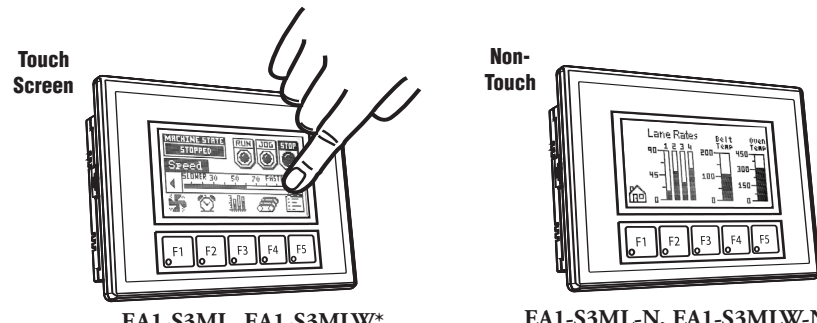


# Quick Start Guide

## C-more 3" Micro-Graphic Panels, Accessories & Replacement Parts



**NOTE:** C-more Micro-Graphic panels with the letter "W" in the part number designate units with 5 selectable background colors of White, Pink1, Pink2, Pink3 and Red. Part numbers without the letter "W" are provided with 5 selectable background colors of Green, Red, Amber, Yellow and Lime.

**NOTE:** Software and Firmware Version 1.5 or later is required with models EA1-S3MLW and EA1-S3MLW-N. Available for free download at [www.automationdirect.com](http://www.automationdirect.com).

Accessory details and replacement parts shown on the reverse side.

### General Description

C-more Micro-Graphic 3.1-inch Panels have an STN LCD, 128 x 64 dot monochrome display. Models EA1-S3ML and EA1-S3ML-N have 5 selectable backlight colors (green, red, amber, yellow and lime). Models EA1-S3MLW and EA1-S3MLW-N have 5 selectable backlight colors (white, pink1, pink2, pink3 and red). The panels have 5 user-defined functions keys with LED indicators. The panels can display up to 10 lines by 32 characters of static text and up to 10 lines by 21 characters of dynamic text with embedded variables and phrases mixed with graphics. Power is supplied to the panel through the serial communication port connection when used with most DirectLOGIC PLC's having a RJ12 communication port. Either EA-MG-SP1 (power supply with serial port option module) or EA-MG-P1 is required when connecting to third party PLC's. NEMA 4/4X, IP-65 rated (when mounted correctly). For indoor use only.

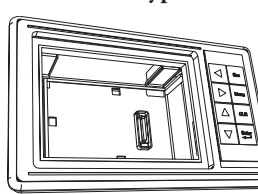
Other features include:

- 768 KB memory
- Built in RJ12 serial communications port
- Adjustable contrast
- 2 optional keypad bezels, 8-button or 20-button
- 2 optional DC Power Adapters, one includes 15-pin serial communications port (RS-232/422/485)
- Optional replaceable clear screen overlay
- Built in Alarm Control setup that activates beep, backlight flash, customized alarm banner, and LED blinking
- Up to 999 screens, limited only by memory usage
- 0 to 50 °C (32 to 122 °F) operating temperature range
- UL, cUL & CE agency approvals (see below for details)
- 2-year warranty from date of purchase

Full specifications including dimensional drawings for the panels are shown on the reverse side.

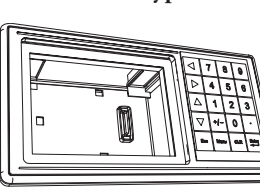
### Accessories (sold separately)

#### 8-Button Keypad Bezel



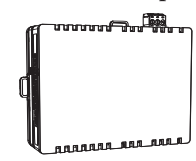
EA-MG-BZ1

#### 20-Button Keypad Bezel



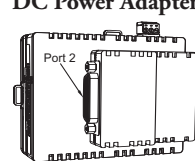
EA-MG-BZ2

#### DC Power Adapter



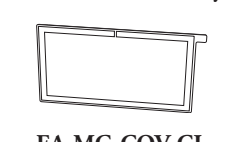
EA-MG-P1

#### Serial Port w/ DC Power Adapter



EA-MG-SP1

#### Clear Screen Overlay

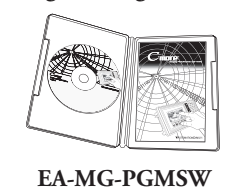


EA-MG-COV-CL

Accessory details shown on the reverse side.

