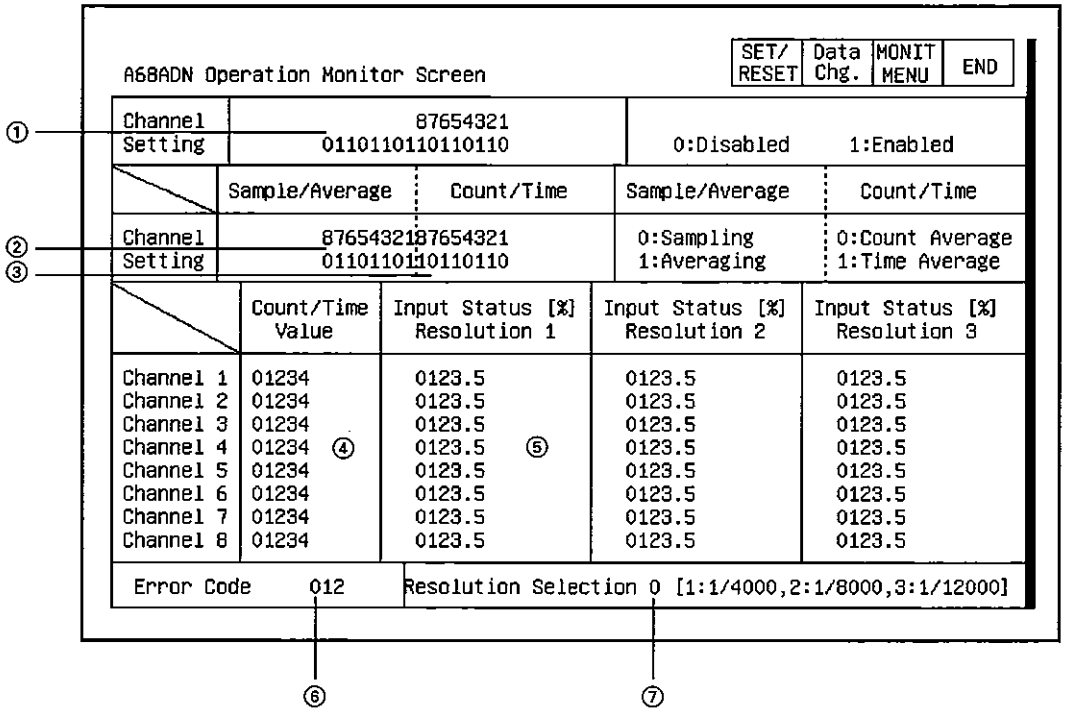
11.12.3 Graph Monitor



No.	Contents of display	Buffer memory address to reference (decimal)
①	The current output value, a value between 0 ~ 2000 for the digital output value of each channel, is displayed in a graph as a percentage ranging from 0 to 100%.	20 ~ 27
②	A "■" is displayed when a watchdog timer error occurs.	—

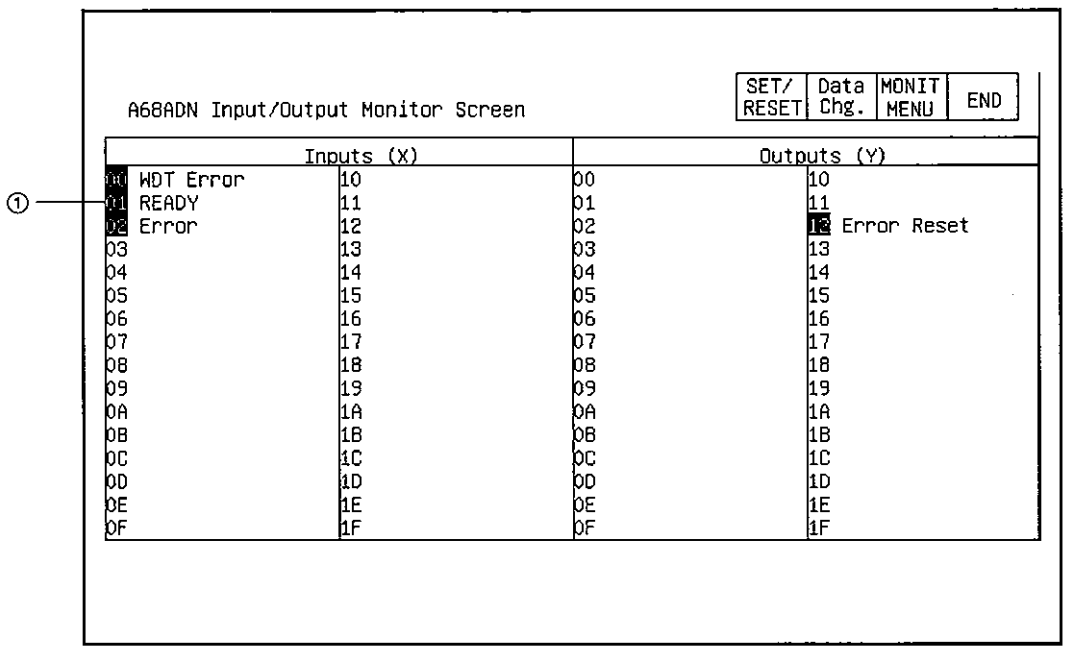
11.13 A68ADN Unit Monitor

11.13.1 Operation Monitor



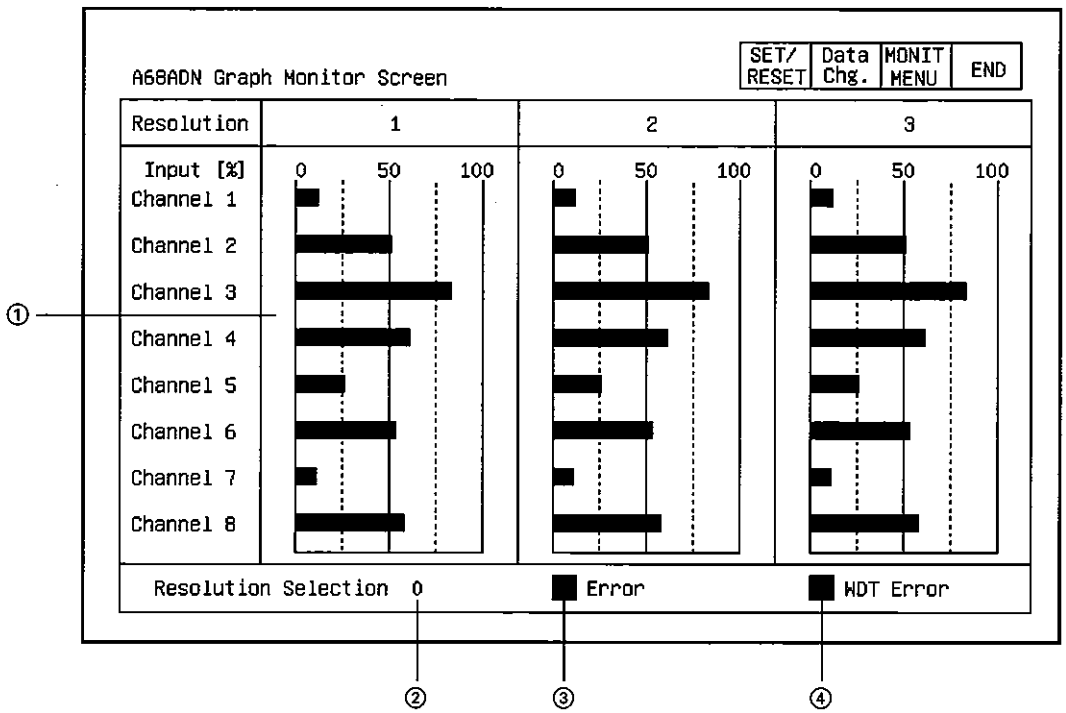
No.	Contents of display	Buffer memory address to reference (decimal)
①	The specified conversion enabled/disabled status of each channel is displayed.	0
②	The specified status for the averaging processing/sampling processing of each channel is displayed.	1
③	The specified status for the averaging processing of each channel is displayed.	1
④	The values set for the time and count of times for averaging processing of each channel is displayed.	2 ~ 9
⑤	The current output value, a value between 0 ~ 4000 for the digital output value of each channel, is displayed as a percentage ranging from 0 to 100%. (Resolution selection: 2: 0~8000, 3: 0~12000)	10 ~ 17
⑥	The error code is displayed when a writing data error occurs.	18
⑦	The resolution selection that was set is displayed.	20

11.13.2 I/O Monitor



No.	Contents of display
①	The ON/OFF status of the I/O signal corresponding to the PC CPU is displayed. The I/O signal is ON when displayed in a reverse display.

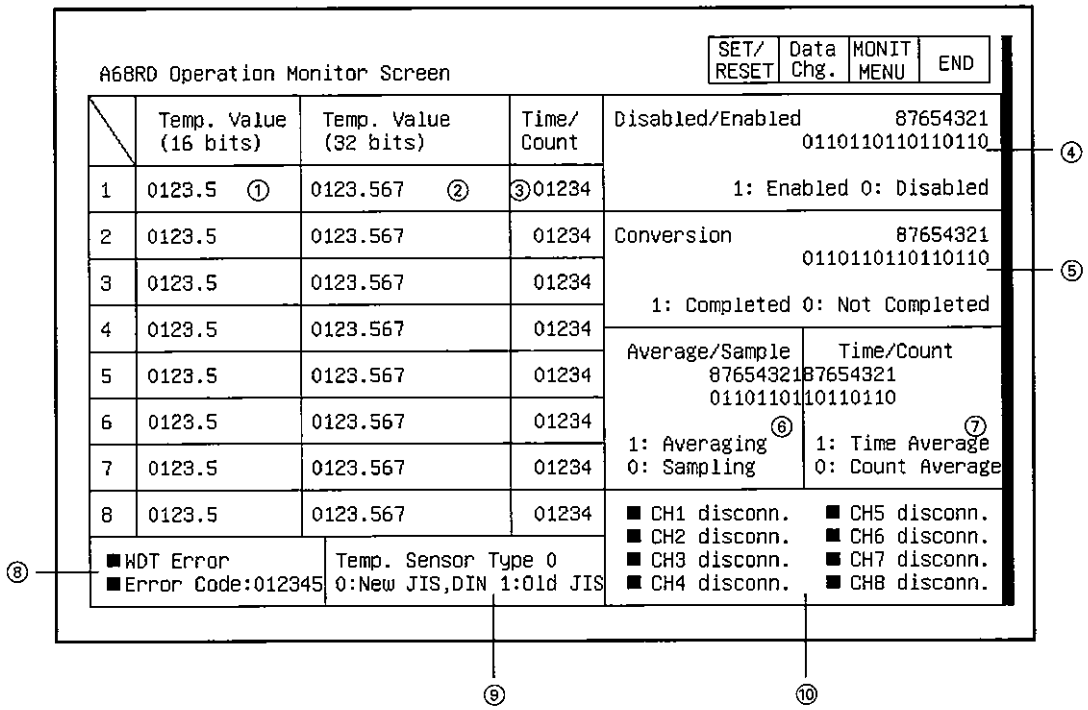
11.13.3 Graph Monitor



No.	Contents of display	Buffer memory address to reference (decimal)
①	The current output value, a value between 0 ~ 4000 for the digital output value of each channel, is displayed as a percentage ranging from 0 to 100%. (Resolution selection: 2: 0~8000, 3: 0~12000)	10 ~ 17
②	The set resolution selection is displayed. 1: 1/4000 2: 1/8000 3: 1/12000	20
③	A "■" is displayed when a writing data error occurs.	—
④	A "■" is displayed when a watchdog timer error occurs.	—

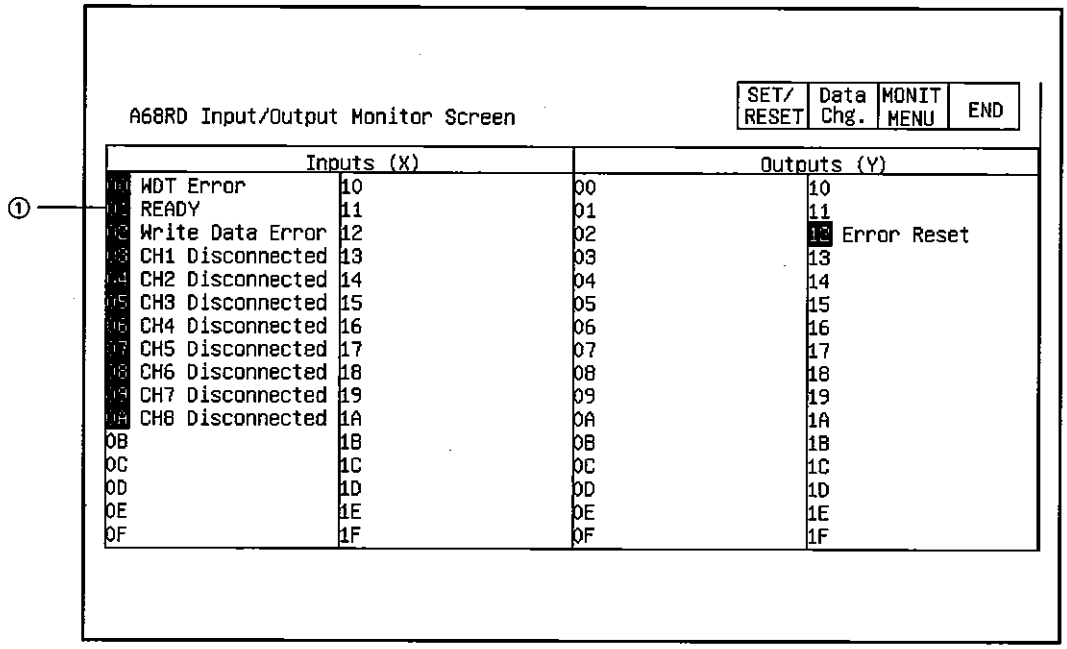
11.14 A68RD Unit Monitor

11.14.1 Operation Monitor



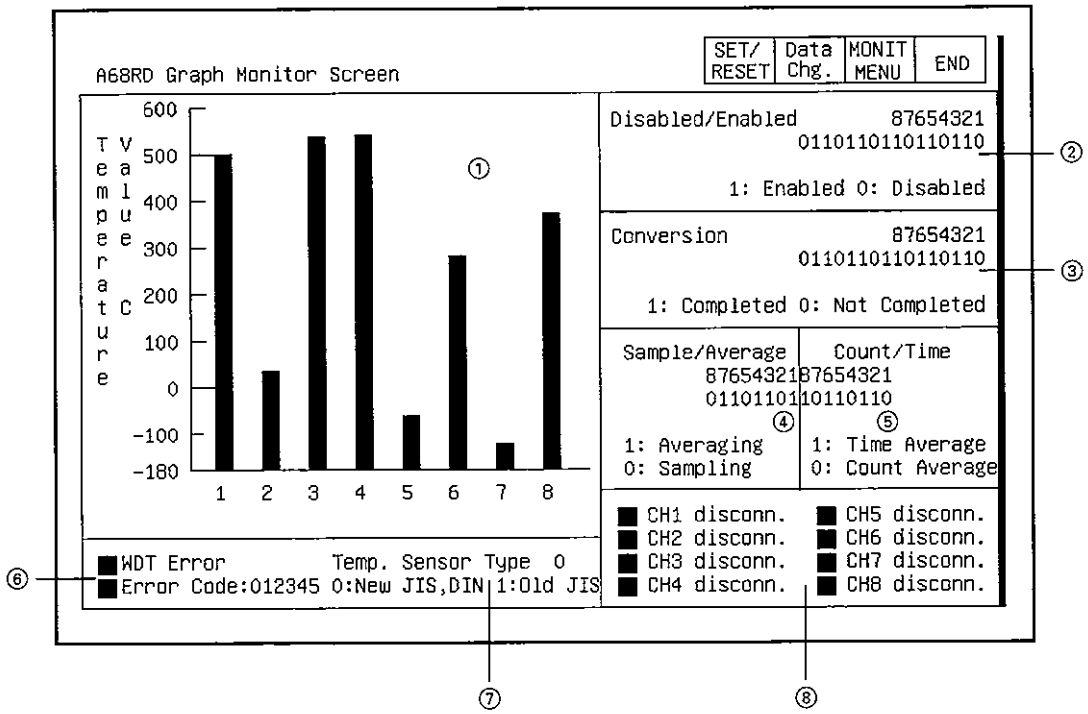
No.	Contents of display	Buffer memory address to reference (decimal)
①	The temperature detection value of each channel is displayed up to 1 digit after the decimal point.	10 ~ 17
②	The temperature detection value of each channel is displayed up to 3 digits after the decimal point.	18 ~ 33
③	The values set for the time and count of times for averaging processing of each channel is displayed.	2 ~ 9
④	The specified conversion enabled/disabled status of each channel is displayed.	0
⑤	The Conversion Complete flag status for each channel is displayed.	35
⑥	The specified status for the averaging processing/sampling processing of each channel is displayed.	1
⑦	The specified status for the averaging processing of each channel is displayed.	1
⑧	A "■" is displayed when a watchdog timer error occurs.	—
	A "■" is displayed when a writing data error occurs; the channel where it occurred and the error code are displayed.	34
⑨	The specified status of the platinum temperature sensor that is used is displayed.	36
⑩	For A68RD3 A "■" is displayed in a channel where a broken wire was detected. For A68RD4 A "■" is displayed in CH1 when a broken wire is detected in any channel.	—

11.14.2 I/O Monitor



No.	Contents of display
①	The ON/OFF status of the I/O signal corresponding to the PC CPU is displayed. The I/O signal is ON when displayed in a reverse display.

11.14.3 Graph Monitor



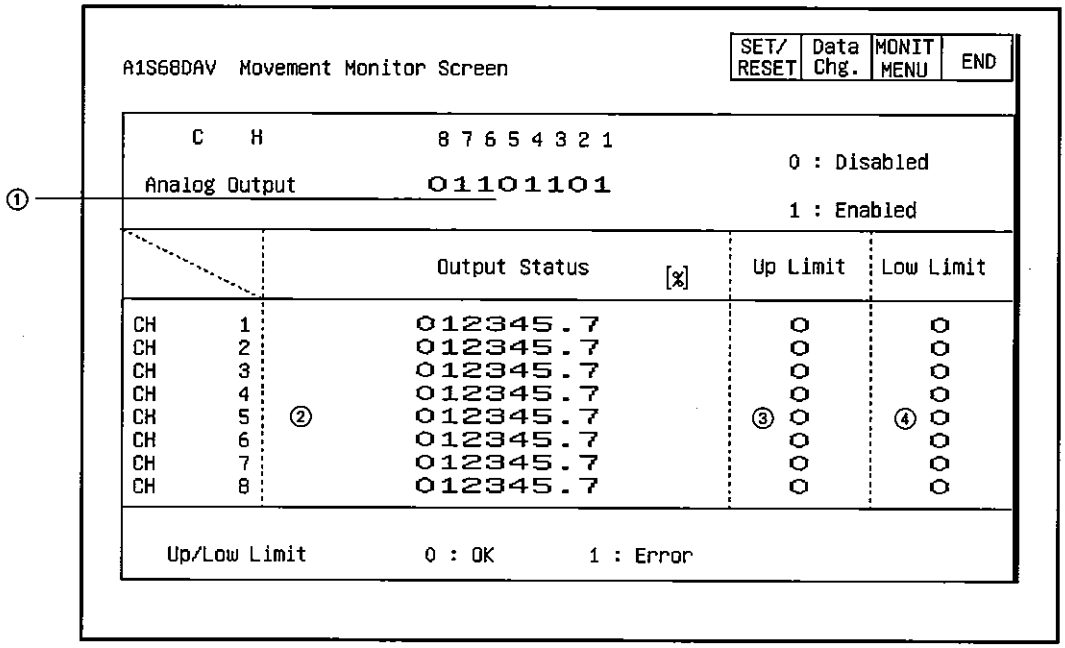
No.	Contents of display	Buffer memory address to reference (decimal)
①	The temperature detection value of each channel is displayed in a graph.	10 ~ 17
②	The specified conversion enabled/disabled status of each channel is displayed.	0
③	The Conversion Complete flag status for each channel is displayed.	35
④	The specified status for the averaging processing/sampling processing of each channel is displayed.	1
⑤	The specified status for the averaging processing of each channel is displayed.	1
⑥	A "■" is displayed when a watchdog timer error occurs.	—
	A "■" is displayed when a writing data error occurs; the channel where it occurred and the error code are displayed.	34
⑦	The specified status of the platinum temperature sensor that is used is displayed.	36
⑧	For A68RD3 A "■" is displayed in a channel where a broken wire was detected. For A68RD4 A "■" is displayed in CH1 when a broken wire is detected in any channel.	—

11.15 A1S68DAI, A1S68DAV Unit Monitor

The contents displayed on each monitor of the A1S68DAI unit and A1S68DAV unit are nearly identical, except for the sections displaying the unit format.

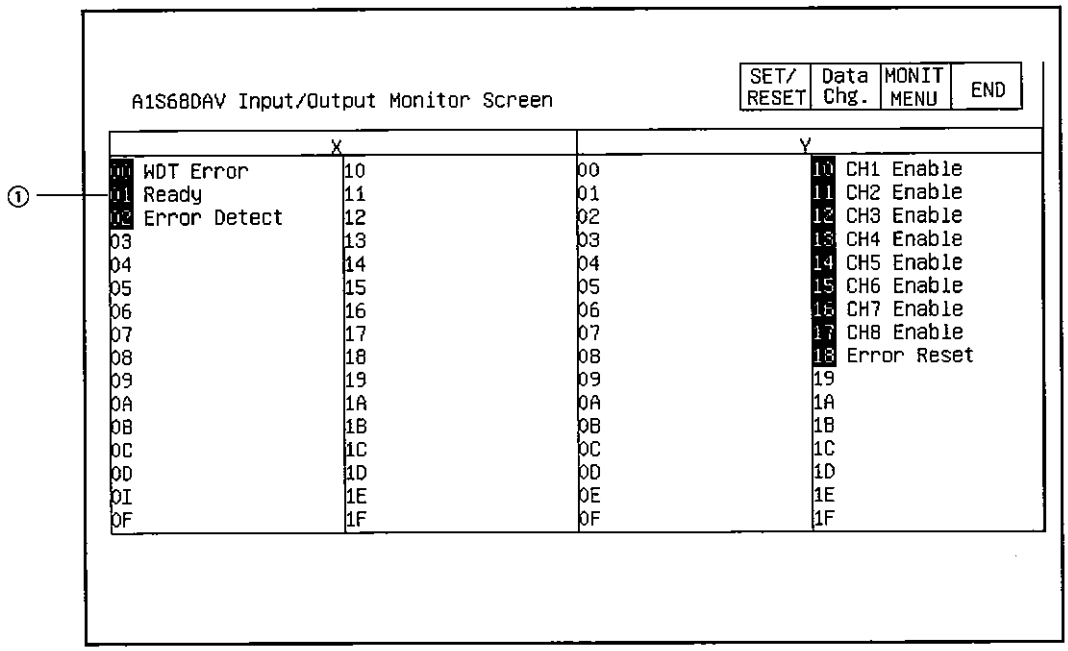
The A1S68DAV unit monitor screen is used as an example in each of the following sections.

11.15.1 Operation Monitor



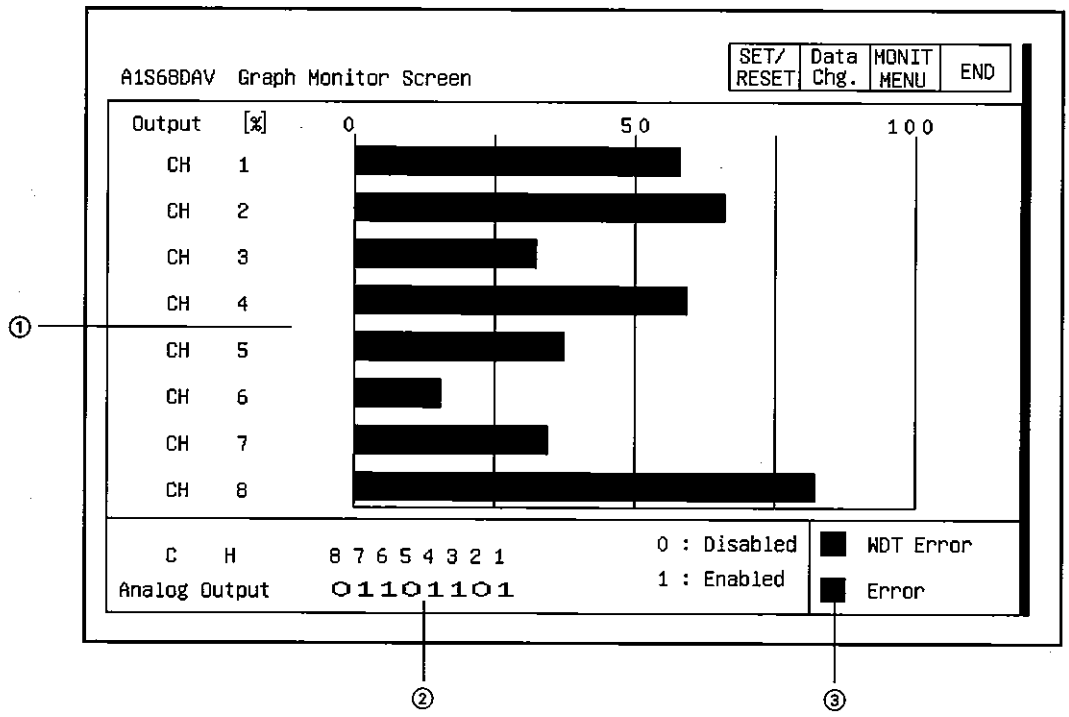
No.	Contents of display	Buffer memory address to reference (decimal)
①	The analog output enabled/disabled status for each channel is displayed.	0
②	For A1S68DAI: The present input value, a value between 0 ~ 4000 for the digital input value of each channel, is displayed as a percentage ranging from 0 to 100%. For A1S68DAV: The present input value, a value between -2000 ~ 2000 for the digital input value of each channel, is displayed as a percentage ranging from 0 to 100%.	1 ~ 8
③	When the digital input value set for each channel is greater than the allowable value, "1" is displayed.	10 ~ 17
④	When the digital input value set for each channel is less than the allowable value, "1" is displayed.	10 ~ 17

11.15.2 I/O Monitor



No.	Contents of display
①	The ON/OFF status of the I/O signal corresponding to the PC CPU is displayed. The I/O signal is ON when displayed in a reverse display.

