

# ETS Inc. SMA2-LPC5 Speaker / Microphone Interface Instructions

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The SMA2-LPC5 is a 2 zone two way public address, audio surveillance interface that is designed to connect to DVRs. The SMA2-LPC5 can be used with any ETS Sound Surveillance speaker/microphone with the C5 option. The SMA2-LPC5 can also be used with any 70v speaker and any Sound Surveillance **pre-amplified** microphone with the use of our MIS-BOC5 breakout box. The SMA2-LPC5 is typically located near the DVR. Note-input and output signals on the SMA2-LPC5 are “line level” only. **Note- this equipment is intended for use with camera or VMS software that has a PTT (push to talk) half duplex option for two way audio. If your software does not support this mode you may get acoustical howling feedback.**

## Microphone / Speaker Placement.

Locate the speaker and microphone near the area of interest in the space to be monitored. If a large area is to be monitored, locate the speaker and microphone in the middle of the space if possible. Avoid mounting the speaker/microphone near air conditioning vents, light fixtures or electrical equipment. The speaker/microphone should be placed as close to the subject(s) as possible. 5 to 10 feet is ideal. The speaker /microphones are still usable at distances of up to 25 feet in public address applications but is dependent on the level of background noise in the area. Experimentation in the environment will determine what distances work best.

## Audio Signal Cable Runs

Recommended cable is: CAT5 between the SMA2-LPC5 amplifier / interface and the microphone/speaker (STW1-XX-C5, MSI-C5-BO, or HSM11-C5 or CSM8-C5). Keep the cable run distances under 1,000 feet and away from AC power sources, light fixtures and electrical equipment. *Make connections as shown in Figure 1.*

## IMPORTANT

Wire the RJ45 connectors in the following manner. DO NOT wire as a standard Ethernet cable and do not cross connections over.

Pair 1	1	CALL SW
	2	CALL SW
Pair 2	3	SPEAKER (70V) +
	4	SPEAKER (70V) –
Pair 3	5	MICROPHONE +
	6	MICROPHONE –
Pair 4	7	+12V (MICROPHONE)
	8	COM (MICROPHONE)

**SMA2-LPC5 location and power:** The SMA2-LPC5 interface box is designed to be located next to the DVR. The SMA2-LPC5 requires a 120VAC power source within 3 feet of its location. If this is not possible in your application, you can splice in up to 100 feet of 18 awg, 2 conductor cable to extend the distance between the AC power source and the SMA2-LPC5.

## DVR connections:

Connect the “audio outs” of the SMA2-LPC5 to the “audio ins” of the DVR. Connect the “audio ins” of the SMA2-LPC5 to the “audio outs” of the DVR. Note-input and output signals on the SMA2-LPC5 are “line level” only. If the DVR uses screw terminals for audio connections, simply cut off the ends of the supplied RCA patch cables, strip the wires back and connect the wires to the DVR terminal blocks. The center conductor(s) of a cut patch cable are + and the shield is -.

## Adjusting the SMA2-LPC5 Levels:

Set both all level controls to 1/8 clockwise from full counter clockwise on the SMA2-LPC5 before powering the system up. Adjust the controls + or – to the desired levels for both speaker and microphone. If the microphone sound at the DVR or head end is distorted, rotate the control towards the – mark (counter- clockwise). Adjust the volume of the speaker to the desired level. If the speaker volume is too high, amplifier oscillations may result. Turn the level control down if you experience this.

### **Call Switch Connections**

The SMA2-LPC5 features call switch input outputs for each channel. This pair of wires is isolated from all other circuitry and can be used for a call switch, door contact, door release relay, etc. Terminal block connections are “broken out” on the SMA2-LPC5 and any ETS speaker/microphone ordered with the –C5 option.

### **Caution**

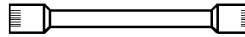
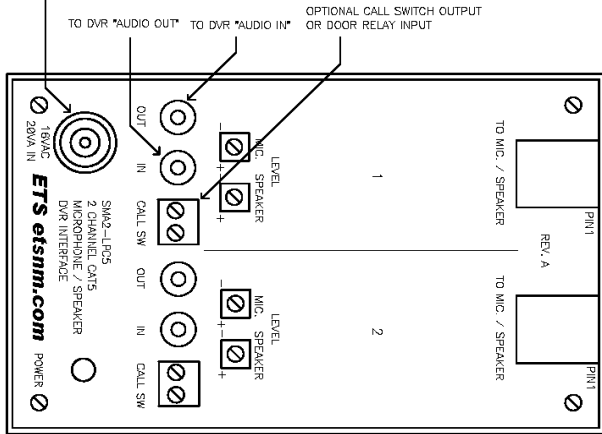
It may be against the law to install this microphone kit in certain environments. It may also be against the law to record conversations of the person(s) being monitored without their knowledge. It is the responsibility of the installation company and end-user to determine if the application of this 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.

