The US Federal Law As It Pertains To Audio Monitoring

**United States Code, Title 18, Section 2510(2) regarding rights of privacy:**
"Oral communication means any "oral communication" uttered by a person exhibiting an expectation that such communication is not subject to interception under circumstance justifying such expectation."

Section 2511 (2)(d) goes further:
(1): "It shall not be unlawful [under this chapter] for a person...to intercept...oral...communication where such person is a party to the communication or where one of the parties to the communication has given prior consent to such interception..."

A person does not have an expectation of privacy if there are public signs posted giving clear indication that the communication is being monitored. Implied consent is valued as is explicit permission.

Posting of signage, a disclaimer, on the public entrances and exits, notifying all that “Audio Monitoring on These Premises” in effect, assists entities to comply with United States Code regarding notice and rights of privacy. Louroe provides signage that we recommend be clearly posted. There are other, meaningful ways to provide awareness, such as employee handbooks, patient consent forms, and school registration, to name a few.

Each State in the U.S. has adopted statutes that are based on the Federal law. It is important for qualified distributors/resellers of audio monitoring technology that they not rely solely on the above information, and to verify the above with knowledgeable legal counsel in the location where the technology is planned to be deployed.

**Federal Law References: US Code, Title 18. Sec. 2510.**
FOR UNITED STATES ONLY
(1): From United States Code, Title 18, it shall not be unlawful...for a person...to intercept a wire, oral, or electronic communication where such person is a party to the communication or where one of the parties to the communication has given prior consent to such interception. Section 2510(2) regarding rights of privacy.

(All): all party consent states require the consent of each individual involved in the communication.

Statutes current as of 2017

<table>
<thead>
<tr>
<th>State</th>
<th>Statute</th>
<th>Party Consent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>AL Code §13A-11-30</td>
<td>1</td>
</tr>
<tr>
<td>Alaska</td>
<td>§42.20.310</td>
<td>1</td>
</tr>
<tr>
<td>Arizona</td>
<td>AZ Stat §13-3005</td>
<td>1</td>
</tr>
<tr>
<td>Arkansas</td>
<td>§5-60-120</td>
<td>1</td>
</tr>
<tr>
<td>California</td>
<td>CA Penal Code §631</td>
<td>ALL</td>
</tr>
<tr>
<td>Colorado</td>
<td>CO Stat §18-9-303</td>
<td>1</td>
</tr>
<tr>
<td>Connecticut</td>
<td>CT Stat §52-570d</td>
<td>ALL</td>
</tr>
<tr>
<td>Delaware</td>
<td>DE Code Title 11, §2402(c)(4)</td>
<td>1</td>
</tr>
<tr>
<td>DC</td>
<td>DC Code §52-541 &amp; §23-542</td>
<td>1</td>
</tr>
<tr>
<td>Florida</td>
<td>FL Stat Ch 934.03</td>
<td>ALL</td>
</tr>
<tr>
<td>Georgia</td>
<td>GA Code §16-11-62</td>
<td>1</td>
</tr>
<tr>
<td>Hawaii</td>
<td>HI Stat §803-42, 711-1111</td>
<td>1</td>
</tr>
<tr>
<td>Idaho</td>
<td>ID Code §18-6702</td>
<td>1</td>
</tr>
<tr>
<td>Illinois</td>
<td>720 ILCS 5/14-2</td>
<td>ALL</td>
</tr>
<tr>
<td>Indiana</td>
<td>IN Code §35-33.5-1-5</td>
<td>1</td>
</tr>
<tr>
<td>Iowa</td>
<td>IA Code §727.8</td>
<td>1</td>
</tr>
<tr>
<td>Kansas</td>
<td>KS Stat §21-6101</td>
<td>1</td>
</tr>
<tr>
<td>Kentucky</td>
<td>KY Stat §526.010</td>
<td>1</td>
</tr>
<tr>
<td>Louisiana</td>
<td>LA Stat §15:1303</td>
<td>1</td>
</tr>
<tr>
<td>Maine</td>
<td>ME Title 15, §709</td>
<td>1</td>
</tr>
<tr>
<td>Maryland</td>
<td>MD Code §10-402</td>
<td>ALL</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>MA Ch 272, §99</td>
<td>ALL</td>
</tr>
<tr>
<td>Michigan</td>
<td>MI Laws §750.539c</td>
<td>ALL</td>
</tr>
<tr>
<td>Minnesota</td>
<td>MN Stat §626A.02</td>
<td>1</td>
</tr>
<tr>
<td>Mississippi</td>
<td>MS Code §41-29-501 to 537</td>
<td>1</td>
</tr>
<tr>
<td>Missouri</td>
<td>MO Stat §542.402</td>
<td>1</td>
</tr>
<tr>
<td>Montana</td>
<td>MT Code §45-8-213</td>
<td>ALL</td>
</tr>
<tr>
<td>Nebraska</td>
<td>NE Stat §86-290</td>
<td>1</td>
</tr>
<tr>
<td>Nevada</td>
<td>NV Stat §200.620</td>
<td>1/Court Order</td>
</tr>
<tr>
<td>New Hampshire</td>
<td>NH Stat §570-A:2</td>
<td>ALL</td>
</tr>
<tr>
<td>New Jersey</td>
<td>NJ Stat §2A:156A-3&amp;4</td>
<td>1</td>
</tr>
<tr>
<td>New Mexico</td>
<td>NM §30-12-1</td>
<td>1</td>
</tr>
<tr>
<td>New York</td>
<td>NY Penal Law §250.00, 250.05</td>
<td>1</td>
</tr>
<tr>
<td>North Carolina</td>
<td>NC Stat §15A-287; §14-155</td>
<td>1</td>
</tr>
<tr>
<td>North Dakota</td>
<td>ND Code §12.1-15-02</td>
<td>1</td>
</tr>
<tr>
<td>Ohio</td>
<td>OH Code §2933.52</td>
<td>1</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>13 OK St. §176.2 -4</td>
<td>1</td>
</tr>
<tr>
<td>Oregon</td>
<td>OR Stat §165.540, 165.543 &amp; $133.005</td>
<td>1</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>18 PA Stat §5703 to 5704</td>
<td>ALL</td>
</tr>
<tr>
<td>Rhode Island</td>
<td>RI Gen Laws §11-35-21, §12-5.1</td>
<td>1</td>
</tr>
<tr>
<td>South Carolina</td>
<td>SC Code §17-30-20</td>
<td>1</td>
</tr>
<tr>
<td>South Dakota</td>
<td>SD Codified Laws §23A-35A-20</td>
<td>1</td>
</tr>
<tr>
<td>Tennessee</td>
<td>TN Code §39-13-605</td>
<td>1</td>
</tr>
<tr>
<td>Texas</td>
<td>TX Penal Code §16.02</td>
<td>1</td>
</tr>
<tr>
<td>Utah</td>
<td>UT Code §77-23a-4</td>
<td>1</td>
</tr>
<tr>
<td>Vermont</td>
<td>No VT Statutes Address Monitoring</td>
<td></td>
</tr>
<tr>
<td>Virginia</td>
<td>VA Code §19.2-62</td>
<td>1</td>
</tr>
<tr>
<td>Washington</td>
<td>WA Code §9.73.030</td>
<td>ALL</td>
</tr>
<tr>
<td>West Virginia</td>
<td>WV Code §62-1D-3</td>
<td>1</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>WI Stat §968.31</td>
<td>1</td>
</tr>
<tr>
<td>Wyoming</td>
<td>WY Stat §7-3-701</td>
<td>1</td>
</tr>
</tbody>
</table>
# Table Of Contents

Audio And The Law....................................................02
Markets........................................................................06
Louroe By The Numbers............................................14
Microphones ..............................................................16
  Digital / USB ............................................................26
  Line Level ....................................................................26
  Mic Level ....................................................................27
Audio Monitoring Kits ..............................................28
  100 Series.................................................................32
  300 Series.................................................................36
  400 Series.................................................................37
  500 Series.................................................................40
  600 Series.................................................................41
Audio Analytics ..........................................................42
Speaker Microphones ................................................44
  IP Speaker Microphone ............................................52
  Remote Call Stations ...............................................52
  Speaker Microphone For IP Camera ........................53
  Speaker Microphones For Louroe Base Stations .......54
Audio Base Stations ..................................................56
  One Way Listen.........................................................58
  Two-Way Listen-Talk...............................................59
Audio Adapters ..........................................................60
  Audio Interface .........................................................64
  Audio Over PoE ........................................................64
  Microphone/Speaker Mixer .......................................65
  Speakerphone Converter For TL Series ....................65
  Distribution Amplifier ..............................................65
  Sound Activated Switch ..........................................65
Accessories ................................................................66
Case Studies ................................................................68
Wiring Requirements ................................................73
Alphabetical Index .....................................................74
Glossary ....................................................................77
Warranty And Purchasing ..........................................80
Technical Support ......................................................81
With growing concern for safety in our schools across the nation, school systems are taking a renewed examination of their security equipment and protocols. Traditional video surveillance systems do not provide enough situational awareness and early detection. Many schools are now leveraging the combined technologies of audio and video surveillance to keep their students, staff and campuses safe.

Integrating microphones, intercoms and two-way speakerphones with cameras gives staff access to more details about a suspect or scene. Voices, names, languages spoken and directions are just a few examples of what information can be aggregated. Beyond detection, audio monitoring creates opportunities for de-escalation and prevention. Having the ability to communicate in real-time can be a powerful warning that dissuades a trespasser from vandalizing the property or committing other offenses. Adding audio equipment to your system is a cost-effective investment that improves the security system while requiring minimal installation.

Suggested placements

- Additional Evidence
- Monitoring Efficiency
- Crime Deterrence
- Dispute Resolution
- Main Entrances
- Classrooms & Hallways
- Cafeterias & Common Areas
- School Buses

AOP-SP-PB

Aggression & Gunshot Detectors

TLO speaker with microphone

ASK-4® kit
#108
Increase Retail Profitability and Improve Operations

Retail is vital part of the U.S. economy, accounting for one in four jobs according to the National Retail Federation (NRF). However, shrinkage continues to plague store managers and averages approximately 1.4 percent of retail sales. Today, it is essential that retailers invest in audio security and loss prevention technologies to protect their assets and deter employee theft, shoplifting and organized retail crime.

When applied to retail locations and convenience stores, Louroe Electronics’ microphones add to both security and service. In the event of a crime or customer dispute, audio monitoring adds context and evidence that video alone doesn’t provide. Audio is also used as a training tool to coach employees on proper protocol and customer service.

Suggested placements

- Checkout Counters
- Store Aisle & Shelves
- Loss Prevention Office & Cash Room
- Parking Lots

ASK-3® kit #300

Verifact® A

AOP

TLO
Commercial buildings house our most important businesses. Whether it’s a downtown skyscraper, warehouse or new office complex, these commercial spaces all need secure parking lots, entrances, and common areas in order to provide a safe environment for their employees, guests and property.

Adding a microphone or intercom to an existing surveillance system helps screen visitors, allows for better management of congested areas and can streamline business operations. Additionally, clear two-way audio solutions provide real-time communication over large complexes or remote locations.

**Suggested placements**

- Entrances & Exits
- Elevators & Lobbies
- Parking Structures
- Reception & Common Areas
Maximize Safety and Security for All Passengers

The world of transportation moves faster than ever before and affects manufacturing output, trade, business commuting, and leisure travel activity. When looking to improve security in transportation, we need to extend it beyond video and consider how audio can increase safety for passengers and employees.

Louroe Electronics’ audio monitoring solutions are ideal for the air, sea and rail sectors of the transportation industry. Airports and seaports benefit from intercoms that provide access control and additional checkpoints for visitors in restricted areas and main entrances. Microphones offer live monitoring on buses and trains and allow the driver to monitor what is happening behind him or her. Audio ensures accountability for both the driver and passengers, dissuading harassment and vandalism. By deploying two-way audio along with video, transportation staff can also interact remotely with employees or commuters in real-time, alerting them to auditory ‘triggers’ that serve as precursors to high-risk situations.

Suggested placements

- Check-In Counters, Waiting Areas
- Bus, Train & Airplane Passenger Cabins
- Entrances to Restrictive Areas
- Cargo & Loading Areas
Law Enforcement and Corrections

Increase Safety and Improve Efficiency in Correctional Facilities

Police stations, prisons, government buildings and other law enforcement facilities all benefit from security systems that integrate audio monitoring. For law enforcement, audio is an effective tool that helps monitor suspects, deter crime and provide additional evidence in the event of an illegal or threatening activity. Across the country, administrators are seeking sophisticated technology to improve work efficiency while maintaining a high level of security for inmates, law enforcement officials and visitors alike.

There are many uses for audio in law enforcement. Used often in interview rooms, court rooms or detention centers, Louroe Electronics’ microphones are sensitive enough to capture a suspect’s comments even when whispered. In common rooms, vandal resistant microphones allow staff to monitor conduct and can provide verbal evidence to resolve a dispute or substantiate an incident report. Two-way audio solutions give officers the ability to speak to inmates from a remote location.

Suggested placements

- Interview Rooms
- Psychiatric Department
- Court Rooms
- Prison Cells & Halls
- Common Areas

Aggression Detector

ASK-4® kit #631

Verifact® DV

Verifact® A USB
As healthcare facilities require a heightened level of physical security, administrators are looking for new technology that not only protects their campuses, but is also faster and more effective than systems in the past.

Louroe Electronics’ audio solutions have been installed in hospitals, long-term care facilities and other healthcare facilities around the globe to increase both security and service of patients and healthcare staff. Audio solutions helps staff speak quickly and easily with patients. Frequently used at nursing and technician stations, two-way audio systems allow personnel to communicate with patients at the touch of a button and patients can respond hands free.

**Suggested placements**

- Patient Rooms & Nurse Stations
- Reception & Emergency Room
- Hallways & Waiting Areas
- Therapy & Psychiatric Departments
- Entrances, Exits & Restricted Areas

**ASK-4® kit #501**

**Aggression Detector**

**AOP-SP-CF**

**AOP-SP-PB**
Improve Banking Operations and Security

Banks and financial institutions oversee thousands of transactions each day as people continually withdraw and deposit of money. For this reason, securing financial institutions, deterring threats and preventing robberies are top priorities.

Louroe Electronics’ microphones increase the overall situational awareness of what’s happening for bank personnel. Audio is also used as a training tool to ensure that employees provide good customer service. In the event of a robbery, the microphones capture additional evidence (such as voices) that video alone does not provide. Additionally, two-way audio allows staff from a remote location to issue instructions or warnings.

Suggested placements

- Teller Windows & Branch Offices
- ATM
- Deposit Rooms & Vaults
- Entrances & Exits

Verifact® A
Verifact® L-DT
Glass Break & Aggression Detectors
ASK-4® kit #300
Create Safer Cities with Complete Situational Awareness

A violent crime occurs once every 26 seconds in the United States per the FBI’s Uniform Crime Reporting “Crime Clock”. As such, reducing crime in metropolitan and suburban areas is arguably the highest priority for municipalities and law enforcement. When it comes to protecting cities and enhancing public safety, audio solutions are essential. This is particularly true when it comes to delivering critical information to first responders. Sound is often one of the earliest indicators to a first responder that something is wrong.

Adding audio to a surveillance solution is the first step in deploying smart city security. One and two-way audio solutions allow for proactive and real-time monitoring. Additionally, sound detectors help security and law enforcement personnel identify acoustic events commonly associated with crimes, alerting first responders prior to a precarious situation reaching its full potential.

Suggested placements

- City Surveillance
- City Center & Streets
- Government & Municipality Buildings
- Parks & Tourist Areas

LE-802
Gunshot Detector

TLO
Verifact® E
Louroe By The Numbers

>70%  
IP Cameras Have Audio Capability*  

$900M  
Global Security Market For Audio*  

12%  
Annual Growth For The Security Industry*  

1979  
Louroe Established  

>56  
Countries Use Louroe Products  

+900K  
Verifact® Microphones In Use  

“When we discuss security, we need to progressively think and speak about using sound, giving audio its due.”  
Richard Brent—CEO, Louroe Electronics

Who We Are  
Louroe Electronics® is the world leader in audio monitoring technology. Since 1979, Louroe has provided first-class audio monitoring and safety solutions that assist in protecting people and property.

What We Do  
Louroe’s signature product lines are the Verifact® microphones and ASK-4® kits, a series of pre-amplified microphones, complementing base stations, and communication accessories that provide audio output to interface with other security devices. The microphones are easy to install and are compatible with most recorders, cameras and IP video systems.

Value Of Audio  
Sound and voice can be used for numerous purposes such as loss prevention, crime deterrence, additional evidence, alarm verification, employee training, classroom monitoring, and visitor management.

Our Vision  
To be the company most trusted to provide the best value in audio monitoring and surveillance solutions.

Our Mission  
To raise awareness of the importance of audio in the security industry, deliver the finest audio security solutions and contribute to making the world a safer place.

Our Values  
Integrity • Teamwork • Excellence • Accountability • Customer Service

Our Strengths

38 Years Of Audio Expertise
- Omni-directional microphones
- Speaker microphones
- Audio Monitoring systems
- Complementary audio accessories

Product Durability
- Quality assurance
- All products are made in the USA
- Products exported to more than 56 countries
- More than 900,000 Verifact® Microphones in use

High Customer Satisfaction
- Premier product design and engineering team
- Quality tested at every step of the production process
- 3 day lead time for most products

Some of Our Achievements

Our Commitment

Louroe is strategically committed to providing our consumers with innovative products and the necessary expertise as it relates to audio monitoring technology.

