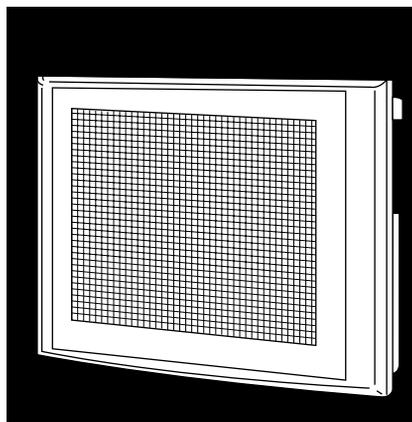# MITSUBISHI

Additional Explanation for A851GOT

Graphic Operation Terminal

GRAPHIC OPERATION TERMINAL

800
Series

GOT
MELSEC

Mitsubishi Graphic Operation Terminal

• SAFETY PRECAUTIONS •

(Always read these instructions before using this equipment.)

Before using this product, please read this manual and the relevant manuals introduced in this manual carefully and pay full attention to safety to handle the product correctly.
The instructions given in this manual are concerned with this product. For the safety instructions of the programmable controller system, please read the CPU module user's manual.
In this manual, the safety instructions are ranked as "DANGER" and "CAUTION".

| ◇ DANGER | Indicates that incorrect handling may cause hazardous conditions, resulting in death or severe injury. |
| ⚠ CAUTION | Indicates that incorrect handling may cause hazardous conditions, resulting in medium or slight personal injury or physical damage. |

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

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

[Design Precautions]

◇ DANGER

- Some failures of the GOT or communication cable may keep the outputs on or off.
  An external monitoring circuit should be provided to check for output signals which may lead to a serious accident.
  Not doing so can cause an accident due to false output or malfunction.
- If a communication fault (including cable disconnection) occurs during monitoring on the GOT, communication between the GOT and PLC CPU is suspended and the GOT becomes inoperative.
  For bus connection   : The CPU becomes faulty and the GOT inoperative.
  A system where the GOT is used should be configured to perform any significant operation to the system by using the switches of a device other than the GOT on the assumption that a GOT communication fault will occur.
  Not doing so can cause an accident due to false output or malfunction.
- Do not use the GOT as the warning device that may cause a serious accident.
  An independent and redundant hardware or mechanical interlock is required to configure the device that displays and outputs serious warning.
  Failure to observe this instruction may result in an accident due to incorrect output or malfunction.

[Design Precautions]

◇ DANGER

- Incorrect operation of the touch switch(s) may lead to a serious accident if the GOT backlight is gone out.

  When the GOT backlight goes out, the display section turns black and causes the monitor screen to appear blank, while the input of the touch switch(s) still remains active.
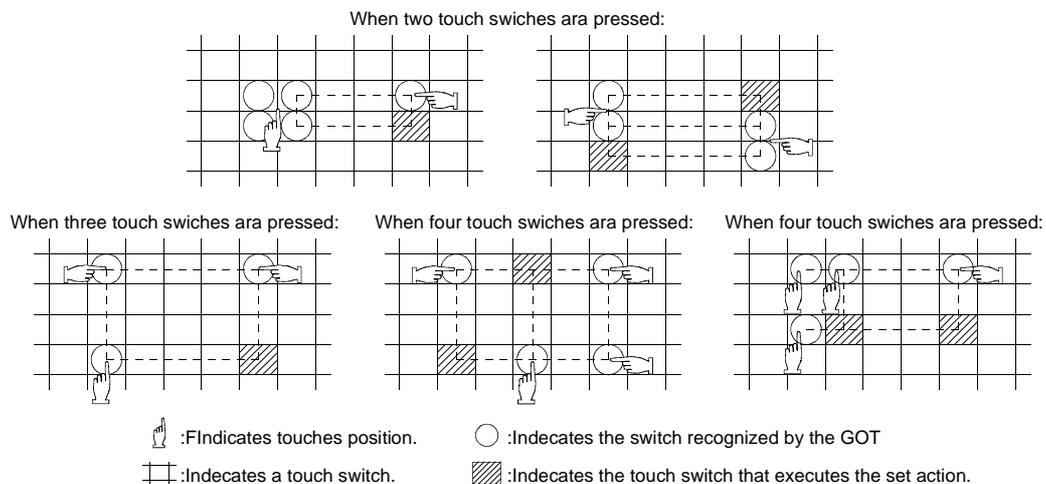
  This may confuse an operator in thinking that the GOT is in "screensaver" mode, who then tries to release the GOT from this mode by touching the display section, which may cause a touch switch to operate.

  Note that the following occurs on the GOT when the backlight goes out.
  - The monitor screen disappears even when the screensaver is not set.
  - The monitor screen will not come back on by touching the display section, even if the screensaver is set.

  <In case the GOT is installed with the system program (standard monitor OS) SW2NIW-A8SYSP version D or earlier>

- Regardless the touch-switch function is set or not, when multiple touch switches (two places or more) are pressed simultaneously as shown in the following diagram, the GOT is designed to execute a pre-defined operation of the touch switch if a touch switch function is defined at the fourth vertex of the rectangle.

  When two touch swiches ara pressed:

  When three touch swiches ara pressed: When four touch swiches ara pressed: When four touch swiches ara pressed:

  👆 :FIndicates touches position.   ◯ :Indecates the switch recognized by the GOT

  ⊞ :Indecates a touch switch.   ▨ :Indecates the touch switch that executes the set action.

  When multiple touch switches are pressed simultaneously under the conditions described above, make sure that the system works safely by carefully considering the location of each touch switch function and adding an interlock circuit to the write device using sequence program, etc.
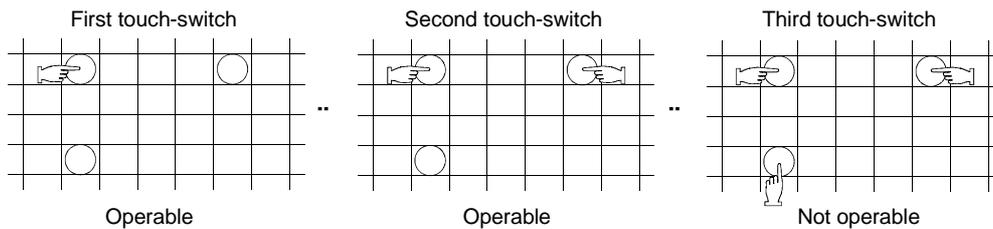
  A malfunction might cause a breakdown, accident, or damage to the machine.

[Design Precautions]

◇ DANGER

<In case the GOT is installed with the system program (standard monitor OS) SW2NIW-A8SYSP version J or earlier>

- Please note that the touch-switch that is thirdly touched will not operate while three touch-switches are simultaneously touched.

First touch-switch   Second touch-switch   Third touch-switch

Operable   Operable   Not operable

When setting the touch-switch that may cause serious accidents due to malfunction, be sure to create a switch outside the GOT. And then, make the settings so that the touch switch will operate by touching it together with the switch.

A malfunction might cause a breakdown, accident, or damage to the machine.

⚠ CAUTION

- Do not bundle the communication cable with main-circuit, power or other wiring.
  Run the above cables separately from such wiring and keep them a minimum of 100mm apart.
  Not doing so noise can cause a malfunction.

[Mounting Precautions]

⚠ CAUTION

- The GOT should be used in the environment given in the general specifications of the GOT user's manual.
  Not doing so can cause an electric shock, fire, malfunction or product damage or deterioration.
- When mounting the GOT main unit to an enclosure, tighten the mounting screws in the specified torque range.
  Undertightening can cause a drop, short circuit or malfunction.
  Overtightening can cause a drop, short circuit or malfunction due to the damage of the screws or module.
- When using a bus connection, cables should be securely connected to the connectors of the base unit and GOT.
  After connecting the connector, check to make sure they are securely tightened and not loose.
  Defective contact could cause a false input and output.
- The communication cable should be connected securely to the connector on the GOT main unit.
  After connecting the connector, check to make sure they are securely tightened and not loose.
  Defective contact could cause a false input and output.

[Wiring Precautions]

◇ DANGER

- Before starting wiring, always switch off the GOT power externally in all phases.
  Not doing so may cause an electric shock, product damage or malfunction.
- When turning on the power or operating the module after installation or wiring work, be sure the module's terminal covers are correctly attached.
  Failure to attach the terminal covers may result in electric shock.

⚠ CAUTION

- Please make sure to ground FG terminal and LG terminal of the GOT power supply unit by applying Class D Grounding (Class 3 Grounding Method) or higher which is used exclusively for the GOT.
  Not doing so may cause an electric shock or malfunction.
- When wiring the GOT, check the rated voltage and terminal layout of the wiring, and make sure the wiring is done correctly.
  Connecting a power supply that differs from the rated voltage or wiring it incorrectly may cause fire or failure.
- Tighten the GOT's terminal screws within the range of specified torque.
  If the terminal screws are loose, it may result in fallout, short circuits, or malfunction.
- Be careful not to let foreign matter such as filings or wire chips get inside the GOT module.
  These can cause fire, breakdowns and malfunction.

