

JBL

JBL Professional



MPX SERIES POWER AMPS

**MPX SERIES.
THE PERFECT
COMPLEMENT
FOR WORKING
PROFESSIONALS.**



MPX1200

- 1600 Watts/CH into 2 Ohms
- 1200 Watts/CH into 4 Ohms
- 3200 Watts Bridged-Mono into 4 Ohms
- This model can easily power any of our SR Series™, Architectural Series™ or Array Series™ systems. A superb choice for subwoofer systems.



MPX600

- 850 Watts/CH into 2 Ohms
- 600 Watts/CH into 4 Ohms
- 1700 Watts Bridged-Mono into 4 Ohms
- An ideal choice for powering our 4 Ohm SR Series™ rated at 600 Watts or MR Series™ loudspeaker systems.



MPX300

- 450 Watts/CH into 2 Ohms
- 300 Watts/CH into 4 Ohms
- 900 Watts Bridged-Mono into 4 Ohms
- Ideal for powering smaller loudspeaker systems or as the power source for mid and high frequency components in bi- or tri-amped systems.

After decades of creating the best possible loudspeaker components and systems for the professional audio industry, JBL is proud to offer the MPX Series of professional power amplifiers. Night after night, concert after concert, you know you can depend on JBL speakers. Now, with the MPX line, JBL makes it possible to afford the same level of performance and reliability in the rest of your professional sound system.

The MPX Series starts with a design platform that has endured years of road use with proven reliability. The patented Grounded Collector® design enhances power transistor cooling by eliminating the need for transistor insulating wafers — the deterioration of which is one of the primary causes of amplifier failure.

Starting with this design, we added important performance features, enabling you get the most from your sound system:

- **Oversized heat sinks and extra large high volume fans** keep the MPX amps cool in even the highest ambient temperature environments.
- **Low noise design** ensures quiet operation.
- **A variety of input connectors**, including a versatile removable barrier strip, makes hookup and installation quick, easy, and secure.
- **Transducer excursion protection circuitry** keeps speakers working reliably night after night.
- **Power levels and high dynamic headroom** match the requirements of your professional JBL loudspeaker system.

In short, JBL's MPX amplifiers are the perfect complement for your high performance professional sound system.

RUNNING COOL

MPX amplifiers endure the ongoing punishment of continual operation, even in high ambient temperature environments. Multi-step power supplies in the larger models run more efficiently than conventional amplifiers, generating less heat. Oversized heat sinks provide extra surface area for cooling. Large high volume fans quietly blow up to 3.6 cubic feet of air every second directly onto the heatsinks, resulting in highly efficient 'turbulent' cooling. Multiple speeds allow the fans to run slowly when cooling is not needed, increasing speed automatically as extra cooling is required.

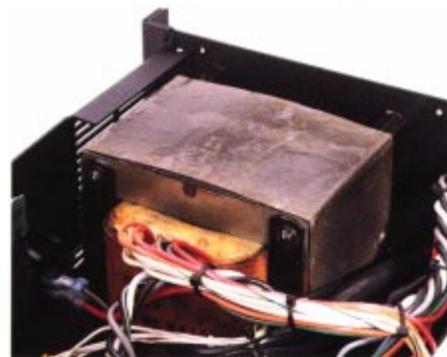


Oversized heatsinks and powerful multiple-speed cooling fans increase reliability and maintain stable, consistent performance. This outstanding cooling capability allows MPX Series to deliver power continuously in high ambient temperature environments or into low impedance loads longer than most other amplifiers.

The result, MPX amps run longer *continuously* than most other power amplifiers on the market today, without interrupting your performance by going into thermal limiting or protection mode.

QUIET OPERATION

High quality double flux-banding of the power transformers reduces external magnetic field radiation, which can, in other power amplifiers, induce audible hum into associated equipment and



High quality double flux-banded power transformers reduce noise levels and magnetic field radiation which can generate hum in associated equipment and cabling.

cabling. In addition, the latest technology components are incorporated throughout the design to ensure extremely low noise generation from all MPX Series power amplifiers.

CONNECTOR VERSATILITY

MPX Series connections are extremely versatile. On the input panel, you have a choice of balanced or unbalanced XLR, 1/4 inch TRS jacks or a barrier strip. The barrier strip provides a high measure of connection reliability, yet is removable, making it possible to make all hard-wire connections on a workbench rather than behind a dark cramped equipment rack. The barrier strip's grounding jumpers allow you to configure the amp's grounds to accommodate most large system grounding schemes.



In addition to balanced or unbalanced XLR and 1/4 inch TRS phone jack connectors, we also provide a barrier strip which is removable, making it possible to make all hard-wire connections on a workbench rather than behind a dark cramped equipment rack.

