

# SP-3, SP-4

## Speech Processor Module

## Installation Instructions

### 1. INTRODUCTION

The SP-3 and SP-4 speech processors are advanced electronic record/playback modules for short voice messages, up to 20 seconds long. Designed for manual recording and electronically triggered playback, the SP-3 provides 1 Watt of audio output, and the SP-4 provides 10-Watts. Due to its high amplification, the SP-4 includes a commander circuit for improving the signal-to-noise ratio.

The primary application of the SP-3 and SP-4 is an inexpensive, easy-to-install automatic announcer, triggered by motion detectors or any type of momentary switch. Both modules are suitable for automatic transmission of verbal warnings, announcements, guidance and advertisements in elevators, stairwells, corridors, exhibitions and the like.

A miniature microphone and an easily accessible RECORD pushbutton are included in each module. Loudspeaker output terminals are provided for direct connection to an external

loudspeaker. An audio input header permits the installer to choose between recording a message with the internal microphone (INT) and recording a message from an external audio source (EXT).

When triggered by a short pulse, the speech processors play the recorded message once and then stop. With continuous triggering, the message is repeated over and over again, until the trigger voltage is removed.

Both modules are suitable for mounting within a host system cabinet or inside the loudspeaker housing. The SP-3 may be supplied mounted in a small plastic cabinet with a built-in 63 mm/1W (2-1/2" / 1W) loudspeaker. The SP-4 may be supplied mounted within a large plastic cabinet with a 89 mm/12 W (3-1/2" / 12W) loudspeaker, or in a horn speaker housing.

Operating power is drawn from the host system or from an external 12VDC supply.

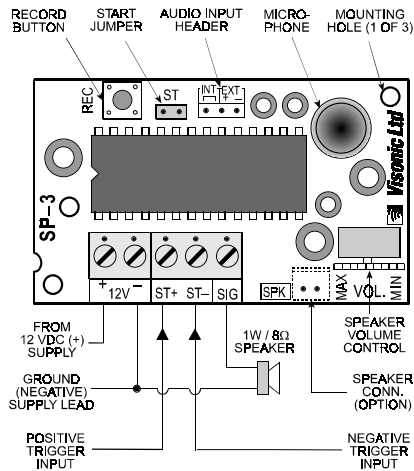


Figure 1. SP-3 Layout and Connections

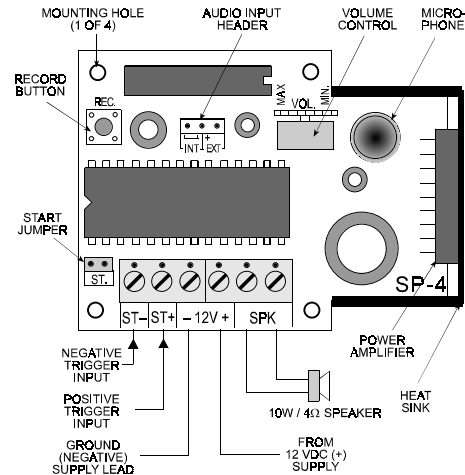


Figure 2. SP-4 Layout and Connections

### 2. SPECIFICATIONS

**Maximum Recording Duration:** 20 seconds.

**Memory Type:** EEPROM (no need for battery backup).

**Triggering Methods:**

Positive voltage applied to the **ST+** terminal.

Negative (ground) potential applied to the **ST-** terminal.

A short circuit imposed across the **ST** pins on the PCB.

**External Audio Input Level :** 100 mV p-p maximum

**External Audio Input Impedance:** 4 kΩ

**Supply Voltage:** 12 VDC ±15%.

|                                       | SP-3   | SP-4  |
|---------------------------------------|--|---|
| <b>Loudspeaker Output:</b>            | 1W across 8Ω   | 10 W across 4Ω  |
| <b>Current Consumption (approx.):</b> | 6 mA (standby);<br>25 mA (record);<br>300 mA peak (playback) | 30 mA (standby);<br>80 mA (record);<br>2A peak (playback) |
| <b>Dimensions (H x W x D):</b>        | 62 x 37 x 16 mm (2-7/16 x 1-7/16 x 5/8 in)                   | 69x48x 38 mm (2-3/4 x 1-7/8 x 1-1/2 in)                   |
| <b>Weight:</b>                        | 20 g (0.75 oz)   | 48 g (1.75 oz)  |

### 3. INSTALLATION

Use the 3 mounting holes of the SP-3 (Fig. 1) and the 4 mounting holes of the SP-4 (Fig. 2). Remember to leave adequate clearance between the bottom of the PCB and any metal surface.

#### 3.1 Triggering with a Motion Detector's Normally Closed Switch

To operate the speech processor as an automatic announcer triggered with motion detector's N.C. terminals or with any momentary N.C. switch, proceeds as follows:

1. Connect an 8-ohm/1 Watt loudspeaker across the SIG and 12V(-) terminals (Model SP-3), or a 4Ω/10W loudspeaker across the two SPK terminals (Model SP-4).

**Note:** The SP-4 may be also operated with an 8Ω speaker, at the expense of reduced power output.

2. Connect the motion detector's N.C. terminals or the momentary N.C. switch between the voice processor's **ST+** and **12V(-)** terminals.