[Test Operation Precautions]

◇ DANGER

- Before performing test operation (bit device on/off, word device's present value changing, timer/counter's set value and present value changing, buffer memory's present value changing) for a user-created monitor screen or system monitoring read the manual carefully to fully understand how to operate the equipment.
  During test operation, never change the data of the devices which are used to perform significant operation for the system.
  False output or malfunction can cause an accident.

[Startup/Maintenance Precautions]

◇ DANGER

- When power is on, do not touch the terminals.
  Doing so can cause an electric shock or malfunction.
- Before starting cleaning or terminal screw retightening, always switch off the power externally in all phases.
  Not switching the power off in all phases can cause a module failure or malfunction.
  Undertightening can cause a short circuit, fallout or malfunction.
  Overtightening can cause a short circuit, fallout or malfunction due to the damage of the screws or module.

△ CAUTION

- Do not disassemble or modify the GOT, power supply module, communication module, option module, memory cassette or memory card.
  Doing so can cause a failure, malfunction, injury or fire.
- Do not touch the conductive and electronic parts of the GOT, power supply module, communication module, option module or memory cassette directly.
  Doing so can cause a module malfunction or failure.
- Because they are made of resin, don't drop or given a strong shock to the GOT main module, power supply module, communication module, optional module, and memory cassette.
  This may cause failure.

[Disposal Precautions]

◇ CAUTION

- When disposing of the product, handle it as industrial waste.

[Backlight Changing Precautions]

⚠ DANGER

- Never disassemble or modify the GOT main module.
  This may cause failure, malfunction, injury, and/or fire.
- Do not remove the GOT printed wired board from the case.
- Do not touch the conductive parts and electronic parts of the GOT main module and optional module.
  This may cause the module to malfunction or failure.

⚠ CAUTION

- Perform replacement of the backlight at a place where no other machines exist in order to prevent troubles in case a fixed screw of the backlight or GOT drops.
  If such screw is dropped, it may cause damage to the machine or an accident.
- Do not touch the GOT's circuit board or electronic parts when replacing the backlight.
  Doing so could cause failure or malfunction.
- Tighten the backlight fixed screws within the range of srecified torque.
  If the fixed screws are loose, it may result in fallout, short circuits, or malfunctions.
  Tightening the fixed screws too far may result in damages, short circuits, or malfunctions of the screw and/or module.
- Do not pull the cable connector of the backlight when replacing the backlight.
  Doing so could cause damage or failure of the backlight.

[Disposal of The Backlight Precautions]

◇ CAUTION

- When disposing of the backlight, handle it as industrial waste.

REVISIONS

Print Date	∗Manual Number	Revision
Oct. 1997	IB(NA)-66825-A	First printing
Feb. 2002	IB(NA)-66825-B	Correction: SAFETY PRECAUTIONS

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.

Table of Contents

1. OVERVIEW

This manual is a supplementary publication describing the system configuration and specifications of the A851GOT Graphic Operation Terminal (hereafter abbreviated as the GOT or A851GOT).

This manual covers only the areas that differ from the contents of the A850GOT Graphic Operation Terminal User's Manual supplied with the package.
Refer to the supplied User's Manual for any descriptions that are not covered in this document.

There are following types of GOT:

Item	A851GOT-LWD (Color of the front area ivory white) A851GOT-LBD (Color of the front area dark gray)	A851GOT-SWD (Color of the front area ivory white) A851GOT-SBD (Color of the front area dark gray)
Display unit	Monochrome LCD (2 colors)	STN color LCD (8 colors)
Resolution	320 × 240 dots	
Display size	86 mm (3.4 in.) (vertical) × 115 mm (4.5 in.) (horizontal)	
No. of touch switch	300 points (15 rows × 20 rows)	
Connection type	Dedicated to the bus connection	

- Because the A851GOT has a built-in bus connection interface, there is no need to prepare a bus connection interface module.
- The displayable sprite functions are the same as those of the A850GOT.

1.1   The Precautions when Using the A851GOT

The A851GOT cannot be used in a system which connects several display units to one PC CPU.
Use the module in systems in which only one display unit is connected to one PC CPU.

A compact PC CPU
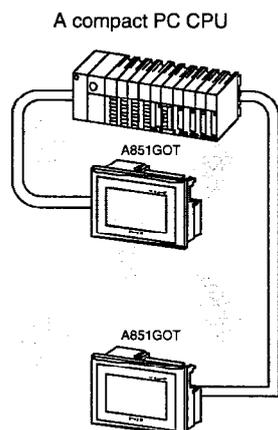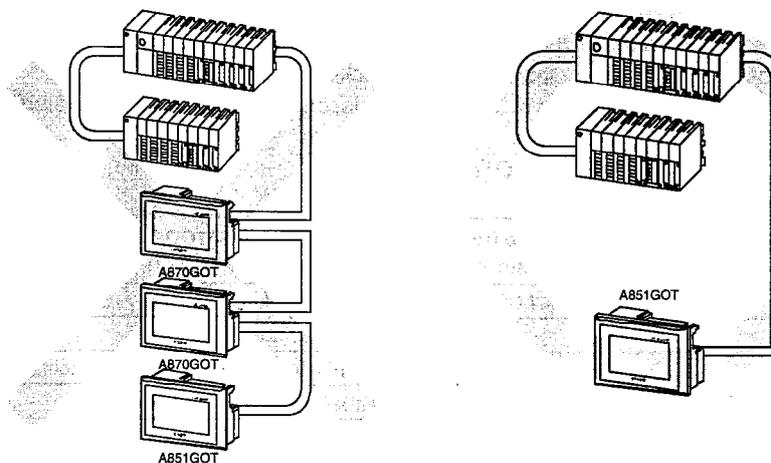
1.2   The Precautions when Installing the OS and Creating Display Data

- Install the basic OS for the A850GOT.
- Always install a bus connection communication driver as the communication driver.
- When creating display data, set A850GOT as the GOT type for the data.

1.3   Features

(1)   The A851GOT may be installed at a position 36.6 m (120.1 ft.) max. away from the basic base for large-sized PC CPUs, and 30 m (98.4 ft.) max. away for compact types.
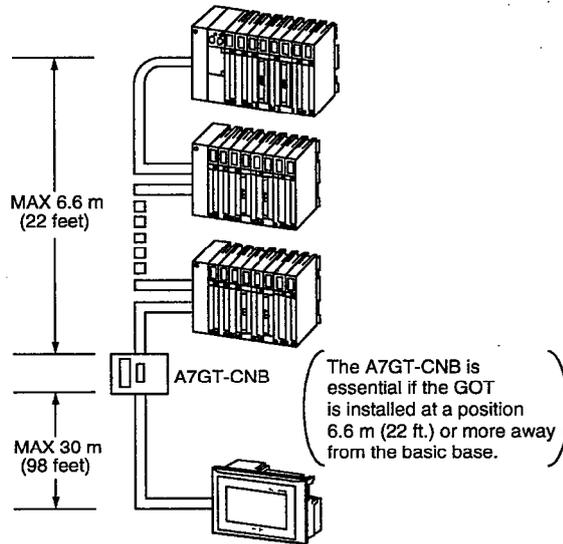
For a large-sized PC CPU

For a compact PC CPU

MAX 6.6 m (22 feet)

MAX 30 m (98 feet)

A7GT-CNB

(The A7GT-CNB is essential if the GOT is installed at a position 6.6 m (22 ft.) or more away from the basic base.)

MAX 6 m (20 feet)

MAX 30 m (98 feet)
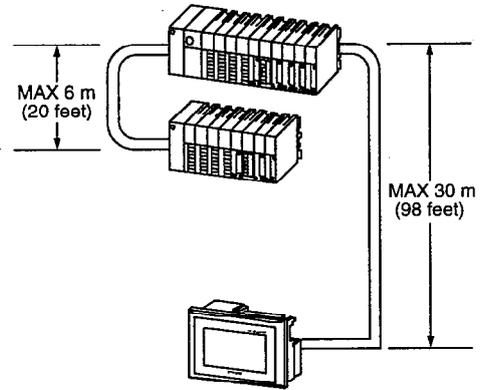
(2)   Since it is not necessary to connect the bus-connection module (it is built-in to the main module) and it has a structure in which the bus connection cable leads from the bottom of the main module, it does not take the depth of the bus-connection module, bus connector or bending dimensions of the cable when installing it onto the control panel, etc.

