

Appendix B: Technical Info

M-Series Specifications

	M•2000	M•3000	M•4000
Continuous Average Output Power in watts, both channels driven 20 Hz-20 kHz into 8 ohms per channel	325	475	650
20 Hz-20 kHz into 4 ohms per channel	525	800	1050
40 Hz-20 kHz into 2 ohms per channel	800	1200	1600
Bridge Mono: 20 Hz-20 kHz into 8 ohms	1050	1600	2100
Bridge Mono: 40 Hz-20 kHz into 4 ohms	1600	2400	3200
Maximum Output Power in watts, both channels driven 1 kHz @ 1% THD into 8 ohms per channel	400	600	800
1 kHz @ 1% THD into 4 ohms per channel	650	1000	1300
1 kHz @ 1% THD into 2 ohms per channel	1000	1500	2000
Bridge Mono: 1 kHz @ 1% THD into 8 ohms	1300	2000	2600
Bridge Mono: 1 kHz @ 1% THD into 4 ohms	2000	3000	4000

Note: Power ratings are specified at 120VAC (U.S. and Canada) and 240VAC (Export) line voltages.

The M-Series power amplifiers draw large amounts of current from the AC line with continuous sine wave testing. Accurate measurement of power requires a steady and stable AC supply. This means the line impedance must be very low to insure that the peak AC line voltage does not sag to less than 97% of its value.

If driving highly reactive loads, we recommend that the limiter circuit be engaged.

Power Bandwidth (rated power into 4 ohms):

20 Hz to 20 kHz
(Output power typically -3 dB at 50 kHz. Amplifier protection circuits typically mute the output signal above 40 kHz at full power.)

Frequency Response (1 watt into 8 ohms):

< 10 Hz to 55 kHz (+0, -3 dB)

Distortion:

THD, SMPTE IMD
 < 0.05% @ 8Ω
 < 0.10% @ 4Ω
 < 0.20% @ 2Ω

Signal-to-Noise Ratio:

> 107 dB below rated power into 4 ohms

Channel Separation:

> 80 dB @ 1 kHz

Damping Factor:

> 500 (8 ohms @ 400 Hz)

Input Impedance:

24 kΩ balanced
12 kΩ balanced

Input Sensitivity:

1.23 volts (+4 dBu) for rated power into 4 ohms

Gain:

M•2000 31.4 dB (37.3 V/V)
 M•3000 33.3 dB (46.0 V/V)
 M•4000 34.4 dB (52.7 V/V)

Maximum Input Level:

9.75 volts (+22 dBu)

Rise Time (8 ohms):

< 6 μs

Slew Rate:

M•2000

Voltage Slew Rate 50V/μs
 Current Slew Rate 25A/μs at 2Ω
 H-Switch Slew Rate 10-50V/μs (program dependent)

M•3000

Voltage Slew Rate 55V/μs
 Current Slew Rate 27.5A/μs at 2Ω
 H-Switch Slew Rate 16-70V/μs (program dependent)

M•4000

Voltage Slew Rate 60V/μs
 Current Slew Rate 30A/μs at 2Ω
 H-Switch Slew Rate 16-70V/μs (program dependent)

CMRR:

> 34 dB, 20Hz to 20kHz

Load Angle:

8(±jx) time independent at 8Ω
 4(±jx) time dependent, T > 6 min. at 4Ω
 2(1±jx) time dependent, T > 2 min. at 2Ω

Transient Recovery:

< 1μs for 10 dB overdrive @ 1kHz

Maximum Output Offset Voltage:

±50 mV

High Frequency Overload and Latching:

No latch up at any frequency or level.

High Frequency Stability:

Unconditionally stable driving any resistive or reactive load.

Turn On Delay:

3 seconds

High-Pass Filter:

150 Hz, 2nd-Order Butterworth

Low-Pass Filter:

150 Hz, 2nd-Order Butterworth

Limiter Section:

Complementary Positive and Negative Peak Detecting

Indicators:

Power ON LED (in power switch)

6 meter LEDs per channel

SIG (Signal Present), -20, -9, -6, -3, OL (Overload)

CH 1 & 2

PROTECT LEDs, SHORT LEDs, OVER TEMP LEDs

AC Line Power:

U.S./Canada 120VAC, 60Hz

Europe 240VAC, 50Hz

(Factory configured)

AC Drop-out Voltage:

At approximately 65% of rated line voltage

Physical:

M•2000

Height	3.5 in/88 mm
Width	19.0 in/483 mm
Depth	15.7 in/398 mm
Overall Depth	17.1 in/435 mm
Weight	41 lb/18.6 kg

M•3000

Height	3.5 in/88 mm
Width	19.0 in/483 mm
Depth	18.1 in/460 mm
Overall Depth	19.5 in/497 mm
Weight	48 lb/21.8 kg

M•4000

Height	3.5 in/88 mm
Width	19.0 in/483 mm
Depth	18.1 in/460 mm
Overall Depth	19.5 in/497 mm
Weight	53 lb/24.0 kg

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M-Series Dimensions

