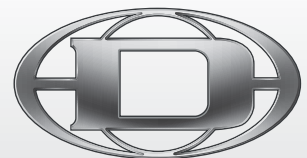




# PM 502

POWER MIXER

Mobile Audio | Concert Sound | Fixed Installation | Pro Entertainment



**DYNACORD**  
GERMAN ENGINEERING EXCELLENCE



PM 502  
POWER MIXER



■ **This innovative product comes in a very modern and user-friendly design. It combines finest analogue input circuitry and operating surface with the advantages of its digital master and amplifier section, making for a new dimension of flexibility in its class. The acoustical performance meets everything that you have come to expect from a quality Dynacord product.**

The PM 502 is an extremely versatile tool for a multitude of install and live applications. The input structure of the PM 502, along with the entire feature package and connectivity, positions this mixer at the heart of many installations ranging from bistros, small clubs, lounges, boutiques, hotel bars and lobbies to churches, mosques and a wide range of similar applications. The onboard MP3-Player on the front, allows the user to easily play pre-recorded music from a USB stick or a hard drive. Further it will be the ideal choice for entertainers, DJ's and small bands looking for a compact and light-weight solution for live applications or rehearsal venues. The digital USB interface also allows for basic recording.

#### KEY FEATURES

- 5 low noise / high gain MIC / LINE channels
- 3 Stereo Channels (Jack, RCA, USB)
- Switchable 48V phantom power
- Onboard MP3-Media-Player (USB Type B at the front)
- Onboard HQ 48bit Effects Section with 32 editable Presets (PowerMate Algorithms)
- All Master outs featuring individual 7 band graphic EQ
- Onboard 2 x 450W RMS / 2 x 600W Program (4Ohm) Class-D power amplifier
- Switchable to 100V (mono) operation including Low-Cut

IF NEEDED, THE PM 502 CAN BE SWITCHED TO OPERATE AS A “100V DIRECT DRIVE” DEVICE ALLOWING DIRECT CONNECTION TO 100V LOUDSPEAKER LINES.



#### INPUT SECTION

The Input section includes 5 MIC/Line channels providing high gain at low noise. For the use of condenser microphones, 48V phantom power can be switched on at the back of the unit. These channels feature easy to operate gain control, 3-band EQ, Effects-Send, AUX-Send, Peak-LED and level control. For these five inputs, there is a microphone processing function that is accessed in the Master Section.

It provides an editable Compressor / Limiter function in order to compensate for varying user microphone techniques. A variable low-cut can be set in the menu. The Talk-Over function applies a ducking facility for the microphone channels over background / foreground music from the Stereo channels. This function can be edited in the user menu and personalized for announcements, moderation or dance instructions. It can also be used to bring the lead vocals to the front of the mix. The Mute button mutes all of the microphone inputs. These controls affect all microphone inputs, globally.

In addition, the PM 502 offers 3 Stereo Channels. All of these channels feature jack socket inputs with 2 x Stereo RCA and USB (Type A+B) inputs in parallel. They are equipped with a gain adjustment switch, 3-band EQ, Effects-send, AUX-send, Peak-LED and volume control.





### MASTER SECTION

The digital Master section offers a wide variety of output busses for a product positioned in this category: Stereo Master A, Stereo Master B and AUX Master allow for up to 3 rooms or zones to have individual level control. The highly flexible routing options in the menu allow the master channels to be routed to the amplifiers as required. Each of these master outputs features a 4-segment level meter and a 7-band equalizer. The EQs for Master B and AUX are accessed in the menu while the EQ sliders on the front panel are directly linked to the Master A equalizer. In cases where it makes sense the EQs for Master B and AUX can be linked to the EQ of Master A. Master B can be switched Mono / Stereo and

routed either pre or post Master A. In addition there is a delay line (up to approx. 150 msec) in Master B allowing for time alignment in a distributed system or installations up to a 50 meter distance. The AUX-bus can either be used for monitoring or as a 3rd master mix. Last but not least, there is a headphone output (3.5mm jack) with level control.

Another highlight of the PM 502 feature-set is the onboard audio player. Connecting a USB-stick or a hard drive allows for playback of MP3 or WAV audio files. A dedicated menu is making for easy control of this player and provides additional information on tracks and play times.



THE PM502 CREATES FASCINATING WORLDS OF SOUND IN CLUBS, LOUNGES, LOBBIES, HOTEL BARS, CHURCHES AND MOSQUES.