3. Use the jumper provided with the unit to short the two **ST** pins permanently together (these pins are clearly identified in both figures).
4. Connect the 12VDC supply to the **12V(+)** and (-) terminals, taking care not to reverse the positive and negative leads.
5. Record a message as explained in Section 4.

### 3.2 Triggering with a Normally Open Switch

To operate the speech processor as an automatic announcer triggered with any momentary N.O. switch, proceed as follows:

1. Connect an 8Ω/1W loudspeaker across the **SIG** and **12V(-)** terminals (Model SP-3), or a 4Ω/10 W loudspeaker across the two SPK terminals (model SP-4).

**Note:** The SP-4 may be also operated with an 8Ω speaker, at the expense of reduced power output.

2. Connect the momentary N.O. switch between the speech processor **ST+** and **12V(+)** terminals. A second method is to connect the N.O. switch between the **ST-** and **12V(-)** terminals. A third method is to connect the N.O. switch across the two pins of the ST header on the printed circuit board.
3. Connect the 12VDC supply to the **12V(+)** and (-) terminals, taking care not to reverse the positive and negative leads.
4. Make sure that the jumper is removed from the two **ST** pins. A good practice is to mount the jumper on a single pin, to prevent it from getting lost.
5. Record a message as explained in Section 4.

## 4. RECORDING AND TESTING

**Note:** Make sure that a jumper is mounted across the two **INT** pins of the audio input header. If you intend to record from an external audio source, remove the **INT** jumper and connect the external audio source across the **EXT (+)** and (-) pins.

1. Complete all connections as explained in Section 3 and power up the system.
2. Depress and hold down the **REC** button, while speaking at normal voice levels about 25 cm (10") from the microphone. When through, release the pushbutton. Remember that message duration is limited to 20 seconds.

**Note:** It is advisable to make the recording in a quiet environment. Turn off nearby radio receivers and noisy machines, and ask people in your immediate vicinity to keep silent while you record. If the background noise is too high, speak closer to the microphone.

3. If you exceed the 20 second limit, the last part of the message will overwrite its first part, making the message incoherent. Initiate playback (see step 4 below) to verify that this has not occurred. If the message proves too long, rephrase it to reduce its duration and record again.
4. To initiate playback for testing purposes, momentarily short together the two **ST** pins on the PCB. The message will be played back once. Repetitive playback will result if the pins are kept shorted together.
5. The speech processor is now ready for regular service, and will play back the last recorded message whenever triggered.

### WARRANTY

Visonic Ltd. and/or its subsidiaries and its affiliates ("the Manufacturer") warrants its products hereinafter referred to as "the Product" or "Products" to be in conformance with its own plans and specifications and to be free of defects in materials and workmanship under normal use and service for a period of twelve months from the date of shipment by the Manufacturer. The Manufacturer's obligations shall be limited within the warranty period, at its option, to repair or replace the product or any part thereof. The Manufacturer shall not be responsible for dismantling and/or reinstallation charges. To exercise the warranty the product must be returned to the Manufacturer freight prepaid and insured.

**This warranty does not apply in the following cases:** improper installation, misuse, failure to follow installation and operating instructions, alteration, abuse, accident or tampering, and repair by anyone other than the Manufacturer.

This warranty is exclusive and expressly in lieu of all other warranties, obligations or liabilities, whether written, oral, express or implied, including any warranty of merchantability or fitness for a particular purpose, or otherwise. In no case shall the Manufacturer be liable to anyone for any consequential or incidental damages for breach of this warranty or any other warranties whatsoever, as aforesaid.

This warranty shall not be modified, varied or extended, and the Manufacturer does not authorize any person to act on its behalf in the modification, variation or extension of this warranty. This warranty shall apply to the Product only. All products, accessories or attachments of others used in conjunction with the Product, including batteries, shall be covered solely by their own warranty, if any. The Manufacturer shall not be liable for any damage or loss whatsoever, whether directly, indir, incidentally, consequentially or otherwise, caused by the malfunction of the Product due to products, accessories, or attachments of others, including batteries, used in conjunction with the Products.

The Manufacturer does not represent that its Product may not be compromised and/or circumvented, or that the Product will prevent any death, personal and/or bodily injury and/or damage to property resulting from burglary, robbery, fire or otherwise, or that the Product will in all cases provide adequate warning or protection. User understands that a properly installed and maintained alarm may only reduce the risk of events such as burglary, robbery, and fire without warning, but it is not insurance or a guarantee that such will not occur or that there will be no death, personal damage and/or damage to property as a result.

**The Manufacturer shall have no liability for any death, personal and/or bodily injury and/or damage to property or other loss whether direct, indirect, incidental, consequential or otherwise, based on a claim that the Product failed to function.** However, if the Manufacturer is held liable, whether directly or indirectly, for any loss or damage arising under this limited warranty or otherwise, regardless of cause or origin, the Manufacturer's maximum liability shall not in any case exceed the purchase price of the Product, which shall be fixed as liquidated damages and not as a penalty, and shall be the complete and exclusive remedy against the Manufacturer.

**Warning:** The user should follow the installation and operation instructions and among other things test the Product and the whole system at least once a week. For various reasons, including, but not limited to, changes in environmental conditions, electric or electronic disruptions and tampering, the Product may not perform as expected. The user is advised to take all necessary precautions for his /her safety and the protection of his/her property.

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