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DIGIFACT® TLO-D Part No: LE-889

POE-IP 2-WAY TALK-LISTEN INDOOR/OUTDOOR HORN
INSTALLATION AND OPERATING INSTRUCTIONS

PRODUCT DESCRIPTION

The Digifact® TLO-D, (LE-889) is part of the Louroe Microphone Application Platform (LMAP). This high-performance microphone and paging horn easily connects to your network POE switch using a single UTP Cat5e, Cat6 cable. The microphone provides an omnidirectional pickup pattern with a wide dynamic range and frequency response, capable of superior sound capture of low and high-frequency audio over a wide coverage area picks up audio easily within a 30-foot diameter. The Inverted Horn Element offers long range and a wide dispersion area for clear communication. The TLO-D can be used and mounted indoors or outdoors,IP67-UV-rated weather-resistant housing. Simple setup and configuration by using Louroe's DigiFact® Portal software. We provide connectivity to multiple industry-standard streaming protocols. Setting up and connecting the TLO-D hardware can easily be accessed on-site from the local network or remotely by using 3rd party remote access software. We support many popular NVRs and ONVIF-compliant VMS products. Connect multiple TLO-D horns over your network to provide 2-way audio communication where needed. Perfect for small or large installations. Please Note! If you need further design assistance with your projects, please contact Louroe, so we can assist you.

Features:

- Used for Applications that Requiring Large Coverage
- High Power Audio Output
- Pre-Recorded Message, (MP3/WAV Files) with Scheduled Date/Time Playback
- PoE Powered, (IEEE 802.3af) and above

IP67 RATED | ONVIF COMPLIANT | SIP COMPLIANT | DATA PLUS POE POWERED

Front View



Heavy Duty UV ABS Plastic Housing

IP67, RJ45 Connectivity, Microphone, Blue PoE Power L.E.D.

Powerful Double Inverted 110° Dispersion Horn

Heavy Duty Adjustable Stainless Steel Bracket with 3 x Mounting Holes

Rear View



MANUFACTURED IN THE USA

2 x Large Audio Monitoring Stickers (Included) 3-3/4" x 3-3/8"



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 THESE PREMISES**. Two stick on decals are included with each (LE-875) shipped.

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

Access to your Digifact® Device from your Network (Important Read First!) Part No: LE-889

A Female RJ45 jack is located on the back side of the TLO-D unit for 10 BASE-TX/100 BASE-TX /1GB Base-TXPoE connection, using CAT5/6 cable to power the device and provide network connectivity. The device IP address can then be typed into any internet browser (Chrome, Bing, Firefox etc.) to access the Digifact® device user GUI.

Finding your DigiFact Hardware on your Network Digifact Hardware Connectivity

(Windows OS Example)

1.) Press Windows Key + R
2.) Type ncpa.cpl
3.) Right click the adapter that the unit is connected to.
4.) Click Properties
5.) Left click Internet Protocol Version 4 (TCP/IPv4) and click properties
6.) Left click use the following IP address:
7.) Enter the following

- IP address: 10.10.10.2
- Subnet mask: 255.255.255.0
- Default gateway: 10.10.10.1

Once your device is set static, go to any browser and type 10.10.10.100 in the browser URL, you should see the login page for the Digifact LE-889.

Logging into your Digifact Hardware

On the first Login:

Factory Default User Name & Password

Admin:

Username: admin
Password: aaaBBB333$$$

Once logged in you will see the Status menu settings screen tab. There are 12 tabs total for access to the LE-889 setup and configuration menus.

