

# MDA Series

MINI DISTRIBUTION AMPLIFIERS  
FOR COMPOSITE VIDEO, S-VIDEO,  
SDI SERIAL DIGITAL VIDEO,  
AND STEREO AUDIO

- 10 models for composite video, S-video, SDI, and stereo audio
- Compatible with NTSC, PAL, and SECAM video standards
- 435 MHz (-3dB) video bandwidth, fully loaded, for composite video models
- 270 MHz (-3dB) video bandwidth, fully loaded for S-video models
- 143 to 360 Mbps, cable EQ to 1,000 feet (300 meters), for SDI model
- Balanced or unbalanced audio
- Rack mountable 1U, quarter rack width metal enclosure
- Versatile mounting options
- External international power supply included



The Extron MDA Series Mini Distribution Amplifiers are a series of active signal splitters which distribute audio and video from one source to multiple destinations while keeping the integrity of the original signal. This series includes 10 models for composite video, S-video, SDI serial digital video, and stereo audio. Part of the VersaTools line, MDA Series distribution amplifiers are the ideal solution for easy integration into both new and existing A/V system designs.



## Extron® Electronics

[www.extron.com](http://www.extron.com)

# DESCRIPTION

The Extron **MDA Series** of Mini Distribution Amplifiers includes 10 models for composite video, S-video, SDI serial digital video, and stereo audio. The MDA Series video DAs are compatible with NTSC, PAL, and SECAM video signals, and allow for cable runs up to 150 feet with analog video, and up to 1000 feet with SDI digital video signals. Audio-capable MDA models feature captive screw or RCA connectors for balanced/unbalanced or unbalanced, line level stereo audio signals.

Part of the VersaTools® line of economical, compact products, MDA Series distribution amplifiers are rack or under-desk mountable and include an external international power supply. Their small size makes them an ideal solution for easy integration into both new and existing A/V systems including boardrooms, training facilities, home theater, command and control centers, and rental and staging environments.

## Composite Video Models

### Unique Features

- 435 MHz (-3 dB) video bandwidth, fully loaded
- Accepts and distributes composite video on BNC connectors
- AV model supports balanced/unbalanced audio on captive screw connectors



MDA 3V Dual

Model	Version Description	Part Number
MDA 3V	1x3 Composite Video .....	60-439-01
MDA 3V Dual	Dual 1x3 Composite Video .....	60-439-10
MDA 3AV	1x3 Composite w/Stereo Audio...	60-439-20
MDA 5V	1x5 Composite Video .....	60-439-20

## S-Video Models

### Unique Features

- 270 MHz (-3 dB) video bandwidth, fully loaded.
- Accepts and distributes S-video on 4-pin mini-DIN connectors.
- AV model supports balanced/unbalanced audio on captive screw connectors



MDA 3 SVA

Model	Version Description	Part Number
MDA 3SV	1x3 S-Video .....	60-444-01
MDA 3SVA	1x3 S-Video w/Stereo Audio .....	60-444-20
MDA 5SV	1x5 S-Video .....	60-447-01

## Stereo Audio Models

### Unique Features

- Available with either RCA connectors for unbalanced audio or captive-screw connectors for balanced/unbalanced audio.
- Captive screw model has selectable output gain via DIP switch.



MDA 5A RCA

Model	Version Description	Part Number
MDA 3A	1x3 Stereo Audio .....	60-440-01
MDA 5A RCA	1x5 Stereo Audio on RCAs .....	60-439-10

## SDI Models

### Unique Features

- Accepts SMPTE 259M Serial Digital Video
- Recognizes NTSC, PAL, component 4:2:2, and widescreen 4:2:2 digital video standards
- Automatic cable equalization typically equalizes greater than 1,000 feet (300 meters) at 270 Mbps



MDA 4V SDI

Model	Version Description	Part Number
MDA 4V SDI	1x4 SDI - Serial Digital .....	60-448-01

