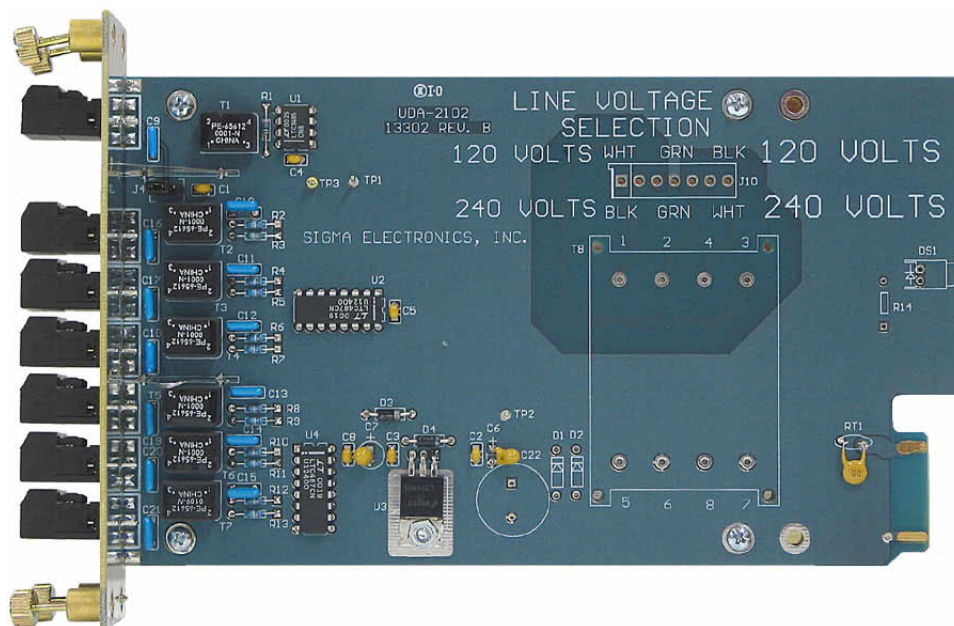


UDA-2102

AES/EBU DIGITAL AUDIO
DISTRIBUTION AMPLIFIER

INSTRUCTION MANUAL



SIGMA ELECTRONICS, INC.
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UDA-2102 AES/EBU DIGITAL AUDIO DISTRIBUTION AMPLIFIER

GENERAL:

The UDA-2102 is a 1 input x 6 output AES/EBU Digital Audio Distribution Amplifier. The distribution amplifier input is a transformer coupled three pin screw terminal. Electrical specifications conform to audio industry standard AES3-1992. The input signal range is 2 to 7 Vp-p at 110Ω impedance. The module is designed for applications where cable lengths are 500 feet (153 meters) or less of Belden 1800A or equivalent AES/EBU Digital Audio cable. Signal source quality will effect this typical distance. The module has a jumper to select either AC or DC coupling for the shield to digital ground. AC coupling the shield may reduce high frequency emissions.

The UDA-2102 has six balanced transformer coupled digital audio outputs. Each output on a detachable three pin screw terminal. The outputs are 4Vp-p AES3-1992 standard signals at 110Ω impedance. Sampling frequency rates are provided in the specifications section of the manual.

POWER:

The UDA-2102 operates from bus voltage of unregulated +20 VDC. This voltage is supplied by the Sigma frame. The module regulates the bus voltage to +5 VDC via regulator U3. Circuit protection is provided by RT1. This PTC Thermistor (Positive Temperature Coefficient Thermal Resistors) serves as a permanent, self resetting, fuse device. In the event of excessive current draw 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 UDA-2102 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.

The SS-2100-2 frame is also 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 twelve (12) slot positions for modules.

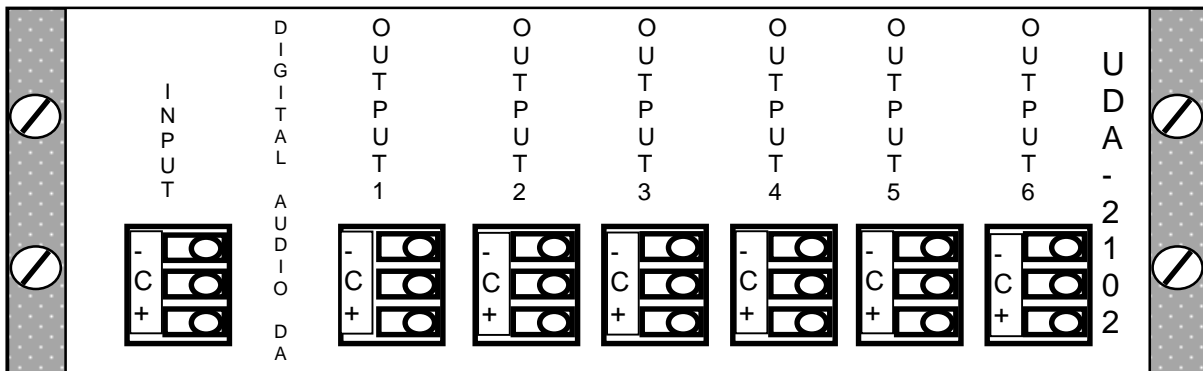
The SS-2100-16 frame is also available for installations in a 19 inch EIA rack. This frame provides sixteen (16) slots for module within 3 RU.

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.

The UDA-2102 can be purchased in a stand-alone unit as UDA-26.

CONNECTIONS:

Wiring to the module is performed via the connectors located on the rear panel. Detachable 3 pin screw terminals are used for the input and six outputs. This allows each output connector to be detached for wiring without interruption to the destination equipment of the other outputs. The unused outputs do not require a load.



REAR PANEL CONNECTIONS

Figure 1

UDA-2102 AES/EBU DIGITAL AUDIO DISTRIBUTION AMPLIFIER

CONFIGURATION:

There are no adjustment controls on this module. A single jumper is provided for the coupling method of the Input Shield.

J4: Shield Coupling Method, AC/DC. Use AC setting to minimize induction of high frequency noise.

SPECIFICATIONS:

INPUT

INPUT: 1, AES3-1992 transformer balanced
INPUT IMPEDANCE: 110Ω
SIGNAL LEVEL: 2 to 7 Vp-p
COMMON MODE REJECTION: 7 Volt peak, DC to 6 MHz
AUDIO SAMPLE RATES: AES/EBU encoded data, 28 kHz to 54 kHz, Auto -detect.
INPUT CABLE LENGTH: 500 feet (152M) maximum
(BELDEN 1800A AES/EBU Digital Audio Cable or equivalent)

OUTPUT

OUTPUTS: 6, AES3-1992 transformer balanced
OUTPUT IMPEDANCE: 110Ω
SIGNAL LEVEL: 2 to 5 Vp-p
DATA JITTER: < ± 3 nsec typical at 300 feet (92 m) input cable length
PROPAGATION DELAY: 50 nsec nominal

POWER

POWER: Supplied by Sigma Electronics 2100 Series modular frame.
POWER CONSUMPTION: 4 watts

ENVIRONMENTAL

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

MECHANICAL:

CONNECTORS: 3 Pin, detachable screw terminal
MODULE SIZE: 2 card slots, requires 2 adjacent positions in a Sigma frame
MODULE WEIGHT: 1 lb. (net)

TECHNICAL MANUAL:

A manual including schematics and service information is available upon request. This information is intended for the service of the module and is not required for the operation of the module. Modules should be serviced by qualified personnel only. Sigma Electronics, Inc. recommends service to be performed at the 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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