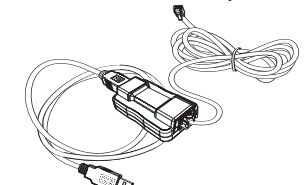
### Programming Software & Programming Cable (sold separately)

#### Programming Software



EA-MG-PGMSW

#### USB to RS232 Programming Cable Assembly



EA-MG-PGM-CBL

**NOTE:** Free download of the C-more Micro-Graphic programming software at the [AutomationDirect](http://AutomationDirect.com) web site.

### Agency Approvals

Name	UL/CUL/CE Certification Numbers			
	UL/CUL	UL508	CE	ISO-9000
C-more Micro-Graphic Panels & Accessories	E157382	E157382	EN61131-2	Yes



### Safety Information



**WARNING:** To minimize the risk of potential safety problems, you should follow all applicable local and national codes that regulate the installation and operation of your equipment. These codes vary from area to area and it is your responsibility to determine which codes should be followed, and to verify that the equipment, installation, and operation are in compliance with the latest revision of these codes.

Equipment damage or serious injury to personnel can result from the failure to follow all applicable codes and standards. We do not guarantee the products described in this publication are suitable for your particular application, nor do we assume any responsibility for your product design, installation, or operation.

If you have any questions concerning the installation or operation of this equipment, or if you need additional information, please call us at 1-800-633-0405 or 770-844-4200.

This publication is based on information available at the time it was printed. At AutomationDirect.com we constantly strive to improve our products and services, so we reserve the right to make changes to the products and/or publications at any time without notice and without obligation. This publication may also discuss features that may not be available in certain revisions of the product.

### Before you begin...

Minimum items required to create a working system:

- C-more Micro-Graphic panel
- C-more Micro-Graphic Programming Software EA-MG-PGMSW (Downloadable version available from the AutomationDirect web site at no charge.)
- C-more Micro-Graphic USB to RS232 Programming Cable Assembly EA-MG-PGM-CBL, used to connect between a PC and the Micro-Graphic panel's built-in serial port
- Power source – either powered from the RJ12 serial communications port on AutomationDirect CLICK or selected DirectLOGIC PLCs, or C-more DC Power Adapter EA-MG-P1, or Serial Port with DC Power Adapter EA-MG-SP1
- Personal computer – to run the C-more Micro-Graphic programming software
- Communications Cable (serial) – to connect the C-more Micro-Graphic panel to your controller



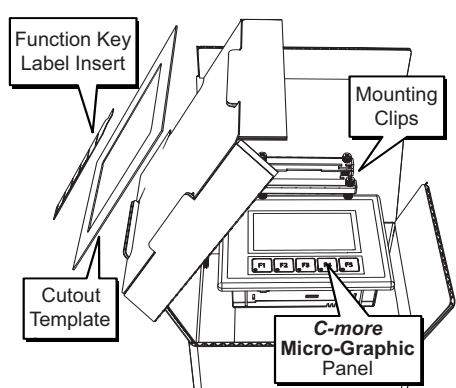
### 1 Unpack and Inspect

Unpack the C-more Micro-Graphic panel from its shipping carton. Included in the carton are the following:

- C-more Micro-Graphic panel
- cutout template
- mounting clips (EA-MG-S3ML-BRK)
- gasket (EA-MG-S3ML-GSK)
- blank function key label insert (EA-MG-S3ML-FKL)
- Quick Start Guide (EA1-MG-QSG)