## PLUG'N PLAY: THE AUDIO PLAYER RECOGNIZES USB DRIVES AND HARD DISKS AND PLAYS BACK MP3 AND WAV AUDIO FILES WITH VIRTUOSITY.



### EFFECTS (FX) SECTION

In the Effects (FX) section the PM 502 provides 32 Stereo effects presets based on the the legendary PowerMate. These algorithms are 48 bit double precision processed. The presets can be selected and edited via the large easy to operate backlit LC-Display.

The selection of presets includes the most popular reverb, delay, chorus and mixed effects. If desired the effect signal can also be mixed to the AUX bus. The effects section can be switched ON/OFF on the front panel or by means of an optional footswitch. Selecting the MENU opens the door for a multitude of additional settings and functions.

The user friendly system settings, routing and editing are easily adjusted via a single knob control. In the Speaker Processing menu, the user has the choice to activate the legendary LPN filter for the improvement of transient response and low frequency performance of small to medium sized loudspeaker cabinets. Depending on the room and the speakers, this filter can be set to high, medium or flat operation.

The onboard class-D Power Amplifier supplies solid 2 x 450W (RMS / 4 Ohms) respectively 2 x 600W (IHF-A/ 4 Ohms). It is also possible to directly drive 100V loudspeaker lines without adding an additional output transformer. For such applications the option "DIRECT DRIVE" can be selected in the menu as a (bridged) single channel 680W / 12 Ohms amplifier output. When selecting this operation mode the LPN filter becomes deactivated automatically and 50 or 70 Hz Low-Cut filter gets switched on in the output circuitry.

The PM 502 comes with the full legendary Dynacord protection package including short circuit-, HF-, DC-, no load-, Back-EMF- and high-temp- protection, peak- and inrush- current limiters as well as a turn-on delay for the loudspeakers. In addition the output current limiters prevent shut-off even at a low load impedance.





## CONNECTIVITY

The input and output sockets meet all the needs for live and install applications: Combi-XLR/Jack sockets for the MIC / Line channels, Jack, RCA and USB sockets for the stereo channels, Speakon or Phoenix connectors for the speaker outputs.



### RMK 502 KIT

The optional RMK 502 kit allows for easy installation into 19" racks or surface mount applications.

# Technical Specifications

## PM 502

<b>Channels (Mono + stereo)</b>	5 + 3
<b>Microphone inputs (XLR)</b>	5
<b>Auxiliars (FX, AUX)</b>	1 Post, 1 Pre
<b>Max. single channel output power, dynamic-headroom, IHF-A</b> • into 4 $\Omega$ • into 8 $\Omega$	640 W 350 W
<b>Max. dual channel output power, dynamic-headroom, IHF-A</b> • into 4 $\Omega$ • into 8 $\Omega$	2 x 600 W 2 x 340 W
<b>Max. single channel output power, continuous, 1 kHz, THD = 1%</b> • into 4 $\Omega$ • into 8 $\Omega$	500 W 280 W
<b>Maximum midband output power, 1 kHz, THD = 1%, dual channel</b> • into 4 $\Omega$ • into 8 $\Omega$	2 x 450 W 2 x 270 W
<b>Rated output power, 20–20000 Hz, THD &lt; 0.5%, one channel loaded</b> • into 4 $\Omega$ • into 8 $\Omega$	2 x 400 W 2 x 240 W
<b>Max. output power, Direct Drive mode (bridge configuration), continuous, 1 kHz, THD = 1%</b> • into 12 $\Omega$	680 W
<b>Maximum output voltage, power amplifier, 1 kHz, no load</b> • Dual channel mode • Direct Drive mode	52 V <sub>rms</sub> 100 V <sub>rms</sub>
<b>THD, at 1 kHz, MBW = 22 kHz</b> • MIC input to master A L/R outputs, +10 dBu, typical • MIC input to speaker output	< 0.015% < 0.15%
<b>DIM 30, MIC input to speaker output, 3.15 kHz, 15 kHz</b>	< 0.05%
<b>IMD-SMPTE, MIC input to speaker outputs, 60 Hz, 7 kHz</b>	< 0.15%
<b>Frequency response, -3 dB, ref. 1 kHz</b> • Any input to any Mixer output • Any input to Speaker output	15–22000 Hz 20–22000 Hz
<b>Crosstalk, 1 kHz</b> • Amplifier Ch1/Ch2 • Channel to channel	< -85 dB < -78 dB
<b>Microphone mute switch attenuation</b>	> 100 dB
<b>Channel VOL and FX/AUX-send attenuation</b>	> 85 dB
<b>CMRR, MIC input, 1 kHz</b>	> 80 dB
<b>Input Sensitivity, all level controls in max. position</b> • MIC • LINE (mono) • LINE (stereo) • CD (stereo)	-65 dBu (435 $\mu$ V) -45 dBu (4.35 mV) -27 dBu (34.6 mV) -27 dBu (34.6 mV)
<b>Maximum level, mixing desk, input VOL down, output VOL up</b> • MIC inputs, GAIN at min. position • Mono line inputs, GAIN at min. position • Stereo line inputs • PHONES outputs • MASTER A, B, AUX outputs	+11 dBu +30 dBu +26 dBu +21 dBu +11 dBu

