

The SM7 is a complete stand-alone audio monitoring system that supports up to 4 microphone inputs. Microphones can be switched into the mix at different levels via the front controls. The SM7 can be used independently or with a CCTV system. The SM7 easily connects to recording equipment such as linear time-lapse VCRs and audio tape recorders.

**Recorder switch**

If the SM4 kit will be used with a recorder of some type, place the recorder switch in the "IN" position. In this position, both live audio and playback audio can be heard through the SM4's internal speaker. In stand alone applications where there is no recorder or no need to playback recordings, place the recorder switch in the "OUT" position.

**Headphone jack**

Plug in a set of 3.5mm stereo headphones for private listening. The internal speaker of the SM4 will be automatically disabled until the headphones are unplugged.

**Switcher / mixer mode.**

To switch the SM4 between the "1 of 4" mode and the "mixer mode", press and hold the CH1 button for 5 seconds. In the "mixer mode", all channel lights will turn on. In the "1 of 4" mode, all channel lights will go out. The SM4 will remember the last setting and channels selected in either mode.

**SM1 Microphone Placement.**

Locate the SM1 microphone near the area of interest in the room to be monitored. If the entire room is to be monitored, locate the SM1 in the middle of the room. Do not mount the microphone near air conditioning vents, light fixtures or electrical equipment. The SM1 should be placed at least 5 feet away from the subject(s) to be monitored. The SM1 is still useable in the range of 15-25 feet but is dependent on the level of background noise in the area. Experimentation in the environment will determine what distances work best.

**Cable Run**

Run a 22 gauge, stranded, two conductor shielded cable between the SM4 mixer/amplifier and the SM1 microphones. Keep the cable run distance under 500 feet and away from AC power sources, light fixtures and electrical equipment. See *Figure 1 for connection diagram.*

**Mounting**

The SM1 can be surface or flush mounted on ceilings or walls. For flush mounting, cut a 2 ¼" by 2 ¾" hole in the wall or ceiling tile to allow room for the circuit board and mount the SM1 to the surface with screws. For surface mounting, use a single gang electrical box.

**Adjusting the SM1 Gain**

The SM1s are shipped with the gain set at midrange. Adjust the control + or – for maximum clarity. If the sound at the amplifier is distorted, rotate the control towards the – mark (counter-clockwise). If the volume at the amplifier is too low, rotate the control towards the + mark (clockwise).

**Setting the SM1 Jumpers**

The SM1 microphone has jumper selectable treble boost and limiter circuits. The treble boost circuit when shunted to the "in" position emphasizes the high frequency sounds that the microphone picks up. This is useful for improving the sound quality on slow speed tape recordings (VCR time-lapse recordings). The limiter circuit shunted to the "in" automatically keeps the SM1's output at a relatively constant level. This eliminates the need for the listener to reduce the volume control on the amplifier when sounds get louder.

**Note: Do not use the SM1's limiter circuit if you are using a tape recorder or other device that uses an AGC or limiter circuit. Most tape recorders have limiter circuits.**

The recommended jumper settings are as follows:

	Stand-alone Application	Tape Recorder Application
Limiter	"IN"	"OUT"
Treble Boost	"OUT"	"IN"

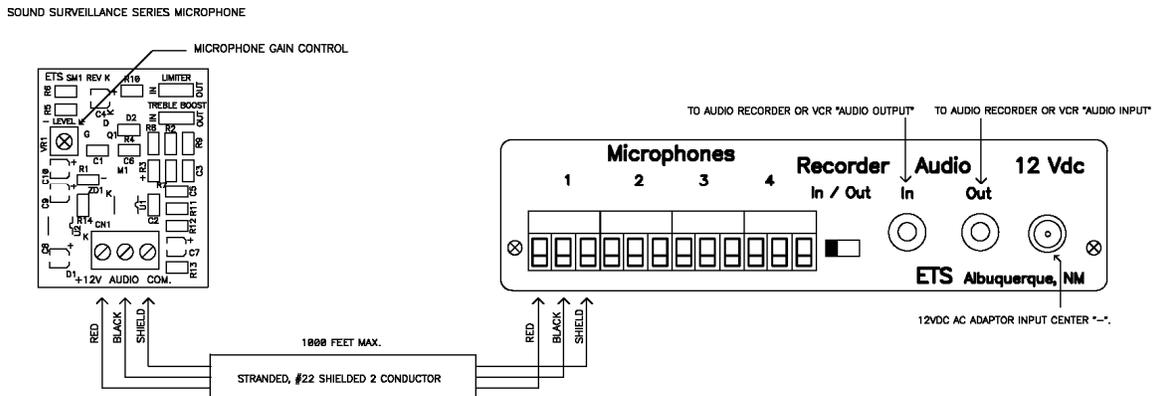


Figure 1

### Caution

It may be against the law to install this microphone kit in certain environments. It may also be against the law to record conversations of the person(s) being monitored without their knowledge. It is the responsibility of the installation company and end-user to determine if the application of this product is legal. These laws vary from state to state. If you are not informed on these matters, consult a qualified attorney or contact the appropriate state agency. A sticker is provided with this kit for the applications where notification must be posted.

### Warranty

All ETS products carry a one year parts and labor warranty. This warranty does not cover damages as a result of misuse, improper handling of the unit or exposure to extreme temperatures or moisture. At its discretion, ETS reserves the right to repair or replace this unit under the conditions of the warranty. If you experience problems with your equipment call ETS at: 505-888-3923 to obtain a return authorization number. Equipment requiring repair beyond the warranty period or units that have been damaged or are not covered under the warranty can be repaired by ETS for a minimal cost under most conditions.

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by  
**ETS Inc.**