MITSUBISHI

GT16 RGB Output Unit

User's Manual

GT16M-ROUT

Thank you for purchasing the GOT1000 Series.

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

MODEL	GT16M-ROUT-U
MODEL CODE	1D7M86
IB(NA)-0800430-B(0901)MEE	



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 prod-In this manual, the safety precautions are ranked as "DANGER" and

"CAUTION" Indicates that incorrect handling may cause



DANGER hazardous conditions, resulting in death or severe injury.

tant to personal safety.

Indicates that incorrect handling may cause MCAUTION Indicates that incorrect nanoling may cause hazardous conditions, resulting in medium or slight personal injury or physical damage.

Note that the riangle CAUTION level may lead to a serious accident according to the circumstances.

Always follow the precautions of both levels because they are impor-

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

IDESIGN 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 100 mm

Otherwise malfunctions may occur due to noise

[INSTALLATION PRECAUTIONS]

DANGER

- 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 given in the general specifications of the GT16 User's Manual 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.

 Overtightening can cause a drop, failure or malfunction due to screw or unit damage.

[WIRING PRECAUTIONS]

DANGER

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

⚠ 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 Incorrect connection may cause malfunctions.

[STARTUP AND MAINTENANCE PRECAUTIONS]

DANGER

- 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 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 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.

[DISPOSAL PRECAUTIONS]

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 GT16 User's Manual, as they are precision devices. Failure to do so may cause the unit to fail. Check if the unit operates correctly after transportation

Manuals

The following shows manuals relevant to this product.

Detailed Manual

Manual name	Manual Number (Model code)
GT16 User's Manual (Sold separately)	SH-080778ENG (1D7M23)
GOT1000 Series Connection Manual (1/3 to 3/3) (Sold separately)	SH-080532ENG (1D7M88)
GT Designer2 Version2 Screen Design Manual (For GOT1000 Series) (1/3 to 3/3) (Sold separately)	SH-080530ENG (1D7M25)

Relevant Manuals

For relevant manuals, refer to the PDF manuals stored in the GT Designer2 CD-ROM.

© 2008 MITSUBISHI ELECTRIC CORPORATION

Compliance with the EMC and Low Voltage

Directives

When incorporating the Mitsubishi GOT into other machinery or equipment and keeping compliance with the EMC and low voltage directives, refer to "EMC AND LOW VOLTAGE DIRECTIVE" of GT16 The CE logo is printed on the rating plate of the GOT, indicating

compliance with the EMC and low voltage directives

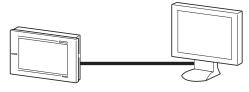
Packing List

After unpacking the box, check that the following products are

included.			
Model	Product	Quantity	
GT16M-ROUT	RGB output unit	1	
	Mounting screw set (4 screws, 4 stickers)	1	
	Extension interface relay board	1	

1. OVERVIEW

This User's Manual describes the GT16M-ROUT RGB output unit (referred to as the RGB output unit hereinafter).
When mounting RGB output unit with GT16□□ M the RGB output unit can external display screens on GOT.



GOT+GT16M-ROUT

External display

To use the RGB output unit set the communication settings For the settings and system configurations, refer to GOT1000 Series Connection Manual.

For RGB output functions, refer to GT Designer2 Version□ Screen

2. SPECIFICATIONS

The following shows the performance specifications of the the RGB output unit.

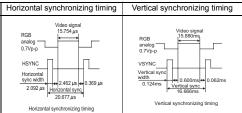
The general specifications of the RGB output unit are the same as those of the GOT.

