

VoiceLink II



Infrared Sound Field System

User Guide

TeachLogic

SAFETY INSTRUCTIONS

- 1. Read Instructions:** *All safety and operation instructions should be read before operating this TeachLogic product.*
- 2. Retain Instructions:** *Safety and operating instructions should be kept for future reference.*
- 3. Water & Moisture:** *This product should not be operated near water.*
- 4. Heat Environment:** *Do not subject this product to excessive heat conditions.*
- 5. Power Source:** *This product must be connected to an AC power source per the voltage input specified and marked marked on the power supply.*
- 6. Power Cord Caution:** *Power cable should be routed clear of foot traffic and supported clear of kinking or abrasion.*
- 7. Object Protection:** *Locate the operating unit so it will not be subjected to falling objects or water entry.*
- 8. Internal Service:** *User should not attempt to service this product. All internal service must be accomplished by a qualified technician.*
- 9. Electric Shock:** *Do not adapt or modify the AC power plug thus lifting the earth ground connection.*

VoiceLink - Infrared Wireless Microphone System

The VoiceLink II is an **infrared** wireless microphone system that can be added to any sound system. It can be a supplement to an Extron, Crestron, Atlas Sound, or any amplified multi-media system.

With the addition of a VoiceLink system to your multi-media system, it will transform your multi-media system into a wireless classroom sound field system. You now have the capability of using two wireless microphones anywhere in the classroom. Thus reducing voice fatigue, enhance student listening and improved student learning performance.

The system is comprised of a sensor installed on the ceiling. The sensor collects the IR wireless signal from the microphone/transmitter and sends a composite signal to the receiver. The receiver transforms the composite signal into an analog audio signal which is fed to the multi-media amplifier. The amplifier then powers the speakers for even sound distribution throughout the room.

The wireless transmitter gives complete freedom of movement anywhere in the room. The transmitter can be a pendant style worn around the neck or body-pack clipped to the waist. Various style of microphone can be plugged into the body-pack transmitter for complete hands free mobility. In addition, a handheld wireless microphone / transmitter can be used simultaneously by the students for interactive class participation.

A noted feature of infrared signal transmission is that it is confined within the classroom. The transmission signal will not penetrate walls, ceiling or floor. This eliminates cross talk or interference with adjoining rooms. An added benefit, all systems operate on the same transmission frequencies, therefore; all transmitter / microphones will work in any room equipped with a VoiceLink system.

Easy to use - Easy to maintain

VoiceLink II

The VoiceLink II (IRV-268N) is a two channel receiver for simultaneous reception of two Infrared wireless microphones. It receives the IR signal from a dome sensor, processes it and produces an analog signal for the input of an amplified sound system. It features individual volume controls for the microphones and provides either a balanced or unbalanced audio output.



Front Panel

Power Switch with an associate “Red” LED to indicate presence of power.

Channel “A” & “B” volume controls for independent volume control for each wireless IR transmitter input.

IR Transmission Indicator LED will light “Green” when a transmitter is turned “ON”, informing you that an IR signal is being received on that respective channel.



Rear Panel

Phone Jack (1/4") is an unbalanced output of combined channels "A" and "B".

Line / Mic Switch selects the output signal to be either "Line" or "Mic" level.

Three Pin Phoenix Connector is a balanced line level output of channel "A" and "B"

- Pin 1: Ground
- Pin 2: Positive (+)
- Pin 3: Negative (-)

Male XLR Connectors (male) are balanced line level outputs for each respective channel.

Sensor Inputs (RCA) The sensor inputs apply power to a sensor and receives the IR signal from the sensor. Four (4) sensor inputs allow installation of multiple sensors for odd shaped or large rooms. *(Normally only one sensor is required)*

Power Input Jack connects to the power supply, 12-15 volts DC, 1 Amp.

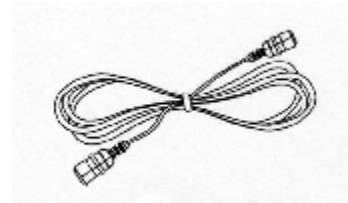
Infrared Dome Sensor (ICS-50)

Dome Sensor is the receiving component mounted on the ceiling that collects the modulated infrared signal from the transmitter (Pendant, Handheld, or Body-Pack). The composite signal is sent to the receiver input via a dual shielded cable. The sensor has 30 receiving diodes providing 360° spherical reception.



Power “ON” LED (Green) indicates that the sensor is receiving power from the receiver.

