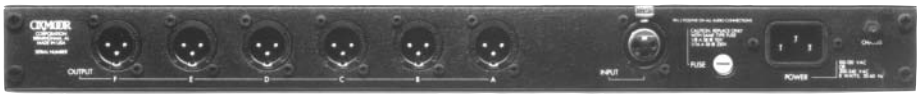
OXMOOR®

CORPORATION

A Limited Liability Company

MDA-16™ & MDA-26™



Installation
&
Operation
Manual

TABLE OF CONTENTS

MDA-16 & MDA-26 INTRODUCTION

- UL listed
- Input and output gain controls
- Electronically balanced, XLR-type inputs and outputs
- +24 dBu input signal levels
- +26 dBu output signal levels
- Built-in RF suppression
- Requires only 1U rack space
- Internal jumpers for setting various output configurations*

The Model MDA-16 is a compact, one-in by six-out audio buffer/DA, while the Model MDA-26 is a two-in by six-out buffer/mixer/DA for more complex applications. Each unit is housed in a 1U, rackmount chassis and weighs just under 8.5 pounds.

Both the MDA-16 and MDA-26 Distribution Amplifiers are intended for use in mobile or fixed-installation applications in sound reinforcement, broadcast or recording, and in other audio systems requiring high-quality operation, flexible audio routing, and adjustable level matching.

Its flexibility makes the MDA-26 ideally suited to handle many different distribution applications. For example, it can be configured to distribute one stereo input to one stereo output plus four mono sums of the stereo. Or it can just as easily function as two distribution amplifiers, each with one input and three outputs.

Input stages of both models are electronically balanced and fitted with standard 3-pin, XLR-type connectors. Front-panel gain trimmers enable the installer to compensate for various input signal levels. RF suppression circuitry safeguards against radio-frequency interference.

For enhanced flexibility on both units, each output driver can be set for balanced or unbalanced operation using internal jumpers. Output gain is independently adjustable over a ±15 dB range, with a +26 dBu maximum output level, and 20 Hz to 20 kHz overall frequency response, +0, -0.3 dB.

Both devices can also be supplied with optional output transformers as the Model MDA-16T and MDA-26T.

Designed to satisfy exacting professional standards, the MDA-16 and MDA-26 offer excellent performance in highly dependable packages. They are capable of matching different signal levels to perform such common conversion tasks as interfacing hi-fi equipment with professional audio systems. Their impressive audio specifications are ideally suited to recording and broadcast applications; yet their rugged chassis, coupled with exceptional immunity to environmental stress, also make them an ideal choice for demanding road work and commercial installations.