For the general specifications of the GOT, refer to GT16 User's

2.1 RGB output unit

E. I NOB output unit				
Hom		Specifications		
Item			GT1695M-X	GT1685M-S
	RGB output format		Analog RGB	
RGB output section	Display size (dot)		XGA; 1024×768	SVGA; 800×600
	Number of RGB output channels		1 channel	
	Dot clock		65.000 MHz	40.000 MHz
	Horizontal scanning frequency		48.400 kHz	37.900 kHz
	Vertical scanning frequency		60.004 Hz	60.317 Hz
	Timing chart		Refer to 2.2.	Refer to 2.3.
	Connector for external connection		D-Sub15 pin: female	
Internal current consumption		3.3VDC	0.13A	
		5.0VDC	0.11 A	
Weight		0.17 kg (0.34 lb)		

2.2 GT1695M-X Timing Chart

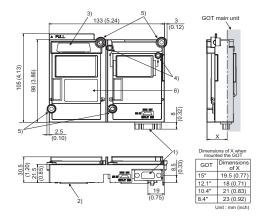


2.3 GT1685M-S Timing Chart

•	
Horizontal synchronizing timing	Vertical synchronizing timing
Video signal RGB analog 0.7Vp-p HSYNC Horizontal sync width 3.200 µs Horizontal sync 2.200 µs Horizontal sync 2.200 µs Horizontal sync 2.200 µs Horizontal synchronizing timing	RGB 1,5,640ms 1,0,07ms 1,0,026ms 1,0,007ms 1,0,007ms 1,0,006ms 1,0,007ms 1,0

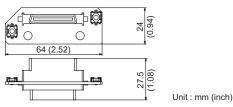
3. PART NAMES AND EXTERNAL **DIMENSIONS**

3.1 RGB Output Unit



No.	Name	Description
1)	Connector for RGB output	Connector for connecting a 9-core combined cable
2)	Interface connector	Connector connected to the GOT
3)	Extension connector	Connector for connecting an extension unit
4)	Board fixing screw	Screw for fixing the extension interface relay board
5)	Mounting screw	Screw for fixing the RGB output unit
6)	Rating plate	-

3.2 Extension Interface Relay Board



4. INSTALLATION PROCEDURE

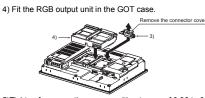
1) Turn off the GOT.

2) Remove two extension unit covers of the GOT



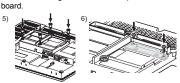
3) Connect the extension interface relay board to the extend I/F-2 on

Remove the connector cover from the board



5)Tighten four mounting screws with a torque of 0.36 to 0.48 N•m to

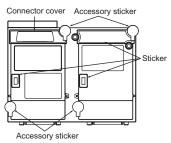
6) Tighten two board fixing screws with a torque of 0.36 to 0.48 N·m to fix the board.



7) For mounting any extension unit on the RGB output unit, remove and the sticke

For mounting no extension unit on the RGB output 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

Remove the screws that fixes the extension interface relay board before removing the unit.(Above 6))

Warranty

Brazil

Mitsubishi will not be held liable for damage caused by factors found not to be the cause of Mitsubishi; machine damage or lost profits caused by faults in the Mitsubishi products; damage, secondary damage, accident compensation caused by special factors unpredictable by Mitsubishi; damages to products other than Mitsubishi 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
- Before using the product for special purposes such as nuclear power, electric power, aerospace, medicine or passenger movement vehicles, consult with Mitsubishi. 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.

Country/Region Sales office/Tel U.S.A

Mitsubishi Electric Automation Inc. 500 Corporate Woods Parkway Vernon Hills, IL 60061, U.S.A. Tel: +1-847-478-2100

Tel: +1-847-478-2100
MELCO-TEC Rep. Com e Assessoria Tecnica Ltda.
Rua Correia Dias, 184. Edificio Paraiso Trade Center-8 andar
Paraiso, Sao Paulo, SP Brazil
Tel: +55-11-5908-8331
Mitsubishi Electric Europe B.V. German Branch
Gothaer Strasse 8 D-40880 Ratingen, GERMANY
Tel: +49-2102-488-0
Mitsubishi Electric Europe B.V. UK Branch
Travellers Lane, Hatfield, Hertfordshire., AL10 8XB, U.K.
Tel: +44-1707-276100
Mitsubishi Electric Europe B.V. Utalian Branch
Mitsubishi Electric Furope B.V. Utalian Branch Germany