- Best value as defined by customer satisfaction with product performance, support and durability
- Technical expertise to support project application... from simple to complex
- Understanding the range of applications and how best to deploy the product to maximize its effectiveness
- Warranty performance of the product—repair and/or replacement with up-to-date components

Our Associations And Technology Partners

Legal Compliance

When it comes to audio monitoring applications, Louroe is and will remain committed to following the law in Federal, State and municipal jurisdictions. We design our product for overt applications, and inform all who purchase and receive our products what steps are to be taken when applying the technology so as to comply with the national laws as they relate to audio monitoring,
Microphones

Louroe's microphones are the backbone of our audio monitoring technology. Low impedance elements are selected for their omni-directional capability and sensitivity, with circuitry designed to pre-amplify, taking a signal from -45dB to 0dB for line-level output.

Our microphones capture an exceptional quality of sound, a wide frequency response and have an exceptional durability thanks to their robust design.

Three types of microphones are available: Verifact® line level, mic level and digital.

Verifact® Line Level Microphones
The Verifact® line level microphones have a built-in preamplifier for producing line level audio output. Each Verifact® microphone includes a gain adjustment switch. Louroe also offers automatic gain control microphones. Many applications have been tested and evaluate well with a line level technical selection.

Mic Level Microphones
The mic level microphones have no built-in preamplifier. Mic level are available for cameras that specify and demonstrate compatibility with a mic level audio input.

Verifact® USB Microphones
The Verifact® USB digital microphone has a built-in preamplifier and USB codec. The microphone is self-powered from the USB hub therefore not requiring any external power source. The microphone includes a gain adjustment switch.
# Microphones

<table>
<thead>
<tr>
<th>Ceiling</th>
<th>High Ceiling</th>
<th>Special Application</th>
<th>Wall</th>
<th>Outdoor</th>
<th>Vandal Resistant</th>
<th>Table Top/Ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Omni-directional</td>
<td>Directional</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Verifact® A</td>
<td>Verifact® B</td>
<td>Verifact® C</td>
<td>Verifact® D</td>
<td>Verifact® E</td>
<td>Verifact® DV</td>
<td>Verifact® K</td>
</tr>
<tr>
<td><img src="image1" alt="Verifact® A" /></td>
<td><img src="image2" alt="Verifact® B" /></td>
<td><img src="image3" alt="Verifact® C" /></td>
<td><img src="image4" alt="Verifact® D" /></td>
<td><img src="image5" alt="Verifact® E" /></td>
<td><img src="image6" alt="Verifact® DV" /></td>
<td><img src="image7" alt="Verifact® K" /></td>
</tr>
<tr>
<td>Verifact® B-6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><img src="image8" alt="Verifact® B-6" /></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bi-directional</td>
<td>Verifact® L-DT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><img src="image9" alt="Verifact® L-DT" /></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automatic Gain Control</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Verifact® AGC</td>
<td>Verifact® BGC</td>
<td>Verifact® CGC</td>
<td>Verifact® DGC</td>
<td>Verifact® EGC</td>
<td>Verifact® DVGC</td>
<td></td>
</tr>
<tr>
<td><img src="image10" alt="Verifact® AGC" /></td>
<td><img src="image11" alt="Verifact® BGC" /></td>
<td><img src="image12" alt="Verifact® CGC" /></td>
<td><img src="image13" alt="Verifact® DGC" /></td>
<td><img src="image14" alt="Verifact® EGC" /></td>
<td><img src="image15" alt="Verifact® DVGC" /></td>
<td></td>
</tr>
<tr>
<td>Mic Level</td>
<td>Mic Level</td>
<td>Mic Level</td>
<td>Mic Level</td>
<td>Mic Level</td>
<td>Mic Level</td>
<td>Mic Level</td>
</tr>
<tr>
<td>Compatible</td>
<td>With IP</td>
<td>Cameras</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mic Level</td>
<td>Mic Level</td>
<td>Mic Level</td>
<td>Mic Level</td>
<td>Mic Level</td>
<td>Mic Level</td>
<td>Mic Level</td>
</tr>
<tr>
<td>Compatible</td>
<td>With IP</td>
<td>Cameras</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Verifact® A USB</td>
<td>Verifact® A USB</td>
<td>Verifact® A USB</td>
<td>Verifact® A USB</td>
<td>Verifact® A USB</td>
<td>Verifact® A USB</td>
<td>Verifact® A USB</td>
</tr>
</tbody>
</table>
The Verifact® A microphone is the backbone of Louroe's audio monitoring technology. This is an **omni-directional**, low output impedance, electret condenser microphone with built-in preamplifier for producing line level audio output. The newly improved smart tube on the Verifact® A captures an exceptional quality of sound, a **wide frequency response** and has **exceptional durability** thanks to its robust design.
Market

> The Verifact® A is designed for a wide array of applications

Features

> Improved Smart Tube technology
> High impact anti-static ABS
> Omni-directional, within 30’ diameter circle
> Easily mounted to wall or ceiling surface
> May be located up to 1000’ from the Louroe base station
> Sensitivity switch: normal/low

Included In Most Kits

- ASK-4® kit #101
  - p30
- ASK-4® kit #300
  - p34

Compatible With

> All Louroe base stations, interfaces and most cameras and recorders that accept a line level audio input
> For IP cameras with Mic level input refer to the A-ML
  - p27

To Louroe Base Stations and Audio Interfaces or Line Level Audio Receivers
NOW AVAILABLE with USB connection

The Verifact® A USB is a ceiling mount microphone with a **USB connection**. The microphone is **self-powered** from the USB port and therefore does not require any external power source. The microphone has a built-in preamplifier and gain adjustment switch. The newly improved **Smart Tube** technology captures an exceptional quality of sound, a wider frequency response and has exceptional durability.
**Market**
> The Verifact® A USB is designed for easy plug-n-play in almost any application

**Features**
> Improved Smart Tube technology
> USB Type 2 connection
> Omni-directional, within 30' diameter circle
> May be connected and recognized by most VMS systems

**Compatible With**
> Most PCs and NVRS that accept USB audio
The Verifact® L-DT microphone is designed as a bi-directional microphone where sound pick up is more in the front or back of the housing and less on the sides. The nonslip bottom adheres to desktop or flat horizontal surfaces. This has two opposite facing, omni-directional electret condenser microphones, with built in preamp. It offers an exceptional durability thanks to its robust design and is easy to install.
**Market**

> The Verifact® L-DT is especially designed for teller windows, law enforcement, interview rooms or gaming tables

**Features**

> Two opposing built-in microphones
> Pre-amplified for line level output
> Pickup pattern is within 10’ of the microphone element
> May be located up to 1000’ from the Louroe base station
> High impact anti-static ABS
> Non-slip bottom for firm adherence to desktop or any flat horizontal surface

**Compatible With**

> All Louroe base stations and interfaces
The Verifact® D-V is designed for vandal prone areas. The vandal resistant faceplate has a louver for microphone protection. In addition, the microphone element is mounted in a rigid recessed housing to prevent damage from foreign objects. The unit fits into a single gang electrical backbox (not included) for ease of installation for ceiling or wall. Flush mounting further enhances vandal resistance. The Verifact® D-V is omni-directional and produces line level output.
Markets
The vandal-resistant microphone is designed for correctional, educational and commercial facilities or any area where the potential for vandalism is a concern. It is typically installed in the intake room, interview room and common areas.

Features
> High sensitivity to low sound pressure
> Microphone can pick up normal sounds within a 15’ radius
> May be located up to 1000’ from base station
> Fits into single gang electrical box (not included)
> Flush or surface mount to wall or ceiling
> Sensitivity switch: normal/low
> Tamper resistant stainless steel faceplate with tamperproof screws

Included In
ASK-4® kit #101D-V   p32

Compatible With
> All Louroe base stations and interfaces and most cameras and recorders that accept a line level audio input
> For IP cameras with Mic level input refer to the DV-ML   p27

To Louroe Base Stations and Audio Interfaces or Line Level Audio Receivers
# Digital & Line Level Microphones

## Digital Line Level Non AGC

<table>
<thead>
<tr>
<th>Model</th>
<th>VERIFACT® A USB</th>
<th>VERIFACT® B (3’ Cable)</th>
<th>VERIFACT® B-6 (6’ Cable)</th>
<th>VERIFACT® C</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE Product Number</td>
<td>LE-052</td>
<td>LE-070</td>
<td>LE-039</td>
<td>LE-072</td>
</tr>
<tr>
<td>Microphone Mounting</td>
<td>Ceiling</td>
<td>Ceiling</td>
<td>Special application</td>
<td></td>
</tr>
<tr>
<td>Indoor/Outdoor</td>
<td>Indoor</td>
<td>Indoor</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Specifications

<table>
<thead>
<tr>
<th>Pick Up Pattern</th>
<th>Omni-directional, within 30’ diameter circle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Electret condenser</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>-45 dBV/Pa 1 Pa = 94 dB SPL</td>
</tr>
<tr>
<td>Frequency Response</td>
<td>50 Hz to 15 kHz</td>
</tr>
<tr>
<td>Output</td>
<td>Digital</td>
</tr>
<tr>
<td>Current Drain</td>
<td>100 mV</td>
</tr>
<tr>
<td>Supply Voltage</td>
<td>5 Vdc</td>
</tr>
<tr>
<td>Housing</td>
<td>High impact anti static ABS</td>
</tr>
<tr>
<td>Dimensions</td>
<td>4” dia x 1 ½” H</td>
</tr>
<tr>
<td>Weight</td>
<td>3.5 oz</td>
</tr>
<tr>
<td>Compatibility</td>
<td>CCTV, DVR</td>
</tr>
<tr>
<td>UL Listed</td>
<td>x</td>
</tr>
</tbody>
</table>

## Line Level Non AGC

<table>
<thead>
<tr>
<th>Model</th>
<th>VERIFACT® D</th>
<th>VERIFACT® DV</th>
<th>VERIFACT® E</th>
<th>VERIFACT® K</th>
<th>VERIFACT® L-DT</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE Product Number</td>
<td>LE-078</td>
<td>LE-069</td>
<td>LE-075</td>
<td>LE-077</td>
<td>LE-079</td>
</tr>
<tr>
<td>Microphone Mounting</td>
<td>Wall</td>
<td>Wall-vandal resistant</td>
<td>Wall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indoor/Outdoor</td>
<td>Indoor</td>
<td>Outdoor-weather resistant</td>
<td>Indoor</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Specifications

<table>
<thead>
<tr>
<th>Pick Up Pattern</th>
<th>Omni-directional, within 30’ diameter circle</th>
<th>Directional within 12’ from the microphone location</th>
<th>Bi-directional within 10’ from the microphone location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Electret condenser</td>
<td>Dynamic</td>
<td>2 Electret condenser</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>-45 dBV/Pa 1 Pa = 94 dB SPL</td>
<td>-58 dBV/Pa</td>
<td>-45 dBV/Pa</td>
</tr>
<tr>
<td>Frequency Response</td>
<td>50 Hz to 15 kHz</td>
<td>100 Hz to 15 kHz</td>
<td>300 Hz to 8 kHz</td>
</tr>
<tr>
<td>Output</td>
<td>Line level (0 dBV, 600 Ω @ 1 kHz)</td>
<td>Line level (0 dBV, 1 kΩ @ 1 kHz)</td>
<td></td>
</tr>
<tr>
<td>Current Drain</td>
<td>10 mA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supply Voltage</td>
<td>12 Vdc</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Housing</td>
<td>Stainless steel faceplate</td>
<td>Single gang weather resistant bell box</td>
<td>High impact anti-static ABS</td>
</tr>
<tr>
<td>Dimensions</td>
<td>2 ¾” W x 4 ½” H</td>
<td>2 ¾” W x 4 ½” H x 2 ¾” D</td>
<td>4 ⅜” L x 2” W x 1 ½” H</td>
</tr>
<tr>
<td>Weight</td>
<td>2.5 oz</td>
<td>4 oz</td>
<td>11.5 oz</td>
</tr>
<tr>
<td>Compatibility</td>
<td>CCTV, DVR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UL Listed</td>
<td>x</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Line Level AGC

## Microphones

<table>
<thead>
<tr>
<th>Model</th>
<th>VERIFACT® AGC</th>
<th>VERIFACT® BGC</th>
<th>VERIFACT® CGC</th>
<th>VERIFACT® DGC</th>
<th>VERIFACT® DVGC</th>
<th>VERIFACT® EGC</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE Product Number</td>
<td>LE-510</td>
<td>LE-571</td>
<td>LE-572</td>
<td>LE-578</td>
<td>LE-569</td>
<td>LE-575</td>
</tr>
<tr>
<td>Microphone Mounting</td>
<td>Ceiling</td>
<td>Special application</td>
<td>Wall</td>
<td>Wall-vandal resistant</td>
<td>Wall</td>
<td></td>
</tr>
<tr>
<td>Indoor/Outdoor</td>
<td>Ceiling</td>
<td>Special application</td>
<td>Wall</td>
<td>Wall-vandal resistant</td>
<td>Wall</td>
<td></td>
</tr>
</tbody>
</table>

### Specifications

<table>
<thead>
<tr>
<th>Pick Up Pattern</th>
<th>Omni-directional, within 50’ diameter circle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Electret Condenser</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>-45 dBV/Pa 1 Pa = 94 dB SPL</td>
</tr>
<tr>
<td>Frequency Response</td>
<td>300 Hz to 8 kHz</td>
</tr>
<tr>
<td>Output</td>
<td>Line level (-70 dBV to + 10 dBV 1 kΩ @ 1 kHz)</td>
</tr>
<tr>
<td>Current Drain</td>
<td>10 mA</td>
</tr>
<tr>
<td>Supply Voltage</td>
<td>12 Vdc</td>
</tr>
<tr>
<td>Housing</td>
<td>High impact anti static ABS</td>
</tr>
<tr>
<td>Stainless steel faceplate</td>
<td>Single gang weather resistant bell box</td>
</tr>
<tr>
<td>Dimensions</td>
<td>4” dia x 1 1/2” H</td>
</tr>
<tr>
<td>Weight</td>
<td>3.5 oz</td>
</tr>
<tr>
<td>Compatibility</td>
<td>CCTV, DVR</td>
</tr>
<tr>
<td>UL Listed</td>
<td>x</td>
</tr>
</tbody>
</table>

## Mic Level

<table>
<thead>
<tr>
<th>Model</th>
<th>A-ML</th>
<th>B-ML</th>
<th>C-ML</th>
<th>D-ML</th>
<th>DV-ML</th>
<th>E-ML</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE Product Number</td>
<td>LE-770</td>
<td>LE-771</td>
<td>LE-772</td>
<td>LE-778</td>
<td>LE-769</td>
<td>LE-775</td>
</tr>
<tr>
<td>Microphone Mounting</td>
<td>Ceiling</td>
<td>Special application</td>
<td>Wall</td>
<td>Wall-vandal resistant</td>
<td>Wall</td>
<td></td>
</tr>
<tr>
<td>Indoor/Outdoor</td>
<td>Indoor</td>
<td>Special application</td>
<td>Wall</td>
<td>Wall-vandal resistant</td>
<td>Wall</td>
<td></td>
</tr>
</tbody>
</table>

### Specifications

<table>
<thead>
<tr>
<th>Pick Up Pattern</th>
<th>Omni-directional, within 30’ diameter circle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Electret Condenser</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>-45 dBV/Pa 1 Pa = 94 dB SPL</td>
</tr>
<tr>
<td>Frequency Response</td>
<td>300 Hz to 8 kHz</td>
</tr>
<tr>
<td>Output</td>
<td>Mic level</td>
</tr>
<tr>
<td>Output Impedance</td>
<td>1 kΩ</td>
</tr>
<tr>
<td>Current Drain</td>
<td>0.8 mA</td>
</tr>
<tr>
<td>Supply Voltage</td>
<td>1.8 - 4.5 Vdc</td>
</tr>
<tr>
<td>Housing</td>
<td>High impact anti static ABS</td>
</tr>
<tr>
<td>Stainless steel faceplate</td>
<td>Single gang weather resistant bell box</td>
</tr>
<tr>
<td>Dimensions</td>
<td>4” dia x 1 1/2” H</td>
</tr>
<tr>
<td>Weight</td>
<td>7.5 oz</td>
</tr>
<tr>
<td>Compatibility</td>
<td>IP camera with Mic level audio input</td>
</tr>
<tr>
<td>UL Listed</td>
<td>-</td>
</tr>
</tbody>
</table>
ASK-4® kits—Audio Monitoring Kits
Louroe Electronics offers complete solutions that are ready and easy to use. Our wish is to facilitate your ease of installation and integration of our audio products.

100 Series—One-Way Listen Base Stations With Verifact® Microphones
The 100 series offers the ability to listen live while simultaneously sending audio to a recorder. The kits offer a wide selection of microphones and multi zone systems.

300 Series—Interface Adapters
The 300 series provides the ease of connection directly to a DVR, camera, encoder or recorder. The 300 series offers a selection of Verifact® microphones and multi zone systems.

400 Series—Expanded Zone Coverage
The 400 series incorporates Louroe’s microphone mixers to increase the pickup area for one channel of audio. Two microphones connect to the mixer with a single output, acting as one microphone, expanding the area of the monitored zone.

500 Series—Bi-directional (Talk/Listen) Monitoring
The 500 series is designed for two-way communication. These ASK-4® kit systems come in single zone and multi zone options with listen/talkback base stations and remote hands-free talk/listen stations.

