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# MPA Series

## AUDIO POWER AMPLIFIERS



MPA 152 Plus



MPA 401-70V



MPA 401-100V

- ▶ Compact ENERGY STAR® qualified amplifiers
- ▶ Three models in low and high impedance configurations
- ▶ MPA 152 Plus:
  - 2 x 15 watts @ 4 ohms;
  - 2 x 8 watts @ 8 ohms
- ▶ MPA 401:
  - 40 watts @ 70 volts or 100 volts
- ▶ Extron Patented CDRS™ - Class D Ripple Suppression
- ▶ Bass, treble, and input level controls
- ▶ UL 2043 plenum rated
- ▶ Balanced and unbalanced buffered audio inputs
- ▶ Convection cooled, fanless operation
- ▶ Auto power-down with fast power-up
- ▶ Automatic clip limiter
- ▶ Remote volume and mute control capability

The Extron MPA Series are compact, ENERGY STAR qualified, integrated mini power amplifiers featuring an Extron exclusive, highly efficient, advanced Class D amplifier design with patented CDRS - Class D Ripple Suppression technology that provides an improvement in signal fidelity over conventional Class D amplifier designs. These amplifiers are designed for low or high impedance speaker systems, and are ideal for enhancing the audio capabilities of classrooms and other applications.



**Extron® Electronics**  
INTERFACING, SWITCHING AND CONTROL

## DESCRIPTION

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The Extron **MPA Series** are ENERGY STAR qualified amplifiers with an Extron exclusive, highly efficient, advanced Class D amplifier design. They also feature patented CDRS - Class D Ripple Suppression technology that provides a smooth, clean audio waveform and an improvement in signal fidelity over conventional Class D amplifiers. These quarter rack width, convection cooled amplifiers feature a UL 2043, plenum rated design that meets UL requirements for in-the-ceiling installations. To simplify integration, three individually buffered inputs are available so three separate sources can be connected without altering performance. The Extron exclusive, high efficiency design generates very little heat and allows the amplifiers to be fanless and operate in environments with little or no ventilation.

### MPA 152 Plus

#### Stereo Power Amplifier - 15 Watts Per Channel

The MPA 152 Plus delivers 15 watts rms per channel into 4 ohms and 8 watts rms into 8 ohms. It is optimized for driving four 8 ohm ceiling speakers, two in parallel per channel.

The MPA 152 Plus features a 90 dB signal-to-noise ratio with 0.1% THD+N. It also features a maximum input level of +12 dBu for balanced signals and +9 dBV for unbalanced signals.

### MPA 401

#### Mono Power Amplifier - 40 Watts

The MPA 401 delivers 40 watts rms for high impedance 70 volt or 100 volt speaker systems in voice reinforcement and distributed audio applications.

#### Energy Efficient Amplifiers with Auto Power-Down

The MPA 152 Plus and MPA 401 ENERGY STAR qualified amplifiers are energy efficient products that conserve energy and reduce costs. With an auto power-down feature that automatically places the amplifiers into standby after 25 minutes of inactivity, they consume 8 watts or less when idle and less than 1 watt in standby mode. This feature can be defeated in the MPA 152 Plus to allow for 24/7 operation in critical applications.

All MPA Series amplifiers accept balanced and unbalanced stereo input signals. The front panel includes controls for bass, treble, and input level. The MPA 152 Plus includes a switch for stereo or dual mono operation. The MPA 401 combines incoming stereo left and right channels into a single mono output. Each amplifier in the series features remote control capability for volume adjustment and muting. An advanced, automatic clip limiter protects speakers from clipping distortion.