U.K lei: +44-1707-276100
Mitsubish Electric Europe B.V. Italian Branch
Centro Dir. Colleoni, Pal. Perseo-Ingr.2
Paraleles 12, 1-20041 Agrate Brianza., Milano, Italy
Tel: +36-98-6053
Mitsubish Electric Europe B.V. Spanish Branch
Carretera de Rubi 76-80. Italy

E-08190 Sant Cugat del Valles, Barcelona, Spain Tel: +34-93-565-3131

Tel: *34-93-565-5131
Mitsubishi Electric Europe B.V. French Branch
25, Boulevard des Bouvets, F-92741 Nanterre Cedex, France
TEL: *33-1-5568-5568
Circuit Breader Industries Ltd.
Private Bag 2016, ZA-1600 Isando, South Africa
Tel: *27-11-928-2000
Mitsubishi Electric Automation (Hong Kong) Ltd. France South Africa

Hong Kong 0th Floor, Manulife Tower, 169 Electric oad, North Point, Hong Kong el : +852-2887-8870 China

Tel: +852-2887-8870 Mitsubish Electric Automation (Shanghai) Ltd. 4/F Zhi Fu Plazz, No.80 Xin Chang Road, Shanghai 200003, China Tel: +86-21-6120-0808 Setsuyo Enterprise Co., Ltd. 6F No.105 Wu-Kung 3rd.Rd, Wu-Ku Hsiang, Taipei Hsine, Taiwan Tel: +886-2-2299-2499 Mitsubish Electric Automation Korea Co., Ltd. 1480-6, Gayang-dong, Gangseo-ku Seoul T57-200, Korea Tel: +82-2-3660-9552 Mitsubish Electric Automation Korea Co. Htd. 1480-6 Lectric Automation Korea Co., Ltd. 1480-6, Electric Automation Korea Co., Ltd. 1480-6, Gayang-dong, Gangseo-ku Seoul T61: 482-2-3660-9552 Mitsubish Electric Asia Pte, Ltd.

Korea

Iel: +82-2-3660-9552 Mitsubishi Electric Asia Pte, Ltd. 307 Alexandra Road #05-01/02, Mitsubishi Electric Building, Singapore 159943 Tel: +65-6470-2460 Mitsubishi Electric Automation (Thailand) Co., Ltd. Bang-Chan Industrial Estate No. 111 Moo 4, Serithai I.Kannayao, A.Kannayao, Bangkok 10230 Thailand Tel: +66-2-517-1326 Singapore

indo Sumber Makmui Indonesia

P.T. Autoteknindo Sumber Makmur Muara Karang Selalan, Block A/Utara No.1 Kav. No.11 Kawasan Industri Pergudangan Jakarta - Utara 14440, P.O.Box 5045 Jakarta, 11050 Indonesia Tel: +6:22-16-630833 Messung Systems Pvt, Ltd. Electronic Sadan NO:III Unit No15, M.I.D.C Bhosari, Pune-411026, India 16: +91-20-2712-3130 Mitsubishi Electric Australia Pty, Ltd. 348 Virtonia Road Purdannero, N.S.W. 2444 4 Marchine All Studies Road Purdannero, N.S.W. 2444 4 Marchine Road Purdannero, N.S.W. 2444 India

Mitsubishi Electric Australia Pty. Ltd. 348 Victoria Road, Rydalmere, N.S.W 2116, Australia Tel: +61-2-9684-7777 Australia

★MITSUBISHI ELECTRIC CORPORATION HEAD OFFICE : TOKYO BUILDING, 2-7-3 MARUNOUCHI, CHIYODA-KU, TOKYO 100-8310, JAPAN NAGOYA WORKS : 1-14, YADA-MINAMI 5-CHOME, HIGASHI-KU, NAGOYA, JAPAN

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 Printed in Japan.