High quality output connectors accept dual banana plugs as well as bare wire up to 8 gauge. For additional reliability and safety, the bare wire ends are securely contained in enclosed compartments at the base of the banana jacks where they cannot contact each other, the amp chassis, any stray wires from the amp rack . . . or your fingers.

Easy-to-read graphics on the back panel give instructions for configuring and connecting your amplifier.

PROTECTION FOR YOUR LOUSPEAKERS

MPX Series amplifiers provide the protection of a steep 30 Hz high-pass filter that keeps inaudible, but damaging, infrasonic (also called subsonic) frequencies from reaching your loudspeakers. Today's vented speaker systems can be damaged by signals below their resonant port tunings, which are typically around 30 Hz or 40 Hz. These low frequencies can cause excursion (cone travel) beyond the loudspeaker's safe capability. Because these infrasonic signals can be induced into your system *anywhere* along the signal path, filtering incorporated in line level equipment does not protect from signals induced later in the chain. The MPX Series provides the safety of filtering these potentially damaging signals just before they get amplified and sent to your loudspeakers.

The high-pass filter may be defeated for applications such as driving digital cinema subwoofers, where energy below 30 Hz is required, and where the speakers are specifically designed to safely accept this spectral content.

Other loudspeaker protection features include relays to protect against DC offset and a muting circuit to eliminate turn-on surges when powering up. In addition, the largest model, the MPX1200, provides clip limiting.

MPX Series incorporate professional amplifier self-protection features, including full protection for short circuit, open circuit, ultrasonic and RF conditions, as well as current limiting and thermal muting.

STABLE WITH ANY LOAD

You never know what load you're going to have to drive on any particular night. Maybe one night some of your equipment racks don't show up at the venue . . . or you find you have to add a few extra speakers to cover an odd-shaped room. Perhaps a speaker cable develops an intermittent short that could cause other amplifiers to fail. With your MPX amplifier, you can drive into any impedance load, *even below 2 ohms*, safely and reliably.

Whether you use an amplifier from JBL or from another company, we highly recommend operating nominal load impedances of 4 ohms or higher to obtain optimum performance from your sound system. Unrelated to the

capabilities of the power amp itself, sound systems utilizing very low load impedances incur greater line losses through the speaker cabling, higher distortion, and deteriorated speaker damping ("flubby" lows).

While it's not a good idea to run low impedances, it's comforting to know that your MPX amp can take it if you ever find yourself in a situation where you have to occasionally run a low impedance load. To help out in these situations, the extra cooling capability means MPX's will run longer continuously into low impedances before overheating than most other amplifiers.

AGENCY APPROVALS FOR SAFETY AND PERFORMANCE

As a measure of safety you will be pleased to know that MPX Series amplifiers are UL listed as well as approved by the CSA and TUV safety agencies.

An added plus, MPX amplifiers are approved by Lucasfilm Ltd.[®] for use in THX[®] cinema system installations*. This approval ensures that the product has met or exceeded stringent performance and power output requirements, as determined by the experts at Lucasfilm[®].



POWER TO SPARE

MPX Series power amplifiers deliver *continuous* power capability that accurately matches the power handling capabilities of most JBL professional loudspeaker systems. In addition, MPX Series amplifiers feature a high *dynamic headroom* capability of nearly 3 dB, for clear and powerful transients. This reduces the incidence of amp clipping, which is the most frequent cause of compression driver failure.

THE RIGHT AMPS FOR WORKING PROFESSIONALS

The MPX Series power amplifiers include the features that working professionals need most, so you get the best performance from your professional sound system. As a working professional, your amplifiers must meet the challenges of today's demanding audio environment . . . MPX Series fits the bill.

* THX is a registered trademark of Lucasfilm, Ltd.

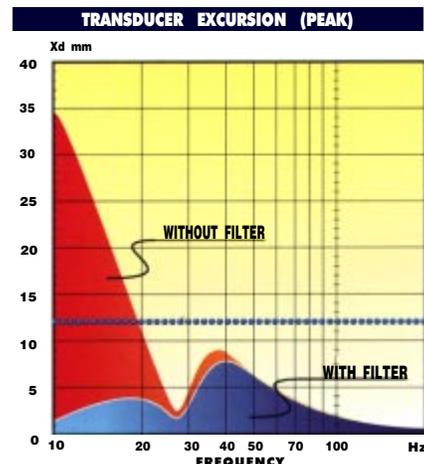


FIGURE 1
TRANSDUCER EXCURSION

This illustration explains the protective action of the 30Hz, 18 dB per octave high-pass filter which, when engaged, effectively limits low frequency transducer cone excursion to within a safe range. The dotted line indicates a damage threshold based on cone travel (excursion). Note how easily this threshold can be reached and exceeded at infrasonic (subsonic) frequencies with no filter protection. With the filter engaged, you have substantially greater protection from cone "over excursion" at these frequencies.

