



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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LOUROE NETWORK AUDIO DEVICES WITH INTELLIGENT AUDIO ANALYTICS

DIVISION 28 – ELECTRONIC SAFETY AND SECURITY

- 28 16 19** **Intrusion Detection Remote Devices and Sensors**
 - 28 26 13** **Electronic Personal Safety Detection Systems**
 - 28 23 29** **Video Surveillance Remote Devices and Sensors**
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Notes to Specifier:

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

- 27 50 00** **Distributed Communications and Monitoring Systems**
- 27 51 00** **Distributed Audio-Video Communication Systems**

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.

LOUROE NETWORK AUDIO DEVICES WITH INTELLIGENT AUDIO ANALYTICS

1. GENERAL

1. INTENT

- A. The intent of this document is to specify the minimum criteria for the design, supply, installation, and commissioning of Louroe Digifact™ Audio Devices with Intelligent Audio Analytics.

2. SUMMARY

- A. The Louroe Digifact™ Audio Devices with Intelligent Audio Analytics shall offer a robust, easy to use, low cost and easy to install application for continuous audio monitoring AND/OR unattended monitoring of audio for specific events such as aggressive speech, breaking glass, car alarms and explosions. When paired with a compatible third-party monitoring system (video or alarm monitoring system), the devices provide a turnkey solution for audio monitoring and threat detection.
- B. The Louroe Digifact™ Audio Devices are available in a variety of form and functional factors such as microphone or speaker/microphone, indoor or outdoor, wall or ceiling mount as well as a variety of speaker sizes viz. 2.5"/4"/5.5"/6.5".
- C. The Louroe Digifact™ Audio Devices shall also include forensic tools to provide a means of investigating stored audio by retrieving past incidents as well as methods to send event metadata to a compatible receiving entity.

3. REFERENCES

- A. Reference Standards
 1. Conformity for Europe (CE)
 2. Federal Communication Commission (FCC) Title 47, Part 15 (47 CFR 15)
 3. Underwriters Laboratories (UL)
- B. Definitions
 1. Digifact™ Audio Device – A Louroe Digifact™ series microphone or speaker/microphone supporting the Intelligent Audio Analytics Software.
 2. VMS system – A 3rd party PC based monitoring software that supports receiving or ONVIF compliant audio streams to and from the Louroe Devices as well as supports receiving of event metadata in the form of JSON messages vis http or tcp protocols.

4. 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. Recommended spare parts list

5. QUALIFICATIONS

- A. Manufacturer shall have a minimum of five years' experience in providing commercial audio systems.
- B. Manufacturer's products shall be manufactured in the United States of America.

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

6. WARRANTY

- A. Manufacturer shall provide a limited *2-year* warranty for the product to be free of defects in material and workmanship.
- B. Manufacturer shall make available firmware updates, improvements, and bug fixes.

END OF SECTION

2. PRODUCTS

2. EQUIPMENT

- A. Manufacturer: Louroe Electronics
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Phone: (818) 994-6498
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- B. Model: LE-870/875/855/851/830/825/880/890/885/895
- C. Alternates: None

3. GENERAL DESCRIPTION

- A. The intelligent audio analytics system shall consist of two (2) major components;
1. Digifact™ series microphone or speaker/microphone supporting the Intelligent Audio Analytics Software.
 2. Compliant third-party audio/video monitoring software system – A third party PC based monitoring software that supports receiving/sending of ONVIF compliant audio streams to/from the Digifact™ Audio Device as well as supports receiving of event metadata in the form of JSON messages via http or tcp protocols.

4. DEVICE CAPABILITIES

- A. Digifact™ Audio Device shall include, as a minimum, the following features/functions/specifications:
1. Capable of sending an OnVif compliant audio stream AND receiving a “talk back” audio stream from a compliant third-party audio/video monitoring software system.
 2. Capable of capturing and recording audio trigger events in both indoor and outdoor applications.
 3. Sensitive to the decibel level and spectral density of sound waves received and be able to distinguish and identify trigger events.
 4. Operates by mounting the Digifact™ Audio Device in a position/height where it has the best possibility of having line of sight to a possible source of the sound and with as few obstructions as possible.
 5. Shall have a variety of detection zones depending on the application installed. A detection zone is defined as a dedicated region within a microphones field of operation used to detect audio trigger events specific to that zone.
 6. A web-based user interface to adjust devices parameters, that at a minimum shall provide:
 - Device IP address, subnet mask and default gateway
 - Microphone and speaker (where applicable speaker/microphone units) gain adjustments
 - Full/Half Duplex communication modes (where applicable speaker/microphone units)
 - Sensitivity settings to increase/decrease the detection capability of each audio analytic classifier
 - Configure event to actions as defined in item 2.04 A 6
 - Configure time/date of the Digifact™ Audio Device
 - Configure the Digifact™ Audio Device input and output ports
 - Retrieve and export stored audio files
 7. Have the capability in the event of an audio trigger event, for the user to define and automate the following actions;
 - a. Send metadata information in a JSON format via TCP or HTTP protocol to a compatible receiving entity, the metadata must contain; date and time of event, type of event and four (4) user configurable free text fields.

- b. Activate up to four (4) output ports to activate/deactivate an external circuit.
- c. Create a time stamped recording of an audio segment for a user specified duration of time before and after the trigger event occurred. These recordings will be stored on the Digifact™ Audio Device storage and can be exported through the web-interface to local PC storage.
- d. Play an Audio clip in response to a trigger event (where applicable speaker/microphone units)

5. **HARDWARE COMPONENTS**

- A. Digifact™ series microphone or speaker/microphone supporting the Intelligent Audio Analytics Software.
 1. Power Requirements: Per the individual Digifact™ Audio device specification
 2. Environmental Conditions: Per the individual Digifact™ Audio device specification
- B. Compliant third-party audio/video monitoring software system - PC -
 1. Performance Requirements: Per the 3rd party software manufacturers specification

END OF SECTION

PART 3 EXECUTION

1. EXAMINATION

- A. The Louroe Digifact™ Audio devices shall be inspected before installation, and shall be free of any cosmetic defects or damage.

2. PREPARATION

- A. Prior to installation, the Digifact™ Audio devices shall be configured and tested in accordance with the Manufacturer's instructions.

3. INSTALLATION

- A. Louroe Digifact™ Audio devices shall be installed, programmed, and tested in accordance with the manufacturer's instructions.
 - 1. In order to ensure a complete, functional Intelligent Audio Analytics System, for bidding purposes, where information is not available from the Owner upon request, the worst-case condition shall be assumed.

Microphones and speaker/microphones shall be positioned according to the requirements of the Louroe Digifact™ Audio devices requirements to ensure proper functionality. If the microphone pick up areas are not optimal, the microphones shall be repositioned by TBD.

4. TESTING AND CERTIFICATION

- A. The Contractor shall demonstrate the functionality of the Louroe Digifact™ Audio Devices upon completion of installation, documenting the result of all tests and providing these results to the Owner.
- B. Louroe Digifact™ Audio Devices shall be tested in accordance with the following:
 - 1. operation with connected equipment.
 - 2. all operational features of the system.
- C. A letter of certification shall be provided to indicate that the tests have been performed, and all equipment is operational.

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

END OF SECTION