

# IF-PX

## POE INTERFACE / POWER EXTRACTOR

### INSTALLATION AND OPERATING INSTRUCTIONS

#### INTRODUCTION

Model IF-PX is a single zone POE in-line interface designed to extract power from an Ethernet connection to power Louroe microphones, speaker/microphones and external devices that require a 12Vdc supply such as Encoders and Non PoE IP cameras. The IF-PX supports both one-way and two-way audio. Most commercial grade line level unbalanced microphones are compatible with this unit. Audio output has variable gain control.

Terminal blocks are employed to receive signal wiring from a Louroe Verifact microphone or an AOP-SP speaker/microphone. Two 3.5mm stereo male to 3.5mm stereo male audio cables are included to connect the unit to an IP camera or Encoder. Both Mode A and Mode B power options of IEEE802.3af are supported. Outputs for both PoE (Power+Data) and Non-PoE (Data Only) cameras and Encoders are included. The IF-PX has built-in thermal, overload and short-circuit protection that protects the unit from overcurrent and over temperature. The unit shuts down and turns back ON after the fault is removed.



FIG. 1

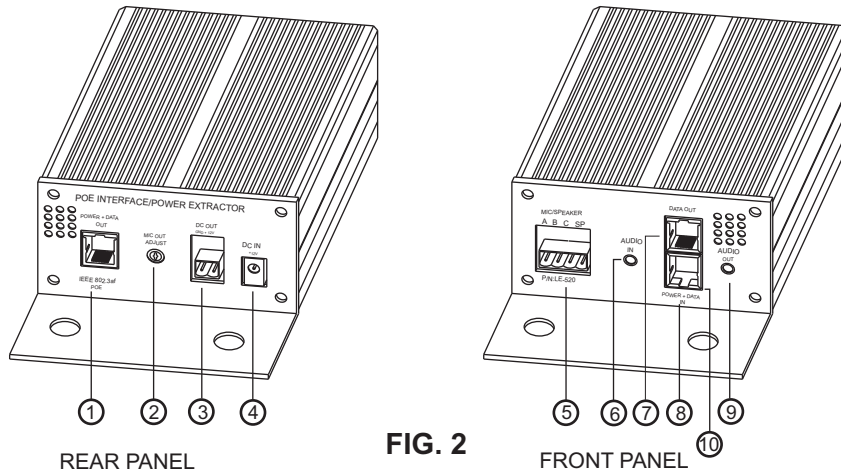


FIG. 2

#### ILLUSTRATED PARTS

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>① Power+Data Output Jack</li> <li>② MIC Out Adjust</li> <li>③ DC Out Terminal Block</li> <li>④ DC IN Power Jack</li> <li>⑤ Mic/Speaker Audio Terminal Block</li> <li>⑥ Audio Input Jack</li> <li>⑦ Data Out Only Jack</li> <li>⑧ Power+Data Input Jack</li> <li>⑨ Audio Output Jack</li> <li>⑩ Power Indicator</li> </ul> | <ul style="list-style-type: none"> <li>Connects to PoE IP Cameras and/or Encoder</li> <li>Adjust the audio output gain of the microphone</li> <li>Provides +12Vdc voltage to power external equipment such as Non-PoE cameras, encoders, relays, etc.</li> <li>Receives 12Vdc power from external power supply (not supplied)</li> <li>Receives wiring from Louroe Verifact Microphone and/or AOP-SP series</li> <li>Receives audio from IP Camera, Encoder, etc. and connects to audio output for talkback operation</li> <li>Connects to data input of Non-PoE IP Cameras, and Encoders.</li> <li>Connects to PoE (802.3af) Switch or PoE (802.3af) Midspan</li> <li>Connects to audio input of IP cameras, Encoder, etc. Provides audio to IP Cameras, Encoder, etc.</li> <li>Lights Green indicating power is present to the unit</li> </ul> |
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# INSTALLATION AND OPERATING INSTRUCTIONS

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## CAUTION

1. Do not connect non-PoE compliant devices to Power+Data Output Jack<sup>①</sup>. Failure to do so may damage the powered equipment.
2. Do not connect wiring from external microphone or AOP-SP to the Mic/Speaker Audio Terminal Block<sup>⑤</sup> until all the ethernet cables (RJ45) are connected and power is present to the camera. Failure to do so in sequence, the camera may not receive power.