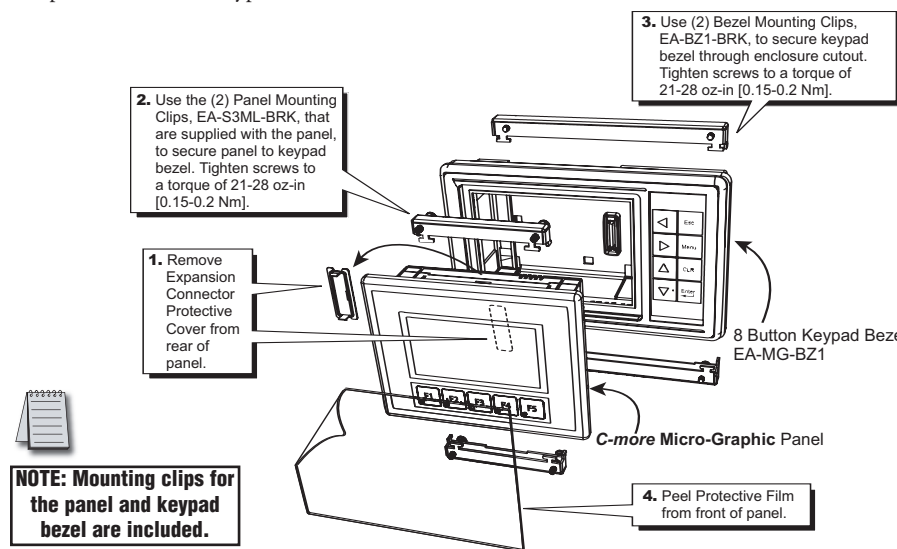
Unpack any accessories that have been ordered, such as: Keypad Bezel, DC Power Adapter, programming cable, communications cable, etc.

Inspect all equipment for completeness. If anything is missing or damaged, immediately call the AutomationDirect returns department @ 1-800-633-0405.



### 2 Install Optional Hardware Accessories (sold separately)

Below is an example of a C-more Micro-Graphic panel being assembled with an optional 8-button Keypad Bezel.

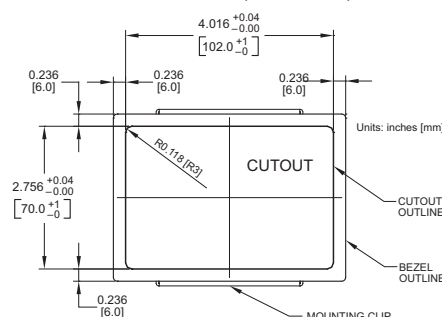


**NOTE:** Mounting clips for the panel and keypad bezel are included.

### 4 Install C-more Micro-Graphic Panel

The C-more Micro-Graphic panel can be mounted through a cutout in an enclosure by using the template provided with the panel, or using the dimensions shown to the right. Cutout dimensions for the 8-button and 20-button keypad bezel options are shown on the reverse side. The keypad bezels also include a template. The enclosure mounting thickness range for the panels and the keypad bezels is 0.04"-0.2" [1-5 mm]. Mounting screw torque is 21-28 oz-in [0.15-0.2 Nm].

#### Panel Cutout (all models)



### 5 Install the Software and Develop a Project

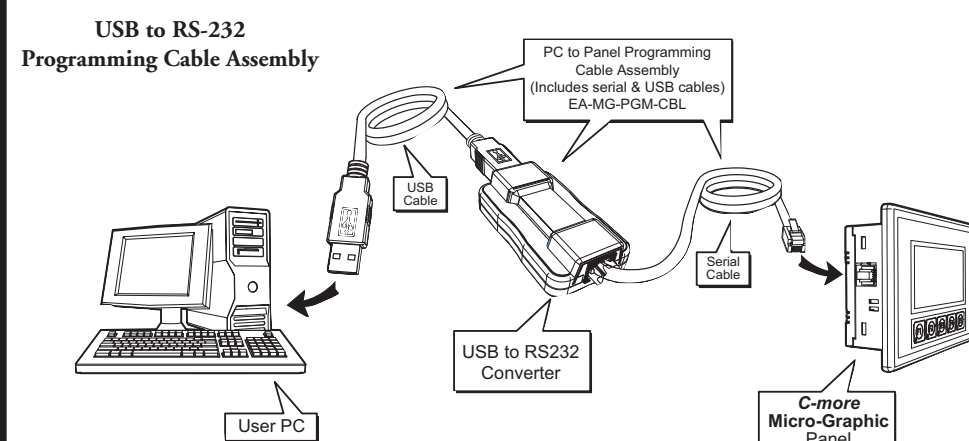
Following are the minimum system requirements for running C-more Micro-Graphic Programming Software, EA-MG-PGMSW, on a PC:

