DMD-2105

DIGITAL VIDEO
DISTRIBUTION AMPLIFIER
with ANALOG MONITORING

INSTRUCTION MANUAL

SIGMA ELECTRONICS, INC.
P.O. Box 448
1027 COMMERCIAL AVE.
EAST PETERSBURG, PA 17520-0448
(717) 569-2681

DMD-2105 SERIAL DIGITAL VIDEO DISTRIBUTION AMPLIFIER

GENERAL:

The DMD-2105 is a 1 input x 4 output Serial Digital Video distribution amplifier with an NTSC/PAL monitoring output. The distribution amplifier provides four outputs from a SMPTE 259M-C input. This module is equipped with equalization and reclocking circuitry, therefore cable runs up to 1000 feet on the input are possible.

The module also provides a composite video monitoring output. This enables the viewing of the 270 Mb/s input signal on a composite video monitoring device such as a waveform monitor, oscilloscope or standard video monitor.

POWER:

The DMD-2105 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 the regulator U3 and -5 VDC via the regulator U2. Circuit protection is provided by RT3 and RT4. These PTC Thermistors (Positive Temperature Coefficient Thermal Resistors) serve as permanent, self resetting, fuse devices. In the event of excessive current draw, on either of the bus lines, the PTC on the line will open. Upon correction of the fault, the PTC Thermistor will cool to an operational temperature and reset.

FRAMES:

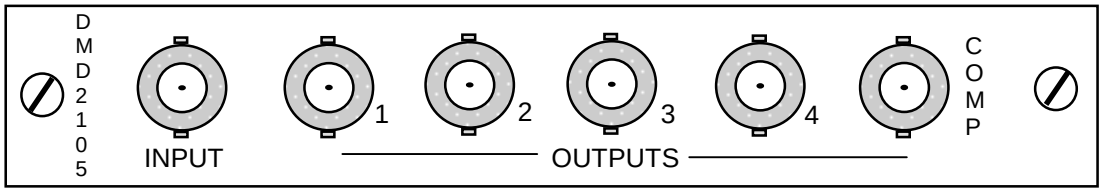
The DMD-2105 module can reside in any of four (4) different frames provided by Sigma Electronics, Inc. If this module is purchased as a component of a system, please refer to the SERIES 2100 FRAMES Instruction Manual. If the module was purchased separately, a preexisting frame must be present for proper operation. Sigma would like to emphasize the fact that any of the Series 2100 modules can be installed with any other Series 2100 module within the Series 2100 frames.

- In addition to the frames listed below, the module can be inserted into the SSB-21 Stand-Alone box. When purchased in this configuration it is designated as DMD-2605
- The SS-2100-2 frame is designed for desk-top applications. This frame provides two (2) positions for two single slot modules or a single two slot module. An optional tray (RMT-2100-2A) is available for rack installations.
- The SS-2100-6 frame is designed for 19 inch EIA rack installations. It provides six (6) slots for modules in 1 RU.
- The SS-2100-12+ frame provides a redundant power supply in a 3 RU frame for 19 inch EIA rack installations. This frame has thirteen (13) slot positions for modules.
- The SS-2100-16+ frame is also available for installations in a 19 inch EIA rack. This frame provides seventeen (17) slots for module within 3 RU.

Additional information on the various frames are 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 the connectors located on the rear panel. BNC connectors are used for the Input, four (4) distribution amplifier outputs and composite video monitoring output. Each output is designed to drive a 75Ω load. The utilized outputs must be terminated by a single end of line 75Ω termination to ensure proper signal level. Unused outputs do not require a 75Ω load.



REAR PANEL CONNECTIONS
Figure 1

DMD-2105 SERIAL DIGITAL VIDEO DISTRIBUTION AMPLIFIER

CONFIGURATION:

Set switch S1 to select the desired composite output format.

Composite Video Selection	S1-1	S1-2
NTSC	OFF	OFF
PAL-M	ON	OFF
PAL-B,G,H,I	OFF	ON
PAL-N	ON	ON

Set switch S1 to select setup on the composite output.

Composite Video Selection	S1-3
Setup Off	OFF
Setup On	ON

SPECIFICATIONS:

DIGITAL VIDEO INPUT:

VIDEO INPUT: ..... 1, Single-ended, terminated 75Ω, SMPTE 259M-C, 800 mVp-p
INPUT RETURN LOSS: ..... 15dB minimum, 5 MHz to 270 MHz
DATA RATE: ..... 270 Mb/s
INPUT CABLE LENGTH: ..... 1000 feet maximum of BELDEN 1694A (or equivalent)
CONNECTOR: ..... 75Ω BNC

DIGITAL VIDEO OUTPUT:

DISTRIBUTION OUTPUT SIGNAL: ..... 4 Outputs, 800 mVp-p typical, ±10%
OUTPUT RETURN LOSS: ..... 15 dB minimum, 5 MHz to 270 MHz
OVERSHOOT: ..... Maximum10% of total amplitude
CONNECTORS: ..... 75Ω BNC

ANALOG VIDEO OUTPUT:

MONITORING OUTPUT: ..... 1, 1.4 Vp-p max. NTSC/PAL composite video
DIFFERENTIAL GAIN: ..... 1% maximum
DIFFERENTIAL PHASE: ..... 1° maximum
TILT FIELD AND LINE: ..... 1% maximum
CONNECTOR: ..... 75Ω BNC

ENVIRONMENTAL:

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

MECHANICAL:

SIZE: ..... 1 card slot, consumes one position within a Sigma frame.

Sigma Electronics, Inc.; P.O.Box 448; 1027 Commercial Ave.; East Petersburg, PA 17520-0448
Main Office: Tel: (717) 569-2681 Fax: (717) 569-4056
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