## NOTES

Plan ahead where to install before making any connections. The IF-PX is supplied with 6' audio cables for connections between the IF-PX and camera. The maximum distance between the IP camera and PSE is 100m or 328'.

## CONNECTIONS AND OPERATIONS

### CONNECTING PoE SWITCH TO PoE IP CAMERA OR ENCODER (See Fig. 3 and 4)

1. Connect Ethernet cable from PSE (Power Source Equipment) to the Power+Data Input Jack<sup>⑧</sup> of the IF-PX.
2. Connect Ethernet cable from camera to Power+Data Output Jack<sup>①</sup> of the IF-PX. Camera should now have power and data running through it. Power Indicator<sup>⑩</sup> lights up.
3. **Microphone Connection (one-way listen):**
  - a) Connect a 2 cond. shielded cable to the terminal block of Louroe's Verifact microphone. Connect the other end to the pluggable header (Mic/Speaker Audio Terminal Block<sup>⑤</sup>) of the IF-PX. Connect terminal A of microphone to terminal A of IF-PX; terminal B of microphone to terminal B of IF-PX; terminal C of microphone to terminal C of IF-PX. Terminal SP of IF-PX is not used when connecting microphone only (one-way listen).
  - b) Using the patch cable (stereo plug to stereo plug), connect the Audio Output Jack<sup>⑨</sup> of the IF-PX to the audio input of the camera.
  - c) Adjust the Mic Out Adjust<sup>②</sup> potentiometer (as needed) by rotating it clockwise to increase the microphone output to the camera, or counterclockwise to decrease. This potentiometer is factory set for a gain of 0dB output. See interconnection diagram (Fig 3) on page 4.
4. **AOP-SP Connection (two-way audio): Before connecting the AOP-SP series, make sure that the Ethernet cables between the PSE, IF-PX and Camera are all connected.**
  - a) Connect a 3 cond shielded cable between the AOP-SP and the pluggable header (Mic/Speaker Audio Terminal Block<sup>⑤</sup>) of the IF-PX. Connect terminal A of the AOP-SP to terminal A of IF-PX; connect terminal B of AOP-SP to terminal B of IF-PX; terminal C of AOP-SP to terminal C of IF-PX and terminal SP of AOP-SP to terminal SP of IF-PX.
  - b) Using the patch cable (stereo plug to stereo plug), connect the Audio Output Jack<sup>⑨</sup> of the IF-PX to the audio input of the camera or encoder. Connect the Audio Input Jack<sup>⑥</sup> of IF-PX to audio output of the camera or encoder. See interconnection diagram on page 5.
  - c) See installation instructions of AOP-SP for setting up and operation of the unit.
5. **Setup camera for video and audio monitoring.** Use an amplified speaker and a microphone to test the audio. A push to talk microphone is recommended to minimize the echo when doing two-way audio. See camera user manual for setting up the camera to the network.

**The IF-PX can power most IP cameras and Encoders, check that the power requirements of the equipment does not go beyond the IF-PX power output.** See IF-PX power output below.

#### Power output of IF-PX:

12Vdc, 650mA with AOP-SP connected

12Vdc, 850mA with a Louroe microphone only connected

### CONNECTING PoE SWITCH TO NON-PoE IP CAMERA OR ENCODER (See Fig 5)

1. Connect Ethernet cable from PSE (Power Source Equipment) to the Power+Data Input Jack<sup>⑧</sup> of the IF-PX.
2. Connect Ethernet cable from camera to Data Out Only Jack<sup>⑦</sup> of the IF-PX.

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3. Connect 2 wires to the DC Out Terminal Block (3). At least 20 AWG wires should be used between the IF-PX and the encoder or camera. Positive 12Vdc connects to terminal marked "+12Vdc" of IF-PX. Negative 12Vdc or ground connects to terminal marked "GND" of IF-PX. Connect the other end of the 2 wires to the power jack or terminal block of the encoder or camera. If the encoder or camera has a 2.1mm power jack, an adapter (2-pin terminal block to 2.1mm male plug) can be used. Connect the wires to the 2-pin terminal block (**observe polarity**) of the adapter. Plug the adapter to the 2.1mm power jack of the encoder or camera.
4. Repeat same procedure when connecting Louroe Verifact microphone or AOP-SP (steps 3 thru 5 from the previous page - Connections and Operations).

