



MASTERS

# M22 V2 STEREO POWER AMPLIFIER



## The Pinnacle of Perfection.

### Introducing the M22 V2 Stereo Power Amplifier

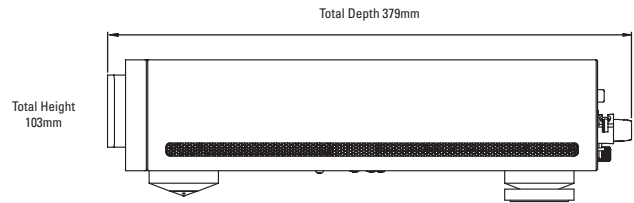
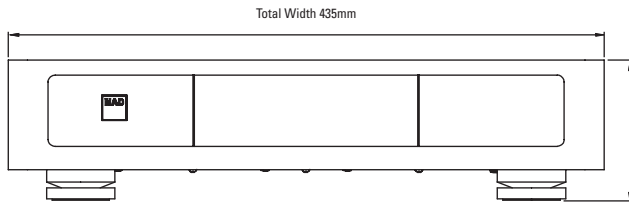
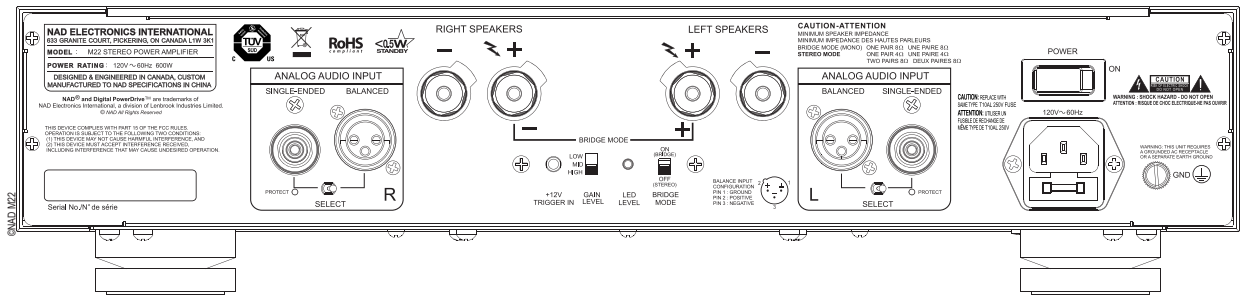
Connect to the emotion of live performance through detailed sound with amazing control and transparency. This is the M22 V2. It is easy to find amplifiers that can excel in one or two areas, but the M22 V2 is truly an amplifier that does everything well. Wide open-loop bandwidth, extremely low-phase shift, almost non-existent noise, harmonic and intermodulation distortion independent of load (load invariant), high current capability, low output impedance (high damping factor) uniformly at all audible frequencies—it all adds up to incredible performance. You just have to hear it to feel it.

### Hybrid Digital Amplification

The M22 V2 is using the latest nCore™ amplifier technology licensed from Hypex to provide a nearly ideal amplifier with distortion below measurement, ultra-high damping factor, and unconditional stability with any speaker. Tight, detailed sound with amazing control and transparency gets the best performance available. With nCore, Hypex has refined their UcD concept to new levels of perfection by improving the modulator for more accurate feedback subtraction and PWM generation. The all-discrete driver and output stage have also been improved for lower open-loop THD as well as lower idling losses, normally conflicting requirements with conventional IC driver circuitry. An added control loop incorporating an integrator with adaptive clipping enables 20dB more feedback to be used across the audio band because of its extremely low-phase shift resulting in a dramatic reduction in distortion across the audio band. This is added to UcD's already amazing characteristics of load invariance and high current capability, common characteristics of great-sounding amplifiers.