A851GOT side face
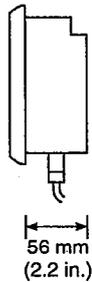
A850GOT side face
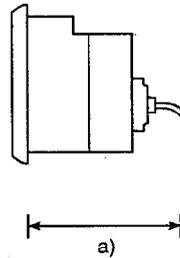
A connector for compact CPU is used for the bus connection cable.

56 mm (2.2 in.)

a)

The depth dimension varies depending on the cable used.

Cable Model Name	a)
AC06/12/30/50B	230 (9.1 in.)
A1SC05/07/30/50B	210 (8.3 in.)
A7GT-C100/200/300EXS	
AC12/30/50B-R	130 (5.1 in.)

(Unit: mm)

1.4   How to Read this Manual

As it is noted in the overview, this manual only describes the parts that are different from the contents of the user's manual supplied the product.
The contents that are different from those of supplied user's manual are listed in the table below.
Replace the sections in the user's manual with the corresponding sections described in this manual.

| The sections in the user's manual that needs replacement	The sections in this manual
Section 1.4 Included Parts	Section 1.5 Included Parts
Chapter 2. SYSTEM CONFIGURATIONS USED FOR MONITOR SCREEN CREATION AND DATA TRANSMISSION	Chapter 2. SYSTEM CONFIGURATIONS USED FOR MONITOR SCREEN CREATION AND DATA TRANSMISSION
Chapter 3. SYSTEM CONFIGURATIONS WHEN MAKING BUS CONNECTIONS	Chapter 3. SYSTEM CONFIGURATIONS WHEN MAKING BUS CONNECTIONS
Chapter 4. SYSTEM CONFIGURATIONS FOR NON-BUS CONNECTION	Delete Chapter 4 in the user's manual since A851GOT only supports the bus connection.
Section 5.1 General Specifications	Section 4.1 General Specifications
Section 5.2 Performance Specifications	Section 4.2 Performance Specifications
Section 5.3 Applicable CPU	Section 3.5 Applicable CPU
Section 5.5 List of Configuration Equipment	Section 3.6 List of Configuration Equipment
Section 6.1 Part Identification and Settings	Section 5.1 Part Identification and Settings
Section 9.3 Installation Method	Section 5.2 Installation Method
Appendix 1 Diagram of External Dimensions	Section 5.3 Diagram of External Dimensions

1.5   Included Parts

After opening the box, verify that all of the following items are included.

Product Name	Quantity
GOT main module	1
Attachment hooks	4
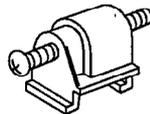
(1)   Attaching the attachment hooks
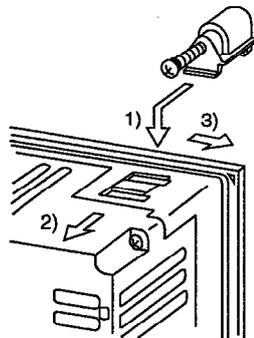
1) Fit the attachment hook onto the GOT main module.

2) Slide the attachment hook in the direction indicated by 2).

3) Slide the attachment hook in the direction of the notch provided for the hook.

(2)   The sheet affixed to the GOT display unit
When the GOT is shipped, a protective sheet is affixed over the display unit. This is a temporary sheet and is not the protective sheet which prevents the display unit from being scratched or damaged during actual use.
After the GOT has been attached to its base, peel off this temporary sheet and cover the display unit with the A8GT-50PSC protective sheet (transparent protective sheet) or the A8GT-50PSN (anti-reflection protective sheet), both of which are sold separately.

1.6   Precautions when Installing the ROM_BIOS/OS

Notes about executing the ROM_BIOS/OS installation are described in the following.

(1)   Before installing the ROM_BIOS/OS, confirm that the connectors of the communication cable are securely connected to the GOT and the personal computer.
If the ROM_BIOS/OS installation is executed when the connectors are not connected securely, the GOT might stop operating after installation.

(2)   Note that the ROM_BIOS/OS installation cannot be interrupted once it is started.
The GOT might stop running if the power of the GOT or personal computer is turned off, or the communication cable is disconnected in order to interrupt in the middle of the installation.

(3)   Do not turn off the power supply of the GOT or personal computer, and do not disconnect the communication cable during the ROM_BIOS/OS installation.
The GOT might stop running if the power of the GOT or personal computer is turned off, or the communication cable is disconnected during the ROM_BIOS/OS installation.

(4)   If one of the operations described above was done by mistake, or if the GOT does not work after the ROM_BIOS/OS installation, follow the steps shown in the following to reinstall the ROM_BIOS/OS.

   1)   Turn off the power supply of the GOT.
   2)   If a communication module is installed, disconnect the communication module.
   3)   Turn on the power supply of the GOT while pressing the two locations on the GOT display simultaneously as shown in ■ of the following diagram:
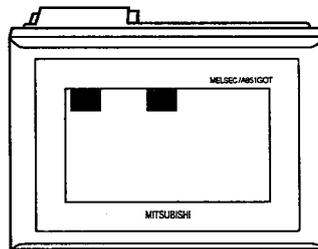
   4)   A message, "Reinstall ROM_BIOS/OS", will appear on the GOT display area.
   5)   Reinstall the ROM_BIOS/OS.
       Refer to Section 3.1 of "SW2NIW-A8GOTP Graphic Settings Software Package Operating Manual" (Data Transmission/Debugging/Document Creation Manual) for the procedure of ROM-BIOS/OS installation.

2. SYSTEM CONFIGURATIONS USED FOR MONITOR SCREEN CREATION AND DATA TRANSMISSION

2.1 System Configuration when Creating Monitor Screens

This shows the system configuration when using the graphics software to create monitor screens.

Computer which runs Windows

Graphics software
System program
(SW1NIW-GOT800PSET)
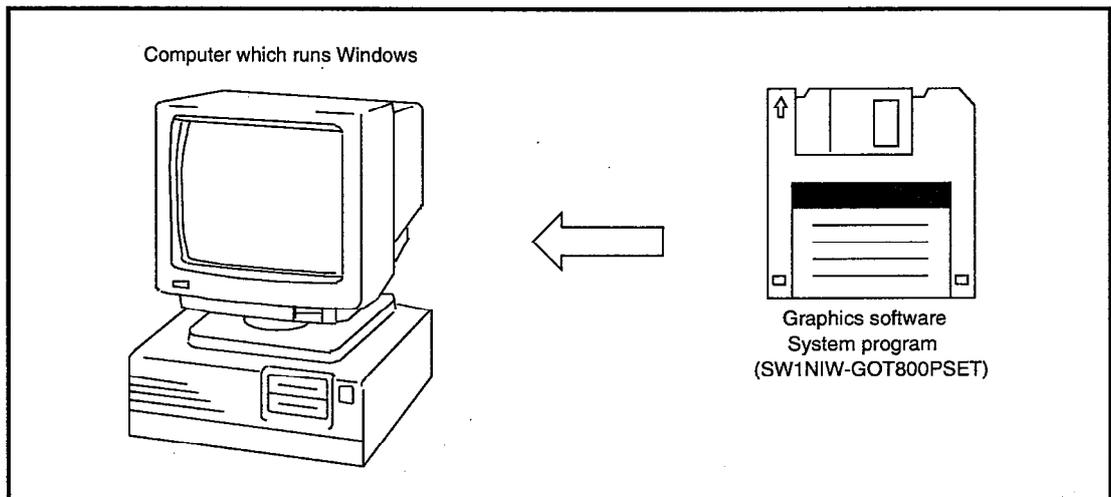
Main module : Personal computer which runs Microsoft Windows Ver. 3.1
Personal computer which runs Microsoft Windows 95

Main memory : At least 4 MB is required (8 MB or more is strongly recommended)

Hard disk : At least 10 MB of space must be available when the program is installed

CRT : Must be able to connect to main module and be used with Microsoft Windows

Mouse : Any mouse which can be used with a Windows computer

* Windows 3.1, Windows 95 is a trademark of Microsoft Corporation.

2.2 System Configuration Used for Data Transmission, Debugging, and Document Creation

2.2.1 System Configuration

This shows the system configuration used for transmission data, debugging, and creating documents.