Digifact® Software Updates

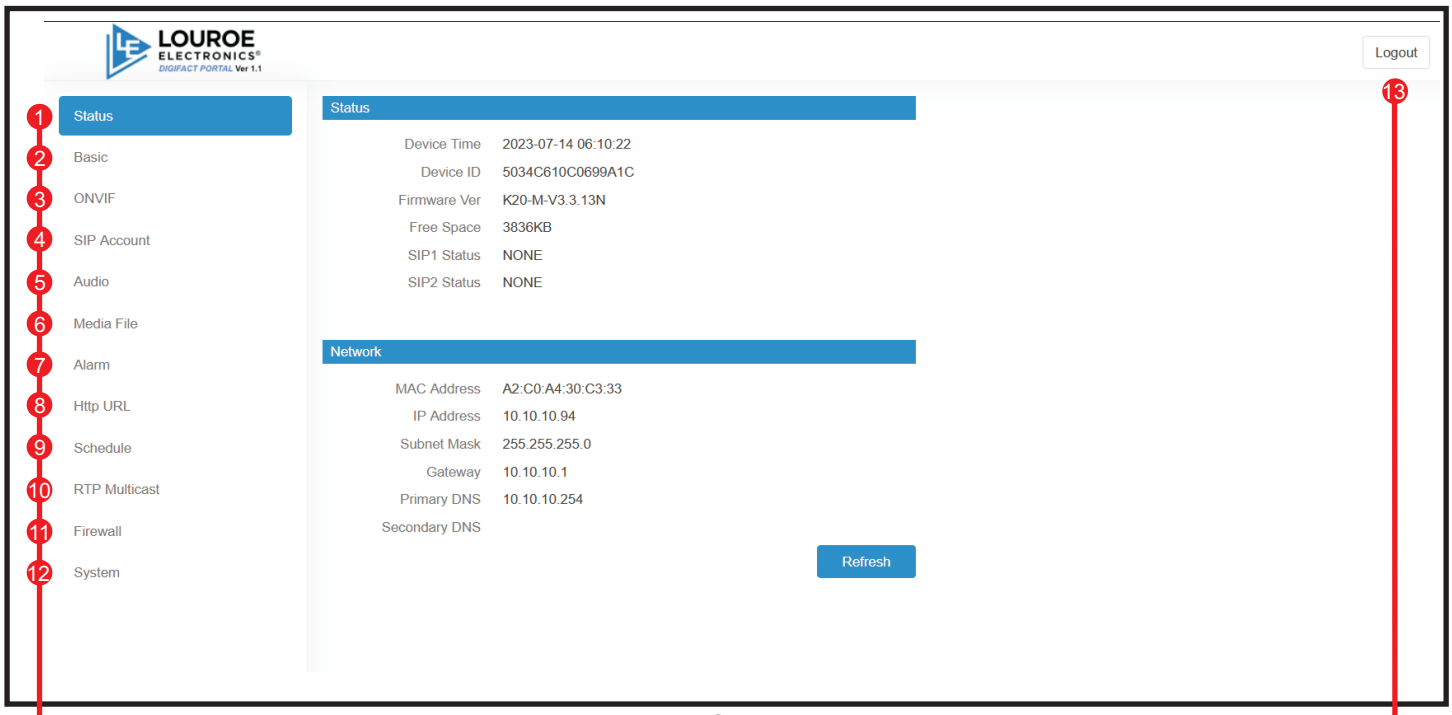
Device System-Software Updates: Please contact Louroe Electronics directly for specific details related to your Digifact® device.

Digifact® Portal Software, Main Menu

Part No: LE-889

About Your Digifact Product, How to Setup and Use Your Device Properlly

Once you are logged into the Digifact® Portal Software GUI, the following Menu Tabs 1-12 are available.



Browser Screenshot

1-6

1.) Status: Device Settings and Network information.
2.) Basic Settings: Date/Time, Network, Network Advanced Settings.
3.) ONVIF: Enable ONVIF and Login Credentials.
4.) SIP Account: SIP Basic & Advanced Settings.
5.) Audio: Codec Selections, Speaker & Mic Settings.
6.) Media File: Prerecorded Sound System File(s), User Files, 4 Fixed and 10 custom uploaded files.

7-12

7.) Alarm: SIP Triggering & (Key 1, 2 Triggering, not Available on the LE-889).
8.) Http URL: API-Post Commands for **A.** Media Files, **B.** SIP Calls, **C.** Ouput Enable, (Not Available on the LE-889), **D.** Relay Enable, (Not Available on the LE-889).
9.) Schedule: Set up to 10 different Times & Dates to Play Media Files.
10.) RTP Multicast: Create up to 10 RTP IP Addresses/Ports.
11.) Firewall: Setup IP/Mac Firewall information.
12.) System: A. Reboot the LE-889 , **B.** Reset to Factory Defaults, **C.** Upgrade Software, **D.** Setup User name and Password Information.
13.) Logout Button: Logout of the Digifact Software.

