

MM-4220

4-INPUTS STEREO MIXER AND CF RECORDER

The MM-4220T/C is a true professional stereo Mixer for portable use, made by MARENIUS.

It offers four mic/line input channels, built-in Compact Flash card recorder, PPM metering with 2 x 8 multicolored LED's, low-noise amplifiers and power supply based on re-chargeable NiMH cells for up to 8 hours use.

A highly accurate real-time clock can be synchronized to an external LTC time code.

All this is housed in a compact, all-metal heavy-duty case.

The front panel holds all controls for the mixer. On top of the panel are toggle switches for Power, Test Tone and Battery Test. 48V phantom power may be selected for 0, 2 or 4 inputs.

Each of the four channels has a gain control pot and a pan pot.

In addition there is a gain selector switch for 0, 24 or 48 dB gain. The gain pot adds up to 12 dB and the master pot adds another 12 dB for a total of 72 dB gain, input-to-output.

There is also a toggle switch for inserting a HP-filter for wind or bass cut.

On the upper part of the front panel is the PPM bar graph with 16 multicolored LED's covering the range 0 to -50 dB in optimized step size.

You will also find the Master pot and the Headphones pot, as well as a switch for selecting 48V Phantom Power for 0, 2 or 4 channels.

The CF card slot will accept 2 GB+ cards. Recordings are in uncompressed BWF (Broadcast Wave Format) on FAT32 formatted cards. BWF is an extension of the WAV format.



- 4 low-noise mic/line inputs
- CompactFlash recorder
- 24-bits @ 48 kHz format
- Re-chargeable batteries
- Heavy-duty metal case
- Compact size
- 1 kHz test tone
- 48V phantom power
- Time code sync input
- AES3-id digital output

Design, test & production
made in Sweden by

MARENIUS
ELEKTRONIKUTVECKLING AB
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AUDIODESIGN.PRO

Recordings are stereo, 16 or 24 bits @ 48 kHz, selectable in setup menu by a PC connected to the USB port, or by front panel keys.

The backside panel holds all sockets for inputs, outputs and external power supply.

There are four input sockets (XLR-3F) for the input channels and two sockets (XLR-3M) for the main outputs L and R.

A 3.5 mm stereo socket is intended for headphones, 32 - 2000 ohms impedance.

There is also an AES3-id* RCA socket output and a USB socket for configuration of the mixer.



A highly accurate real-time clock is included. This clock can be synchronized to an external LTC time code signal by a simple jamming procedure.

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

The external power should be 18 V @ 1 A.

When powered from internal accumulator, expect a total working time of 6-8 hours, depending on battery status and temperature.

A high-speed charger function is included for a charging time of about 2.5 hours.



Technical Data MM-4220T/C

Frequency range	25 Hz -22 kHz (-3 dB)
THD	<0,004% @ 1 kHz, +12 dBu
Max. gain	72 dB (48+12+12)
Signal-to-noise ratio	>94 dB@0 dB gain, A-weight
Crosstalk at full pan	<-50 dB
Equiv. input ref. noise	<-122 dBu, A-weighted @max gain
Input sockets	XLR-3F
Audio input impedance	2 K ohms (mic) 20 K ohms (line)
Audio input level	max. +12 dBu
High-pass filter	-3 dB @ 180 Hz -20 dB @ 30 Hz
Output sockets	XLR-3M
Audio output impedance	2 x 100 ohms balanced
Audio output level	max. +12 dBm (600 ohms)
Phones socket	3.5 mm 3-pole
Phones output	2.0 Vrms into 300 ohms
Phones impedance	32 - 2000 ohms
Digital output	AES3-id, 75 ohms, 1 Vp-p, S/PDIF compatible, RCA
Sampling frequency	48 kHz
A/D resolution	24 bits
A/D dynamic range	98 dB, A-weighted
D/A resolution	24 bits
D/A dynamic range	98 dB, A-weighted
File memory	Compact Flash, type I, FAT32 formatted, 2 GB - 16 GB
File type	BWF, stereo, uncompressed, 48/16 or 48/24
Recorder functions	RECORD, STOP, PLAY, FFWD, FREV, SKIPFWD, SKIPREV, PAUSE
Metering	2x8 LED's, 3 colors, PPM mode
Test tone	1000 Hz +/-0,001% @ -12 dBFS (0 dBu)
Real-time clock accuracy	+2 ppm (<1 frame / 5 hrs)
LTC jam input	USB socket pin 4
Ltc jam input signal level	300 mVp-p to 3 Vp-p
Phantom power	48 V+6 V, max 5 mA @ 90%
Power supply	internal NiMH or ext. 18 V DC@1 A
Current drain	<220 mA
Charge current	750 mA
Size W x H x D	approx. 140 x 60 x 136 mm, excl. sockets and knobs
Weight approx.	950 grams
Battery charger	included, 90-240 VAC
Carrying case	PortaBrace original, optional

Specifications are subject to change without notice.

**AES3-id is a more recent standard allowing for transmission of AES3 pro format signal over a 75 ohms coaxial wire at distances up to 1000 meters. It is, in most cases, compatible with both AES/EBU and S/PDIF inputs.*