Windows personal computer	RS-232C cable	A851GOT
Graphics software System program (SW1NIW-GOT800PSET)	Printer cable	Printer which operates under Windows
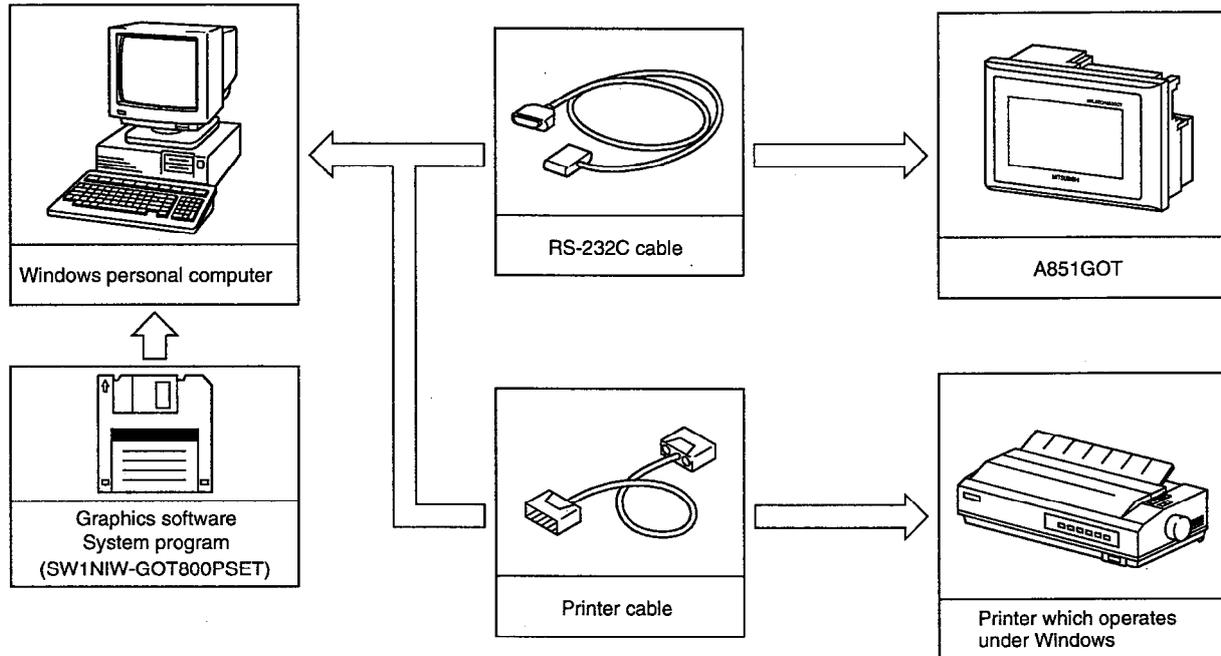
2.2.2   RS-232C Cables Used for Data Transmission

The cable shown in the internal connections drawing below, a connector or a cable with the model name noted below, is required.
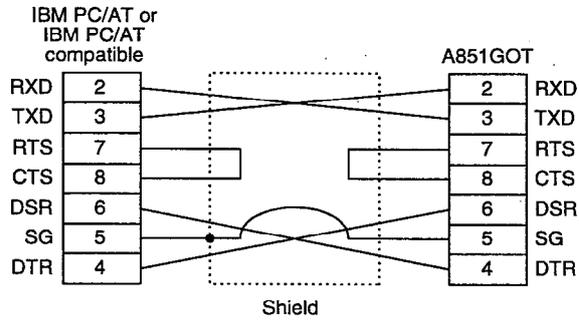
* The connector on the A851GOT side should be a screw-on connector (with inch screws).
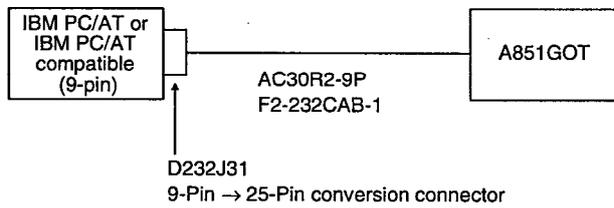
Manufacture	Model Name
Mitsubishi Electric	AC30R2-9P
	F2-232CAB-1 (introductory product)

3. SYSTEM CONFIGURATIONS WHEN MAKING BUS CONNECTIONS

3.1 Useful Information when Making Bus Connections

3.1.1 Handling of the GOT from the PC CPU in a Bus Connection

When using a bus connection, the PC CPU recognizes the GOT as a special function module with 32 I/O points.
For this reason, when one GOT is connected, there must always be one vacant I/O slot (32 vacant points) on the expansion base unit.

However, even if there are no vacant I/O slots, the GOT may be connected in a bus connection if the PC CPU has 32 vacant I/O points.

3.1.2 Restrictions when Using a Direct PC CPU Connection

Keep in mind that the input X is not allowed at vacant slots if the connected PC CPU is a compact type with direct I/O control method and the GOT is connected with the 5 m (16.4 ft.) extension cable (A1SC50B).

The above restrictions do not apply if the refresh method is being used for I/O control.
With a PC CPU in which the I/O control method can be changed using a switch, the method should be set to the refresh method.

```
┌── When input X of the vacant slot is being used ──────────────────┐
│                                                                    │
│  1)  When input X has been assigned with the MELSECNET (II, /B) data link or MELSECNET/10
│      network                                                       │
│                                                                    │
│  2)  When the data received from the MELSECNET/MINI-S3 data link is read to the input X by
│      FROM command                                                  │
│                                                                    │
│  3)  When input X of the vacant slot is turned on and off from the calculator link module
│                                                                    │
│  4)  When input X of the vacant slot is turned on and off using a touch switch function (bit SET/RST,
│      alternate, momentary) of the GOT                              │
└────────────────────────────────────────────────────────────────────┘
```

3.1.3   Restrictions on the Number of GOTs Loaded to a Special Function Module

When using a bus connection, there are some restrictions on the number of special function modules that can be loaded, depending on the PC CPU.

	Q☐ACPU	A☐ACPU, A☐UCPU, A2USCPU	Other CPU
No. of GOTs + special function modules which can be loaded	No restriction	A total of six modules can be connected, including the GOT and special function modules.	A total of two modules can be connected, including the GOT and special function modules.

*1 Special function modules include the following models:

AD51(S3), AD51H(S3), AD51FD(S3), AD57G(S3), AJ71C21(S1), AJ71C23, AJ71C24(S3/S6/S8), AJ71E71, AJ71UC24, A1SJ71UC24(R2/PRF/R4), A1SJ71E71

3.1.4   Supplying Power to the PC CPU and the GOT

When supplying power to the PC CPU and the GOT, please observe the precautions noted below.

(1) Always use one of the procedures below to turn on the power supply to the PC CPU and GOT.
   1) Turn on the power supply to the PC CPU and the GOT at the same time.
   2) Turn on the power supply to the PC CPU first, and then to the GOT.

(2) If the power supply is turned on using method 2) above, the CPU begins to run when the power supply to the GOT is turned on.

(3) When power is being supplied to the PC CPU and the GOT, turning off the power supply to the PC CPU causes a communications error.
    If this happens, turn off the power supply to the GOT and follow procedure (1) above to turn on the power supplies to the PC CPU and the GOT.

(4) The PC CPU continues to run even if the power supply to the GOT is turned off during monitoring.

⚠ **CAUTION**   • When disconnecting the expansion cable that connects the PC CPU and the GOT, to prevent errors from occurring, make sure the power supplies to the PC CPU and the GOT are turned off first.

3.1.5   Hardware Reset of the A851GOT

To reset the hardware, restart the GOT (power OFF → ON).
The reset switch at the rear of the A851GOT is a hardware reset switch that is enabled only in the event of a hardware error.
When the A851GOT is operating normally, a hardware reset will not occur even if the reset switch is pressed.

3.2 Setting the Expansion Stage Number Switch and the I/O Slot Switch

It is necessary to assign the GOT to a vacant I/O slot of the expanded base unit to make a bus connection.
To assign, use the expansion stage number switch and the I/O slot switch.
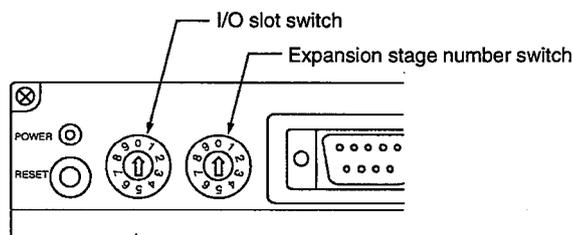
The rear of the A851GOT

Expansion stage number switch

Set the number of expansion stages in the vacant I/O slots used for assigning the GOT.

1 to 7 : Set the expansion stage number

0, 8, 9 : Unusable

I/O slot switch

Set the vacant I/O slot number to which the GOT is assigned.
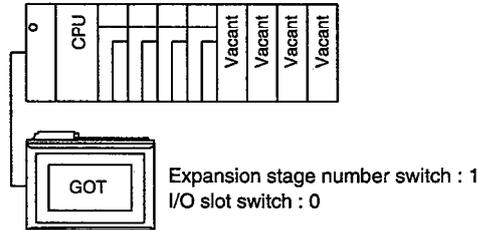
0 to 7 : Set the vacant I/O slot number

8, 9 : Unusable

Point
The GOT cannot be assigned to a vacant I/O slot on the basic base.
Always assign it to the vacant slots on the expansion base.

