MM-3100

Mono Mixer

MARENIUS

Three low-noise mic inputs

Balanced in & out

HPF on each input

18/48V phantom power

1kHz test tone

10 LEDs bar graph

Headphones amplifier

Heavy-duty all metal case

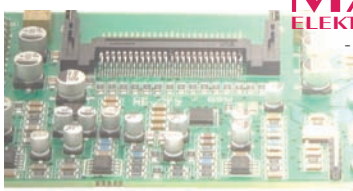
The MM-3100 is a professional Mono Mixer for portable use, made by MARENIUS.
It offers three mic input channels, PPM metering with 10 LED's, headphones amplifier, low-noise amplifiers and power supply based on two standard 9V batteries or external 12-24 VDC. All this is housed in a compact, all-metal heavy-duty case.

The front panel holds most controls for the mixer. On top of the panel are toggle switches for Power, Test Tone and Battery Test.
Here you will also find individual HPF switches for each input.
Each of the three inputs has a gain control pot that covers the entire 70 dB gain range.

On the upper part of the front panel is the PPM bar graph with 10 green and red LED's covering the range +9 to -18 dBu in 3 dB step size.
You will also find the Master pot and the Headphones pot, as well as a 1/4" socket for headphones with 32 - 2000 ohms impedance.

On the back panel you will find separate switches for adding phantom power to each input.
Here is also a switch for putting input #3 in line mode by reducing gain with 24 dB.
A switch next to the XLR output socket can be used to reduce output level by 30 dB to make the signal more suitable for sensitive inputs on connected equipment.
There are three input sockets (XLR-3F), for the inputs and one socket (XLR-3M) for the main output.

External power supply can be used for prolonged up-time or when the mixer is used in a non-portable mode.



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Visit www.marenius.com for information about other MARENIUS products.

The external power should be 24 V @ 100 mA.
When powered from internal 9V batteries, expect a total working time of 2-6 hours, depending on battery status, temperature and phantom power used.

MM-3100 comes in two versions.
The difference is the phantom voltage level.

MM-3100/18 (/S) has phantom voltage equal to the battery voltage.
MM-3100/48 has 48V phantom voltage.

An optional PortaBrace case is available.
This is specially designed for this mixer.

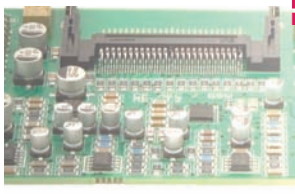
Technical Data

Input impedance	1 K ohms (mic),
	10 K ohms (line)
Input levels for 0 dB ind.	-70 dBu (mic)
	-46 dBu (line)
Input levels, max.	-16 dBu (mic)
	+8 dBu (line)
Equiv. input noise level	<-120 dBu (mic)
High pass filter	-12 dB @ 80 Hz
Output impedance	100 ohm
Output level attenuation	-30 dB
Max output level	+16 dBm
Total harm. Distortion	<0,01%
Frequency response	20 - 20 kHz (+-1,5 dB)
Current consumption	DC: 30 mA
Power supply	2 x 9 V batteries
	Ext. 12 - 24 V DC
Phantom voltage	18 V (optional 48V)
Dimensions (H x W x D)	2,3" x 5,5" x 6"
	58 x 140 x 152 mm
Weight	approx. 1 kg.
Carrying case	PortaBrace original, optional

Specifications are subject to change without notice.

Box includes:
1x MM-3100 Mono Mixer
1x User´s manual (english)

Options:
MM-PSU24 Mains Adapter
NN-CASE1 PortaBrace case



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User Instructions

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MM-3100/18 /S
MM-3100/48

Connections
The XLR plugs all connect as follows
Pin 1 = shield/ground
Pin 2 = ”hot” signal +
Pin 3 = ”cold” signal -

For an ***unbalanced microphone***, the signal lead connects to pin 2. Pin 3 shall be connected to pin 1 = return/ground.

NOTES:
Do not switch on Phantom power to an unbalanced microphone.
For unbalanced output, connect to either pin 2 or 3 in the OUTPUT XLR connector. Pin 1 is return/ground.
Do not short-circuit the remaining pin to ground (pin 1). It has to be left unused, since the output is electronically balanced.