TeamViewer

Louroe Remote Network Access to Digifact® Hardware, (Technical Assistance)

Our software Engineers can access your devices on your network using **TeamViewer**, a 3rd party remote access software that is available for download online for free, with optional paid versions, Website: **https://www.teamviewer.com**. This software will allow us to assist you and your staff remotely with any technical issues or concerns you may have. Works with Mac and Windows computers. The computer your using with teamViewer needs to be connected to the same network that all of the Louroe Digifact® hardware is connected to. If you require additional information on this service, please contact Louroe.

Setting up Your Digifact® Product, (One Device or Many Devices)

It is recommended that you add only one device at a time on your network and make the necessary network changes required for your installation have been made and no two devices have the same IP address. By doing this you avoid any factory preset static Digifact® devices on the network from causing network conflict errors.

About Your Digifact Product, How to Setup and Use Your Device Properlly

Menu Tab (2), Basic:
Date/Time: Set your correct time and date here, this is important so that the built-in (Schedule) system matches your current Date/Time so all Scheduling works correctly based on your physical location.
Network: Depending on your application, Select **DHCP** or fixed **Static** IP Address's.
Network Advanced, Http/Https: These settings are for the standard **HTTP** protocol or the **HTTPS** encryption for secure communication, Options, **1.) Http&Https, 2.) Http, 3.) Https.**

Menu Tab (4), (Session Initiation Protocol) SIP Account: All the Settings and Features to connect with a initiating, maintaining, and terminating communication sessions that include voice, video and messaging applications. SIP is used in Internet telephony, in private IP telephone systems.

Menu Tab (5), Audio:
A.) Codec: Select the Audio Codec /Codecs (**Opus**, **G.722**, **G.711U**, **G.711A** that you need for your VMS or application.
B.) Speaker Settings: The Volume is set at (80%) by factory default. **1.) Volume:** Adjustable from 0-100%. The Amp auto off **2.)** Shuts off the amplifier when not in use., **3.) Jitter Buffer:** The jitter buffer is a temporary storage area for audio data during a (AoIP) Audio Over Internet Protocol) stream. The buffer stores and organizes audio packets to prevent choppy audio and improve sound quality. The Factory Jitter default setting is **(300ms)**. **4.)** (**HPF, High Pass Filter**), filters Audio under 150HZ. **5.) (NR, Noise Reduction),** Reduces noise from audio output to improve sound quality.
C.) MIC Settings: The Gain is set at (80%) by factory default. **1.)** Gain setting can be fixed or adjustable, options are (**None user adjustable from 0-100%, Fixed Settings Low, Middle, High**). **2.) AEC** (**Audio Echo Cancellation**) Checkbox Setting On/Off. **3.) AGC (Automatic Gain Control), Fixed Settings Low, Middle, High**). **4.)** (**HPF, High Pass Filter**), filters Audio under 150HZ. **5.) (NR, Noise Reduction),** Reduces noise from Mic Input to improve sound quality.

Important! While Testing or using the TLO-D, LE-889 Horn

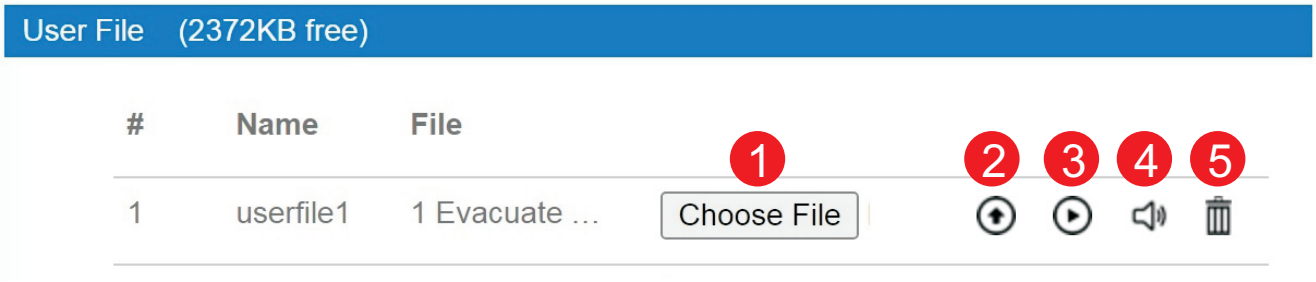
Warning!: Hearing damage can occur. Some speech or media audio files can exceed 125db when processed thru the LE-889 horn at close range. It is recommended that users be at least 20ft. physically away from the LE-889 horn when the Horn is pointed at you, when listening to all audio announcements.