(1) Settings when no expansion base unit is connected

Because the GOT cannot be assigned to a vacant I/O slot on the main base, if no expansion base is connected, it must still be assigned to a vacant slot in the first expansion stage number.
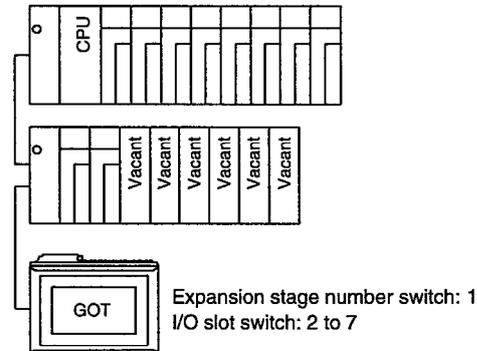
[Example of settings]

Expansion stage number switch : 1
I/O slot switch : 0

(2) Settings when the GOT is assigned to a vacant slot in the expansion base unit

Specify the expansion stage number in the vacant slot to which the GOT is to be assigned, and the slot number.

[Example of settings]

Expansion stage number switch: 1
I/O slot switch: 2 to 7

(3) When there are no vacant I/O slots in the expansion base unit to which the GOT is connected

Set the vacant slots in the next expansion stage number of the expansion base unit currently connected to the GOT.

[Example of settings]

Expansion stage number switch : 2
I/O slot switch : 0

32 vacant I/O points in the PC CPU
are required.
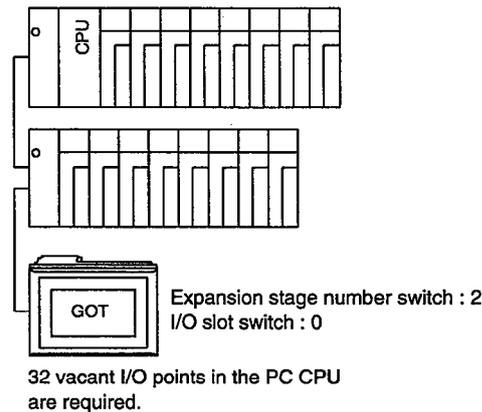
Point
If there are no vacant I/O slots in any of the expansion base units within the maximum range of expansion stage numbers, the expansion stage number switch and I/O slot switch should be set as shown above. If the CPU to which the GOT is connected is any of those listed below, however, the above settings cannot be used. There must always be a vacant I/O slot in the expansion base unit. • A3□CPU   • A4UCPU   • Q3ACPU   • Q4ACPU   • A0J2HCPU

3.3   System Configuration for Large-Sized PC CPUs

3.3.1   Installing the GOT within the Maximum Expandable Distance (6.6 m (21.7 ft.) or less)
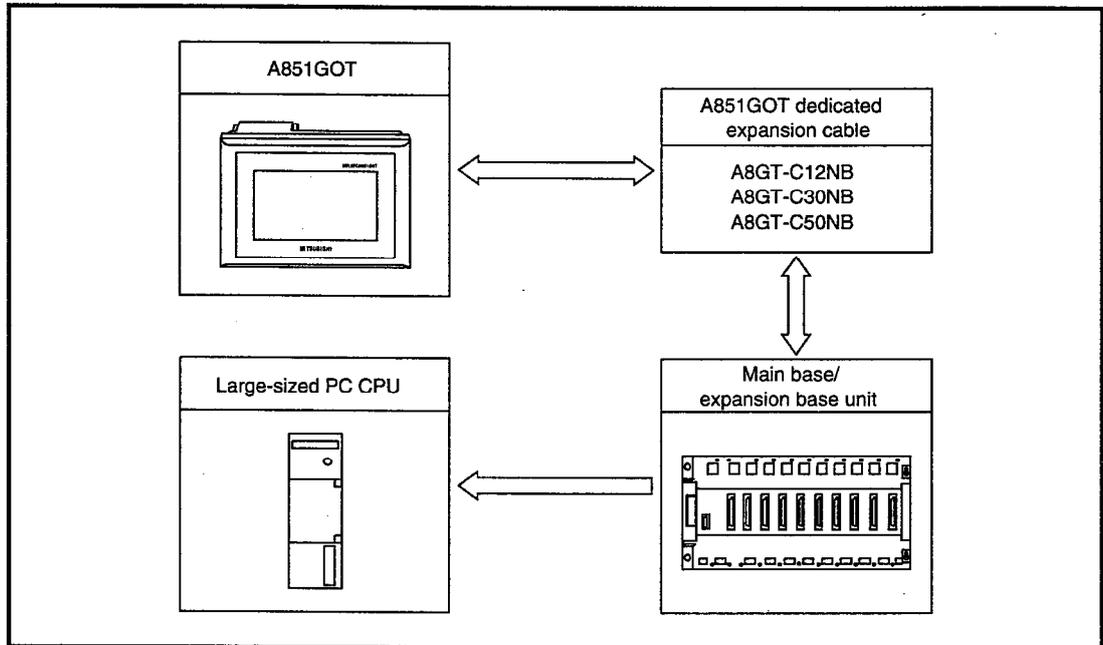
┌─ **Precautions Concerning the System Configuration** ──────────────────

The total length of all of the expansion cables should not exceed 6.6 m (21.7 ft.).

3.3.2 Installing the GOT beyond the Maximum Expandable Distance (more than 6.6 m (21.7 ft.))
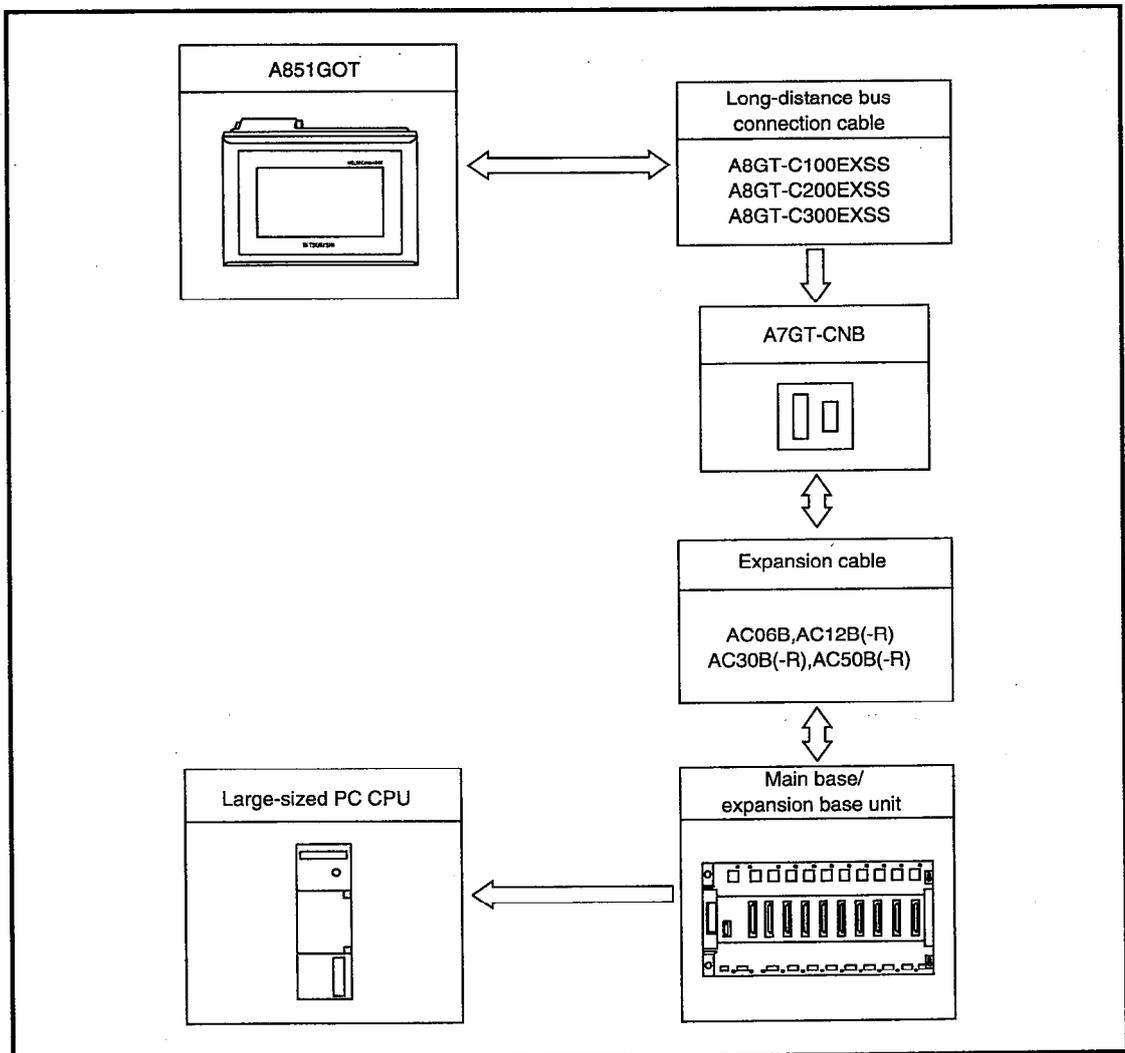
Precautions Concerning the System Configuration

(1) It is essential to use the A7GT-CNB bus-connector conversion box when the connected PC CPU is large and the GOT is placed at a location that exceeds the maximum expandable distance.