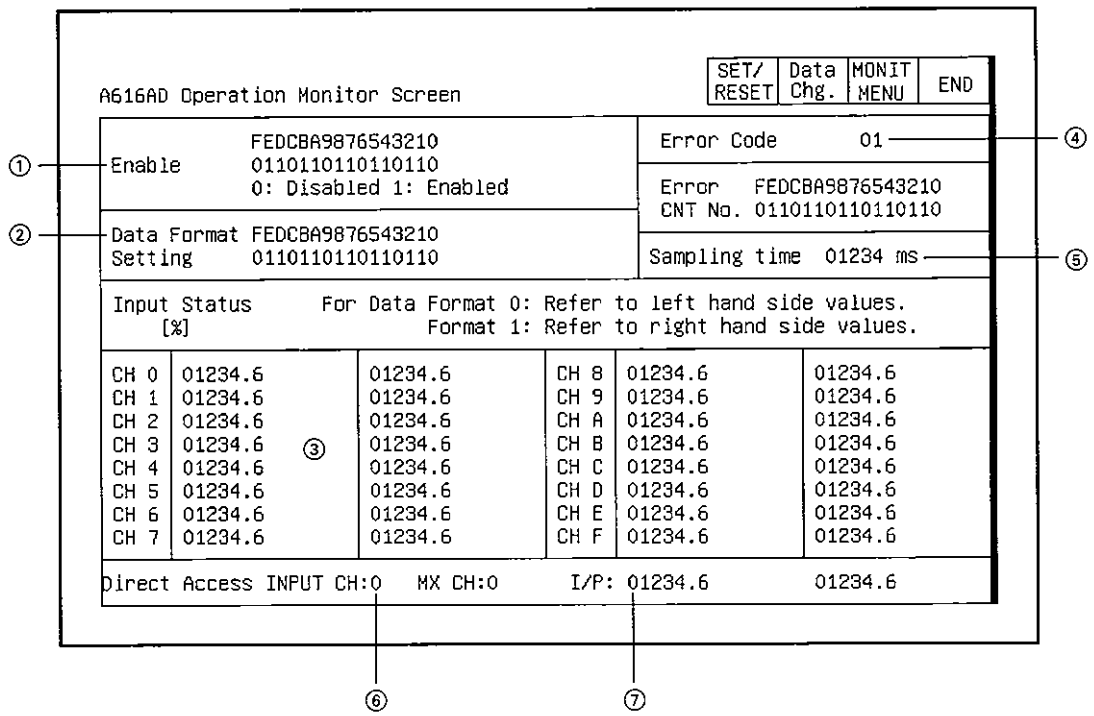
11.15.3 Graph Monitor



No.	Contents of display	Buffer memory address to reference (decimal)
①	For A1S68DAI: The present input value, a value between 0 ~ 4000 for the digital input value of each channel, is displayed in a graph as a percentage ranging from 0 to 100%. For A1S68DAV: The present input value, a value between -2000 ~ 2000 for the digital input value of each channel, is displayed in a graph as a percentage ranging from 0 to 100%.	1 ~ 8
②	The analog output enabled/disabled status for each channel is displayed.	0
③	A "■" is displayed when a watchdog timer error occurs.	—
	When the digital input value set for each channel is greater than/ less than the allowable value, a "■" is displayed.	10 ~ 17

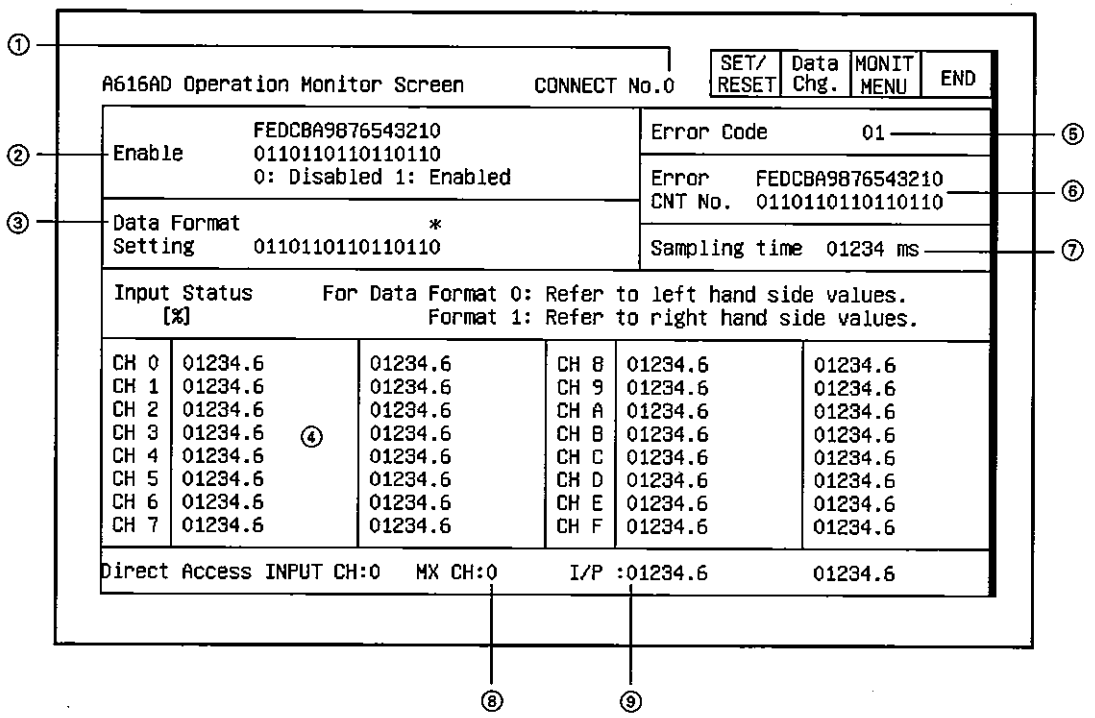
11.16 A616AD Unit Monitor

11.16.1 Operation Monitor



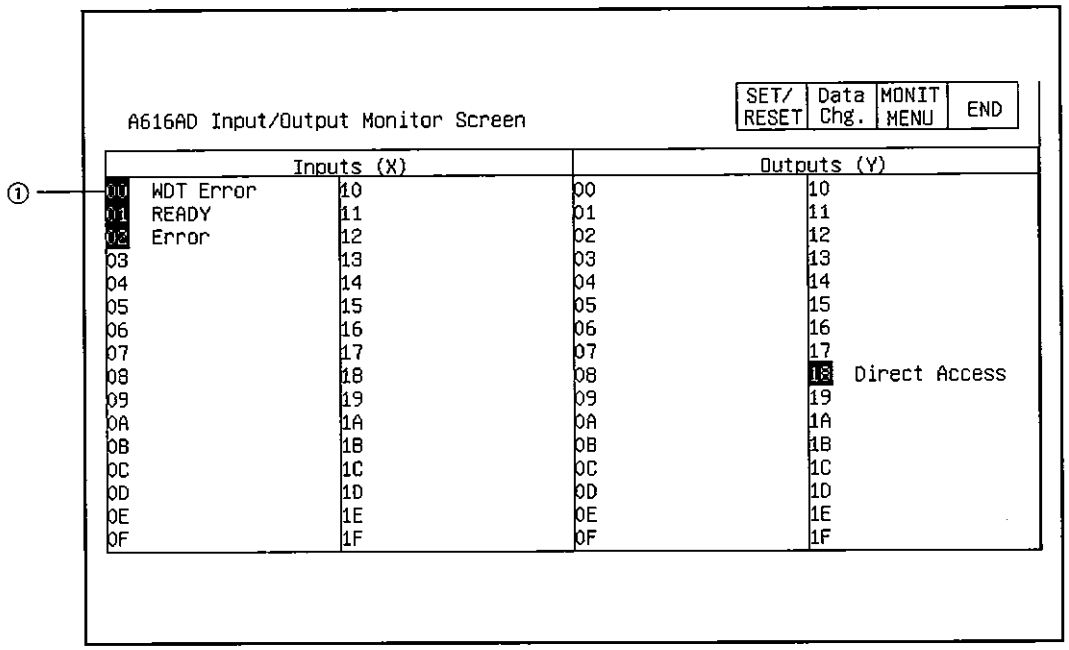
No.	Contents of display	Buffer memory address to reference (hexadecimal)
①	The specified conversion enabled/disabled status of each channel is displayed.	F
②	The set status of the data format for each channel is displayed. 0: Data format 48-4047 1: Data format 2048-2047	4
③	The current output value, a value between 0 ~ 4000 for the digital output value of each channel, is displayed as a percentage ranging from 0 to 100%.	30 ~ 3F
④	The error code is displayed when an error occurs.	5
⑤	The set value of the sampling period is displayed.	3
⑥	The channels where direct access occurs are displayed.	0
⑦	The current output value, a value between 0 ~ 4000 for the digital output value for each channel where direct access occurs, is displayed as a percentage ranging from 0 to 100%.	2

11.16.2 Operation Monitor (Connect No. 0 - Connect No. 7 When Multiplex Unit is Used)



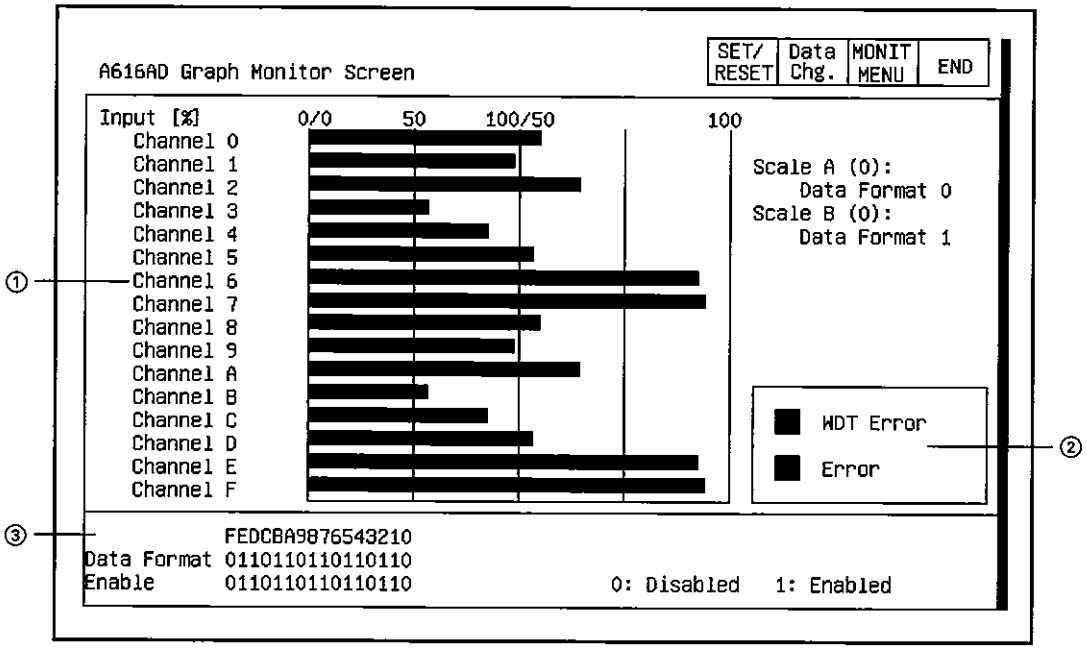
No.	Contents of display	Buffer memory address to reference (hexadecimal)
①	The connect number of the monitor being used is displayed.	—
②	The specified conversion enabled/disabled status of each channel is displayed.	10 ~ 17
③	The set status of the data format for each channel is displayed. 0: Data format 48-4047 1: Data format 2048-2047	4
④	The current output value, a value between 0 ~ 4000 for the digital output value of each channel, is displayed as a percentage ranging from 0 to 100%.	100 ~ 17F
⑤	The error code is displayed when an error occurs.	5
⑥	"1" is displayed when an error with error code 01-03 occurs for any channel.	6
⑦	The set value of the sampling period is displayed.	3
⑧	The channels where direct access occurs are displayed.	1
⑨	The current output value, a value between 0 ~ 4000 for the digital output value for each channel where direct access occurs, is displayed as a percentage ranging from 0 to 100%.	2

11.16.3 I/O Monitor



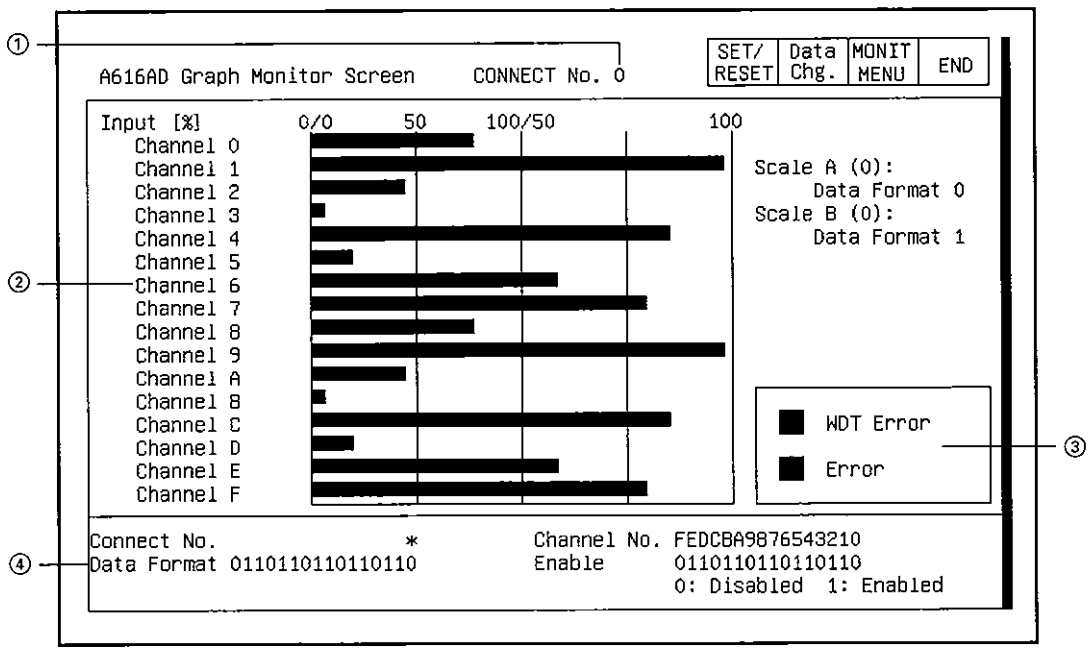
No.	Contents of display
①	The ON/OFF status of the I/O signal corresponding to the PC CPU is displayed. The I/O signal is ON when displayed in a reverse display.

11.16.4 Graph Monitor



No.	Contents of display	Buffer memory address to reference (hexadecimal)
①	The current output value, a value between 0 ~ 4000 for the digital output value of each channel, is displayed as a percentage ranging from 0 to 100%.	30 ~ 3F
②	A "■" is displayed when watchdog timer error occurs.	—
	A "■" is displayed when an error occurs.	—
③	The set status of the data format for each channel is displayed.	4
	The specified conversion enabled/disabled status of each channel is displayed.	F

11.16.5 Graph Monitor (Connect No. 0 - Connect No. 7 When Multiplex Unit is Used)



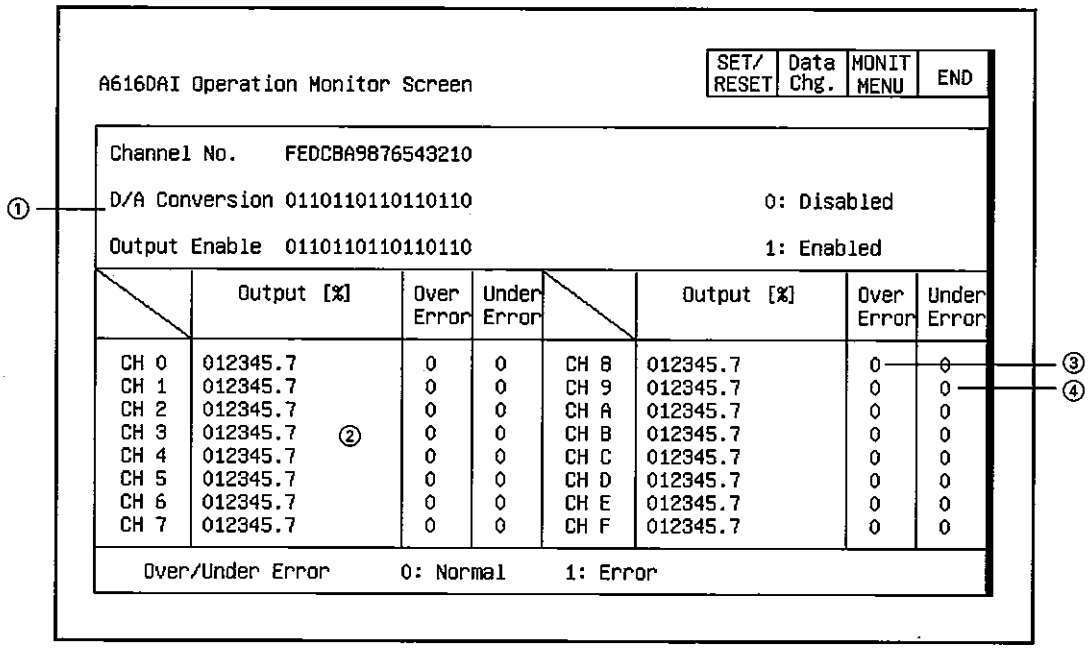
No.	Contents of display	Buffer memory address to reference (hexadecimal)
①	The connect number of the monitor being used is displayed.	—
②	The current output value, a value between 0 ~ 4000 for the digital output value of each channel, is displayed in a graph as a percentage ranging from 0 to 100%.	100 ~ 17F
③	A "■" is displayed when watchdog timer error occurs.	—
	A "■" is displayed when an error occurs.	—
④	The set status of the data format for each channel is displayed.	4
	The specified conversion enabled/disabled status of each channel is displayed.	10 ~ 17

11.17 A616DAI, A616DAV Unit Monitor

The contents displayed on each monitor of the A616DAI unit and A616DAV unit are nearly identical, except for the sections displaying the unit format.

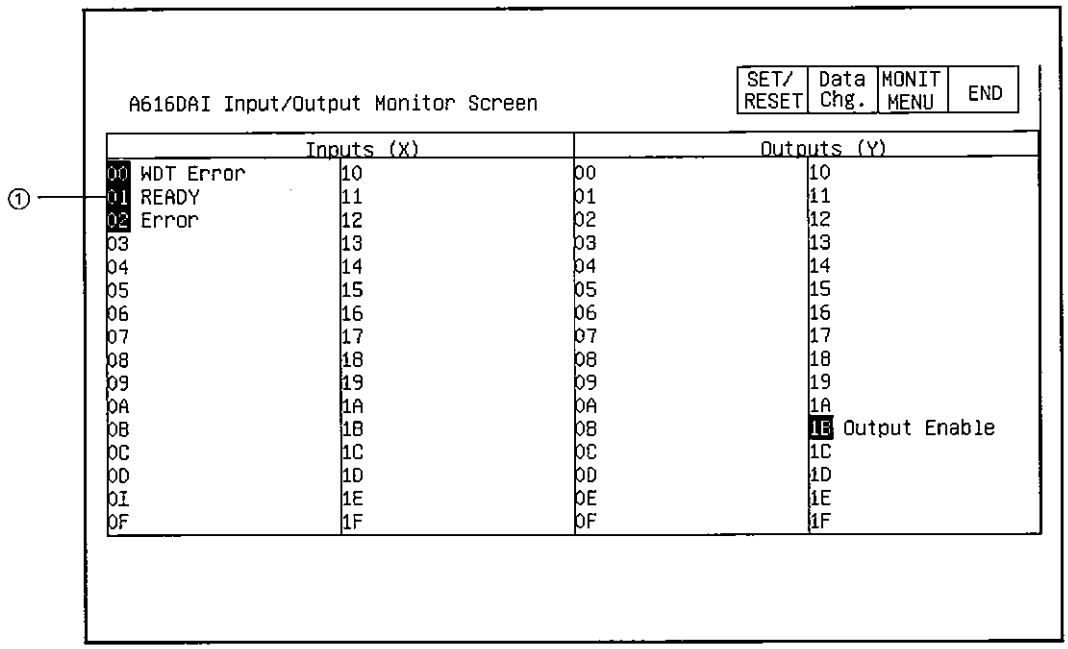
The A616DAI unit monitor screen is used as an example in each of the following sections.

11.17.1 Operation Monitor



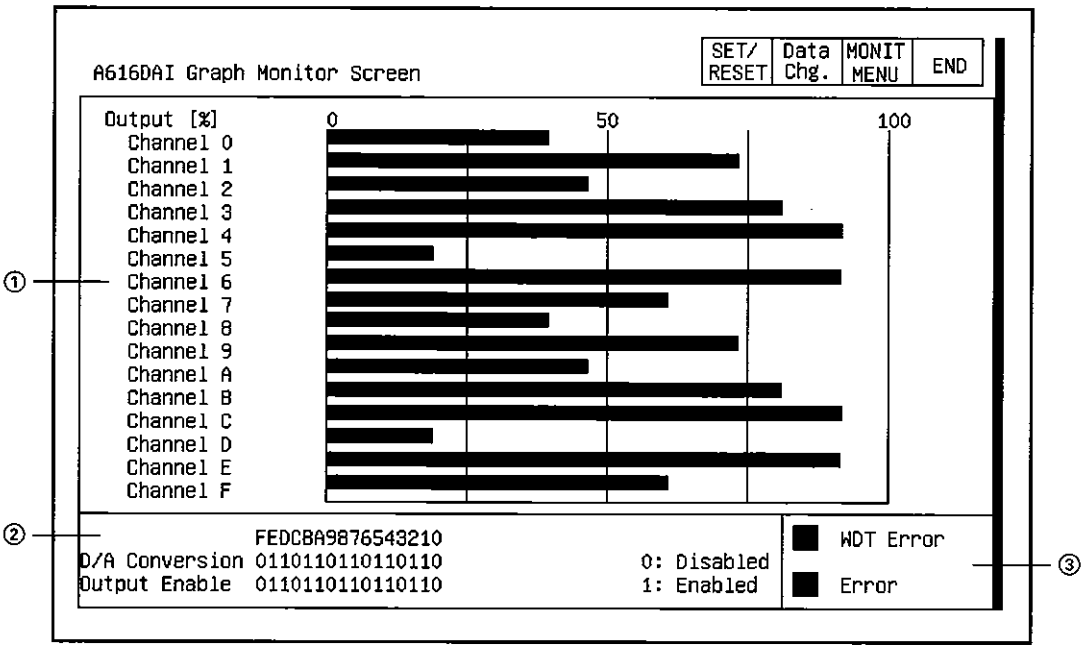
No.	Contents of display	Buffer memory address to reference (hexadecimal)
①	The set D/A conversion enabled/disabled status for each channel is displayed.	0
	The set analog output enabled/disabled status for each channel is displayed.	1
②	The current input value, a value between 0 ~ 4000 for the digital input value of each channel, is displayed as a percentage ranging from 0 to 100%.	10 ~ 1F
③	When the digital input value for any channel is set to 4096 or higher, "1" is displayed in the Over Error column.	30 ~ 3F
④	For A616DAI: When the digital input value for any channel is set as a negative number, "1" is displayed in the Under Error column. For A616DAV: When the digital input value for any channel is set to 4097 or less, "1" is displayed in the Under Error column.	30 ~ 3F

11.17.2 I/O Monitor



No.	Contents of display
①	The ON/OFF status of the I/O signal corresponding to the PC CPU is displayed. The I/O signal is ON when displayed in a reverse display.

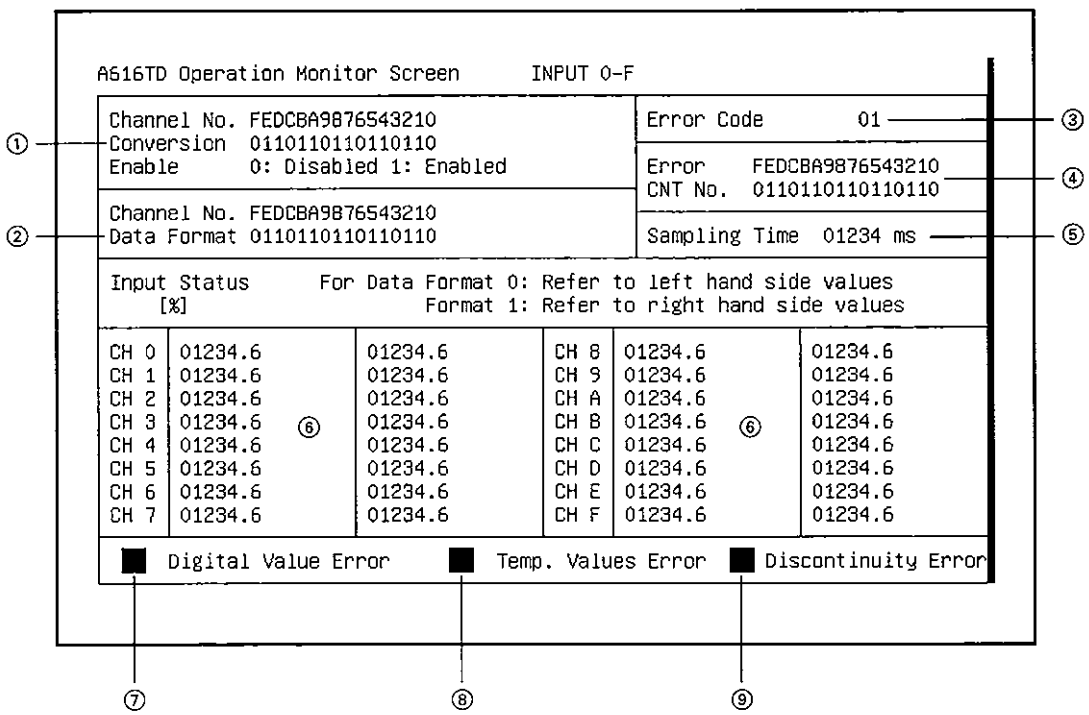
11.17.3 Graph Monitor



No.	Contents of display	Buffer memory address to reference (hexadecimal)
①	The current input value, a value between 0 ~ 4000 for the digital input value of each channel, is displayed in a graph as a percentage ranging from 0 to 100%.	10 ~ 1F
②	The set D/A conversion enabled/disabled status for each channel is displayed.	0
	The set analog output enabled/disabled status for each channel is displayed.	1
③	A "■" is displayed when a watchdog timer error occurs.	—
	For A616DAI: A "■" is displayed when the digital input value of any channel is set to 4096 or higher, or to a negative number. For A616DAV: A "■" is displayed when the digital input value of any channel is set to 4096 or higher, or to -4097 or lower.	—

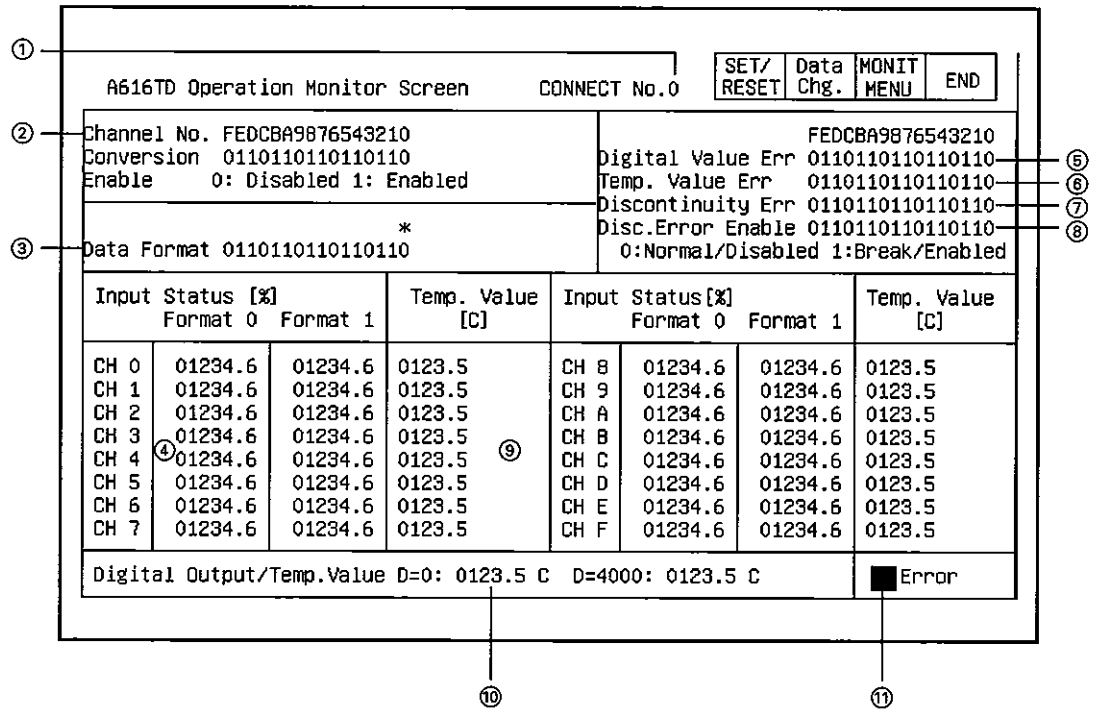
11.18 A616TD Unit Monitor

11.18.1 Operation Monitor (INPUT 0-F)



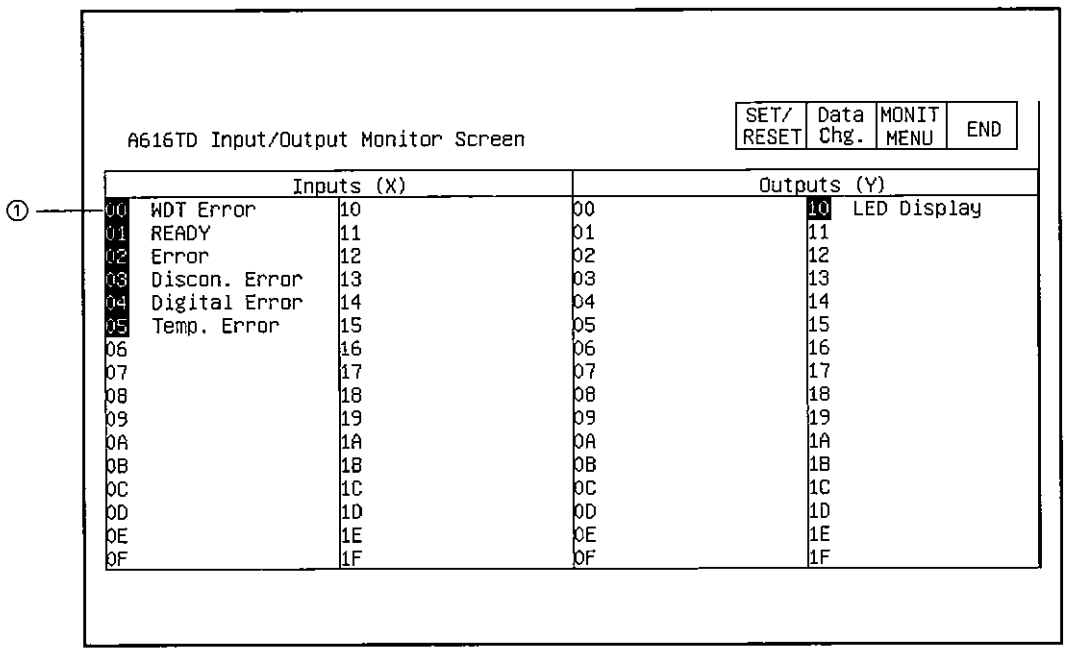
No.	Contents of display	Buffer memory address to reference (hexadecimal)
①	The specified D/A conversion enabled/disabled status for each channel is displayed.	F
②	The set status of the data format for each channel is displayed.	0
③	An error code is displayed when an error occurs.	1
④	"1" is displayed for CNT No. when an error with error code 01-04 has occurred due to a malfunction of the A60MXT unit or a setting error.	2
⑤	"0" is displayed for the sampling period current value.	4
⑥	For a channel not connected to the A60MX□, the current output value, a value between 0 ~ 4000 for the digital output of that channel, is displayed as a percentage ranging from 0 to 100%. When a channel is connected to the A60MX□, the above is displayed for the digital output value for CH0 of A60MX□.	70 ~ 7F
⑦	When the A60MXT is used, "■" is displayed when a temperature was input that exceeds the temperature range set according to the digital output value set for each channel.	—
⑧	When the A60MXT is used, "■" is displayed when a temperature was input that exceeds the measurement temperature range set for the measurement range of each channel.	—
⑨	When the A60MXT is used, "■" is displayed when broken wire is detected in the thermocouple or the compensating lead wire.	—

11.18.2 Operation Monitor (Connect No. 0 - Connect No. 7 When Multiplex Unit is Used)



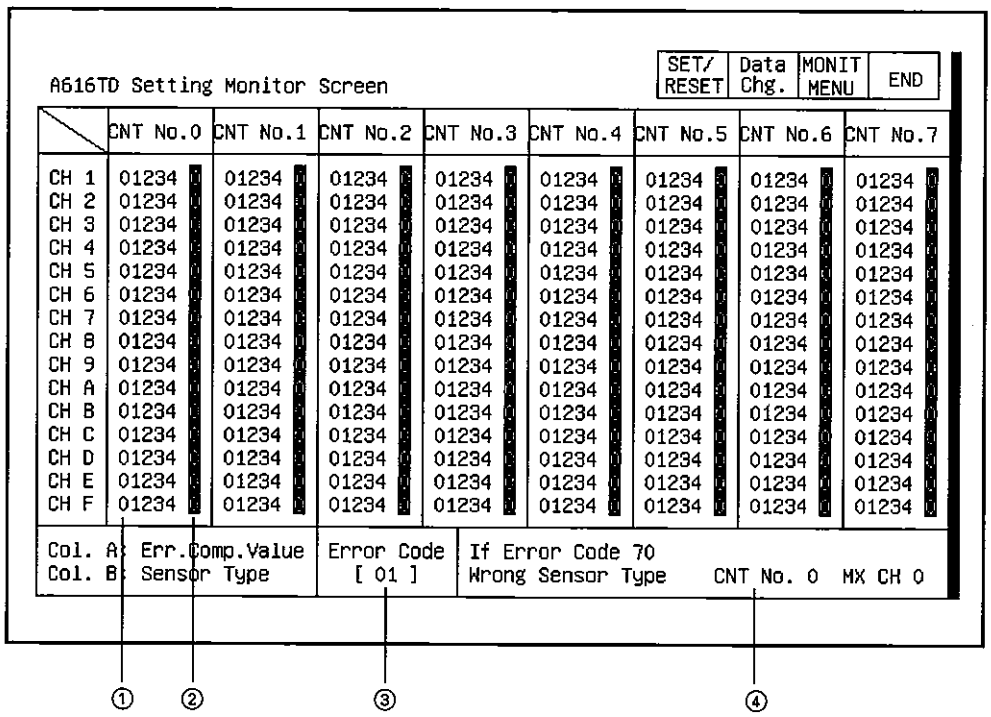
No.	Contents of display	Buffer memory address to reference (hexadecimal)
①	The connect number of the monitor being used is displayed.	—
②	The specified conversion enabled/disabled status for each channel is displayed.	F
③	The set status of the data format for each channel is displayed. 0: Data format 48-4047 1: Data format 2048-4047	0
④	The current output value, a value between 0 ~ 4000 for the digital output value of each channel, is displayed as a percentage ranging from 0 to 100%.	180 ~ 1FF
⑤	When the A60MXT is used, "1" is displayed when a temperature was input that exceeds the temperature range set according to the digital output value set for each channel.	50 ~57
⑥	When the A60MXT is used, "1" is displayed when a temperature was input that exceeds the measurement temperature range set for the measurement range of each channel.	60 ~ 67
⑦	When the A60MXT is used, "1" is displayed when broken wire is detected in the thermocouple or the compensating lead wire.	40 ~ 47
⑧	When the A60MXT is used, the set status of the broken wire detection for the thermocouple that is connected to each channel is displayed. 0: Broken wire detection disabled 1: Broken wire detection enabled	20 ~ 27
⑨	When the A60MXT is used, the temperature detection value of each channel is displayed.	200 ~ 27F
⑩	The set temperature value (when the digital value is 0 or 4000) of the channel to which the A60MXT being monitored is connected is displayed.	30 ~ 3F
⑪	A "■" is displayed when an error occurs.	—

11.18.3 I/O Monitor



No.	Contents of display
①	The ON/OFF status of the I/O signal corresponding to the PC CPU is displayed. The I/O signal is ON when displayed in a reverse display.