**VIDEO**

Gain ..... Unity  
 Bandwidth  
 MDA 3V/3AV/3V Dual, MDA 5V ..... 435 MHz (-3 dB)  
 MDA 3SV/3SVA, MDA 5SV ..... 270 MHz (-3 dB)

**VIDEO INPUT**

Number/signal type  
 MDA 3SV/3SVA, MDA 5SV ..... 1 S-video  
 MDA 3V/3AV, MDA 5V ..... 1 composite video  
 MDA 3V Dual ..... 2 composite video  
 Connectors  
 MDA 3SV/3SVA, MDA 5SV ..... (1) 4-pin mini DIN female  
 MDA 3V/3AV, MDA 5V ..... 1 BNC female  
 MDA 3V Dual ..... 2 BNC female  
 Nominal level ..... 1 Vp-p for Y of S-video and for composite video  
 0.3 Vp-p for C of S-video  
 Minimum/maximum levels ..... 0.4 V to 2.0 Vp-p for composite video or Y of S-video with no offset  
 Impedance ..... 75 ohms  
 Return loss  
 MDA 3SV/3SVA, MDA 5SV ..... <-25 dB @ 0 to 10 MHz  
 All other models ..... <-27 dB @ 5 MHz  
 DC offset (max. allowable) ..... <0.2 V  
 Input coupling ..... AC

**VIDEO OUTPUT**

Number/signal type  
 MDA 3SV/3SVA ..... 3 buffered S-video  
 MDA 5SV ..... 6 S-video: 5 buffered for distribution, 1 passive loop-through  
 MDA 3V/3AV ..... 3 buffered composite video  
 MDA 3V Dual ..... 2 x 3 buffered composite video  
 MDA 5V ..... 6 composite video: 5 buffered for distribution, 1 passive loop-through  
 Connectors  
 MDA 3SV/3SVA ..... (3) 4-pin mini DIN female  
 MDA 5SV ..... (6) 4-pin mini DIN female  
 MDA 3V/3AV ..... 3 BNC female  
 MDA 3V Dual ..... 6 BNC female  
 MDA 5V ..... 6 BNC female  
 Nominal level ..... 1 Vp-p for Y of S-video and for composite video  
 0.3 Vp-p for C of S-video  
 Minimum/maximum levels ..... 0.4 V to 2.0 Vp-p, follows input  
 Impedance ..... 75 ohms  
 Return loss ..... <-30 dB @ 5 MHz  
 DC offset ..... ±50 mV with input at 0 offset

**SYNC**

Standards ..... NTSC 3.58, NTSC 4.43, PAL, SECAM

**AUDIO – MDA 3AV, MDA 3SVA, MDA 3A, MDA 5A RCA**

Gain

DIP Switch Setting	Output Wiring	
	Unbalanced	Balanced
Balanced	0 dB	-6 dB
Unbalanced	+6 dB	0 dB

**AUDIO – MDA 3AV, MDA 3SVA, MDA 3A, MDA 5A RCA**

Frequency response ..... 20 Hz to 20 kHz, ±0.05 dB  
 THD + Noise ..... 0.03% @ 1 kHz at nominal level  
 S/N  
 MDA 5A RCA ..... >90 dB, unbalanced, at maximum output  
 All other models w/audio ..... >90 dB, balanced at maximum output  
 Stereo channel separation ..... >80 dB @ 1 kHz; >60 dB @ 20 kHz  
 CMRR ..... >75 dB @ 20 Hz to 20 kHz

**AUDIO INPUT – MDA 3AV, MDA 3SVA, MDA 3A, MDA 5A RCA**

Number/signal type  
 MDA 5A RCA ..... 1 stereo unbalanced  
 MDA 3AV, MDA 3SVA, MDA 3A ..... 1 stereo balanced/unbalanced

