Located in Van Nuys, California since 1979, Louroe Electronics™ is the World Leader in Audio Monitoring Technology. Louroe products are used in over forty countries and are utilized in both the private sector and government applications. Louroe serves the needs of law enforcement, security, health care, entertainment, hospitality and retail industries and many more. At Louroe Electronics we maintain rigorous standards to ensure our products provide reliability, durability and excellent performance for our customers' needs.

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IP SPEAKER MICROPHONE – CEILING MOUNT

DIVISION 27 – COMMUNICATIONS

27 50 00 Distributed Communications and Monitoring Systems

27 51 00 Distributed Audio-Video Communications Systems

Notes to Specifier:

1. Specifiers may alternately wish to include this specification in the following section:

   28 47 17 Notification Devices and Methods

2. Where several alternative parameters or specifications exist, or where, the specifier has the option of inserting text, such choices are presented in **<bold text>.**

3. Explanatory notes and comments are presented in **colored** text.

BI-DIRECTIONAL IP SPEAKER MICROPHONE – CEILING MOUNT

1. GENERAL

1. SUMMARY

A. Section includes a ceiling-mounted full duplex IP audio microphone and speaker combination, where the microphone produces a line level output and speaker produces a 2.5 or 8 Watt output, depending on size.

B. Related Requirements

1. 10 00 00 Specialties (Division 10)
   a. 10 17 00 Telephone Specialties
2. 27 00 00 Communications (Division 27)
   a. 27 15 00 Communications Horizontal Cabling
   b. 27 30 00 Voice Communications
      1) 27 32 00 Telephone Sets
3. 28 00 00 Electronic Safety and Security (Division 28)
   a. 28 05 33 Safety and Security Network Communications Equipment
   b. 28 13 19 Access Control Systems Infrastructure
   c. 28 23 00 Video Surveillance

2. SUBMITTALS

A. Informational Submittals

1. Product Data - Manufacturer's printed or electronic data sheets
2. Manufacturer's instructions

B. Closeout Submittals

1. Warranty documentation
2. Manufacturer's installation, configuration, and operation manuals
3. As-built wiring diagrams
4. Recommended spare parts list

3. QUALIFICATIONS

A. Manufacturer shall have a minimum of five years' experience in providing commercial speaker microphone systems.

B. Manufacturer's products shall be manufactured in the United States of America.

C. Installers shall meet Manufacturer's requirements for equipment installation.

4. WARRANTY

A. Manufacturer shall provide a limited 24 month warranty for the product to be free of defects in material and workmanship.

END OF SECTION

2. PRODUCTS

1. EQUIPMENT

A. Manufacturer: Louroe Electronics
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B. Model: DigiFact 851, DigiFact 855, DigiFact 825, DigiFact 830

C. Alternates: None

2. DESCRIPTION

A. The bi-directional IP speaker microphone shall be a full duplex audio microphone and speaker combination, designed for interface to third party audio and video equipment and including the following significant characteristics:

1. built-in muting and half-duplex functionality
2. PoE power
3. output alarms and pre and post-alarm recording, based on audio analytics and decibel threshold
4. ONVIF Profile T compliance
5. Browser-based software interface

B. The microphone shall produce a line level output and connect to the audio input of a receiving device.

C. The speaker shall produce a **<2.5> <6> <8>** Watt output from a line level input transmitted by an audio driver device.

Models DigiFact 851, DigiFact 855 are 2.5 Watt units.

Models DigiFact 825 and DigiFact 830 are 8 Watt units.

D. The speaker microphone shall incorporate echo cancellation, attenuation, and noise filtering.

E. Mounting: Ceiling - **<flush> <surface>** mount configuration.

Model	Speaker Dia.	Mounting Surface
DigiFact 851	4”	Flush
DigiFact 855	4”	Surface
DigiFact 825	5.5”	Flush
DigiFact 830	6.5”	Flush

3. SPECIFICATIONS

A. Microphone

1. Type: Electret condenser
2. Output: Line level (0 dB)
3. Sensitivity: -45 dB
4. Pick-up pattern: Omnidirectional within 30 feet

a. Frequency response: 40 Hz to 15 kHz +/- 1 dB

b. Output Impedance: 600 Ω @ 1 KHz unbalanced

5. Speaker
   a. Power output: **<2.5 Watts> <8 Watts>**
      Models DigiFact 851 and DigiFact 855 are 2.5 Watt units.
      Models DigiFact 825 and DigiFact 830 are 8 Watt units..
   b. Impedance: **<8 Ω> <10 Ω @ 1 KHz>**
      Models DigiFact 851 and DigiFact 855 have 8 Ω impedance.
      Models DigiFact 825 and DigiFact 830 have 10 Ω impedance.
   c. Frequency Response: **<300 Hz – 400 KHz> <180 Hz to 20 kHz>**
      Models DigiFact 851, DigiFact 855, and DigiFact 825 are 300 Hz – 400 KHz.
      Models, DigiFact 830 is 180 Hz – 20 KHz.
   d. Magnet: Neodymium
   e. Size: **<4"> <5.5"> <6.5">** diameter round
      See table in commentary following Section 2.02 E above.
6. Memory: 512 MB RAM
7. Network
   a. Supported protocols: ONVIF profile T, IPv4, HTTPS, RTSP, RTP, TCP, SSH, UDP Multicast
   b. Security: HTTPS, password protection, user level access (3 levels)
   c. Audio:
      1) Streaming: Two way (half and full duplex)
      2) Compression: PCM, G.711 a-Law, G.711 mu-Law, G.726-40, AAC
   d. Connectivity: RJ45
8. Events and Actions
   a. Event Triggers:
      1) Audio analytics (embedded)
         a) Gunshot
         b) Aggression
         c) Car Alarm
         d) Broken Glass
      2) Decibel threshold
      3) External inputs (2)
   b. Event actions:
      1) HTTP POST notification
      2) external output activation (4 outputs)
      3) pre and post-alarm audio recording
9. Electrical
   a. Voltage: PoE IEEE 802.3af or 5 VDC, 2 A maximum
      5 VDC is optional via external power supply via 2-pin header – used in lieu of PoE.
   b. Connectors:
      1) Network: RJ45
      2) External voltage (5V), inputs and outputs: 10-pin terminal block
10. Housing:

a. Material: Painted steel

b. Weight; **<2.1> <3.3> <3.8>** pounds

Weights pertain to DigiFact 851/855, DigiFact 825/, DigiFact 830.

c. Dimensions (Dia x D): **<12.875" diameter grill, 12.375" x 3" backbox> <7.5" x 5"> <9" x 5">**

Dimensions pertain to DigiFact 851/855, DigiFact 855, DigiFact 825, DigiFact 830.

4. SOFTWARE

A. The speaker-microphone shall be discoverable and configurable via web-browser.

B. Manufacturer-supplied software shall have the ability to configure the following parameters:

1. Audio stream settings
2. ONVIF settings
3. Input ports
4. Output ports
5. Passwords and user settings
6. Network settings
7. Reboot and reset
8. Device firmware update

C. The Manufacturer shall provide an open Applications Programming Interface (API) for the device.

END OF SECTION

3. EXECUTION

3.1. INSTALLERS

A. Contractor personnel shall comply with all applicable state and local licensing requirements.

3.2. INSTALLATION

A. Contractor shall follow Manufacturer's written installation instructions in their entirety.

B. Where applicable, the product shall be installed with a listedLimited Power Source (LPS) or Class 2 power supply.

When the speaker microphone is part of an audio monitoring system, it is recommended that Contractor post notice of audio monitoring on the premises in accordance with Federal and State regulations.

END OF SECTION