600 Series—Audio Monitoring With Mute Switch
The 600 series is designed for applications where muting is critical. The system can provide for a private conversation between parties without listening or recording. This series includes an illuminated wall mountable mute switch.
## Audio Monitoring Systems

<table>
<thead>
<tr>
<th>Ceiling</th>
<th>High Ceiling</th>
<th>Wall</th>
<th>Outdoor</th>
<th>Vandal Resistant</th>
<th>Special Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASK-4® kit #104</td>
<td>ASK-4® kit #108</td>
<td>ASK-4® kit #101B</td>
<td>ASK-4® kit #102</td>
<td>ASK-4® kit #101E</td>
<td>ASK-4® kit #101C</td>
</tr>
<tr>
<td>ASK-4® kit #104</td>
<td>ASK-4® kit #108</td>
<td>ASK-4® kit #101B</td>
<td>ASK-4® kit #102</td>
<td>ASK-4® kit #101E</td>
<td>ASK-4® kit #101C</td>
</tr>
<tr>
<td>Rack Mounted</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ASK-4® kit #102-RM</td>
</tr>
<tr>
<td>ASK-4® kit #304</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASK-4® kit #501</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Compatible with DVRs

ASK-4® kit #101

This single zone audio monitoring kit is compatible with most recorders. The kit is designed for audio monitoring and interfacing with a DVR and is ideal for Live Monitoring Systems. The APR-1 desktop base unit has a 3" speaker for monitoring live audio and playback. It contains a mute switch to mute both live and playback audio. The Verifact® A microphone is designed for ceiling mount applications and can pick up sounds within a 30' diameter circle.
Markets
The ASK-4®#101 kit is usually placed at checkout counters in interview rooms, in count rooms or at cashier cages.

Features
- Line level audio output (RCA) to DVR
- Omni-directional, within 30' diameter circle
- Base station with 3” speaker for monitoring live audio and playback from a DVR
- 3.5 mm headphone jack for private listening
- The microphone can be placed up to 1000' away from the base station and is connected with 22/2 shielded cable

Kit Includes
- Verifact® A Microphone
- APR-1 Desktop Base Station
- AD-1 12 Vdc power supply
- Dual RCA cables for connection to DVR
## 100 Series - One Way Listen

### Audio Monitoring Systems

<table>
<thead>
<tr>
<th>Model</th>
<th>ASK-4® kit #101</th>
<th>ASK-4® kit #101-RM</th>
<th>ASK-4® kit #101B</th>
<th>ASK-4® kit #101C</th>
<th>ASK-4® kit #101D-V</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE Product Number</td>
<td>LE-015</td>
<td>LE-018</td>
<td>LE-361</td>
<td>LE-362</td>
<td>LE-366</td>
</tr>
<tr>
<td>Microphone Mounting</td>
<td>Ceiling</td>
<td>High ceiling</td>
<td>Special application</td>
<td>Wall-vandal resistant</td>
<td></td>
</tr>
<tr>
<td>Indoor/Outdoor</td>
<td>Indoor</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number Of Microphone</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rack Mounted</td>
<td>-</td>
<td>x</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Includes</td>
<td>Microphone</td>
<td>Verifact® A</td>
<td>Verifact® B</td>
<td>Verifact® C</td>
<td>Verifact® D-V</td>
</tr>
<tr>
<td>Base Station</td>
<td>APR-1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cable</td>
<td>Dual RCA cable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power Supply</td>
<td>AD-1 12 Vdc, 500 mA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Specifications

#### Microphone
- **Pick Up Pattern**: Omni-directional, within 30 diameter circle
- **Type**: Electret condenser
- **Sensitivity**: -45 dBV/Pa 1 Pa = 94 dB SPL
- **Frequency Response**: 50 Hz to 15 kHz
- **Output**: Line level (0 dBV, 600 Ω @ 1 kHz)
- **Current Drain**: 10 mA
- **Supply Voltage**: 12 Vdc
- **Microphone Housing**: High impact anti static ABS
- **Dimensions**: 4” dia x 1 ½” H
- **Weight**: 3.5 oz 1.5 oz 4 oz

#### Base Station
- **Monitor Output Power**: 1W @ 8 Ω
- **Audio Input Impedance**: 10K
- **Frequency Response**: 100 Hz to 10 kHz
- **Headphone Impedance**: 8 to 600 Ω
- **Universal Power Supply**: 12 Vdc, 500 mA
- **Dimensions**: 8 ¾” L x 5 ¾” W x 1 ¾” H
- **Weight**: 1 lb 6 oz 2 lbs 6 oz 1 lb 6 oz

### Compatibility
- **CCTV, DVR**

### UL Listed
- x
100 Series - One Way Listen
Audio Monitoring Systems

<table>
<thead>
<tr>
<th>Listen Live + Playback Audio</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ASK-4® kit #101E</strong></td>
<td><strong>ASK-4® kit #102</strong></td>
</tr>
<tr>
<td>LE-363</td>
<td>LE-016</td>
</tr>
<tr>
<td>Wall</td>
<td>Indoor</td>
</tr>
<tr>
<td>Outdoor-weather resistant</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>-</td>
<td>x</td>
</tr>
</tbody>
</table>

**Includes**

| Verifact® E | Verifact® D | Verifact® A |
| APR-1 | AP-4 | AP-8 | AP-2 |

Dual RCA cable

AD-1 12 Vdc, 500 mA

**Specifications**

**Microphone**

- Omni-directional, within 30' diameter circle
- Electret condenser
- -45 dBV/Pa  1 Pa = 94 dB SPL
- 50 Hz to 15 kHz
- Line level (0 dBV, 600 Ω @ 1 kHz)
- 10 mA
- 12 Vdc
- Single gang weather resistant bell box
- Stainless steel faceplate
- Single gang electrical box (not included)
- High impact anti static ABS

<table>
<thead>
<tr>
<th>Single gang weather resistant bell box</th>
<th>Stainless steel faceplate</th>
<th>Single gang electrical box (not included)</th>
<th>High impact anti static ABS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 ¾” W x 4 ½” H x 2 ¼” H</td>
<td>2 ¾” W x 4 ½” H</td>
<td>4” dia x 1 ½” H</td>
<td></td>
</tr>
<tr>
<td>11.5 oz</td>
<td>2.5 oz</td>
<td>3.5 oz</td>
<td></td>
</tr>
</tbody>
</table>

**Base Station**

- 1W @ 8 Ω
- 10K
- 100 Hz to 10 kHz
- 8 to 600 Ω
- 12 Vdc, 500 mA
- 8 ¼” L x 5 ¾” W x 1 ¾” H
- 19” L x 3 ½” W x 8 ¼” D
- 6 ½” W x 8 ¼” L x 2 ½” H
- 1 lb 6 oz
- 2 lbs 6 oz
- 1 lb 7 oz
- 1 lb 10 oz
- 1 lb 5 oz

**CCTV, DVR**

x
The ASK-4® kit #300 is a single zone audio monitoring system designed ideally for **connection to IP cameras or DVRs**. When ceiling mounted, a Verifact® A microphone can pick up sounds 15' away or within a 30' diameter circle. The model IF-1 interface adapter connects to the microphone, supplies power to the microphone and drives audio into the input of the recording device.
**Markets**
The ASK-4® kit #300 is typically used for additional evidence at a register in convenience stores, in classrooms and common areas in schools or in a deposit room in the banking industry. The IF-1 is typically placed in a control room and the microphone in the monitored area, close to an IP camera or DVR.

**Features**
- Model IF-1 Audio Interface Adapter provides 12 Vdc power to the microphone
- Volume control to prevent overdriving of signal into a DVR or IP camera
- RCA and 3.5 mm audio outputs to accommodate most recording devices that accept line level audio input

**Kit Includes**
- Verifact® A Microphone
- IF-1 interface adapter
- AD-1 12 Vdc power supply
- RCA cable, 3.5 mm stereo cables and adapters

**Compatible With**
- IP cameras (with line level input) or DVRs
## 300 Series - Interface Adapters

### Audio Monitoring Systems

<table>
<thead>
<tr>
<th>Model</th>
<th>Audio Recording</th>
<th>Audio Over PoE</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE Product Number</td>
<td>ASK-4® kit #300</td>
<td>ASK-4® kit #302</td>
</tr>
<tr>
<td>Mounting</td>
<td>Ceiling</td>
<td>Indoor/Outdoor</td>
</tr>
<tr>
<td>Number Of Microphone</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Includes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Speaker) Microphone</td>
<td>Verifact® A</td>
<td>AOP-SP-CF</td>
</tr>
<tr>
<td>Interface</td>
<td>IF-1</td>
<td>IF-2</td>
</tr>
<tr>
<td>Interface Adapters</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cable</td>
<td>RCA cable, 3.5 mm stereo cable and adapters</td>
<td>RCA cable and adapters</td>
</tr>
<tr>
<td>Power Supply</td>
<td>AD-1 12 Vdc, 500 mA</td>
<td>PoE (802.3af) or 12 Vdc</td>
</tr>
</tbody>
</table>

### Specifications

#### Microphone
- **Pick Up Pattern**: Omni-directional within 30' diameter circle
- **Type**: Electret condenser
- **Sensitivity**: -45 dBV/Pa
- **Frequency Response**: 50 Hz to 15 kHz
- **Output**: Line level (0 dBV, 600 Ω @ 1 kHz)
- **Current Drain**: 10 mA
- **Supply Voltage**: 12 Vdc
- **Microphone Housing**: High impact anti static ABS
- **Dimensions**: 4” dia x 1 ½” H
- **Weight**: 3.5 oz

#### Interface
- **Input**: Line level
- **Audio Input Impedance**: 17.5k Ω @ 1 kHz
- **Audio Output Impedance**: 600 Ω @ 1 kHz
- **Audio Output Gain**: Adjustable, up to +10 dB
- **Power Requirements**: +12 Vdc, 500 mA
- **Material**: High impact anti static ABS
- **Ethernet Connectors**: RJ-45 CAT5 input and output jacks
- **Connectors**: Terminal block, RCA jack, 3.5 mm stereo jack, DC jack
- **Voltage Input**: 12 Vdc
- **Operating Temperature**: 0 to 70°C
- **Dimensions**: 6 ⅞” L x 4 ¾” W x 1 ¾” H
- **Weight**: 5.5 oz
- **Compatibility**: DVR, IP camera, encoder
- **UL Listed**: -

PoE (802.3af) or 12 Vdc, 2A Ext
Black anodized Al 14 Ga
RJ-45, DC jack, Terminal block for microphone/speaker
36V - 57V
-20°C to +65°C
11 ⅞” L x 4 ¾” W x 1 ¼” H
12.5 oz
IP camera, encoder
x
# 400 Series - Expanded Zone Coverage

Audio Monitoring Systems

## Expanded Zone Coverage

<table>
<thead>
<tr>
<th>Model</th>
<th>ASK-4® kit #401</th>
<th>ASK-4® kit #431</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE Product Number</td>
<td>LE-009</td>
<td>LE-368</td>
</tr>
<tr>
<td>Mounting</td>
<td>Ceiling</td>
<td></td>
</tr>
<tr>
<td>Indoor/Outdoor</td>
<td>Indoor</td>
<td></td>
</tr>
<tr>
<td>Number Of Microphone</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Includes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Microphone</td>
<td></td>
<td>Verifact® A</td>
</tr>
<tr>
<td>Base Station/Interface</td>
<td>APR-1</td>
<td>IF-1</td>
</tr>
<tr>
<td>Microphone Mixers</td>
<td>RN-2</td>
<td></td>
</tr>
<tr>
<td>Cable</td>
<td>Dual RCA cable</td>
<td>RCA cable and adapters</td>
</tr>
<tr>
<td>Power Supply</td>
<td>AD-1 12 Vdc, 500 mA</td>
<td></td>
</tr>
</tbody>
</table>

## Specifications

### Microphone

- **Pick Up Pattern**: Omni-directional, within 30° diameter circle
- **Type**: Electret condenser
- **Sensitivity**: -45 dBV/Pa; 1 Pa = 94 dB SPL
- **Frequency Response**: 50 Hz to 15 kHz
- **Output**: Line level (0 dBV, 600 Ω @ 1 kHz)
- **Current Drain**: 10 mA
- **Supply Voltage**: 12 Vdc
- **Microphone Housing**: High impact anti static ABS
- **Dimensions**: 4” dia x 1 ½” H
- **Weight**: 3.5 oz

### Base Station

<table>
<thead>
<tr>
<th>Monitor Output Power</th>
<th>1W @ 8 Ω</th>
<th>-</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audio Input Impedance</td>
<td>10 kΩ</td>
<td>20 kΩ</td>
</tr>
<tr>
<td>Frequency Response</td>
<td>100 Hz to 10 kHz</td>
<td>50 Hz to 15 kHz</td>
</tr>
<tr>
<td>Output Impedance</td>
<td>600 Ω @ 1 kHz</td>
<td>600 Ω @ 1 kHz</td>
</tr>
<tr>
<td>Universal Power Supply</td>
<td>12 Vdc, 500 mA</td>
<td></td>
</tr>
<tr>
<td>Dimensions</td>
<td>8 ¼” L x 5 ¾” W x 1 ¼” H</td>
<td>6 ¼” L x 4 ¼” W x 1 ¼” H</td>
</tr>
<tr>
<td>Weight</td>
<td>1 lb 6 oz</td>
<td>5.5 oz</td>
</tr>
</tbody>
</table>

### Audio Mixer

- **Input Impedance**: 20 kΩ
- **Output Impedance**: 1 kΩ @ 1 kHz
- **Output Gain**: +5 dB
- **Input/Output Connections**: Terminal blocks
- **Dimensions**: 6 ¼” L x 4 ¼” W x 1 ¼” H
- **Weight**: 5.5 oz
- **Compatibility**: CCTV, DVR, DVR, IP camera, encoder
- **UL Listed**: -
The ASK-4® kit #501 is a single zone audio monitoring system for two-way audio. The TLM-W remote unit contains a Verifact® line level microphone and a 2.5" speaker, all within one housing. AP1-TB desktop base unit produces live audio and playback functions. Talk from the base unit to remote speaker/microphone is engaged by toggling the “hold to talk” switch and speaking into the built-in microphone. A person at the remote speaker/microphone can listen and talk hands-free.
**Markets**
The ASK-4® kit #501 is typically used in the medical industry in patient rooms, imaging rooms or speech therapy labs. It provides for communication between medical staff and patient rooms. Frequently used at nursing and technician stations, personnel are able to communicate with patients at the touch of a button and patients can respond hands free. The TLM-W is typically placed in the patient room, and the AP-1TB base station at the nurse station.

**Features**
- Desktop base station with built-in microphone and speaker
- RCA input/output to DVR for recording and playback
- Volume control for both listen and talkback
- Speaker/microphone may be mounted up to 1000’ from base station
- Surface mounted to a plastic backbox (supplied) or flush mounted into a 3-gang electrical box

**Kit Includes**
- TLM-W Speaker/Microphone
- AP-1TB Desktop Base Station
- AD-1 12 Vdc power supply
- Dual RCA cable

**Compatible With**
- DVRs
## 500 Series - Talk Listen
Audio Monitoring Systems

### Model Numbers

<table>
<thead>
<tr>
<th>LE Product Number</th>
<th>ASK-4® kit #501</th>
<th>ASK-4® kit #501-TLI-CF</th>
<th>ASK-4® kit #501-TLI-CS</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE-025</td>
<td>LE-371</td>
<td>LE-373</td>
<td></td>
</tr>
</tbody>
</table>

### Speakerphone Mounting
- Wall
- Flush ceiling
- Surface ceiling
- Indoor

### Speaker/Microphone
- TLM-W
- TLI-CF
- TLI-CS

### Base Station
- AP-1TB

### Cable
- Dual RCA cable

### Power Supply
- AD-1 12 Vdc

## Specifications

### Microphone
- **Pick Up Pattern**: Omni-directional, within 30' diameter circle
- **Type**: Electret condenser
- **Sensitivity**: -45 dBV/Pa, 1 Pa = 94 dB SPL
- **Frequency Response**: 50 Hz to 15 kHz
- **Output**: Line level (0 dBV, 600 Ω @ 1 kHz)
- **Current Drain**: 10 mA

### Speaker
- **Power Output**: 7W, 20W
- **Input**: 70V constant
- **Frequency Response**: 30 Hz to 20 kHz, 60 Hz to 17 kHz
- **Impedance**: 8 Ω
- **Size**: 2.5”, 8”

### Faceplate Dimensions
- **Faceplate**: 6.8” L x 5.12” W x 0.5” D
- **Backbox**: 6.92” L x 5.12” W x 1.62” D

### Weight
- **Faceplate**: 13 oz
- **Backbox**: 4 lbs 8.5 oz

### Base Station
- **Monitor Output Power**: 1W @ 8 Ω
- **Audio Input Impedance**: 10 kΩ
- **Frequency Response**: 100 Hz to 10 kHz
- **Headphone Impedance**: 8 to 600
- **Universal Power Supply**: 12 Vdc, 500 mA
- **Dimensions**: 8 ¾” L x 5 ¾” W x 1 ¾” H
- **Weight**: 2 lbs 3 oz