* MDA-26 Distribution Amplifier only

OXMOOR®

MDA-16 CALLOUTS

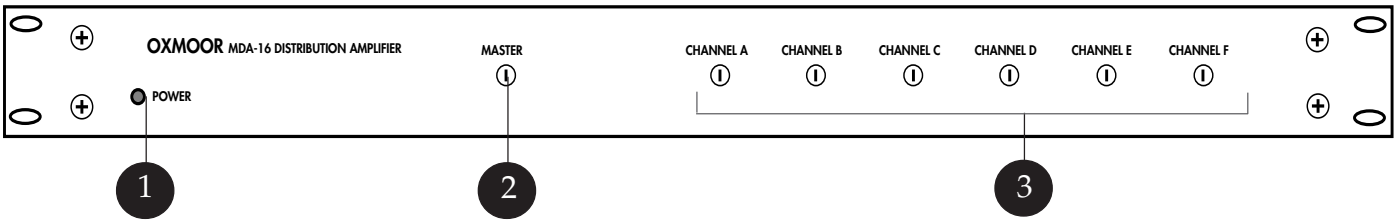


Figure 1.0: MDA-16 Front Panel View

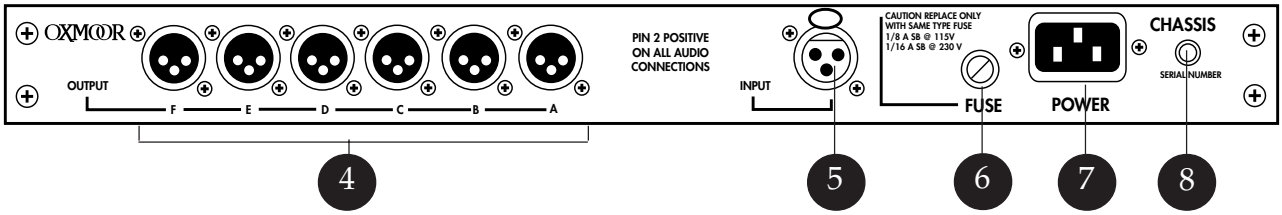


Figure 1.1: MDA-16 Rear Panel View

1. **POWER STATUS LED** – Indicator for AC Power On.

2. **INPUT TRIM** – Trim pot, accessed through the front panel with a small flat-blade screwdriver, adjusts the input stage gain, ±15 dB, to compensate for varying input signal levels.

3. **OUTPUT TRIM –** Trim pots, accessed through the front panel with a small flat-blade screwdriver. These controls provide ±15 dB of gain adjustment for matching different operating levels or balancing levels across channels.

4. **PROGRAM OUTPUTS** – Audio outputs, XLR-M–type connectors, Pin 2 positive, electronically balanced, accept balanced or unbalanced signals. Recommended load impedance is 600 ohms or greater. Maximum output level is +26 dBu.

5. **PROGRAM INPUT** – Audio input, XLR-F–type connector, electronically balanced, accepts balanced or unbalanced signals from line-level devices. Normal input level is +4 dBu with a maximum input level of +24 dBu.

6. **FUSE HOLDER** – Replace only with approved type of fuse in a rating appropriate to the mains voltage, as indicated on back panel. (See SPECIFICATIONS.)

7. **POWER CONNECTOR** – Standard IEC 3-pin connector for AC power cord. Use only with grounded (3-wire) outlets. Cord sets are available for all world connection standards.

8. **CHASSIS GROUND POST** – A screw with a star washer enables the installer to secure a ground wire to the chassis.