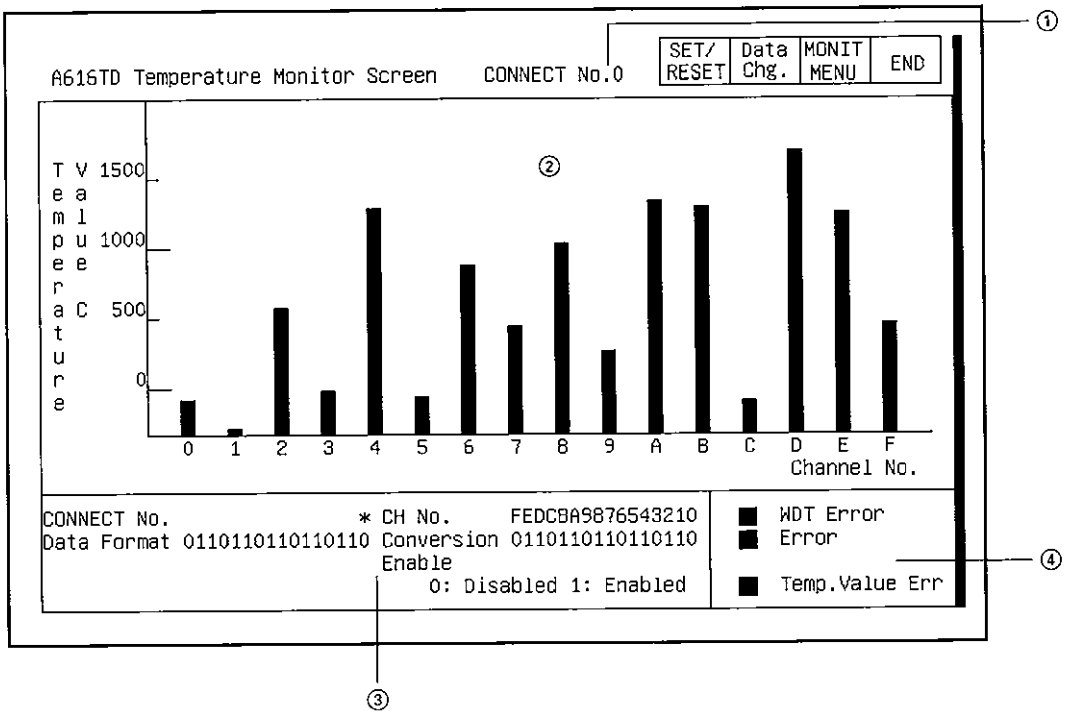
11.18.4 Setting Monitor (When A60MXT is used)



No.	Contents of display	Buffer memory address to reference (hexadecimal)
①	The set value corresponding to the thermocouple used in each channel is displayed only in the column of the the CNT No. to which the A60MXT is connected. The types of thermocouples that correspond to the set values are indicated below.	100 ~ 17F
②	The error correction value of each channel is displayed only in the column of the the CNT No. to which the A60MXT is connected.	80 ~ FF
③	The error code is displayed when an error occurs.	1
④	The connect number and channel are displayed when an error occurs in the thermocouple type setting.	3

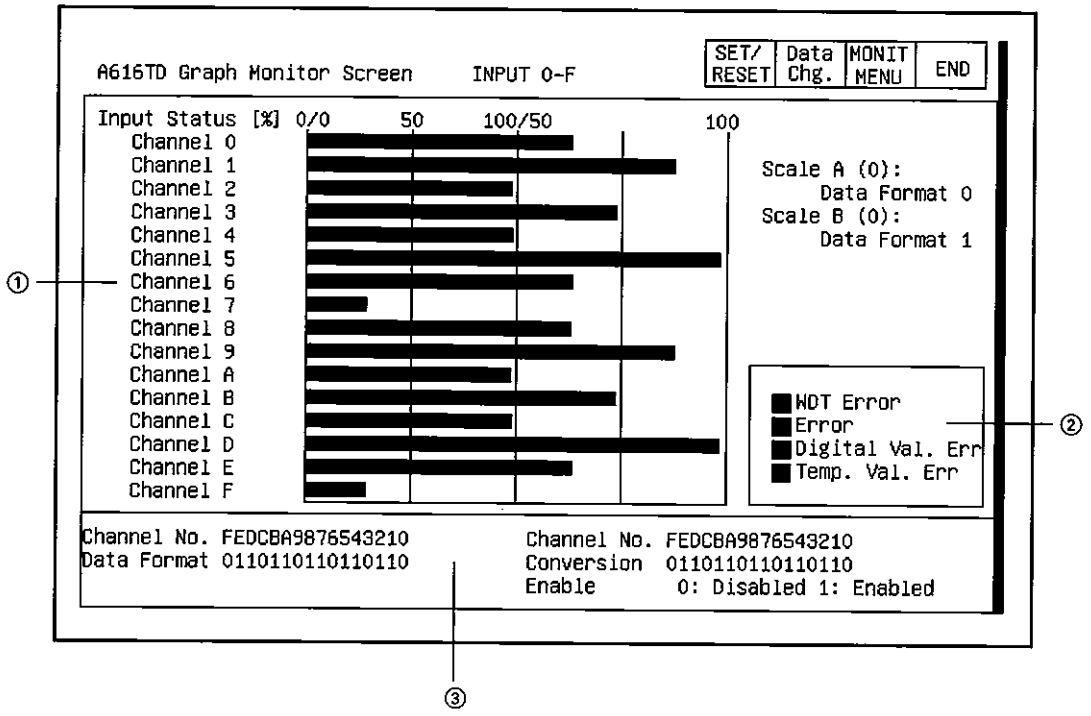
Set value / Rating	Type of thermocouple								
	0	1	2	3	4	5	6	7	8
JIS	K	J	E	R	T	B	S	—	—
ANSI	K	J	E	R	T	B	S	—	—
BS	NiCr -NiAl	Fe -CuNi	NiCr -CuNi	PtRh13 -Pt	Cu -CuNi	PtRh30 -PtRh6	PtRh10 -Pt	—	—
DIN	NiCr -Ni	—	—	—	—	—	PtRh -Pt	Fe -CuNi	Cu -CuNi

11.18.5 Temperature Monitor (Connect No. 0 - Connect No. 7 when A60MXT is used)



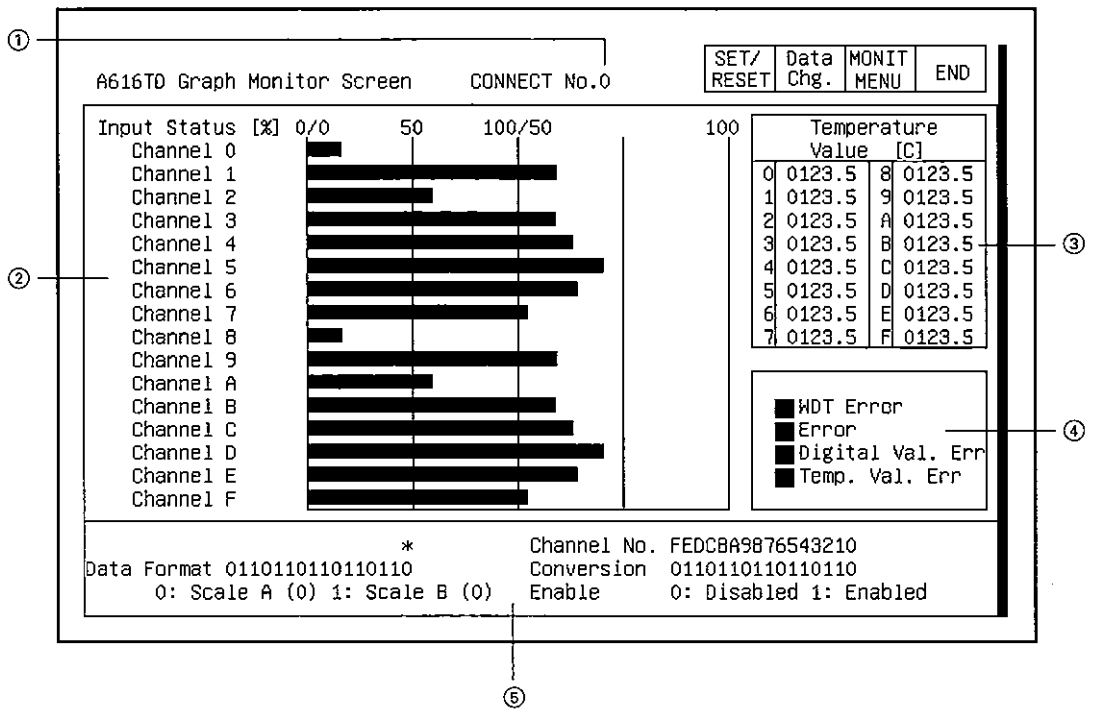
No.	Contents of display	Buffer memory address to reference (hexadecimal)
①	The connect number of the monitor being used is displayed.	—
②	The temperature detection value for each channel is graphically displayed.	200 ~ 27F
③	The set status of the data format for each channel is displayed.	0
	The specified conversion enabled/disabled status for each channel is displayed.	F
④	A "■" is displayed when a watchdog timer error occurs.	—
	A "■" is displayed when an error occurs.	—
	A "■" is displayed when a temperature was input that exceeds the measurement temperature range set for the measurement range of each channel.	—

11.18.6 Graph Monitor (INPUT 0-F)



No.	Contents of display	Buffer memory address to reference (hexadecimal)
①	For a channel not connected to the A60MX□, the current output value, a value between 0 ~ 4000 for the digital output of that channel, is displayed as a percentage ranging from 0 to 100%. When a channel is connected to the A60MX□, the above is displayed for the digital output value for CH0 of A60MX□.	70 ~ 7F
②	A "■" is displayed when a watchdog timer error occurs.	—
	A "■" is displayed when an error occurs.	
	When the A60MXT is used, "■" is displayed when a temperature was input that exceeds the temperature range set according to the digital output value set for each channel.	
	When the A60MXT is used, "■" is displayed when a temperature was input that exceeds the measurement temperature range set for the measurement range of each channel.	
③	The set status of the data format for each channel is displayed.	0
	The specified conversion enabled/disabled status for each channel is displayed.	F

11.18.7 Graph Monitor (Connect No. 0 - Connect No. 7 When Multiplex Unit is Used)



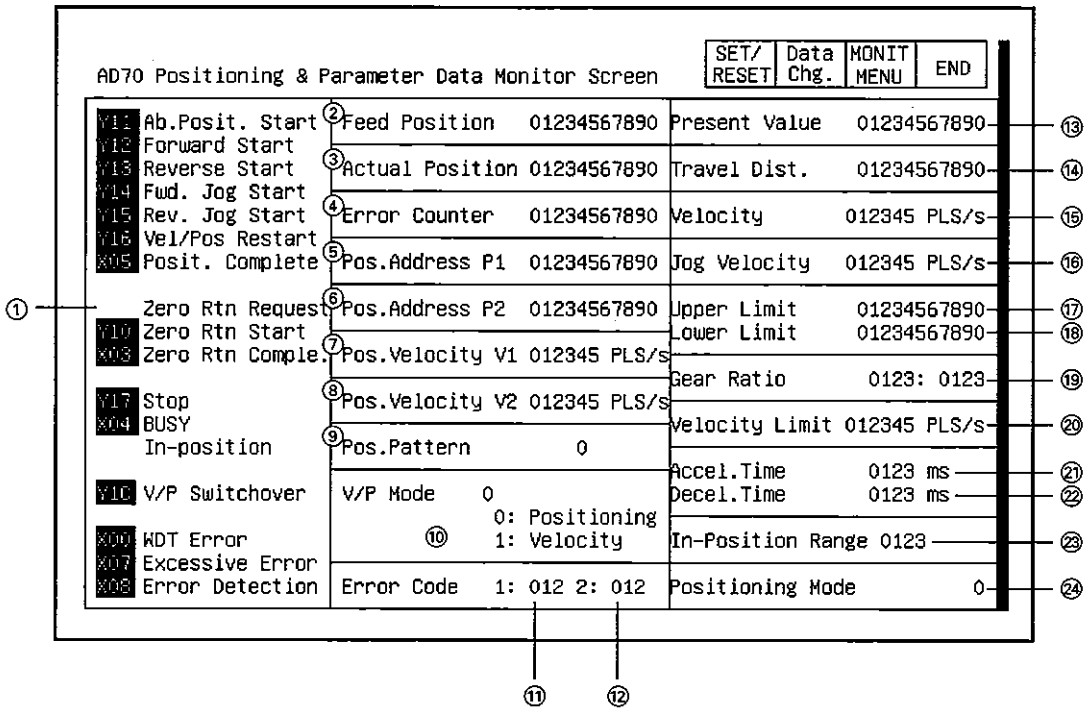
No.	Contents of display	Buffer memory address to reference (hexadecimal)
①	The connect number of the monitor being used is displayed.	—
②	The current output value, a value between 0 ~ 4000 for the digital output value of each channel, is displayed in a graph as a percentage ranging from 0 to 100%.	180 ~ 1FF
③	When the A60MXT is used, the temperature detection value of each channel is displayed.	200 ~ 27F
④	A "■" is displayed when a watchdog timer error occurs.	—
	A "■" is displayed when an error occurs.	—
	When the A60MXT is used, "1" is displayed when a temperature was input that exceeds the temperature range set according to the digital output value set for each channel.	—
	When the A60MXT is used, "1" is displayed when a temperature was input that exceeds the measurement temperature range set for the measurement range of each channel.	—
⑤	The set status of the data format for each channel is displayed.	0
	The specified conversion enabled/disabled status for each channel is displayed.	F

11.19 AD70, A1SD70 Unit Monitor

The contents displayed on each monitor of the AD70 unit and A1SD70 unit are nearly identical, except for the sections displaying the unit format.

The AD70 unit monitor screen is used as an example in each of the following sections.

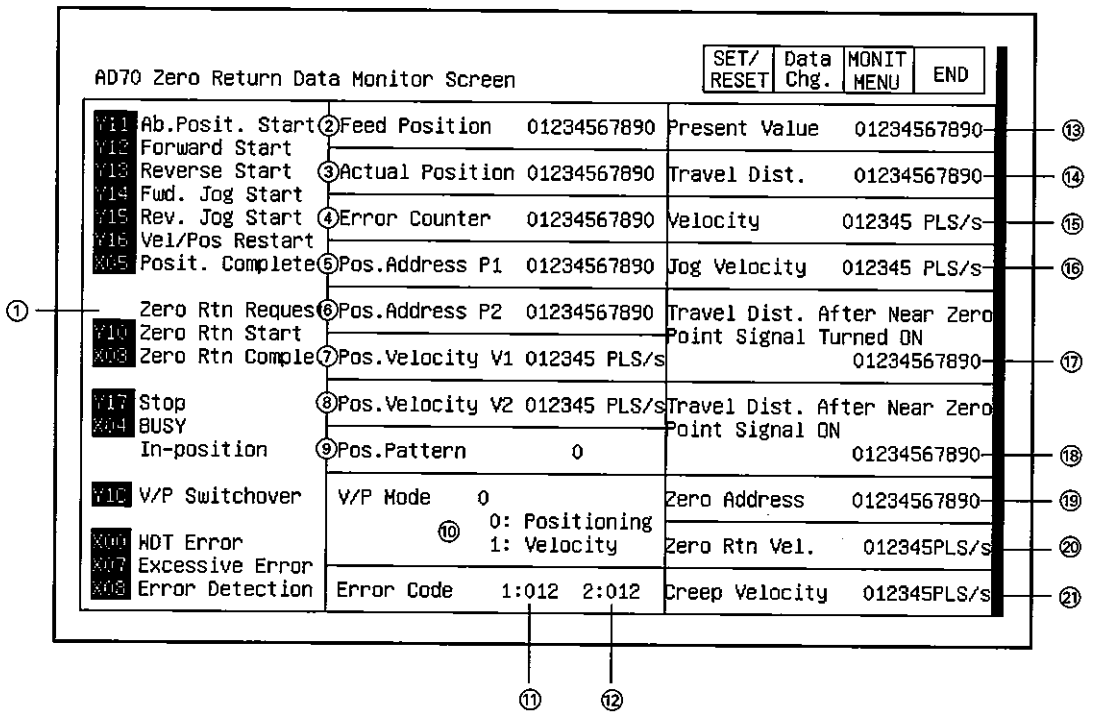
11.19.1 Positioning and Parameter Data Monitor



No.	Contents of display	Buffer memory address to reference (decimal)
①	The ON/OFF status of the I/O signal corresponding to the PC CPU is displayed. The I/O signal is ON when displayed in a reverse display.	—
②	The calculated command pulse number (PLS) based on the command value is displayed.	100, 101
③	The actual amount of servo movement (feedback pulse number) (PLS) calculated from the feedback pulse is displayed.	102, 103
④	The difference between the command pulse number x CMS/CDV and the feedback pulse number (PLS) is displayed.	106, 107
⑤	The set value of positioning address P1 (PLS) is displayed.	61, 62
⑥	The set value of positioning address P2 (PLS) is displayed.	65, 66
⑦	The set value of positioning velocity V1 is displayed.	63, 64
⑧	The set value of positioning velocity V2 is displayed.	67, 68
⑨	The set status of the positioning pattern is displayed. 0: Positioning 1: 2-speed trapezoid positioning	60
⑩	The status of the control mode when changing modes from velocity to position control is displayed. 0: Positioning control in progress 1: Velocity control in progress	111

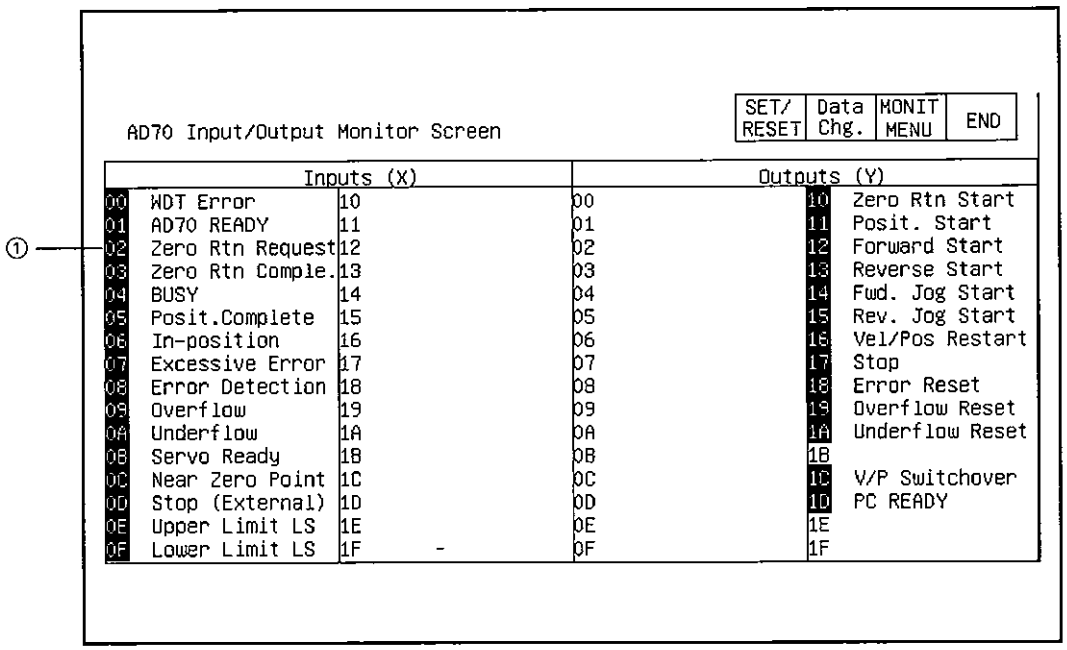
No.	Contents of display	Buffer memory address to reference (decimal)
⑪	The error code is displayed when an error occurs that can be handled by a sequence program such as a startup data error or BUSY in progress.	104
⑫	The error code is displayed when an error occurs that causes monitoring to stop due to an external signal when starting or when a startup is in progress.	105
⑬	The change value (PLS) of the current value is displayed.	80, 81
⑭	The change value (PLS) of the speed/position/travel distance is displayed.	88, 89
⑮	The change value of the velocity change is displayed.	82, 83
⑯	The set value of the JOG velocity is displayed.	84, 85
⑰	The set value (PLS) of the upper stroke limit is displayed.	0, 1
⑱	The set value (PLS) of the lower stroke limit is displayed.	2, 3
⑲	The command pulse ratio numerator (CMX) and denominator (CDV) are displayed.	4, 5
⑳	The set value of the velocity limit is displayed.	20, 21
㉑	The set value of the acceleration time is displayed.	22
㉒	The set value of the deceleration time is displayed.	23
㉓	The set value (PLS) of the in-position range is displayed.	24
㉔	The set status of the positioning mode is displayed. 0: Positioning 1: Velocity positioning	25

11.19.2 Zero Return Monitor



No.	Contents of display	Buffer memory address to reference (decimal)
①	The ON/OFF status of the I/O signal corresponding to the PC CPU is displayed. The I/O signal is ON when displayed in a reverse display.	—
②	The calculated command pulse number (PLS) based on the command value is displayed.	100, 101
③	The actual amount of servo movement (feedback pulse number) (PLS) calculated from the feedback pulse is displayed.	102, 103
④	The difference between the command pulse number x CMS/CDV and the feedback pulse number (PLS) is displayed.	106, 107
⑤	The set value of positioning address P1 (PLS) is displayed.	61, 62
⑥	The set value of positioning address P2 (PLS) is displayed.	65, 66
⑦	The set value of positioning velocity V1 is displayed.	63, 64
⑧	The set value of positioning velocity V2 is displayed.	67, 68
⑨	The set status of the positioning pattern is displayed. 0: Positioning 1: 2-speed trapezoid positioning	60
⑩	The status of the control mode when changing modes from velocity to position control is displayed. 0: Positioning control in progress 1: Velocity control in progress	111
⑪	The error code is displayed when an error occurs that can be handled by a sequence program such as a data error or BUSY in progress.	104
⑫	The error code is displayed when an error occurs that causes monitoring to stop due to an external signal when starting or when a startup is in progress.	105
⑬	The change value (PLS) of the current value is displayed.	80, 81
⑭	The change value (PLS) of the speed/position/travel distance is displayed.	88, 89
⑮	The change value of the speed change is displayed.	82, 83
⑯	The set value of JOG speed is displayed.	84, 85
⑰	After zero return starts, the travel distance (PLS) from when the near zero point signal goes on until zero return is complete is displayed.	108, 109
⑱	The set value (PLS) of the travel distance after the near zero point signal goes on is displayed.	46, 47
⑲	The set value (PLS) of the zero address is displayed.	40, 41
⑳	The set value of the zero return velocity is displayed.	42, 43
㉑	The set value of the creep velocity is displayed.	44, 45

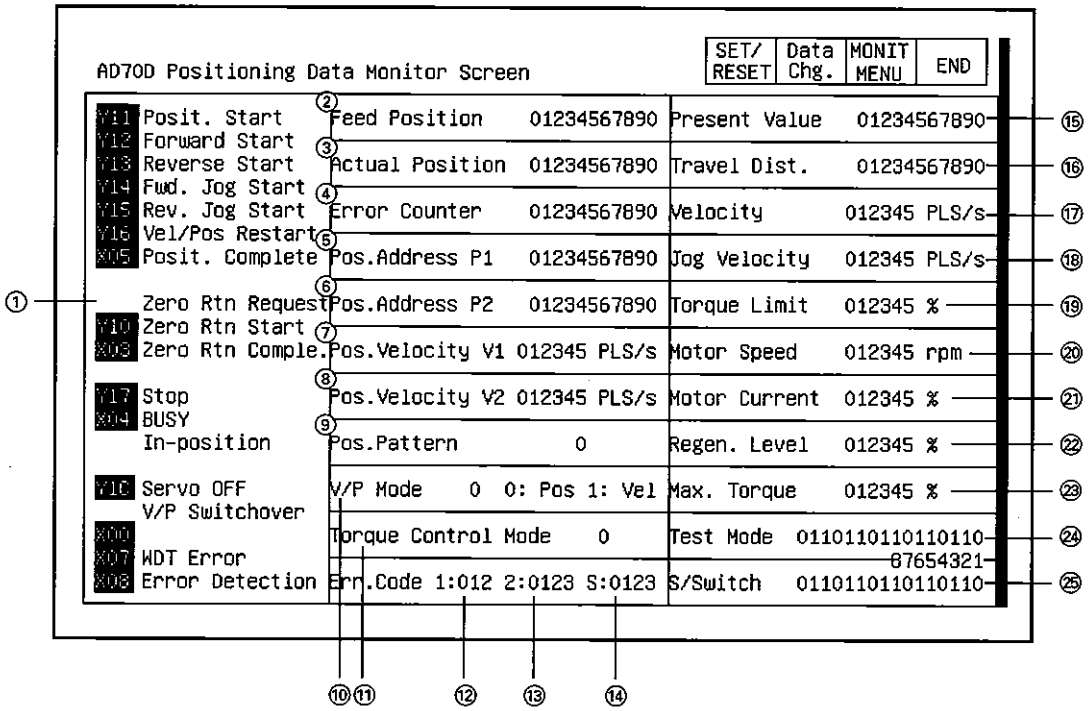
11.19.3 I/O Monitor



No.	Contents of display
①	The ON/OFF status of the I/O signal corresponding to the PC CPU is displayed. The I/O signal is ON when displayed in a reverse display.

11.20 A70D Unit Monitor

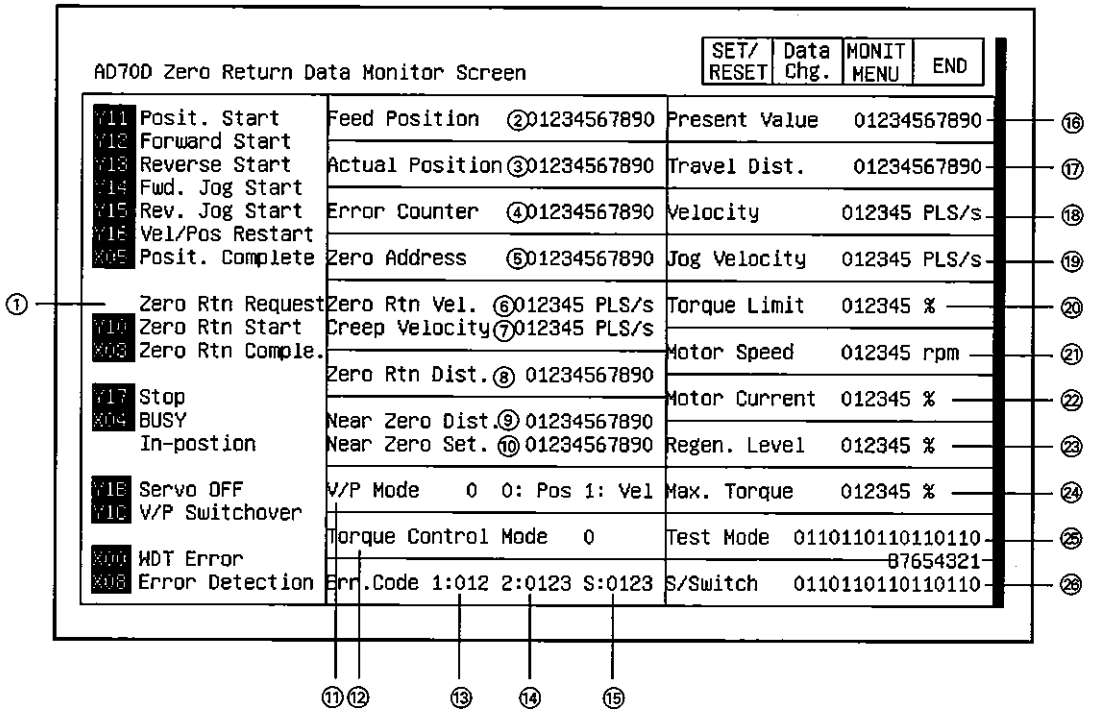
11.20.1 Positioning Monitor



No.	Contents of display	Buffer memory address to reference (decimal)
①	The ON/OFF status of the I/O signal corresponding to the PC CPU is displayed. The I/O signal is ON when displayed in a reverse display.	—
②	The calculated command pulse number (PLS) based on the command value is displayed.	100, 101
③	The actual amount of servo movement (feedback pulse number) (PLS) calculated from the feedback pulse is displayed.	102, 103
④	The difference between the command pulse number x CMS/CDV and the feedback pulse number (PLS) is displayed.	104, 105
⑤	The set value of positioning address P1 (PLS) is displayed.	61, 62
⑥	The set value of positioning address P2 (PLS) is displayed.	65, 66
⑦	The set value of positioning velocity V1 is displayed.	63, 64
⑧	The set value of positioning velocity V2 is displayed.	67, 68
⑨	The set status of the positioning pattern is displayed. 0: Positioning 1: 2-speed trapezoid positioning	60
⑩	The status of the control mode when changing modes from velocity to position control is displayed. 0: Positioning control in progress 1: Velocity control in progress	119
⑪	This displays whether the torque command (electrical current command) for the motor is controlled by the rated torque written in the motor catalog x the "torque limit value". 0: When motor is rotating within set torque limit 1: Limited	120