### FEATURES & DETAILS

- Power increases 20% from 250 Watts X 2 to 300 Watts X 2
- Redesigned power supply enables the increase in power
- PowerDrive circuit is fine tuned to maximize dynamic power.
- Bridging mode transforms M22 V2 into a 900W mono amplifier
- nCore™ technology by Hypex delivers near ideal amplifier performance
- 3 position auto turn-on sensitivity switch allows for improved system matching



## Effortless Power

Employing the latest generation of digital PowerDrive™, the M22 V2 offers a minimum of 300W per channel with amazing reserves of dynamic power at lower impedances. The M22 V2 is capable of >400W dynamic power per channel even in 8 ohms, >700W in 4 Ohms, and 1,000W in 2 ohms. Need more power? Select Bridge Mode and the M22 V2 offers 950W at 8 Ohms in Mono. It can effortlessly power any loudspeaker to live performance levels with amazing efficiency and low power consumption. Control for PowerDrive is derived by sensing the average output power, applying a time constant, and then cleanly hard clipping the signal thus limiting it to the rated continuous clipping power over a sustained loading. By controlling the power envelope maximum clean power is obtained for every operating condition.

## Perfecting Performance

The output stage is only one of several circuits in the amplifier, and each must complement the other to obtain optimal performance. The amp is DC coupled throughout, from input to output, there is no capacitor in the forward signal path. Yet, it has a beneficial 12dB/octave roll-off below 2Hz. It does this using a unique circuit topology that is functionally a forward servo. It is however not a servo in the traditional sense as it does not measure DC at the output and send back a correction signal. Instead part of the input signal is fed to a side chain with a second order low-pass filter. The output of this is subtracted from the forward signal input to the second stage thus rejecting DC.

## Clean and Dynamic

The performance of the entire signal path is critically dependent on the power supply; in this case a well regulated, but not too tight, custom switch mode design. This allows maximum dynamic power, very high current yet with very low distortion. Secondary supplies are individually regulated and decoupled at each opamp for lowest possible noise and maximum dynamic range.

# Specifications M22 V2

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## AUDIO SPECIFICATIONS

Continuous output power into 8 ohms and 4 ohms (Stereo mode)	300 W (20 Hz-20 kHz at 0.1% THD, both channels driven)
Continuous output power into 8 ohms (Bridge mode)	900 W (20 Hz – 20 kHz at 0.1% THD)
THD+N (20 Hz – 20 kHz, CCIF IMD, SMPTE IMD, DIM 100)	<0.005 % (250 mW to 290W, 8 ohms and 4 ohms) Note: Measured with Audio Precision AUX-0025 or Prism dS-LPF passive low pass filter
Signal-to-Noise Ratio	>100 dB (A-weighted, ref. 1 W in 8 ohms) >120 dB (A-weighted, ref. 300W in 8 ohms)
Clipping power (Stereo mode, at 1 kHz 8 ohms 0.1 % THD)	>300 W
Clipping power (Bridge mode, at 1 kHz 8 ohms 0.1 % THD)	>950 W
IHF dynamic power (Stereo mode, at 1 kHz 1 % THD)	8 ohms: 400 W 4 ohms: 700 W 2 ohms: 1000 W
Damping factor	>800 (ref. 8 ohms)
Frequency response	±0.1 dB (20 Hz - 20 kHz)
Input sensitivity (for 300W in 8 ohms)	1.73 V
Gain level	Low: 19 dB Medium: 24 dB High: 29 dB
Minimum input level for Auto Trigger	5 mV at 1 kHz
Standby power	<0.5 W

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## DIMENSION AND WEIGHT

Gross dimensions (W x H x D)	435 x 103 x 379 mm 17 1/8 x 4 1/16 x 14 15/16 inches
Net Weight	8.9 kg (19.6 lbs)
Shipping Weight	15 kg (33.1 lbs)

\* Gross dimensions include feet, extended buttons and rear panel terminals. \*\* Non-metric measurements are approximate. NAD Electronics will not assume any liability for errors being made by retailers, custom installers, cabinet makers, or other end users based on information contained in this document. Note: Installers should allow a minimum clearance of 55mm for wire/cable management.



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