- Personal Computer with a 333 MHz or higher processor (CPU) clock speed recommended; (Windows® 2000 with Service Pack 4 or Windows® XP, 800 MHz or higher processor (CPU) clock speed recommended (Windows® Vista (32 bit)); Intel® Pentium/Celeron family, or AMD® K6/Althlon/Duron family, or compatible processor recommended
- Keyboard and Mouse or compatible pointing device
- Super VGA color video adapter and monitor with at least 800 x 600 pixels resolution (1024 x 768 pixels recommended) 64K color minimum
- 150 MB free hard-disk space
- 128 MB free RAM (512 MB recommended); 512 MB free RAM (1GB recommended) for Vista
- CD-ROM or DVD drive for installing software from the CD, or internet access to download free programming software
- USB port to use with an EA-MG-PGM-CBL, USB to RS232 Programming Cable Assembly for project transfer from the programming software to the panel
- Operating System - Windows® XP Home / Professional Edition Service Pack 2, Windows® 2000 with Service Pack 4, or Windows® Vista

Insert the supplied CD-ROM into the PC's CD-ROM drive and follow the instructions. If you need assistance during the software installation, please refer to the supplied Software Installation Guide or call the AutomationDirect Technical Support team @ 770-844-4200.

### 6 Connect C-more Micro-Graphic Panel to Computer

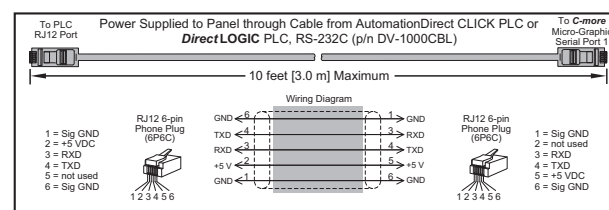
Use an EA-MG-PGM-CBL, USB to RS-232 Programming Cable Assembly, from a USB port type A on the project development PC, through the supplied converter, to the RJ12 RS-232 programming/PLC serial communications port on the C-more Micro-Graphic panel as shown below.



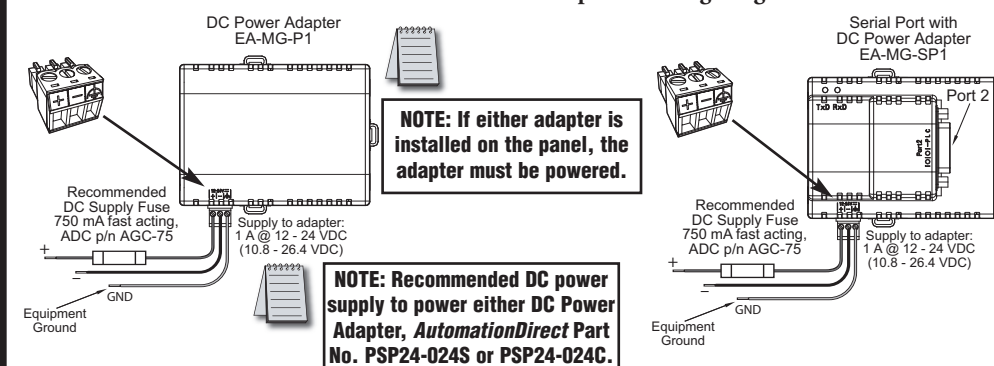
### 7 Provide Power to the C-more Micro-Graphic Panel

- The C-more Micro-Graphic panel is powered during programming from the PC through the USB to RS-232 Programming Cable Assembly, EA-MG-PGM-CBL.
- During operation, the C-more Micro-Graphic panel can be powered from most AutomationDirect CLICK and DirectLOGIC PLC RJ12 serial communications port by using the DV-1000CBL communications cable, or a DV-1000CBL communications cable with a FA-15HD 15-pin HD DSUB/RJ12 Adapter connected to a DirectLOGIC PLC's 15-pin HD communications port (DL06, D2-250-1 & D2-260 PLCs).
- The panel can also be powered by installing either the EA-MG-P1 DC Power Adapter, or the EA-MG-SP1 Serial Port with DC Power Adapter to the back of the panel and supply the adapter from a 1 Amp @ 12-24 VDC power source.

#### Panel Powered from DirectLOGIC PLC via Communications Cable



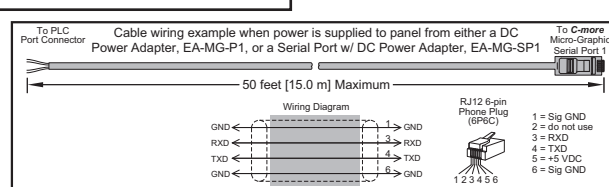
#### Panel Powered from a DC Power Adapter - Wiring Diagrams



**NOTE:** If either adapter is installed on the panel, the adapter must be powered.

**NOTE:** Recommended DC power supply to power either DC Power Adapter, AutomationDirect Part No. PSP24-024S or PSP24-024C.