Audacity®

(Audacity): Is a 3rd Party Free Open Source Audio Editing Software.
Download from here: https://www.audacityteam.org/

Audacity is a robust digital audio editor and recording application software, available for Windows, macOS operating systems. Before uploading your audio files to the LE-889 it is recommended to open your Audio File in Audacity to verify the quality and the signal level so that the Louroe LE-889 can deliver the clearest and loudest audio signal from our horn element. **Using Audacity:** Steps for a proper audio file, **1.)** Open the Audacity software. **2.)** From the File menu select open to locate and select your audio file. Once your audio file is loaded make sure the Playback level is set at 100%, (Top right corner of the Audacity GUI). **3.)** Play your audio sound file and observe the audio signal VU meters top right corner of the screen, if your audio file is below (-6db) or less, increase the channel audio gain from (**0.0db**) to (**10db**) and replay your audio file again, listening for signal quality and looking at the audio signal VU meters, the audio signal should be just above the (0db mark, showing Yellow-Red markings) This means your audio is now at the highest signal possible without causing audio clipping to the LE-889 amplifier/horn but is providing the maximum signal level so the LE-889 can produce the maximum output SPL possible.

Menu Tab (6), Media File:
This Tab provides access to 5 pre-loaded announcement System Bell Files or (**10**) user defined up-loadable files for Playback from your VMS or SIP software or by HTTP/API network IP Post commands. The Storage Space for these User Media files are (3796KB).Uploading your User defined custom audio File/Files. **1.)** Select # 1-10, **2.)** Click on the Choose File Button, next locate and select your audio file, (**.mp3, .wav** files only), select Open, **3.)** Click on the Circular up Arrow to upload your file, you will now see "File uploading..." + " File upload success!! then your Audio file name will show. **4.)** Click on the round Play Icon to hear the audio in your browser or **5.)** Click on the Speaker Icon to hear audio from the LE-889 Horn. To replace the audio file with a different one follow steps 1-3. **6.)** To delete the file completely, click on the trash can icon.



Please Note! Uploaded Files are stored on the local hardware of each LE-889 Horn and are completely independent and accessible from VMS and SIP software solutions as well as third party HTTP/API IP network post commands.

Menu Tab (7), Alarm In: These features are not available on this version of the (LE-889) device.
Menu Tab (8), HTTP URL: Play File Enabled Commands (.mp3, .wav) Files

Example1:
http://10.10.10.100/api/play?action=start&file=bell1
Example2:
http://10.10.10.100/api/play?action=start&file=userfile1&mode=once&volume=10
Example3:
http://10.10.10.100/api/play?action=start&file=userfile1&mode=multiple&count=10&volume=20
Example4:
http://10.10.10.100/api/play?action=start&file=userfile1&mode=duration&count=10&volume=30
Example5:
http://10.10.10.100/api/play?action=stop

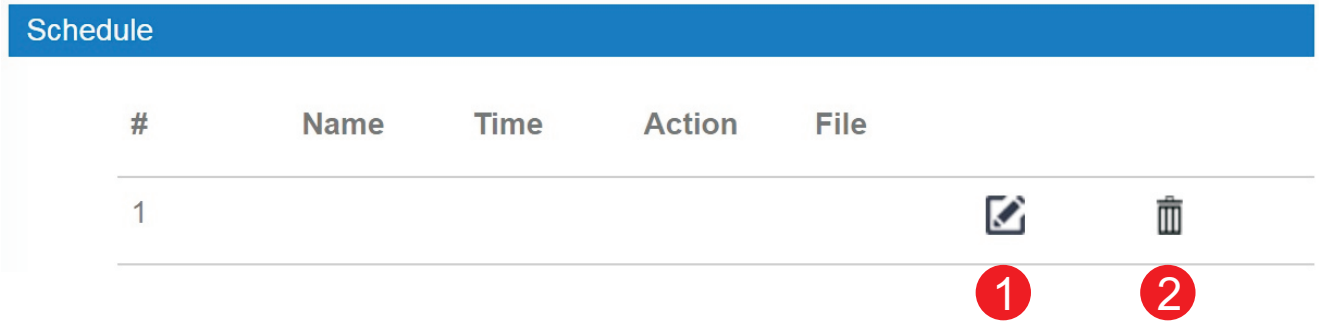
Sip Call File Enabled Commands
Example1:
http://10.10.10.100/api/sipcall?action=call&number=100&line=auto
Example2:
http://10.10.10.100/api/sipcall?action=call&number=100&line=1
Example3:
http://10.10.10.100/api/sipcall?action=hangup

Output Enabled Commands
Not currently available on the current version of The LE-889, TLO-D. Please contact Louroe for more information related to this feature.

