MACKENZIE®

minimac

COMPACT AUDIO MESSAGE REPEATER

User's Manual
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DESCRIPTION

Minimac is a small, easy to use, high quality and affordable digital audio message repeater. Minimac allows the user to record up to 4 minutes of crystal clear 100Hz - 8kHz audio. Once recorded, the unit may be triggered to playback via a contact closure from a user supplied pushbutton, motion sensor or other control device. Because of its small size, the minimac may be put almost anywhere. Non-volatile flash memory means the minimac will retain its messages even during a power outage. Built-in amplifier allows the unit to drive a speaker directly in close proximity applications. Minimac is also able to store up to 4 individual messages. Sequencing mode allows each trigger to it will play the next message until it reaches the last, then it will start from the beginning. Standard mode allows the system to play a the same message location each time the unit is triggered.

MINIMAC MMD-4 SPECIFICATION

Audio Coding:
Method:	16 bit PCM, uncompressed
Sample Rate:	16kHz

Audio Quality:
DynamicRange:	60dB, Typical
Signal to Noise:	60dB, Typical
Frequency Resp.:	100Hz to 8kHz

Audio Input:
Line:	10k ohm, RCA
Mic:	1.5k ohm, 1/8" mini jack
Level:	+4dBm max., potentiometer

Audio Output:
Line:	600 ohm(+4dBm max.), transformer isolated, Pluggable terminal
Amplified:	4 watts into 8 ohm, Pluggable terminal
Level:	Potentiometer

Audio Memory:
Type:	FLASH EPROM
Capacity:	8MB, 4 min local record

Power Requirement:
Input Voltage:	12VDC, 1A(Spkr out) or 250mA(Line Out)
Connection:	Pluggable terminal

Manual Control & Status:
Pushbuttons:	Record, Stop, Play, Select
Status Indicators:	Play, MSG, Record LED's

Remote Control I/O:
Control Inputs:	Record, Stop, Play, Select
Status Outputs:	Playing
Output Type:	Dry relay contact (Form C), 1A @24VDC non-inductive load
Connection:	Pluggable terminal

Mechanical:
Package:	Wall or table mount chassis
Material:	18 gauge cold rolled steel; red paint, white silkscreen
Rack mount(option):	1U adapter

Regulatory Agency Approvals:
FCC, Part 15, Class A; UL/CSA approval on external power pack(sold separately)

GENERAL CONNECTIONS

Power - A two terminal pluggable connector. Terminal 1 is for 12 VDC at 1 amp and Terminal 2 is for ground.

Microphone Input - Microphone input for recording messages. Mono. 1/8" mini jack. Up to 1.5k ohm impedance. This specification is compatible with most consumer grade microphones(Radio Shack Omnidirectional Dynamic P/N 33-2001). **NOTE: Mic input and Line input may not be used at the same time. Please make sure Line input is disconnected on the unit for the microphone to work.**

Line Input - Line level analog audio input for recording messages. Mono. RCA connection, 10kohm impedance. Compatible with the unbalanced analog outputs of most tape decks, CD players, DAT players, etc. **NOTE: Line input and Mic input may not be used at the same time.**

TERMINAL CONNECTIONS

Common Input: Common ground for all inputs

Record Setup Input: Connect to common momentarily to enter record setup mode.

Start Input: Connect to common to play or record a message. Maintain to repeat play.

Stop Input: Connect to common to stop message playback.

Select Input: Connect to common for 2 sec. to enter message select mode. Default message is 1. Subsequent connections will step through messages 2, 3, 4. Selection 5 is sequence through all messages.

Play Relay Normally Open Contact: Connect to position 7 for normally open side of the play relay.

Play Relay Common Contact: Common the for play relay.

Play Relay Normally Closed Contact: Connect to position 7 for normally closed side of the play relay.

Speaker Output(2 positions + and -): Bridged, mono speaker output for playing messages. 2 position terminal connector. 4 watts into 8 ohms or 6 watts into 4 ohms. **CAUTION: Referencing either of the speaker output terminals to ground will cause incorrect operation and may damage the unit. Always connect the speaker directly across the supplied terminal connections.**

Line Output(2 positions + and -): Line level analog audio output for playing messages. 2 position terminal connector. Mono. Transformer isolated, RCA connection, 600 ohm impedance. Compatible with the unbalanced analog inputs of most audio equipment.

