ADA-26A

AUDIO
DISTRIBUTION AMPLIFIER
INSTRUCTION MANUAL

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ADA-26A AUDIO DISTRIBUTION AMPLIFIER

GENERAL:

The ADA-26A Audio Distribution Amplifier is designed to provide six (6) outputs from a single audio signal source. The unit is compatible with either balanced or unbalanced audio signals on the input and outputs. Outputs can be mixed between balanced and unbalanced configuration dependent on the requirement of the destination equipment.

POWER:

The ADA-26A operates from an AC power source of 120VAC or 230 VAC at line frequencies from 50 Hz to 60 Hz. The unit is supplied with a line cord terminated with a three-prong grounded plug.
Internally the unit has bus voltages of +15Vdc and -15Vdc supplied by regulators U01 and U02 respectively.
An LED on the circuit board illuminates the front panel when both supplies are operating properly.
Circuit protection is provided by the externally accessible fuse on the rear panel. Refer to the specification section for proper fuse value.

FRAMES:

The ADA-26A module is mounted within a stand-alone box. The all-metal enclosure provides desirable shielding to external EMI/RFI noise sources.
Rack mounting requires the RMK-26 rack-mount kit. One RMK-26 rack-mount kit holds up to three of the 26 series units. Sigma provides various distribution amplifiers, signal generators and transcoding products in the 26 series.

CONNECTIONS:

Wiring to the module is performed via detachable screw terminal connectors (Figure 1).

INPUT: There is a single input on the rear panel of the unit (Figure 2). The INPUT is a high impedance configuration. This allows the audio signals to bridge to other units. To ensure proper impedance matching it may be necessary to terminate the outputs with a 600Ω load. For termination, it is recommended that a 600Ω, 1/2 watt resistor be placed between the (+) and (-) outputs. When multiple units have inputs bridged to the same source, only apply the 600Ω resistor to the last unit in the line.

OUTPUT: There are six (6) outputs on the rear panel of the unit. Each output is designed to drive a 600Ω load.

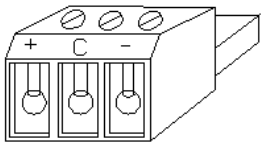
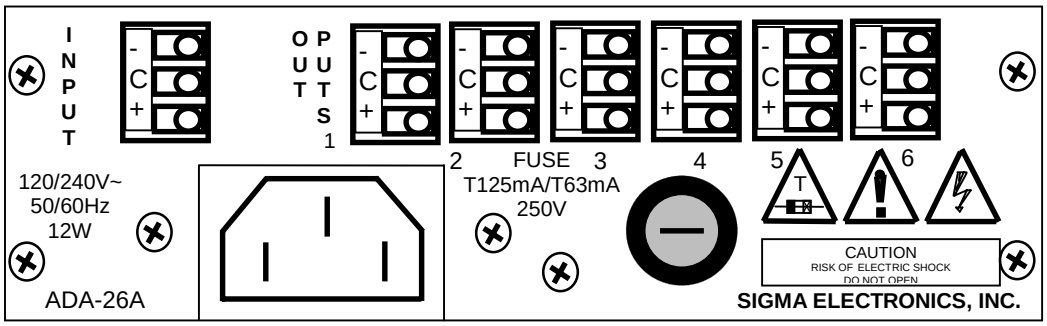


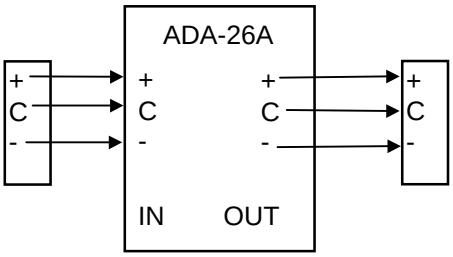
Figure 1
AUDIO CONNECTOR



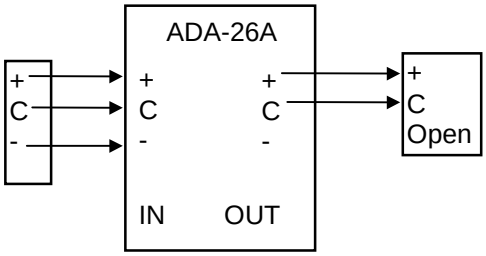
REAR PANEL CONNECTIONS
Figure 2

AUDIO CONFIGURATIONS:

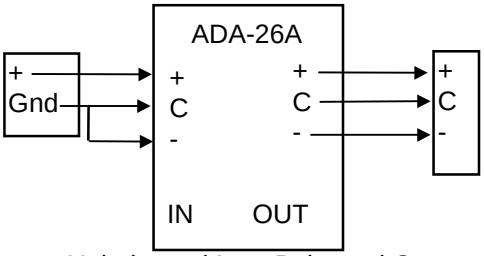
The source and destination audio equipment must be evaluated to determine if they are Balanced or Unbalanced. After determination is made, refer to the drawings provided to select the proper audio configuration. The outputs can be any combination of balanced or unbalanced.