## CONNECTING NON-PoE SWITCH TO NON-PoE CAMERA OR ENCODER (See Fig. 6 - Encoder shown)

1. Connect Ethernet cable from Non-PoE Switch to the Power+Data Input Jack (8) of the IF-PX.
2. Connect Ethernet cable from Encoder or Camera to Data Out Only Jack (7) of the IF-PX.
3. Connect DC Out Terminal Block (3) to the power input jack of the encoder or camera. This Terminal block supplies 12Vdc power to the camera or encoder. It can also provide power to other external equipment such relays, etc. that require a 12Vdc power. Connect 2 wires to the DC Out Terminal Block (3). At least 20 AWG wires can be use between the IF-PX and the encoder or camera. Positive 12Vdc connects to terminal marked "+12Vdc" of IF-PX. Negative 12Vdc or ground connects to terminal marked "GND" of IF-PX. Connect the other end of the 2 wires to the power jack or terminal block of the encoder or camera. If the encoder or camera has a 2.1mm power jack, an adapter (2-pin terminal block to 2.1mm male plug) can be used. Connect the wires to the 2-pin terminal block (**observe polarity**) of the adapter. Plug the adapter to the 2.1mm power jack of the encoder or camera.
4. Connect an external power supply (not included) to the DC In Jack (4) to power the IF-PX and the encoder or camera. We recommend using a 12Vdc, 2A power supply.
5. Repeat same procedure when connecting Louroe Verifact microphone or AOP-SP (steps 3 thru 5 from the previous page - Connections and Operations).