### Compatibility
- CCTV, DVR

### UL Listed
- x

---
### 600 Series - Mute Switch

Audio Monitoring Systems

<table>
<thead>
<tr>
<th>Model</th>
<th>ASK-4® kit #601</th>
<th>ASK-4® kit #631</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LE Product Number</strong></td>
<td>LE-380</td>
<td>LE-381</td>
</tr>
<tr>
<td><strong>Microphone Mounting</strong></td>
<td>Ceiling</td>
<td></td>
</tr>
<tr>
<td>Indoor/Outdoor</td>
<td>Indoor</td>
<td></td>
</tr>
<tr>
<td><strong>Number Of (Speaker) Microphone</strong></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>Includes</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Speaker) Microphone</td>
<td>Verifact® A</td>
<td></td>
</tr>
<tr>
<td>Base Station/Interface</td>
<td>APR-1</td>
<td>IF-1</td>
</tr>
<tr>
<td><strong>Mute Switch</strong></td>
<td>MS-1</td>
<td></td>
</tr>
<tr>
<td><strong>Cable</strong></td>
<td>Dual RCA cable</td>
<td>3.5 mm stereo cable, RCA cable and adapters</td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>AD-1 12 Vdc</td>
<td></td>
</tr>
</tbody>
</table>

### Specifications

**Microphone**
- **Pick Up Pattern**: Omni-directional, within 30’ diameter circle
- **Type**: Electret condenser
- **Sensitivity**: -45 dBV/Pa, 1 Pa = 94 dB SPL
- **Frequency Response**: 50 Hz to 15 kHz
- **Output**: Line level (0 dBV, 600 Ω @ 1 kHz)
- **Current Drain**: 10 mA
- **Supply Voltage**: AD-1 12 Vdc, 500 mA
- **Housing**: High impact anti static ABS
- **Dimensions**: 4” dia x 1 ½” H
- **Weight**: 3.5 oz

**Base Station/Interface**
- **Monitor Output Power**: 1W @ 8 Ω
- **Audio Input Impedance**: 10 kΩ, 20 kΩ
- **Frequency Response**: 100 Hz to 10 kHz, 50 Hz to 15 kHz
- **Audio Output Impedance**: 600 Ω @ 1 kHz
- **Universal Power Supply**: 12 Vdc, 500 mA
- **Dimensions**: 8 ¼” L x 5 ¾” W x 1 ⅜” H, 6 ½” L x 4 ¼” W x 1 ⅜” H
- **Weight**: 1 lb 6 oz, 5.5 oz

**Switch**
- **Supply Voltage**: 12 Vdc
- **Faceplate**: Stainless steel
- **Backbox**: Single gang electrical box (not included)
- **Dimensions**: 2 ¾” W x 4 ½” H
- **Weight**: 2.5 oz

**Compatibility**
- **CCTV, DVR**
- **DVR, IP camera, encoder**

**UL Listed**: -
Audio Analytics

Audio analytics is ability to **analyze and identify** sounds. Similar to how the human ear processes audio, analytic software analyzes sounds through **advanced algorithms** and classifies it into a predetermined category such as aggression or breaking glass. Audio analytics add **accuracy** to security systems and provide many benefits.
Aggression Detector
This aggression detector is capable of recognizing aggression in a person’s voice. Staff can thus be warned at an early stage. The system automatically and objectively detects (rising) human aggression, anger or fear, warns staff immediately so that physical aggression can be prevented.

Gunshot Detector
The Gunshot Detector recognizes firearm discharge in different settings. Within seconds of a gunshot, the software accurately classifies and triggers an immediate notification. Security staff can then reduce the response time of personnel. This analytic can successfully detect most firearms including handguns, shotguns, rifles and automatic rifles.

Glass Break Detector
The Glass Break Detector software easily integrates into existing video systems, eliminating the need for additional devices. The detector is designed to classify the breakage of today’s most commonly used glass including laminated, single or double plate, tempered and wired glass.

Car Alarm Detector
The Car Alarm Detector classifies the specific sound pattern produced in today’s most common car alarms systems. The software can detect up to 300 feet away, making it ideal for any location with many cars such as a parking garage or car dealership.

How it Works
Audio analytics isolate and identify specific sound patterns from the overall ambient sound, much like the human ear does. Within seconds of identifying the specific sound like verbal aggression or fear, breaking glass or a gunshot, the system will automatically send out an alert.

Benefits
- Proactive response
- Cost-effective investment
- Monitoring efficiency
- Real-time engagement
- Confidentiality

Detection Range

<table>
<thead>
<tr>
<th>Sound</th>
<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggression</td>
<td>115 ft</td>
</tr>
<tr>
<td>Car Alarm</td>
<td>230 ft</td>
</tr>
<tr>
<td>Gunshot</td>
<td>245 ft</td>
</tr>
<tr>
<td>Breaking Glass</td>
<td>115 ft</td>
</tr>
</tbody>
</table>
Speaker Microphones

**Speaker Microphones For Louroe Base Stations**
Enabling hands free remote talk/listen capability, Louroe Speaker/Microphones contain Verifact® microphones and a speaker within a single housing. Speaker size and power handling varies depending on model. Louroe speaker/microphones provide two-way talk/listen capabilities between the remote station and the Louroe base station.

**Remote Call Stations**
Designed for sound activated base stations, remote call stations contain a 3" or 4" speaker and Verifact® line level microphone mounted on the back of a vandal resistant stainless steel faceplate. Some of the call stations include a call button for activating the alarming base station.

**Speaker Microphone For IP Cameras**
Louroe provides speaker microphones for direct connection to IP cameras.

---

**Speaker Microphones For Louroe Base Stations**

<table>
<thead>
<tr>
<th>Ceiling</th>
<th>Surface</th>
<th>Flush</th>
</tr>
</thead>
<tbody>
<tr>
<td>4&quot; Speaker</td>
<td>TLM-CS</td>
<td>TLI-CS</td>
</tr>
<tr>
<td>8&quot; Speaker</td>
<td>TLI-VR-SQ</td>
<td>TLI-CF</td>
</tr>
</tbody>
</table>

**Remote Call Stations**

<table>
<thead>
<tr>
<th>Wall-Indoor</th>
<th>Outdoor</th>
<th>Corner</th>
<th>No Housing</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5&quot; Speaker</td>
<td>With Mic</td>
<td>No Mic</td>
<td></td>
</tr>
<tr>
<td>TLM-W</td>
<td>TLO*</td>
<td>TLO-NM*</td>
<td></td>
</tr>
</tbody>
</table>

*requires AOP-SP70
## Speaker Microphones

### Remote Call Stations

<table>
<thead>
<tr>
<th>Surface</th>
<th>Wall-Indoor</th>
<th>Outdoor</th>
</tr>
</thead>
<tbody>
<tr>
<td>TLSP-S</td>
<td>TLSP-PB-WS</td>
<td>TLSP-F</td>
</tr>
<tr>
<td>TLSP-PB-WF</td>
<td>TLMC-W</td>
<td></td>
</tr>
</tbody>
</table>

### Speaker Microphone For IP Cameras

<table>
<thead>
<tr>
<th>Surface</th>
<th>Wall-Indoor</th>
<th>Outdoor</th>
</tr>
</thead>
<tbody>
<tr>
<td>AOP-SP-CS</td>
<td>AOP-SP-W</td>
<td>AOP-SP-E</td>
</tr>
<tr>
<td>AOP-SP-CF</td>
<td>AOP-SP-PB</td>
<td>AOP530</td>
</tr>
</tbody>
</table>
The LE-802 is an Intelligent Audio Analytics System offering a robust, easy to use and easy to install application for unattended audio monitoring on specific events such as gunshots, aggressive speech, glass breaking and car alarms. The system is a complete hardware and software solution that is housed in a weather and vandal resistant enclosure for outdoor applications. It provides for constant 360° audio monitoring over large areas and is designed for easy installation on most city utility poles or walls. The LE-802 seamlessly integrates with most Video Management and Monitoring Systems or can also work as a stand-alone edge solution analyzing sounds in real-time.
Markets
Ideal for public safety, transportation hubs, school campuses, parking lots and shopping malls.

Detection Range

<table>
<thead>
<tr>
<th>Sound</th>
<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggression</td>
<td>115 ft</td>
</tr>
<tr>
<td>Car Alarm</td>
<td>230 ft</td>
</tr>
<tr>
<td>Gunshot</td>
<td>245 ft</td>
</tr>
<tr>
<td>Breaking Glass</td>
<td>115 ft</td>
</tr>
</tbody>
</table>

Features
- PoE powered
- Weather and vandal resistant enclosure
- Constant 360° audio monitoring over large areas
- Easy installation on most city utility poles or walls
- Sends notifications to network devices
- Programmable to activate output ports
- Plays a prerecorded message to a connected speaker

Compatible With
- Seamless integration with most Video Management Systems
- Existing security systems
AOP530

The AOP530 is our analog two-way speaker microphone. **Echo cancellation** and full-duplex technology allows for two-way communication with **excellent quality of sound**. It contains a built-in microphone and a 2.5" speaker for accomplishing bi-directional audio. The AOP530 is easy to install **connecting directly to IP cameras** and encoders that feature two-way, line level audio. It can be used for indoor or outdoor due to its **vandal resistant housing**.

**NEW**

**AOP530**

The AOP530 is our analog two-way speaker microphone. **Echo cancellation** and full-duplex technology allows for two-way communication with **excellent quality of sound**. It contains a built-in microphone and a 2.5" speaker for accomplishing bi-directional audio. The AOP530 is easy to install **connecting directly to IP cameras** and encoders that feature two-way, line level audio. It can be used for indoor or outdoor due to its **vandal resistant housing**.

**NEW**

**AOP530**

The AOP530 is our analog two-way speaker microphone. **Echo cancellation** and full-duplex technology allows for two-way communication with **excellent quality of sound**. It contains a built-in microphone and a 2.5" speaker for accomplishing bi-directional audio. The AOP530 is easy to install **connecting directly to IP cameras** and encoders that feature two-way, line level audio. It can be used for indoor or outdoor due to its **vandal resistant housing**.

*NEW*  
**AOP530**

The AOP530 is our analog two-way speaker microphone. **Echo cancellation** and full-duplex technology allows for two-way communication with **excellent quality of sound**. It contains a built-in microphone and a 2.5" speaker for accomplishing bi-directional audio. The AOP530 is easy to install **connecting directly to IP cameras** and encoders that feature two-way, line level audio. It can be used for indoor or outdoor due to its **vandal resistant housing**.

*NEW*  
**AOP530**

The AOP530 is our analog two-way speaker microphone. **Echo cancellation** and full-duplex technology allows for two-way communication with **excellent quality of sound**. It contains a built-in microphone and a 2.5" speaker for accomplishing bi-directional audio. The AOP530 is easy to install **connecting directly to IP cameras** and encoders that feature two-way, line level audio. It can be used for indoor or outdoor due to its **vandal resistant housing**.

*NEW*  
**AOP530**

The AOP530 is our analog two-way speaker microphone. **Echo cancellation** and full-duplex technology allows for two-way communication with **excellent quality of sound**. It contains a built-in microphone and a 2.5" speaker for accomplishing bi-directional audio. The AOP530 is easy to install **connecting directly to IP cameras** and encoders that feature two-way, line level audio. It can be used for indoor or outdoor due to its **vandal resistant housing**.

*NEW*  
**AOP530**

The AOP530 is our analog two-way speaker microphone. **Echo cancellation** and full-duplex technology allows for two-way communication with **excellent quality of sound**. It contains a built-in microphone and a 2.5" speaker for accomplishing bi-directional audio. The AOP530 is easy to install **connecting directly to IP cameras** and encoders that feature two-way, line level audio. It can be used for indoor or outdoor due to its **vandal resistant housing**.
Markets
Recommended for commercial facilities, main entrance of schools, restricted areas in seaport, airports or medical facilities.

Features
- Line level input and output (0 dBV)
- Full-Duplex Communication with DSP technology
- Vandal resistant, stainless steel faceplate that fits into a 3 gang electrical box
- Dry contact blue illuminated pushbutton that’s immediately identifiable in the dark

Compatible With
- IP cameras
- Network devices supporting two-way communication
- Intercom systems featuring line level audio support
Model TLO is a **two-way speaker/microphone** for high volume penetration. Weatherized for **outdoor use**, it is a microphone and speaker within one housing. In operation, the TLO provides both listen and talkback capabilities between the remote zone and a Louroe audio base station. When connected through a Louroe AOP-SP70 Audio Conversion Unit, it can also be interfaced with other audio receiving devices such as DVRs, IP Network Cameras and Video Servers.
Markets
The TLO is designed for outdoor use and is commonly used for public safety in a retailer’s parking lot, backdoors, alleyways, remote access gate, dealerships or other perimeter protection applications. It can be used to help quickly deter theft, or to communicate with customers when an incident arises in the parking lot. The TLO can be connected to a base station or IP camera thanks to the AOP-SP70.

Features
> Weather resistant for outdoor use
> Omni-directional microphone and horn speaker
> May be used in damp, moist environment
> May be mounted up to 1000’ from Louroe base station
> Mounting bracket (2 ½” dia) for vertical and horizontal positioning

Best Value When Used With
AOP-SP70 p65

AOP-SP70
> Contains audio inputs (terminal blocks) for microphone and speaker connection from Louroe Model TLO
> Sends power to speaker/microphone (TLO)
> Drives audio signals into DVR, IP network, cameras
> Amplifies talkback from receiving device for broadcast through TLO Speaker
> Contains level controls for listen and talkback
> Contains built-in 12 Vdc power jack
> 12 Vdc power supply included

Compatible With
> DVRs, IP cameras
### Speaker Microphones

<table>
<thead>
<tr>
<th>Model</th>
<th>TLSP-S</th>
<th>TLSP-PB-WS</th>
<th>TLSP-F</th>
<th>TLSP-PB-WF</th>
<th>TLMC-W</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE Product Number</td>
<td>LE-086</td>
<td>LE-096</td>
<td>LE-082</td>
<td>LE-097</td>
<td>LE-169</td>
</tr>
<tr>
<td>Speakerphone Mounting</td>
<td>Surface wall</td>
<td>Flush wall</td>
<td>Wall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indoor/Outdoor</td>
<td>Indoor</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Outdoor-weather resistant</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Specifications

<table>
<thead>
<tr>
<th>Microphone</th>
<th></th>
<th>Electro condenser/omi-directional, within 30' diameter circle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitivity</td>
<td>-45 dBV/Pa</td>
<td>1 Pa = 94 dB SPL</td>
</tr>
<tr>
<td>Frequency Response (-3DB)</td>
<td>40 Hz to 15 kHz</td>
<td></td>
</tr>
</tbody>
</table>

**Output**  
- Line level (0 dBV, 600 Ω @ 1 kHz)
- 10 mA
- 40 mA

**Supply Voltage**  
- 12 Vdc

**Speaker**  
- **Input/Distribution**: 70V Line/Constant-voltage
- **Speaker Power Handling**: 2W max. (2450 Ω @ 70V)
- **Frequency Response (-3dB)**: 30 Hz to 20 kHz
- **Speaker Magnet**: 1.73 oz
- **Speaker Size**: 3" 4"

**Housing**  
- **Material**: Vandal resistant stainless steel, Stainless steel
- **Weight**: 4 lbs, 2 lbs
- **Dimensions**  
  - Faceplate: 6” x 6”  
  - Backbox: 6” H x 6” W x 4” D  
  - Faceplate: 7” x 7”  
  - Backbox: 6” H x 6” W x 4” D  
  - Faceplate: 6 ¾” H x 8” W  
  - Backbox: 8” L x 6 ¾” W x 2 ¾” D

**Compatibility**  
- Louroe 2-Way Base Stations

**UL Listed**  
-
**Speaker Mic For IP Camera**

**Speaker Microphones**

<table>
<thead>
<tr>
<th>Model</th>
<th>AOP-SP-CS</th>
<th>AOP-SP-CF</th>
<th>AOP-SP-W</th>
<th>AOP-SP-PB</th>
<th>AOP-SP-E</th>
<th>AOP530</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE Product Number</td>
<td>LE-114</td>
<td>LE-115</td>
<td>LE-164</td>
<td>LE-128</td>
<td>LE-165</td>
<td>LE-530</td>
</tr>
<tr>
<td>Speakerphone Mounting</td>
<td>Surface ceiling</td>
<td>Flush ceiling</td>
<td>Wall</td>
<td>Indoors</td>
<td>Indoor</td>
<td>Outdoor-weather resistant</td>
</tr>
<tr>
<td>Indoor/Outdoor</td>
<td>Indoor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Specifications**

<table>
<thead>
<tr>
<th>Microphone</th>
<th>Omni-directional, within 30’ diameter circle</th>
<th>Omni-directional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pick Up Pattern</td>
<td>Omni-directional, within 30’ diameter circle</td>
<td>Omni-directional</td>
</tr>
<tr>
<td>Type</td>
<td>Electret condenser</td>
<td>Electret condenser</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>-45 dBV/Pa</td>
<td>1 Pa = 94 dB SPL</td>
</tr>
<tr>
<td>Frequency Response</td>
<td>40 Hz to 15 kHz</td>
<td>40 Hz to 15 kHz</td>
</tr>
<tr>
<td>Output</td>
<td>Line level (0 dBV, 600 Ω @ 1 kHz)</td>
<td>Line level (0 dBV, 600 Ω @ 1 kHz)</td>
</tr>
<tr>
<td>Current Drain</td>
<td>200 mA</td>
<td>600 mA</td>
</tr>
<tr>
<td>Supply Voltage</td>
<td>12 Vdc</td>
<td>Nominally 12 Vdc (10-16 Vdc)</td>
</tr>
<tr>
<td>Speaker Output Power</td>
<td>1W @ 8 Ω</td>
<td>2.5W @ 8 Ω</td>
</tr>
<tr>
<td>Input</td>
<td>Line level 600 Ω @ 1 kHz</td>
<td>Line level 10 Ω @ 1 kHz</td>
</tr>
<tr>
<td>Frequency Response</td>
<td>30 Hz to 20 kHz</td>
<td>300 Hz to 400 kHz</td>
</tr>
<tr>
<td>Speaker Magnet</td>
<td>1.73 oz Ceramic</td>
<td>Neodymium</td>
</tr>
<tr>
<td>Speaker Size</td>
<td>4”</td>
<td>2”</td>
</tr>
<tr>
<td>Housing Material</td>
<td>Steel</td>
<td>Stainless steel</td>
</tr>
<tr>
<td>Weight</td>
<td>2 lbs 12 oz</td>
<td>1 lb 6 oz</td>
</tr>
<tr>
<td>Dimensions</td>
<td>Grill: 12 ¾” dia Backbox 12 ¾” dia x 3” H</td>
<td>Grill: 12 ¾” dia</td>
</tr>
<tr>
<td>Compatibility</td>
<td>DVR, IP camera, encoder</td>
<td>CCTV, DVR</td>
</tr>
<tr>
<td>UL Listed</td>
<td>x</td>
<td>-</td>
</tr>
</tbody>
</table>
## Speaker Microphones For Louroe Base Stations