PUSHBUTTONS

Record - Press to enter record mode, Record LED will blink. Press Select button to choose the message location for recording. Press the Start button to begin recording, Record LED will be solid. Press the Stop button to stop recording or to exit record mode. **NOTE: A message may be erased from memory by selecting the message, pressing start, then pressing and holding the Stop button for approximately 2 seconds.**

Start - Plays default message. Holding button will repeat message. Play LED illuminates during playback with Message LED blinking as to the message number playing.

Stop - Stops message playback or record. Also stores default message to play when in message select mode.

Select - Selects message to play or record. To select the default message to play, press and hold for 2 secs. Minimac will default to message 1, additional presses of the button will sequence through messages 2 - 4. Selection number 5 will allow the system to sequence through all valid messages. Feedback on message is shown on the Message LED. Pressing the Play or Stop pushbutton will store the currently selected message as the default.
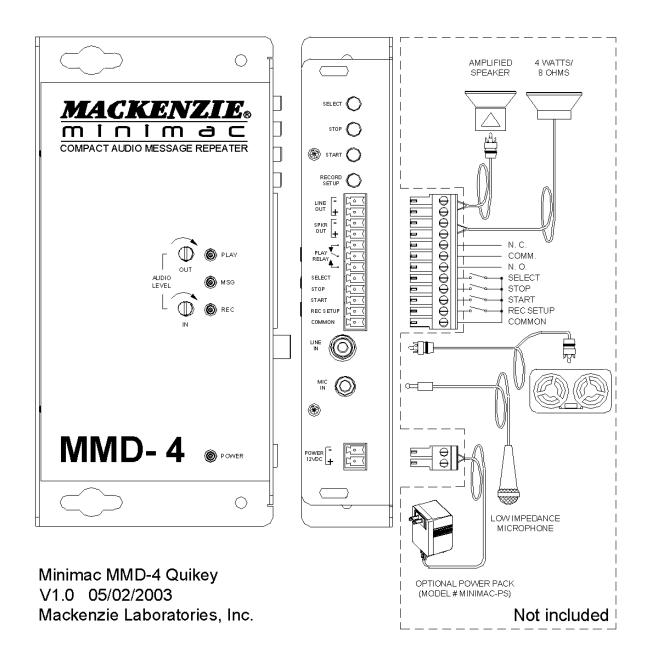
Top Adjustments and Indicators

Output Level Adjustment - Potentiometer to adjust playback level. Range is continuous from -infinity to +4dBm.

Input Level Adjustment - Potentiometer to adjust record level. +4dBm maximum input level.

Play LED - Illuminates when unit is playing a message.

Message LED (MSG) - Blinks during select, play or record with the message number selected. A solid led indicates sequential play mode.

Record LED (REC) - Blinks when unit is in record mode. Solid when unit is recording.

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m i n i m a c
COMPACT AUDIO MESSAGE REPEATER

AMPLIFIED SPEAKER   4 WATTS/ 8 OHMS

SELECT
STOP
START
RECORD SETUP

LINE OUT
SPKR OUT
PLAY RELAY
SELECT
STOP
START
REC SETUP
COMMON

LINE IN

MIC IN

POWER 12VDC

PLAY
OUT
AUDIO LEVEL
MSG
REC
IN

MMD-4   POWER

N. C.
COMM.
N. O.
SELECT
STOP
START
REC SETUP
COMMON

LOW IMPEDANCE MICROPHONE

OPTIONAL POWER PACK
(MODEL # MINIMAC-PS)

Not included

Minimac MMD-4 Quikey
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Mackenzie Laboratories, Inc.

WARRANTY & REGISTRATION

The Mackenzie Minimac is tested and checked before shipment and is guaranteed against defective material or workmanship for a period of one (1) year from the date of purchase. Should trouble ever develop, contact the Factory directly by telephone or in writing. If it is determined that the equipment requires Factory service, return it to the Factory. If our inspection shows that the trouble was caused by defective material or workmanship, we will repair or replace the equipment without charge and return prepaid. Repairs made necessary by abuse, improper use, unauthorized service or maintenance, and/or improper installation, as well as out of warranty repairs, will be charged at our regular repair prices in effect at the time. The obligation under this warranty shall be limited to the replacement, repair or refund of any such defective device within the warranty period, at Mackenzie's discretion.

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You may register your Minimac by sending your serial number, purchase and contact information to the address above, or registering online at www.macklabs.com/registration.html.