The SMA1-LPEA-C5 is a single channel, two way audio Interface box designed to be used with ETS speaker / microphones and Power Over Ethernet IP cameras. It contains a 2.5Watt speaker power amplifier to drive a 70v speaker and an ETS microphone interface. The SMA1-LPEA-C5 also features installer friendly termination of the cable runs and a standard RCA or 3.5mm audio output connectors. The SMA1-LPEA-C5 can be connected to a "microphone" or "line" level input, and "line level" output of a POE IP camera. 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.

SMA1-LPEA-C5 location and power
The SMA1-LPEA-C5 interface box is designed to be located any place along the IP camera CAT5 cable run. It must be located in between the IP camera and the router or switcher as shown in figure 1.
NOTE- The IP camera MUST be connected and operating before the SMA1-LPEA-C5's power indicator will illuminate.

CAT5 Speaker / Microphone Cable Run
Run a standard CAT5 cable to the ETS Speaker / microphone (up to 1000' maximum) and make terminations on BOTH ends as follows on the RJ45 jack:

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)

Adjusting the microphone "gain" and SMA1-LPEA-C5 "level" controls (audio output)
If the SMA1-LPEA-C5 will be plugged into a "microphone level" input of an IP camera, set the microphone gain slightly clockwise (or 1/8 of a full turn) from full counter-clockwise. Then use the "level control" on the SMA1-LPEA-C5 to set a volume that produces an acceptable audio level at the head end.
If the will SMA1-LPEA-C5 be used with a "line level" input, turn the gain control of the SM1 to 3/4 full clockwise and adjust the level control on the SMA1-LPEA-C5 to produce the clearest audio level at the head end.

Adjusting the speaker volume
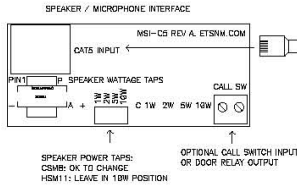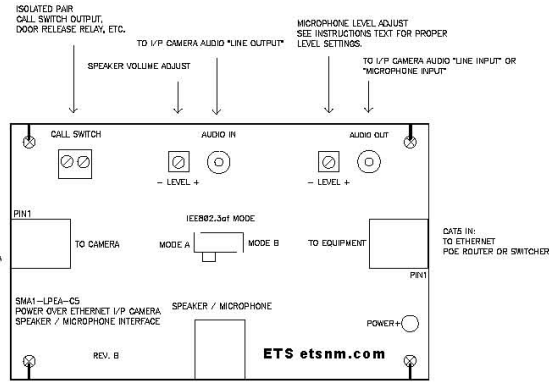Adjust the audio input level for an acceptable volume level on the connected 70v speaker / microphone.

SMA1-LPEA-C5 Mode switch: The SMA1-LPEA-C5 supports Both Modes A and B of IEEE802.3af POE. The SMA1-LPEA-C5 is pre-configured for the most common use of the "end point" POE IEEE802.3af standard (mode A). If the power LED does not illuminate in this position, try the mode B position (mid span).

ISOLATED PAIR
CALL SWITCH OUTPUT,
DOOR RELEASE RELAY, ETC.

MICROPHONE LEVEL ADJUST
SEE INSTRUCTIONS TEXT FOR PROPER
LEVEL SETTINGS.

SPEAKER VOLUME ADJUST

TO I/P CAMERA AUDIO "LINE OUTPUT"

TO I/P CAMERA AUDIO "LINE INPUT" OR
"MICROPHONE INPUT"

CALL SWITCH   AUDIO IN   AUDIO OUT

− LEVEL +   − LEVEL +

PIN1   IEEE802.3af MODE

CAT5 OUT:
TO POE I/P
NETWORK CAMERA   TO CAMERA   MODE A   MODE B   TO EQUIPMENT

CAT5 IN:
TO ETHERNET
POE ROUTER OR SWITCHER

PIN1

SMA1-LPEA-C5
POWER OVER ETHERNET I/P CAMERA
SPEAKER / MICROPHONE INTERFACE

SPEAKER / MICROPHONE

POWER+

REV. B   ETS etsnm.com

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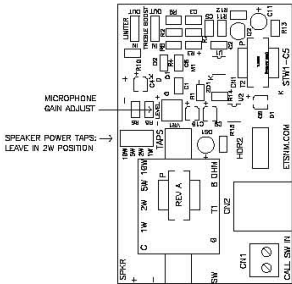DO NOT WIRE AS A STANDARD ETHERNET CABLE!!!

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)

SPEAKER / MICROPHONE INTERFACE

MSI-C5 REV A. ETSNM.COM

CAT5 INPUT

PIN1   SPEAKER WATTAGE TAPS   CALL SW

1W 2W 5W 10W   C 1W 2W 5W 10W

SPEAKER POWER TAPS:
CSM8: OK TO CHANGE
HSM11: LEAVE IN 10W POSITION

OPTIONAL CALL SWITCH INPUT
OR DOOR RELAY OUTPUT

CAT5 CABLE 1000 FEET MAX
NO CROSSOVER

CONNECTIONS TO MSI-C5 (CSM8 AND HSM11)

ISOLATED PAIR
CALL SWITCH OUTPUT,
DOOR RELEASE RELAY, ETC.

