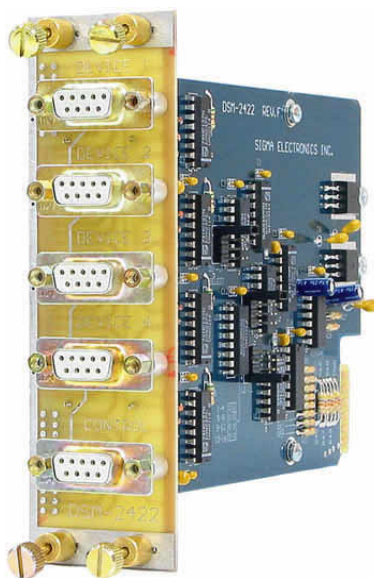


DSM2422

DATA SWITCH MODULE

INSTRUCTION MANUAL



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DSM-2422 DATA SWITCH MODULE

GENERAL:

The DSM-2422 is designed to provide switching of control data. The module's data path is bi-directional to allow the application of multiple sources to a common destination or one source to multiple destinations.

The module can be used where several editing stations need access to a common editing deck. Each module will allow four editors to switch to a common device with only one editor having access to the device at any given time. With multiple modules the configuration can allow up to sixteen editors having access to a common destination. Control of the data switching module is facilitated through a system control interface module SCI-2144 and either a master control panel, one or more remote panels or the Serial Data port. The Serial Data port allows an external control device or PC with Sigma router software to control the switch module.

The other mode of operation would allow an editor to switch control data to four different destinations per module. Several modules can be used to allow up to sixteen different destinations. This application would allow an editor to control destinations which are not addressable via the RS-422 control code. It also provides a control path for editors which do not have compatible addressing capabilities with the destination devices.

The control data switch modules are compatible with other 2100 Series switching modules to provide Audio, Video and Control switching from a common router control system. This module must be installed in a Sigma Frame for proper operation. Power is provided by the power supply within the frame.

POWER:

The DSM-2422 operates from bus voltages of unregulated +20 VDC and -20 VDC. These voltages are supplied by the Sigma frame / power supply. The module regulates the bus voltage to +5 VDC via U2 and +12 VDC via U6. Circuit protection is provided by PTC Thermistors (Positive Temperature Coefficient Thermal Resistor) which serve as a permanent, self resetting, fuse. In the event of excessive current draw the PTC will open. Upon correction of the fault, the PTC Thermistor will reset.

FRAMES:

The DSM-2422 module can reside in any of three different frames provided by Sigma Electronics, Inc. If this module is purchased as a component of a system, please refer to the SERIES 2100 FRAMES Instruction Manual. If the module was purchased separately, an existing frame must be present for proper operation. Sigma would like to emphasize the fact that any of the Series 2100 modules can be mixed in any frame. It is important to note that this module does require a system control interface module SCI-2144 to allow interfacing with external switching control devices.

- ◆ The SS-2100-6 frame is designed for 19 inch EIA rack installations. It provides six (6) slots for modules in 1 RU of space. Each DSM-2422 requires two slots and the required SCI-2144 requires one slot.
- ◆ The SS-2100-12 frame provides a redundant power supply in a 3 RU frame for 19 inch EIA rack installations. This frame has twelve (12) slot positions for modules.
- ◆ The SS-2100-16 frame is also available for installations in a 19 inch EIA rack. This frame provides sixteen (16) slots for modules within 3 RU.

Additional information on the various frames is available. Please refer to the special section on frames if this was purchased as a complete system. If this information is not provided with this shipment, contact Sigma Electronics for assistance.

CONNECTIONS:

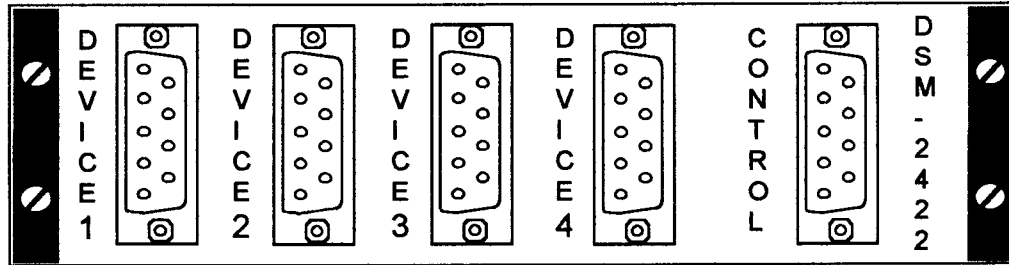
Wiring to the module is performed via 9 pin D connectors on the rear panel (Figure 1). There is no real input or output designation as this module provides a bi-directional data path. The connectors with relays controlling the path are designated as "DEVICE". The single connector which is common to all the others is designated as "CONTROL". Please refer to the following information for specific configurations.

Multiple Editing Locations / Common Destination Device.

Use the "DEVICE" connectors to attach each of the editing location's control data sources. This allows up to four editing locations to be connected per module. The connector designated as "CONTROL" will supply the control data to the VCR or other device to be controlled. Each connector allows a four wire path. Active pin numbers on each connector are Pins 2,3,7 and 8 (see figure 2). For the sake of consistency we have designated each of the four pins per functions provided by ANSI/SMPTE 207M/1984 standards. The designations are shown in figure 2.