Connectors  
 MDA 5A RCA ..... 2 RCA connectors  
 MDA 3AV, MDA 3SVA, MDA 3A ..... (1) 3.5 mm captive screw connector, 5 pole  
 Impedance  
 MDA 5A RCA ..... >10k ohms unbalanced, DC coupled  
 MDA 3AV, MDA 3SVA, MDA 3A ..... >50k ohms unbalanced, >25k ohms balanced, DC coupled  
 Nominal level ..... +4 dBu (1.23V), 0 dBu (0.775 V), -10 dBV (316 mV), -20 dBV (100 mV) compatible

Maximum level  
 MDA 5A RCA ..... +17 dBu (unbalanced) at 1%THD+N  
 All other models w/audio ..... +24 dBu (balanced) at 1%THD+N  
**NOTE:** 0 dBu = 0.775 Vrms, 0 dBV = 1 Vrms, 0 dBV ≈ 2 dBu

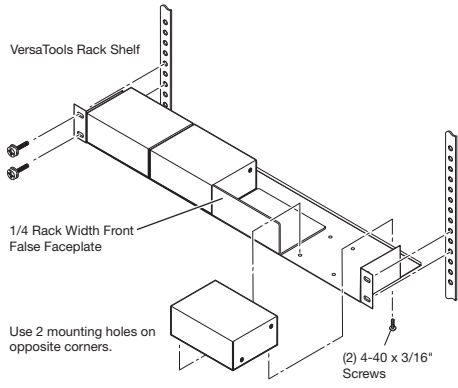
**AUDIO OUTPUT – MDA 3AV, MDA 3SVA, MDA 3A, MDA 5A RCA**

Number/signal type  
 MDA 5A RCA ..... 5 stereo, unbalanced  
 MDA 3AV, MDA 3SVA, MDA 3A ..... 3 stereo, balanced/unbalanced  
 Connectors  
 MDA 5A RCA ..... 10 RCA connectors  
 MDA 3AV, MDA 3SVA, MDA 3A ..... (3) 3.5 mm captive screw connectors, 5 pole  
 Impedance  
 MDA 5A RCA ..... 50 ohms unbalanced  
 MDA 3AV, MDA 3SVA, MDA 3A ..... 50 ohms unbalanced, 100 ohms balanced  
 Gain error ..... ±0.1 dB channel to channel  
 Maximum level (Hi-Z)  
 MDA 5A RCA ..... +15 dBV, unbalanced, at 1%THD+N  
 All other models w/audio ..... >+24 dBu, balanced at 1%THD+N  
 Maximum level (600 ohm)  
 MDA 5A RCA ..... >+14 dBm, unbalanced, at 1%THD+N  
 All other models w/audio ..... >+15 dBm, balanced or unbalanced, at 1%THD+N