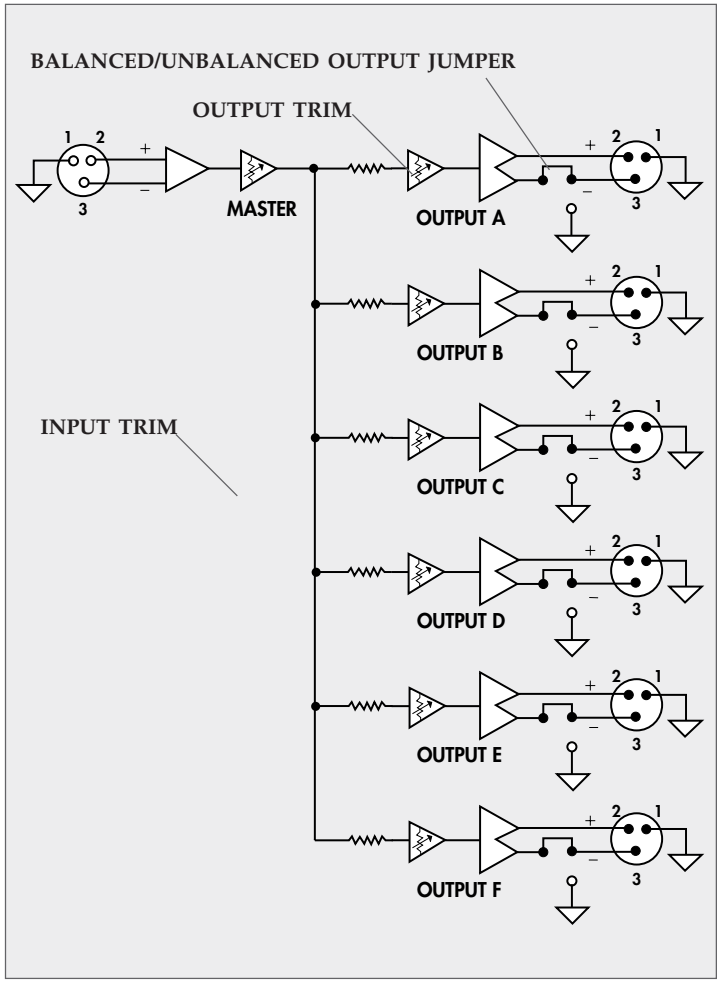


Figure 1.2: MDA-16 Block Diagram

MDA-26 CALLOUTS

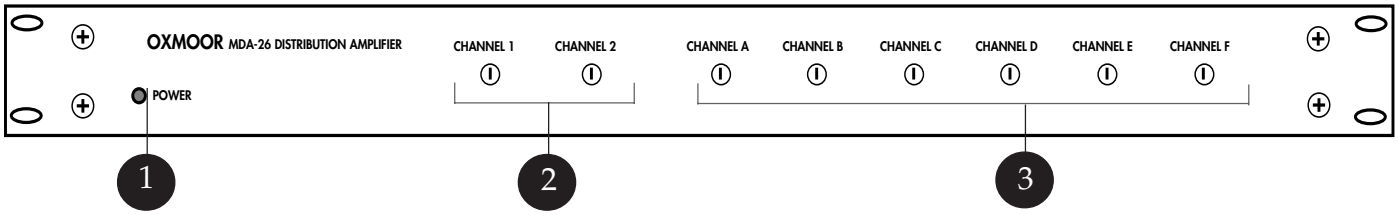


Figure 2.0: MDA-26 Front Panel View

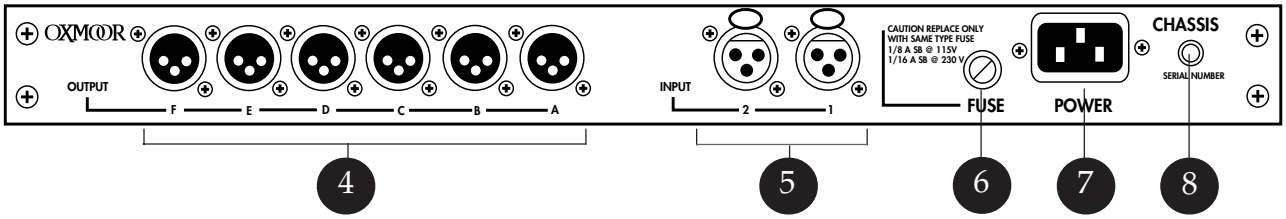


Figure 2.1: MDA-26 Rear Panel View

1. **POWER STATUS LED** – Indicator for AC Power On.

2. **INPUT TRIMS** – Trim pots, accessed through the front panel with a small flat-blade screwdriver, adjust the input stage gain, ±15 dB, to compensate for varying input signal levels.

3. **OUTPUT TRIM** – Trim pots, accessed through the front panel with a small flat-blade screwdriver. These controls provide ±15 dB of gain adjustment for matching different operating levels or balancing levels across channels.

4. **PROGRAM OUTPUTS** – Audio outputs, XLR-M–type connectors, Pin 2 positive, electronically balanced, accept balanced or unbalanced signals. Recommended load impedance is 600 ohms or greater. Maximum output level is +26 dBu.

5. **PROGRAM INPUTS** – Audio inputs, XLR-F–type connectors, electronically balanced, accept balanced or unbalanced signals from line-level devices. Normal input level is +4 dBu with a maximum input level of +24 dBu.

6. **FUSE HOLDER** – Replace only with approved type of fuse in a rating appropriate to the mains voltage, as indicated on back panel. (See SPECIFICATIONS.)

7. **POWER CONNECTOR** – Standard IEC 3-pin connector for AC power cord. Use only with grounded (3-wire) outlets. Cord sets are available for all world connection standards.

8. **CHASSIS GROUND POST** – A screw with a star washer enables the installer to secure a ground wire to the chassis.