<table>
<tr><th>No.</th><th>Contents of display</th><th>Buffer memory address to reference (decimal)</th></tr>
<tr><td>⑫</td><td>The error code is displayed when an error occurs that can be handled by a sequence program such as a data error or BUSY in progress.</td><td>121</td></tr>
<tr><td>⑬</td><td>The error code is displayed when an error occurs that causes monitoring to stop due to an external signal when starting or when a startup is in progress.</td><td>122</td></tr>
<tr><td>⑭</td><td>The error code output from the servo amp that was converted into an error code for AD70D is displayed.</td><td>123</td></tr>
<tr><td>⑮</td><td>The change value (PLS) of the current value is displayed.</td><td>80, 81</td></tr>
<tr><td>⑯</td><td>The change value (PLS) of the speed/position/travel distance is displayed.</td><td>86, 87</td></tr>
<tr><td>⑰</td><td>The change value of the velocity change is displayed.</td><td>82, 83</td></tr>
<tr><td>⑱</td><td>The set value of the JOG velocity is displayed.</td><td>84, 85</td></tr>
<tr><td>⑲</td><td>The change value of the torque limit is displayed.</td><td>89</td></tr>
<tr><td>⑳</td><td>The actual number of revolutions of the motor is displayed.</td><td>110</td></tr>
<tr><td>㉑</td><td>The motor current is displayed as 100% of the rated current.</td><td>111</td></tr>
<tr><td>㉒</td><td>The data for monitoring the load of the regeneration resistance is displayed.</td><td>112</td></tr>
<tr><td>㉓</td><td>The maximum torque is displayed when it is 100% of the rated torque.</td><td>113</td></tr>
<tr><td>㉔</td><td>Valid when using peripheral equipment (SW□GP-AD70DP).
<table>
<tr><th colspan="2">Bit</th><th>8</th><th>7</th><th>6</th><th>5</th><th>4</th><th>3</th><th>2</th><th>1</th></tr>
<tr><td rowspan="2">Contents of display</td><td>0</td><td>Servo ready OFF</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>Test mode normal</td><td>Not in test mode</td></tr>
<tr><td>1</td><td>Servo ready ON</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>Test mode request error</td><td>Test mode in progress</td></tr>
</table></td><td>125</td></tr>
<tr><td>㉕</td><td>The set status of the AD70D slide switch is displayed.
<table>
<tr><th colspan="2">Bit</th><th>8</th><th>7</th><th>6</th><th>5</th><th>4</th><th>3</th><th>2</th><th>1</th></tr>
<tr><td rowspan="2">Contents of display</td><td>0</td><td>SW8 "OFF"</td><td>SW7 "OFF"</td><td>SW6 "OFF"</td><td>SW5 "OFF"</td><td>SW4 "OFF"</td><td>SW3 "OFF"</td><td>SW2 "OFF"</td><td>SW1 "OFF"</td></tr>
<tr><td>1</td><td>SW8 "ON"</td><td>SW7 "ON"</td><td>SW6 "ON"</td><td>SW5 "ON"</td><td>SW4 "ON"</td><td>SW3 "ON"</td><td>SW2 "ON"</td><td>SW1 "ON"</td></tr>
</table></td><td>126</td></tr>
</table>

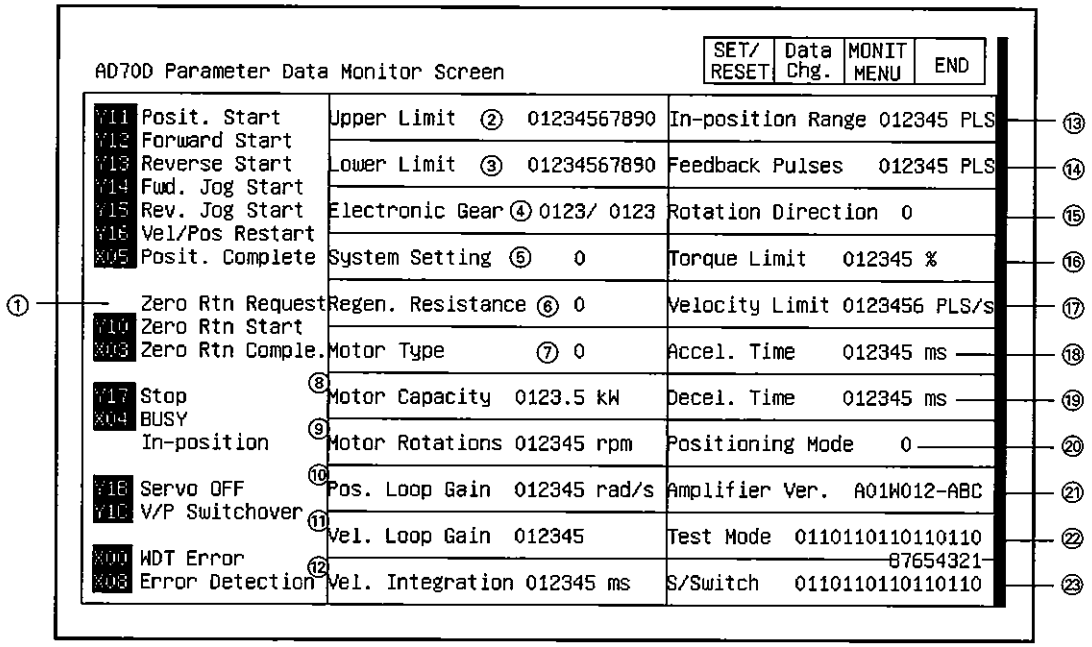
11.20.2 Zero Return Monitor



No.	Contents of display	Buffer memory address to reference (decimal)
①	The ON/OFF status of the I/O signal corresponding to the PC CPU is displayed. The I/O signal is ON when displayed in a reverse display.	—
②	The calculated command pulse number (PLS) based on the command value is displayed.	100, 101
③	The actual amount of servo movement (feedback pulse number) (PLS) calculated from the feedback pulse is displayed.	102, 103
④	The difference between the command pulse number x CMS/CDV and the feedback pulse number (PLS) is displayed.	104, 105
⑤	The set value (PLS) of the zero address is displayed.	30, 31
⑥	The set value of the zero return velocity is displayed.	32, 33
⑦	The set value of the creep velocity is displayed.	34, 35
⑧	After zero return starts, the near zero point signal goes off, decelerates and stops. The travel distance (PLS) from that point until zero return is complete is displayed.	108, 109
⑨	After zero return starts, the travel distance (PLS) from when the near zero point signal goes on until zero return is complete is displayed.	106, 107
⑩	The set value (PLS) of the travel distance after the near zero point signal goes ON is displayed.	36, 37
⑪	The status of the control mode when changing modes from velocity to position control is displayed. 0: Positioning control in progress 1: Velocity control in progress	119
⑫	This displays whether the torque command (electrical current command) for the motor is controlled by the rated torque written in the motor catalog x the "torque limit value". 0: When motor is rotating within set torque limit 1: Limited	120

<table>
<tr><th>No.</th><th>Contents of display</th><th>Buffer memory address to reference (decimal)</th></tr>
<tr><td>⑬</td><td>The error code is displayed when an error occurs that can be handled by a sequence program such as a data error or BUSY in progress.</td><td>121</td></tr>
<tr><td>⑭</td><td>The error code is displayed when an error occurs that causes monitoring to stop due to an external signal when starting or when a startup is in progress.</td><td>122</td></tr>
<tr><td>⑮</td><td>The error code output from the servo amp that was converted into an error code for AD70D is displayed.</td><td>123</td></tr>
<tr><td>⑯</td><td>The change value (PLS) of the current value is displayed.</td><td>80, 81</td></tr>
<tr><td>⑰</td><td>The change value (PLS) of the speed/position/travel distance is displayed.</td><td>86, 87</td></tr>
<tr><td>⑱</td><td>The change value of the velocity change is displayed.</td><td>82, 83</td></tr>
<tr><td>⑲</td><td>The set value of the JOG velocity is displayed.</td><td>84, 85</td></tr>
<tr><td>⑳</td><td>The change value of the torque limit is displayed.</td><td>89</td></tr>
<tr><td>㉑</td><td>The actual number of revolutions of the motor is displayed.</td><td>110</td></tr>
<tr><td>㉒</td><td>The motor current is displayed as 100% of the rated current.</td><td>111</td></tr>
<tr><td>㉓</td><td>The data for monitoring the load of the regeneration resistance is displayed.</td><td>112</td></tr>
<tr><td>㉔</td><td>The maximum torque is displayed when it is 100% of the rated torque.</td><td>113</td></tr>
<tr><td>㉕</td><td>Valid when using peripheral equipment (SW□GP-AD70DP).
<table>
<tr><th colspan="2">Bit</th><th>8</th><th>7</th><th>6</th><th>5</th><th>4</th><th>3</th><th>2</th><th>1</th></tr>
<tr><td rowspan="2">Contents of display</td><td>0</td><td>Servo ready OFF</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>Test mode normal</td><td>Not in test mode</td></tr>
<tr><td>1</td><td>Servo ready ON</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>Test mode request error</td><td>Test mode in progress</td></tr>
</table></td><td>125</td></tr>
<tr><td>㉖</td><td>The set status of the AD70D slide switch is displayed.
<table>
<tr><th colspan="2">Bit</th><th>8</th><th>7</th><th>6</th><th>5</th><th>4</th><th>3</th><th>2</th><th>1</th></tr>
<tr><td rowspan="2">Contents of display</td><td>0</td><td>SW8 "OFF"</td><td>SW7 "OFF"</td><td>SW6 "OFF"</td><td>SW5 "OFF"</td><td>SW4 "OFF"</td><td>SW3 "OFF"</td><td>SW2 "OFF"</td><td>SW1 "OFF"</td></tr>
<tr><td>1</td><td>SW8 "ON"</td><td>SW7 "ON"</td><td>SW6 "ON"</td><td>SW5 "ON"</td><td>SW4 "ON"</td><td>SW3 "ON"</td><td>SW2 "ON"</td><td>SW1 "ON"</td></tr>
</table></td><td>126</td></tr>
</table>

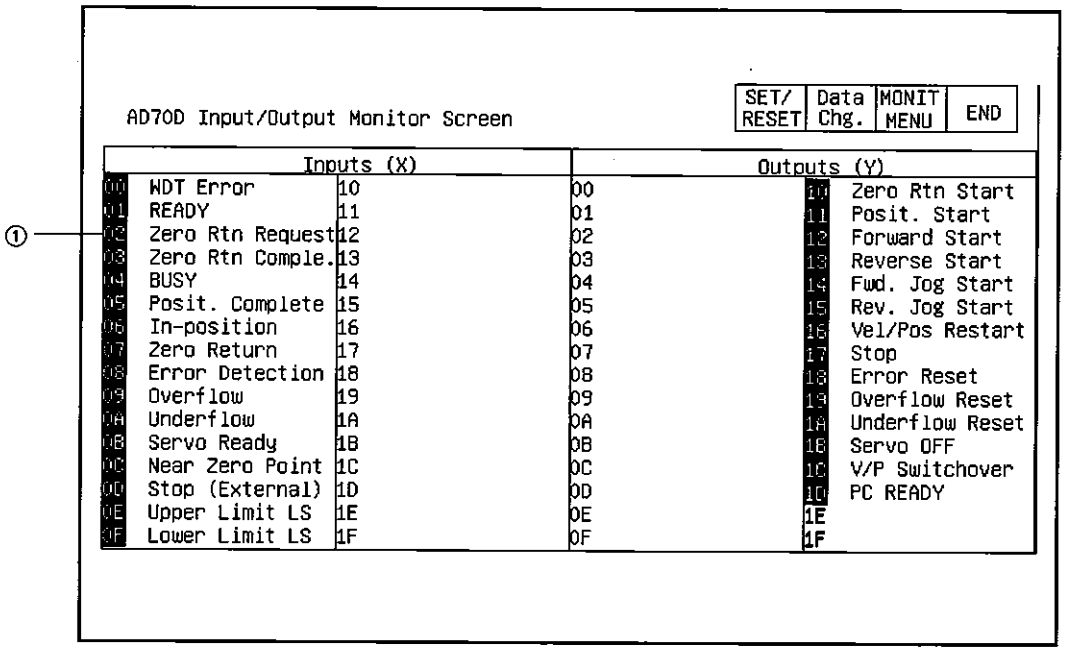
11.20.3 Parameter Data Monitor



No.	Contents of display	Buffer memory address to reference (decimal)
①	The ON/OFF status of the I/O signal corresponding to the PC CPU is displayed. The I/O signal is on when displayed in a reverse display.	—
②	The set value (PLS) of the upper stroke limit is displayed.	0, 1
③	The set value (PLS) of the lower stroke limit is displayed.	2, 3
④	The command pulse ratio numerator (CMX) and denominator (CDV) are displayed.	4, 5
⑤	The set status of the system is displayed. 0: MR-SB (standard) 1: MR-SB (absolute values)	10
⑥	The set status of the regeneration resistance is displayed. 0: None 1: RB30 2: RB50,51 3: RB100, 101	11
⑦	The set status of the motor type is displayed. 0: Standard 1: Low inertia L 2: Flat U	12
⑧	The motor output capacity is displayed.	13
⑨	The set status of the motor rpm is displayed.	14
⑩	The set value of the position loop gain is displayed.	15
⑪	The set value of the velocity loop gain is displayed.	16
⑫	The set value of the velocity integration is displayed.	17
⑬	The set value of the in-position range is displayed.	18
⑭	The feedback pulse number (PLS) of one revolution of the motor is displayed.	19
⑮	The set status of the direction of rotation is displayed. 0: Counter-clockwise with address increase 1: Clockwise with address increase	20
⑯	The set value of the torque limit is displayed.	21
⑰	The set value of the velocity limit is displayed.	40, 41

<table>
<tr><th>No.</th><th>Contents of display</th><th>Buffer memory address to reference (decimal)</th></tr>
<tr><td>⑱</td><td>The set value of the acceleration time is displayed.</td><td>42</td></tr>
<tr><td>⑲</td><td>The set value of the deceleration time is displayed.</td><td>43</td></tr>
<tr><td>⑳</td><td>The set status of the positioning mode is displayed.
0: Positioning mode 1: Velocity → position control change mode</td><td>44</td></tr>
<tr><td>㉑</td><td>The servo amp model code and version are displayed.</td><td>114 ~ 117</td></tr>
<tr><td>㉒</td><td>Valid when using peripheral instrument (SW□GP-AD70DP)
<table>
<tr><th colspan="2">Bit</th><th>8</th><th>7</th><th>6</th><th>5</th><th>4</th><th>3</th><th>2</th><th>1</th></tr>
<tr><td rowspan="2">Contents of display</td><td>0</td><td>Servo ready OFF</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>Test mode normal</td><td>Not in test mode</td></tr>
<tr><td>1</td><td>Servo ready ON</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>Test mode request error</td><td>Test mode in progress</td></tr>
</table></td><td>125</td></tr>
<tr><td>㉓</td><td>The set status of the AD70D slide switch is displayed.
<table>
<tr><th colspan="2">Bit</th><th>8</th><th>7</th><th>6</th><th>5</th><th>4</th><th>3</th><th>2</th><th>1</th></tr>
<tr><td rowspan="2">Contents of display</td><td>0</td><td>SW8 "OFF"</td><td>SW7 "OFF"</td><td>SW6 "OFF"</td><td>SW5 "OFF"</td><td>SW4 "OFF"</td><td>SW3 "OFF"</td><td>SW2 "OFF"</td><td>SW1 "OFF"</td></tr>
<tr><td>1</td><td>SW8 "ON"</td><td>SW7 "ON"</td><td>SW6 "ON"</td><td>SW5 "ON"</td><td>SW4 "ON"</td><td>SW3 "ON"</td><td>SW2 "ON"</td><td>SW1 "ON"</td></tr>
</table></td><td>126</td></tr>
</table>

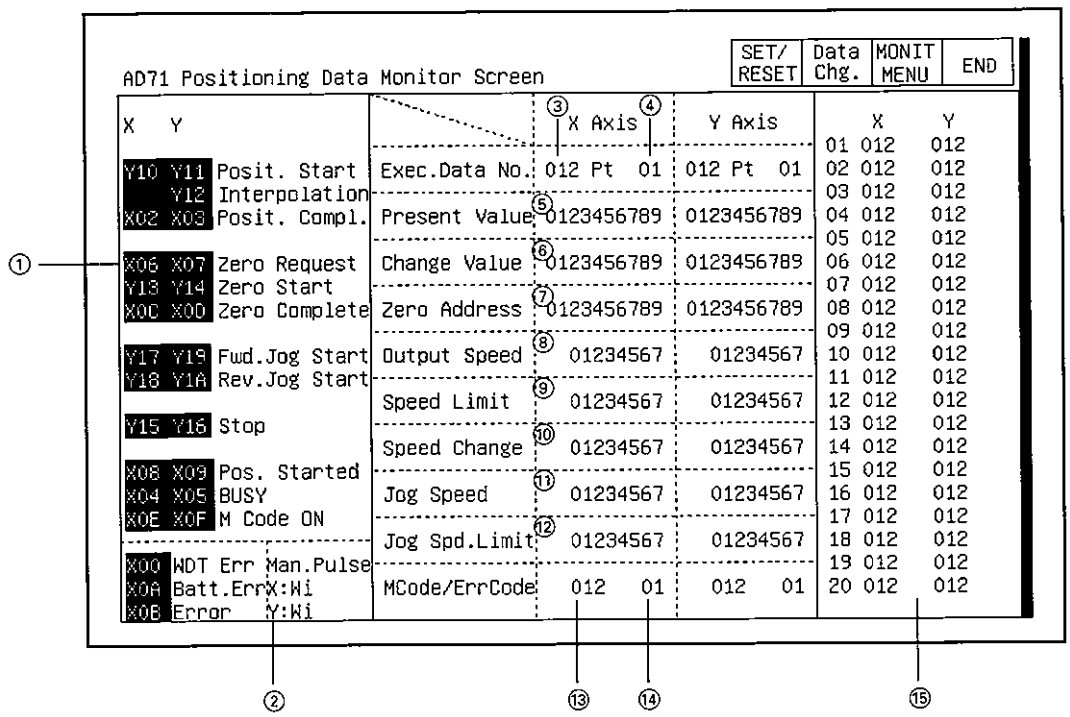
11.20.4 I/O Monitor



No.	Contents of display
①	The ON/OFF status of the I/O signal corresponding to the PC CPU is displayed. The I/O signal is ON when displayed in a reverse display.

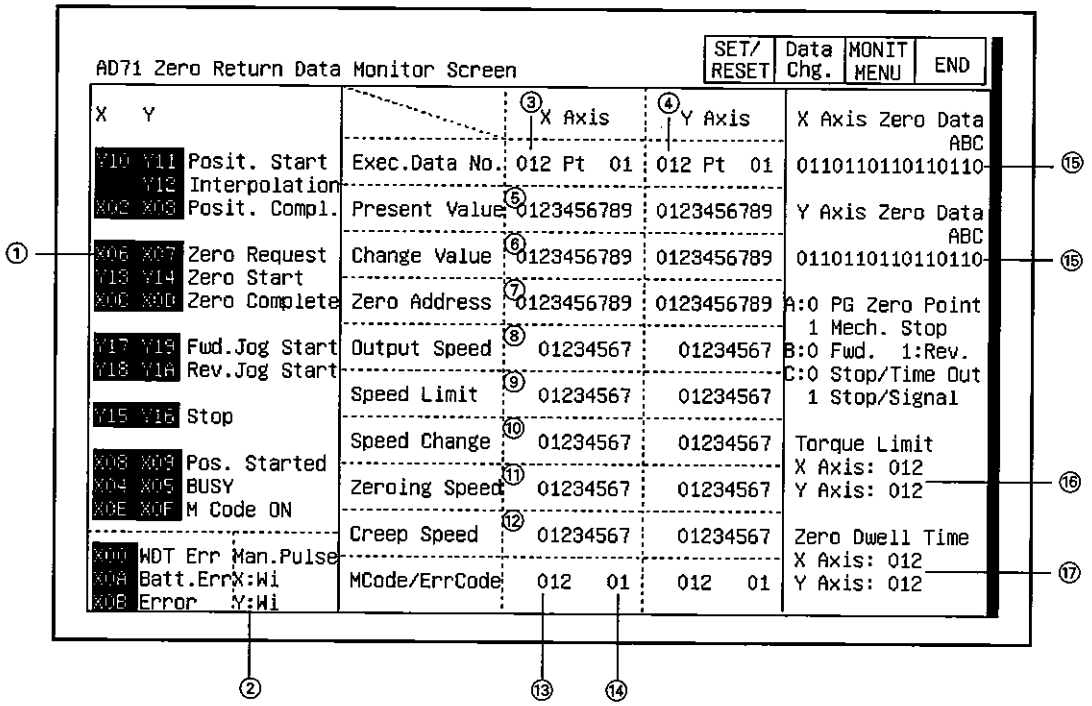
11.21 AD71 Unit Monitor

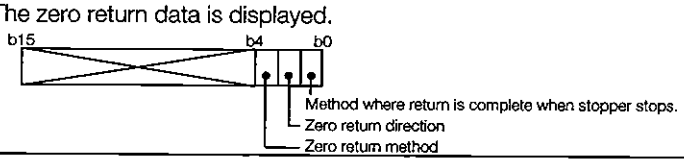
11.21.1 Positioning Monitor



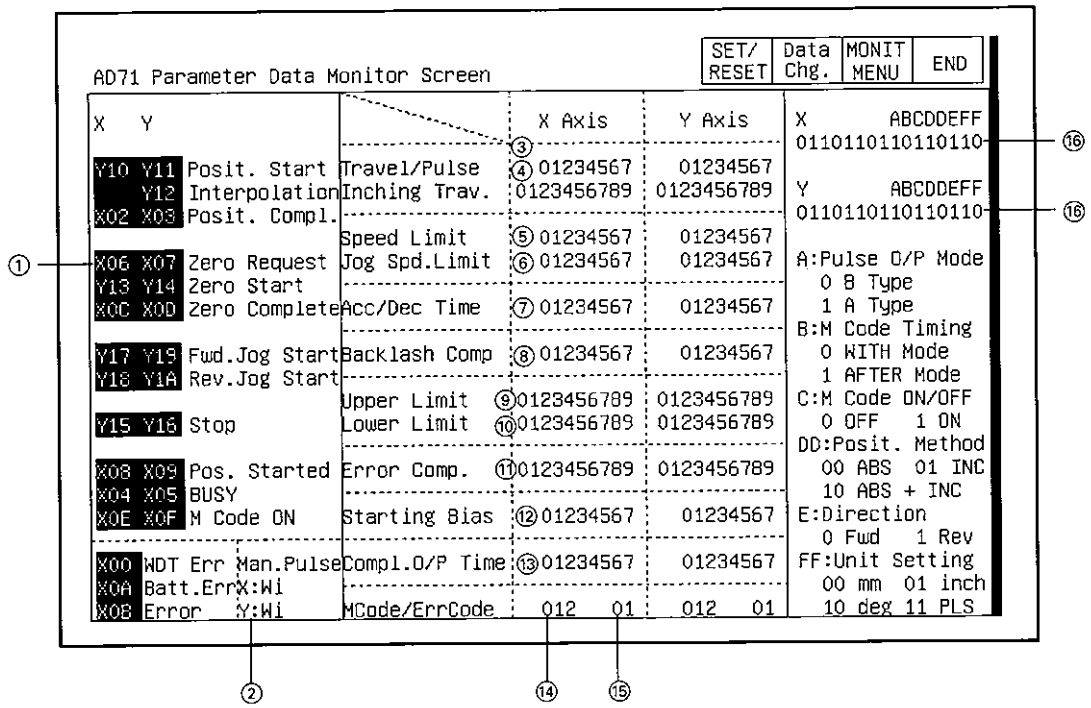
No.	Contents of display	Buffer memory address to reference (decimal)	
		X axis	Y axis
①	The ON/OFF status of the I/O signal corresponding to the PC CPU is displayed. The I/O signal is ON when displayed in a reverse display.	—	—
②	The set manual pulser run enabled/disabled status is displayed.	47	347
③	The data number during execution of current positioning is displayed.	48	348
④	The remaining pointer value is displayed.	39	339
⑤	The current value during execution of current positioning is displayed.	602 603	604 605
⑥	The change value of the current value is displayed.	41 42	341 342
⑦	The zero address set value is displayed.	7912 7913	7922 7923
⑧	The set value of the output speed is displayed.	600	601
⑨	The set value of the speed limit is displayed.	7874	7894
⑩	The change value of the speed change is displayed.	40	340
⑪	The set value of the jog speed is displayed.	44	344
⑫	The set value of the jog speed limit is displayed.	7875	7895
⑬	The set value of the M code is displayed. 0: M code not used	46	346
⑭	The error code is displayed when an error occurs.	45	345
⑮	The starting data number of each point is displayed.	0 ~ 37	300 ~ 337

11.21.2 Zero Return Monitor



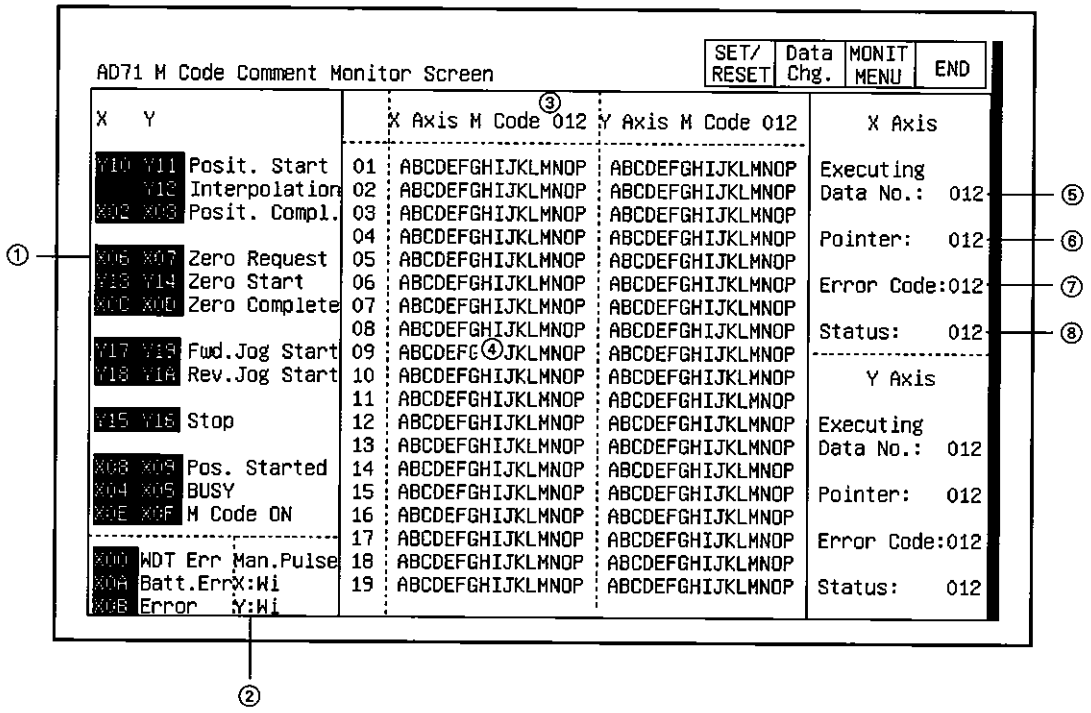
No.	Contents of display	Buffer memory address to reference (decimal)	
		X axis	Y axis
①	The ON/OFF status of the I/O signal corresponding to the PC CPU is displayed. The I/O signal is ON when displayed in a reverse display.	—	—
②	The set manual pulser run enabled/disabled status is displayed.	47	347
③	The data number during execution of current positioning is displayed.	48	348
④	The remaining pointer value is displayed.	39	339
⑤	The current value during execution of current positioning is displayed.	602 603	604 605
⑥	The change value of the current value is displayed.	41 42	341 342
⑦	The zero address set value is displayed.	7912 7913	7922 7923
⑧	The set value of the output speed is displayed.	600	601
⑨	The set value of the speed limit is displayed.	7874	7894
⑩	The change value of the speed change is displayed.	40	340
⑪	The set value of the zero return speed is displayed.	7914	7924
⑫	The set value of the zero return creep speed is displayed.	7915	7925
⑬	The set value of the M code is displayed. 0: M code not used	46	346
⑭	The error code is displayed when an error occurs.	45	345
⑮	The zero return data is displayed. 	7918	7928
⑯	The set value of the torque limit is displayed.	7917	7927
⑰	The set value of the dwell time is displayed.	7916	7926

11.21.3 Parameter Data Monitor



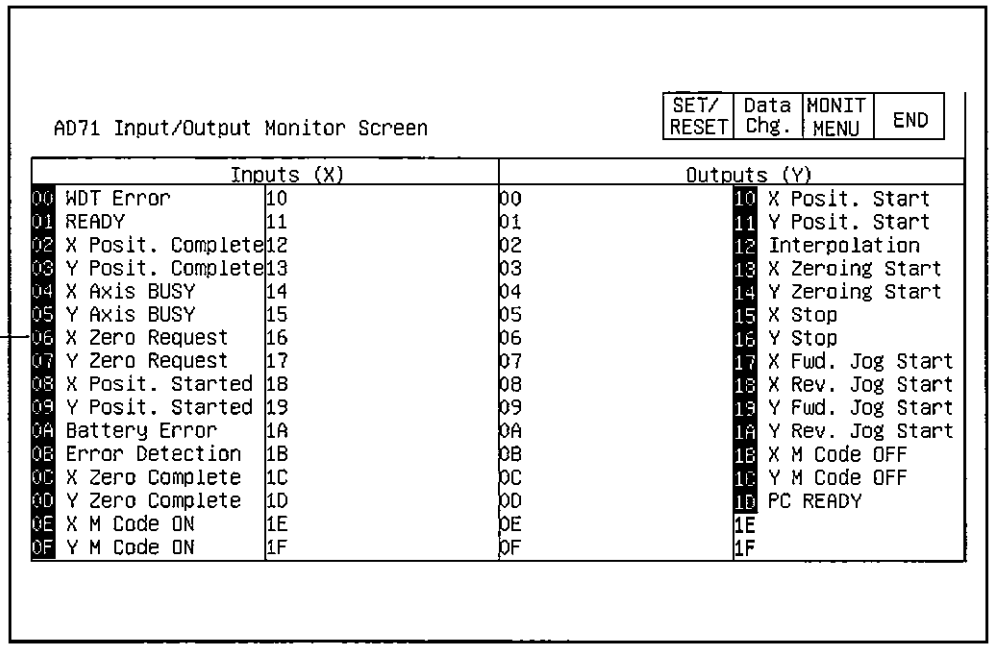
No.	Contents of display	Buffer memory address to reference (decimal)	
		X axis	Y axis
①	The ON/OFF status of the I/O signal corresponding to the PC CPU is displayed. The I/O signal is ON when displayed in a reverse display.	—	—
②	The set manual pulser run enabled/disabled status is displayed.	47	347
③	The set value of the travel distance per 1 pulse is displayed.	7873	7893
④	The set value of the travel distance per 1 pulse using the manual pulser is displayed.	7884 7885	7904 7905
⑤	The set value of the speed limit is displayed.	7874	7894
⑥	The set value of the jog speed limit is displayed.	7875	7895
⑦	The set value of the acceleration/deceleration time is displayed.	7876	7896
⑧	The set value of the backlash compensation amount is displayed.	7877	7897
⑨	The set value of the upper stroke limit is displayed.	7878 7879	7898 7899
⑩	The set value of the lower stroke limit is displayed.	7880 7881	7900 7901
⑪	The set value of the error compensation amount is displayed.	7882 7883	7902 7903
⑫	The set value of the starting bias speed is displayed.	7886	7906
⑬	The set value of the positioning complete signal output time is displayed.	7887	7907
⑭	The set value of the M code is displayed.	46	346
⑮	The error code is displayed when an error occurs.	45	345
⑯	The set status of the parameter data is displayed.	7872	7892

11.21.4 M Code Comment Monitor



No.	Contents of display	Buffer memory address to reference (decimal)	
		X axis	Y axis
①	The ON/OFF status of the I/O signal corresponding to the PC CPU is displayed. The I/O signal is ON when displayed in a reverse display.	—	—
②	The set manual pulser run enabled/disabled status is displayed.	47	347
③	The set value of the M code is displayed.	46	346
④	The set value of the comment for the M code is displayed.	49~200	349~500
⑤	The data number during execution of current positioning is displayed.	48	348
⑥	The remaining pointer value is displayed.	39	339
⑦	The error code is displayed when an error occurs.	45	345
⑧	The 8 bits where the status is saved are displayed in hexadecimal format. When "FF" is displayed b15 b0 1 1 1 1 1 1 1 1 "1" display conditions: Battery alarm; Zero return request; During dwell time; During positioning busy status (except for zero return, jog run, manual pulser run); Zero return complete; Near signal on; Drive unit ready signal on; Stop signal from drive unit on "0" display conditions: Not condition at left	43	343

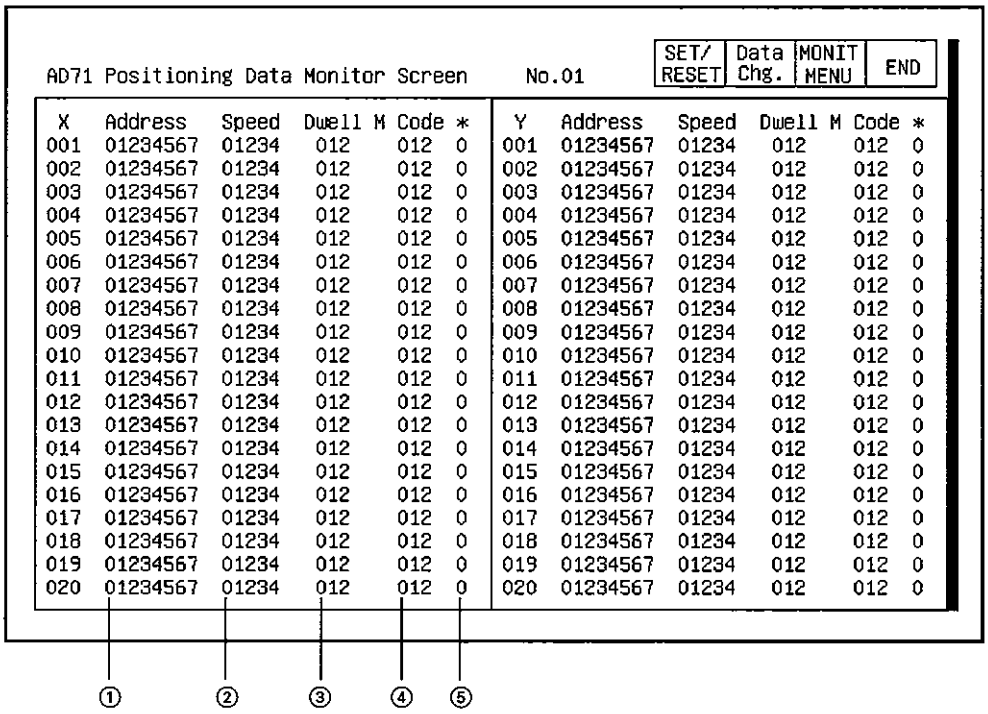
11.21.5 I/O Monitor

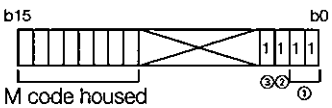


No.	Contents of display
①	The ON/OFF status of the I/O signal corresponding to the PC CPU is displayed. The I/O signal is ON when displayed in a reverse display.