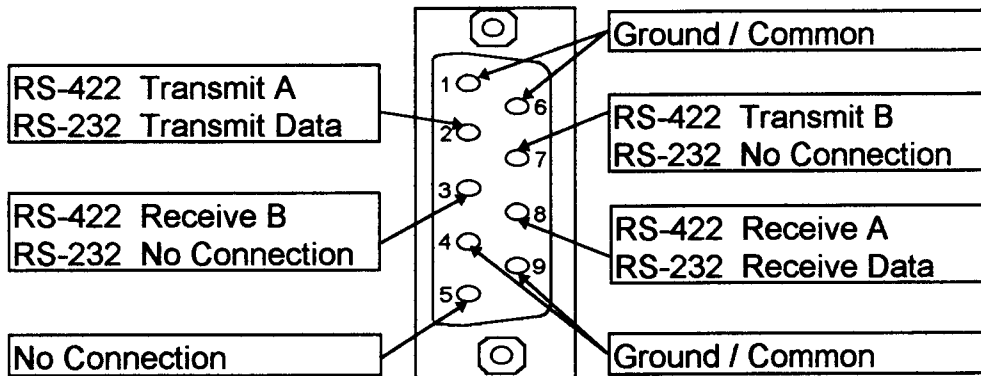
(cont.)

DSM-2422 DATA SWITCH MODULE



REAR PANEL CONNECTIONS

Figure 1



CONNECTION PIN ASSIGNMENT

Figure 2

Multiple Editing Locations / Common Destination Device (cont.)

If more than four editing locations need to communicate to a common destination device several of the DSM-2422 modules can be applied. To accomplish this task the modules have jumpers to select input group assignments of 1-4, 5-8, 9-12 and 13-16. With four modules sixteen editing stations could share a common destination device. The editing stations would connect to the "DEVICE" connectors. The destination device would connect to one of the module's "CONTROL" connector with all module's "CONTROL" connectors bridged together pin for pin. Properly configured, only one editor will have a communication path to the destination device at any given time.

Single Editing Location / Multiple Destination Devices.

When an editing location needs to communicate with several destination devices but does not have a compatible addressing scheme, the DSM-2422 can be used to rout the control data path. In this application the editing location control data attaches to the connector designated "CONTROL". The connectors designated as "DEVICE" attach to each of the destination devices. A single module will support up to four destination devices. As many as sixteen destination devices can be used with four modules.

When multiple modules are used with a common editing location, the control data must loop from the editing location to each "CONTROL" connector. This is done pin for pin. Each DSM-2422 module must have the Input Group Select jumper set to a proper group. i.e....module 1 = group 1-4, module 2 = group 5-8

The "DEVICE" connectors attach to the destination devices as selected on each module.

Multiple Editing Locations / Multiple Destination Devices.

A maximum combination of 16x4 or 4x16 editing locations and destination devices may be configured with DSM-2422 modules. This is accomplished with, Input Group selections, and Output Group selections. The addition of the output group select jumper gives the module further flexibility in configuration. The number of modules required depends upon the size of the matrix, i.e. ...2x4, 2x8, 2x12...4x12, 4x16. Caution must be used in these applications to prevent multiple data paths to common devices. Please call the Applications Dept. at Sigma Electronics for system configuration information.

DSM-2422 DATA SWITCH MODULE

JUMPERS AND ADJUSTMENTS:

There are three jumpers provided for configuration of the module. There are no user adjustments on the DSM-2422. All modules are set for typical operation when shipped as part of a Sigma system.

- J13: Output Select Jumper, Provides the "CONTROL" connector assignment of 1, 2, 3 or 4 as marked on PCB silk-screen. Default at 1.
- J17: Input Group Select Jumper, Provides the "DEVICE" connectors group assignment. Selects groups 1-4, 5-8, 9-12 or 13-16 as marked on PCB silk-screen. Default at 1-4.
- J21: Level Select Jumper, Sets the module level, provides a means to operate separate from video and audio switch modules within the same frame. Default at Level 4.

SPECIFICATIONS:

DATA PATH:

- DEVICES: 4, ANSI/SMPTE 207M
- CONTROL: 1, ANSI/SMPTE 207M
- MAXIMUM BAUD RATE: > 100K baud into 100Ω
- CONTROL DATA: RS-422, 4 Wire, or
RS-232, 3 Wire
- CONNECTORS: 4, DEVICE, 9 pin D
1, CONTROL, 9 pin D

ENVIRONMENTAL:

- OPERATIONAL TEMPERATURE: 0° to 50° C (+32° to +122° F)

MECHANICAL:

- SIZE: 2 card slots, occupies 2 positions in a Sigma frame.

TECHNICAL MANUAL:

A manual including schematics, circuit description, parts list and setup guide is available upon request. This information is intended for the service of the module. Modules should be serviced by Qualified Personnel only ! Sigma Electronics, Inc. recommends service to be performed by our Factory Service Center.

All specifications, drawings, dimensions, weights and other details are subject to change without notification. Information is intended to give a general performance and operation guideline of the product.

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