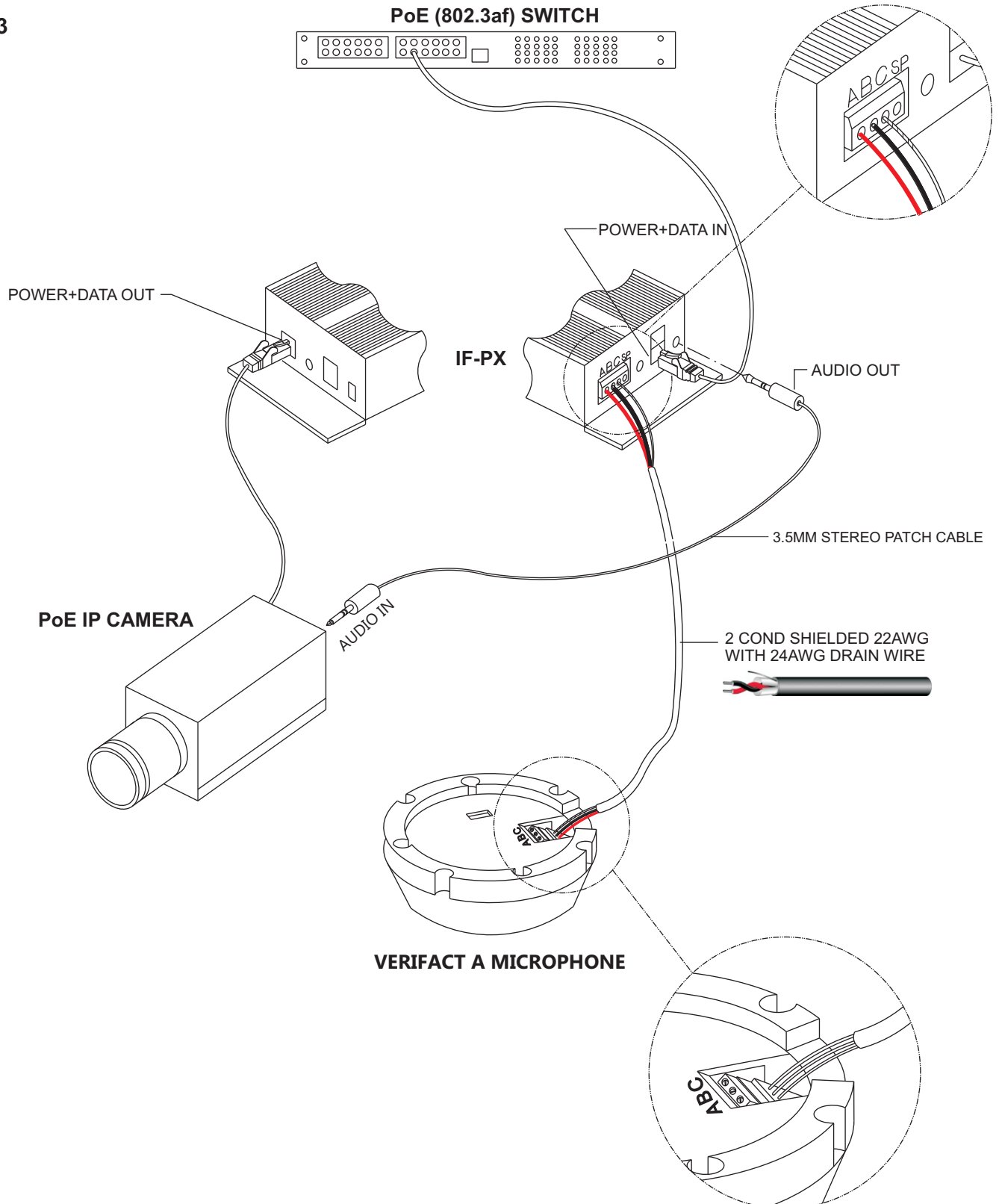
## SPECIFICATIONS

|                         |   |
|-------------------------|---|
| ▪ Ethernet Connectors   | RJ45 CAT 5 Input and Output Jacks   |
| ▪ Voltage Input         | 36V - 57V   |
| ▪ DC Output             | 12Vdc, 800mA  |
| ▪ Optional Power Supply | 12Vdc, 2A, Ext. Power Supply<br>(Not Supplied)  |
| ▪ Operating Temperature | -20°C to +65°C  |
| ▪ Connectors            | RJ-45, DC Jack,<br>Terminal Block for Microphone/Speaker<br>3.5mm Stereo Jacks for Audio IN/OUT |
| ▪ Audio Output/Input    | Line level  |
| ▪ Audio Output Gain     | up to +15dB   |
| ▪ Material              | Black Anodized Al 14 Ga   |
| ▪ Dimensions            | 6"L x 3 1/2"W x 2 1/8"H   |
| ▪ Weight                | 13oz.   |

