

**MITSUBISHI ELECTRIC**

# GOT2000 Series Digital Video Output Unit User's Manual

## GT27-VHOUT

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	GT27-VHOUT-U-JE
MODEL CODE	1D7MU4
	IB(NA)-0800616-B(2307)MEE

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### SAFETY PRECAUTIONS

(Make sure to read these precautions before using this product.)

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.

### MOUNTING 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.

No.	Name	Description
3)	Rating plate	For checking the model, serial number, manufacture month and year, and conforming standards
4)	HDMI interface	For connecting an external display
5)	Auxiliary extension interface	For connecting with the GOT
6)	Interface connector	For connecting with the GOT

## 4. MOUNTING AND REMOVAL PROCEDURE

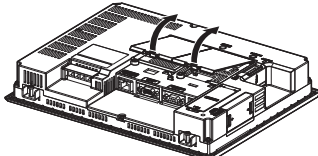
### CAUTION

- 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 (0.36 N·m to 0.48 N·m) with a Phillips-head screwdriver No.2. Overtightening can cause a drop, failure or malfunction. Overtightening can cause a drop, failure or malfunction due to screw or unit damage.

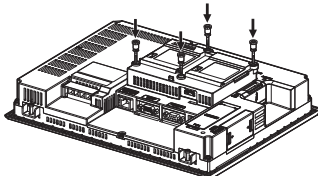
### 4.1 Unit Mounting

The following shows how to mount the digital video output unit on GT2712 as an example. Mount the digital video output unit on the first stage of the extension interface.

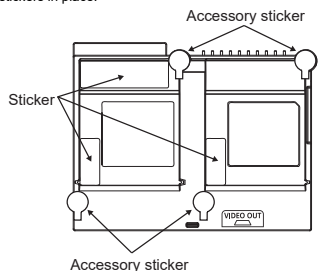
- Turn off the GOT.
- Pull up the two extension unit cover tabs to remove the covers.



- Connect the digital video output unit to the auxiliary extension interface and the extension interface on the GOT. Tighten four mounting screws to a torque of 0.36 N·m to 0.48 N·m to fix the unit.



- When mounting an extension unit on the extension interface of the digital video output unit, do not attach the accessory stickers. When mounting no extension unit on the extension interface of the unit, cover over four mounting screws with the accessory stickers to guard against static electricity. Leave the stickers in place.



### MOUNTING PRECAUTIONS

**CAUTION**

- Use this unit in the environment that satisfies the general specifications described in the GOT2000 Series User's Manual (Hardware). Not doing so can cause an electric shock, fire, malfunction or product damage or deterioration.
- Do not drop the unit or subject it to 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 (0.36 N·m to 0.48 N·m) with a Phillips-head screwdriver No.2. Overtightening 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 cuttings 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. Overtightening 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 any unit. This will cause failure, malfunction, injuries, 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 use cable ties. 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.

### DISPOSAL PRECAUTIONS

**CAUTION**

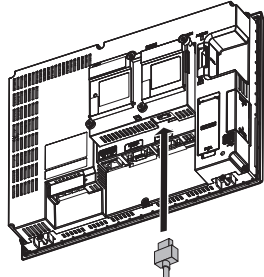
- Dispose of this product as industrial waste.

### TRANSPORTATION PRECAUTIONS

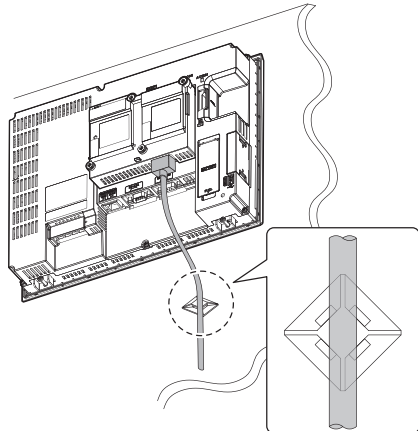
**CAUTION**

- 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.
- When fumigants that contain halogen materials such as fluorine, chlorine, bromine, and iodine are used for disinfecting and protecting wooden packaging from insects, they cause malfunction when entering our products. Please take necessary precautions to ensure that remaining materials from fumigant do not enter our products, or treat packaging with methods other than fumigation (heat method). Additionally, disinfect and protect wood from insects before packing products.

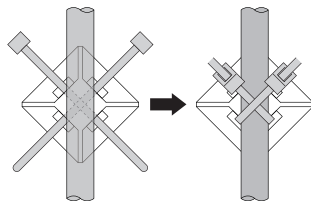
- Connect an HDMI cable to the digital video output unit.



- Route the HDMI cable not to subject it to stress, and locate a position where to install the cable ties.
- Decrease the position, and attach the cable tie mount. Make sure to attach the square mount so that the HDMI cable runs across opposing corners of the mount.



- Insert two cable ties into the cable tie mount, and secure the HDMI cable by crossing the ties over.



### 4.2 Unit Removal

Reverse the mounting procedure to remove the digital video output unit. To remove the HDMI cable, cut the two cable ties.

## INTRODUCTION

The following shows manuals relevant to this product and the packing list.

### Manual

The following shows manuals relevant to this product.