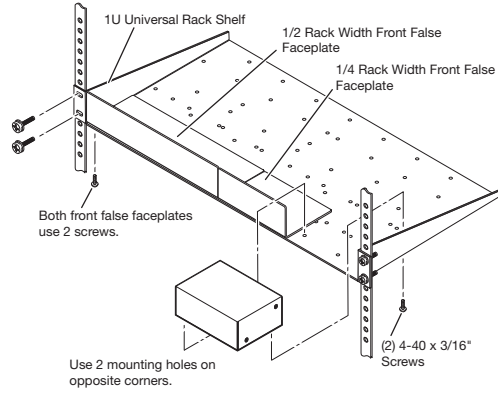
**GENERAL**

External power supply ..... 100 VAC to 240 VAC, 50/60 Hz, 5 watts, external, autoswitchable; to 12 VDC, 1 A (max.), regulated  
 Power input requirements  
 MDA 3V/3SV/5V/5SV ..... 12 VDC, 0.1 A (max.)  
 MDA 3AV/3SVA ..... 12 VDC, 0.3 A (max.)  
 All other models ..... 12 VDC, 0.2 A (max.)  
 Temperature/humidity ..... Storage: -40 to +158 °F (-40 to +70 °C) / 10% to 90%, noncondensing  
 Operating: +32 to +122 °F (0 to +50 °C) / 10% to 90%, noncondensing  
 Rack mount ..... Yes, with optional 1U rack shelf, part #60-190-01, or 60-604-01; or the VersaTools® rack shelf, part #60-190-20, or 60-604-20  
 Also furniture mountable with optional under desk mount kit, #70-212-01  
 Enclosure type ..... Metal  
 Enclosure dimensions ..... 1.7" H x 4.3" W x 3.0" D (1U high, quarter rack wide)  
 4.2 cm H x 11.0 cm W x 7.6 cm D (Depth excludes connectors.)  
 Product weight  
 MDA 3V, MDA 3SVA ..... 0.4 lbs (0.2 kg)  
 MDA 3V Dual ..... 0.7 lbs (0.3 kg)  
 MDA 3AV ..... 0.6 lbs (0.3 kg)  
 MDA 5V, MDA 5SV ..... 0.5 lbs (0.2 kg)  
 MDA 3SV ..... 0.4 lbs (0.2 kg)  
 MDA 3A ..... 0.5 lbs (0.2 kg)  
 MDA 3A, MDA 5A RCA ..... 0.4 lbs (0.2 kg)  
 Shipping weight  
 MDA 3V, MDA 3V Dual ..... 3 lbs (2 kg)  
 MDA 3AV, MDA 5V ..... 3 lbs (2 kg)  
 MDA 3SV ..... 2 lbs (1 kg)  
 MDA 3SVA, MDA 5SV ..... 2 lbs (1 kg)  
 MDA 3A, MDA 5A RCA ..... 2 lbs (1 kg)  
 Vibration ..... ISTA 1A in carton (International Safe Transit Association)  
 Listings ..... UL, CUL  
 Compliances ..... CE, FCC Class A, VCCI, AS/NZS, ICES  
 MTBF ..... 30,000 hours  
 Warranty ..... 3 years parts and labor  
**NOTE:** All nominal levels are at ±10%.

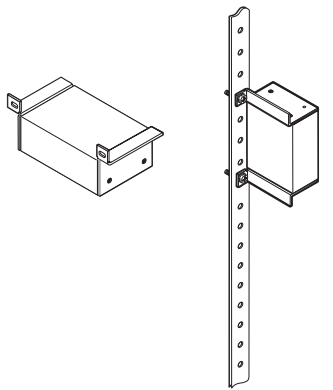
# MOUNTING OPTIONS



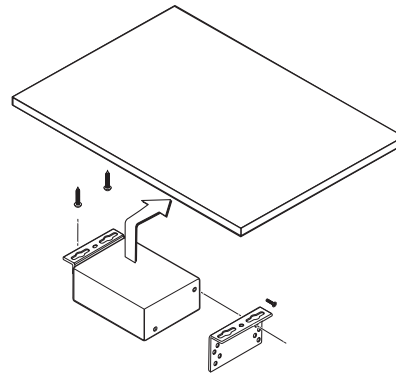
VersaTools Rack Shelf



1U Universal Rack Shelf

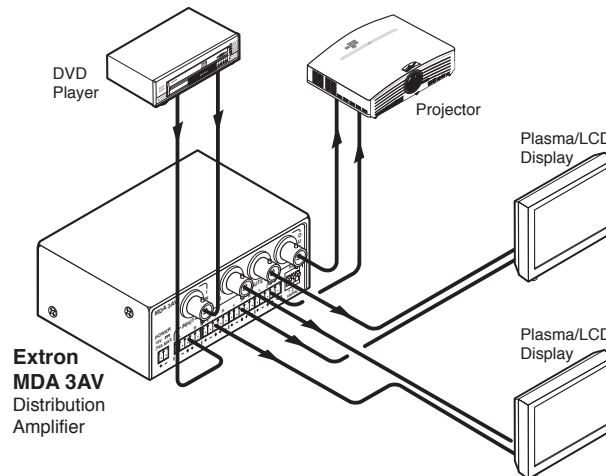


MBB 100  
VersaTools Back of Rack Mounting Kit



MBU 123  
VersaTools Mini Under-Desk Mount Kit

# APPLICATION DIAGRAM



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