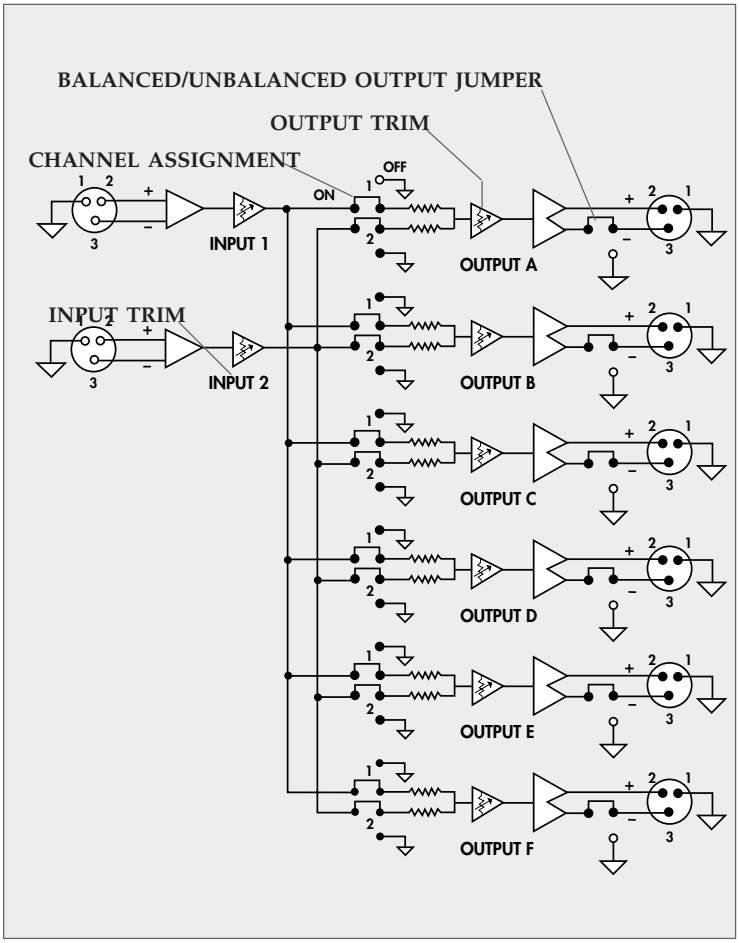


Figure 2.2: MDA-26 Block Diagram

MDA SET-UP

MDA BALANCED/UNBALANCED OUTPUT OVERVIEW

(Refer to Figure 3.0)

The MDA-16 and MDA-26 outputs may be independently set for either balanced or unbalanced operation. In the unbalanced configuration, pin 3 of the output connector is grounded, and the maximum output level drops by 6 dB.

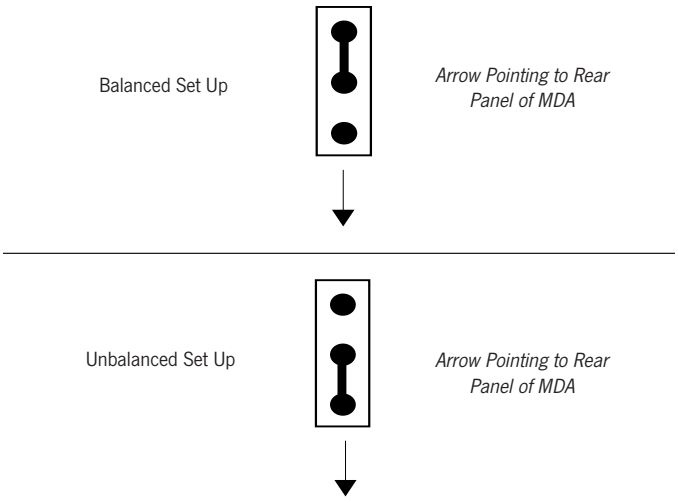


Figure 3.0: Output Jumper Setup

MDA BALANCED/UNBALANCED OUTPUT SELECTION

Internal jumpers are factory-installed to provide balanced outputs. Figure 3.0 shows the proper jumper positions for balanced or unbalanced operation. Correct internal jumper placement ensures the corresponding output driver will not be shorted to ground. (While an output short will not harm the circuit, it may result in increased distortion and crosstalk.) This procedure also simplifies output connections by allowing the use of standard cables in all cases. Outputs may be reconfigured for unbalanced operation in five simple steps:

CAUTION: Hazardous voltages are present inside the chassis. Before opening the case to gain access to the printed circuit board, always remove the power from the unit by disconnecting the AC power cord.