# INSTALLATION AND OPERATING INSTRUCTIONS

## INTERCONNECTION DIAGRAM BETWEEN A PoE SWITCH, IF-PX, IP CAMERA AND VERIFACT A MICROPHONE FOR ADDING ONE-WAY AUDIO

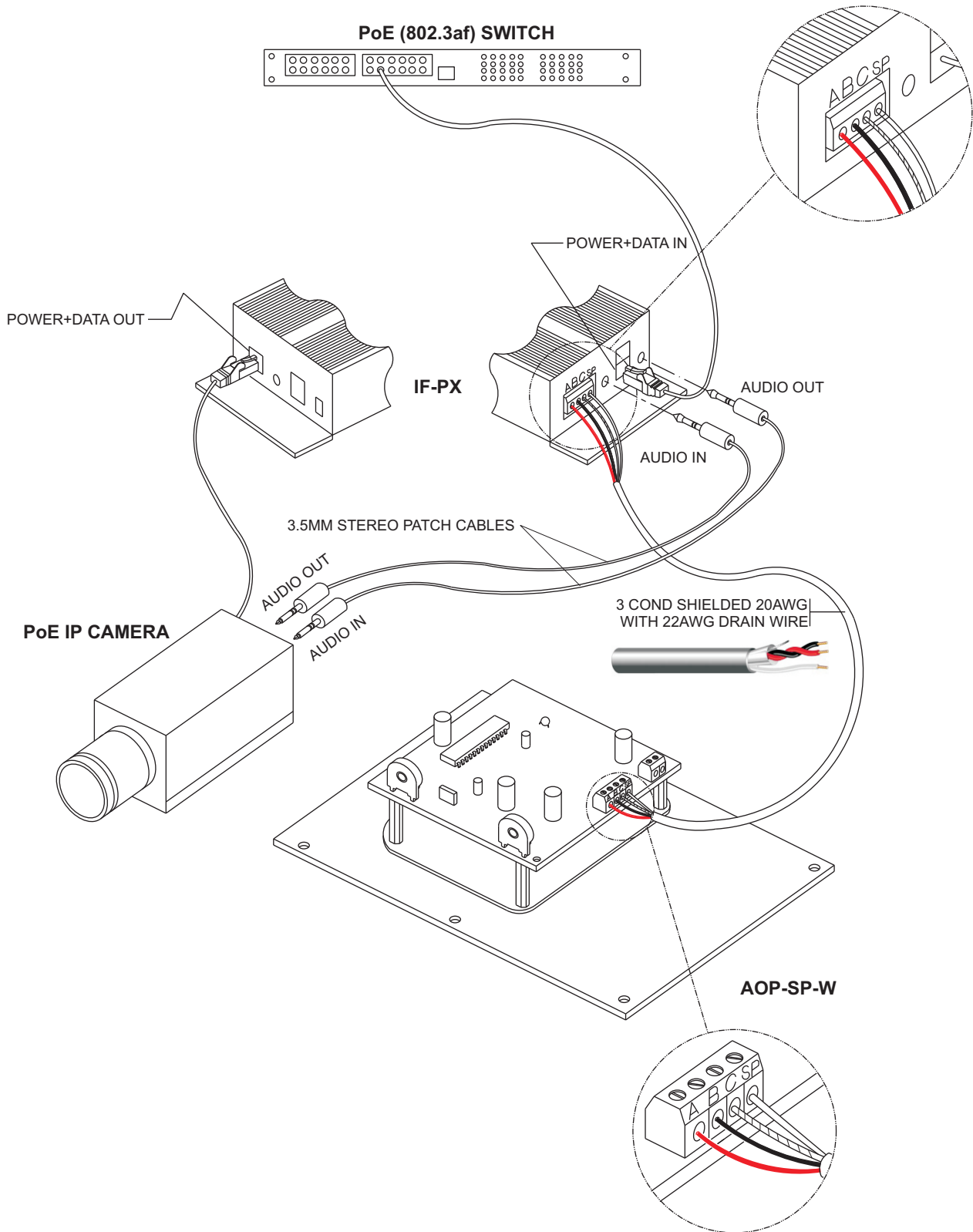
FIG. 3



# INSTALLATION AND OPERATING INSTRUCTIONS

## INTERCONNECTION DIAGRAM BETWEEN A PoE SWITCH, IF-PX, IP CAMERA AND AOP-SP SPEAKER/MICROPHONE UNIT FOR ADDING TWO-WAY AUDIO