### Speaker Microphones

<table>
<thead>
<tr>
<th>Model</th>
<th>TLM-CS</th>
<th>TLI-CS</th>
<th>TLI-VR-SQ</th>
<th>TLI-CF</th>
<th>TLI-VR-F</th>
<th>TLM-W</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE Product Number</td>
<td>LE-027</td>
<td>LE-226</td>
<td>LE-218</td>
<td>LE-227</td>
<td>LE-216</td>
<td>LE-007</td>
</tr>
<tr>
<td>Speakerphone Mounting</td>
<td>Surface ceiling</td>
<td>Flush ceiling</td>
<td>Wall</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indoor/Outdoor</td>
<td></td>
<td></td>
<td>Indoor</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Specifications

#### Microphone
- **Type/Pick Up Pattern**: Electret condenser/omni-directional, within 30° diameter circle
- **Sensitivity**: -45 dBV/Pa 1 Pa = 94 dB SPL
- **Frequency Response**: 40 Hz to 15 kHz

#### Output
- **Line level (0 dBV, 600 Ω @ 1 kHz)**
- **Current Drain**: 10 mA

#### Supply Voltage
- **12 Vdc**

#### Speaker
- **Input/Distribution**: 70V Line/Constant-voltage
- **Speaker Power Handling**: 7W max. (715 Ω @ 70V)
- **Frequency Response**: 30 Hz to 20 kHz
- **Current Drain**: 10 mA
- **Supply Voltage**: 12 Vdc

#### Housing
- **Material**: Steel Vandal resistant steel
- **Dimensions**
  - **Faceplate**: 7 ⅝" dia x 2 ¾" D
  - **Mounting ring**: 7 ⅝" dia x 3" D
  - **Backbox**: 6.8" L x 5.12" W x 0.5" D
- **Weight**: 1 lb 8 oz

#### Compatibility
- **Louroe 2-Way Base Stations**

#### UL Listed
- **-**

---

54 | Speaker Microphones
## Speaker Microphones For Louroe Base Stations

### Speaker Microphones

<table>
<thead>
<tr>
<th>Model</th>
<th>TLM-E</th>
<th>TLSP-CM</th>
<th>TLI</th>
<th>TLO</th>
<th>TLO-NM</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE Product Number</td>
<td>LE-168</td>
<td>LE-092</td>
<td>LE-080</td>
<td>LE-084</td>
<td>LE-085</td>
</tr>
<tr>
<td>Speakerphone Mounting</td>
<td>Wall</td>
<td>Corner</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indoor/Outdoor</td>
<td>Outdoor-weather resistant</td>
<td>Indoor</td>
<td>No housing</td>
<td></td>
<td>Outdoor-weather resistant</td>
</tr>
</tbody>
</table>

### Specifications

<table>
<thead>
<tr>
<th>Microphone</th>
<th>Electret condenser/omni-directional, within 30' diameter circle</th>
<th>No Microphone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type/Pick Up Pattern</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sensitivity</td>
<td>-45 dBV/Pa 1 Pa = 94 dB SPL</td>
<td></td>
</tr>
<tr>
<td>Frequency Response</td>
<td>40 Hz to 15 kHz</td>
<td></td>
</tr>
<tr>
<td>Output</td>
<td>Line level (0 dBV, 600 Ω @ 1 kHz)</td>
<td></td>
</tr>
<tr>
<td>Current Drain</td>
<td>10 mA</td>
<td>4 mA</td>
</tr>
<tr>
<td>Supply Voltage</td>
<td>12 Vdc</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Speaker</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Input/Distribution</td>
<td>70V Line/Constant-voltage</td>
</tr>
<tr>
<td>Speaker Power Handling</td>
<td>7W max. (715 Ω @ 70V) 20W (245 @ 70V) 30W max. @ 167 Ω (Setting 5)</td>
</tr>
<tr>
<td>Frequency Response</td>
<td>30 Hz to 20 kHz 300 Hz to 4 kHz 65 Hz to 17 kHz 350 Hz to 14 kHz</td>
</tr>
<tr>
<td>Speaker Magnet</td>
<td>1.73 oz Ceramic 5 oz Ceramic</td>
</tr>
<tr>
<td>Speaker Size</td>
<td>4&quot; 3&quot;</td>
</tr>
<tr>
<td>Housing</td>
<td></td>
</tr>
<tr>
<td>Material</td>
<td>Stainless steel Steel</td>
</tr>
<tr>
<td>Dimensions</td>
<td>Faceplate: 8&quot; H x 6 1/4&quot; W Backbox: 8&quot; H x 6 1/4&quot; W x 2 1/4&quot; D</td>
</tr>
<tr>
<td>Weight</td>
<td>1 lb 6 oz 2 lbs 13 oz 1 lb 11 oz</td>
</tr>
</tbody>
</table>

### Compatibility

| | Louroe 2-Way Base Stations | Louroe 2-Way Base Stations and AOP-SP70 |

### UL Listed

| | |
| | - |
Audio Base Stations

One Way Listen
Models APR-1, AP-2, AP-4, and AP-8 are non-alarming audio monitoring base stations. When used in conjunction with Louroe Verifact® microphones they provide live audio, delivered through the built-in amplifier and 3" (76.2 mm) speaker. Zone selection is by pushbutton (except for model APR-1 which is a single zone unit). All have RCA type line level outputs for connection to a recording device.

Two-Way Listen/Talk
Non-alarming listen/talk base stations are available from 1 to 16 zones. When combined with Louroe speaker microphones they provide both listening and talkback capability between the base station and remote unit. Each base station has the same number of audio outputs as it has microphone inputs for connections to recording devices. Models are compatible with Louroe speaker/microphone models TLI, TLM, TLO, and TLSP.

Sound Activated
These models provide sound activated alarming when used in conjunction with Louroe microphones or speaker/microphones. Each zone has a variable alarming threshold level (set by user or installer) based on frequency and sound pressure that activates when a sound exceeds the set threshold level. An audible alarm and lighted LED identifies the zone, along with a relay contact for activating a camera or other technology. Included are a hand-held sound generator for assistance in setting threshold levels and a portable test amplifier for checking.
## Audio Base Stations

<table>
<thead>
<tr>
<th>1 Zone</th>
<th>2 Zones</th>
<th>4 Zones</th>
<th>8 Zones</th>
<th>16 Zones</th>
</tr>
</thead>
<tbody>
<tr>
<td>APR-1</td>
<td>AP-2</td>
<td>AP-4</td>
<td>AP-8</td>
<td></td>
</tr>
</tbody>
</table>

### One Way Listen

<table>
<thead>
<tr>
<th>Rack Mount</th>
</tr>
</thead>
<tbody>
<tr>
<td>APR-1-RM</td>
</tr>
</tbody>
</table>

### Two-Way - Listen/Talk

<table>
<thead>
<tr>
<th>Two-Way - Listen/Talk</th>
</tr>
</thead>
<tbody>
<tr>
<td>APR-1-TB</td>
</tr>
</tbody>
</table>

### Rack Mount

<table>
<thead>
<tr>
<th>Rack Mount</th>
</tr>
</thead>
<tbody>
<tr>
<td>APR-1TB-RM</td>
</tr>
</tbody>
</table>

### Sound Activated Alarming

<table>
<thead>
<tr>
<th>Sound Activated Alarming</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 Zones</td>
</tr>
<tr>
<td>DG-12II + DG-MA&lt;br&gt;(DG-12II requires companion DG-MA)</td>
</tr>
</tbody>
</table>
# One Way Listen
## Audio Base Stations

<table>
<thead>
<tr>
<th>Model</th>
<th>APR-1</th>
<th>APR-1-RM</th>
<th>AP-2</th>
<th>AP-2-RM</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE Product Number</td>
<td>LE-146</td>
<td>LE-137</td>
<td>LE-432</td>
<td>LE-147</td>
</tr>
<tr>
<td>Zones</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Rack Mounted</td>
<td>-</td>
<td>x</td>
<td>-</td>
<td>x</td>
</tr>
</tbody>
</table>

### Specifications

<table>
<thead>
<tr>
<th>Monitor Output Power</th>
<th>1W @ 8 Ω</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audio Input Impedance</td>
<td>10K</td>
</tr>
<tr>
<td>Frequency Response</td>
<td>100 Hz to 10 kHz</td>
</tr>
<tr>
<td>Headphone Impedance</td>
<td>8 to 600Ω</td>
</tr>
<tr>
<td>Universal Power Supply</td>
<td>12 Vdc, 500 mA</td>
</tr>
<tr>
<td>Dimensions</td>
<td>8 ¼&quot; L x 5 ¾&quot; W x 1 ⅜&quot; H</td>
</tr>
<tr>
<td>Weight</td>
<td>1 lb 6 oz</td>
</tr>
</tbody>
</table>

### Compatibility

- CCTV, DVR

### UL Listed

- x

<table>
<thead>
<tr>
<th>Model</th>
<th>AP-4</th>
<th>AP-4-RM</th>
<th>AP-8</th>
<th>AP-8-RM</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE Product Number</td>
<td>LE-434</td>
<td>LE-166</td>
<td>LE-425</td>
<td>LE-167</td>
</tr>
<tr>
<td>Zones</td>
<td>4</td>
<td>4</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Rack Mounted</td>
<td>-</td>
<td>x</td>
<td>-</td>
<td>x</td>
</tr>
</tbody>
</table>

### Specifications

<table>
<thead>
<tr>
<th>Monitor Output Power</th>
<th>1W @ 8 Ω</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audio Input Impedance</td>
<td>10K</td>
</tr>
<tr>
<td>Frequency Response</td>
<td>100 Hz to 10 kHz</td>
</tr>
<tr>
<td>Headphone Impedance</td>
<td>8 to 600Ω</td>
</tr>
<tr>
<td>Universal Power Supply</td>
<td>12 Vdc, 500 mA</td>
</tr>
<tr>
<td>Dimensions</td>
<td>6 ⅝&quot; W x 8 ⅝&quot; L x 2 ⅛&quot; H</td>
</tr>
<tr>
<td>Weight</td>
<td>1 lb 7 oz</td>
</tr>
</tbody>
</table>

### Compatibility

- CCTV, DVR

### UL Listed

- x
# Two-Way Listen-Talk

## Audio Base Stations

<table>
<thead>
<tr>
<th>Model</th>
<th>AP-1TB</th>
<th>AP-1TB-RM</th>
<th>AP-4TB</th>
<th>AP-4TB-RM</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE Product Number</td>
<td>LE-001</td>
<td>LE-148</td>
<td>LE-322</td>
<td>LE-342</td>
</tr>
<tr>
<td>Zones</td>
<td>1</td>
<td>x</td>
<td>4</td>
<td>x</td>
</tr>
<tr>
<td>Rack Mounted</td>
<td>-</td>
<td>x</td>
<td>-</td>
<td>x</td>
</tr>
</tbody>
</table>

### Specifications

- **Monitor Output Power**: 1W @ 8Ω
- **Audio Input Impedance**: 10K
- **Frequency Response**: 100 Hz to 10 kHz
- **Headphone Impedance**: 8 to 600 Ω
- **Power Supply**: 12 Vdc, 500 mA
- **Dimensions**: 8 ⅞" L x 5 ⅞" W x 1 ⅜" H
- **Weight**: 2 lbs 3 oz
- **Compatibility**: DVR
- **UL Listed**: x

---

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LE Product Number</td>
<td>LE-323</td>
<td>LE-344</td>
<td>LE-316</td>
<td>LE-302</td>
<td>LE-175</td>
<td>LE-065</td>
<td>LE-066</td>
</tr>
<tr>
<td>Zones</td>
<td>8</td>
<td>16</td>
<td>2</td>
<td>12</td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rack Mounted</td>
<td>-</td>
<td>x</td>
<td>-</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Monitor Output Power**: 1W @ 8Ω
- **Audio Input Impedance**: 10K @ 1 kHz
- **Frequency Response**: 100 Hz to 10 kHz
- **Headphone Impedance**: 8 to 600 Ω
- **Power Supply**: 115 Vac, 24 Vdc, 1A
- **Dimensions**: 12 ⅞" L x 10 ⅗" W x 2 ⅝" D
- **Weight**: 8 lbs 12 oz
- **Compatibility**: DVR, Sound activated alarming system
- **UL Listed**: -
Audio Adapters

These offer plug and play installation and adjustable gain management to insure high audio quality with the receiving device.

Audio Interface
For ease of interface of audio to DVRs, Cameras, Video Servers, or PC Soundcards, Louroe provides a series of Audio Interface Adapters. These adapters receive the microphone signal and drive it into the Audio Input of the receiving or recording device.

Audio Over PoE
The IF-PX is an audio-oriented, single zone Power over Ethernet extractor that extracts power from an Ethernet connection to power Louroe’s one-way or two-way audio products.

Microphone Speaker Mixers
The RN-2, MLA-4, and MLA-8 mixers combine two, four, and eight microphones respectively into a single audio output. The mixers provide for audio zone expansion, and the multiple microphones are not on separate channels.

Speakerphone Converter For TL Series
Model AOP-SP70 is an interface used with the TLO, a two-way speaker/microphone. It converts the audio signal of the TLO providing two-way audio with a DVR, IP Network Camera or Video Server. In addition, the AOP-SP70 provides 12 Vdc power to the TLO.

Distribution Amplifier
Model DA-4 is a four zone audio distribution amplifier. It accepts a single input signal and provides this same signal to 4 isolated outputs.

Sound Activated Switch
The SA-1A sound activated switch provides sound activated alarming for a single audio zone.
## Audio Adapters

<table>
<thead>
<tr>
<th></th>
<th>1 Zone</th>
<th>2 Zones</th>
<th>4 Zones</th>
<th>8 Zones</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audio Interface</td>
<td>IF-1</td>
<td>IF-2</td>
<td>IF-4</td>
<td>IF-8</td>
</tr>
<tr>
<td>Audio Over PoE</td>
<td>IF-PX</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Microphone/Speaker Mixers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two-Way Speakerphone Converter For TL Series</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distribution Amplifier (4 Outputs)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sound Activated Switch</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Audio Interface**
  - IF-1
  - IF-2
  - IF-4
  - IF-8

- **Audio Over PoE**
  - IF-PX

- **Microphone/Speaker Mixers**
  - RN-2
  - MLA-4
  - MLA-8

- **Two-Way Speakerphone Converter For TL Series**
  - AOP-SP70

- **Distribution Amplifier (4 Outputs)**
  - DA-4

- **Sound Activated Switch**
  - SA-1A
IF-PX

The IF-PX is an audio-oriented, single zone power over Ethernet extractor that extracts power from an ethernet connection to power Louroe’s one-way or two-way audio solutions. The PoE Extractor interfaces with Louroe speakerphones, microphones and other external devices that require a 12 Vdc supply such as system accessories and non PoE cameras. The IF-PX also permits audio and video equipment to be powered by a single run of CAT5, CAT5e or CAT6 cable. The IF-PX enhances the functionality of audio security systems by eliminating the need for a power supply. It also provides seamless installation with 15W PoE (802.3af) standards and easy integration with IP cameras.
Features

- Supports mode A and B power options
  IEEE (802.3af)
- +12 Vdc power output for external equipment
- Variable gain audio output potentiometer
- Local auxiliary in/out for IP cameras
- Thermal overload protection
- Short circuit protection
- Data only RJ-45 output jack

Included In

ASK-4® kit #350
ASK-4® kit #370
p36

Generally Used With

All Louroe line level mic
AOP Series
p53

Compatible With

- IP cameras

PATENT NO: 9,363,091
Adapters
Audio Adapters

<table>
<thead>
<tr>
<th>Audio Interface</th>
<th>Audio Over PoE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>IF-1</td>
</tr>
<tr>
<td>LE Product Number</td>
<td>LE-328</td>
</tr>
</tbody>
</table>

### Specifications

**Input (3-pin terminal block)**
- Line level

**Audio Input Impedance**
- IF-1: 18 kΩ
- IF-2: 20 kΩ
- IF-4: 10 MΩ
- IF-8: 10 MΩ

**Audio Output Impedance**
- IF-1: 600 Ω @ 1 kHz
- IF-2: 400 Ω @ 1 kHz
- IF-4: 600 Ω @ 1 kHz
- IF-8: 600 Ω @ 1 kHz

**Audio Output Gain**
- Adjustable, up to +10 dB

**Power Requirements**
- IF-1: +12 Vdc, 500 mA
- IF-2: PoE (802.3af) or 12 Vdc, 2A Ext
- IF-4: Black anodized Al 14 Ga
- IF-8: Black anodized Al 14 Ga

