

PC7M 3000
PC7M 6800

POWERED PROCESSORS

Montarbo
Made in Italy



PLM3000 and PLM6800 are innovative “powered loudspeaker controllers”, combining state of the art and versatile DSP loudspeaker management systems with Class-D power amplifiers.

- A/D and D/A Sigma-Delta conversion is carried out with 24-bit quantization in order to maintain the highest audio quality, while a powerful 56-bit DSP provides all the functions of crossover, limiting, delay and equalization for the 4 output channels.
- Large LCD displays permit to verify all the system's functions, whilst the intuitive control panels allow the selection of the operating preset and the direct control of gain, level, delay and mute of the 4 outputs.
- Complete programmability of the controller functions.
- Intelligent wiring
- 3 separate switched-mode power supplies (one for the DSP controller section and one for each pair of power amplifiers) with power-factor correction, can operate on mains voltages from 85 to 270 V ac (50/60 Hz).
- The power amps are fitted with a full suite of protection circuits to safeguard the amps as well as the connected speaker enclosures.
- Laser-etched front panels, built from aluminum and stainless steel, which will stand forever against scratches and abrasions and road-ready constructions



PLM3000 is designed for use in a wide range of applications ensuring simplified system wiring, high reliability and safety of use.

It is the combination of a versatile DSP loudspeaker controller with 4 Class-D power amplifiers, each delivering up to **750 W @ 4 ohm**. The DSP controller provides control and routing of the **4 inputs** to the 4 power amplifiers, and is programmed to offer all the signal processing functions needed for the installation, configuration and supervision of any type of loudspeaker system, from PalcoPlus line-array systems to simple one way or multi-way passive systems, with or without a subwoofer.

The **RACon44™** software program, supplied with the optional LD2.4 USB interface, allows for remote control, with a PC, of a network of up to 24 PLM3000 grouped in 'racks' of up to 8 units. The factory default presets may be modified and new custom presets may be 'built', thanks to the complete programmability of the controller's functions: in > out routing, input gain, noise gate, parametric equalizer, large delay, multiple X-over, filterLab, limiter, precision delay, output volume & phase). Some of these functions may be modified even for the factory default presets, whilst other may be even adjusted by operating directly on the unit's front panel's controls and large alpha-numeric display.

An example of the PLM3000 flexibility: with a single units it is possible to drive 4 passive 4-ohm stage monitors (Wide12P4, Wide15P4) with independent adjustment of their frequency response, whilst easily controlling the stage resonances, with no need of external processors.

“Intelligent wiring”: the rear panel's four balanced line output (XLR3) may be set by the user to operate either as inputs' links or as processor's outputs, thus simplifying the wiring in case of mixed systems, built with PLM3000s and 'traditional', unprocessed amplifiers.

The input-output routing function enables to configure the system as: 4 in – 4 out; 2 in – 4 out (1>2 + 1>2 or 1>3 + 1>1); 1 in – 4 out.

Two RJ45 connectors provide RS485FD serial interfaces for network control using the RACon44™ software.

PLM3000

Slew Rate (8 ohm)	50 V/μs (input filter disabled)
S/R ratio (amplifier + processor)	>100 dB (un-weighted)
Distortion	<0.5% (THD, DIM, SMPTE)
Inputs	Balanced
Input impedance	10 kohm
Gain	32 dB (with controller's inputs set to 'flat' and input gain set to 0dB)
Efficiency (4 ohm load)	75% (typical)
Bandwidth (4 ohm)	10 Hz ÷ 24 kHz
Damping factor (20 Hz – 1000 Hz)	> 500
Power EIAJ – all channels operating, each channel (at 1kHz, 1% THD)	4 ohm 750 W 8 ohm 370 W
Size	2 standard 19" rack units, depth 455 mm
Weight	9.0 kg

Power requirement: 230 V ac (50/60 Hz) – 13.5 A Max

Protection systems:

- Thermal protection
- Outputs short circuit and overload
- Peak limiter and HF protection.



POWERED PROCESSOR

PLM6800

PLM6800 combines a versatile DSP loudspeaker management controller with 4 Class-D power amplifiers, each one delivering up to **1700 W @ 4 ohm**, whilst guaranteeing a very high efficiency.

The DSP controller (2 inputs / 4 outputs), that drives the internal power amplifiers, provides all the signal processing functions required for the management, configuration and installation of any type of speaker system, ranging from complex PalcoPlus line-arrays to simple one-way or two-way passive systems, even in combination with a subwoofer.

The RACon™ software program, supplied with the optional LD2.4 USB interface, allows for remote control, with a PC, of a network of up to 8 PLM6800. The factory default presets may be modified and new custom presets may be 'built' thanks to the complete programmability of the controller's functions.

An 'intelligent wiring' system provides input and output routing and connector switching (both line in/out and power out) according to the operating configuration selected in the processor. The rear panel is fitted with 6 Speakon® output connectors (two 8-pole and four 4-pole), allowing for rapid cabling of the PalcoPlus components, and also permitting the connection of four full-range or one-way cabinets. This multiple output wiring, is made quite safe by the DSP section, which uses internal relays to connect only the correct contacts of the connectors appropriate to the selected preset, disconnecting the unnecessary and otherwise potentially dangerous connections.

This same 'intelligent wiring' concept is applied to the four XLR3 line output connectors. These outputs can be set to operate as input links or as processed outputs, thereby facilitating the wiring of multiple systems, and systems combining the PLM6800 with traditional, unprocessed amplifiers.

Two RJ45 connectors provide RS485FD serial interfaces for network control using the RACon™ software.

PLM6800

Slew Rate (8 ohm)	30 V/μs (input filter bypassed)
S/R ratio (amplifier + processor)	>100 dB (unweighted)
Distortion	<0.5% (THD, DIM, SMPTE)
Inputs	Balanced to ground
Input impedance	10 kohm
Total gain	38 dB
Efficiency (4 ohm load)	75% (typical)
Power factor	better than 0.95
Output type	Unbalanced to ground
Bandwidth (4 ohms)	5 Hz ÷ 25 kHz
Damping factor (20 Hz - 1000 Hz)	> 200
Power EIAJ, all channels driven, (1 kHz, 1% THD)	4 ohm 1500 W / 2000 W** 8 ohm 1100 W
Size	2U 19" rack x D 526 mm
Weight	11.5 kg

**Peak Power 10 ms
Power supply: 85 ÷ 270 V ac (50/60 Hz) – 25A Max

Protection suite:

- Thermal protection (over-temperature power limiting, thermal shutdown).
- Short-circuit / overload output protection.
- Clip limiter, permanent signal limiter, high frequency protection.
- Mains overvoltage tolerance up to 400 V ac.

LD24

USB INTERFACE



This compact, USB-powered interface allows to control and monitor up to 24 PLM3000 and up to 8 PLM6800, using a single USB port of the controlling computer. Data connection is provided by a single RJ45 connector - a single CAT5 cable is run up to 100 m to the first system and further systems are connected in series. The network connection between the LD2.4 and the systems is through a standard RS485FD physical interface using Montarbo's proprietary protocol.

LD24

Dimensions:	W 73 x H 45 x D 22 mm
Interfaces:	1 x USB-B 1 x RJ45
Maximum network cable length:	100 m (CAT5)
Maximum network size:	24 x PLM3000 or 8 x PLM6800

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