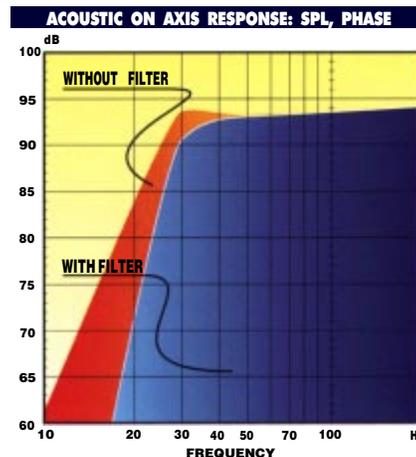


FIGURE 2
ACOUSTIC ON-AXIS RESPONSE

With the filter engaged, low frequency response is smoothly contoured to deliver balanced output while eliminating only the unusable and potentially dangerous infrasonic energy.

SPECIFICATIONS

MPX300

MPX600

MPX1200

NOMINAL RATED OUTPUT POWER ¹:

2 ohm load/channel:

450 W

850 W

1600 W

4 ohm load/channel:

300 W

600 W

1200 W

8 ohm load/channel:

200 W

400 W

800 W

4 ohm bridge:

900 W

1700 W

3200 W

8 ohm bridge:

600 W

1200 W

2400 W

TYPICAL MIDRANGE OUTPUT POWER ²:

2 ohm load:

500 W

880 W

1640 W

4 ohm load:

360 W

700 W

1340 W

DISTORTION @ RATED POWER :

1 kHz, 8 ohm load (typical):

0.004%

0.015%

0.020%

1 kHz, 4 ohm load (typical):

0.007%

0.030%

0.025%

20 Hz - 20 kHz, 8 ohm load:

0.15%

0.15%

0.15%

20 Hz - 20 kHz, 4 ohm load:

0.2%

0.2%

0.2%

Frequency Response:

20 Hz to 20 kHz, \pm 0.15 dB

Damping Factor:

Greater than 200 at 8 ohms

Dynamic Headroom:

2.5 dB at 4 ohms

Noise:

100 dB below rated output (20 Hz to 20 kHz)

Sensitivity:

1 V rms for rated power (8 ohms)

Input Impedance:

10 K ohms unbalanced, 20 K ohms balanced

CONTROLS :

Front Panel:

AC switch, Ch 1 & Ch 2 Gain (detents @ 0 dB, -2 dB, -4 dB, -6 dB, -8 dB, -10 dB, -12 dB, -14 dB, -18 dB, -24 dB, ∞),
Ch 1 & Ch 2 High Pass Filter switches

Rear Panel:

Slide switch for Stereo, Dual Mono (paralleled inputs) or Bridged Mono input and output configurations

INDICATORS (EACH CHANNEL) :

Power:

Green LED

Signal Present:

Green LED

Clip:

Red LED

Protect:

Red LED

CONNECTORS (EACH CHANNEL) :

Input:

XL-type 3 pin (pin 2 high)/6.3 mm (1/4 in) TRS combination connector and
removable barrier strip with separate chassis ground terminal

Output:

Binding Posts, touch resistant, accepts dual banana plugs and up to #8 AWG bare wire

Cooling:

Rear-To-Front Airflow (all models)

MPX1200:

Continuously variable speed fan

MPX600:

Two-speed fan

MPX300:

Two-speed fan

Amplifier Protection:

Full short circuit, open circuit, ultrasonic and RF protection, current limiting, thermal muting; stable into reactive or
mismatched loads. MPX1200 additionally has thermal/clip limiting

Load Protection:

On/off muting, DC fault load grounding relay with internal fault fuses. MPX1200 additionally has clip limiting

Output Circuit Type:

Complementary linear, high efficiency outputs

MPX1200:

3 step

MPX600:

2 step

MPX300:

No step

Power Requirements:

100 V, 120 V, 220 V, or 230 V AC, 50-60 Hz (not user configurable)

Dimensions (HxWxD):

133 x 483 x 408 mm (rack depth 404 mm) 5.25 x 19 x 16.1 in (rack depth 15.9 in)

Net Weight:

18.7 kg (41 lbs)

21.5 kg (47 lbs)

29.5 kg (65 lbs)

Shipping Weight:

22.3 kg (49 lbs)

25.1 kg (55 lbs)

33.1 kg (73 lbs)

Agency Approvals:

UL, CSA, TUV and approved by Lucasfilm for THX® system installations

Supplied Accessories:

Gain control locking plugs

Optional Accessories:

MP-RRB1 (Rear Rack Ear Brackets, set of two)

¹ Both channels driven 20 Hz - 20 kHz, 120 V 60 Hz mains.

² Typical 1 kHz @ 1% THD, 120 V 60 Hz mains.

MPX SERIES POWER AMPS



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CAT MPX
CRP 15M 5/97

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