**Made in the USA**  
by  
**ETS Inc.**

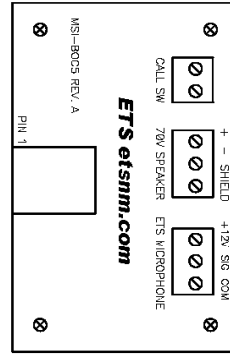
TO 16VAC AC ADAPTOR.  
UP TO 100 FT #18 2 CONDUCTOR IS PERMISSIBLE



IMPORTANT  
INSTALL WIRES IN RJ45 PLUG IN THE FOLLOWING ORDER DO NOT WIRE AS A STANDARD ETHERNET CABLE!!!

- PAIR 1 < 1 CALL SW
- PAIR 2 < 2 CALL SW
- PAIR 2 < 3 SPEAKER (70V) +
- PAIR 2 < 4 SPEAKER (70V) -
- PAIR 3 < 5 MICROPHONE +
- PAIR 3 < 6 MICROPHONE -
- PAIR 4 < 7 +12V (MICROPHONE)
- PAIR 4 < 8 COM (MICROPHONE)

CATS CABLE 1000 FEET MAX  
NO CROSSOVER



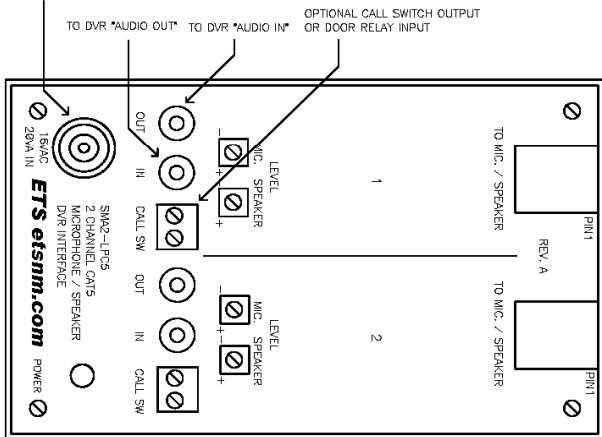
OPTIONAL CALL SWITCH INPUT  
OR DOOR RELAY OUTPUT

TO ANY SPEAKER  
WITH 70V TRANSFORMER

TO ANY ETS SM1  
SERIES MICROPHONE

### CONNECTIONS TO MSI-BOC5 (SEPARATE MICROPHONE AND SPEAKER)

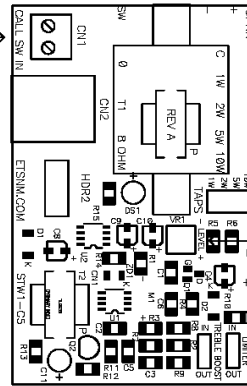
TO 16VAC AC ADAPTOR.  
UP TO 100 FT #18 2 CONDUCTOR IS PERMISSIBLE



IMPORTANT  
INSTALL WIRES IN RJ45 PLUG IN THE FOLLOWING ORDER DO NOT WIRE AS A STANDARD ETHERNET CABLE!!!

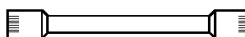
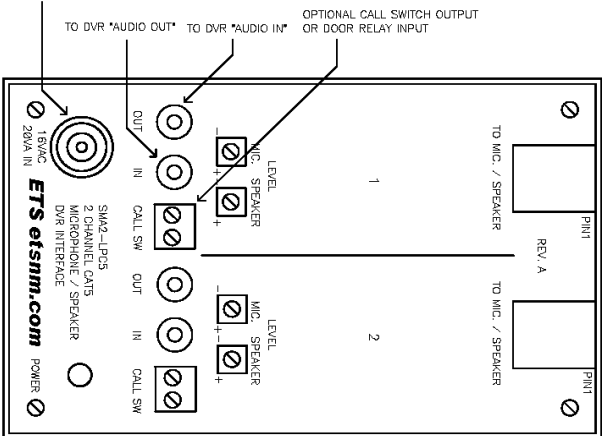
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- PAIR 2 < 2 CALL SW
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- PAIR 2 < 4 SPEAKER (70V) -
- PAIR 3 < 5 MICROPHONE +
- PAIR 3 < 6 MICROPHONE -
- PAIR 4 < 7 +12V (MICROPHONE)
- PAIR 4 < 8 COM (MICROPHONE)

CATS CABLE 1000 FEET MAX  
NO CROSSOVER



### CONNECTIONS TO STW1-XX-C5

TO 16VAC AC ADAPTOR.  
UP TO 100 FT #18 2 CONDUCTOR IS PERMISSIBLE

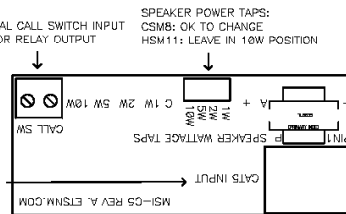


IMPORTANT  
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- PAIR 3 < 6 MICROPHONE -
- PAIR 4 < 7 +12V (MICROPHONE)
- PAIR 4 < 8 COM (MICROPHONE)

CATS CABLE 1000 FEET MAX  
NO CROSSOVER

OPTIONAL CALL SWITCH INPUT  
OR DOOR RELAY OUTPUT



SPEAKER / MICROPHONE INTERFACE

### CONNECTIONS TO MSI-C5 (CSM8 AND HSM11)