MICROPHONE LEVEL ADJUST
SEE INSTRUCTIONS TEXT FOR PROPER
LEVEL SETTINGS.

SPEAKER VOLUME ADJUST

TO I/P CAMERA AUDIO "LINE OUTPUT"

TO I/P CAMERA AUDIO "LINE INPUT" OR
"MICROPHONE INPUT"

CALL SWITCH   AUDIO IN   AUDIO OUT

− LEVEL +   − LEVEL +

PIN1   IEEE802.3af MODE

CAT5 OUT:
TO POE I/P
NETWORK CAMERA   TO CAMERA   MODE A   MODE B   TO EQUIPMENT

CAT5 IN:
TO ETHERNET
POE ROUTER OR SWITCHER

PIN1

SMA1-LPEA-C5
POWER OVER ETHERNET I/P CAMERA
SPEAKER / MICROPHONE INTERFACE

SPEAKER / MICROPHONE

POWER+

REV. B   ETS etsnm.com

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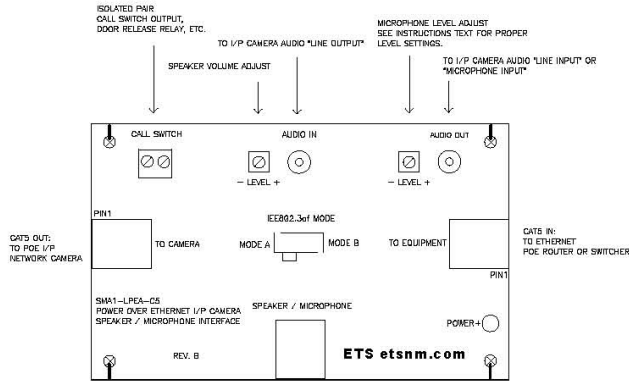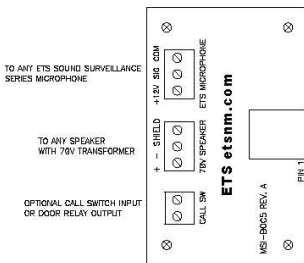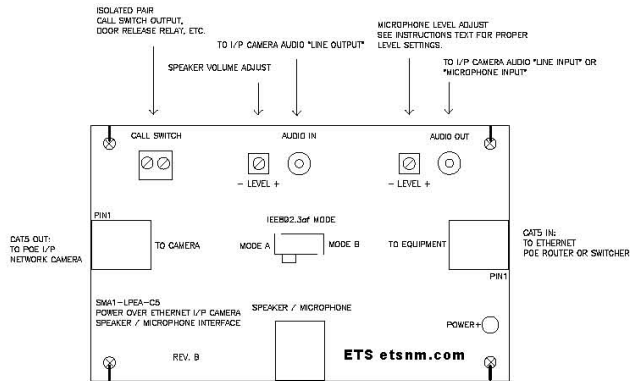DO NOT WIRE AS A STANDARD ETHERNET CABLE!!!

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)

MICROPHONE
GAIN ADJUST

SPEAKER POWER TAPS:
LEAVE IN 2W POSITION

STW1-C5
REV A
ETSNM.COM

CALL SW IN

OPTIONAL CALL SWITCH INPUT
OR DOOR RELAY OUTPUT

CAT5 CABLE 1000 FEET MAX
NO CROSSOVER

CONNECTIONS TO STW1-XX-C5

ISOLATED PAIR
CALL SWITCH OUTPUT,
DOOR RELEASE RELAY, ETC.

MICROPHONE LEVEL ADJUST
SEE INSTRUCTIONS TEXT FOR PROPER
LEVEL SETTINGS.

SPEAKER VOLUME ADJUST

TO I/P CAMERA AUDIO "LINE OUTPUT"

TO I/P CAMERA AUDIO "LINE INPUT" OR
"MICROPHONE INPUT"

CALL SWITCH   AUDIO IN   AUDIO OUT

− LEVEL +   − LEVEL +

PIN1   IEEE802.3af MODE

CAT5 OUT:
TO POE I/P
NETWORK CAMERA   TO CAMERA   MODE A   MODE B   TO EQUIPMENT

CAT5 IN:
TO ETHERNET
POE ROUTER OR SWITCHER

PIN1

SMA1-LPEA-C5
POWER OVER ETHERNET I/P CAMERA
SPEAKER / MICROPHONE INTERFACE

SPEAKER / MICROPHONE

POWER+

REV. B   ETS etsnm.com

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

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)

TO ANY ETS SOUND SURVEILLANCE
SERIES MICROPHONE

+12V SIG COM   ETS MICROPHONE

SHIELD

TO ANY SPEAKER
WITH 70V TRANSFORMER

+ −   70V SPEAKER

ETS etsnm.com

OPTIONAL CALL SWITCH INPUT
OR DOOR RELAY OUTPUT

CALL SW

MSI-BOC5 REV. A   PIN 1

CAT5 CABLE 1000 FEET MAX
NO CROSSOVER

CONNECTIONS TO MSI-BOC5 (SEPARATE MICROPHONE AND SPEAKER)

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
ETSInc.