**Material**
- IF-1: High impact ABS
- IF-2: Black anodized Al 14 Ga
- IF-4: Black anodized Al 14 Ga
- IF-8: High impact ABS
- IF-PX: High impact ABS

**Ethernet Connectors**
- IF-1: RJ-45 CAT5 input and output jacks
- IF-2: -
- IF-4: RJ-45, DC jack, Terminal block for microphone/speaker
- IF-8: -
- IF-PX: -

**Connectors**
- IF-1: Terminal block, RCA jack, 3.5 mm stereo jack, DC jack
- IF-2: Terminal blocks, RCA jacks, DC jack
- IF-4: Terminal block, RCA jack, adapters, DC jack
- IF-8: Terminal block, RCA jack, adapters, DC jack
- IF-PX: Terminal block, RCA jack, adapters, DC jack

**Voltage Input**
- IF-1: 12 Vdc
- IF-2: 36V - 57V
- IF-4: 36V - 57V
- IF-8: 36V - 57V
- IF-PX: 36V - 57V

**Dimensions**
- IF-1: 6 ⅛" L x 4 ⅝" W x 1 ⅜" H
- IF-2: 11 ½" L x 4 ⅜" W x 1 ½" H
- IF-4: 6" L x 3 ½" W x 2 ⅛" H
- IF-8: 6" L x 3 ½" W x 2 ⅛" H
- IF-PX: 6" L x 3 ½" W x 2 ⅛" H

**Weight**
- IF-1: 5.5 oz
- IF-2: 7 oz
- IF-4: 12.5 oz
- IF-8: 13 oz
- IF-PX: 13 oz

**Operating Temperature**
- IF-1: 0 to 70°C
- IF-2: -20°C to +65°C
- IF-4: -20°C to +65°C
- IF-8: -20°C to +65°C
- IF-PX: -20°C to +65°C

**Compatibility**
- IF-1: DVR, IP camera, encoder, recorder
- IF-2: DVR, IP camera, encoder, recorder
- IF-4: DVR, IP camera, encoder
- IF-8: DVR, IP camera, encoder
- IF-PX: DVR, IP camera, encoder

**UL Listed**
- IF-1: x
- IF-2: -
- IF-4: x
- IF-8: x
- IF-PX: x
## Adapters

### Audio Adapters

<table>
<thead>
<tr>
<th>Model</th>
<th>RN-2</th>
<th>MLA-4</th>
<th>MLA-6</th>
<th>MLA-8</th>
<th>AOP-SP70</th>
<th>DA-4</th>
<th>SA-1A</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE Product Number</td>
<td>LE-110</td>
<td>LE-217</td>
<td>LE-111</td>
<td>LE-276</td>
<td>LE-129</td>
<td>LE-224</td>
<td>LE-230</td>
</tr>
</tbody>
</table>

### Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>RN-2</th>
<th>MLA-4</th>
<th>MLA-6</th>
<th>MLA-8</th>
<th>AOP-SP70</th>
<th>DA-4</th>
<th>SA-1A</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Input Impedance</strong></td>
<td>20 kΩ</td>
<td>18 kΩ</td>
<td>600 Ω</td>
<td>15 kΩ</td>
<td>10 kΩ</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Output Impedance</strong></td>
<td>1 kΩ</td>
<td></td>
<td>600 Ω</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Output Gain</strong></td>
<td>+5 dB</td>
<td>+10 dB max gain adjustable</td>
<td>+15 dB</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Frequency Response</strong></td>
<td></td>
<td>Line level</td>
<td></td>
<td></td>
<td>100 Hz to 10 kHz</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Current Drain</strong></td>
<td>10 mA</td>
<td>25 mA</td>
<td>200 mA</td>
<td>25 mA</td>
<td>70 mA</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Relay Contact</strong></td>
<td></td>
<td>-</td>
<td>5A @ 277 Vac or 5A @ 30 Vdc</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Relay Latch Time</strong></td>
<td></td>
<td>0.5 to 60 seconds</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Voltage Supply</strong></td>
<td></td>
<td>12 Vdc</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td>6 ⅛” L x 4” W x 1 ⅜” H</td>
<td>6 ⅛” L x 4 ⅜” W x 1 ⅜” H</td>
<td>11 ⅝” L x 4 ⅜” W x 1 ⅝” H</td>
<td>8 ⅛” L x 7 ⅝” W x 2 ⅜” H</td>
<td>6 ⅛” L x 4 ⅜” W x 1 ⅝” H</td>
<td>6 ⅛” L x 4 ⅜” W x 1 ⅝” H</td>
<td></td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>5.5 oz</td>
<td>10 oz</td>
<td>3 lbs 8.5 oz</td>
<td>8 oz</td>
<td>7 oz</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Input/Output Connections</strong></td>
<td>Terminal block</td>
<td>DC jack, Terminal block, RCA</td>
<td>Terminal blocks</td>
<td>DC jack, RCA</td>
<td>DC jack, Terminal block, RCA</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Compatibility</strong></td>
<td>Louroe Base Stations, DVR</td>
<td>DVR, encoder, IP camera</td>
<td>Louroe Base Stations, DVR</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>UL Listed</strong></td>
<td></td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Accessories

### Remote Call Stations Pushbutton Activated

<table>
<thead>
<tr>
<th>Model</th>
<th>DCS</th>
<th>DCS-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE Product Number</td>
<td>LE-100</td>
<td>LE-119</td>
</tr>
</tbody>
</table>

### Specifications (Microphone)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Line level (0 dB @ 600 Ω unbalanced)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Sensitivity</td>
<td>-</td>
<td>-45 dB</td>
</tr>
<tr>
<td>Frequency Response</td>
<td>-</td>
<td>40 Hz to 15 kHz</td>
</tr>
<tr>
<td>Current Drain</td>
<td>-</td>
<td>10 mA</td>
</tr>
</tbody>
</table>

### Specifications (Oscillator)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply Voltage</td>
<td>12 Vdc</td>
</tr>
<tr>
<td>Tone Output</td>
<td>3 Vrms into 10 kΩ load @ 3 kHz</td>
</tr>
<tr>
<td>Weight</td>
<td>2.5 oz</td>
</tr>
<tr>
<td>Dimensions</td>
<td>4 ½” L x 2 ¾” W</td>
</tr>
<tr>
<td>Material</td>
<td>Stainless steel</td>
</tr>
</tbody>
</table>

### Switches

<table>
<thead>
<tr>
<th>Model</th>
<th>MS-1</th>
<th>MS-2-REC</th>
<th>HD-10</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE Product Number</td>
<td>LE-331</td>
<td>LE-332</td>
<td>LE-272</td>
</tr>
</tbody>
</table>

### Specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>Mute Switch Lighted Rocker Indicator Switches</th>
<th>Mute Switch for Microphone and recorder Lighted Rocker Indicator Switches</th>
<th>Headphone distribution box Single Audio input and 10 Audio outputs jacks for Headphones</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switch Rating</td>
<td>-</td>
<td>9A @ 125 VAC</td>
<td>-</td>
</tr>
<tr>
<td>Dimensions</td>
<td>4 ½” L x 2 ¾” W</td>
<td>4 ⅞” L x 4 ⅞” W</td>
<td>5 ⅝” L x 5 ½” W x 1 ⅜” H</td>
</tr>
<tr>
<td>Material</td>
<td>Stainless steel</td>
<td>Plastic</td>
<td>Plastic</td>
</tr>
</tbody>
</table>

### Backbox

<table>
<thead>
<tr>
<th>Model</th>
<th>TLMC</th>
<th>TLM-W</th>
<th>AOPSP</th>
<th>ERD-8</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE Product Number</td>
<td>LE-221</td>
<td>LE-028</td>
<td>LE-029</td>
<td>LE-260</td>
</tr>
</tbody>
</table>

### Specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>Plastic backbox of AOP-SP and TLMC for flush mounting</th>
<th>Plastic backbox for TLM-W</th>
<th>18 Ga Aluminum backbox for AOP-SP and TLMC-W</th>
<th>Ceiling mount backbox for TLI-CF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>8” H x 6 ¼” W x 2 ¾” D</td>
<td>6.9” H x 5” W x 1.65” D</td>
<td>8” L x 6 ¼” W x 2 ¾” D</td>
<td>12 ⅛” dia x 4” D</td>
</tr>
<tr>
<td>Material</td>
<td>Plastic</td>
<td>Aluminum</td>
<td>Steel</td>
<td></td>
</tr>
</tbody>
</table>
## Accessories

<table>
<thead>
<tr>
<th>Ring</th>
<th>Bridge</th>
<th>Grill Baffle</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model</strong></td>
<td><strong>MR-4</strong></td>
<td><strong>MR-8</strong></td>
</tr>
<tr>
<td><strong>LE Product Number</strong></td>
<td>LE-265</td>
<td>LE-266</td>
</tr>
</tbody>
</table>

### Specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>Mounting ring for TLM-CS</th>
<th>Mounting ring for TLI-CS</th>
<th>Support bridge for TLI to prevent ceiling tile sag</th>
<th>Ceiling flush speaker grill baffle for TLM-CF with 4” speaker</th>
<th>Ceiling flush speaker grill baffle for TLI-CF with 8” speaker</th>
<th>Square surface mount vandal resistant baffle</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dimensions</strong></td>
<td>7.38” dia x 3” D</td>
<td>12.38” dia x 3” D</td>
<td>23 ⅛” H x 14 ⅛” W</td>
<td>7.65” dia</td>
<td>12.87” dia</td>
<td>11” H x 13” W x 4” D</td>
</tr>
<tr>
<td><strong>Material</strong></td>
<td>Steel</td>
<td>Aluminum</td>
<td>Steel</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Model</strong></th>
<th><strong>HHM-1020</strong></th>
<th><strong>HP-15-135-B</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LE Product Number</strong></td>
<td>LE-214</td>
<td>LE-225</td>
</tr>
</tbody>
</table>

### Specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>Mounting ring for TLM-CS</th>
<th>Mounting ring for TLI-CS</th>
<th>Support bridge for TLI to prevent ceiling tile sag</th>
<th>Ceiling flush speaker grill baffle for TLM-CF with 4” speaker</th>
<th>Ceiling flush speaker grill baffle for TLI-CF with 8” speaker</th>
<th>Square surface mount vandal resistant baffle</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dimensions</strong></td>
<td>7.38” dia x 3” D</td>
<td>12.38” dia x 3” D</td>
<td>23 ⅛” H x 14 ⅛” W</td>
<td>7.65” dia</td>
<td>12.87” dia</td>
<td>11” H x 13” W x 4” D</td>
</tr>
<tr>
<td><strong>Material</strong></td>
<td>Steel</td>
<td>Aluminum</td>
<td>Steel</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Model</strong></th>
<th><strong>PTA-1</strong></th>
<th><strong>SG-1</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LE Product Number</strong></td>
<td>LE-220</td>
<td>LE-222</td>
</tr>
</tbody>
</table>

### Specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>Portable test amplifier used for sound activated base stations</th>
<th>Portable sound generator Emits 3 kHz tone for setting the audio threshold levels of Louroe sound activated base stations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dimensions</strong></td>
<td>3 ¼” W x 4 ¼” H x 1 ½ “D</td>
<td>2 ¼” W x 3 ¼” H x 1 ¼” D</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>5 oz</td>
<td>4 oz</td>
</tr>
</tbody>
</table>

## Power Supplies

<table>
<thead>
<tr>
<th><strong>Model</strong></th>
<th><strong>AD-1</strong></th>
<th><strong>AD-3</strong></th>
<th><strong>AD-6PS</strong></th>
<th><strong>AD-1U</strong></th>
<th><strong>AD-3U</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LE Product Number</strong></td>
<td>LE-242</td>
<td>LE-243</td>
<td>LE-277</td>
<td>LE-335</td>
<td>LE-336</td>
</tr>
</tbody>
</table>

### Specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>Power supply</th>
<th>DG-12II and DG-25III power supply</th>
<th>Universal power supply</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Input</strong></td>
<td>100-240 VAC – 50/60 Hz, 0.3A</td>
<td>100-240 VAC – 50/60 Hz, 1.2A</td>
<td>100-240 VAC – 50/60 Hz, 0.3A</td>
</tr>
<tr>
<td><strong>Output</strong></td>
<td>+12 VDC, 500 mA</td>
<td>+24 VDC, 1.5 A</td>
<td>185W MAX, +15 VDC, 12.3A</td>
</tr>
</tbody>
</table>
Why Audio, Why Not?

It’s 2017 and time for a new way of thinking when it comes to security. It’s kind of like our five senses, we have each one for a reason and they are all equally valuable. Both audio and video should be on the same playing field but the present reality is that our industry remains focused on video dominated systems.

Imagine walking into your office wearing noise-canceling earphones. You take a detailed look around and everything appears to be okay so you sit down to work. However, in this hypothetical scenario, there is someone shouting for help outside your window. Had you been able to hear their cries for help then you may have called for immediate assistance. The reality is that using video without audio is like living in a silent movie. Let’s examine a real-life event where audio performed where video alone couldn’t:

> June 2012 in Greece, New York, Karen Klein Harassed on a School Bus: four schoolboys verbally abused this 68-year-old bus monitor with violent and graphic threats. While the bus’ video surveillance captured footage of the boys pointing at her it was the audio footage recorded and later posted to YouTube that provided the most potent evidence – the boys’ voices lashing out at her. Ultimately the boys were punished with fines and suspension because of this evidence of verbal assault.

And that’s not all audio is capable of. For example, using a network based two-way audio system along with video, security staff can remotely interact with suspicious persons in real time, rather than needing to physically send a guard to the area. Instead, guards can monitor multiple zones, restricted areas, or commercial locations, better identify threats in progress, and quickly respond with verbal warnings and directions.

In a report from research firm Memoori Business Intelligence titled “The Physical Security Business 2013 to 2017,” the global market for security products was expected to total $23.4 billion at the end of 2013 with video surveillance representing over half (52 percent) of this number, bringing in $12.26 billion. As if those weren’t already impressive numbers, what’s more is that research firm, IHS, expects the global demand for video surveillance to grow by more than 12 percent compared to 2013. IHS reported that in 2013 more than 70 percent of network cameras shipped globally had audio capability; however these functions are estimated to be used less than 10 percent of the time.

It is vital for security professionals to recognize that they are limiting themselves with utilizing video only – audio needs to be part of the overall security plan. One of the key benefits of audio monitoring is the fact that they are compatible with a wide range of other security devices, including cameras, recorders, and software. Specifically, audio serves the security needs of a wide range of organizations including: law enforcement, education, quick service restaurants, convenience stores, healthcare providers, warehouse facilities, utilities and infrastructure, and retail industries.

When it comes to security, audio is critical. There are many ways to use audio, such as monitoring high traffic areas to help keep people safe, equipping businesses with audio security to help them alleviate loss-prevention, providing employee training, conducting day-to-day business and much more.

In addition, a key benefit of audio monitoring is that it helps to combat false alarms and provides a secondary verification. With audio monitoring, alarms can also be activated based on audio sounds (sounds above a specified, adjustable decibel level). For example, in November 2013, police in Evansville, Indiana received a verified audio alarm at a local body shop. When they arrived, two suspects were taken into custody and each had property from the body shop on them. This technology truly provides companies and businesses with the reassurance they need to keep their assets safe.

Let us make audio a more integral part of the overall security discussion. Let us not fall behind as industry leaders but instead start initiating these conversations. We can no longer afford to turn a deaf ear towards audio when it comes to delivering a complete, all-around security solution.
Retail: Convenience Stores

Using audio to increase retail security and improve operations.

NEED
There are more than 151,000 c-stores across the nation that bring in more than $700 billion in sales, according to the National Association of Convenience Stores (NACS). A common challenge that exists for all of these retailers is how to deter crime and robbery. One of the largest convenience store chains in the Midwest and South saw a need to reexamine its equipment to ensure it had the very best technology to combat these security risks.

SOLUTION
Previously, the c-store chain had used Louroe Electronics’ Verifact® A and Verifact® B microphones. However, the retailer relied on an evaluation and recommendation from their trusted advisor and integrator, SageNet as to which audio solution to implement moving forward. SageNet, located in Tulsa, OK, affirmed Louroe’s product quality and durability. The integrator suggested that the company continue to install Louroe’s audio solutions.

RESULTS
Today, Louroe’s technology is installed in more than 700 of the convenience retailer’s locations. The microphones are used for live monitoring to observe business operations, resolve customer disputes, ensure proper customer service, diffuse employee conflict and alert suspicious individuals that they’re being monitored.

"Louroe’s product durability is great and there have been no complaints. You should continue going with Louroe," said Trey Walling, senior client executive at SageNet.

The track record for Louroe’s microphones speaks to why they are the best audio solutions on the market. "I can’t recall a single instance in the last seven years where there has been a problem with the Louroe microphone," Walling explained.

Over the years, SageNet has installed a combination of Verifact® A and Verifact® B microphones—three to five microphones per location. Typically, the audio products are mounted on the ceiling above point-of-sales (POS) terminals or other areas of interest.

The audio plays a key role in helping a store manager evaluate interactions at the checkout counter and resolve disputes between customers and employees.

“If you don’t have the audio, to go along with the video, you’re never going to get the complete story,” said Walling. “You’re going to have to take someone’s word on what was said.”