1. Disconnect the AC power cord.
2. Remove the screws that secure the top cover and set the cover aside.
3. The BALANCED/UNBALANCED jumpers are located on the circuit board next to their respective output connector. The jumper is factory-installed in the balanced position.
4. Observing the positions marked on the circuit board, remove the jumper and reinstall in the unbalanced position.
5. Replace top cover and screws.

NOTE: In the unbalanced mode, use pin 2 as HOT and pin 3 as COMMON. Pin 1 is to be used as SHIELD.

MDA-26 OUTPUT SOURCE OVERVIEW

(Refer to Figure 4.0)

The signal source for each MDA-26 output may be independently selected: INPUT 1 and/or INPUT 2. This capability greatly enhances the unit's flexibility, allowing it to assume a wide variety of signal distribution configurations. *(See MDA CONFIGURATION EXAMPLES, page 6.)*

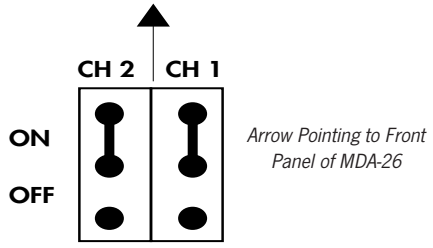


Figure 4.0: MDA-26 Source Selection

CAUTION: Hazardous voltages are present inside the chassis. Before opening the case to gain access to the printed circuit board, always remove the power from the unit by disconnecting the AC power cord.

MDA-26 OUTPUT SOURCE SELECTION

1. Disconnect the AC power cord.
2. Remove the screws that secure the top cover and set the cover aside.
3. The OUTPUT SOURCE jumpers are located on the circuit board next to there respective input trim pots. The jumpers are factory-installed with INPUT 1 and INPUT 2 both assigned to all outputs.
4. Observing the positions marked on the circuit board, remove the jumper(s) and reinstall in the desired positions.
5. Replace top cover and screws.

MDA-26 OUTPUT SOURCE SELECTION EXAMPLE

(Refer to Figure 4.1)

INPUT 1 is assigned to this output and INPUT 2 is turned off to this output.

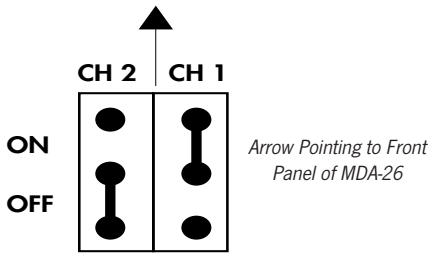


Figure 4.1: MDA-26 Source Selection Example

MDA CONNECTIONS

Figure 5.0: MDA-16 Program Input and Outputs View

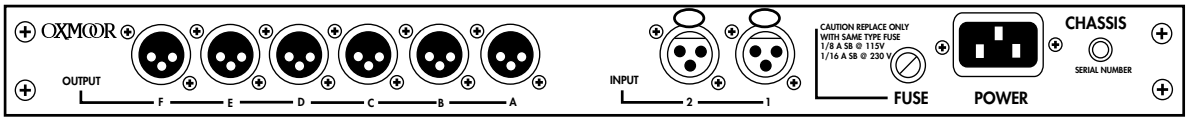


Figure 5.1: MDA-26 Program Inputs and Outputs View

MDA PROGRAM INPUT CONNECTIONS

(Refer to Figure 5.0 and 5.1)

The MDA-16 Distribution Amplifier provides connections for one program channel input while the MDA-26 Distribution Amplifier provides connections for two program channel inputs.

Each Program Input connection on the MDA-16 and MDA-26 is made through a female, XLR-type, 3-pin connector.

PROGRAM INPUTS: Pin 1 = Shield, Pin 2 = High, Pin 3 = Low, electronically balanced inputs, accept balanced or unbalanced signals from line-level devices. Nominal input level is +4 dBu with maximum input level of + 24 dBu.

MDA PROGRAM INPUT WIRING SCHEMES

(Refer to Figures 5.2)

The diagrams below illustrate the correct wiring of balanced and unbalanced program inputs.

