

MITSUBISHI ELECTRIC

GT16 Multimedia Unit

User's Manual

GT16M-MMR

Thank you for choosing Mitsubishi Electric Graphic Operation Terminal (GOT).

Prior to use, please read both this manual and detailed manual thoroughly to fully understand the product.

MODEL	GT16M-MMR-U
MODEL CODE	1D7M87
IB(NA)-0800432-I(1806)MEE	

GRAPHIC OPERATION TERMINAL

GOT1000

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SAFETY PRECAUTIONS
(Always read these precautions 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 precautions given in this manual are concerned with this product. In this manual, the safety precautions are ranked as "WARNING" and "CAUTION".

WARNING 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 accident according to the circumstances. Always follow the precautions 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

CAUTION

- Do not bunch the control wires or communication cables with the main circuit or power wires, or lay them close to each other. As a guide, separate the lines by a distance of at least 100mm (3.94 inches) otherwise malfunctions may occur due to noise.

[INSTALLATION PRECAUTIONS]

- WARNING**
- Be sure to shut off all phases of the external power supply used by the system before mounting or removing this unit to/from the GOT. Not doing so can cause a unit failure or malfunction.
 - Before connecting the Bus connection cable to this unit, always shut off GOT power and PLC CPU power externally in all phases. Not doing so can cause a malfunction.
- CAUTION**
- Use this unit in the environment that satisfies the general specifications described in the User's Manual for the GOT used. Not doing so can cause an electric shock, fire, malfunction or product damage or deterioration.
 - Do not drop the unit or subject it to string shock. A unit damage may result.
 - When installing this unit to the GOT, fit it to the connection interface of the GOT and tighten the mounting screws in the specified torque range. Undertightening can cause a drop, failure or malfunction. Overtightening can cause a drop, failure or malfunction due to screw or unit damage.

[WIRING PRECAUTIONS]

- WARNING**
- Be sure to shut off all phases of the external power supply used by the system before wiring. Failure to do so may result in an electric shock, product damage or malfunctions.
- CAUTION**
- Exercise care to avoid foreign matter such as chips and wire offcuts entering the unit. Not doing so can cause a fire, failure or malfunction.
 - Make sure to securely connect the cable to the connector of unit. Incorrect connection may cause malfunctions.

[STARTUP AND MAINTENANCE PRECAUTIONS]

- WARNING**
- Before starting cleaning, always shut off GOT power externally in all phases. Not doing so can cause a unit failure or malfunction. Undertightening can cause the GOT to drop, short circuit or malfunction. Overtightening can cause a short circuit or malfunction due to the damage of the screws or unit.
 - Do not disassemble or modify the unit and the CF card. Doing so can cause a failure, malfunction, injury or fire.
 - Do not touch the conductive areas and electronic parts of this unit directly. Doing so can cause a unit malfunction or failure.
- CAUTION**
- Always secure the cables connected to the unit, e.g. run them in conduits or clamp them. Not doing so can cause unit or cable damage due to dangling, moved or accidentally pulled cables or can cause a malfunction due to a cable contact fault.
 - Do not hold the cable part when unplugging any cable connected to the unit. Doing so can cause unit or cable damage or a malfunction due to a cable contact fault.
 - Always make sure to touch the grounded metal to discharge the electricity charged in the body, etc., before touching the unit. Failure to do so may cause a failure or malfunctions of the unit.

- CAUTION**
- When installing a CF card into this unit, insert it into the card slot of this unit until the CF card eject button pops out. Failure to do so may cause a malfunction due to poor contact.
 - Before inserting or removing a CF card into/from this unit, turn the CF card access switch off. Failure to do so may corrupt data on the CF card.
 - When removing a CF card from the GOT, support it by hand, as it may pop out. Failure to do so may cause the CF card to drop from the unit, resulting in a damage or failure.

- CAUTION**
- When installing a CF card into this unit, insert it into the card slot of this unit until the CF card eject button pops out. Failure to do so may cause a malfunction due to poor contact.
 - Before inserting or removing a CF card into/from this unit, turn the CF card access switch off. Failure to do so may corrupt data on the CF card.
 - When removing a CF card from the GOT, support it by hand, as it may pop out. Failure to do so may cause the CF card to drop from the unit, resulting in a damage or failure.

[DISPOSAL PRECAUTIONS]

- CAUTION**
- Dispose of this product as industrial waste.