Moreover, if someone attempts to steal merchandise, the person will be alerted. Thanks to the Louroe microphone, staff from remote headquarters can speak to suspects in real-time saying, “you’re on camera” or “the police have been notified.”

When it comes to the question of whether a retailer should use audio as part of its security system, the answer is clear, according to Walling. “People who are new to the subject, may tend to brush aside audio and say it’s not that important,” explained Walling. “But I would say, if that were true, we’d all still be going to silent movies.”

The final benefit of audio that Walling discussed is how it offers retailers significant protection against liability. “When there’s litigation involved and you’re going to court or pressing charges, if you can provide that audio file along with the visual to the judges, jury or attorney, it makes your story that much more compelling.”
NEED
Cambridge Lakes Charter School, which serves 1,000 students grades K-8, needed an audio-video surveillance system to increase security around its perimeter. Specifically, it needed a solution that would detect people coming and going through main entrances and other vulnerable exterior areas on the property.

SOLUTION
The charter school looked to Jeff Gibson, president and CEO of Tactical Video, to conduct a security assessment. With the school eager to tap into audio and video analytics, Gibson recommended and installed Louroe Electronics’ Aggression and Gunshot Detector solutions. These solutions integrate Louroe Verifact® microphones, Sound Intelligence analytic software, select IP cameras, and video management software from leading providers.

The Aggression Detector is mounted at the school’s front entrance to detect arguments, elevated discussions and any other signs of verbal aggression, which precedes physical aggression 90 percent of the time according to major reports.

The Gunshot Detector is set up in the center of the first building’s collective area.

RESULTS
The security system is now ready to safeguard students for the 2015-2016 school year. More than detection, it’s about prevention. With Louroe’s solutions, staff receive early warning signs of high-risk situations and are able to strategically and immediately intervene to deter crime.

In the summer of 2015, Tactical Video installed Louroe Electronics’ Aggression Detector at the front entrance of the first building and the Gunshot Detector in the center of that first building’s collective area. These detectors integrate Louroe Verifact® microphones for audio capture, Sound Intelligence software for detecting verbal aggression or gunshots, IP cameras for video, and video management software (VMS) to operate the entire solution.

When either the Aggression or Gunshot Detector identifies a pre-classified sound, the end user can use the mapping interface within the VMS software to post alerts and activity as it’s happening within the school. Alerts are sent via text messages and email. Cambridge shares this alert notification and video with local police, creating a coordinated effort between first responders and the school.

In addition to the detectors, several cameras were set up to increase perimeter security. The cameras were installed inside building one and outside of the school’s four buildings; they are used to monitor driveways in and out of the school, ingress and egress points, basketball courts and the general playgrounds.

Compared to other microphones, Gibson described Louroe’s microphones as aesthetically pleasing and non-threatening. In fact, he believed that most people would not recognize the Verifact® A as a microphone.

One of the primary benefits of the Aggression and Gunshot Detectors is the ability for staff at Cambridge to proactively detect and prevent crime on campus.

“The precursor to a lot of bad behavior tends to be acoustic in nature,” Gibson stated.

Gibson explained that the compelling reason for including audio into a surveillance system is that it delivers early warning detection that video alone cannot provide.
Transportation: Value Audio

The world of transportation moves faster than ever before. When we discuss monitoring for secure environments in the context of transit, we need to expand the conversation on technology, opening our minds to all practical tools. We must progressively think and speak about capturing sound, giving audio monitoring its due, with the appropriate amount of attention as is deserving of a key sensory technology.

Today, both audio and video should be valued for their unique contribution, and their interoperability, yet the present reality is that generally industry remains primarily focused on video systems. There are too many captured incidents that have affected our transit system's dedication to zero incident and with the right technology, some of these incidents can be prevented. On December 2013, in the Bronx borough of New York: The operator of a Metro-North commuter train, traveling approximately three times the posted speed limit “zoned out” while approaching a dangerous turn. Four people were killed and more than 70 injured. The aftermath has created public outcry for more monitoring on our transportation systems. Recommendations from both Senators Charles Schumer of New York and Richard Blumenthal of Connecticut directed the transit operators to install video and audio monitoring systems on all passenger trains. Using a network based two-way audio system along with video, transportation staff can:

- Remotely interact with transportation employees or commuters in real time and monitor multiple zones, giving them auditory ‘triggers’ to focus on, allowing them to better identify situations in progress and quickly respond with verbal warnings or directions.

Audio monitoring assists in capturing a cause for alarm. It provides:

- Secondary verification in the case that a primary video system is triggered to an emergency, security threat or other ‘out of ordinary’ situation. The security monitor can hear and then focus on the monitor that sees what is going on when audio is integrated into a full security system's capability. The system operator can verify to the first responders that two sense points were triggered in the same situation.

- Heightened activity sending an alarm can be activated based on audio feed captured by audio monitoring products.

A verified situation provides real-time confirmation of an incident via visual or audio monitoring and notifies of attempted unauthorized activity. This technology contributes to:

- Reduced call-out to responders with information that values time, focus, and resources.

- Reassuring transportation monitoring centers, that their assets are safe and secure.

Audio also helps strengthen vandal prevention, provide employee training, conduct day-to-day business and much more. For example, a regional transportation depot uses audio to monitor and verify activity in critical locations to increase security and productivity and to focus manpower attention. Recommendation: Offer this notion when discussing the conceptual design at the project table. More and more major public and private entities have utilized the power of audio for their security needs. Include audio as part of a total, integral part of the overall security solution.
Law Enforcement: Chicago Police Department

The Chicago Police Department (PD) realized its six-year-old analog security technology was outdated and no longer met the security needs of the department.

NEED
The city of Chicago, Illinois has a residential population over 2.7 million, while the Chicago Police Department (Chicago PD) has a total of 12,244 sworn officers. With the city’s dense population and high crime rate, there’s always the possibility that the department could see an influx of suspects disproportionate to the number of officers on hand. To proactively prepare for operational challenges like this, the police department moved to upgrade its overall security system as well as its recording equipment for the interrogation rooms.

SOLUTION
Chicago PD turned to TASER International, a company that specializes in manufacturing and distributing public safety technologies, to recommend a solution. The department specifically worked with Miles Cowan, principal product manager at TASER, for the project. TASER provided the police department with Louroe Electronics’ AOPIF PX, a microphone and speaker hybrid, to be installed in the corners of their interview and line up rooms. Apart from obtaining crystal clear audio, this technology offers the ability to mute a conversation without discontinuing the recording timeline. The solution ensures privacy when necessary and is easy to use, making it ideal for the department.

RESULTS
By installing Louroe’s technology, Chicago PD has been able to enjoy a high-quality, comprehensive and practical recording system that preserves spoken evidence, while protecting the rights of all those involved. Through the muting feature of the audio equipment, attorneys are able to meet with their clients without having to be relocated to another area, which ultimately increases operational efficiency.

The primary advantage of this microphone/speaker combo is that it can be muted for interviews that have attorney-client privilege. Moreover, the speaker emits a sound every 30 seconds to assure those within range that they are not being recorded and their conversation is confidential. Another benefit of the audio solution is that when the mute function is engaged, the recording timeline continues to tick making sure the documented audio remains as one continuous recorded session. As a result, evidence is easier to access and analyze.

According to Cowan, “this particular [hardware] piece is something we want to stay with and continue to use Louroe [for] based on service and product quality.”

Cowan also emphasized that having a reliable, quality recording system is crucial to any case because “making sure the jury can hear what is being said is a very important part, probably just as important, if not more important, than the video itself.”

Overall, Louroe’s AOPIF PX exceeded Chicago PD’s expectations in terms of quality and consistency. A recording device of this caliber, coupled with Louroe’s attentive and efficient customer service, has given the department great confidence when securing auditory evidence.

"This particular [hardware] piece is something we want to stay with and continue to use Louroe [for] based on service and product quality.”

Miles Cowan, principal product manager at TASER International
Wiring Requirements
Wiring (Not Supplied) For Louroe Electronics Products

4 Conductor
• 2 Conductor shielded, 20 gauge with 22 gauge drain (microphone connection)
• 2 Conductor unshielded, 18 gauge (speaker connection)

Applicable To Models
- ASK-4® kit #500 Series
- AP-1TB
- AP-4TB
- AP-8TB
- AP-16TB
- DG-12II
- D25II
- MLA-4
- MLA-8
- TLI
- TLI-CF
- TLI-CS
- TLI-VR-F
- TLI-VR-SQ
- TLM-W
- TLMC-W
- TLM-CS
- TLM-E
- TLO
- TLO-NM
- TLSP-F
- TLSP-S
- TLSP-PB-WF
- TLSP-PB-WS
- TLSP-CM

3 Conductor
• 3 Conductor shielded, 20 gauge with 22 gauge drain

Applicable To Models
- AOP-SP-CF
- AOP-SP CS
- AOP-SP-PB
- AOP-SP-W
- AOP-SP70
- AOP530
- IPS614
- DCSM-12V
- IF-PX
- Verifact® D-V
- Verifact® E
- Verifact® K
- Verifact® L-DT

2 Conductor
• 2 Conductor shielded, 22 gauge with 24 gauge drain

Applicable To Models
- APR-1
- AP-2
- AP-4
- AP-8
- ASK-4® kit #100 Series
- ASK-4® kit #300 Series
- ASK-4® kit #400 Series
- ASK-4® kit #600 Series
- DA-4
- DCS
- DCS-1
- IF-1
- IF-2
- IF-4
- IF-8
- MLA-8
- MS-1
- MS-2-REC
- RN-2
- Verifact® A
- Verifact® B
- Verifact® C
- Verifact® D

2 Separate Cables
2 Conductor
• 2 Conductor shielded, 22 gauge with 24 gauge drain

Applicable To Models
- RCS-2-12V

3 Conductor
• 3 Conductor unshielded, 18 gauge

Applicable To Models
- TLMC-12V
- TLSP-PB-12V
- RCS-2-12V

Twisted Pair
• 20 Gauge

Applicable To Models
- DCS-12V
## Alphabetical Index

### A

- LE-770 "A-ML" ................................................... Ceiling Mount Microphone ................................................................. 27
- LE-242 AD-1 .................................................. Power Supply, 500mA AC Adapter, 12Vdc ......................................................... 67
- LE-335 AD-1U .................................................. Universal Power Supply 110/240Vac, 12Vdc, 500mA ......................................................... 67
- LE-243 AD-3 .................................................. Power Supply, 1mA AC Adapter, 24Vdc ......................................................... 67
- LE-336 AD-3U .................................................. Universal Power Supply 110/240Vac, 24Vdc, 1A ......................................................... 67
- LE-115 AOP-SP-CF ................................................. Speakerphone, Ceiling Flush Mount ......................................................... 53
- LE-114 AOP-SP-CS ................................................. Speakerphone, Ceiling Surface Mount ......................................................... 53
- LE-165 AOP-SP-E ................................................. Speakerphone, Outdoor Model Wall Mount Flush/Surface Mount ......................................................... 53
- LE-128 AOP-SP-PB ................................................. Speakerphone w/ Pushbutton Outdoor Flush Surface Mount ......................................................... 53
- LE-164 AOP-SP-W ................................................. Speakerphone Wall Mount Flush/Surface Mount ......................................................... 53
- LE-129 AOP-SP70 ................................................. Speakerphone Converter for TL series ......................................................... 65
- LE-029 AOPSP and TLMC ........................................ Aluminum Backbox Surface Mount ......................................................... 66
- LE-530 AOP530 ................................................ Full-Duplex Speaker Microphone ......................................................... 53
- LE-316 AP-16TB ................................................ Sixteen Zone Base Station w/ Bi-directional Talkback ......................................................... 59
- LE-302 AP-16TB-RM .............................................. Sixteen Zone Base Station w/ Talkback Bi-directional, Rack Mounted ......................................................... 59
- LE-146 APR-1 ................................................ Single Zone Base Station ......................................................... 58
- LE-137 APR-1-RM ................................................ Single Zone Base Station, Rack Mounted ......................................................... 58
- LE-001 AP-1TB ................................................ Single Zone Base Station Bi-directional w/ Talkback ......................................................... 59
- LE-148 AP-1TB-RM .............................................. Single Zone Base Station Bi-directional w/ Talkback, Rack Mounted ......................................................... 59
- LE-432 AP-2 ................................................ Two Zone Base Station non alarming ......................................................... 58
- LE-147 AP-2-RM ................................................ Two Zone Base Station, Rack Mounted ......................................................... 58
- LE-434 AP-4 ................................................ Four Zone Base Station ......................................................... 58
- LE-166 AP-4-RM ................................................ Four Zone Base Station, Rack Mounted ......................................................... 58
- LE-322 AP-4TB ................................................ Four Zone Base Station Bi-directional w/ Talkback ......................................................... 59
- LE-342 AP-4TB-RM .............................................. Four Zone Base Station Bi-directional w/ Talkback, Rack Mounted ......................................................... 59
- LE-425 AP-8 ................................................ Eight Zone Base Station ......................................................... 58
- LE-167 AP-8-RM ................................................ Eight Zone Base Station, Rack Mounted ......................................................... 58
- LE-323 AP-8TB ................................................ Eight Zone Base Station Bi-directional w/ Talkback ......................................................... 59
- LE-344 AP-8TB-RM .............................................. Eight Zone Base Station Bi-directional w/ Talkback, Rack Mounted ......................................................... 59
- LE-015 ASK-4 kit #101 ..................................... Single Zone Base Station + Verifact® A Microphone ......................................................... 32
- LE-361 ASK-4 kit #101-B ..................................... Single Zone Base Station + Verifact® B Microphone ......................................................... 32
- LE-362 ASK-4 kit #101-C ..................................... Single Zone Base Station + Verifact® C Microphone ......................................................... 32
- LE-366 ASK-4 kit #101-DV ..................................... Single Zone Base Station + Verifact® DV Microphone ......................................................... 32
- LE-363 ASK-4 kit #101-E ..................................... Single Zone Base Station + Verifact® E Microphone ......................................................... 33
- LE-018 ASK-4 kit #101-RM .................................. Single Zone Base Station + Verifact® A Microphone + Rack Mounted ......................................................... 32
- LE-016 ASK-4 kit #102 ..................................... Single Zone Base Station + Verifact® D Microphone ......................................................... 33
- LE-019 ASK-4 kit #102-RM .................................. Single Zone Base Station + Verifact® D Microphone + Rack Mounted ......................................................... 33
- LE-394 ASK-4 kit #104 ..................................... Four Zone Base Station + Verifact® A Microphone ......................................................... 33
- LE-395 ASK-4 kit #108 ..................................... Eight Zone Base Station + Verifact® A Microphone ......................................................... 33
- LE-393 ASK-4 kit #122 ..................................... Two Zone Base Station + Verifact® A Microphone ......................................................... 33
- LE-047 ASK-4 kit #300 ..................................... IF-1 Interface + (1) Verifact® A Microphones ......................................................... 36
- LE-374 ASK-4 kit #302 ..................................... IF-2 Interface + (2) Verifact® A Microphones ......................................................... 36
- LE-292 ASK-4 kit #304 ..................................... IF-4 Interface + (4) Verifact® A Microphones ......................................................... 36
- LE-345 ASK-4 kit #350 ..................................... IF-PX with Verifact® A ......................................................... 36
- LE-347 ASK-4 kit #370 ..................................... IF-PX with AOP-SP-CF ......................................................... 36
- LE-009 ASK-4 kit #401 ..................................... APR-1 Audio Base Station + (2) Verifact® A Microphones + RN-2 Audio Mixer ......................................................... 37
- LE-368 ASK-4 kit #431 ..................................... IF-1 Interface + (2) Verifact® A Microphones + RN-2 Audio Mixer ......................................................... 37
- LE-025 ASK-4 kit #501 ..................................... AP-1TB Single Zone Bi-directional + TLM-W Speaker Microphone ......................................................... 40
- LE-371 ASK-4 kit #501-TLICF AP-1TB Single Zone Bi-directional + TLICF Speaker Microphone ......................................................... 40
Alphabetical Index

LE-373...... ASK-4® kit #501-TLI-CS AP-1TB Single Zone Bi-directional + TLI-CS Speaker Microphone.................................40
LE-380...... ASK-4® kit #601 ......... APR-1 Audio Base Station + Verifact® A Microphone + MS-1 Mute Switch ...............41
LE-381...... ASK-4® kit #631 ......... IF-1 Audio Interface + Verifact® A Microphone + MS-1 Mute Switch .......................41

B
LE-771...... "B-ML"..................... High Ceiling Mount Microphone with 3' Extension Cable ................................................27
LE-261...... BR-4WS ................. TLM Speaker Grill, Ceiling Flush Mount ...............................................................67
LE-267...... BR-8WS ................. TLI Speaker Grill Baffle, Ceiling Flush Mount .........................................................67

C
LE-772...... C-ML..................... Special Application Microphone .................................................................27

D
LE-778...... "D-ML".................... Wall Mount Microphone .................................................................27
LE-224...... DA-4 ..................... Four Zone Distribution Amplifier .................................................................65
LE-100 ...... DCS ..................... Remote Call Station w/ Pushbutton ...............................................................66
LE-119 ...... DCS-1 .................. Remote Call Station w/ Pushbutton/Built-in Microphone ...............................66
LE-065...... DG-12II ................ Twelve Zone Alarming "Duress Guard" Base Station ..............................................59
LE-066...... DG-25III ............... Twenty-Five Zone Alarming "Duress Guard" Base Station ..................................59
LE-175...... DG-MA ................ Two-Way/Talkback Amplifier .................................................................59
LE-769 ...... "DV-ML" .............. Vandal Resistant Microphone .................................................................27