## FEATURES

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- ▶ **MPA 152 Plus: 15 watts rms per channel into 4 ohms, 8 watts rms per channel into 8 ohms**
- ▶ **MPA 401: 40 watts rms output for 70 volt or 100 volt systems**
- ▶ **ENERGY STAR qualified amplifiers** – The MPA 152 Plus and MPA 401 are ENERGY STAR qualified amplifiers and energy efficient products that conserve energy and reduce costs.
- ▶ **Extron Patented CDRS - Class D Ripple Suppression** – CDRS is an Extron Patented technology that provides a smooth, clean audio waveform and an improvement in signal fidelity over conventional Class D amplifier designs. CDRS eliminates the high frequency switching ripple characteristic of Class D amplifiers, a source of RF emissions which can interfere with sensitive AV equipment such as wireless microphones.
- ▶ **Bass, treble, and input level controls**
- ▶ **UL 2043 plenum rated** – The MPA Series meets UL 2043 for smoke and heat release for installation within a plenum airspace above a drop ceiling – power supply excluded. Above-the-ceiling placement conceals the amplifiers to prevent theft, and is convenient for installing equipment when space inside the room is limited.
- ▶ **Balanced and unbalanced buffered audio inputs** – Accepts balanced or unbalanced audio input signals on a captive screw connector, and unbalanced audio on both RCA connectors and a 3.5 mm stereo mini jack. The three inputs are individually buffered, and can be connected to three separate sources at the same time without altering performance.
- ▶ **Convection cooled, fanless operation** – The MPA Series does not require internal fans or vents for cooling, ensuring quiet, reliable operation. These amplifiers generate substantially less heat than conventional power amplifiers, making them ideal for rack-mount applications.
- ▶ **Auto power-down with fast power-up** – The MPA Series meets ENERGY STAR qualification requirements with an auto power-down feature that automatically places the amplifiers into standby after 25 minutes of inactivity, dramatically reducing power consumption. They quickly return to full power status in less than one second upon signal detection. This auto power-down feature can be defeated in the MPA 152 Plus to allow for 24/7 operation.
- ▶ **Automatic clip limiter** – Detects actual onset of clipping by comparing input and output waveforms. Gain is automatically reduced with a slow attack and fast release to eliminate clipping. This advanced limiter design protects speakers from clipping distortion.
- ▶ **Remote volume and mute control port** – In basic installations without control systems, this port allows the MPA Series to be remotely controlled using the optional Extron VCM 100 or VCM 200 analog volume and mute controller or VC 50 analog volume controller.
- ▶ **Rack-mountable 1U, quarter rack width metal enclosure**
- ▶ **Energy-efficient external universal power supply included**

# SPECIFICATIONS

## MPA 152 Plus - Stereo Power Amplifier

AUDIO INPUT		
Number/signal type	1 stereo, balanced/unbalanced input 2 stereo, unbalanced inputs (The three inputs are individually buffered and summed together.)	
Connectors	(1) 3.5 mm captive screw connector, 5 pole (main input) (1) 3.5 mm mini audio jack (tip, ring, sleeve) 1 pair female RCA	
Maximum level	RCA and TRS inputs +9 dBV (unbalanced) at 1% THD+N Captive screw input +12 dBu (balanced) at 1% THD+N	
AUDIO OUTPUT		
Number/signal type	1 stereo or 2 mono (2 channels total)	
Connectors	(1) 5 mm captive screw connector, 4 pole	
Load impedance	4 ohms, minimum	
Amplifier type	Class D	
Output power	8 watts rms per channel, 8 ohms, 1 kHz, 1% THD 15 watts rms per channel, 4 ohms, 1 kHz, 1% THD	
Frequency response	20 Hz to 20 kHz, +1/-3 dB @ 8 ohms	
THD + Noise	<0.1% -3dB below clipping @ 1 kHz, 8 ohm load	
S/N	90 dB, 20 Hz to 20 kHz, unweighted	
GENERAL		
Power supply	External Input: 100-240 VAC, 50-60 Hz Output: 12 VDC, 2 A, 24 watts	
Power consumption	Typical (1/8 power) Device 7.3 watts, 4 ohm load Device and power supply 8.5 watts, 4 ohm load Quiescent Device 3.1 watts Device and power supply 3.8 watts Standby Device and power supply <1 watt (triggered after 25 minutes [±5 minutes] with no signal)	
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	
Mounting	Rack mount Yes, with optional 1U rack shelf or back of rack mounting kit Furniture mount Yes, with optional mini under desk mounting kit Pole mount Yes, with optional pole mounting kit	
Enclosure type	Metal	
Enclosure dimensions	1.7" H x 4.3" W x 3.0" D (1U high, quarter rack wide) (4.3 cm H x 10.9 cm W x 7.6 cm D) (Depth excludes connectors.)	
Product weight	0.6 lbs (0.3 kg)	
Shipping weight	3 lbs (2 kg)	
Vibration	ISTA 1A in carton (International Safe Transit Association)	
Regulatory compliance	Safety CE, c-UL, UL UL rated for use in plenum airspaces: meets UL 2043 for heat and smoke release, excluding the power supply; meets UL 60065 for safety. EMI/EMC CE, C-tick, FCC Class B, ICES, VCCI Environmental Complies with the appropriate requirements of CEC, ENERGY STAR® (ENERGY STAR qualified amplifier), EU code of conduct, RoHS, WEEE	
Warranty	3 years parts and labor	
Model	Version Description	Part number
MPA 152 Plus	Stereo Amp - 15 Watts/Ch	60-844-03