[TRANSPORTATION PRECAUTIONS]

- CAUTION**
- Make sure to transport the GOT main unit and/or relevant unit(s) in the manner they will not be exposed to the impact exceeding the impact resistance described in the general specifications of the User's Manual for the GOT used, as they are precision devices. Failure to do so may cause the unit to fail. Check if the unit operates correctly after transportation.

Manual

The following shows manuals relevant to this product.

Manual name	Manual number (Model code)
GT16 User's Manual (Hardware) (Sold separately)	SH-080928ENG (1D7MD3)
GT16 User's Manual (Basic Utility) (Sold separately)	SH-080929ENG (1D7MD4)
GOT1000 Series Connection Manual (Microcomputer, MODBUS Products, Peripherals) for GT Works3 (Sold separately)	SH-080871ENG (1D7MC5)
GT Designer3 Version1 Screen Design Manual (Functions) (Sold separately)	SH-080867ENG (1D7MC1)

Relevant Manuals

For relevant manuals, refer to the PDF manuals stored in the DVD-ROM for the drawing software used.

Compliance with the EMC and Low Voltage Directives

To configure a system meeting the requirements of the EMC and Low Voltage Directives when incorporating the Mitsubishi GOT (EMC and Low Voltage Directives compliant) into other machinery or equipment, refer to "EMC AND LOW VOLTAGE DIRECTIVES" of the General Description included with the GOT used. The CE mark, indicating compliance with the EMC and Low Voltage Directives, is printed on the rating plate of the GOT.

Compliance with the new China RoHS directive

GOT 相关的基于“电器电子产品有害物质限制使用管理办法”要求的表示方法

Note: This symbol mark is for China only.

含有有害6物质的名称、含有量、含有部件
本产品中所含有的有害6物质的名称、含有量、含有部件如下表所示。

部件名称	有害物质					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
电路板组件	×	○	○	○	○	○
树脂壳体、电缆、线材	○	○	○	○	○	○
钣金部件、螺丝等金属部件	×	○	○	○	○	○

本表格依据 SJ/T11364 的规定编制。
○：表示该有害物质在该部件所有均质材料中的含量均在 GB/T26572 规定的限量要求以下。
×：表示该有害物质至少在该部件的某一均质材料中的含量超出 GB/T26572 规定的限量要求。

Referenced Standard: GB/T15699.2 (Requirement of Chinese standardized law)

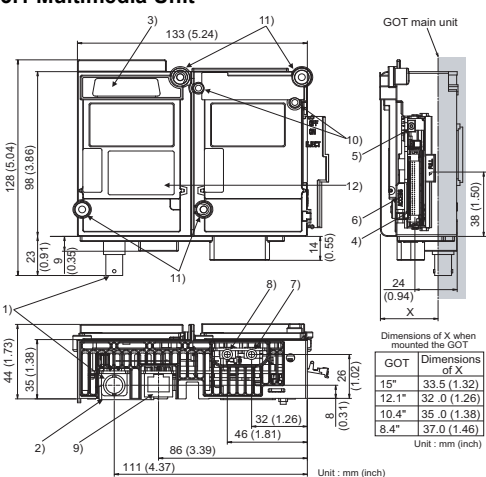
Packing List

After unpacking the box, check that the following products are included.

Model	Product	Quantity
GT16M-MMR	Multimedia unit	1
	Mounting screw set (4 screws, 4 stickers)	1
	Extension interface relay board	1
	Cable clamp (for sound I/O)	1
	GT16 Multimedia Unit User's Manual (This manual)	1

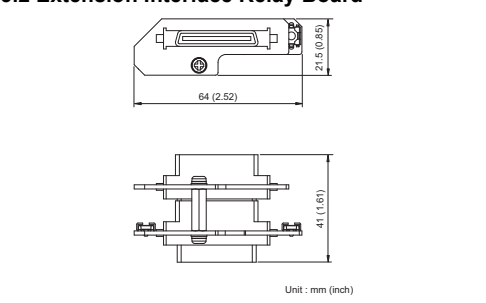
3. PART NAMES AND EXTERNAL DIMENSIONS

3.1 Multimedia Unit



No.	Name	Description
1)	Connector for video input	Connector for connecting a coaxial cable
2)	Interface connector	Connector connected to the GOT
3)	Extension connector	Connector for connecting an extension unit
4)	CF card interface	Interface for inserting a CF card
5)	CF card access switch	Switch for enabling or disabling access to the CF card ON: CF card accessed OFF: CF card not accessed
6)	CF card access LED	LED lamp lit when the CF card is accessed
7)	Sound input terminal	Terminal for connecting the cable of the sound input device
8)	Sound output terminal	Terminal for connecting the cable of the sound output device
9)	Ethernet interface	Connector for Ethernet communication
10)	Board fixing screw	Screw for fixing the extension interface relay board
11)	Mounting screw	Screw for fixing the multimedia unit
12)	Rating plate	-