E
LE-775...... "E-ML" .................... Outdoor/Moist Condition Microphone .........................................................27
LE-260...... ERD-8 .................. TLI Backbox Enclosure .................................................................66

H
LE-272 ...... HD-10 ................. Headphone Distribution Box (zones 10) ............................................................66
LE-214 ...... HHM-1020 ............ Hand Held Microphone Dynamic Dual Impedance ..............................................67
LE-225 ...... HP-15-135-B ........ 8Ω Stereo Headphones .................................................................67

I
LE-328 ...... IF-1 ..................... Single Zone Audio Interface Adapter ..........................................................64
LE-273 ...... IF-2 ..................... Two Zone Audio Interface Adapter ..........................................................64
LE-288 ...... IF-4 ..................... Four Zone Audio Interface Adapter ..........................................................64
LE-289 ...... IF-8 ..................... Eight Zone Audio Interface Adapter .........................................................64
LE-520 ...... IF-PX ................ Audio Interface, PoE Extractor .................................................................64

M
LE-276 ...... MLA-8 ................ Eight Microphone Audio Mixer .................................................................65
LE-265 ...... MR-4 .................. 4" Mounting Ring For TLM Ceiling Surface Mount .......................................67
LE-266 ...... MR-8 .................. 8" Mounting Ring For TLM Ceiling Surface Mount .......................................67
LE-331 ...... MS-1 ................. Mute Switch ..........................................................................................66
LE-332 ...... MS-2-REC ......... Mute Switch for Microphone & Recorder ..................................................66

P
LE-220 ...... PTA-1 ................. Portable Test Amplifier Used For Sound Activated Base Stations ......................67
Alphabetical Index

R
LE-110......RN-2.........................................................Two Microphone Audio Mixer .................................................................65

S
LE-230......SA-1A..........................................................Sound Activated Switch ........................................................................65
LE-222......SG-1............................................................Portable Sound Generator .......................................................................67
LE-269......SSB-2..........................................................Support Bridge For TLI Series ..................................................................67

T
LE-080......TLI..............................................................Bi-Directional Speaker Microphone, No Housing ..........................55
LE-227......TLI-CF..........................................................Bi-Directional Speaker Microphone, Ceiling Flush Mounted ........54
LE-226......TLI-CS..........................................................Bi-Directional Speaker Microphone, Ceiling Surface Mount ......54
LE-216......TLI-VF..........................................................Bi-Directional Speaker Microphone, Ceiling Corner Mounted........54
LE-218......TLI-VR-SQ...................................................Bi-Directional Vandal Resistant Speaker Microphone Square Surface Mounted ......54
LE-027......TLM-CS..........................................................Bi-Directional Speaker Microphone Ceiling Surface Mounted ......54
LE-168......TLM-E..........................................................Bi-Directional Speaker Microphone Surface/Flush Mounted ........55
LE-007......TLM-W..........................................................Bi-Directional Speaker Microphone Surface/Flush Mount ..........54
LE-028......TLMW Plastic Box ......................................TLMW Plastic Backbox Surface Mount .............................................66
LE-221......TLMC Plastic Box ......................................Plastic Backbox for AOPSP & TLMC Flush Mount .........................66
LE-169......TLMC-W......................................................4" Speaker Microphone w/ Pushbutton/Wall Flush Mount ........52
LE-084......TLO..............................................................Outdoor Bi-Directional Speaker Microphone .............................55
LE-085......TLO-NM......................................................Outdoor Speaker w/ No Microphone ......................................................55
LE-092......TLS-P-CM..................................................Bi-Directional Speaker Microphone Corner Mount ......................55
LE-097......TLS-PB-WF...............................................Vandal Resistant Speaker Microphone w/ Pushbutton/Wall Flush Mount ........52
LE-096......TLS-PB-WS...............................................Vandal Resistant Speaker Microphone w/ Pushbutton/Wall Surface Mount ........52

V
LE-070......Verifac® "A"...............................................Ceiling Mount Microphone .................................................................26
LE-510......Verifac® "AGC"...........................................Ceiling Mount Microphone w/ Automated Gain Control .............27
LE-039......Verifac® "B-6"..............................................High Ceiling Application w/ 6' Extension Cable .............................26
LE-071......Verifac® "B"..................................................High Ceiling Application w/ 3' Extension Cable .............................26
LE-571......Verifac® "BGC"............................................High Ceiling Application w/ 3' Extension Cable w/ Automated Gain Control ..............................................27
LE-072......Verifac® "C"..................................................Special Applications Microphone ......................................................26
LE-572......Verifac® "CGC"............................................Special Applications Microphone w/ Automated Gain Control ..............................................27
LE-078......Verifac® "D"..................................................Wall Mount Microphone .................................................................26
LE-578......Verifac® "DGC"...........................................Wall Mount Microphone w/ Automated Gain Control ................27
LE-069......Verifac® "DV"..............................................Vandal Resistant Microphone .............................................................26
LE-569......Verifac® "DVGC".........................................Vandal Resistant Microphone w/ Automated Gain Control ........27
LE-075......Verifac® "E"...............................................Outdoor/Moist Condition Microphone ..............................................26
LE-575......Verifac® "EGC".............................................Outdoor/Moist Condition Microphone w/ Automated Gain Control ..............................................27
LE-077......Verifac® "K"..................................................Areas w/ Background Noise Microphone .........................................................26
LE-079......Verifac® "L-DT"............................................Desk Top Microphone .................................................................26
LE-081......VRSC.........................................................Square Vandal Resistant Ceiling Grill Baffle ........................................67
Abbreviated Audio Oriented Glossary

A

ACOUSTICS A study of sound and its interaction with the human hearing mechanism.

ALTERNATING CURRENT (Abbr. AC) An electric current which periodically reverses its direction, as opposed to direct current, which maintains a single direction.

AMPERE The unit of electrical current flow.

AMPLIFIER (Abbr. Amp) A device for increasing the amplitude of the voltage, current, impedance, or power of an electrical signal.

AMPLITUDE The strength of a signal or sound, without regard to its frequency content. Amplitude measurements of audio signals generally refer to signal voltage rather than power, which is proportional to the voltage squared.

ATTENUATE To weaken or reduce the intensity of a signal or noise. Usually measured in decibels (dB).

AUDIO FREQUENCY A frequency between 20 Hz and 20,000 Hz, within the range of normally audible sound.

AUTOMATIC GAIN CONTROL (Abbr. AGC) The effect of a circuit which maintains an output signal at a constant average amplitude despite changes in the amplitude of the input.

B

BANDWIDTH The range between the highest and lowest frequencies of a transmission channel. Measured in Hertz (Hz).

BI-DIRECTIONAL MICROPHONE A microphone with audio pick-up from the front and rear, with sound attenuation on the sides of the unit. Also known as a “figure 8” microphone.

C

CARDIOID The shape of the sensitivity vs. direction plot for a particular style of directional microphone. A cardioid mic rejects sound arriving from the rear.

CONDENSER MICROPHONE A microphone sensitive to sound pressure variations. It has an extremely high output impedance and must be placed very close to a preamplifier to avoid loss of a signal.

D

DECIBEL (Abbr. dB) A unit indicating a ratio between two values (voltages, currents or powers). The number of decibels is defined as the common logarithm of the ratio of two powers. Two to three decibels is usually the smallest change in sound level that can be detected by the human ear.

DIRECT CURRENT (DC) An electrical current in which the negative charges (electrons) flow in one direction only, from negative to positive.

DYNAMIC MICROPHONE Consists of a diaphragm with a coil of wire attached to it such that sound pressure moving the diaphragm causes the coil to move in a magnetic field supplied by a permanent magnetic. The motion of the coil causes an electric current to be induced, producing the signal output of the microphone.

E

ELECTRET CONDENSER MICROPHONE A type of condenser microphone that does not require a polarizing voltage. It contains a capacitor-like device, an electret which has a permanent electric charge. The audio pick up pattern is omni-directional.

F

FEEDBACK (ACOUSTIC, LARSEN EFFECT) A loop that exists between an input and an output (Positive Feedback or Negative Feedback). The most encountered type of acoustic feedback is positive feedback. This scenario is characterized by amplified sound (via a speaker) entering the input (microphone), thereby causing the previously amplified sound to make repeated trips around the loop, resulting in a steady howl or squeal. This is usually corrected by reducing the volume control setting, increasing the distance or changing the position of the speaker and/or microphone, or simply isolating the speaker and microphone from one another.

FILTER A circuit designed to attenuate or eliminate selected frequencies.

FREQUENCY The number of repetitions per second of any cyclical phenomena. Frequency is measured in Hertz, and abbreviated as Hz. A sound source such as a tuning fork, which vibrates back and forth 1000 times per second, does so at a frequency of 1000 Hz (1 kHz).

FREQUENCY RESPONSE The way in which an electronic devices, such as microphones and speakers, respond to signals of varying frequency. Frequency response is defined to be a characteristic of a system or a device, not a characteristic of a signal.
Abbreviated Audio Oriented Glossary

**G**

**GAIN**  A measure of amplification. The ratio of output voltage to input voltage.

**GROUND**  The electrically common or neutral parts of an electronic or electrical device, usually at chassis potential. Ground is refer to as "common."

**H**

**HARMONIC DISTORTION**  Distortion caused by nonlinear characteristics of electronic devices that generate harmonics of the input frequencies.

**HERTZ (Abbr. Hz)**  The number of cycles of repetitive change which a sound wave or electrical signal undergoes in one second. Named after Heinrich Hertz, a German Physicist who first produced and received radio waves.

**HUM**  A continuous, spurious noise at the frequency of, (or at twice the frequency of), the local AC line supply. In the United States hum occurs at 60 Hz or 120 Hz. In Europe, it occurs at 50 Hz or 100 Hz.

**I**

**IMPEDEANCE**  The opposition of a circuit to the flow of AC. A function of in-circuit DC resistance and reactance. Impedance is measured in ohms and is symbolized by the letter ‘Z’.

**INPUT**  The port or receptacle through which that signal is fed into the device.

**J**

**JACK**  A socket (female connector) which serves as a receptacle for the plug (male connector) on the end of an audio cable.

**K**

**KILO (Abbr. k)**  A prefix preceding a unit that multiplies that unit by 1000. Example: 1 kHz is 1x10^3 Hz.

**L**

**LINE AMPLIFIER**  An amplifier that boosts the strength of a signal in a transmission line.

**LINE LEVEL**  A standard signal voltage for line transmission of data. Professional audio is often +4dBu. Consumer audio is often -10dBV.

**LOW-IMPEDANCE**  A device having a nominal impedance of 600 Ω or less.

**M**

**MATCHING TRANSFORMER**  A device that matches the impedance of one circuit to that of another.

**MICROPHONE**  A transducing device that converts sound waves into audio signals.

**MILLIAMPERE (Abbr. mA)**  One thousandth (1x10^-3) of an ampere.

**MIXER**  A device for combining and individually controlling two or more audio signals.

**MOTORBOATING**  Low-frequency oscillation of an active device, producing a continuous, rapid sound.

**O**

**OHM (Abbr. Ω)**  The unit of electrical resistance, reactance or impedance.

**OMNI-DIRECTIONAL**  Describes the uniform propagation or reception (e.g., an omni-directional microphone) of energy in all directions.

**OUTPUT**  A connection interface in which signals are fed out of an electronic device.

**OUTPUT IMPEDANCE**  The electrical impedance between the conductors of a device's output.

**P**

**POTENTIOMETER**  A variable resistor, usually controlled by a rotary knob, and used as a volume control or tone control on an audio device.

**POWER AMPLIFIER**  An active amplifying device whose primary function is to deliver output power.

**POWER SUPPLY**  A device or circuit that provides the voltage and current required for the operation of an electrical device.

**POWER TRANSFORMER**  A transformer that draws energy from an AC line to feed a power supply.

**PREAMPLIFIER**  A device which provides amplification to a raise a low-level signal (mic level) to a line level signal.
Abbreviated Audio Oriented Glossary

R
RCA CONNECTOR An industry standard audio connector (jack/plug). The input/output terminals on many preamplifiers utilize RCA jack configuration. Original design by Radio Corporation of America.
RESISTANCE The opposition to the flow of DC through a circuit.

S
SENSITIVITY A measure of the amount of input signal a device requires in order to produce a standard output level.
SHIELD An electrically conductive sheath or cage, used to confine or to isolate equipment from interfering electro-magnetic signals.
SHOCK MOUNT A flexible mounting device used for subduing or eliminating the transfer of mechanical vibrations to a microphone.
SIGNAL Any series of electrical impulses or electromagnetic waves that represent information.
SOUND PRESSURE LEVEL (Abbr. SPL) The standard measurement of loudness of a sound. Expressed in decibels (dB) relative to the threshold of human hearing.
SYSTEM A collection of devices which work together to produce a desired result.

T
THRESHOLD The intensity level at which a phenomenon starts to occur or ceases occurring.
TRANSFORMER Two or more electrically isolated but magnetically coupled coils, sharing a common core or axis, and usually used to change the magnitude of an AC signal.
TRANSISTOR A solid state active device capable of signal amplification.
TRANSMISSION LINE A long interconnecting cable, usually terminated by a load equal to its characteristic impedance.

U
UNBALANCED (i.e. NOT BALANCED) Signal carried between ground and a single "hot" conductor.
UNIDIRECTIONAL A microphone pattern that is more sensitive to sounds coming from one particular direction than those coming from other directions. Sometimes referred to as a directional microphone.

V
VAC Abbreviation for volts of alternating current.
VOLT (Abbr. V) A unit of electrical force.
VOLTAGE The magnitude of an electromotive force. Expressed in volts.

W
WATT A unit of electrical power.
WATTAGE The measure of the power consumed by an electronic device.

Z
Z The symbol for impedance.
ZONE Pertaining to an area of coverage (microphone placement) within an audio monitoring system.
Warranty And Purchasing

Warranty:
All products manufactured by LOUROE ELECTRONICS are warranted to the original industrial or commercial purchaser to be free from defects in material and workmanship in accordance with the terms published in our Terms and Conditions of Sale.

For a full description of our Terms and Conditions of Sale, Please go to our Website at www.louroe.com

LOUROE provides a two year limited warranty on all equipment in our product line. There will be no charge for parts and labor for any repair or replacement of equipment. Incoming shipping cost always borne by the returnee.

Warranty Duration:
This warranty shall terminate at the time the product is (a) damaged or not maintained as reasonable and necessary, (b) modified, (c) improperly installed, (d) repaired by someone other than warrantor for a defect or malfunction, (e) serial number is removed.

Payment Terms:
Net 30 days on approved credit. Check or credit card (VISA or MASTERCARD) for all accounts meeting the purchasing requirements and for repairs.

Returns:
1. All merchandise being returned to our factory must have a Return Merchandise Authorization (RMA) number. Please contact your distributor or visit www.louroe.com/support/rma to receive a RMA number. A reason for the return and a serial number must be provided.

2. Requests to return merchandise must be made within 15 days from the date of invoice in order to avoid restocking fees. Return requests made after 15 days of invoice date are subject to applicable restocking fees.

3. Request for return of merchandise past 12 months of invoice date, or for custom manufactured (made to order) products will not be honored unless for warranty repairs.

Shipping:
Incoterms EXW Van Nuys, California, USA. Merchandise shipped UPS or Fedex Ground, unless otherwise specified. Seller reserves the right to apply a 10% expedite fee to the price of expedited product in order to meet said firm ship date.

A fee of $10 will be charged for all orders being drop shipped to a location other than the Customer’s warehouse or Customer’s branch.

Important Notice To Customer:
All statements, technical information and recommendations contained in this catalog are based on information believed to be reliable. However, the accuracy or completeness thereof is not guaranteed. Before utilizing any product, the Customer should determine the suitability of the product for its intended use. The Customer assumes all responsibility for and shall bear all liabilities and expenses relating to the installation and monitoring of the product(s). The Customer shall not hold LOUROE responsible for any liability, loss, cost, expenses or damages however caused by reason of any product(s), whether or not defective, or any act or omission of LOUROE where Customer or any third party fails to properly install and/or monitor the equipment. LOUROE does not represent that its products may not be compromised or circumvented; that the products will prevent any loss from burglary, hold-up, fraud or bodily injury or otherwise; or that the product will in all cases provide the protection for which it is installed or intended. Buyer acknowledges that LOUROE is not an insurer and assumes no risks for loss or damages or the cost of any inconvenience, transportation damage, misuse, accident or similar incident. LOUROE further assumes no responsibility for false alarms from its sound activated Audio Monitoring Systems by the customer’s inherent acoustical or environmental interferences from air handling ducts, helicopter ascend/descend, nearby railroads, street noise, transportation routes, etc.

When LOUROE products are used as part of an audio monitoring system, Louroe recommends that the public be given notice of audio monitoring on the premises. A decal is provided and is recommended that it be posted in a visible location (entrance and exit) of both private and public buildings.

Prices and specifications subject to change without notice.
Our Technical Support

Our Added Value

Experts Available For:

- Pre Sales questions
- Technical design questions
- Suggested system design(s)
- Trouble shooting assistance
- A bilingual team: English and Spanish

Check us out on social media for news and installation videos

Contact Us
800-927-6498
www.louroe.com

RMA Process:

For any returns/repairs go on
www.louroe.com/support/rma-application
and fill out the RMA form
Call us for designing a security, monitoring, or intercommunication system or for further information on any of our products.

For all questions on sales and marketing, products, or data
sales@louroe.com

For placing orders, pricing information and shipping information
orderdesk@louroe.com

www.louroe.com