

# USER GUIDE



## Studio *SLAVE* Auxiliary Relay Pack

Version 1.3

### **DM Engineering**

2174 Chandler St.  
Camarillo, CA 91345-4611  
805-987-7881 800-249-0487  
[www.DMEngineering.com](http://www.DMEngineering.com)

## Overview and Operation:

The Studio "SLAVE" Auxiliary Relay Pack is a microprocessor based switching and control interface for various switching functions required in most broadcast studios and control rooms where multiple and various isolated outputs are required to operate from one or more types of control inputs. Input and output connectors are Eurostyle pluggable types. Some outputs have user selectable provisions for release delay times from instantaneous to one second, and selection may be made to restrict the release delay to the Solid State Relay output driver voltages exclusively. LED power and activation indication is provided as well as a "test" button for activation of the unit locally.

The Studio SLAVE Auxiliary Relay Pack has the following features:

### Outputs:

- Relay outputs: 8 form C (SPDT) bifurcated gold overlay, silver nickel isolated contacts for switching functions ranging from low level audio up to 2 amps, AC or DC. (Refer to Specifications section on page 4 for details). Circuits 1-4 follow input commands while the release time of circuits 5-8 may be delayed up to 1 second if desired.
- Solid State Relay driver voltages (5VDC): Current limited simultaneous constant and flashing (1 sec on, 500ms off) driving signals for remote control of the available DM Engineering Solid State Relay Pack or the users own solid state relay for "ON AIR" or "RECORDING" signs or any other appropriate application.
- Tally output: : An optically isolated floating NPN transistor output for controlling other tandem "SLAVE" units or any other appropriate application.
- 9-12 VDC: Unregulated supply voltage up to 350MA for utility use such as external lamp or LED illumination.

### Control Inputs: (any or all inputs can be used simultaneously)

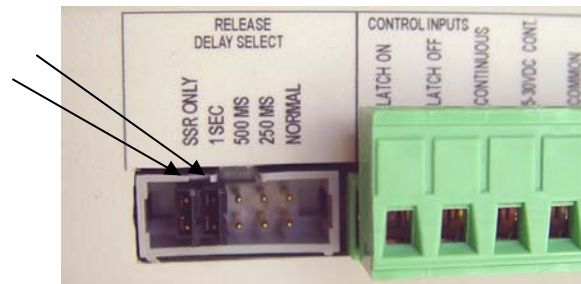
- Latch on: A momentary contact closure between the Latch On terminal and the Common terminal will activate the unit.
- Latch Off: A momentary contact closure between the Latch Off terminal and the Common terminal will deactivate the unit.
- Continuous: A contact closure between the Continuous terminal and the Common terminal will activate the unit. Removal of the contact closure will deactivate the unit.
- 5-30VDC Continuous: Allows for the application of 5-30 Volts DC between the input and common terminals to activate the unit. Removal of the voltage will deactivate the unit.
- Mic-Pro input connector for interface with the DM Engineering Mic-Pro microphone on-off controller module.
- Release Select: User configurable release times for relay output circuits 5-8 and SSR relay driver voltages. (Relay output circuits 1-4 and Tally output follow the input commands without delay). The Release select function may be restricted to the SSR driver voltages only if desired. Approximate selection times are; Normal (2ms), 250ms, 500ms, or 1 sec. Delay selection may be

desirable when staff tend to barge through studio doors or start talking as soon as the “On Air” sign goes off or the monitor speakers come on.

### Installation:

Connect the supplied power supply to the power input connector. The LED indicator will light green to show power is present.

1. Momentarily press the test switch to check for proper activation of the unit. The LED indicator will light amber to signify activation, and a faint clicking noise will be heard as the relays activate and deactivate. This switch may be used at any time for operational test of the unit without having to activate other input controls.
2. Delay selection may be made, if desired, by moving the jumpers on the “Release Delay Select” connector to the appropriate positions. “SSR Only” selection applies delay time to the Solid State Relay driver voltages only.



Example: Delay select jumpers shown for 1 sec. delay and Solid State Relay drive voltages only.

3. Connect the desired input control contact closures or DC input voltage between the appropriate “Control Inputs” terminals and any common terminal. Any or all of the “Control Inputs” may be used simultaneously.
4. Connect the desired “Relay Outputs” connections to the appropriate SPDT relay terminals. Remember, circuits 1-4 are not subject to any delay selection.
5. Connect any desired “Outputs” connections such as tally or SSRP driver voltages.
6. Connect the Mic-Pro mini-din connector if the Mic-Pro module is used.

### NOTES:

1. *If the Mic-Pro microphone on-off switching module is installed, the available CIRCUIT 1 contacts will have 12VDC present and should **not** be used.*
2. *It is also **not recommended** that composite signals be switched using the Circuit 1 contacts.*
3. SSR continuous and flash modes provide 5VDC driver voltages to the available DM Engineering Solid State Relay Pack, or any other customer provided solid state relay that operates in the 5VDC input voltage range.
4. Tally plus and minus are isolated by optically coupled NPN transistor outputs capable of sinking 50 ma with a maximum VCEO of 70VDC.

## **Warranty Information:**

The DM Engineering Studio SLAVE Auxiliary Relay Pack 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 at 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.

## **Specifications:**

Case dimensions: 7" wide X 6" deep X 1.25" high

Case material and color: ABS plastic, bone grey

Input & output connection method: Eurostyle removable connectors

DC input connection method: 5 x 2.5mm coaxial power connector, polarity insensitive

DC input power requirement: 9-12VDC @ 350-500 ma.

Power Supply: 9VDC @ 350-500ma "wall wart" type (supplied)

Tally input to output isolation: 4000 V

Relay contact material: Bifurcated gold overlay, silver nickel

Relay contact maximum typical switching current: @30VDC-2.0A, @ 125VAC-0.20A

Absolute maximum switching voltage: 125VDC, 125VAC (0.20A max.)

Relay isolation voltage between contacts and coil: >1800 VRMS

Available release delay times: None, 250ms, 500ms, 1 sec.

Mic-Pro interface connector: Mini-din 8

Mounting: Desktop or any surface that the customer desires

Operating temperature: 32 to 120F

Humidity: 0 to 95% non-condensing

Shipping Weight: 2 lbs. (approximate)