

SV4000B/EM4000B Trouble Shooting Guide

1. There is no sound.

- If the power light is off, make sure the power supply is within the specifications and connected properly to the unit.
- Adjust the volume control.
- Make sure the message that you want to play has been recorded.
- Manually activate the message by shorting the proper input to ground with a piece of wire. If it works, then something is wrong with the triggering device.
- Make sure the speaker is good.

2. The sound quality is poor.

- If you use the internal microphone to record, the sound quality will not be as good as if you use the line input. For best results, have the messages recorded in a recording studio on a CD and use the line input to load them into the unit.
- Re-record messages at a lower level. The sound will be distorted if the recording level was too high.

3. There is a lot of background noise.

- The internal microphone is very sensitive and likely to pick up lots of background noises. For best results, have the messages recorded in a recording studio on a CD and use the line input to load them into the unit.
- Re-record messages at a higher level to reduce the relative background noise. But don't increase the level too much or the sound will become distorted.

4. There is a clicking noise at the end of the message.

There will be a clicking noise at the end of the message if you use the internal microphone to record. This is because when moved to the "PLAY" position (in order to stop recording) the MODE switch generates a mechanical noise which is picked up by the microphone. To avoid recording this noise, use the line input instead of the microphone.

5. The unit plays a wrong sound.

- Make sure the unit is configured for the desired mode (direct or sequential).
- If you change the "number of messages" configuration (increase or decrease), you need to re-record all the messages. For example, if you change the unit from 4 messages to 8 messages, you need to re-record the 4 messages that you may have already recorded, in addition to recording new messages.

6. How to interrupt a message playback.

The only way to interrupt a message playback is to reset the unit by sending a pulse to the reset input. However, if the sequential mode is used, the playback sequence will start from message #1 after the reset.

SV4000B/EM4000B User's Manual

EM4000B = SV4000B (Circuit Board) + Metal Enclosure

Specifications

Operation: playback only

Digitization Method: analog storage, mono, 8 bit, 8 KHz

Maximum Number of messages: 8

Memory Type & Capacity: ISD (non-volatile)

SV4000B-4/EM4000B-4 = 4 minutes

SV4000B-8/EM4000B-8 = 8 minutes

Supply Voltage: 10 ~ 32 VDC

Audio Output: 40W (8 Ohm load), bridged output

SV4000B Dimensions: 5.6" x 4.2"

EM4000B Dimensions: 6.0" x 4.8" x 1.7"

General Descriptions

EM4000B is a digital voice recorder capable of recording and playback of up to 8 different messages. It is totally self-contained and requires only a power supply, a speaker and a few trigger signals to operate.

Messages are recorded into the unit via the internal microphone or the line input, and can be re-recorded for virtually unlimited number of times. Thanks to the non-volatile memory, messages are kept in the unit without battery backup.

Message playback is activated by sending a trigger signal to the proper input. The trigger signal may come from a dry contact closure, a motion sensor, a PLC, or any device capable of generating a electronic signal. Once started, a playback is not interruptible and will stop at the end of the message automatically.

There are two different trigger modes: the direct mode and the sequential mode.

Direct Mode

Each message has its own trigger input. Message #1 (first priority) is activated via the T1 input, message #2 (second priority) via the T2 input, and etc. If multiple inputs are triggered at the same time, only the message of the highest priority will play. Looping is possible by keeping the input triggered constantly.

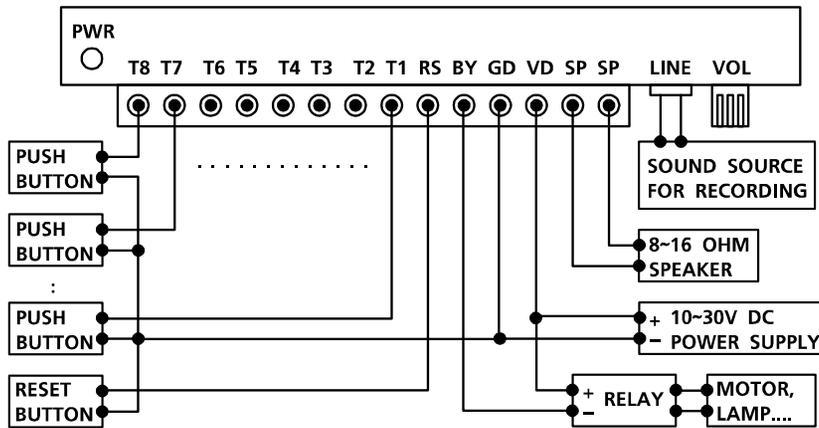
Sequential Mode

All messages are activated sequentially via the T1 input, one message at a time. Message #1 is played the first time, message #2 the second time, and so on. Looping is not possible.