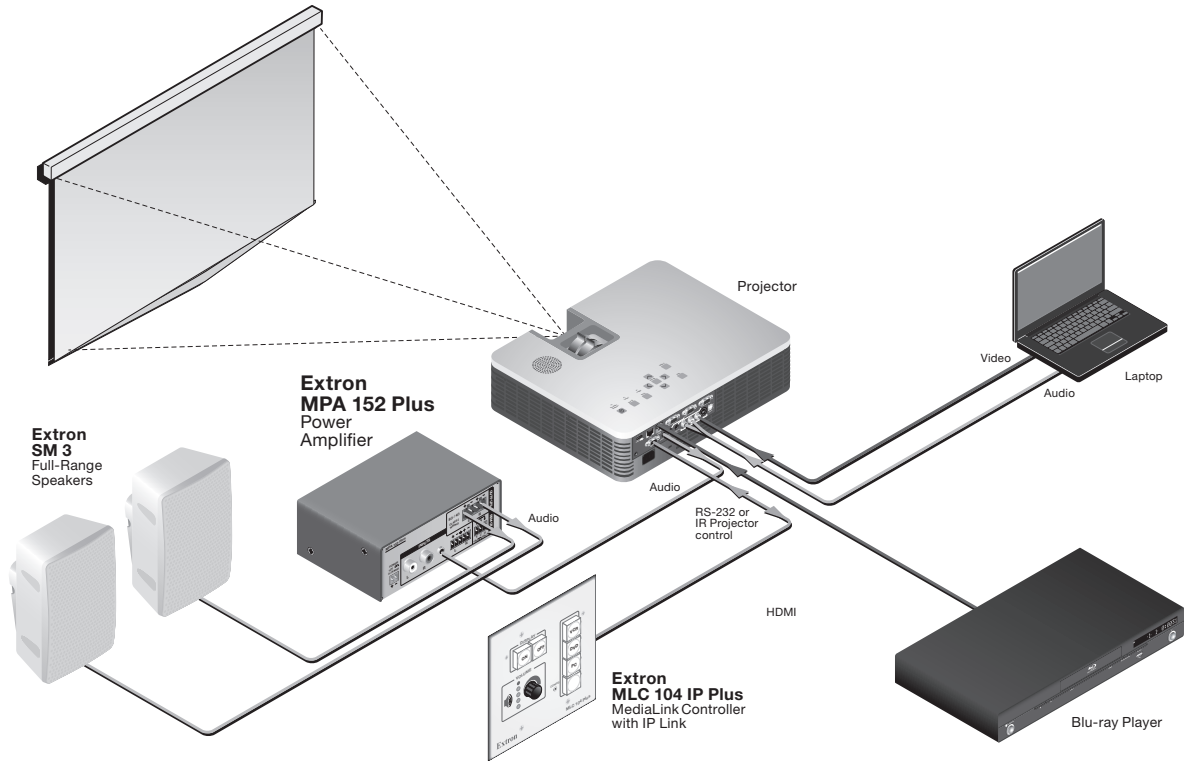
## MPA 401 - Mono Power Amplifier

AUDIO INPUT		
Number/signal type	1 stereo/mono, balanced/unbalanced input 2 stereo/mono, unbalanced inputs (The three inputs are individually buffered and mixed together. Stereo signals are actively summed into a mono signal.)	
Connectors	(1) 3.5 mm captive screw connector, 5 pole (main input) (1) 3.5 mm mini audio jack (tip, ring, sleeve) 1 pair RCA	
AUDIO OUTPUT		
Number/signal type	MPA 401-70V 1 single channel (mono) 70 V MPA 401-100V 1 single channel (mono) 100 V	
Connectors	(1) 5 mm screw lock captive screw connector, 2 pole	
Load impedance	MPA 401-70V 125 ohms minimum MPA 401-100V 250 ohms minimum	
Frequency response	80 Hz to 20 kHz, +1 dB/-3 dB, 1 watt	
THD + Noise	<0.2% @ 1 kHz at 3 dB below clipping	
S/N	>75 dB, 20 Hz to 20 kHz, unweighted	
Amplifier type	Class D	
Output power	MPA 401-70V 40 watts (rms), 70 V, 1 kHz, 1% THD MPA 401-100V 40 watts (rms), 100 V, 1 kHz, 1% THD	
GENERAL		
Power	External Input: 100-240 VAC, 50-60 Hz Output: 12 VDC, 3 A, 36 watts	
Power consumption	Typical (1/8 power), MPA 401-70V Device 11.0 watts, 125 ohm load Device and power supply 13.9 watts, 125 ohm load Typical (1/8 power), MPA 401-100V Device 12.3 watts, 250 ohm load Device and power supply 15.3 watts, 250 ohm load Quiescent, MPA 401-70V Device 4.6 watts Device and power supply 7.1 watts Quiescent, MPA 401-100V Device 5.9 watts Device and power supply 8.4 watts Standby <1 watt (triggered after 25 minutes [±5 minutes] with no signal)	
