

MACKENZIE



HIGH FIDELITY MULTI-CHANNEL DIGITAL AUDIO PLAYER

Key Features:

- MPEG 1, Layer 3 (MP3) audio for scaleable fidelity from voice (7kHz) to CD (20kHz) quality
- Balanced audio output (up to 2 stereo channels)
- Internal 1GB SD/SDHC Memory Card for up to 1000 min. of 20 kHz mono audio storage capacity. (Max of 32GB @ 22 days of audio!)
- USB2.0 key for easy Audio file Updates
- Up to 10,000 audio segments per channel.
- Optically Coupled 10/20 Contact Closure and RS232 for Control & Status.
- Standard, Retrigger, Play Once and Play While Active modes
- Playing relay contact (Form C)
- Composer software allows Audio Files to be created from .WAV files



- Shock and vibration resistant
- Various configurations available
- Field Upgradeable firmware

The **M3** Series is Mackenzie's Third generation of high fidelity digital audio players. The **M3** Represents the perfect balance of features and quality in Digital Audio Message Repeaters. The **M3** is ideal for applications requiring a wide array of duration, fidelity, channel and message quantity combinations. This includes museums, amusement parks, theme events as well as general public address installations.

M3 is Audio Quality - Designed with the most discerning audiophile in mind, the **M3** offers 16 bit converters, up to 48kHz sampling and balanced outputs to flawlessly re-create any source material. MPEG 1 Layer 3 is offered to maintain quality while saving space.

M3 is Compatibility - The standard SD memory, MPEG compression (with Composer software) and .WAV support mean that audio programs for the **M3** may be created from almost any Windows based computer.

M3 is Controllable - Contact closures and RS232 are both standard on the **M3**. So whether you are initiating messages from pushbuttons, relays, computer, terminal, programmable logic controller or other remote control device, the **M3** has it covered.

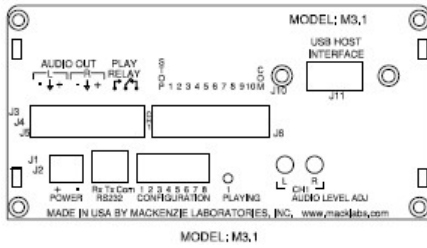
M3 is Flexibility - The **M3** offers scaleable SD/SDHC memory. The **M3** is available in 3 different configurations based on your channel and contact interface requirements. With 2 stereo outputs, the M3.1+1 is also able to support 4 mono outputs*, ideal for multiple language and sync track applications. Sophisticated repeat, delay and play modes aid in the development of complex applications. The added USB2.0 port allows for easy and fast audio programs updates and field upgradeable firmware.

Making A Difference, One At A Time

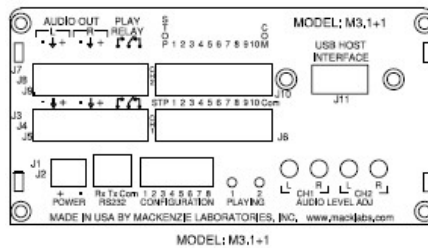


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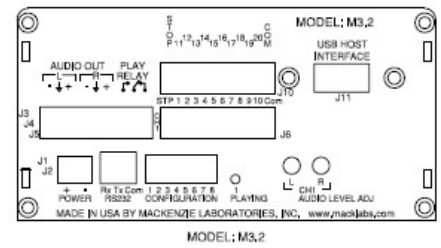
M3 Models



MODEL: M3.1



MODEL: M3.1+1



MODEL: M3.2

M3.1:

- Left channel balanced audio output
- Right channel balanced audio output
- Relay(Form C)
- Stop contact
- Start contacts 1 - 10
- Common start contact
- Power Connection
- Audio Level Adjustments, L/R
- Playing LED
- Configuration Switches
- RS232 Connection
- USB Download Port

M3.1+1:

- Interfaces of M3.1 PLUS,
- Channel 2(CH2):**
- Left channel balanced audio output
- Right channel balanced audio output
- Relay(Form C)
- Stop contact
- Start contacts 1 - 10
- Common start contact
- CH2 Audio Level Adjustments, L/R
- Channel 2 Playing LED

M3.2:

- Interfaces of M3.1 PLUS,
- Start contacts 11 - 20

SPECIFICATIONS

Audio Quality

- Sample Rate: 48kHz
- Dynamic Range: 85dB
- Frequency Response : 20Hz - 20kHz, +/- 3dB
- THD: <0.01% at 1kHz

Audio Output

- Type: Balanced, Analog
- Mode: Stereo or dual mono*
- Connection: Pluggable Euro terminals
- Level: +4dB max., 150 ohm
- Gain: Adj. Potentiometer

Audio Memory

- Type: Industrial SD/SDHC FLASH

Audio Data Formats

- Compressed: MPEG 1, Layer 3 (MP3)
- MPEG Data Rates(mono):
- 4 min./MB 7kHz = 32k bits/sec.
- 2 min./MB 15kHz = 64k bits/sec.
- 1 min./MB 20kHz = 128k bits/sec.

Control I/O

- Control Inputs: Individual message Start, Stop
- RS232: 115.2K baud, No parity, 8 bits, 1 stop bit
- Relay Outputs: Playing (ratings?)
- Interface: Euro terminals
- USB2.0: Type A, Host Mod, Panel mounted

Mechanical

- Wall Mount/Table top 5.6" W x 2.4" H x 6" D
- Chassis Aluminum extrusion, Painted
- Rack mount(optional) 1U, Up to 3 M3 slots

Environmental

- Operating Temp -20 to +60 °C
- EMI/RFI FCC15, Class A

Power

- Input Voltage: 12VDC @ 1 amp
- Connection: 2 pin euro terminal

*References to 4 mono (M3.1+1) or dual mono reflect the fact that the M3 allows separate material to be stored on the left and right channels of a stereo pair. This configuration is typically used for material routed to different zones or an audio sync track. It is important to note that the individual channels of a stereo pair are not able to be triggered independently. The L & R tracks run simultaneously from a single trigger.

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