(2) Connect the CON1 connector on the long-distance bus connection cable to the A7GT-CNB, and the CON2 connector to the GOT.

(3) The total length of expansion cables from the main base unit to the A7GT-CNB should not exceed 6.6 m (21.7 ft.).

(4) The total length of all of the expansion cables and long-distance bus connection cables should not exceed 36.6 m (120.1 ft.).

3.4 System Configuration for Compact PC CPUs

3.4.1 Installing the GOT within the Maximum Expandable Distance (6 m (19.7 ft.) or less)

Precautions Concerning the System Configuration

(1) The GOT cannot be connected to a compact expansion base unit.
    It should be connected to the main base unit.

(2) The total length of all of the expansion cables should not exceed 6 m (19.7 ft.).

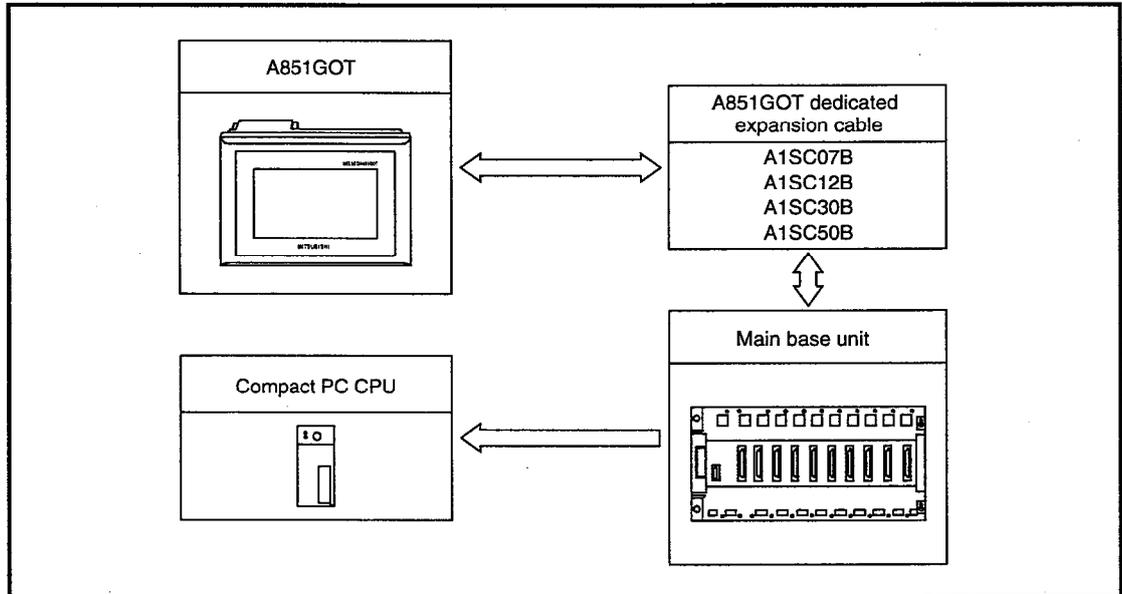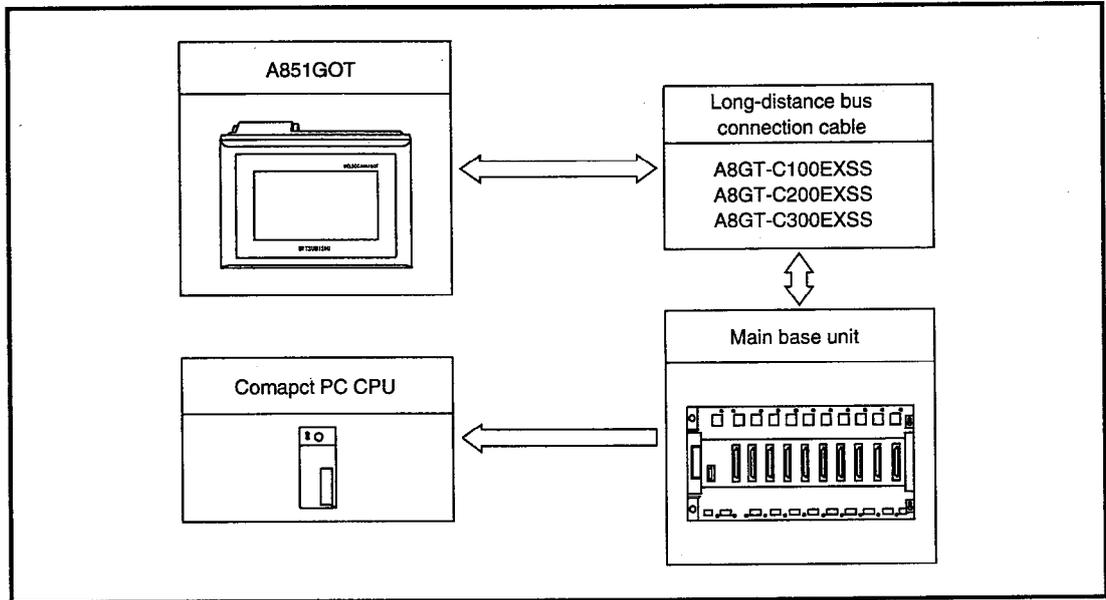### 3.4.2 Installing the GOT beyond the Maximum Expandable Distance (more than 6 m (19.7 ft.))

Precautions Concerning the System Configuration

Connect the CON1 connector on the long-distance bus connection cable to the main base unit, and the CON2 connector to the GOT.

3.5   Applicable CPU

The GOT can be used in the following systems.

(1) CPU module which can be connected

PC CPUs to which the GOT can be connected are listed below. Items in parentheses indicate the software version of each CPU. To confirm the version, please refer to the user's manual for each CPU.

CPU Type	CPU Module Name
Building-block CPU	A1SJCPU, A1SCPU, A2SCPU (C and subsequent), A2USCPU, A2USCPU-S1
	A1NCPU (H and subsequent), A1NCPU P21/R21 (L and subsequent)
	A2NCPU (H and subsequent), A2NCPU P21/R21 (L and subsequent)
	A2NCPU-S1 (H and subsequent), A2NCPU P21/R21-S1 (L and subsequent)
	A3NCPU (H and subsequent), A3NCPU P21/R21 (L and subsequent)
	A2ACPU, A2ACPU P21, R21
	A2ACPU-S1, A2ACPU P21/R21-S1
	A2UCPU, A2UCPU-S1
	Q2ACPU, Q2ACPU-S1
	A3ACPU, A3ACPU P21/R21
	A3UCPU, A4UCPU
	Q3ACPU, Q4ACPU
Motion controller	A171SCPU
	A373CPU (SW0SRX-SV12H (I, J, K) only)
	A273UCPU, A373UCPU, A273UHCPU

(2) CPU module which cannot be connected.

CPU Type	CPU Module Name
Building-block CPU	A1CPU, A1CPU P21/R21
	A2CPU, A2CPU P21/R21
	A3CPU, A3CPU P21/R21
	A3HCPU, A3HCPU P21/R21
	A3MCPU, A3MCPU P21/R21
	A73CPU, A73CPU P21/R21
	A3VTSCPU
Compact CPU	A0J2CPU
	A0J2HCPU*1, A0J2HCPU P21/R21
	A2CCPU, A2CCPU P21/R21
	A2CJCPU
	A52GCPU

*1 It can be used by A850GOT

3.6 List of Configuration Equipment

Component	Model	Remarks	
GOT main module	A851GOT-LWD	Monochrome LCD, color of front area ivory white (with 24VDC power supply)	
	A851GOT-LBD	Monochrome LCD, color of front area dark gray (with 24VDC power supply)	
	A851GOT-SWD	STN color LCD, color of front area ivory white (with 24VDC power supply)	
	A851GOT-SBD	STN color LCD, color of front area dark gray (with 24VDC power supply)	
Backlights	A8GT-50LT	For replacing the backlight for A851GOT/A850GOT	
Protective sheet	A8GT-50PSC	Transparent protective sheet (for A851GOT/A850GOT)	
	A8GT-50PSN	Anti-reflection protective sheet (for A851GOT/A850GOT)	
Long-distance bus connection cable	A8GT-C100EXSS *1	For connecting A851GOT and base unit. Cable length 10 m (32.8 ft.)	
	A8GT-C200EXSS *1	For connecting A851GOT and base unit. Cable length 20 m (65.6 ft.)	
	A8GT-C300EXSS *1	For connecting A851GOT and base unit. Cable length 30 m (98.4 ft.)	
Bus connector conversion box	A7GT-CNB	For conversion from the large-sized connector to the compact connector	
A851GOT dedicated expansion cable	A8GT-C12NB *1	1.2 m (3.9 ft.)	For connecting A851GOT and large-sized PC CPU base unit
	A8GT-C30NB *1	3 m (9.8 ft.)	
	A8GT-C50NB *1	5 m (16.4 ft.)	
	A1SC07B	0.7 m (2.3 ft.)	For connecting A851GOT and compact PC CPU base unit
	A1SC12B	1.2 m (3.9 ft.)	
	A1SC30B	3 m (9.8 ft.)	
	A1SC50B	5 m (16.4 ft.)	
Compatible software packages	SW1NIW-GOT800PSET	Windows 3.1 and Windows 95 compatible	
GOT ↔ personal computer connection cable		Refer to Section 2.2.2.	

