USER GUIDE

DM Engineering
Multi Station Relay Expander
(MSRE and MSRE-RM)

Version 1.0

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Overview:

The DM Engineering Multi Station Relay Expander (MSRE) is a microprocessor based, six form “C” relay output accessory for the Sage-Endec EAS encoder-decoder, models SE1822 and the 3644 Digital, that expands the allowable controlled number of stations to a total of four from a single Sage-Endec EAS Encoder-Decoder for controlling AES Digital Routing Switches and Ethernet Switches and Routers. The MSRE is available in both a table top version and a 1U rack mount version (MSRE-RM). The Endec has embedded programming that allows additional stations, in addition to the station controlled within the Endec itself, to be controlled using Multi Station Relay devices such as the DM Engineering MSRE. All digital commands are supplied by the Endec, and the MSRE interprets these commands to select the appropriate relays for control of the external equipment, routers or switches.

Digital control communications between the Endec and the MSRE is accomplished via RS232 at 1200 baud through either the COM 4 or COM 5 (1200 baud) ports on the Model SE1822, and on any port on the 3644 Digital when programmed to do so. (See Endec Programming procedure below)

A recessed front panel “Test” switch is also provided for aiding the setup of the equipment.

The MSRE uses 6 high quality bifurcated gold over silver nickel contact sealed relays, one relay for each left and each right channel circuit. The MSRE also is designed to remain transparent during a power failure condition.

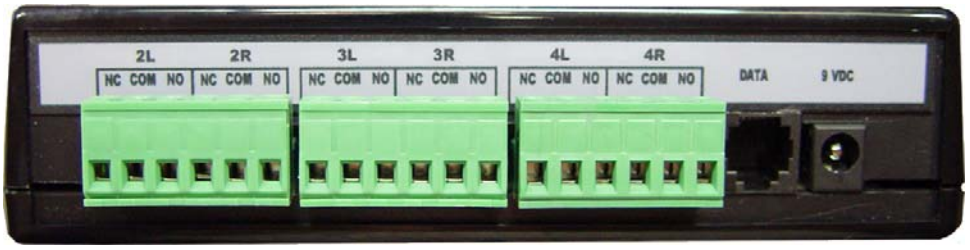
All station inputs and outputs are connected using large 5mm Eurostyle screw type pluggable connectors for wiring ease and connection reliability.

Front panel LED indicators are provided for “Power” and “Station” left and right relay activation during an EAS event.

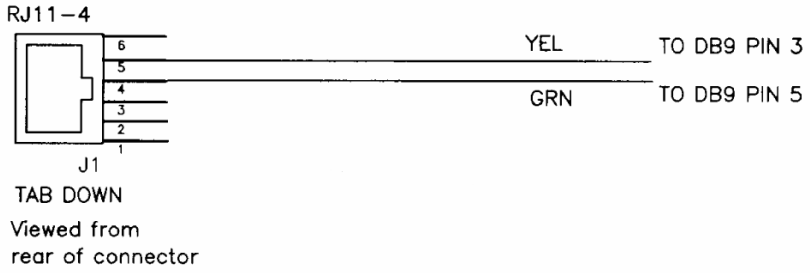
Installation:

1. The MSRE should be located in an area that is not subjected to temperatures in excess of 85 degrees centigrade, nor subjected to moisture greater than 90% relative humidity, non-condensing.

2. Connections are made using the pluggable Eurostyle connectors. Wires should be stripped approximately ¼ inch and fully inserted into the connector. Assure that the connector locking screws are fully tightened and that the wires are secure.



3. Data connection is made using the supplied Data Modular to DB9 cable. **The DB9 female connector is connected to either the Endec COM4 or COM5 port (SE-1822) or any properly programmed COM port on the 3466 Digital.** (See Endec Programming section below). The RJ11 modular connector is connected to the MSRE Data input port. For long distance runs between the MSRE and the Endec, the use of CAT5e cable is recommended for the extended run.



Interface Cable Schematic

4. The MSRE is powered by the supplied 9VDC, 500Ma power module

Set-up and Operation

A. Endec Programming Reference section 9.2(SE1822) or section 10.2 (3644) of the Sage-Endec User Guide and Reference Manual for complete details. Entry of a password will be required to complete most of the steps below.

<u>Do not reassign</u> any of the MSRE relays to stations using the *msrp.assign msrp relay* menu unless you are positively sure of what you are doing. The default settings are the proper settings for most installations.

1. Assign either COM4 or COM5 (1200 baud ports on the SE 1822), or any port on the 3644 Digital to be used as a RELAY device for using the MSRE. ***(menu.devices.COM"X".device type.relay)*** X=selected COM port.
2. For the 3644 Digital it will be necessary to set the baud rate to 1200 baud for the COM port chosen by using: ***(menu.devices.COM"X".baud rate)*** X=selected COM port.
3. Set up the call sign for each station by using: ***(menu.MSRP.station #. call sign)***. The # character is the station number 2-4. Follow the prompts to install the desired station call signs for stations 2-4.
4. Enable each station desired by setting: ***(menu.MSRP.station #.enable)*** to "YES" for each desired station.

B. (Optional) Other COM Port Devices (if used)

1. If Remote Controls such as the DM Engineering Ultimate, Ultimate Jr., SE1822 Remote Control and Automation Interface, any other DM Engineering Automation Interface module or the Sage RC-1 are to be used, configure the appropriate ports for the "Hand Control" option by selecting: ***(menu.device.COM"X".type.hand control)*** X=selected COM port. Note that DM Engineering Remote Controls and Automation Interface Modules are 9600 baud devices and may be used to control COM ports1 on the front panel (variable baud rate), 2 (fixed 9600), 3 (variable) and 6 (fixed 9600). COM1 and 3 may be set to the desired baud rate by selecting ***(menu.device.COM"X".baud rate)*** X=selected COM port. The RC-1

Remote Control is a 1200 baud device and must be configured for either COM1, 3, 4 or 5, whichever is not being used for the MSRE and/or other Remote Controls or Automation Interface modules.

2. The last command to assign the Remote Control or Automation Interface Module to its specific station is: ***(menu.devices.COM"X".station)*** X=selected COM port.

Specifications:

Switching Relays:	Sealed, with bifurcated gold clad over silver nickel contacts, 2 per channel
Logic Control:	8 bit PIC Microprocessor
Logic I/O Interface :	RJ11 modular to DB9 RS232 (Logic)
Status Indication:	Front Panel LED Power and EAS Station Relay Active indicators
Power Requirement:	9VDC, 500Ma power module, 5.5x2.5 Coaxial connector, not polarity sensitive
Size (MSRE):	6 X 4.25 X 1.5 inch ABS cabinet
Optional Rack Mount (MSRE_RM):	1 unit high 19" panel) X 4.2"

Warranty Information:
The DM Engineering MSRE is warranted for a period of one year from the date of purchase. This warranty covers materials and workmanship only. Any misapplication, physical or electrical damage from outside sources or by the customer is not covered. The customer must pay shipping costs to the factory, and DME will pay shipping costs to return the warranted equipment to the customer. Any priority shipping costs are to be the responsibility of the customer as ground service is standard. Please contact the factory for an RMA number prior to any returns. Items returned without an RMA may be sent back to the customer unopened.

Technical Support
If you have questions, experience difficulties with the product or require further information please contact DME at: 805-987-7881, toll free 800-249-0487, or E-mail technical support at: support@dmengineering.com, or visit www.dmengineering.com for the latest User Guide.