Manual name	Manual number (Model code)
GOT2000 Series User's Manual (Hardware) (Sold separately)	SH-081194ENG (1D7MJ5)
GT Designer3 (GOT2000) Screen Design Manual (Sold separately)	SH-081220ENG (1D7ML9)
GOT2000 Series Connection Manual (Microcomputers, MODBUS/Fieldbus Products, Peripherals) For GT Works3 Version1	SH-081200ENG

For the latest e-Manuals and PDF manuals, consult your local sales office.

### Packing List

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

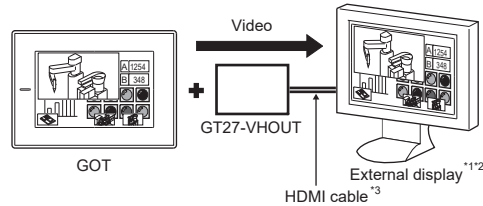
Model	Product	Quantity
GT27-VHOUT	Digital Video Output Unit GT27-VHOUT	1
	Mounting screw set (2 screws (26 mm), 2 stickers)	2
	Cable ties: SG-100 manufactured by TAKEUCHI INDUSTRY CO., LTD. (or equivalent products)	2
	Cable tie mount: BS-20 manufactured by TAKEUCHI INDUSTRY CO., LTD. (or equivalent products)	1
	GOT2000 Series Digital Video Output Unit User's Manual (This manual)	1

### Trademark

HDMI is a trademark or registered trademark of HDMI Licensing Administrator, Inc. in the United States and other countries.

## 1. OVERVIEW

This user's manual describes the digital video output unit GT27-VHOUT. (Hereafter referred to as the digital video output unit.) You can view the videos of the GOT on an external display by mounting the digital video output unit on GT27 (except GT2705).



- Depending on the peripheral device connected, noise coming from power cables may cause the GOT or a PLC to malfunction. In such a case, install the following line filter to the power lines of the device. Recommended line filter: RSHN-2003 manufactured by TDK Lambda (or equivalent products)
- If the video on the screen is fuzzy due to noise from the HDMI cable, attach the following ferrite core to the HDMI cable. Recommended ferrite core: ZCAT3035-1330 manufactured by TDK Lambda (or equivalent products)
- An HDMI cable is to be prepared by the user.

To use the digital video output unit, configure the controller settings. For the settings and system configurations, refer to the GOT2000 Series Connection Manual (Microcomputer, MODBUS/Fieldbus Products, Peripherals) For GT Works3 Version 1. For the video output function, refer to the GT Designer3 (GOT2000) Screen Design Manual.

## 2. SPECIFICATIONS

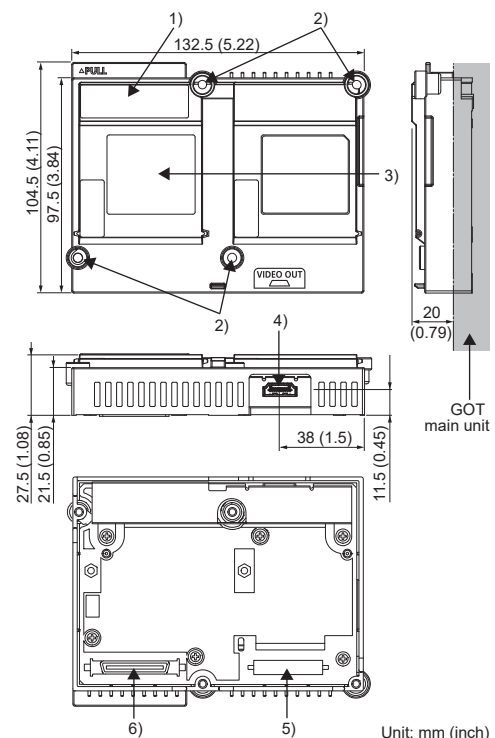
The following shows the performance specifications of the digital video output unit. The general specifications of the digital video output unit are the same as those of the GOT.

For the general specifications of the GOT, refer to the GOT2000 Series User's Manual (Hardware).

### 2.1 Digital Video Output Unit

Item	Specifications		
	GOT	GT2715-X	GT2712-S GT2710-S GT2708-S
Output format	TMDS (Transition Minimized Differential Signaling)		
Resolution	XGA: 1024 x 768 dots	SVGA: 800 x 600 dots	VGA: 640 x 480 dots
Number of channels	1 channel		
Horizontal frequency	48.4 kHz	37.9 kHz	31.5 kHz
Vertical frequency	60 Hz		
Connector for external connection	HDMI Type A connector		
Internal current consumption	5 V DC	0.06 A	
Weight	0.16 kg (0.35lb)		

## 3. PART NAMES AND EXTERNAL DIMENSIONS



No.	Name	Description
1)	Extension connector	For mounting a communication unit or an option unit
2)	Screw hole	For fixing the digital video output unit onto the GOT

## 5. LAWS, STANDARDS, AND DIRECTIVES

### 5.1 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.

### 5.2 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。 产品中有害物质的名称及含量

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、膜材	○	○	○	○	○	○
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。

### 5.3 Referenced Standard (Requirement of Chinese standardized law)

GB/T15969.2

### 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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