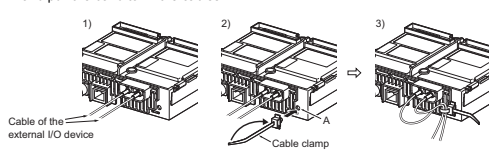
3.2 Extension Interface Relay Board



4. INSTALLATION PROCEDURE

4.1 Cable Connection

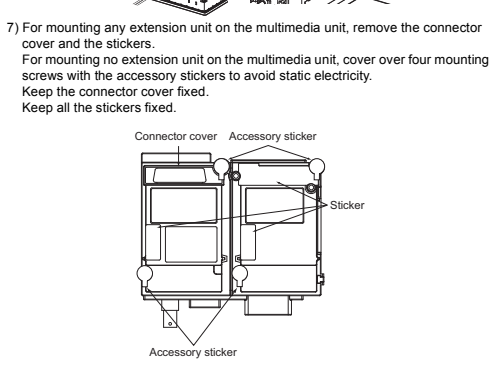
- Connect the cables of the sound I/O devices to the multimedia unit.
- Attach the cable clamp to the unit. Position the cable clamp band outside, and insert the cable clamp to section A shown in the following figure until it clicks. For the band inserting direction, refer to the arrow. (The cable clamp is the RST-1NB manufactured by TAKEUCHI INDUSTRY CO., LTD.)
- Put the cables of the sound I/O devices through the looped cable clamp band, and pull the band to fix the cables.



4.2 Unit Installation

The installation procedure for the multimedia unit is explained using the GOT1685.

- Turn off the GOT.
- Remove two extension unit covers of the GOT.
- Connect the extension interface relay board to the extend I/F-2 on the GOT. Remove the connector cover from the board.
- Fit the multimedia unit in the GOT case.
- Tighten four mounting screws with a torque of 0.36 to 0.48 N·m to fix the unit.
- Tighten two board fixing screws with a torque of 0.36 to 0.48 N·m to fix the board.



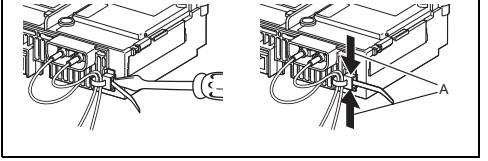
- For mounting any extension unit on the multimedia unit, remove the connector cover and the stickers. For mounting no extension unit on the multimedia unit, cover over four mounting screws with the accessory stickers to avoid static electricity. Keep the connector cover fixed. Keep all the stickers fixed.

Point

- Precautions for connecting sound I/O devices
- Do not connect or disconnect the cables of the sound I/O sections during sound input or output.
 - Do not connect devices other than sound I/O devices to the sound I/O sections of the multimedia unit.

Removing multimedia unit
Remove the board fixing screws, and then remove the multimedia unit by tilting ΔPULL so that the connector is not damaged. (Refer to 6.)

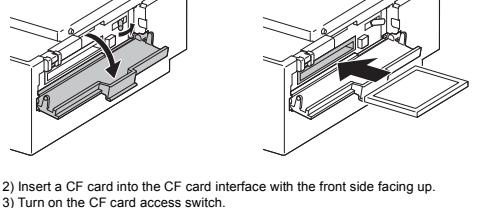
- Cable clamp
- Removing cable clamp band
The cable clamp band can be removed after the cables are fixed. Press the tab of the cable clamp upward using a screwdriver and others, and pull out the band.
 - Removing cables from multimedia unit
The cables of the sound I/O devices can be removed from the unit even if the cables are fixed with the cable clamp. Remove the cables by pressing the cable clamp from both directions (arrow A).