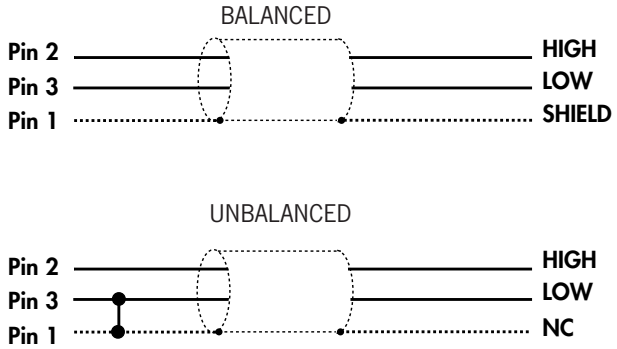


Figure 5.2: MDA Program Input Wiring Schemes

MDA PROGRAM OUTPUT CONNECTIONS

(Refer to Figure 5.0 and 5.1)

MDA-16 and MDA-26 Distribution Amplifiers provide connections for six program channels out.

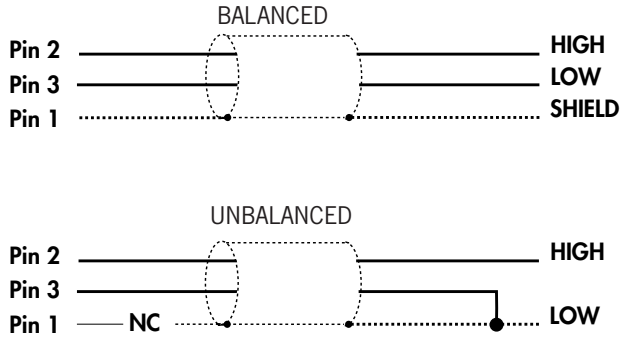
Program Output connections on both the MDA-16 and MDA-26 are made through male, XLR-type, 3-pin connectors.

PROGRAM OUTPUTS: Pin 1 = Shield, Pin 2 = High, Pin 3 = Low, electronically balanced outputs accommodate balanced or unbalanced lines. Recommended load impedance is 600 ohms or greater. Maximum output level is +26 dBu.

MDA PROGRAM OUTPUT WIRING SCHEMES

(Refer to Figures 5.3)

The diagrams below illustrate the correct wiring of balanced and unbalanced program outputs.



NOTE: The unbalanced output configuration is valid ONLY if the Balanced/Unbalanced output jumper block has been set to the unbalanced position. See page 4, Figure 3.0.