11.21.6 Positioning Data Monitor

The positioning Data Monitor Screen No. 1 is used as an example.



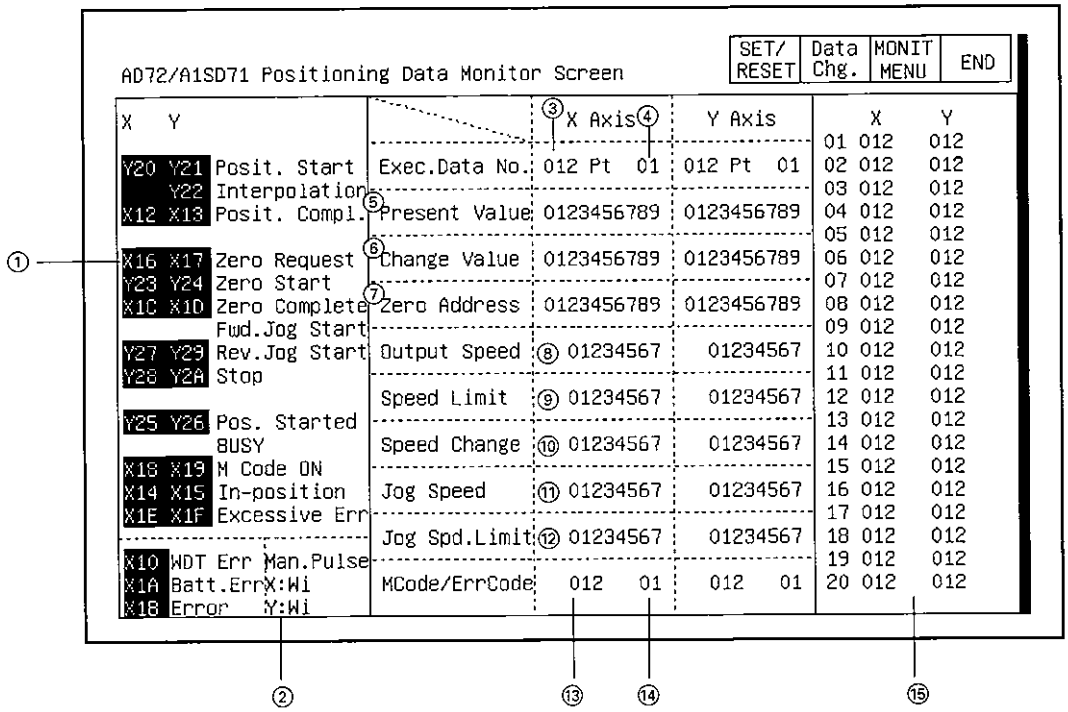
No.	Contents of display	Buffer memory address to reference (decimal)	
		X axis	Y axis
①	The set value of the positioning address for each data number is displayed.	5072~5111	7072~7111
②	The set value of the positioning speed for each data number is displayed.	4272~4291	6272~6291
③	The set value of the dwell time for each data number is displayed.	4672~4691	6672~6691
④	The set value of the M code for each data number is displayed.	3872~3891	5872~5891
⑤	The 4 bits where the set status of the positioning pattern, the positioning method, and the positioning direction for each data number is stored are displayed in hexadecimal format. When "F" is displayed  ① Positioning pattern 00: Positioning complete 01: Positioning continues 11: Speed changes and positioning continues ② Positioning method 0: Absolute 1: Incremental ③ Positioning direction (only valid in incremental mode) 0: Forward direction (address increase direction) 1: Reverse direction (address decrease direction)	3872~3891	5872~5891

11.22 AD72, A1SD71 Unit Monitor

The contents displayed on each monitor of the AD72 unit and the A1SD71 unit are nearly identical, except for the sections displaying the unit format.

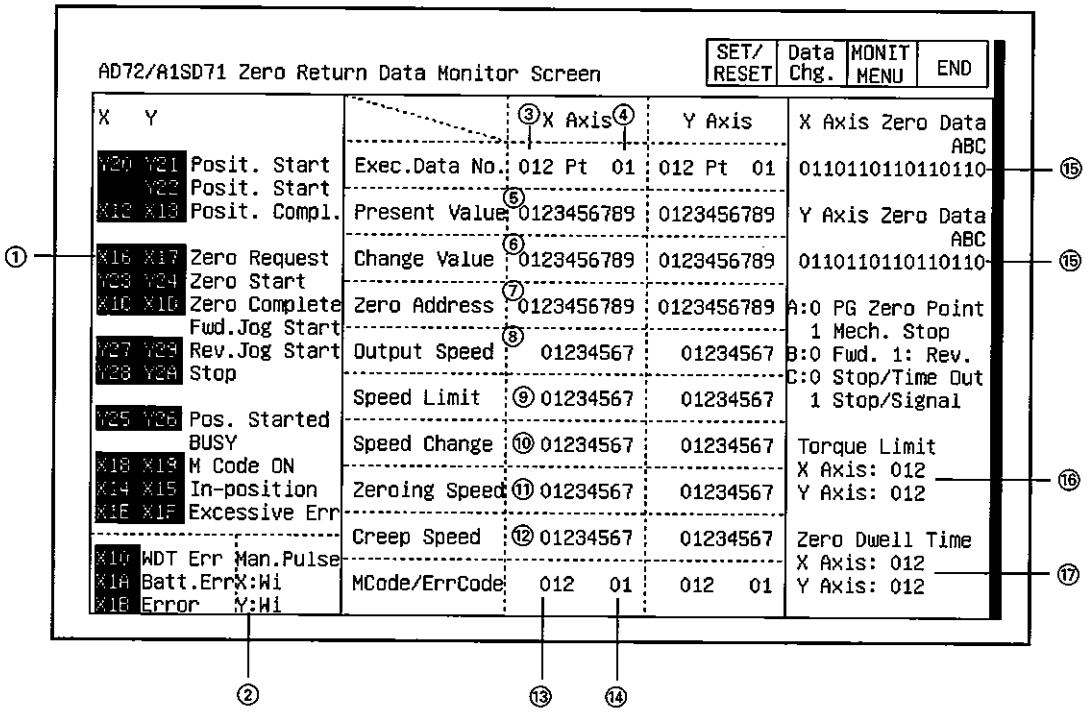
The AD72 unit monitor screen is used as an example in each of the following sections.

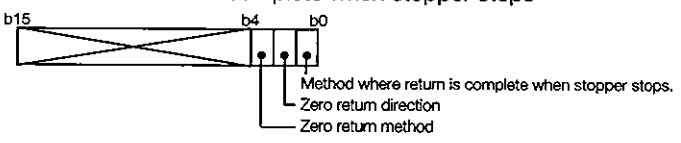
11.22.1 Positioning Monitor



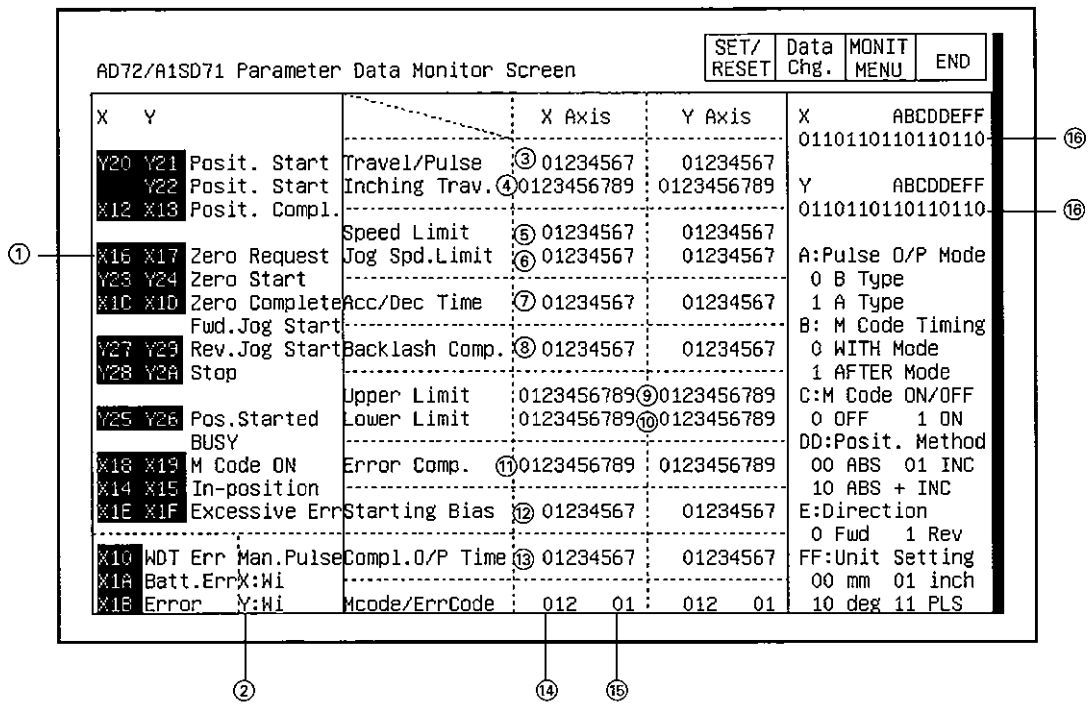
No.	Contents of display	Buffer memory address to reference (decimal)	
		X axis	Y axis
①	The ON/OFF status of the I/O signal corresponding to the PC CPU is displayed. The I/O signal is ON when displayed in a reverse display.	—	—
②	The set manual pulser run enabled/disabled status is displayed.	47	347
③	The data number during execution of current positioning is displayed.	48	348
④	The remaining pointer value is displayed.	39	339
⑤	The current value during execution of current positioning is displayed.	602 603	604 605
⑥	The change value of the current value is displayed.	41 42	341 342
⑦	The zero address set value is displayed.	7912 7913	7922 7923
⑧	The set value of the output speed is displayed.	600	601
⑨	The set value of the speed limit is displayed.	7874	7894
⑩	The change value of the speed change is displayed.	40	340
⑪	The set value of the jog speed is displayed.	44	344
⑫	The set value of the jog speed limit is displayed.	7875	7895
⑬	The set value of the M code is displayed. 0: M code not used	46	346
⑭	The error code is displayed when an error occurs.	45	345
⑮	The starting data number of each point is displayed.	0~37	300~337

11.22.2 Zero Return Monitor



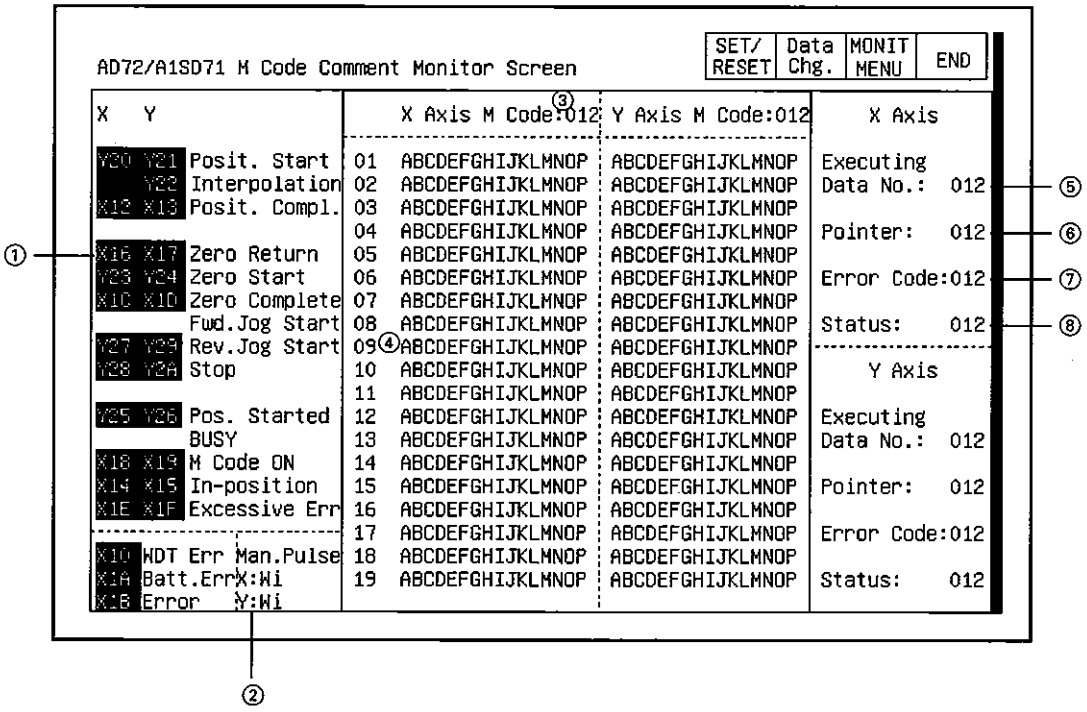
No.	Contents of display	Buffer memory address to reference (decimal)	
		X axis	Y axis
①	The ON/OFF status of the I/O signal corresponding to the sequencer CPU is displayed. The I/O signal is ON when displayed in a reverse display.	—	—
②	The set manual pulser run enabled/disabled status is displayed.	47	347
③	The data number during execution of current positioning is displayed.	48	348
④	The remaining pointer value is displayed.	39	339
⑤	The current value during execution of current positioning is displayed.	602 603	604 605
⑥	The change value of the current value is displayed.	41 42	341 342
⑦	The zero address set value is displayed.	7912 7913	7922 7923
⑧	The set value of the output speed is displayed.	600	601
⑨	The set value of the speed limit is displayed.	7874	7894
⑩	The change value of the speed change is displayed.	40	340
⑪	The set value of the zero return speed is displayed.	7914	7924
⑫	The set value of the zero return creep speed is displayed.	7915	7925
⑬	The set value of the M code is displayed. 0: M code not used	46	346
⑭	The error code is displayed when an error occurs.	45	345
⑮	The zero return data is displayed. Method where return is complete when stopper stops 	7918	7928
⑯	The set value of the torque limit is displayed.	7917	7927
⑰	The set value of the dwell time is displayed.	7916	7926

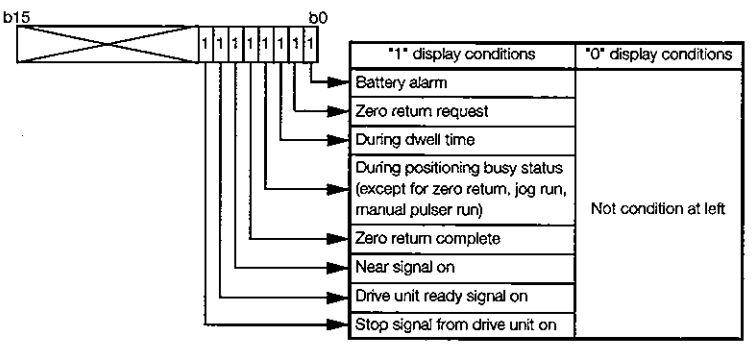
11.22.3 Parameter Data Monitor



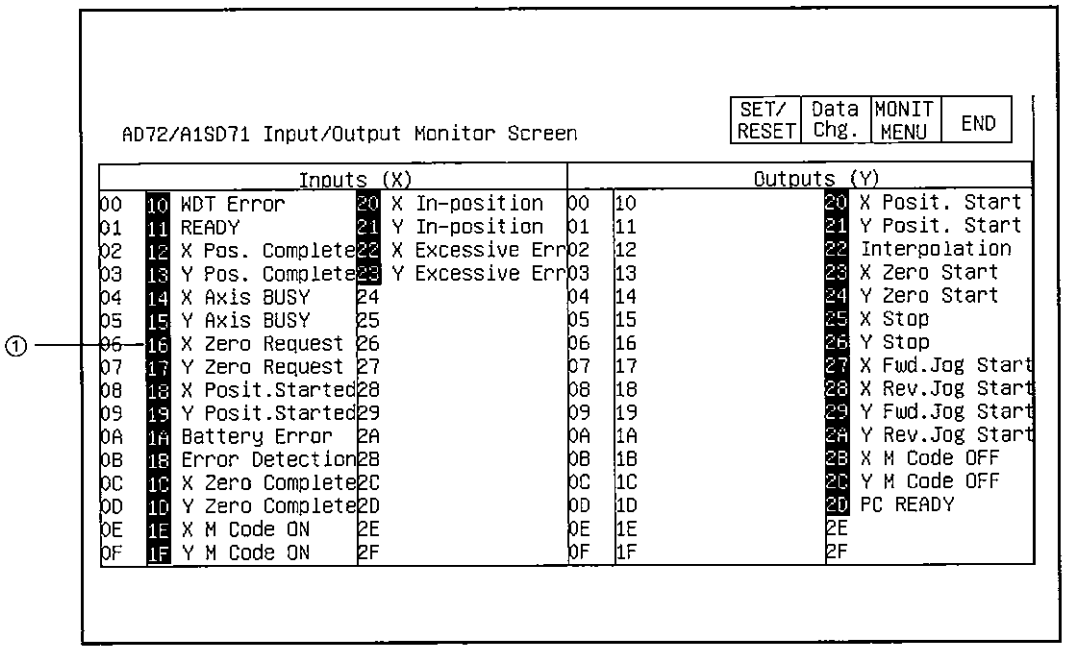
No.	Contents of display	Buffer memory address to reference (decimal)	
		X axis	Y axis
①	The ON/OFF status of the I/O signal corresponding to the sequencer CPU is displayed. The I/O signal is ON when displayed in a reverse display.	—	—
②	The set manual pulser run enabled/disabled status is displayed.	47	347
③	The set value of the travel distance per 1 pulse is displayed.	7873	7893
④	The set value of the travel distance per 1 pulse using the manual pulser is displayed.	7884 7885	7904 7905
⑤	The set value of the speed limit is displayed.	7874	7894
⑥	The set value of the jog speed limit is displayed.	7875	7895
⑦	The set value of the acceleration/deceleration time is displayed.	7876	7896
⑧	The set value of the backlash compensation amount is displayed.	7877	7897
⑨	The set value of the upper stroke limit is displayed.	7878 7879	7898 7899
⑩	The set value of the lower stroke limit is displayed.	7880 7881	7900 7901
⑪	The set value of the error compensation amount is displayed.	7882 7883	7902 7903
⑫	The set value of the starting bias speed is displayed.	7886	7906
⑬	The set value of the positioning complete signal output time is displayed.	7887	7907
⑭	The set value of the M code is displayed. 0: M code not used	46	346
⑮	The error code is displayed when an error occurs.	45	345
⑯	The set status of the parameter data is displayed.	7872	7892

11.22.4 M Code Comment Monitor



No.	Contents of display	Buffer memory address to reference (decimal)	
		X axis	Y axis
①	The ON/OFF status of the I/O signal corresponding to the sequencer CPU is displayed. The I/O signal is ON when displayed in a reverse display.	—	—
②	The set manual pulser run enabled/disabled status is displayed.	47	347
③	The set value of the M code is displayed.	46	346
④	The set value of the comment for the M code is displayed.	49~200	349~500
⑤	The data number during execution of current positioning is displayed.	48	348
⑥	The remaining pointer value is displayed.	39	339
⑦	The error code is displayed when an error occurs.	45	345
⑧	The 8 bits where the status is saved are displayed in hexadecimal format. When "FF" is displayed 	43	343

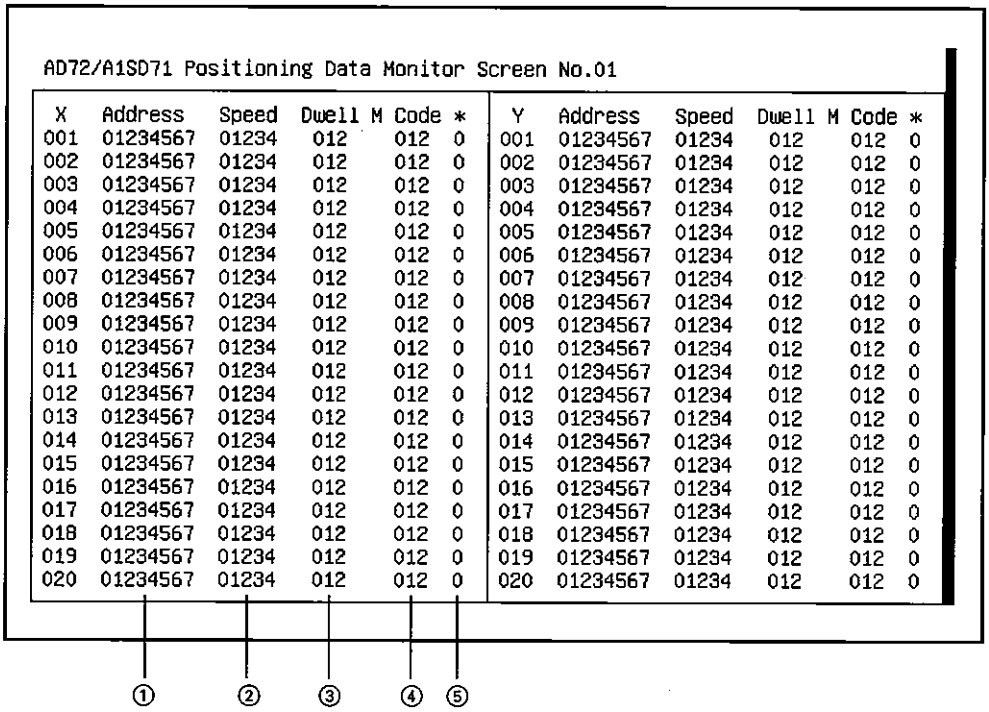
11.22.5 I/O Monitor

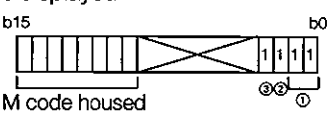


No.	Contents of display
①	The ON/OFF status of the I/O signal corresponding to the sequencer CPU is displayed. The I/O signal is ON when displayed in a reverse display.

11.22.6 Positioning Data Monitor

The Positioning Data Monitor Screen No. 1 is used as an example.



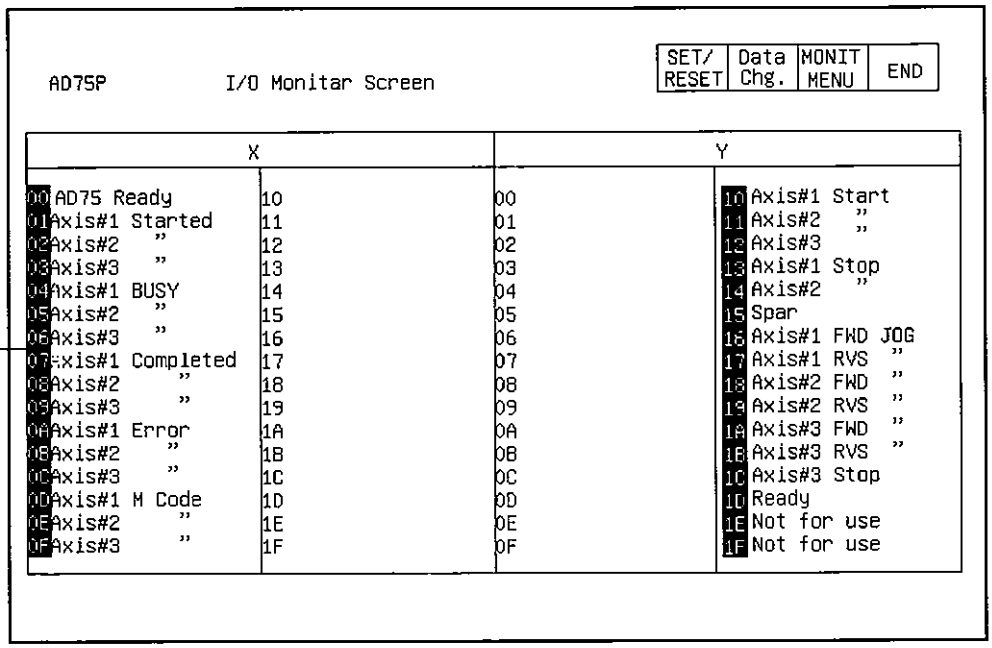
No.	Contents of display	Buffer memory address to reference (decimal)	
		X axis	Y axis
①	The set value of the positioning address for each data number is displayed.	5072~5111	7072~7111
②	The set value of positioning speed for each data number is displayed.	4272~4291	6272~6291
③	The set value of the dwell time for each data number is displayed.	4672~4691	6672~6691
④	The set value of the M code for each data number is displayed.	3872~3891	5872~5891
⑤	The 4 bits where the set status of the positioning pattern, the positioning method, and the positioning direction for each data number is stored are displayed in hexadecimal format. When "F" is displayed  ① Positioning pattern 00: Positioning complete 01: Positioning continues 11: Speed changes and positioning continues ② Positioning method 0: Absolute 1: Incremental ③ Positioning direction (only valid in incremental mode) 0: Forward direction (address increase direction) 1: Reverse direction (address decrease direction)	3872~3891	5872~5891

11.23 AD75, A1SD75 Unit Monitor

The contents displayed on each monitor of the AD75P1 (P2, P3) unit and the A1SD75P1 (P2, P3) unit are nearly identical, except for the sections displaying the unit format.

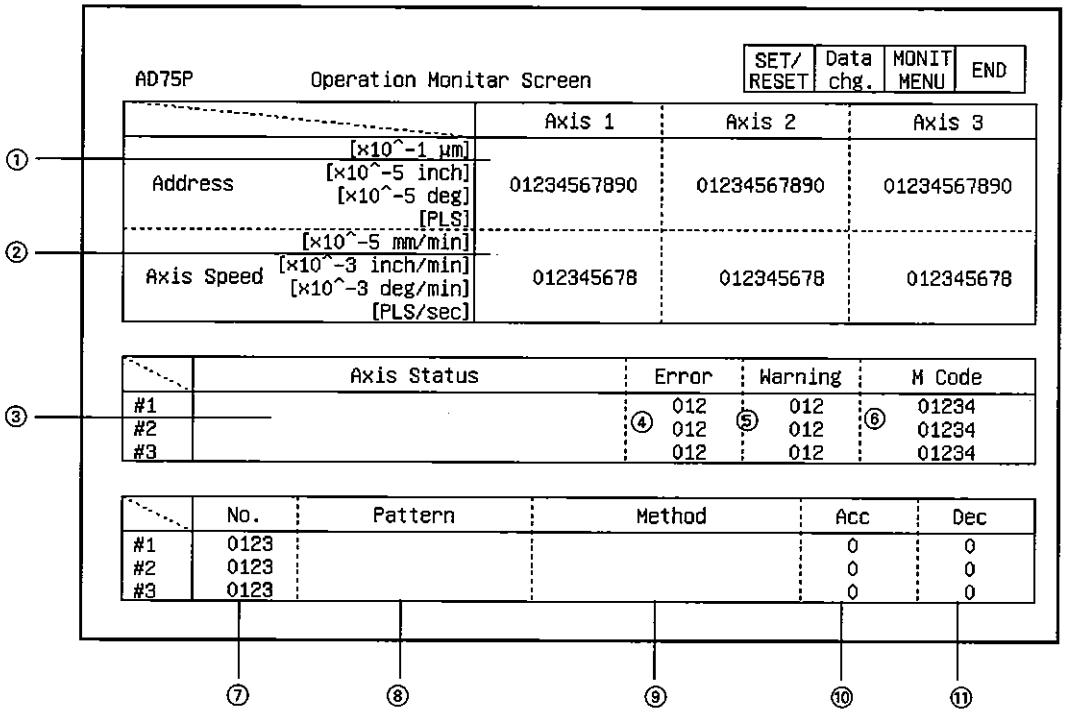
The AD75P3 unit monitor screen is used as an example in this section.

