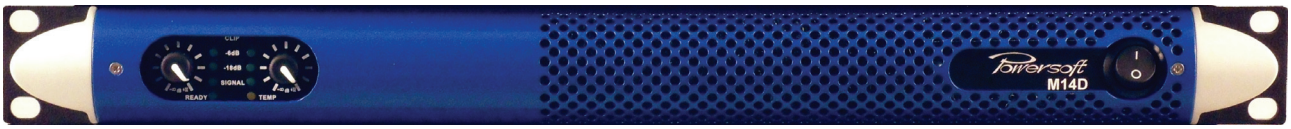
M14D

High Efficiency 2 Channels Amplifier for Professional Applications

PRELIMINARY



PRODUCT DESCRIPTION

The Powersoft M14D is a professional power amplifier designed to meet the most stringent requirements of professional users in sound reinforcement and professional fixed installations.

Designed by Powersoft R&D team the M14D is exclusively built in Italy with internal components selected for premium quality and proven durability.

Each modular subassembly is pre-tested, and the assembled M14D receives a rigorous test for total quality control.

Powersoft bridgeable switch mode fixed frequency class D patented outputs provide high quality sound, outstanding damping factor and cooler circuits for stable performances over time and longer amplifier life.

Optional plug-in DSP externally programmable with 2 inputs and 3 outputs.

Optional TU4 one rack unit 4 channel transformer output module for constant voltage used.

The Powersoft M14D is CE approved, CSA and CCC pending.

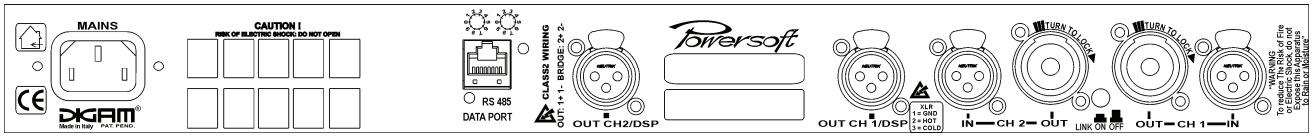
M14D FEATURES

- Switch mode power supply with 115/230V selectable range and up to 290V tolerant
- Fixed frequency switch mode output
- Patented output filter with ripple cancellation network
- Comprehensive front panel indicators
- Neutrik© XLR balanced inputs with loop thru XLR and Speakon© outputs connectors
- Fully protected circuit design with:
  - AC protection: shut down power supply when AC mains voltage is outside operating range
  - Clip limiter: prevents severely clipped waveforms from reaching loudspeakers, while still maintaining full peak power output
  - DC protection: protects against infrasonic signal at the outputs
  - VHF protections: protects the loudspeakers against non audible, strong, non musical very high frequency signals
  - Short circuit protection: protects the amplifier from short circuit or other stressful events for the output circuits with automatic protection reset
  - Thermal protection: when output devices reach 75°C (167°F) amplifier shut down outputs, they will unmute automatically when temperature will reach 65°C (149°F)
  - Long term limiter: protects the loudspeaker against steady long term rms (non audio) signals reducing maximum output.
- Temperature controlled continuous variable speed fan, front to back airflow
- Optional plug-in DSP with 24bit/48KHz AD/DA converters, 26 bit inner processing; 2 inputs, 3 outputs; 7 biquad (general Butterworth, Bessel, peaking, shelving, arbitrary IIR) filters per channel for HPF, LPF and system equalization; dual dynamic processor per channel, with arbitrary input/output curve and adjustable time constants; mixed balanced output for subwoofer drive with 12/24dB oct programmable slope and cut-off; 0 – 3.7ms variable delay per channel for speaker alignment; 105 dBA in/out (analog to analog) signal to noise ratio; 1.5 ms processing delay time.
- Recessed stepped attenuators
- Detachable AC mains cable with IEC 16A socket
- Modular construction
- Full three years warranty

POWER SPECIFICATIONS	8 Ω Stereo	4 Ω Stereo	2 Ω Stereo	8 Ω Bridged	4 Ω Bridged
EIAJ test, 1 kHz, 1% THD	2 x 360 W	2 x 700 W	NA	1 x 1400 W	NA

M14D Datasheet

PRELIMINARY



General Specifications

Power requirements	AC 115/230V (+15/-25%) internally switchable, 50/60 Hz, 290V tolerant
Idle power	36W (0,33A @ 230V / 0,66A @ 115V)
Consumption	262 VA, 1,14A @ 230V, 2,28A @ 115V (1/8 max output power @ 4 Ohm) 481 VA, 2,09A @ 230V, 4,18A @ 115V (1/4 max output power @ 4 Ohm)
Thermal emission (1/8 power @ 4 Ω)	268 BTU/Hour
Thermal emission (1/4 power @ 4 Ω)	417 BTU/Hour
Cooling	Temperature controlled continuous variable speed fan, front to rear airflow
Environmental operating temperature	0°-45° C (32°-113° F)
Construction	1 mm (0,04 in) steel chassis, 3 mm (0,12 in) steel front panel, 3 mm (0,12 in) screw hole protection, 3 mm (0,12 in) steel side reinforcement & rear support, 3 mm (0,12 in) steel removable dust cover
External dimensions	1 standard rack unit, 358mm deep (14,1 in)
Net Weight-Shipping Weight	7,4 Kg (16,3 Lbs) – 8,9 Kg (19,6 Lbs)

Front & Rear Panel Specifications

Input connectors	Balanced Neutrik© XLR with positive on pin 2+, loop thru on XLR connectors that can be assigned with deep switches as DSP subwoofer outputs
Output connectors	Neutrik© Speakon© NL4MD (1+1- stereo, 2+2- bridge)
Power switch	Front panel push on/push off mains power switch
LED indicators	Green for signal (-24dBV) for each channel, white for amplifier ready and yellow for amplifier thermal protection, 3 led meter (2 green, 1 red) per channel output meter
Attenuators	One per channel from –∞ to 0 (-∞, 4, 14, 18, 24, 22, 24, 26, 28, 30, 32 dB) stepped attenuators
Power connector	IEC 16A on rear panel with cable retention system
Power cable	IEC16A/Schuko for EU, IEC16A/American 15A 3 pin plug
Link switch	Rear panel link switch to connect input channel 1 to input channel 2

Audio Specifications

Input impedance	10 KΩ, balanced	**Slew Rate @ 8 Ω**	40V/µs input filter bypassed
Input sensitivity @ 8Ω	1,34 V / 4,76 dBu	**Damping factor**	>5000 @ 100 Hz
Gain	32dB / X40	**THD+N**	<0,5% from 0,1W to full power (typically <0,05%)
Frequency response	5Hz-30KHz (+/-3dB) for 1W @ 8Ω	**SMPTE IMD**	<0,5% from 0,1W to full power (typically <0,05%)
S/N ratio	> 113 dB/A (20-20K Hz A weighted)	**DIM100 IMD**	<0,02% from 0,1W to full power (typically <0,005%)
Crosstalk	>70 dB @ 1 KHz	**Max Output Voltage**	85 V peak

Powersoft reserves the right to make improvements in manufacturing or design which may affect product specifications.

Powersoft S.r.l.
Via Enrico Conti, 5 Scandicci (FI) – Italy
TEL: +39 055 7350230
FAX: +39 055 7356235
sales-audio@powersoft.it