

EM-51AS Audio Player

User's Guide

The EM-51AS is a stereo MP3 player with two solid-state relays and one mechanical relay for synchronous external device control. It supports MP3 files with bit rate up to 320kbps, and employs SD/SDHC cards of up to 32GB for audio storage. Housed in a rugged metal enclosure, the EM-51AS is quick and easy to install via the detachable screw terminals.

SPK (SPEAKER) OUT

For stereo output: connect left speaker's positive wire (typically red) to L and the right speaker's positive wire to R. Connect both speakers' negative wires (typically black) to G (shared).

For monaural output: only one speaker connected between L (or R) & G is needed, but two speakers (connected as if stereo) will make louder sound by fully utilizing the power amplifier.

To obtain maximum amplifier power, use a 24VDC power supply with a current rating of 2A. Add more current accordingly if driving DC loads through OUT1 and OUT2.

OUT3

A mechanical relay output with both NO (Normally Open) and NC (Normally Closed) terminals. Not fuse protected.

LINE OUT

Can be used to feed an external amplifier if you need more power than the internal one can provide. Mates with a 3.5mm stereo plug.

OUT1 & OUT2

Two solid-state DC outputs with the '+' terminals internally tied with the supply voltage, and the '-' terminals switched to ground when activated. Individually protected by a 2A self-reset thermal fuse.

DC HIGH

Power supply input for up to 8 amps. Internally connected with DC LOW.

TR

A dry contact closure trigger input for push buttons, micro switches, pressure sensing floor mats and etc.

OPTO

An opto-isolated input for voltage triggering with a momentary 6~24VDC pulse.

DC LOW

Power supply input for up to 5 amps. Mates with a 2.1mm center positive coaxial plug.

PWR LED

Lights up when power is on.

PROG/STOP LED

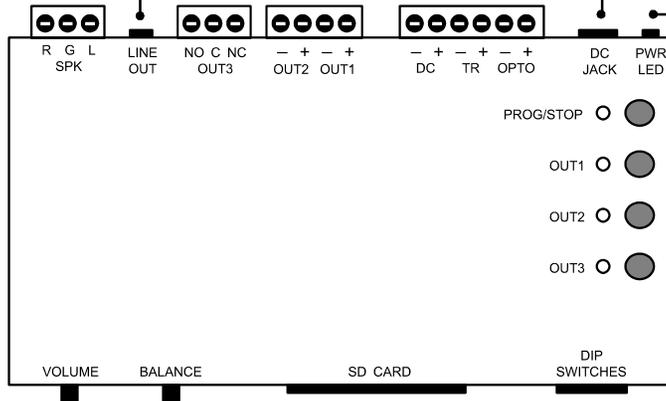
ON = Playing Audio

OUT1/OUT2/OUT3 LED

ON = Output Activated

PUSH BUTTONS

Unused



VOLUME KNOB

Adjusts the level for both SPK OUT and LINE OUT.

BALANCE KNOB

Adjusts the balance for SPK OUT only.

SD CARD

Push on, push off. Turn power off before inserting.

DIP SWITCHES

#1: OFF = Standard Mode, ON = Hold Mode
#4: Factory Use (keep ON)
#2, #3: unused

SOUND FILE CONFIGURATION

Although the EM-51AS has only one trigger input, it can play up to 99 different sound files sequentially. The first trigger after power-up plays the first file, the second trigger plays the second file, and etc. It's OK to have only one file.

Standard MP3 files are supported directly but a 3-digit number must be added to the beginning of each filename for sequencing purposes. The sequence must be consecutive starting from 001, and may go up to 099. Filename examples are "001_file" and "002 OriginalName". The 3-digit number is necessary even if there's only one file.

The first file (001) must exist on the memory card or the system will get stuck in the Power On Self Test, with OUT1/OUT2/OUT3 LEDs turned on but not the PROG LED.

POWER ON SELF TEST

OUT3 LED - self test started
OUT2 LED - memory card found
OUT1 LED - memory card compatible
PROG LED - file 001 found, system OK
The system then turns all LEDs off and enters the idle state.

STANDARD MODE

Audio playback starts when trigger is applied, and continues to the file end regardless of trigger status. If trigger is applied at the file end, the same file will repeat.

HOLD MODE

Audio playback starts when trigger is applied, and continues for as long as trigger is applied. If trigger is still applied at the file end, the same file will repeat.

RELAY ACTIVATION

All 3 relays are activated automatically during audio playback.

SPECIFICATIONS

Supply Voltage: 12VDC ~ 24VDC

Standby Current: ~ 100mA

No. of Trigger Input: 1

Trigger Type: dry contact closure (TR) or opto isolated (OPTO)

Audio Output Power: 5W x 2 @ 12VDC (4 Ohm load)

10W x 2 @ 24VDC (8 Ohm load)

OUT1/OUT2 Current Rating: 2A (fused)

OUT3 Current Rating: 10A @ 120VAC/240VAC/28VDC

Audio File Format: MP3 up to 320kbps, CBR or VBR

Memory Card Support: SD (2GB max), SDHC (32GB max)

Physical Dimensions: 5.7" x 3.5" x 1.5" (footprint)