Relay Enabled Commands
Not currently available on the current version of The LE-889, TLO-D. Please contact Louroe for more information related to this feature.

Menu Tab (9) Schedule:
This Tab provides up to (**10**) scheduled day and time events for playback of the 5 pre-loaded announcement System Bell Files or (**10**) user defined up-loadable files.

1.) Click on the Pen Icon **1.)** to create a new Scheduled Event, **2.)** Click the Schedule Check Box. **3.)** Click on the Calendars for Start-End Dates, **4.) Select:** Allowed Days: Monday-Sunday . **5.)** Action Time, click on the Clock Icon. **6.)** Action Type: (Start/Stop) drop down box, **7.)** Play File: drop down box with System-User Audio Media Files. **8).** Cycle Mode: **A.)** Once Only, **B.)** Multiple Times, **C.)** Duration. Each Scheduled event can have its own name as a reference, (Scheduled Name Text Box). To Delete a Scheduled Event, click on the (Trash Can icon)



Menu Item (10), RTP Multicast: Contact Louroe for additional information on these settings.
Menu Item (11), Firewall: Contact Louroe for additional information on these settings.
Menu Item (12), System: Options **1.)** Reboot, Reboot Device Now, **2.)** Reset, Reset to Factory. Settings, **3.)** Upgrade, Choose file from your computer to upload new Firmware provided by Louroe.

MOUNTING

The TLO-D Part Number: LE-889 can either be surface mounted to wall-ceiling or other flat surfaces such as a cabinet using the adjustable mounting bracket, by 3 x Screws (Not Included).The LE-889 can also be strapped to a pole using the optional Louroe pole mount accessory kit (Not Included), Part Number: LE-268, works on 4”-16” poles. When possible the LE-889 Horn should be mounted up high, minimum 8 ft. or more to be able to cover a wide open area so that the horn can project audio unobstructed and be able to project sound in open air to maximize distance and coverage. Typical mounting includes, Outdoors: , 1.) The LE-889 should be mounted with the RJ45 Jack and Microphone located at the bottom for easy connectivity and proper Microphone pickup for 2-way audio, see Diagram 2A., page 7.

NETWORK PoE

A Female RJ45 jack is located on the rear of the unit for 100/1000 BASE-TX PoE connection using CAT5e/6 UTP cable.

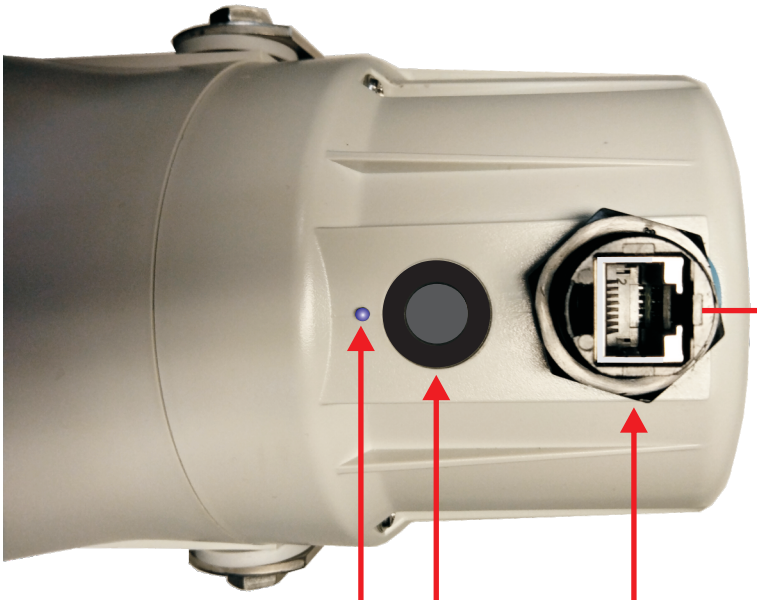
BLUE POWER L.E.D.