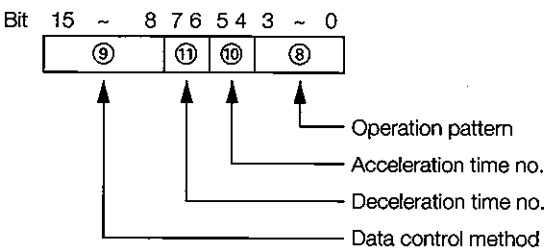
11.23.1 I/O Monitor



No.	Contents of display
①	The ON/OFF status of the I/O signal corresponding to the PC CPU is displayed. The I/O signal is ON when displayed in a reverse display.

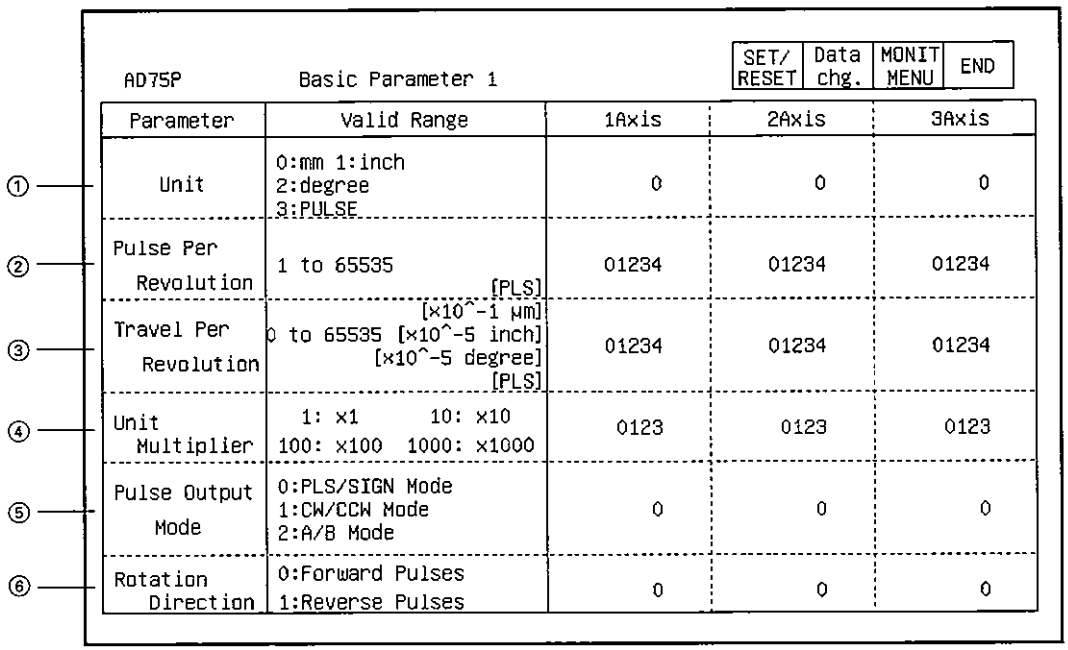
11.23.2 Operation Monitor



No.	Contents of display	Buffer memory address to reference (decimal)		
		Axis 1	Axis 2	Axis 3
①	The feed current value is displayed.	800 801	900 901	1000 1001
②	The axis speed is displayed.	812 813	912 913	1012 1013
③	The axis operation status is displayed.	809	909	1009
④	The axis error No. is displayed when an axis error occurs.	807	907	1007
⑤	The axis warning No. is displayed when an axis warning occurs.	808	908	1008
⑥	The M code (valid M code) that is set in the data during positioning is displayed.	806	906	1006
⑦	Positioning data No. during positioning is displayed. (The actual data No. is also displayed when specified indirectly.)	835	935	1035
⑧ ⑨ ⑩ ⑪	The positioning identifier of the positioning data during positioning is displayed. 	838	938	1038

11.23.3 Basic Parameter Monitor

(1) Basic Parameter 1



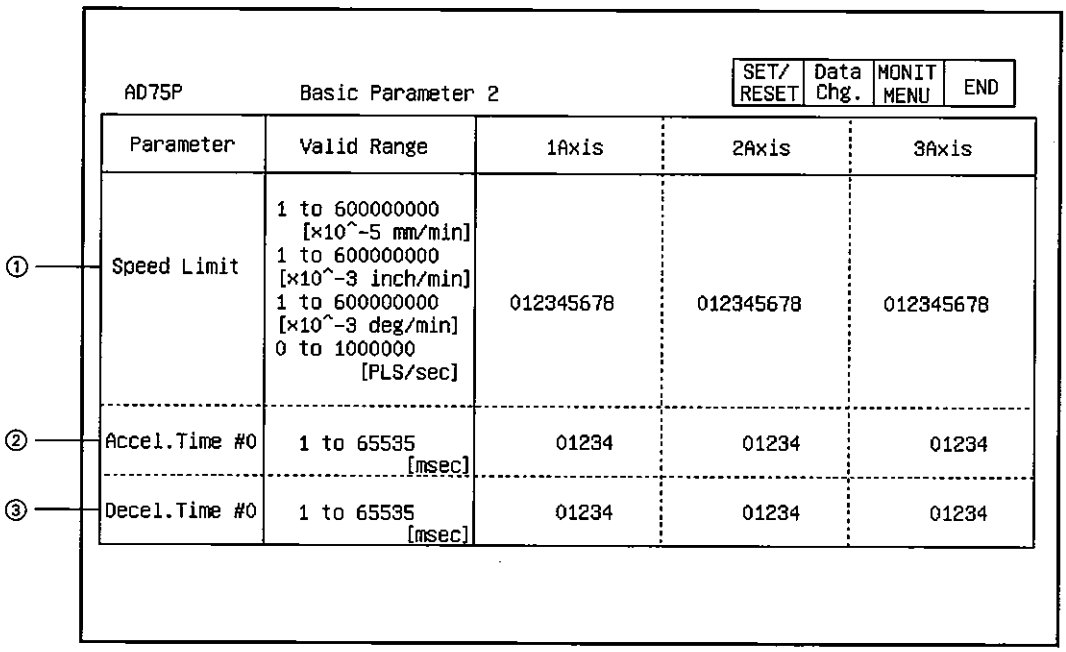
AD75P Basic Parameter 1

SET/RESET | Data chg. | MONIT MENU | END

	Parameter	Valid Range	1Axis	2Axis	3Axis
①	Unit	0:mm 1:inch 2:degree 3:PULSE	0	0	0
②	Pulse Per Revolution	1 to 65535 [PLS]	01234	01234	01234
③	Travel Per Revolution	[×10^-1 μm] 0 to 65535 [×10^-5 inch] [×10^-5 degree] [PLS]	01234	01234	01234
④	Unit Multiplier	1: ×1 10: ×10 100: ×100 1000: ×1000	0123	0123	0123
⑤	Pulse Output Mode	0:PLS/SIGN Mode 1:CW/CCW Mode 2:A/B Mode	0	0	0
⑥	Rotation Direction	0:Forward Pulses 1:Reverse Pulses	0	0	0

No.	Contents of display	Buffer memory address to reference (decimal)		
		Axis 1	Axis 2	Axis 3
①	The command unit for positioning control is displayed.	0	150	300
②	The pulse number per 1 revolution of the motor determined by the machine system is displayed.	1	151	301
③	The travel distance per 1 revolution of the motor determined by the machine system is displayed.	2	152	302
④	The multiplier of the travel distance per 1 pulse is displayed.	3	153	303
⑤	The pulse output mode is displayed.	4	154	304
⑥	The direction of rotation when the current value is increased is displayed.	5	155	305

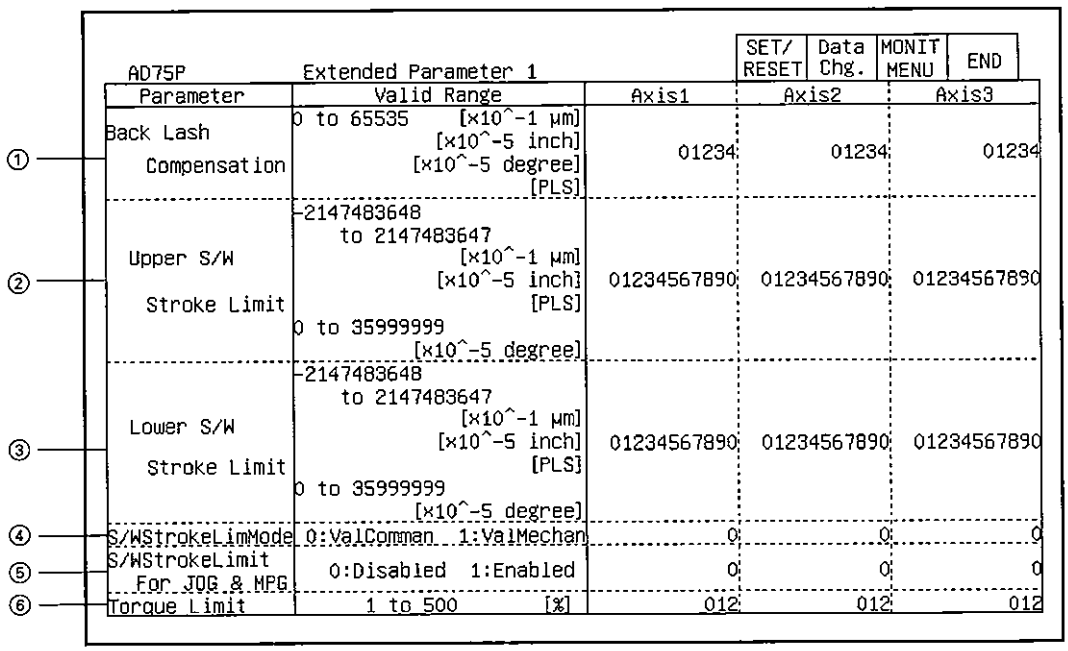
(2) Basic parameter 2



No.	Contents of display	Buffer memory address to reference (decimal)		
		Axis 1	Axis 2	Axis 3
①	The maximum speed for the positioning operation (also including zero return) and the manual pulser operation is displayed.	6 7	156 157	306 307
②	With the positioning operation, the acceleration time 0 from speed 0 until the speed limit has been attained is displayed.	8 9	158 159	308 309
③	With the positioning operation, the deceleration time 0 from the speed limit to 0 speed is displayed.	10 11	160 161	310 311

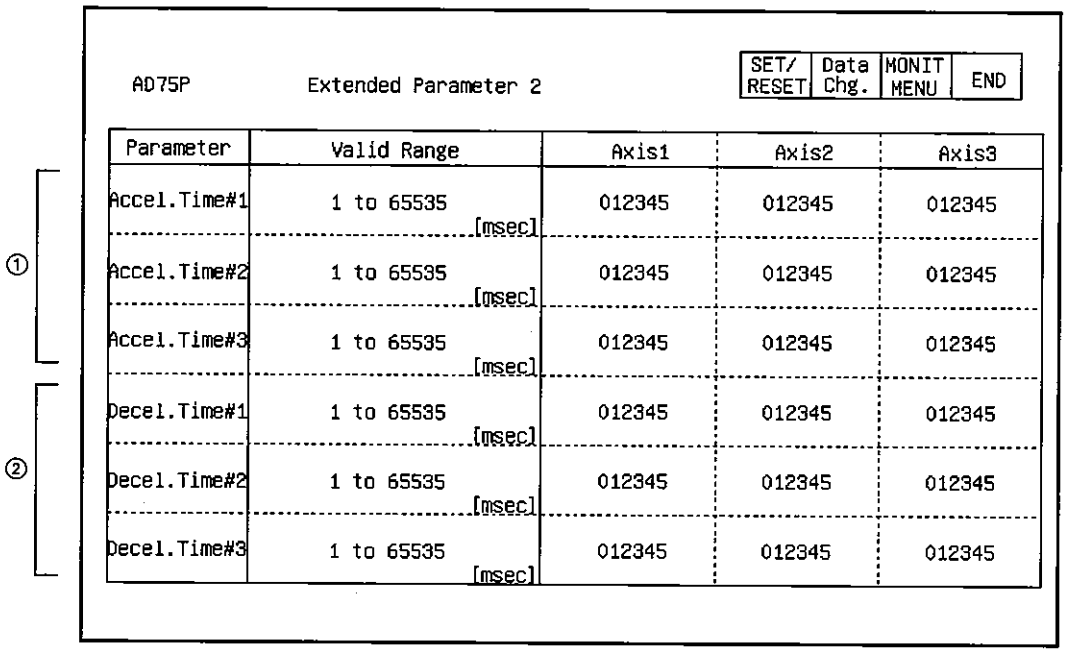
11.23.4 Extended Parameter Monitor

(1) Extended Parameter 1



No.	Contents of display	Buffer memory address to reference (decimal)		
		Axis 1	Axis 2	Axis 3
①	The machine backlash compensation amount when the positioning direction changes is displayed.	15	165	315
②	The upper limit of the range that the machine can travel is displayed. (Software stroke upper limit)	16 17	166 167	316 317
③	The lower limit of the range that the machine can travel is displayed. (Software stroke lower limit)	18 19	168 169	318 319
④	This shows whether the software stroke limit is applied to the feed current value or the feed machine value. Check the feed current value with the operation monitor (Sec. 11.23.1). Check the feed machine value with the target value and the machine value monitor (Sec. 11.23.13) .	20	170	320
⑤	This shows whether the software stroke limit for the jog operation and the manual pulser operation is enabled/disabled.	21	171	321
⑥	The torque limit is displayed.	24	174	324

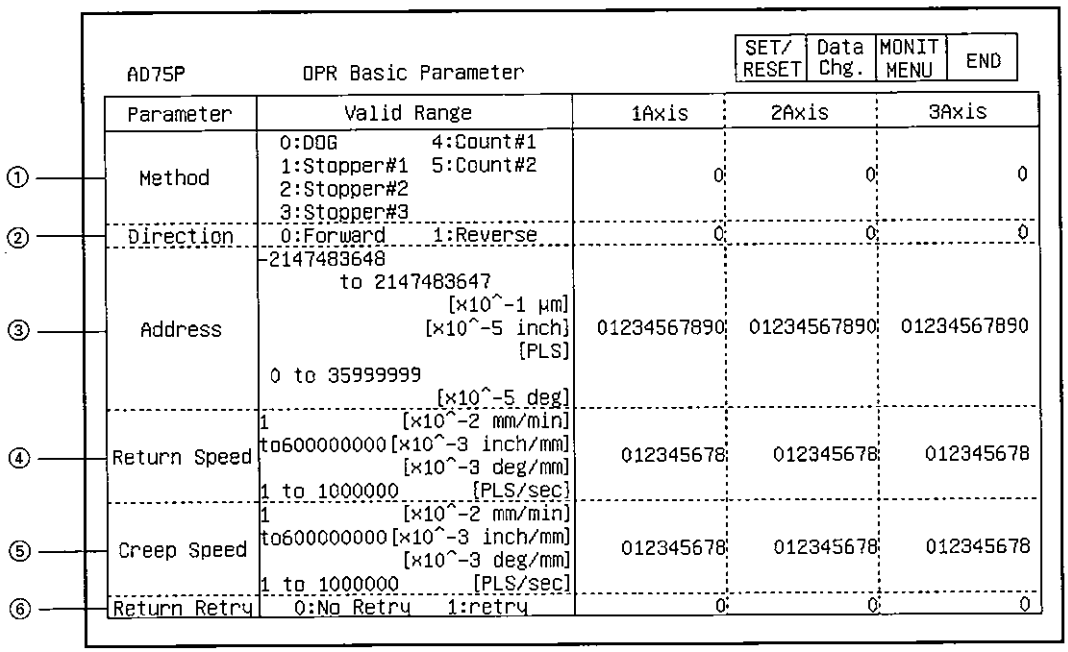
(2) Extended Parameter 2



No.	Contents of display	Buffer memory address to reference (decimal)		
		Axis 1	Axis 2	Axis 3
①	With the positioning operation, acceleration time 1 through acceleration time 3 from speed 0 until the speed limit is attained is displayed.	36~41	186~191	336~341
②	With the positioning operation, deceleration time 1 through deceleration time 3 from the speed limit to 0 speed is displayed.	42~47	192~197	342~347

11.23.5 Zero Return Parameter Monitor

(1) Basic parameters for zero return



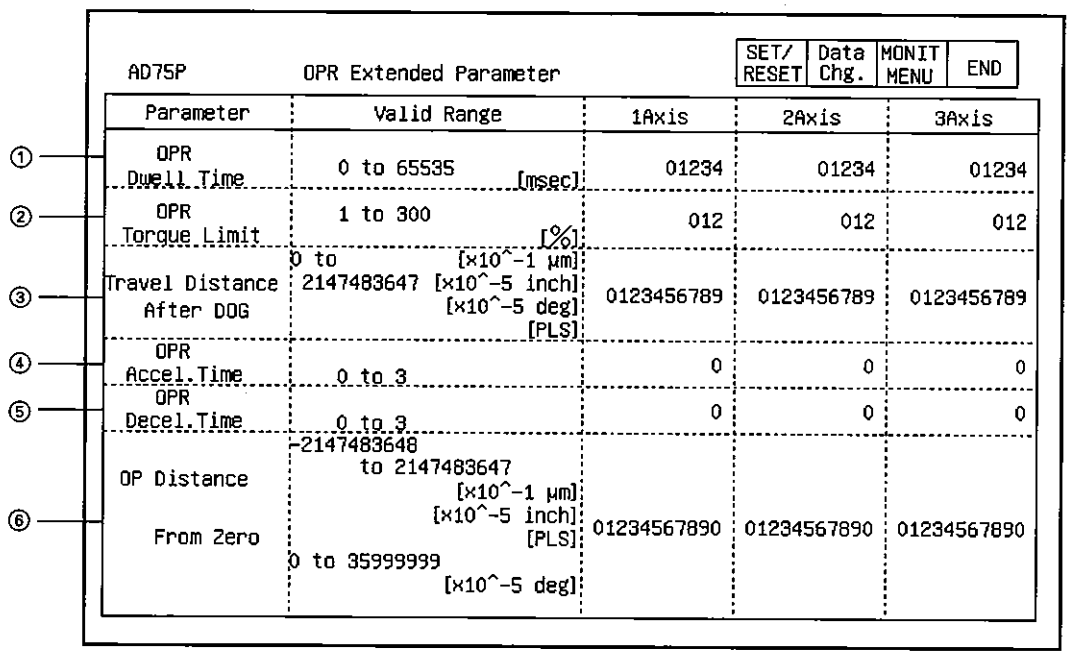
AD75P OPR Basic Parameter

SET/RESET | Data Chg. | MONIT MENU | END

	Parameter	Valid Range	1Axis	2Axis	3Axis
①	Method	0:DOG 4:Count#1 1:Stopper#1 5:Count#2 2:Stopper#2 3:Stopper#3	0	0	0
②	Direction	0:Forward 1:Reverse	0	0	0
③	Address	-2147483648 to 2147483647 [×10^-1 μm] [×10^-5 inch] [PLS] 0 to 35999999 [×10^-5 deg]	01234567890	01234567890	01234567890
④	Return Speed	1 [×10^-2 mm/min] to600000000 [×10^-3 inch/mm] [×10^-3 deg/mm] 1 to 1000000 [PLS/sec]	012345678	012345678	012345678
⑤	Creep Speed	1 [×10^-2 mm/min] to600000000 [×10^-3 inch/mm] [×10^-3 deg/mm] 1 to 1000000 [PLS/sec]	012345678	012345678	012345678
⑥	Return Retry	0:No Retry 1:retry	0	0	0

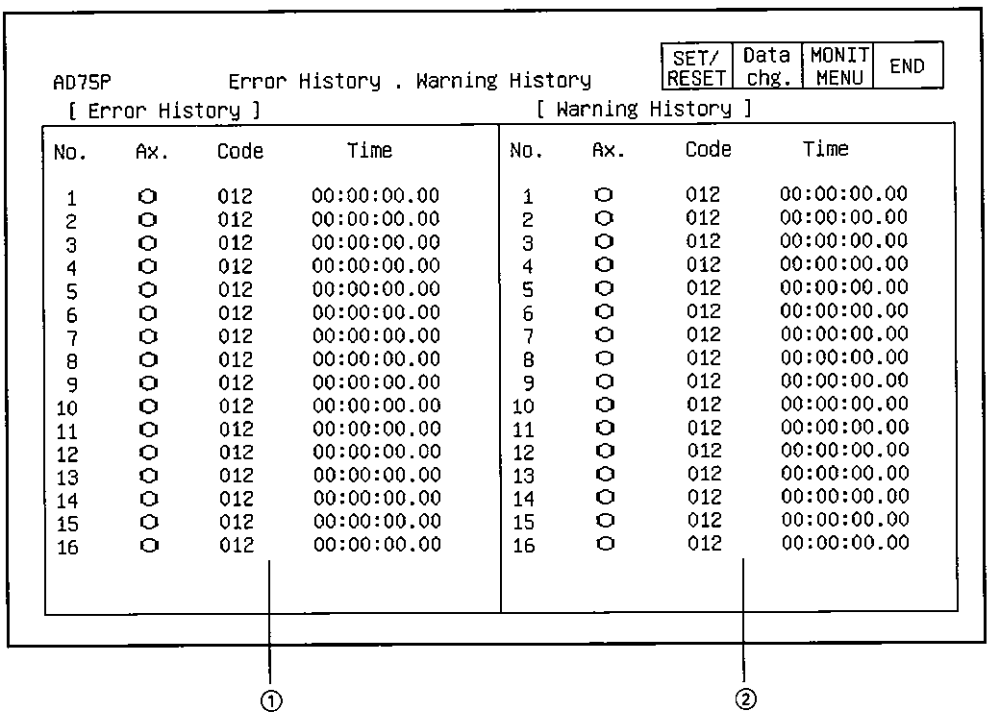
No.	Contents of display	Buffer memory address to reference (decimal)		
		Axis 1	Axis 2	Axis 3
①	The zero return method is displayed.	70	220	370
②	The zero return direction is displayed. Forward: address increase direction Reverse: address decrease direction	71	221	371
③	The zero address that is set when the zero return is complete is displayed.	72 73	222 223	372 373
④	The maximum speed for the zero return is displayed.	74 75	224 225	374 375
⑤	The creep speed after the near signal turns on is displayed. (speed before zero return is complete)	76 77	226 227	376 377
⑥	This indicates whether or not to retry the zero return with the zero return retry function.	78	228	378

(2) Detailed parameters for origin return



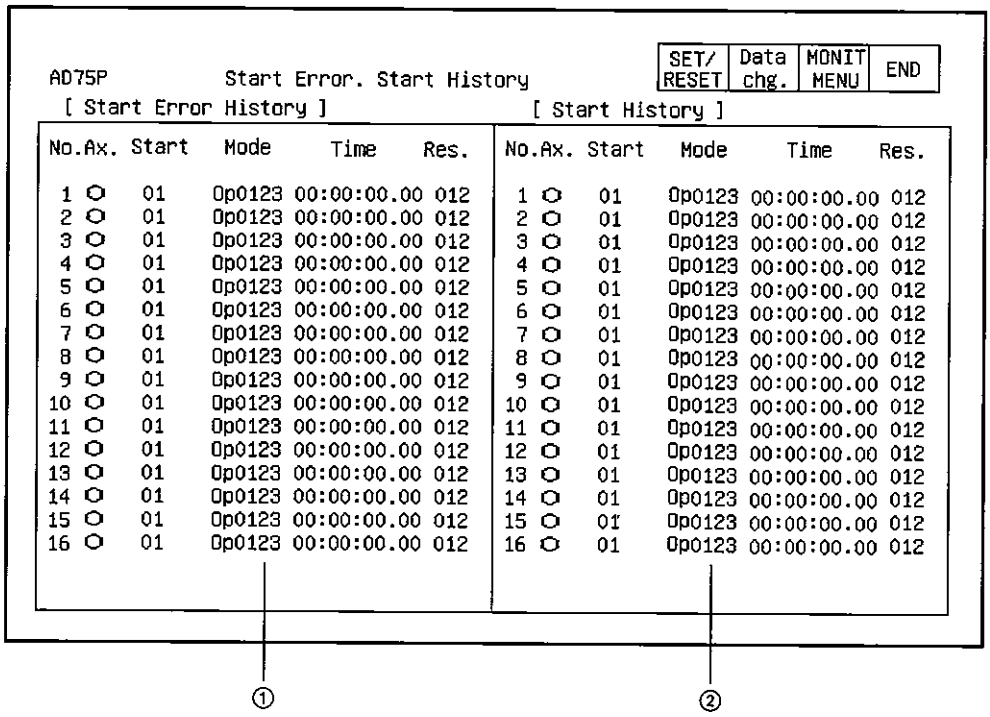
No.	Contents of display	Buffer memory address to reference (decimal)		
		Axis 1	Axis 2	Axis 3
①	The time from when the proximity dog goes ON to when the origin point return is completed is displayed. (for stopper stop ①)	79	229	379
②	The restriction value used to limit the torque of the servo motor after reaching the creeping speed is displayed.	86	236	386
③	The amount of movement after the proximity dog goes ON is displayed. (for count equation)	80 81	230 231	380 381
④	The display shows which acceleration time, 0 ~ 3 (basically, this is set using the detailed parameters) is to be used as the acceleration time when making an origin point return.	82	232	382
⑤	The display shows which deceleration time, 0 ~ 3 (basically, this is set using the detailed parameters) is to be used as the deceleration time when making an origin point return.	83	233	383
⑥	The shift amount (amount of movement) for an origin point shift is displayed.	84 85	234 235	384 385

11.23.6 Monitoring the Error History and Warning History



No.	Contents of display	Buffer memory address to reference (decimal)		
		Axis 1	Axis 2	Axis 3
①	The error history is displayed. Axis : No. of axis on which error occurred Code : Code for error which occurred (decimal) Time : Time at which error occurred	624~687 (624, 628···) (625, 629···) (626, 630···)		
②	The warning history is displayed. Axis : No. of axis on which warning occurred Code : Code for warning which occurred (decimal) Time : Time at which warning occurred	689~752 (689, 693···) (690, 694···) (691, 695···)		

11.23.7 Monitoring the Error Termporary Startup History and Startup History



No.	Contents of display	Buffer memory address to reference (decimal)		
		Axis 1	Axis 2	Axis 3
①	The error startup history is displayed. Axis : Startup axis no. Startup source : Source which initiates startup (*1) 00: PC CPU (Y) 01: External signal 10: Peripheral equipment (AD75P) Type of operation : Type of operation at startup (*2) If restarting from a stopped status, "Re" is displayed just before this. Time : Startup time (hour: minutes: seconds: 100 milliseconds) Judgment : Error code when startup error occurred (decimal) The numeric values of the least significant 14 bits of the buffer memory are displayed.	543~622 (543, 548···) (544, 549···) (544, 549···) (545 · 546, 550 · 551···) (547, 552···)		
②	The startup history is displayed. (The contents of the display are the same as in ①.) Axis : Startup axis no. Startup source : Source which initiates startup (*1) Type of operation : Type of operation at startup (*2) Time : Startup time (hour: minutes: seconds: 100 milliseconds) Judgment : Error code when startup error occurred (decimal)	462~541 (462, 467···) (463, 468···) (463, 468···) (464 · 465, 469 · 470···) (466, 471···)		

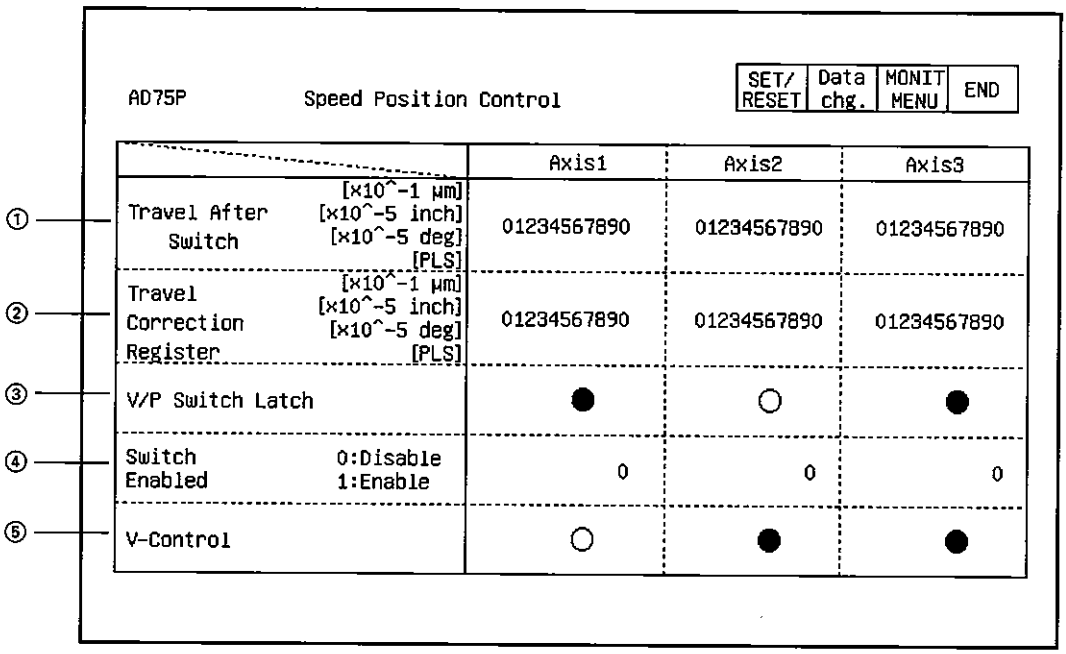
*1 The display is based on the data in Bits 13 and 14 of the applicable buffer memory.

*2 The correspondance between the numeric value displayed in the "Operation Type" column and the type of startup is shown below. The display is based on the data in Bits 0 ~ 12 of the applicable buffer memory.

Data no.	Type of startup	Remarks
1~600	Startup with positioning operation	Indicates the data number at the time of startup
7000	Startup with block positioning operation	———
8051	Startup with origin point return	
8052	Startup with high-speed origin point return	
8053	Startup with change in current value	
8160	Startup with jogging operation	
8161	Startup with manual pulser operation	

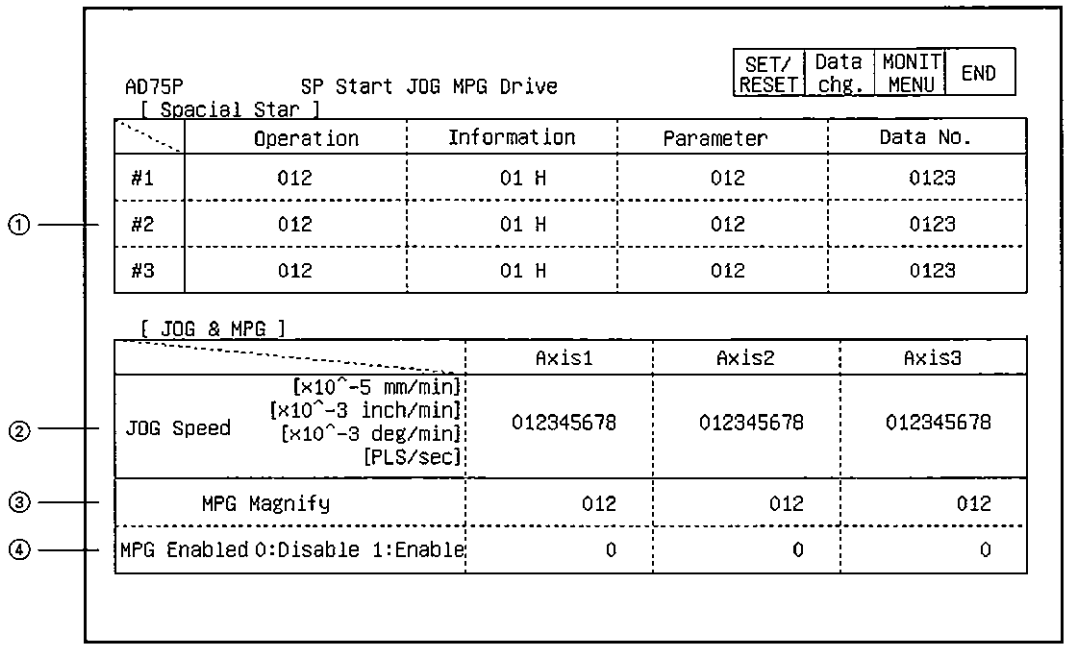
Items with the "Re" prefix are displayed based on the data of Bit 15 of the applicable buffer memory.