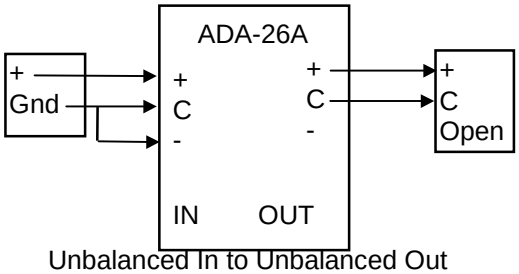
Balanced In to Balanced Out
Vout = Vin



Balanced In to Unbalanced Out
Vout = 0.5 Vin



Unbalanced In to Balanced Out
(-) Input Grounded; Vout = Vin
(-) Input Floating: Vout = 0.75 Vin



Unbalanced In to Unbalanced Out
Vout = 0.5 Vin

The input to output level comparison provided in the figures above, assumes the outputs are terminated into a 600Ω load.

FRONT PANEL:

The adjustments and indicators on the front panel (Figure 3) can be accessed through the slots provided in the frame in which the ADA-26A is installed. When mounted within the SS-2100 Series frames, it will be necessary to remove the front panel of the frame to gain access to these items. Factory settings of the module provide unity gain, maximum common mode rejection, and a bandwidth of 100 kHz.

Gain control is achieved by adjustments to S01and R102. S01 provides adjustment of the gain in increments of 6dB, while R102 provides fine adjustments of +/- 3dB. The positions of S01 make the following adjustments to the gain level of the circuit - ● = OFF, 1 = -6dB, 2 = 0dB, 3 = +6dB, 4 = +12dB, 5 = +18dB and 6 = +24dB.

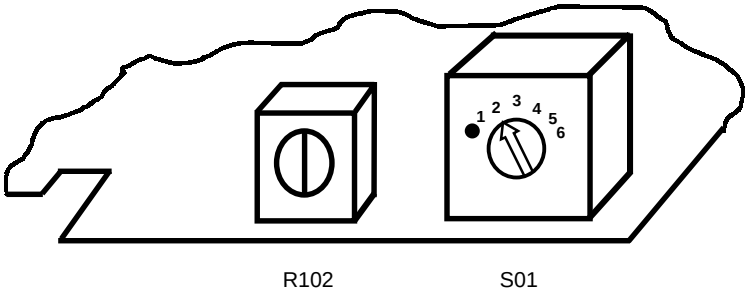


Figure 3: Front Panel Gain Adjustment

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ADJUSTMENTS:

Common Mode Rejection and Gain are both set for optimum performance by Sigma Electronics.

AC Voltage Selection:

The primary wiring of T1 must be in accordance with the line voltage applied to the unit.
120 VAC applications. The center-tapped wires must be soldered in the 120V position. Make sure the black wire is in the hole next to the BLK printing on the circuit board.
230 VAC applications. The center-tapped wires must be soldered in the 240V position. Make sure the black wire is in the hole next to the BLK printing on the circuit board.

SPECIFICATIONS:

INPUT:	Balanced, +24 dBm Maximum
INPUT IMPEDANCE:	30 kΩ Balanced, 15 kΩ each line to ground
OUTPUT:	+24 dBm Maximum
OUTPUT IMPEDANCE:	150Ω Balanced
ISOLATION:	70 dB Minimum (15 kHz)
HUM and NOISE:	-90 dBm at Unity Gain
THD+N…….	0.005% 20 Hz to 20kHz (30kHz LPF)
GAIN RANGE:	-9 to +27 dB
CMR:	70 dB Minimum (20 Hz to 10 kHz)
	60 dB Minimum (10 kHz to 20 kHz)
RESPONSE:	+/- 0.2 dB Maximum to 100 kHz at Unity Gain

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.

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