<b>Input Impedances</b> • MIC • CD • All other inputs	2 k $\Omega$ 10 k $\Omega$ > 15 k $\Omega$
<b>Output Impedances</b> • Phones • All other outputs (impedance balanced)	47 $\Omega$ 150 $\Omega$
<b>Equivalent input noise, MIC preamp, A-weighted, max. gain, 150 <math>\Omega</math></b>	-129 dBu
<b>Noise, Channel inputs to master A L/R outputs, MBW = 22 kHz, A-weighted</b> • Master volume down • Master volume center, all channel volume down • Master volume center, all channel volume center	-99 dBu -90 dBu -85 dBu
<b>Signal/noise-ratio, power amplifier, A-weighted, 450 W, 4 <math>\Omega</math></b>	104 dB
<b>Output stage topology, amplifier</b>	Class D
<b>Equalization</b> • LO shelving • MID peaking • HI shelving	$\pm 15$ dB / 60 Hz $\pm 12$ dB / 2.4 kHz $\pm 15$ dB / 12 kHz
<b>Master EQ 7-band (63, 160, 400, 1k, 2.5k, 6k, 12k Hz)</b>	$\pm 10$ dB / Q = 1.5
<b>Filter</b> • Low cut, microphone processing (switchable) • Low cut, amplifier (engaged in 100 V Direct Drive mode) • Speaker processing	80 Hz, 18 dB/oct. or 150 Hz, 12 dB/oct. 50 Hz or 70 Hz, 18 dB/oct. LPN, switchable
<b>Delay master B, selectable</b>	0–145 ms (0–50 m)
<b>Effects</b> • Type • Effects presets • Remote control	Stereo 24/48-bit multi effects processor 32 factory presets, user editable Footswitch
<b>Display</b>	128 x 64 pixels, LCD
<b>Audio player (USB at front panel)</b> • USB mass storage class, supported file systems • Supported audio file formats • Interface • USB power supply, max. rated current (short circuit proof)	FAT 32 MP3, WAV USB2.0, female type A 5 V, 500 mA
<b>Digital Audio Interface (USB at rear panel)</b> • Channels • AD/DA conversion • Sampling rate • PC interface	2 in, 2 out 16-bit, delta-sigma 32/44.1/48 kHz USB2.0, female type B
<b>Protection</b> • MASTER A, B, AUX outputs • Amplifier  • Switching mode power supply ( $\mu$ C controlled)	Adjustable peak limiters, -10 – +11 dBu Audio limiters, high temperature, DC, HF, short circuit, peak current limiters, turn-on delay, back EMF Inrush current limiters, mains over / undervoltage, mains over current, high temperature
<b>Cooling</b>	Continuous speed controlled fan
<b>Phantom power, switchable</b>	48 V DC
<b>Power requirements (SMPS with auto range mains input)</b>	100–240 V AC, 50–60 Hz
<b>Power consumption, at 1/8 maximum output power, 4 <math>\Omega</math></b>	180 W
<b>Safety Class</b>	I
<b>Operating temperature</b>	5° to 40° C (40° to 105° F)
<b>Product dimensions (Width x Height x Depth)</b>	395 x 244 x 241 mm, Rack-mount: 483 x 223 x 310.3 mm (7 HU)
<b>Weight</b> • Net weight • Shipping weight	4.9 kg 6.4 kg

\* Device in rated condition: MIC GAIN 15 dB, STEREO GAIN LO, all channel and master controls in center position, 100 V Direct Drive mode: Off, LPN HIGH, amplifier load 8 ohms, dual channel, mains voltage 230 V/50 Hz or 120 V/60 Hz, unless otherwise specified.

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