

# USER GUIDE

## DM Engineering Multi Station Relay Expander (MSRE and MSRE-RM) Version 1.1



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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 and Digital Alert Systems DASDEC™ EAS encoder-decoders, that expands the allowable controlled number of stations to a total of four from a single 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). Both the Sage and DASDEC™ **encoder/decoders, or (endec)** have 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 switchers.

Digital control communications between the endec and the MSRE is accomplished via the supplied DB9 to RJ11 cable. Connection to the DASDEC™ is made at the main serial port, and at 1200 baud through either the COM 4 or COM 5 (1200 baud) ports on the Sage Model SE1822, and on any port on the Sage 3644 Digital when programmed to do so. (See the Sage-Endec Programming procedure below.)

DASDEC™ programming may be implemented by following the Digital Alert Systems Application Note # APNDAS-0139. The direct link to this PDF document is: <http://www.digitalalertsystems.com/pdf/apndas-0139.pdf> .

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

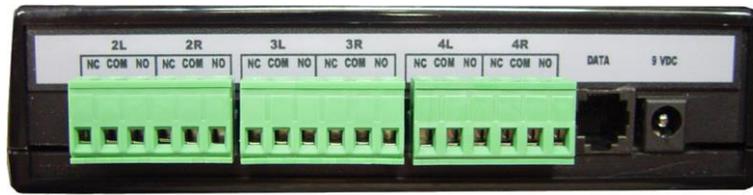
The MSRE uses 6 high quality bifurcated gold over silver nickel contact sealed relays, one relay for each left and each right channel circuit. The MSRE also is designed to remain transparent during a power failure condition.

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

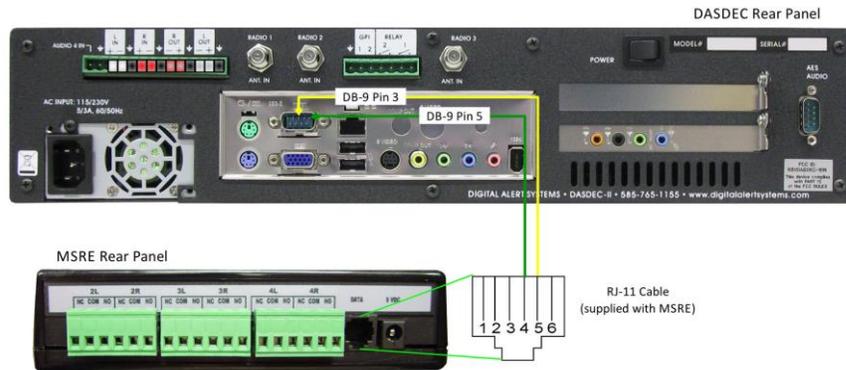
Front panel LED indicators are provided for “Power” and “Station” left and right relay activation during an EAS event. Power is supplied via the 9V, 500ma power module that is supplied with the unit.

## 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 RJ11 Modular to DB9 cable. Connection to the DASDEC™ is made at the main serial port, or is connected to either the Sage-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

## Sage-Endec Set-up and Operation

**A. 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.

**Do not re-assign 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.
5. Just in case, the default settings for relay assignment are:
 

Relay 1L & 1R	Station 2
Relay 2L & 2R	Station 3
Relay 3L & 3R	Station 4
Relay 4L & 4R	Station 0

## 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](mailto:support@dmengineering.com), or visit [www.dmengineering.com](http://www.dmengineering.com) for the latest User Guide.

DASDEC™ technical support is available by calling 585-765-1155 and selecting "Technical Support" from the main menu.