Maximum communication cable length when powered from an optional DC Power Adapter



### 8 Choose Micro-Graphic Panel to PLC Protocols & Cables

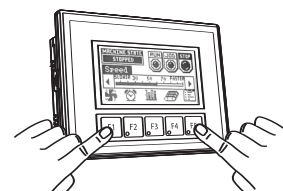
PLC Drivers	
Serial - port1 or port2	Serial - port2 only
AutomationDirect CLICK	Allen-Bradley DF1 Full Duplex
AutomationDirect K-sequence	Allen-Bradley PLC5 DF1
AutomationDirect DirectNET	Allen-Bradley DH485
AutomationDirect Modbus	Allen-Bradley DH485
Modicon Modbus RTU	GE SNXP (90/30, 90/70, Micro 90, VersaMax Micro)
Entivity Modbus RTU	Mitsubishi FX
	Mitsubishi Q and QnA
	Omron Host Link (C200 Adapter, C500)
	Omron FINS Serial (CJ1, CS1)
	Siemens PPI (S7-200 CPU)

**NOTE:** See either the C-more Micro-Graphic section of our catalog or the Hardware User Manual for a detailed chart of PLC compatibility & cable connections.

Cable Description	Cable Part No.	Cable Description	Cable Part No.
<b>Cables for direct connect to panel's serial port 1 (Panel powered from PLC serial port.)</b>		<b>Cables used with optional serial port 2 (3" Panel powered from optional Serial Port w/ DC Power Adapter, EA-MG-SP1.)</b>	
AutomationDirect CLICK, DirectLOGIC PLC RJ-12 port, DL06, DL06, DL105, DL205, D3-350, D3-450 & H2-WinPLC (RS-232C).	DV-1000CBL	AutomationDirect CLICK, DirectLOGIC PLC RJ-12 port, DL06, DL06, DL105, DL205, D3-350, D3-450 & H2-WinPLC (RS-232C).	EA-2CBL
DirectLOGIC DL405 PLC 15-pin D-sub port, DL405 (RS-232C).	D4-1000CBL	DirectLOGIC DL405 PLC 15-pin D-sub port, DL405 (RS-232C).	EA-3CBL
DirectLOGIC (VGA Style) 15-pin port, DL06, D2-250 (250-1), D2-260 (RS-232C).	FA-15HD	DirectLOGIC DL405 PLC 15-pin D-sub port, DL405 (RS-232C).	EA-4CBL-1
DirectLOGIC PLC 15-pin D-sub port, DL405 (RS-232C).	FA-CABKIT	DirectLOGIC PLC 25-pin D-sub port, DL405, D3-350, DL305 DDU and all DGM's (RS-232C).	EA-4CBL-2
		Allen-Bradley Micrologix 1000, 1100, 1200 & 1500 (RS-232C).	EA-MLOGIX-CBL
		Allen-Bradley SLC 5-03/04/05, ControlLogix, CompactLogix, FlexLogix DF1 port (RS-232C).	EA-SLC-232-CBL
		Allen-Bradley PLC-5 DF1 port (RS-232C).	EA-PLC5-232-CBL
		Allen-Bradley Micrologix, SLC 5-01/02/03, PLC5 DH485 port (RS-232C).	EA-DH485-CBL
		GE 90/30 and 90/70, Micro 90, VersaMax Micro (Port 2)	EA-90-30-CBL
		15-pin D-sub port (RS-422A)	EA-MITSU-CBL
		MITSUBISHI FX Series 25-pin port (RS-422A)	EA-MITSU-CBL-1
		MITSUBISHI FX Series 8-pin mini-DIN (RS-422A)	EA-MITSU-CBL-1
		OMRON Host Link (C200 Adapter, C500) (RS-232C)	EA-OMRON-CBL
DirectLOGIC PLC RJ-11 port, D3-340 (RS-232C).	OP-3CBL-1		

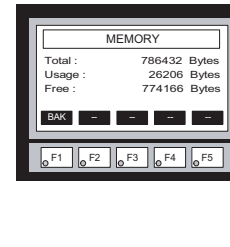
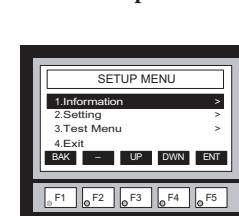
### 9 Accessing the C-more Micro-Graphic Panel Setup Screens

To access the Setup Menu of the panel's setup screens, press the F1 and F5 function keys simultaneously for three (3) seconds.