Figure 5.3: MDA Program Output Wiring Schemes

MDA-26 CONFIGURATION EXAMPLES

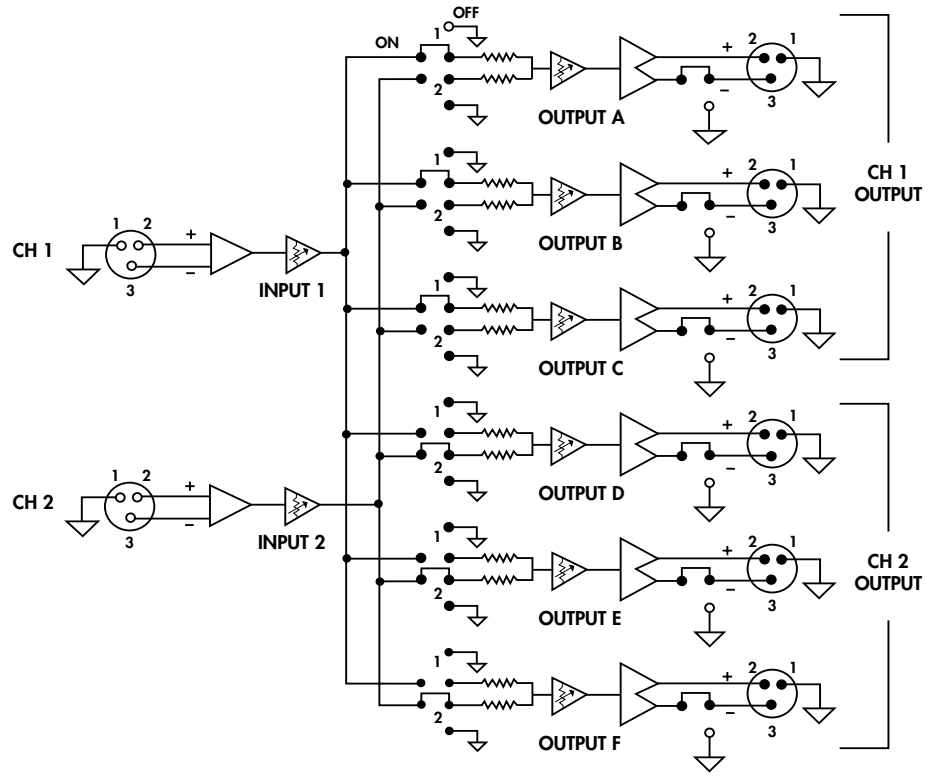


Figure 6.0: MDA-26 as Two 1 x 3 Distribution Amplifiers

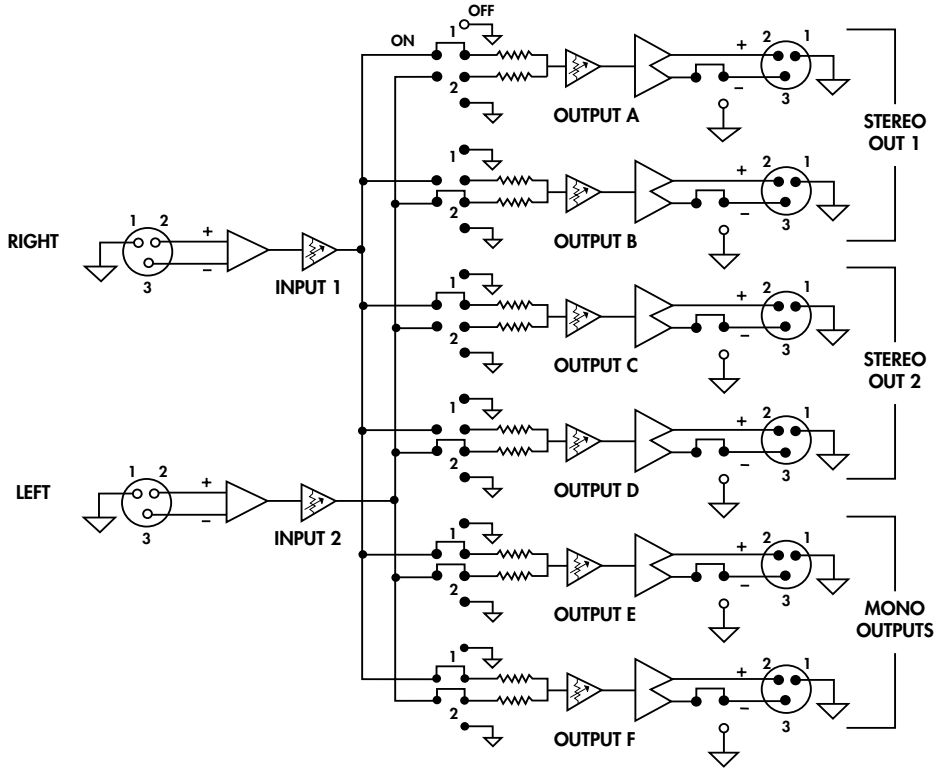


Figure 6.1: MDA-26 with a Stereo Input and Two Stereo Outputs and Two Mono Summed Outputs