11.23.8 Monitoring Speed/Position Control



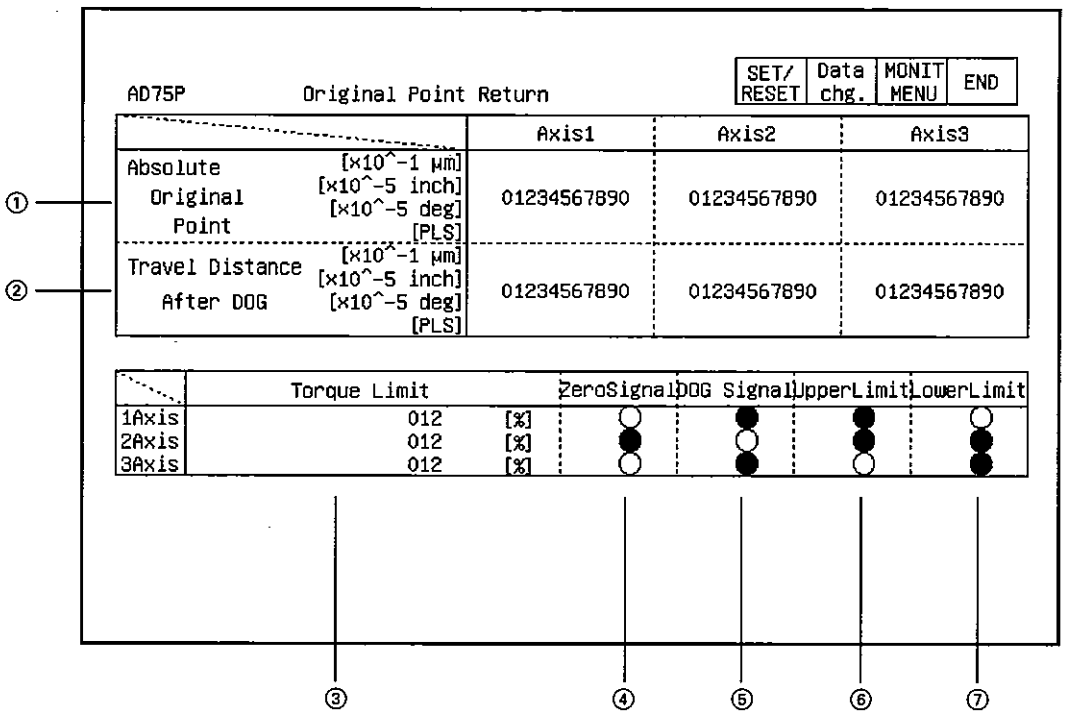
No.	Contents of display	Buffer memory address to reference (decimal)		
		Axis 1	Axis 2	Axis 3
①	The address (amount of movement) for position control in speed/position changing control is displayed.	814 815	914 915	1014 1015
②	The changed value is displayed when the position control address (amount of movement) in the speed control function is changed in speed/position changing control.	1164 1165	1214 1215	1264 1265
③	The ON/OFF status of the speed/position changing latch flag (the flag indicating the control status) is displayed. (The status of Bit 1 of the pertinent buffer memory is displayed.) ● :Position control in progress ○ :Speed control in progress/positioning is in progress in another control method or operation method (such as jogging)	817	917	1017
④	This displays whether control switching in response to an external signal is ef fective or not in speed/position changing control. 1 :Switching is permitted 0 :Switching is not permitted	1163	1213	1263
⑤	The ON/OFF status flag during speed control (the flag indicating the control status) is displayed. (The status of Bit 0 of the pertinent buffer memory is displayed.) ● :Speed control in progress ○ :Position control in progress/positioning is in progress in another control method or operation method (such as jogging)	817	917	1017

11.23.9 Monitoring Special Startup, Jogging, and Manual Pulser Operation



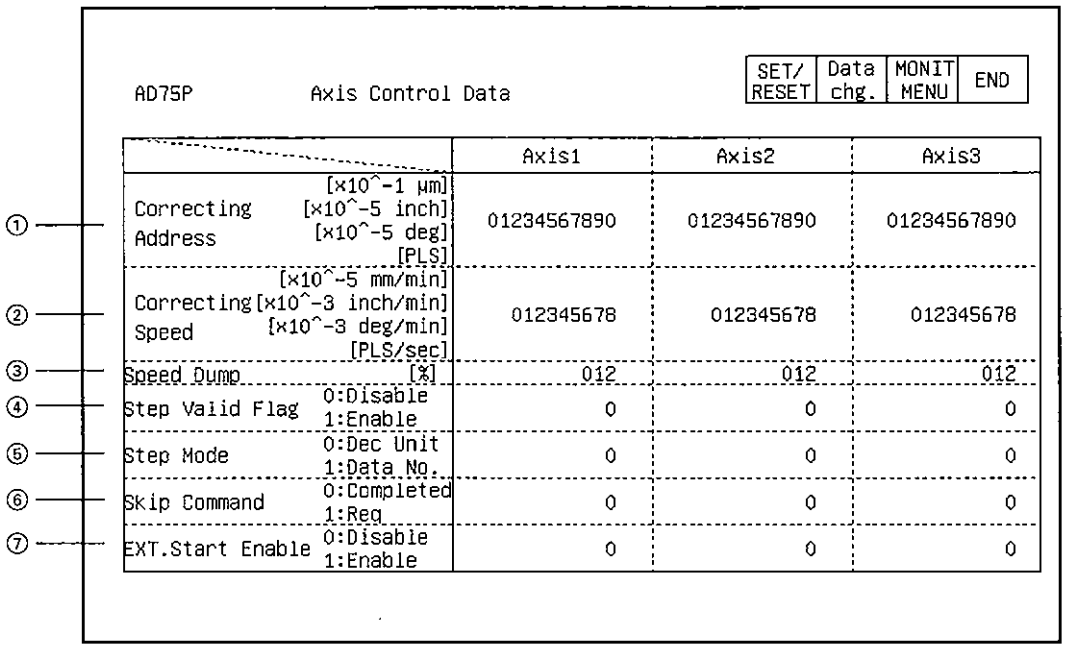
No.	Contents of display	Buffer memory address to reference (decimal)		
		Axis 1	Axis 2	Axis 3
①	The information for the special startup currently in progress is displayed. Operation : Startup data pointer Information : Command code of the special startup data specified by the startup data pointer Parameter : Parameters for the special startup data specified by the startup data pointer Data No. : Positioning data number specified by the startup data pointer	 832 827 828 829	 932 927 928 929	 1032 1027 1028 1029
②	The jogging speed used during jogging operation is displayed.	1160 1161	1210 1211	1260 1261
③	The input magnification per one pulse from the manual pulser is displayed.	1168 1169	1218 1219	1268 1269
④	The display shows whether or not manual pulser operation is permitted.	1167	1217	1267

11.23.10 Monitoring an Origin Point Return



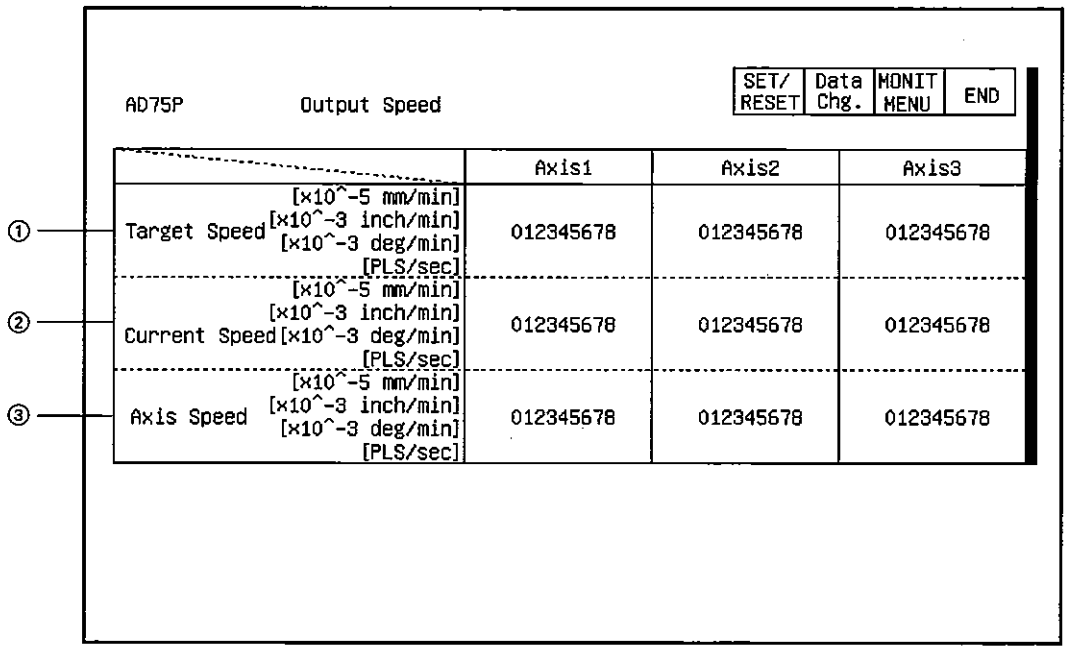
No.	Contents of display	Buffer memory address to reference (decimal)		
		Axis 1	Axis 2	Axis 3
①	The address of the origin point set when an origin point return is completed is displayed.	822 823	922 923	1022 1023
②	The amount of movement after the proximity dog goes ON is displayed.	824 825	924 925	1024 1025
③	The torque limit value is displayed.	826	926	1026
④ ⑤ ⑥ ⑦	The ON/OFF status of the external I/O signal corresponding to the signal name displayed on the screen is displayed. ○ : OFF ● : ON Bit 15 ~ 7 6 5 4 3 2 1 0 Zero point signal Proximity signal Upper limit Lower limit	816	916	1016

11.23.11 Monitoring Axis Control Data



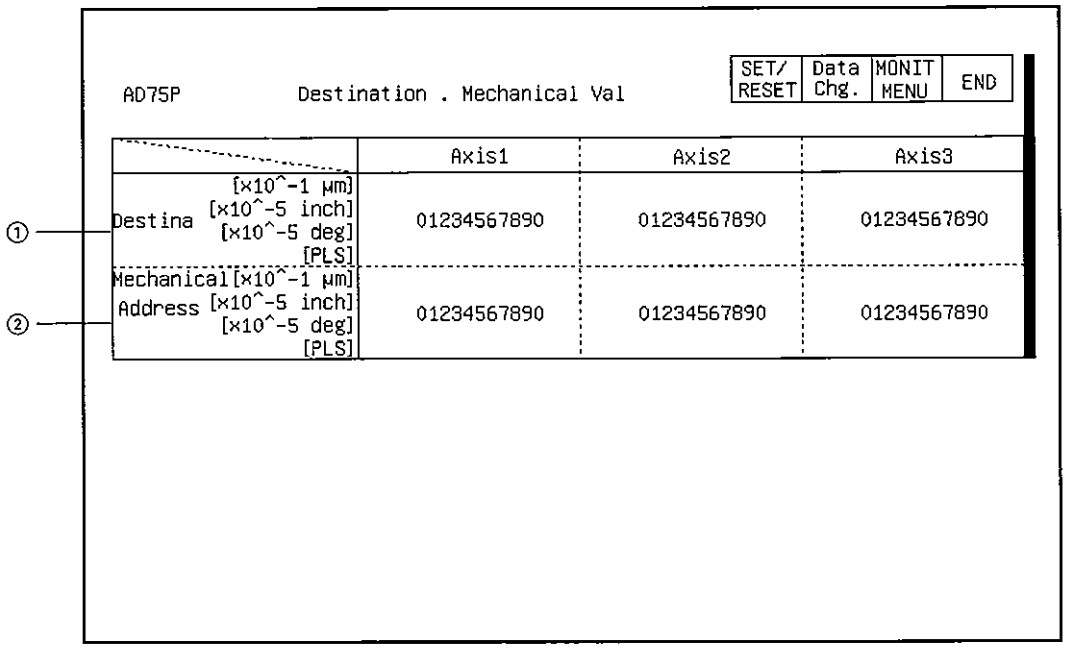
No.	Contents of display	Buffer memory address to reference (decimal)		
		Axis 1	Axis 2	Axis 3
①	The value for the current value change is displayed.	1154 1155	1204 1205	1254 1255
②	The speed change value is displayed.	1156 1157	1206 1207	1256 1257
③	The override value in relation to the positioning speed is displayed.	1159	1209	1259
④	The ON/OFF status for the flag indicating whether step action is effective is displayed; this flag confirms the actions of the various positioning data in the step function. 1 : Step effective (step action is carried out) 0 : Step invalid (step action is not carried out)	1172	1222	1272
⑤	This displays the unit to be used for step action in operation based on the step function. 1 : Step action in data number units 0 : Step action in reduced-speed units	1173	1223	1273
⑥	The ON/OFF status of the skip command is displayed. 1 : Request for skip in progress 0 : Request for skip has been completed/No request	1175	1225	1275
⑦	The display shows whether control based on an external startup signal is effective or invalid. 1 : External startup effective 0 : External startup invalid	1171	1221	1271

11.23.12 Monitoring the Output Speed



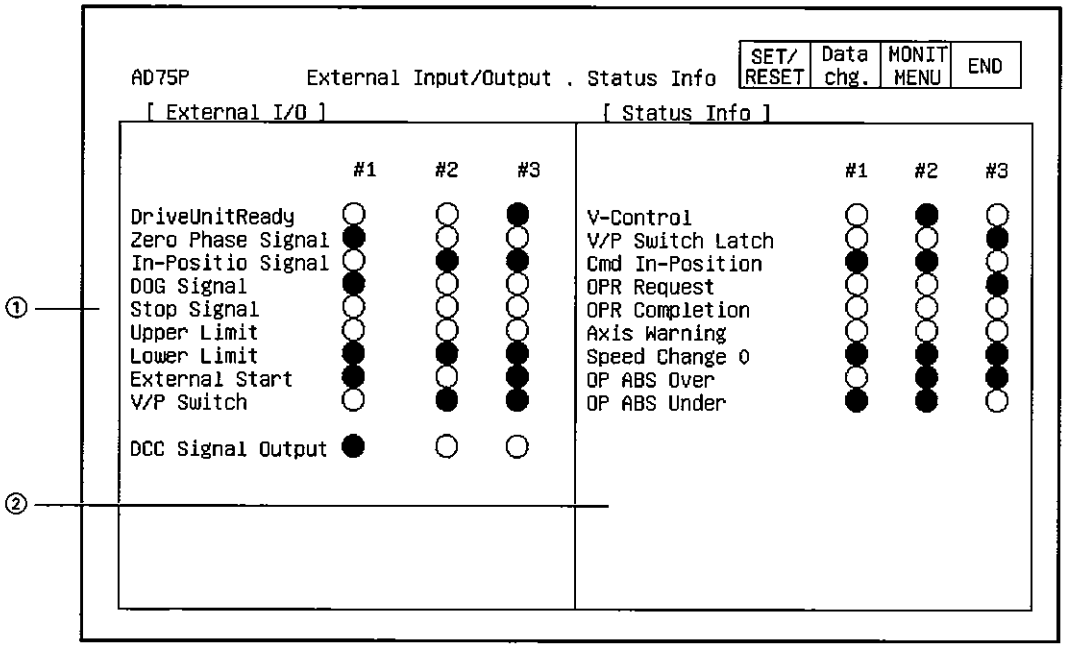
No.	Contents of display	Buffer memory address to reference (decimal)		
		Axis 1	Axis 2	Axis 3
①	When positioning, the actual speed, taking the override and the speed limit value into consideration, is displayed. When using interpolation operation, the target speeds for the composite speed/reference axis speed are displayed on the reference axis side, and "0" is displayed on the other axis side. When using jogging operation, the actual speed taking the jogging speed limit value into consideration is displayed.	820 821	920 921	1020 1021
②	The speed set for the positioning data is displayed. When using interpolation operation, the target speeds for the composite speed/reference axis speed are displayed on the reference axis side, and "0" is displayed on the other axis side.	810 811	910 911	1010 1011
③	The actual positioning speed is displayed.	812 813	912 913	1012 1013

11.23.13 Monitoring the Target values and Machine Values



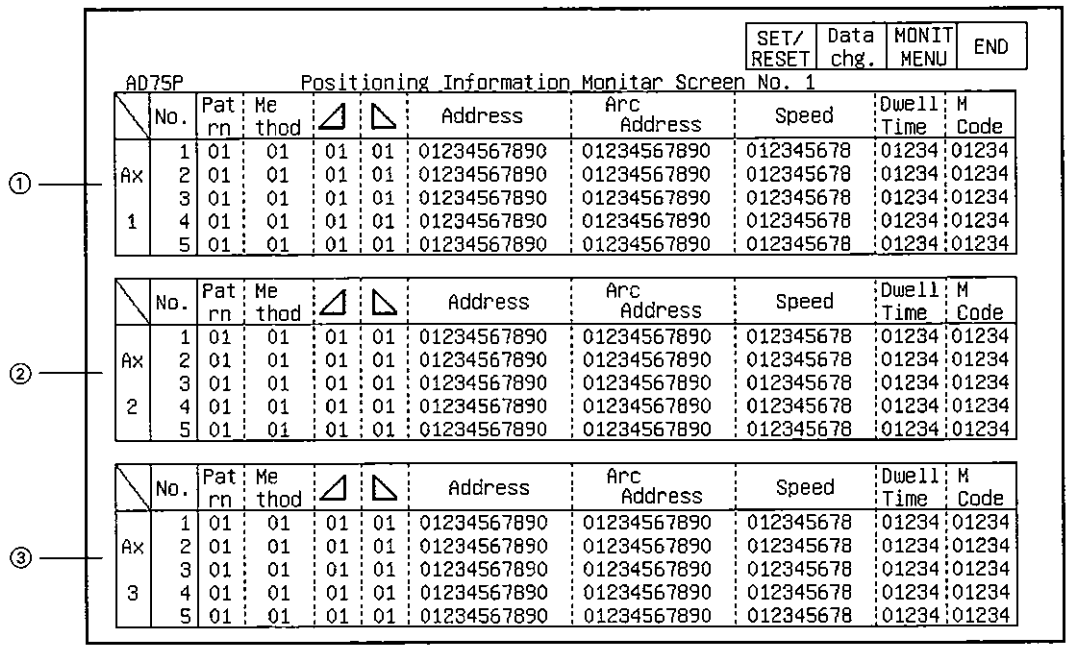
No.	Contents of display	Buffer memory address to reference (decimal)		
		Axis 1	Axis 2	Axis 3
①	The target values when using positioning based on position control are displayed. (With ABS: address/With INC: amount of movement) When using speed/position changing control, the amount of movement following a change to position control is displayed.	818 819	918 919	1018 1019
②	The individual position determined by the machine is used as the machine origin point, and the current machine feed value (position) is displayed.	802 803	902 903	1002 1003

11.23.14 Monitoring External I/O Signals and Status Signals (Flags)



No.	Contents of display	Buffer memory address to reference (decimal)		
		Axis 1	Axis 2	Axis 3
①	The ON/OFF status for the external I/O signal corresponding to the signal name shown on the screen is displayed. ○ : OFF ● : ON Bit 15 ~ 9 8 7 6 5 4 3 2 1 0 Deviation counter Speed/position Change External startup Lower limit Upper limit Drive unit ready Zero point Imposition Proximity point Stop	816	916	1016
②	The ON/OFF status for the various flags corresponding to the flag shown on the screen is displayed. ○ : OFF ● : ON Bit 15 ~12 11 10 9 ~ 4 3 2 1 0 Absolute origin point position Underflow Overflow Speed change 0 Axis warning detection Speed control in progress Speed/position change Command imposition Request for origin point return Origin point return completed	817	917	1017

11.23.15 Monitoring Positioning Information



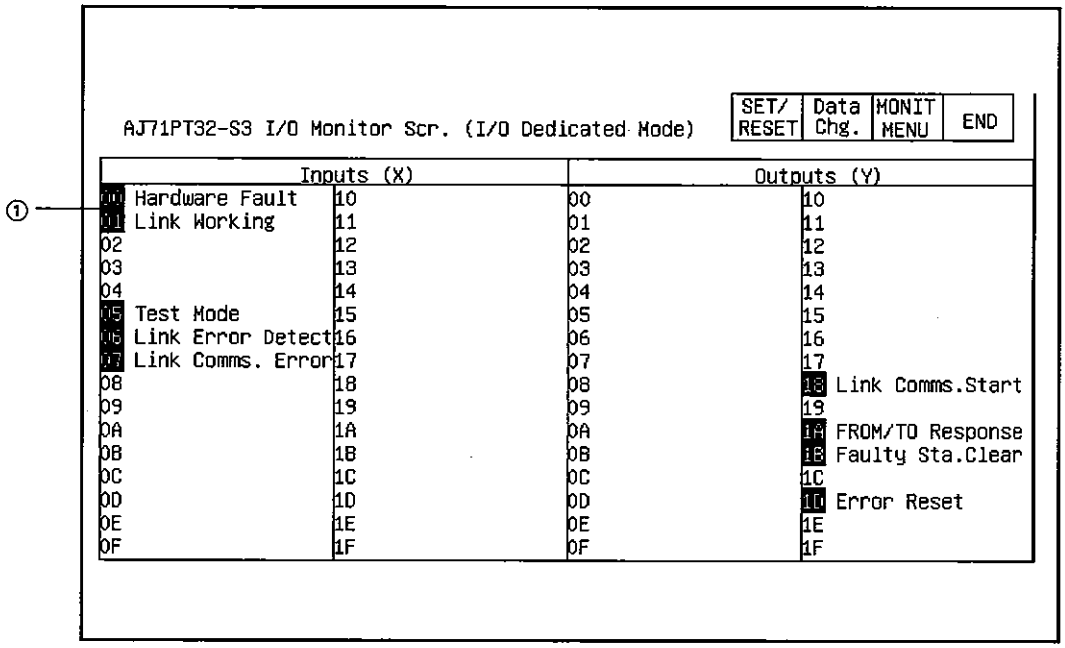
No.	Contents of display	Buffer memory address to reference (decimal)
①	The positioning data corresponding to the data number and data name shown on the screen for Axis 1 is displayed. Pattern : This is displayed based on Bits 0 ~ 1 of the applicable buffer memory address. Control method : Acceleration : Deceleration : Address : Arc address : Specified speed : Dwell time : M code :	1300~2299 (1300, 1310···) (1300, 1310···) (1300, 1310···) (1300, 1310···) (1306 · 1307, 1316 · 1317···) (1308 · 1309, 1318 · 1319···) (1304, 1314···) (1302, 1312···) (1301, 1311···)
②	The positioning data corresponding to the data number and data name shown on the screen for Axis 2 is displayed. Pattern : (The contents of the display are the same as for (1).) Address : Arc address : Dwell time : M code :	2300~3299 (2300, 2310···) (2306 · 2307, 2316 · 2317···) (2308 · 2309, 2318 · 2319···) (2302, 2312···) (2301, 2311···)
③	The positioning data corresponding to the data number and data name shown on the screen for Axis 3 is displayed. Pattern : (The contents of the display are the same as for (1).) Address : Arc address : Dwell time : M code :	3300~4299 (3300, 3310···) (3306 · 3307, 3316 · 3317···) (3308 · 3309, 3318 · 3319···) (3302, 3312···) (3301, 3311···)

11.24 Monitoring the AJ71PT32-S3 and A1SJ71PT32-S3 Units

The contents displayed on the monitor screens of the AJ71PT32-S3 and A1SJ71PT32-S3 units are the same, except for the section where the unit model name is displayed.

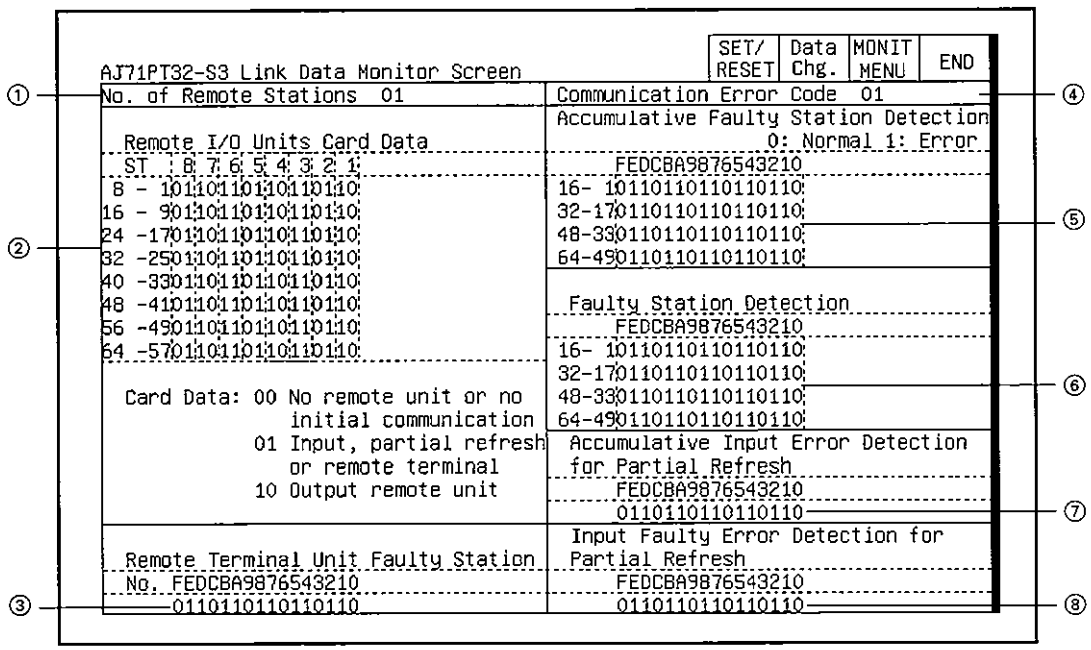
In this section, we will look at the monitor screens for the AJ71PT32-S3.

11.24.1 I/O Monitor (I/O Mode)



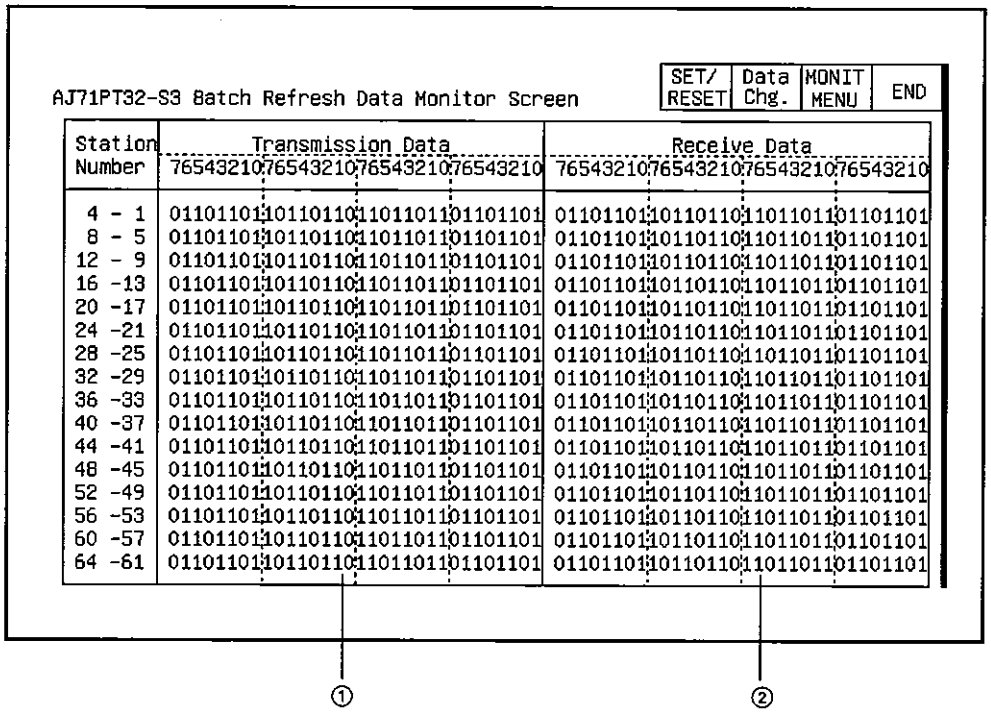
No.	Contents of display
①	The ON/OFF status of the I/O signal corresponding to the PC CPU of the master unit is displayed. The I/O signal is ON when displayed in a reversed display.