Enclosure dimensions	1.7" H x 4.3" W x 6.0" D (1U high, quarter rack wide) (4.3 cm H x 10.9 cm W x 15.2 cm D) (Depth excludes connectors.)	
Product weight	0.6 lbs (0.3 kg)	
Shipping weight	3 lbs (2 kg)	
Regulatory compliance	Safety UL rated for use in plenum airspaces: meets UL 2043 for heat and smoke release, excluding the power supply; meets UL 60065 and IEC 60065 for A/V equipment safety. MPA 401-70V CCC, CE, c-UL, UL MPA 401-100V CE, c-UL, UL EMI/EMC CE, C-tick, FCC Class B, ICES Class B, VCCI Environmental Complies with the appropriate requirements of CEC, ENERGY STAR® (ENERGY STAR® qualified amplifier), EU code of conduct, RoHS, WEEE	
Warranty	3 years parts and labor	
Model	Version Description	Part number
MPA 401-70V	70 V Mono Power Amp - 40 Watts	60-845-01
MPA 401-100V	100 V Mono Power Amp - 40 Watts	60-845-11

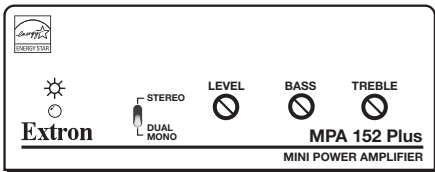
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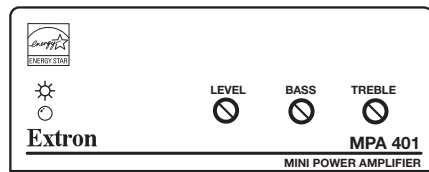
# APPLICATION DIAGRAM



# PANEL DRAWINGS



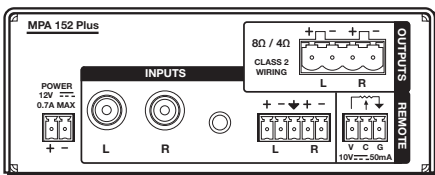
MPA 152 Plus - Front



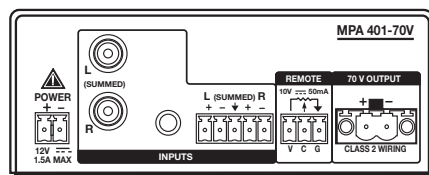
MPA 401- 70V - Front



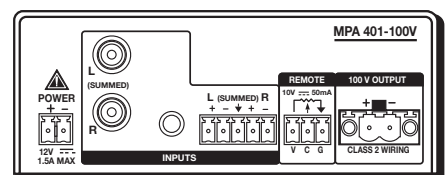
MPA 401- 100V - Front



MPA 152 Plus - Back



MPA 401-70V - Back



MPA 401-100V - Back

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