MDA INSTALLATION NOTES

MDA INSTALLATION NOTES

MDA-16 & MDA-26 SPECIFICATIONS

FREQUENCY RESPONSE	20 Hz to 20 kHz +0, -0.3 dB
HUM AND NOISE	Ref. +4 dBm Output @ Unity Gain -94 dB (20 Hz to 20 kHz, Unweighted)
DISTORTION	Ref. +4 dBm Output @ Unity Gain
THD + Noise	0.0016% (20 Hz to 20 kHz BW)
SMPTE IMD*	0.0021%
Transient IMD	0.0031% (3.15 kHz SQ + 15 kHz Probe,30 kHz)
CROSSTALK	Channel to Channel** -80 dB (20 Hz to 20 kHz)
AUDIO INPUTS	
Type	Electronically Balanced (RF Suppressed)
Connectors	Female, 3-Pin, XLR–Type
Input Impedance	80 K Ohms
Input Sensitivity	Nominal +4 dBu, Maximum +24 dBu
AUDIO OUTPUTS	
Type	Electronically Balanced (RF Suppressed)
Connectors	Male, 3-Pin, XLR–Type
Source Impedance	150 Ohms (75 Ohms/Side)
Recommended Load Impedance	600 Ohms or Greater
Maximum Output Level	Ref. 1 kHz @ Rated THD
Terminated w/600 Ohms	+24 dBm (All Outputs Driven Simultaneously)
Unterminated	+26 dBu
TRIM POT GAIN RANGE	Ref. +4 dBm, Output @ Unity Gain (±15 dB)
SAFETY LISTING	UL (1419)
MAINS POWER	
Power Requirements	100 to 125 VAC or 200 to 230 VAC, 50/60 Hz
Current Requirements	13 Watts Maximum
Fuse Type	125 mA (1/8 amp) SB @ 115 VAC 65 mA (1/16 amp) SB @ 230 VAC
ENVIRONMENTAL	
Storage Temperature	-25°C to 70°C (-13°F to 158°F)
Operating Temperature	-10°C to 50°C (-14°F to 122°F)
Humidity	Less than 80% RH, Non-condensing
DIMENSIONS	Overall Dimensions 44mm H x 482mm W x 183mm D (1.72 in. H x 19 in. W x 7.18 in. D)
FINISH	Textured Black Paint
WEIGHT	Shipping: 3.8 Kg (8.5 lb.) Net: 3.1 Kg (6.9 lb.)

*SMPTE Method; 60 Hz + 7 kHz mixed 4:1.

** Input terminated w/600 ohms, unity gain, adjacent channel driven to +4 dBm output.

Specifications subject to change without notice.

OXMOOR FACTORY SERVICE

For service information contact:

Oxmoor Product Service Department
309 Cahaba Valley Parkway
Birmingham, Alabama 35124
E-mail: info@oxmoor.com

Telephone: (205) 982-8200
Toll Free: 1 (800) 262-6898
Fax: (205) 982-8250
Internet: www.oxmoor.com

Additional Installation & Operation Manuals are available from Oxmoor. Contact the Oxmoor Sales Department for pricing and other ordering information. Consult warranty statement for cautions concerning unauthorized service.

OXMOOR TWO YEAR LIMITED WARRANTY

Oxmoor warrants that each Oxmoor electronic product shall be free from defects in workmanship and materials and will, at its option, repair or replace any part of the product without charge provided the product is delivered to Oxmoor within two years of date of original purchase from or delivery by an authorized Oxmoor dealer. Excluded from this warranty are finish and appearance items and malfunction resulting from abuse, from use that is not in accordance with instructions, or operation under other than specified conditions. Also excluded are incidental or consequential damages except where precluded by applicable law. This warranty provides the customer with specific legal rights; there may also be other rights which vary from state to state.

Repair by other than Oxmoor Factory Service Department or its authorized service agency, unauthorized modification, or the removal or defacing of the serial number will void this warranty.

Products returned for factory warranty service must be prepaid and packaged in such a way as to insure safe transit and must be accompanied by a sales slip or other valid proof of purchase date.

PRIOR AUTHORIZATION FROM OXMOOR IS REQUIRED FOR RETURN. Contact Oxmoor for a Return Authorization (R.A.) Number and shipping information before returning product for service.

OXMOOR®
CORPORATION
A Limited Liability Company

Oxmoor Corporation, LLC, 309 Cahaba Valley Parkway, Birmingham, AL 35124 USA
Toll Free 1 (800) 262-6898 Telephone (205) 982-8200 Fax (205) 982-8250 E-mail info@oxmoor.com

For 24-hour access to product specs and information visit Oxmoor's complete product line on the internet at www.oxmoor.com.

Specifications and design are subject to change without notice.