The headphones socket is for stereo headphones only (3-pole connector), although the signal is mono.

About Output Level.....
Output level is switchable by back panel switch HIGH/LOW. In position LOW the output level is reduced by 30 dB. The MASTER level control adjusts the output level. Set to 0, the output level is 0 dBm (or -30 dBm) when the 0 dB LED is lit up. The output level can be offset from 0/-30 dBm, simply by setting the MASTER level control to the desired value (i.e. +4/-20 dBm).

The LED meter indicates the output level from the MM-3100, before output attenuation. The built-in test-tone generator level is 0 dBm. Since there is a 3 dB step between adjacent LED’s in the meter a variation of + or - 1,5 dB can make the -3 or +3 dB LED to light up when test tone is generated.

*LED meter and headphones amplifier may be connected **before** or **after** the MASTER gain control. This is selected by shifting position of jumper A/B on the p.c.b. In position A the meter and phones signals follow master gain control. In position B they will be independent from it. Depending on the market we set this jumper different.*
There is a second jumper that can enable charging of batteries in the compartment. Note that these must be re-chargeable (NiCd). Charge current is low for safety reasons.
There are also trimmers for adjusting the osc. frequency and the meter ref. level.

To change position of a jumper please follow these steps:
1. *Remove the battery compartment lid*
2. *Remove the adhesive label*
3. *Move the jumper to the other position*


NO CHARGE / CHARGE


A / B


OSC FREQ.


METER LEVEL

External Power Supply
The MM-3100 can be powered by external DC voltage.
The external DC voltage may be 12 - 24 V. Available current must be at least 80 mA. Note that performance of the MM-3100 is reduced for voltage below 16 VDC.
Connection of external DC voltage must be as follows:
Center pin = -0 V
Outer pin = +V

About batteries...
Replacing batteries is a simple operation.
- Make certain the MM-3100 is switched off prior to opening the box.
- With the MM-3100 faced upside down on a desk, pull the plate with belt clip towards the backside panel of the MM-3100. (If necessary, lift the plate slightly.)
- There are two 9 V batteries in the battery compartment. Replace them with two new 6F22 type 9V batteries, (alkaline).
- Locate the batteries in the compartment and push the belt clip plate back again. It snaps into locking position.

Depending on type of batteries, time of continuous operation, etc. the total lifetime for a pair of batteries varies between 2 and 6 hours.
The battery status can be monitored on the LED display after switching the Battery Test Switch.
If any of the LED’s is lit up the voltage is at least 7 V for each battery.
This is still a sufficient voltage for operation.
If no LED is lit during battery testing, check the level with the test tone generator activated.
If it is at the same level as when batteries are fresh, the MM-3100 will operate, but with reduced maximum levels and phantom voltage.
Note that there are differences between various batteries concerning their nominal voltage under load. Be sure to use good quality alkaline batteries.

It is possible to use rechargeable NiMH batteries in the MM-3100 battery compartment.
To charge them by external power supply (18-24 V DC) a jumper at the p.c.b. must be moved in position.
See previous text for information on how to access the p.c.b.
Charging time will be approx. 14 hrs. for standard 110 mAh batteries and 24 V DC external power supply. Charging will be in progress even if the MM-3100 is switched off.

Upgrading from 18V to 48 V Phantom Supply...
The MM-3100 is available with either 18 V or 48 V phantom supply voltage.
There is a plug-in p.c.b. inside the mixer. By replacing this p.c.b. the phantom supply voltage may be altered. Follow this procedure (make sure the power is off and the batteries are removed):
- Remove two screws in the front panel, lower side. Remove two screws in the rear panel, lower side.
- Pull off the lower half of the case. The phantom p.c.b. is positioned to the right side.
- Pull off the phantom p.c.b. and push the new p.c.b. into the same position. It will fit only one way.
- Re-assemble the unit and test phantom supply by either measuring voltage between pin 1 and 2 in any of the 3 input XLR sockets, or attach a suitable microphone and check out that it is working properly