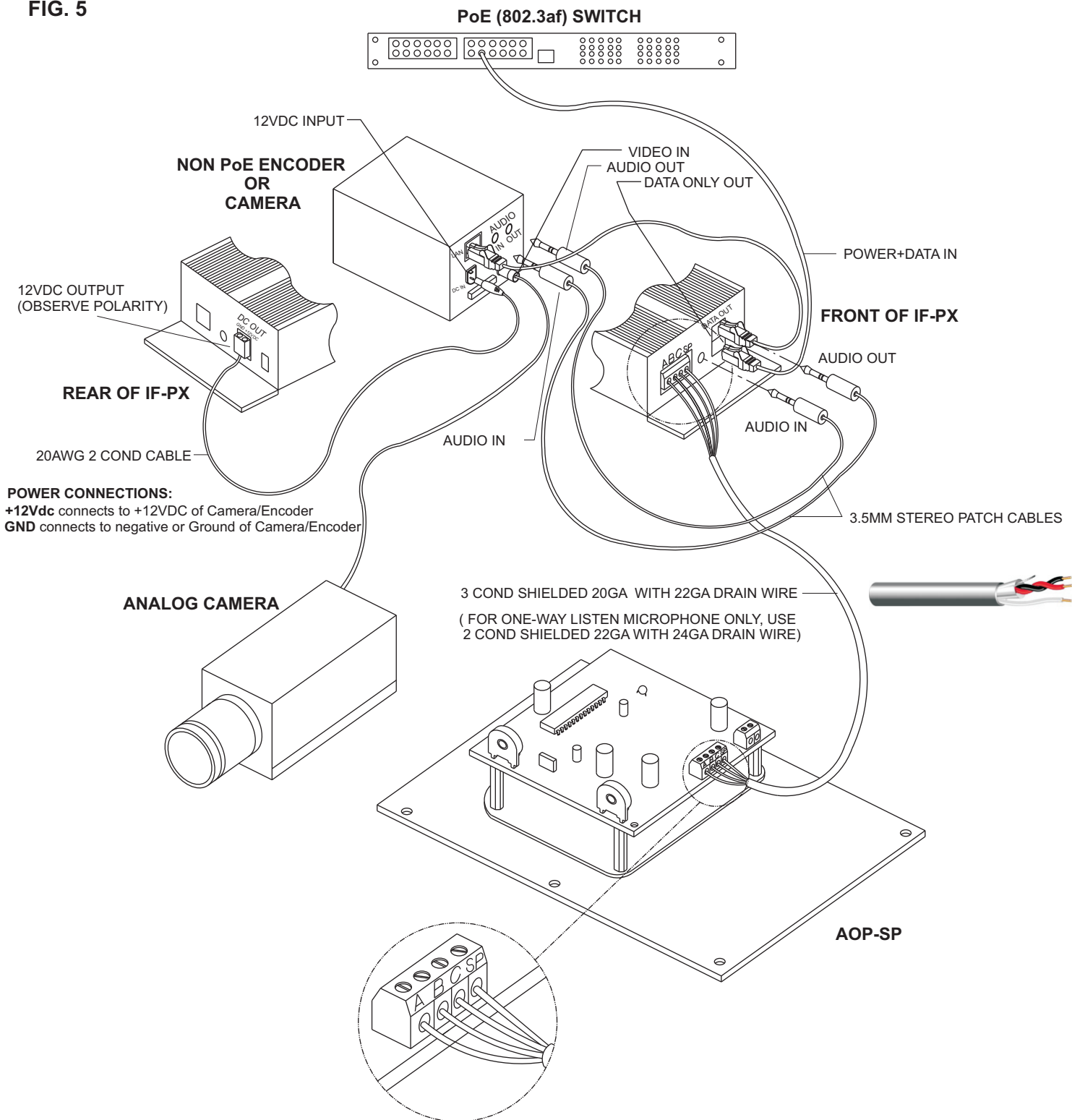
FIG. 4



# INSTALLATION AND OPERATING INSTRUCTIONS

## INTERCONNECTION DIAGRAM BETWEEN A PoE SWITCH, IF-PX, NON-POE ENCODER AND AOP-SP SPEAKER/MICROPHONE UNIT FOR ADDING TWO-WAY AUDIO (WHEN USING LOUROE MICROPHONE FOR ONE-WAY LISTEN, JUST CONNECT ONLY THE AUDIO OUTPUT OF THE IF-PX TO THE AUDIO INPUT OF CAMERA OR ENCODER)