*1 It may not be used for the connections between the basic base and expansion base unit, or the expansion base and expansion base unit.

4. SPECIFICATIONS

4.1 General Specifications

The following indicates the common specifications for various modules to be used.

General Specifications

Item	Specifications				
Ambient operating temperature	Display area		Other than display area		
	0 to 40°C		0 to 55°C		
Ambient storage temperature	-20 to 60°C				
Ambient operating humidity	10 to 90%RH, Non-condensing				
Ambient storage humidity	10 to 90%RH, Non-condensing				
Vibration resistance	Conforming to JIS B3501, IEC 1131-2		Frequency	Acceleration	Amplitude	No. of sweeps
		Under intermittent vibration	10 to 57 Hz	—	0.075 mm (0.003 in.)	10 times each in X, Y, Z directions (for 80 min.)
			57 to 150 Hz	9.8 m/s² {1G}	—	
		Under continuous vibration	10 to 57 Hz	—	0.035 mm (0.001 in.)	
			57 to 150 Hz	4.9 m/s² {0.5G}	—	
Shock resistance	Conforming to JIS B3501, IEC 1131-2 (147 m/s² {15G}, 3 times in each of 3 directions X Y Z)				
Noise durability	Noise voltage: 1500 Vp-p; noise width: 1 ms Noise frequency: based on noise simulation of 25 to 60 Hz				
Dielectric withstand voltage	AC between DC external terminal batch and ground: 500V, 1 min.				
Insulation resistor	DC between DC external terminal batch and ground: 500V, 10MΩ or greater measurement on the insulation resistance tester				
Operating ambience	No corrosive gases				
Operating elevation	2000 m (6562 ft.) max.				
Installation location	Control panel				
Over voltage category *1	II max.				
Pollution level *2	2 max.				

*1 This indicates the section of the power supply to which the equipment is assumed to be connected between the public electrical power distribution network and the machinery within the premises. Category II applies to equipment for which electrical power is supplied from fixed facilities. The surge voltage withstand level for up to the rated voltage of 300V is 2500V.

*2 This index indicates the degree to which conductive material is generated in terms of the environment in which the equipment is used. Pollution level 2 is when only non-conductive pollution occurs. A temporary conductivity caused by condensation must be expected occasionally.

4.2 Performance Specifications

Item		Specifications	
		A851GOT-LWD, A850GOT-LBD	A851GOT-SWD, A850GOT-SBD
Display unit	Type	Monochrome LCD	STN color LCD
	Resolution	Horizontal: 320 dots, vertical: 240 dots	
	Display size	86 mm (3.4 in.) (vertical) × 115 mm (4.5 in.) (horizontal)	
	Display color	Single color (white, black)	8 colors
Backlights		Chilled cathode ray tube backlight; Backlights can be replaced	
Touch panel	No. of touch keys	300 (15 rows × 20 columns)	
	Key size	16 dots × 16 dots min. (per key)	
	Repeat function	None	
Memory *1	Type	Internal memory (flash ROM)	
	Application	For storing project data/for storing system monitor OS	
	Capacity	768 KB (user area)	
RS-232C interface		For connecting personal computer; 1 channel	
Bus connection interface		For connecting bus connection cable; 1 channel	
Interface for connecting optional module		For connecting optional module (for future expansion); 1 channel	
Buzzer		Single sound (length of sound can be adjusted)	
Lifetime *2	Display unit	50,000 hours (when ambient temperature during use is 25°C)	
	Backlights	10,000 hours (50% of display brightness)	
	Touch keys	1 million times min. (at operational force of 100 g (0.2 lb) or less)	
	Internal memory	No. of writings: 100,000	
Power supply voltage		24VDC (+30%, -35%)	
Allowable falter time		10 ms	
Power consumption		0.5A	
I/O allocation		32 special points	
Environmental protection construction		IP65 or equivalent (front panel section)	
External dimensions		192 mm (7.6 in.) (W) × 135 mm (5.3 in.) (H) × 62 mm (2.4 in.) (D)	
Panel cutout dimensions		184 mm (7.2 in.) (W) × 124 mm (4.9 in.) (H)	
Weight		0.802 kg (1.8 lb)	0.805 kg (1.8 lb)

*1: The internal memory is a ROM which enables overwriting of new data without deleting previously written data.
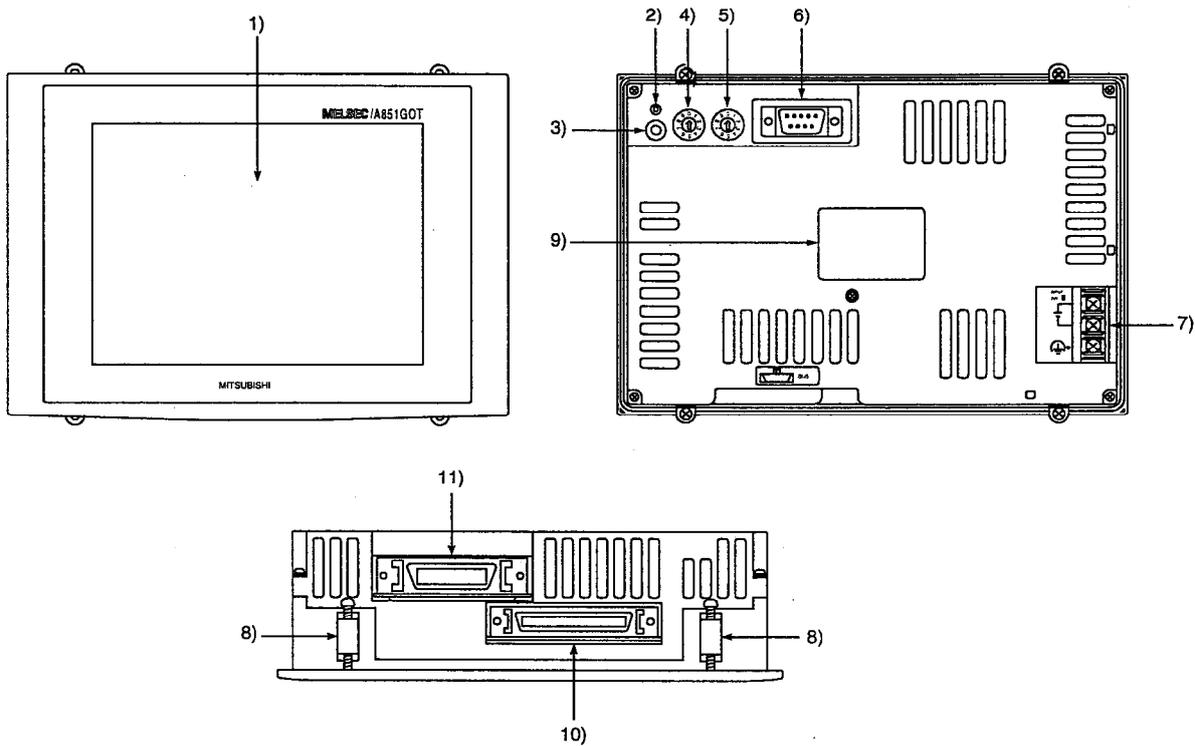(No data backup power supply is required.)

*2: When parts need to be replaced, please consult your nearest dealer or branch office.

Remark

With the GOT, if a momentary power failure occurs, the screen display disappears. If the power is restored within 20 ms, however, monitor functions and other functions resume normal operation.

5. PART IDENTIFICATION AND INSTALLATION METHOD

## 5.1 Part Identification and Settings

No.	Name	Contents
1)	Display unit	Displays monitor screens
2)	Power supply LED	Lights when power supply is on
3)	Reset switch	A hardware reset switch enabled only in the event of a GOT hardware error. When the GOT is operating normally, the hardware reset will not occur even if the reset switch is pressed.
4)	I/O slot switch	Set the I/O slot number to which the GOT is to be assigned.
5)	Expansion stage number switch	Set the number of expansion stages used for assigning the GOT.
6)	RS-232C interface	RS-232C interface for connecting a PC
7)	Terminal base	For input of 24 VDC power supply INPUT 24V ⎓ + − (FG)
8)	Attachment hook installation section	Attachment hook is installed here
9)	Ratings plate	—
10)	Optional module interface	For future expansion
11)	Bus connection interface	Interface for connecting bus connection cable.