Indicates the LE-889 has PoE power. Located at the rear of the LE-889 next to the Omn-Directional Microphone.

HTTP URL: ONE WAY (HALF DUPLEX) API/POST COMMANDS:

These HTTP / API Post commands can easily be incorporated into various pieces of existing 3rd party software for access to **System** and **User** Audio Media Files.

Rear Housing TLO-D, LE-889



Excepts 0.185”-0.4” Cable



IP67 Cat5e, Cat6 Screw-On Weather-Waterproof Cable Pass-Thru Gland

PoE Power, Blue L.E.D.

Omni-Directional Mic

RJ45 Jack, (PoE-Data)

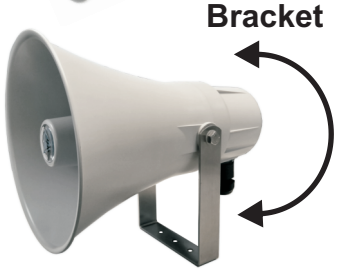
Mounting Diagram 2A.

Poor



Good

Adjustable Bracket



The Horn should be mounted with the IP67 Network cable and Microphone located at the bottom for good Mic Pickup

Typical Connectivity Diagram 1A.

(Talk Horn)

(Listen, Mic)

PoE + Data Network Switch



Cat 5e, Cat 6 UTP Cabling 300 ft Max



TLO-D Zone-1

TLO-D Zone-2

TLO-D Zone-3

TLO-D Zone-4

POE-IP 2-WAY TALK-LISTEN INDOOR/OUTDOOR HORNS

AUDIO

Please Note! All specifications are subject to change without notice.

Software

Audio Streaming: Two-way, (Full Duplex)
Audio Codec: OPUS 48 kHz, MP3 44.1 kHz, G.722 ADPCM 16 kHz, G.711 PCMU 8 kHz, G.711 PCMA 8 kHz
Media File Types: Horn Playback (.mp3, .wav)

Microphone

Element Type: High sensitivity, Omni-Directional condenser MIC element
Sensitivity: -45 dBV/Pa, 1 Pa = 94 dB SPL
Frequency Response: 50 Hz to 15 Khz

Speaker/Horn

Speaker Power Rating: 15 Watts
Frequency Response: 350Hz ~ 8KHz
Amplifier: Class 'D', 15 Watts
Max SPL Rating: 125db
Dispersion: 110°

NETWORK

Security: Password protection, (Admin), see page 2
Supported Protocols: ONVIF Profile T, S, IPv4, SIP, ONVIF, HTTP, IPv4, DHCP, RTSP, RTP, RTCP

ONVIF/SIP Compliant

Supports ONVIF, *Open Network Video Interface Forum) and SIP, (Session Initiated Protocol) compatible software systems. Supports ONVIF Profies S, T

GENERAL

Power PoE: Power over Ethernet, Supports: PoE (IEEE 802.3af) and above, 1 x RJ45 jack, see Page 7 for more details.
POE Power Indicator: .52mm Blue L.E.D., located at the back of the horn
System Boot-up Cold Start: Less than 15 Seconds
Power Loss Recovery Time: Less than 15 Seconds
Network Data Connectivity: 10/100/1000
User Media File storage (3796KB)
Event Triggers: ONVIF, SIP, HTTP Posts, Pre-recorded messages
Chassis IP Connector: RJ45 Female Jack (POE, Gigabit Ethernet Port), refer to Page 7 for connectivity.
Operating Conditions: -20°C to 50°C / -4°F to 122°F, Humidity 10-85% RH
Storage Conditions: -30°C to 60°C / -22°F to 140°F
Enclosure: Heavy Duty UV ABS Plastic Housing, **Size:** 8.5" Dia., (215.9mm) x 11.375" D , (279.4mm), **Color:** Gray
LE-889 Horn Weight: 4.1 lb's
Packaged Shipping Weight: 5.0 lb's
Included in Package: 1 x LE-889, 1 x User Manual, 1 x RJ45 Gland Cover with Cable Pass-Thru for Water/Moisture protection.
Mounting (U Bracket): **Adjustable Stainless Steel,** with 3 x (0.265") Mounting Holes

Optional Accessories

Louroe, LE-268: Optional (**4"-16"**) Pole Mounting Bracket Kit,

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 (24 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.

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Digifact°TLO-D, 7132023-WB