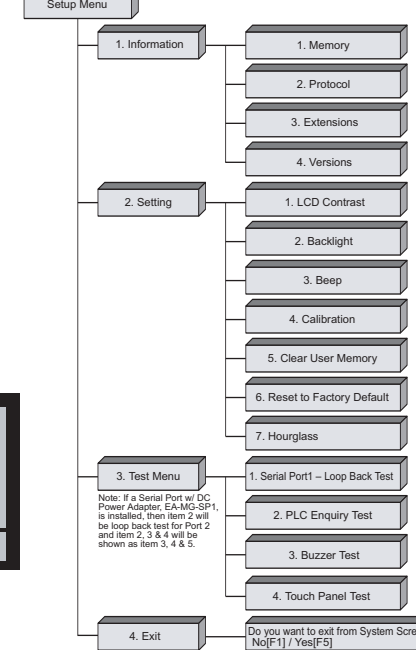


From the Setup Menu, information about the panel can be obtained, settings can be adjusted, and panel functions can be tested.

#### Examples

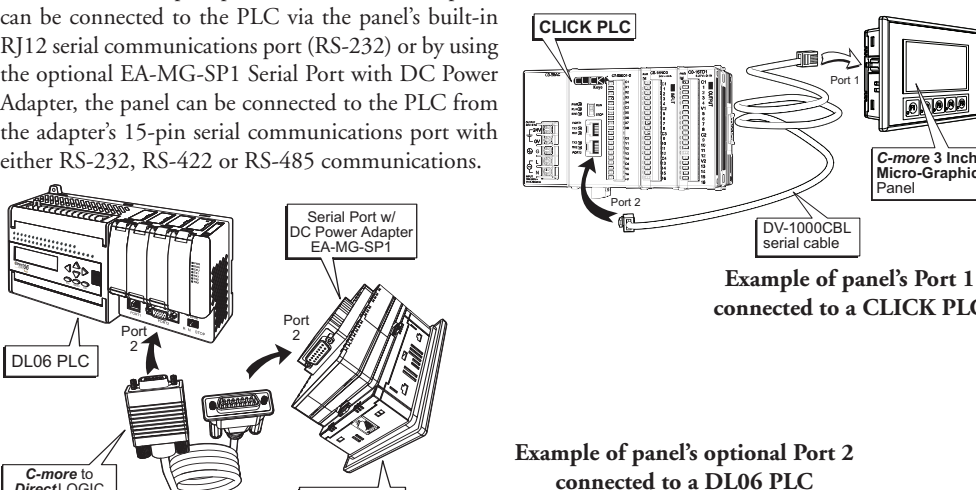


#### Menu flow Chart



### 10 Connect C-more Micro-Graphic Panel to PLC

Connect the serial communications cable between the C-more Micro-Graphic panel and the PLC. The panel can be connected to the PLC via the panel's built-in RJ12 serial communications port (RS-232) or by using the optional EA-MG-SP1 Serial Port with DC Power Adapter, the panel can be connected to the PLC from the adapter's 15-pin serial communications port with either RS-232, RS-422 or RS-485 communications.



### Additional Help and Support

- For product support, specifications, and installation troubleshooting, a Hardware User Manual can be downloaded from the On-Line Documentation area of the AutomationDirect web site or purchased through the AutomationDirect Sales team @ 1-800-633-0405 as part number EA1-MG-USER-M.
- For software programming help, refer to the C-more Micro-Graphic Programming Software on-line embedded help.
- Refer to demos of the product at: [www.CmoreMicro.com/software/software\\_demo.html](http://www.CmoreMicro.com/software/software_demo.html)
- For additional technical support and questions, call our Technical Support team @ 1-800-633-0405 or 770-844-4200.

Data Sheet: EA1-MG-QSG, Rev. H