11.24.2 Monitoring the Link Status



No.	Contents of display	Buffer memory address to reference (decimal)
①	The total number of remote stations connected is displayed.	0
②	This shows whether the station number of the connected remote unit is for input or output.	70~77
③	A "1" is displayed for the remote terminal unit number where the error has occurred.	195
④	When an error occurs in link communications, the communications error code is displayed. 0: No error 1: Initial data error 2: Circuit error 3: Erroneous station issued 4: Separate refresh type remote I/O unit error	107
⑤	A communications error has occurred, and a "1" is displayed for the station number of the remote unit. The detection status is maintained until the error is reset.	90~93
⑥	A communications error has occurred, and a "1" is displayed for the station number of the remote unit. If the automatic recovery function is on, a "0" is displayed when normal communications have been resumed.	100~103
⑦	A "1" is displayed for the station number of a separate refresh type remote I/O unit where the input information could not be read out within a given time period. The detection status is maintained until the error is reset.	598
⑧	A "1" is displayed for the station number of a separate refresh type remote I/O unit where the input information could not be read out within a given time period. If the automatic recovery function is on, a "0" is displayed when the station is able to read the input normally.	599

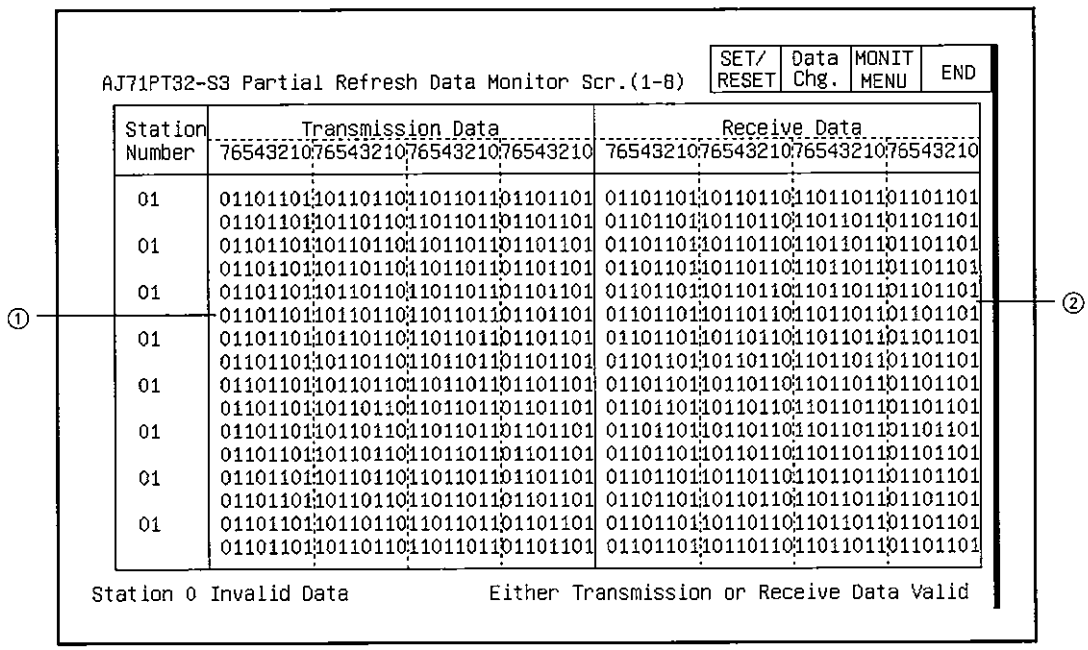
11.24.3 Monitoring Batch Refreshing



No.	Contents of display	Buffer memory address to reference (decimal)
①	The output status for the batch refresh type remote I/O unit is displayed. 0: OFF 1: ON	10~41
②	The input status for the batch refresh type remote I/O unit is displayed. 0: OFF 1: ON	110~141

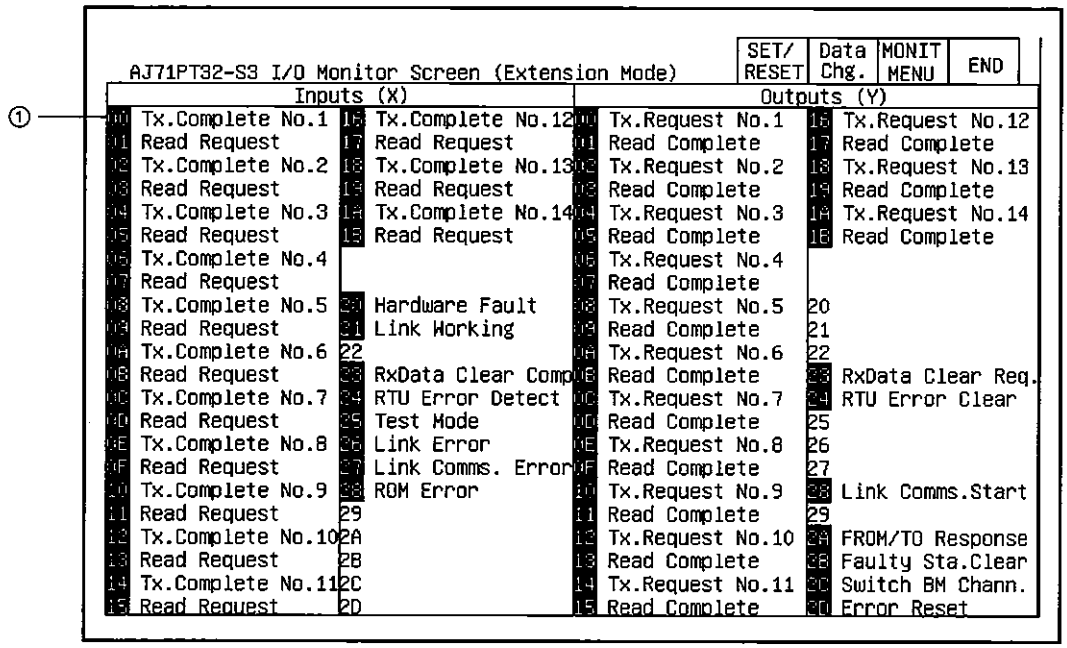
11.24.4 Monitoring Separate Refreshing

As a screen example, we will store the monitor screens from the split refresh monitors (numbers 1 ~ 8) in the memory.



No.	Contents of display	Buffer memory address to reference (decimal)
①	The output status for the separate refresh type remote I/O unit is displayed. 0: OFF 1: ON Output statuses are displayed in the following order for each of the station numbers. (2nd digit) (1st digit) (4th digit) (3rd digit)	300~363
②	The input status for the separate refresh type remote I/O unit is displayed. 0: OFF 1: ON Input statuses are displayed in the following order for each of the station numbers. (2nd digit) (1st digit) (4th digit) (3rd digit)	600~663

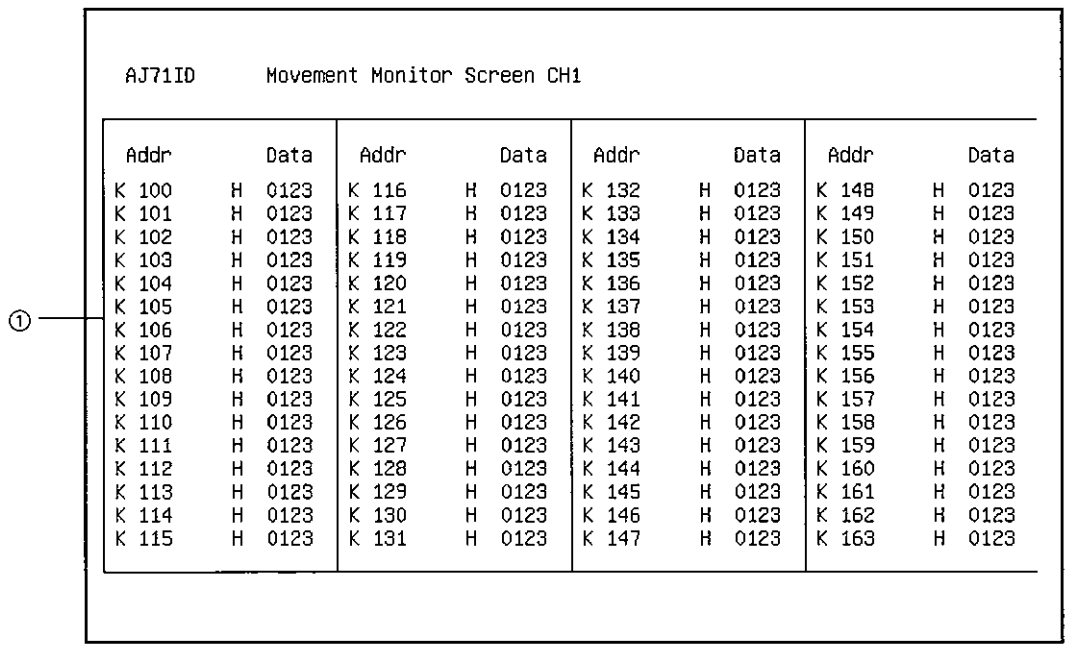
11.24.5 Monitoring Input and Output (Expansion Mode)



No.	Contents of display
①	The ON/OFF status for the I/O signal corresponding to the PC CPU of the master unit is displayed. An I/O signal is ON when it is displayed in a reverse display.

11.25 Monitoring the AJ71ID1 (ID2)-R4 and A1SK71ID1 (ID2)-R4 Units

11.25.1 Action Monitor (CH 1 and CH 2)

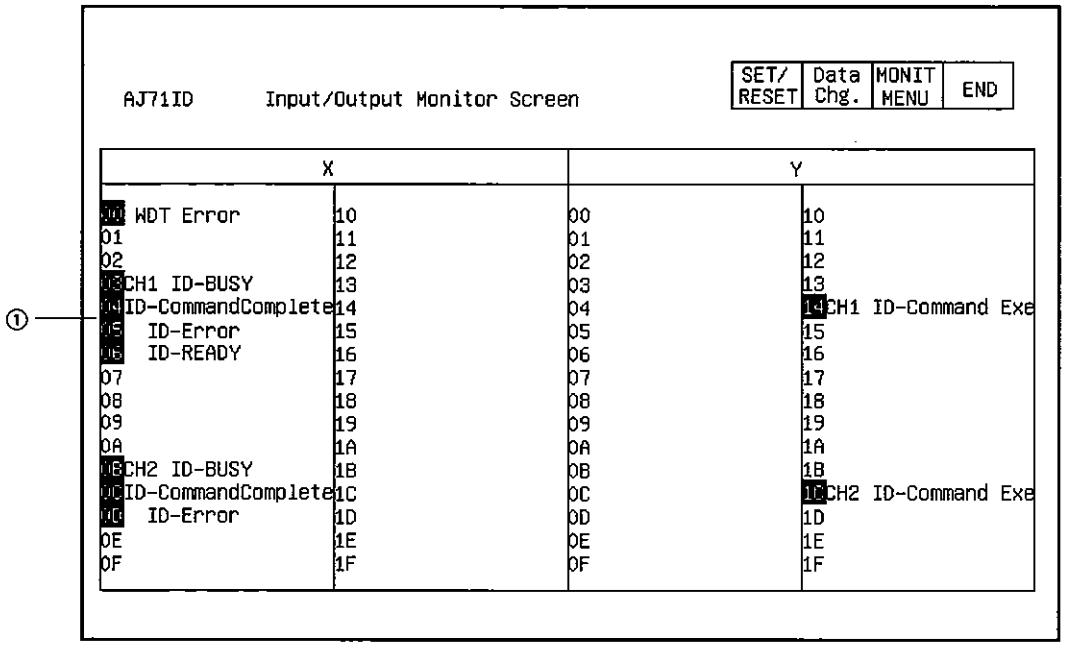


AJ71ID Movement Monitor Screen CH1

Addr	Data	Addr	Data	Addr	Data	Addr	Data
K 100	H 0123	K 116	H 0123	K 132	H 0123	K 148	H 0123
K 101	H 0123	K 117	H 0123	K 133	H 0123	K 149	H 0123
K 102	H 0123	K 118	H 0123	K 134	H 0123	K 150	H 0123
K 103	H 0123	K 119	H 0123	K 135	H 0123	K 151	H 0123
K 104	H 0123	K 120	H 0123	K 136	H 0123	K 152	H 0123
K 105	H 0123	K 121	H 0123	K 137	H 0123	K 153	H 0123
K 106	H 0123	K 122	H 0123	K 138	H 0123	K 154	H 0123
K 107	H 0123	K 123	H 0123	K 139	H 0123	K 155	H 0123
K 108	H 0123	K 124	H 0123	K 140	H 0123	K 156	H 0123
K 109	H 0123	K 125	H 0123	K 141	H 0123	K 157	H 0123
K 110	H 0123	K 126	H 0123	K 142	H 0123	K 158	H 0123
K 111	H 0123	K 127	H 0123	K 143	H 0123	K 159	H 0123
K 112	H 0123	K 128	H 0123	K 144	H 0123	K 160	H 0123
K 113	H 0123	K 129	H 0123	K 145	H 0123	K 161	H 0123
K 114	H 0123	K 130	H 0123	K 146	H 0123	K 162	H 0123
K 115	H 0123	K 131	H 0123	K 147	H 0123	K 163	H 0123

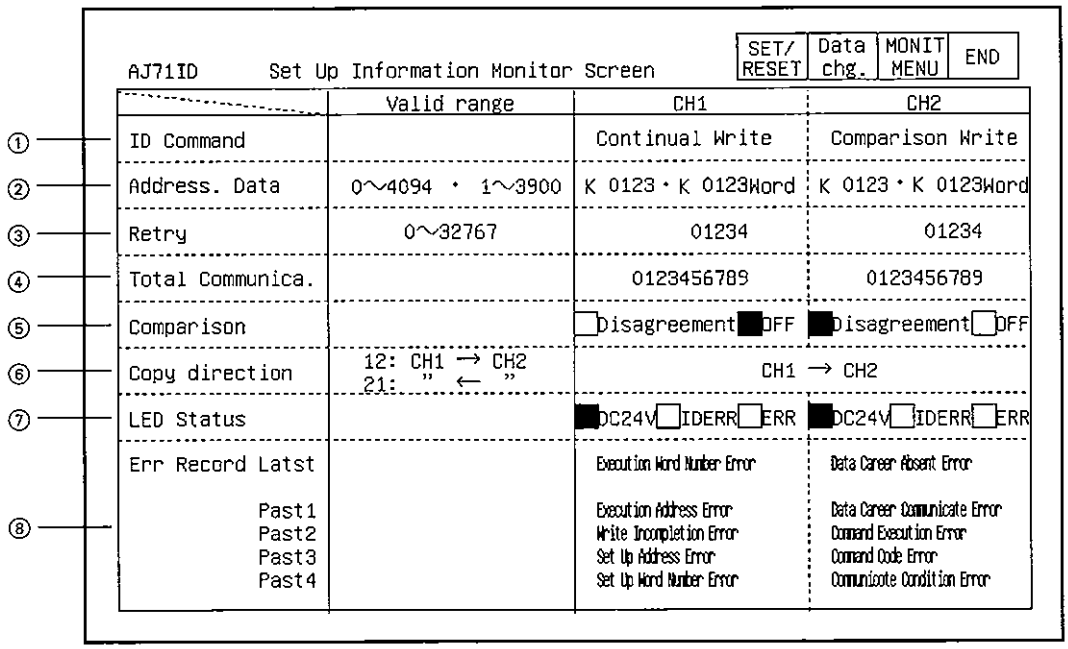
No.	Contents of display	Buffer memory address to reference (decimal)	
		CH. 1	CH. 2
①	The contents of the data storage area are displayed in address units. (The illustration above shows the results when the CH 1 side is monitored.) (Addresses are displayed in decimal format and data in hexadecimal format.)	100~163	4100~4163

11.25.2 I/O Monitor



No.	Contents of display
①	The ON/OFF status for the I/O signal corresponding to the PC CPU is displayed. An I/O signal is ON when it is displayed in a reverse display.

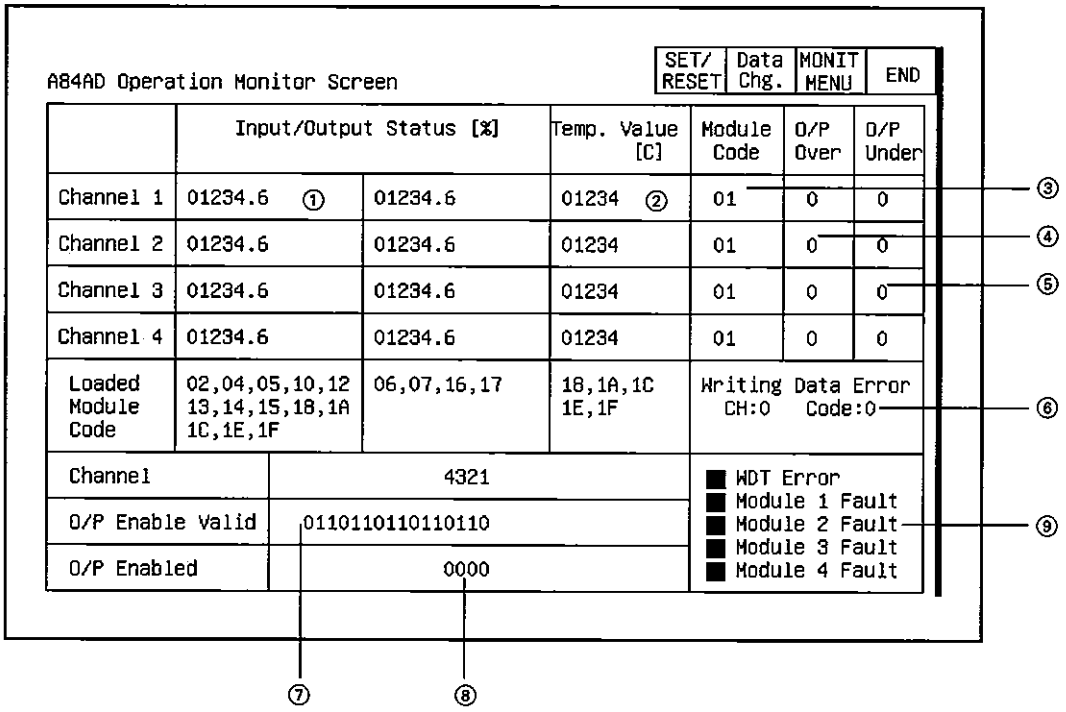
11.25.3 Monitoring Set Information



No.	Contents of display	Buffer memory address to reference (decimal)	
		CH. 1	CH. 2
①	The output command for the data carrier is displayed.	0	4000
②	The first address for the data carrier which is reading and writing the data is displayed, along with the number of processing points for the data being read and written.	1 2	4001 4002
③	The number of retries when a data communications error occurs is displayed.	8	4008
④	The number of communications (accumulated number of times) for the data carrier is displayed (exclusing the CM, CL, OF, and ON commands).	22 23	4022 4023
⑤	The results of executing the Compare command (CM) are displayed.	4 5	4004 4005
⑥	The direction in which data is copied when the Copy Data command (CO) is executed is displayed.	—	4010
⑦	The lighting status of the Error LED is displayed. ("■" is displayed when an error occurs.)	12	4012
⑧	The error codes for the five most recent times that an error has occurred is displayed.	14~18	4014~4018

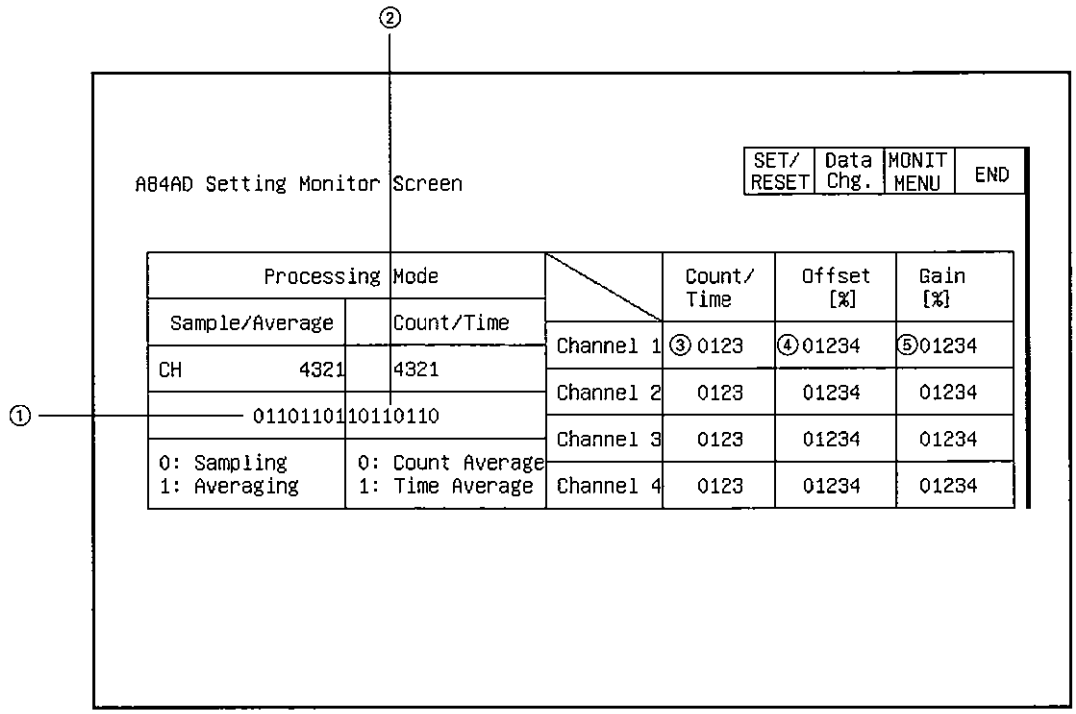
11.26 Monitoring the A84AD Unit

11.26.1 Action Monitor



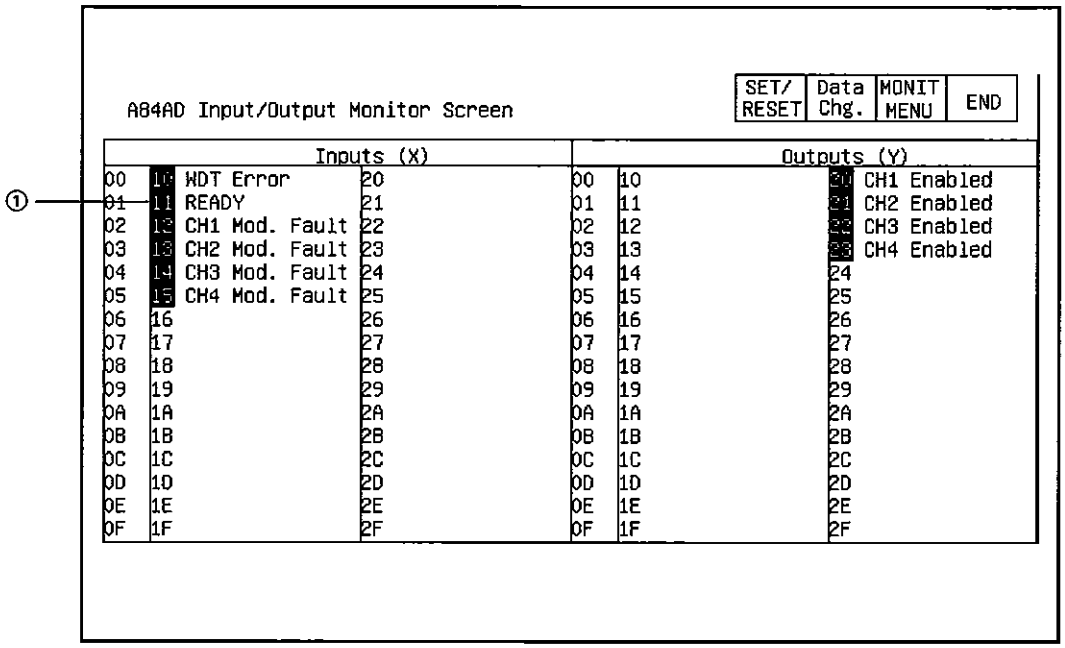
No.	Contents of display	Buffer memory address to reference (decimal)
①	The current I/O data, a value between 0 ~ 1000 or 0 ~ 2000 for the digital I/O value of the various channels, is displayed as a percentage ranging from 0 to 100%, in the corresponding module code column.	10~13
②	The temperature detection values for the various channels are displayed.	18~21
③	The codes for installed modules for the various channels are displayed.	28~31
④	If the digital values for the various channels have been set to values larger than the maximum value for the various modules, a "1" is displayed in the "Output Over" column.	22~25
⑤	If the digital values for the various channels have been set to values smaller than the maximum value for the various modules, a "1" is displayed in the "Output Under" column.	22~25
⑥	If an error occurs in the data being written, the channel on which the error occurred, and the error code, are displayed.	26
⑦	The specified effective/invalid status for the analog Output Enable signal for each of the channels is displayed. 0: Effective 1: Invalid	27
⑧	The specified status for the Output Enable command of each of the channels is displayed. 0: The offset value is output as an analog value. 1: The analog value following D/A conversion is output.	—
⑨	A "■" is displayed when a watchdog timer error occurs.	—
	A "■" is displayed when an error occurs in a module on the various channels.	—

11.26.2 Setting Monitor



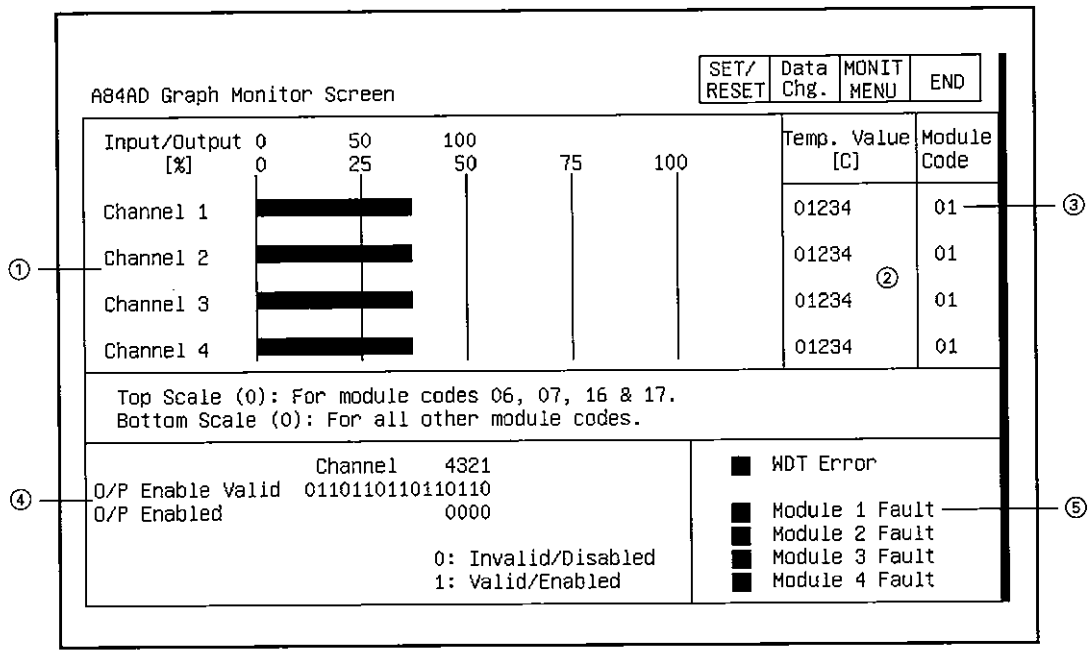
No.	Contents of display	Buffer memory address to reference (decimal)
①	The specified status for the averaging processing/sampling processing of each of the channels is displayed.	1
②	The specified status for the averaging processing of each of the channels is displayed.	1
③	The values set for the time and number of times for averaging processing of each of the channels is displayed.	2~5
④	When a temperature sensor input module is installed, the offset values for each of the channels is displayed.	32, 34, 36, 38
⑤	When a temperature sensor input module is installed, the gain values for each of the channels is displayed.	33, 35, 37, 39

11.26.3 I/O Monitor



No.	Contents of display
①	The ON/OFF status for the I/O signal corresponding to the PC CPU is displayed. An I/O signal is ON when it is displayed in a reverse display.

11.26.4 Monitoring Graphs



No.	Contents of display	Buffer memory address to reference (decimal)
①	The current I/O value, a value between 0 ~ 1000 or 0 ~ 2000 for the digital I/O value of the various channels, is displayed as a percentage ranging from 0 to 100%.	10~13
②	The temperature detection values for the various channels are displayed.	18~21
③	The module codes for installed modules for the various channels are displayed.	28~31
④	The specified effective/invalid status for the Analog Output Enable signal for each of the channels is displayed. 0: Effective 1: Invalid	27
	The specified status for the Output Enable command of each of the channels is displayed. 0: The offset value is output as an analog value. 1: The analog value following D/A conversion is output.	—
⑤	A "■" is displayed when a watchdog timer error occurs.	—
	A "■" is displayed when an error occurs in a module on the various channels.	—

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12. Operating I/O Unit Monitor Screens

This section explains how the various screens are operated in the specifal unit monitor function, when monitoring input or output units.

12.1 Specifying the Unit to be Monitored

This describes how to start monitoring any desired special input or output unit.

[Operation Procedure]

Display the System Configuration screen. ···· See Section 11.1.1.

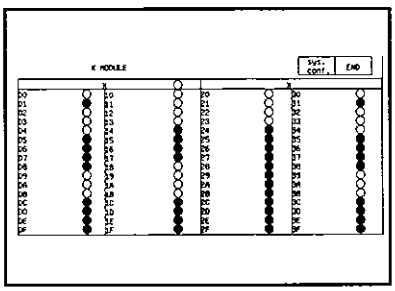
↓

Specify the unit to be monitored. (Touch the position at which the unit is displayed.)

(1) Of the units installed in Slot 0 ~ Slot 7 of the base unit, specify a unit for which "Input" or "Output" is displayed. For information on specifying special function units, please see Section 11.1.3.

↓

Display the monitor screen for the specified unit.



(2) For information on confirming the displayed contents and subsequent operation, please see Section 12.2.

* Tests cannot be conducted on input or output units.

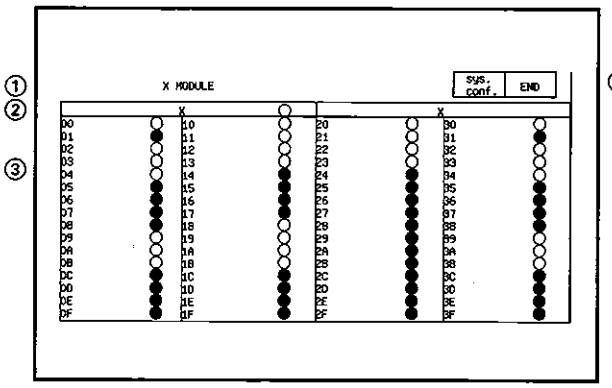
↓

To Section 12.2

12.2 Configuration and Key Functions on Monitor Screens

This section describes the configuration of monitor screens displayed by specifying the input unit on the system configuration screen, and explains the functions of the keys displayed on the screen.

(1) Contents displayed on the screen (for an input unit)



The statuses of input and output signals are displayed after being read out from the corresponding unit.
(OS is carried out automatically.)

Statuses for up to 64 can be displayed.
Signal statuses:
● : ON
○ : OFF

①	The type of the applicable unit (input or output unit) is displayed.
②	The name of the signal being monitored (X or Y) is displayed.
③	The number and status of the input or output signal is displayed.
④	Keys used in the operations on the monitor screen indicated by (2) are displayed (touch input).

(2) Key functions

The functions of the keys used for operations on the monitor screen are indicated.

Key	Function
END	This concludes the monitoring process and returns to the screen d isplayed when the special unit monitor function was first started.
sys. conf.	This concludes the current monitor and returns to the system configuration screen.

13. Error Displays and Countermeasures When Monitoring Special Units

This table shows error messages that may be displayed when operating a special unit monitor, and what action should be taken to correct the error.

Error message	Contents of error	Action to take
PC communications error	Communication could not be established with the PC CPU.	(1) To try the operation again, touch "Retry". When the operation is re-tried, 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 PC CPU and the A870GOT (disconnected or cut cables). ② Has an error occurred in the PC CPU?

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A870/A850/A851GOT Graphic Operation Terminal

Operating Manual (Expanded Functions Manual)

Model	GOT-O-EX-E
Part Number	13J904

MITSUBISHI ELECTRIC CORPORATION

HEAD OFFICE: MITSUBISHI DENKI BLDG MARUNOUCHI TOKYO 100 TELEX: J24532 CABLE MELCO TOKYO
NAGOYA WORKS: 1-14, YADA-MINAMI 5, HIGASHI-KU, NAGOYA, JAPAN

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