5. CF CARD INSTALLATION/REMOVAL PROCEDURE

5.1 Installation

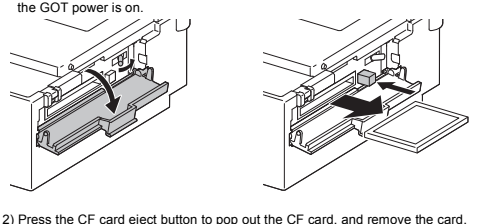
- Open the CF card cover, and turn off the CF card access switch of the unit.



- Insert a CF card into the CF card interface with the front side facing up.
- Turn on the CF card access switch.

5.2 Removal

- Open the CF card cover.
- Turn off the CF card access switch, and check that the CF card access LED turns off. (When the CF card access LED is off, the CF card can be removed even while the GOT power is on.)

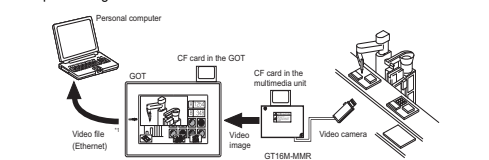


- Press the CF card eject button to pop out the CF card, and remove the card.

1. OVERVIEW

This user's manual describes GT16 multimedia unit (hereinafter referred to as the multimedia unit).

- The following functions are available by mounting the multimedia unit on the GT16□□M.
- The GOT displays a video image taken by a video camera, or the GOT stores the video image as a video file in a CF card and plays the file.
 - When an error occurs, a video image taken 120 seconds before and after the error (up to 240 seconds) can be stored as a video file in a CF card.
 - With the Ethernet connection, the GOT sends a video file to the personal computer using the FTP server function.



- To store video files in the personal computer, the FTP server function of the GOT and the multimedia interaction tool are required.
- Power on the GOT simultaneously with the video camera.
- Depending on the video camera type, noise from the power supply cable of the video camera may cause malfunction of the GOT or a programmable controller. In this case, attach the following line filter to the power supply line of the video camera.

Recommended line filter: TDK ZHC2203-11 (or equivalent products)
To use the multimedia unit, set the communication settings.
For the settings and system configurations, refer to GOT1000 Series Connection Manual (Microcomputer, MODBUS Products, Peripherals) for GT Works3. For the multimedia function, refer to GT Designer3 Version1 Screen Design Manual (Functions).

2. SPECIFICATIONS

The following shows the performance specifications of the multimedia unit. The general specifications of the multimedia unit are the same as those of the GOT. For the general specifications of the GOT, refer to the User's Manual for the GOT used.

Item	Color	Specifications
Video input section	Input format	NTSC format, PAL format (interlaced format)
	Number of channels	1 channel
	Video input signal	Y/P-n, 75 Ω, composite signal
	Display size (dot)	640x480 768x576 ^{*1}
Sound input section	Connector for external connection	BNC connector
	Applicable wire size	75 Ω shielded coaxial cable at shield cable
Sound output section	Number of channels	1 channel
	Sound output signal	1 Vrms (Rated load 10k Ω)
CF Card I/F section	Connector for external connection	φ3.5 stereo mini jack, straight type
	Number of channels	1 channel
Ethernet I/F section	Mode	True-IDE mode
	Number of channels	1 channel
Video file	Connector for external connection	RJ-45 jack
	Data transfer method	10BASE-T/100BASE-TX
Internal current consumption	File format	3GP, MP4
	Video coding/decoding format	MPEG-4 Part 2 SP@LV4
Weight	Resolution/maximum frame rate	VGA/15fps, QVGA/30fps
		3.3VDC 0.51A 5.0VDC 0.27A 0.28kg (0.62lb)

*1: Compatible with PAL and CCIR formats only.

Warranty

Mitsubishi Electric will not be held liable for damage caused by factors found not to be the cause of Mitsubishi Electric; machine damage or lost profits caused by faults in the Mitsubishi Electric products; damage, secondary damage, accident compensation caused by special factors unpredictable by Mitsubishi Electric; damages to products other than Mitsubishi Electric products; and to other duties.

For safe use

- This product has been manufactured as a general-purpose part for general industries, and has not been designed or manufactured to be incorporated in a device or system used in purposes related to human life.
- Before using the product for special purposes such as nuclear power, electric power, aerospace, medicine or passenger movement vehicles, consult with Mitsubishi Electric.
- This product has been manufactured under strict quality control. However, when installing the product where major accidents or losses could occur if the product fails, install appropriate backup or failsafe functions in the system.

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Specifications subject to change without notice.
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