Note that the unit will always try to play every messages before it restarts from #1, even if some messages have never been recorded. For example, if the unit is configured for 4 messages, the playback sequence will be: #1, #2, #3, #4, #1..., even if #4 has never been recorded. Therefore, the sequential mode is best used if all messages are recorded.

SV4000B/EM4000B Installation Guide

Typical Wiring Diagram



Terminal Block Descriptions

Power Input: VD & GD

VD is voltage and GD is ground. Use a well regulated power supply to obtain the best sound quality. A higher input voltage will generally produce more output.

Speaker Output: SP & SP

The speaker output is a bridged (balanced) output. One or more speakers may be connected to the output, but the equivalent impedance should be 8 ~ 16 Ohm. Additional heat ventilation may be required to obtain maximum output. The built-in power amp has internal current limiting and thermal protection.

Busy Output: BY

This output is open collector. The output transistor is turned on whenever the unit is playing. Max. sink current is 100 mA.

Reset Input: RS

Connect this input to the ground to reset the board. Minimum reset duration is 100 ms. The current playback (if any) will be stopped immediately.

Trigger Inputs: T1 - T8

Either a negative pulse (+5V to ground) or a momentary contact closure to the ground can be used for triggering. Minimum trigger duration is 100 millisecond.

Power Light (PWR)

The power light should be on when power is applied.

Volume Pot (VOL)

Turn VOL clockwise to increase the output volume.

Line Input (LINE)

Use a 1/8" mono phone plug to connect the sound source (tape/CD/MP3 player) to the unit via this jack. The output level from the sound source should be adjustable in order to obtain the best recording results.

Recording Messages

SV4000B/EM4000B can be configured for 1, 2, 4 or 8 messages with equal memory allocation. For example, if the unit is set for 8 messages and memory is 4 minutes, then each message will have a maximum length of 30 seconds. To configure the number of messages, set switches #4 & #5 accordingly:

No. of Messages	1	2	4	8
Switch #4	OFF	ON	OFF	ON
Switch #5	OFF	OFF	ON	ON

Messages can be recorded via the internal microphone or the line input. The internal microphone will be turned on if the line input is not in use. It will be turned off if a plug is plugged into the line input jack. The microphone is provided mainly for testing purpose. For best results, always use the line input whenever possible.

To record, you must first select a message by setting switches #1-#3 accordingly:

Message No.	1	2	3	4	5	6	7	8
Switch #1	OFF	ON	OFF	ON	OFF	ON	OFF	ON
Switch #2	OFF	OFF	ON	ON	OFF	OFF	ON	ON
Switch #3	OFF	OFF	OFF	OFF	ON	ON	ON	ON

Then, move the MODE switch from "PLAY" to "RECORD" and start recording when the LED turns on (in about 1/2 second). To stop recording, move the MODE switch back to "PLAY". The LED will start to blink when maximum length is reached. If this happens, just move the MODE switch back to "PLAY". For verification purpose, the message will be played once automatically after being recorded.

If a speaker is connected to the unit, it will be turned on during recording for sound monitoring purpose, provided the line input is used.

Direct Mode & Sequential Mode Selection

Turn switch #6 off to enable the direct mode. In this mode, a message is activated by shorting the corresponding T(ri)gger input to the ground momentarily. The playback is not interruptible and stops automatically at the end of the message. The message can be looped by keeping the input shorted to the ground.

Turn switch #6 on to enable the sequential mode. In this mode, only the T1 input is used and the messages are played sequentially, one per trigger. The playback is not interruptible. If the T1 input is shorted to ground when the current playback is over, the next message will start to play immediately.