5.2   Installation Method

Use the fitted installation screws that come with the main module to assemble it.
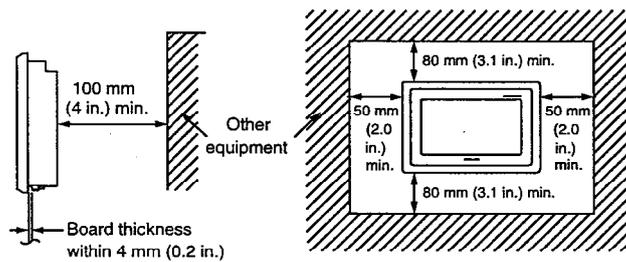
(1)   Installation panel and processing dimensions

If modules such as the control panel door and an attachment base made by the user are to be attached, the door and attachment base need to be processed as shown in the illustration below.
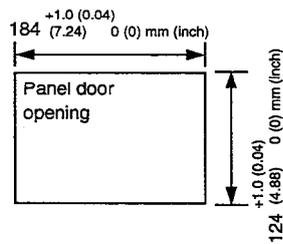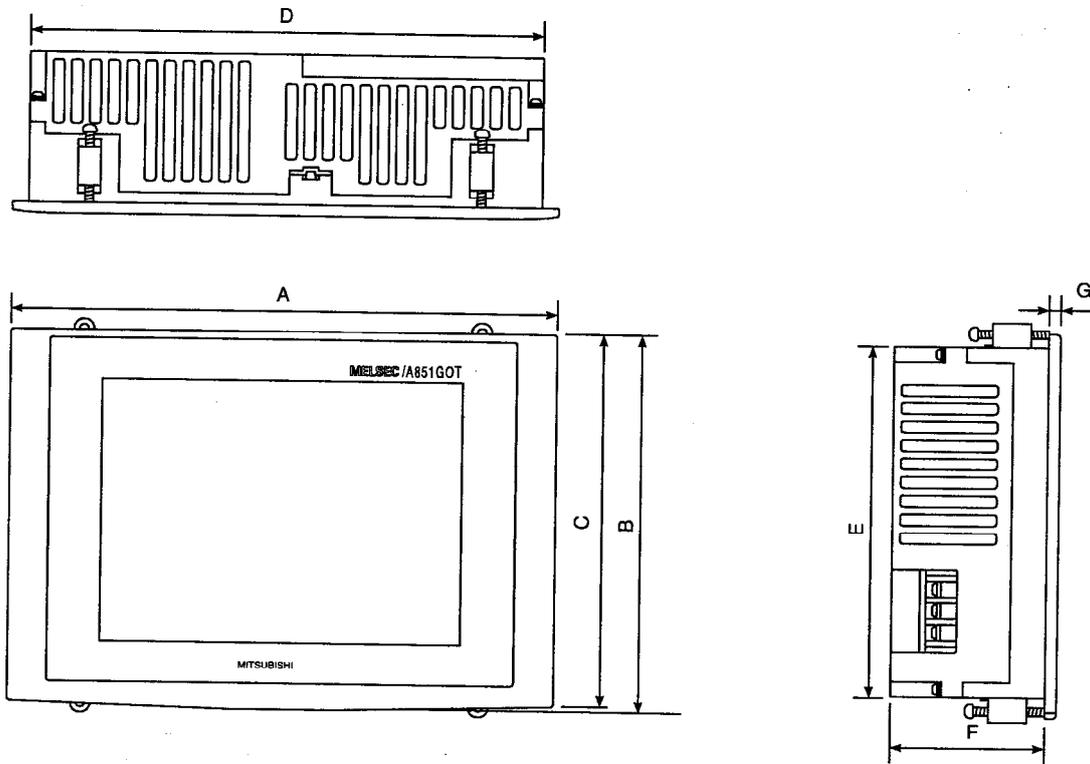

(2)   Installation position

When installing the GOT, it should be separated from other equipment by the clearances indicated below.

5.3　Diagram of External Dimensions

● Dimensions

(Unit: mm)

A	B	C	D	E	F	G
192 (7.6 in.)	135 (5.3 in.)	132 (5.2 in.)	183 (7.2 in.)	123 (4.8 in.)	62 (2.4 in.)	6 (0.2 in.)

MEMO

MEMO

MEMO

WARRANTY

Please confirm the following product warranty details before starting use.

1. Gratis Warranty Term and Gratis Warranty Range

If any faults or defects (hereinafter "Failure") found to be the responsibility of Mitsubishi occurs during use of the product within the gratis warranty term, the product shall be repaired at no cost via the dealer or Mitsubishi Service Company. Note that if repairs are required at a site overseas, on a detached island or remote place, expenses to dispatch an engineer shall be charged for.

[Gratis Warranty Term]

The gratis warranty term of the product shall be for one year after the date of purchase or delivery to a designated place.

Note that after manufacture and shipment from Mitsubishi, the maximum distribution period shall be six (6) months, and the longest gratis warranty term after manufacturing shall be eighteen (18) months. The gratis warranty term of repair parts shall not exceed the gratis warranty term before repairs.

[Gratis Warranty Range]

(1) The range shall be limited to normal use within the usage state, usage methods and usage environment, etc., which follow the conditions and precautions, etc., given in the instruction manual, user's manual and caution labels on the product.

(2) Even within the gratis warranty term, repairs shall be charged for in the following cases.

1. Failure occurring from inappropriate storage or handling, carelessness or negligence by the user. Failure caused by the user's hardware or software design.
2. Failure caused by unapproved modifications, etc., to the product by the user.
3. When the Mitsubishi product is assembled into a user's device, Failure that could have been avoided if functions or structures, judged as necessary in the legal safety measures the user's device is subject to or as necessary by industry standards, had been provided.
4. Failure that could have been avoided if consumable parts (battery, backlight, fuse, etc.) designated in the instruction manual had been correctly serviced or replaced.
5. Failure caused by external irresistible forces such as fires or abnormal voltages, and Failure caused by force majeure such as earthquakes, lightning, wind and water damage.
6. Failure caused by reasons unpredictable by scientific technology standards at time of shipment from Mitsubishi.
7. Any other failure found not to be the responsibility of Mitsubishi or the user.

2. Onerous repair term after discontinuation of production

(1) Mitsubishi shall accept onerous product repairs for seven (7) years after production of the product is discontinued. Discontinuation of production shall be notified with Mitsubishi Technical Bulletins, etc.
(2) Product supply (including repair parts) is not possible after production is discontinued.

3. Overseas service

Overseas, repairs shall be accepted by Mitsubishi's local overseas FA Center. Note that the repair conditions at each FA Center may differ.

4. Exclusion of chance loss and secondary loss from warranty liability

Regardless of the gratis warranty term, Mitsubishi shall not be liable for compensation to damages caused by any cause found not to be the responsibility of Mitsubishi, chance losses, lost profits incurred to the user by Failures of Mitsubishi products, damages and secondary damages caused from special reasons regardless of Mitsubishi's expectations, compensation for accidents, and compensation for damages to products other than Mitsubishi products and other duties.

5. Changes in product specifications

The specifications given in the catalogs, manuals or technical documents are subject to change without prior notice.

6. Product application

(1) In using the Mitsubishi MELSEC programmable logic controller, the usage conditions shall be that the application will not lead to a major accident even if any problem or fault should occur in the programmable logic controller device, and that backup and fail-safe functions are systematically provided outside of the device for any problem or fault.

(2) The Mitsubishi general-purpose programmable logic controller has been designed and manufactured for applications in general industries, etc. Thus, applications in which the public could be affected such as in nuclear power plants and other power plants operated by respective power companies, and applications in which a special quality assurance system is required, such as for Railway companies or National Defense purposes shall be excluded from the programmable logic controller applications.

Note that even with these applications, if the user approves that the application is to be limited and a special quality is not required, application shall be possible.

When considering use in aircraft, medical applications, railways, incineration and fuel devices, manned transport devices, equipment for recreation and amusement, and safety devices, in which human life or assets could be greatly affected and for which a particularly high reliability is required in terms of safety and control system, please consult with Mitsubishi and discuss the required specifications.

Additional Explanation for A851GOT

Graphic Operation Terminal

MODEL	A851GOT-U-E
MODEL CODE	13JL47
IB(NA)-66825-B(0202)MEE	

MITSUBISHI ELECTRIC CORPORATION

When exported from Japan, this manual does not require application to the Ministry of Economy, Trade and Industry for service transaction permission.

Specifications subject to change without notice.