FIG. 5

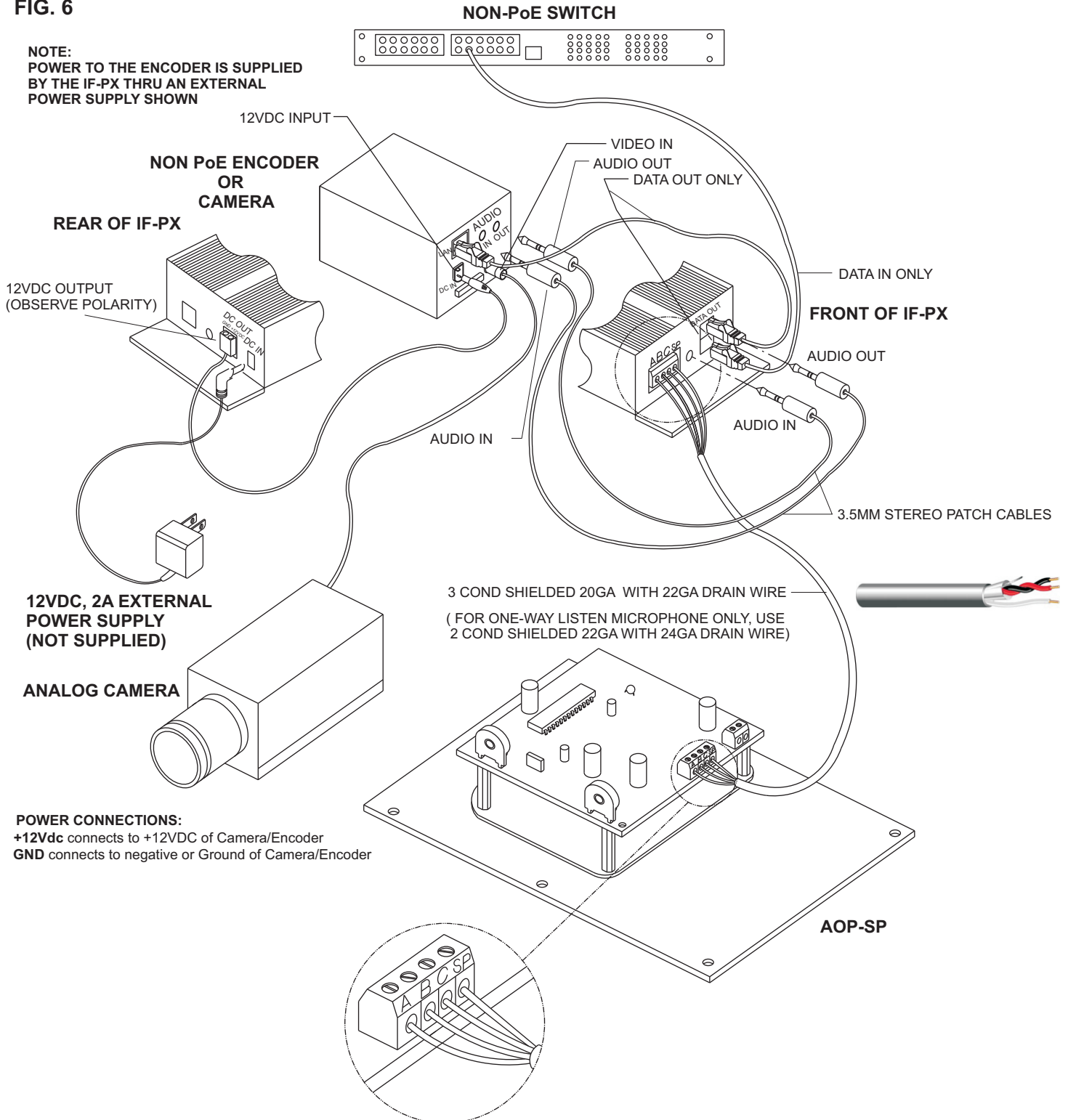




# INSTALLATION AND OPERATING INSTRUCTIONS

## INTERCONNECTION DIAGRAM BETWEEN A NON-PoE SWITCH, IF-PX, NON-PoE ENCODER AND AOP-SP SPEAKER/MICROPHONE UNIT FOR ADDING TWO-WAY AUDIO (WHEN USING LOUROE MICROPHONE FOR ONE-WAY LISTEN, JUST CONNECT ONLY THE AUDIO OUTPUT OF THE IF-PX TO THE AUDIO INPUT OF CAMERA OR ENCODER)

FIG. 6



# INSTALLATION AND OPERATING INSTRUCTIONS

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#### IMPORTANT NOTICE

When this equipment is used as part of an audio monitoring system, the law requires that the public be given notice of AUDIO MONITORING ON THE PREMISES. A decal notice is included with each microphone shipped.



Federal Law References:  
Federal Regulations, US Code, Title 18. Crime and Criminal Procedure, Sec 2510.

#### WARRANTY

LOUROE ELECTRONICS® warrants that at the time of shipment products manufactured by LOUROE ELECTRONICS® to be free of defects in material and workmanship. Should a defect appear within one year (12 months) from date of shipment, LOUROE ELECTRONICS® will, at its sole discretion, repair or replace the defective equipment. This equipment shall not be accepted for repair or return without prior notification by LOUROE ELECTRONICS®.

This warranty does not extend to any Louroe product that has been subjected to improper or incorrect installation, misuse, accident, or in violation of installation instructions provided by LOUROE ELECTRONICS®.

Returned shipments to LOUROE ELECTRONICS® shall be at customer's expense. LOUROE ELECTRONICS® will return the equipment prepaid via best way.