Cable (50’) connects the sensor to the receiver. The cable is dual shielded with RCA connectors on each end and is plenum rated.



Infrared Wall Sensor (IRW-50)

Wall Sensor is an IR receiving component designed for wall mounting. The sensor has 15 receiving diodes providing 180° conical reception from the front. Wall sensors can be used as the sole source of reception or as a secondary area of reception, supplementing another sensor.

Power “ON” LED (Green) indicates that the sensor is receiving power from the receiver.

Cable (50’) connects the sensor to the receiver. The cable is dual shielded with RCA connectors on each end and is plenum rated.



Infrared Transmitters

The infrared transmitter is the component that is fed a vocal signal through a microphone and it transmits that vocal signal via an infrared light beam to the receiving sensor. The transmitter is comprised of a microphone input, signal processor and 10 transmitting diodes for signal transmission to the sensor. There are three styles of transmitters: Handheld, Pendant and Body-Pack.

Handheld Microphone / Transmitter (IRH-30) is most applicable for student use or direct presentation. The 10 emitting diodes are located around the bottom of the microphone for 360° spherical transmission.

Features:

- Power ON / OFF switch with LED indicator
- Battery level LED indicator: “Green” useable charge
“Red” need recharging
- Channel selector switch: Ch. “A” or “B”
(inside battery compartment)
- Rechargeable batteries: Two “AA” NiMH
- External battery contacts for drop-in charger
- Metal enclosure with low handling noise
- Dimensions: 10” L x 1.5” Dia.
- Weight: 11.4 oz. with batteries



Pendant Transmitter (IRT-89) is a complete self-contained unit with a built-in microphone. It is the smallest transmitter and is usually worn around the neck. An adjustable lanyard allows for optimum positioning for performance and comfort. The transmitter is easily clipped on and off from the lanyard for handheld use or student participation. The transmitting diodes (10) are located behind the window on the top portion providing 180° conical transmissions.



Features:

Power ON / OFF switch on front panel with LED indicator

Battery level LED indicator: "Green" useable charge
"Red" needs recharging

Channel selector switch: Ch. "A" or "B" Volume Control

Rechargeable batteries: Two "AA" NiMH

External battery contacts for drop-in charger

External microphone input: Top center (3.5mm)

Dimensions: 5.25" H x 1.5" W x 1" D

Weight: 4.8 oz. with batteries

Plug-in Microphone (LM-300)

The LM-300 is an optional plug-in microphone to be plugged into the top of the pendant for enhanced performance. Although the built-in microphone is satisfactory, the plug-in microphone has a unidirectional microphone element reproducing better vocal quality and rendering more gain (more volume) before feedback.



Body-Pack Transmitter (IRB-30) is usually worn on the waistband with an external microphone plugged in *i.e.* Lapel (LM-835), Collar (CM-835) or Headband (HBM-835). Or with a lanyard and the Plug-in microphone (LM-300) plugged into the top, it can be worn as a pendant microphone / transmitter. The 10 emitting diodes are located behind the dark red window providing 180° conical transmission.

It is imperative that the transmission window not be covered or obstructed from transmitting to the sensor.

Features:

Power ON / OFF switch on side with LED indicator
Battery level LED indicator: “Green” useable charge
“Red” need recharging

Channel selector switch: Ch. “A” or “B”
(inside battery compartment)

Rechargeable batteries: Two “AA” NiMH
Volume Control

External battery contacts for drop-in charger

External microphone input: Top center (3.5mm)

Dimensions: 4.75” H x 2.75” W x 0.75” D

Weight: 4.8 oz. with batteries



Optional Microphones for the Body-Pack Transmitter



Lapel Microphone (LM-835) is a small capsule microphone with a spring clip for securing it on to a clothing edge. The lapel microphone renders excellent vocal reproduction. The lapel microphone is less obtrusive to the user and least visible.

However, due the greater distance from mouth to microphone it will require additional gain. As a result it is more prone to feedback. So adjustment of volume is more critical, especially near or under a speaker.

Headband Microphone (HBM-835) is worn around the head with the microphone located on the end of a flexible boom. This is the best performing microphone because of closeness of mouth to microphone and always in correct position regardless of head orientation



Ultra Lite Microphone (ULM-835) is a miniature boom style microphone supported by a wire around the left ear. The unidirectional microphone element renders excellent vocal quality and maximum clarity. Its lightweight and miniature size attributes to comfort and is least obtrusive. It is available in either beige or black *Caution:*

The boom can be formed to fit but it is not considered to be flexible. Do not bend it back and forth; IT WILL BREAK!



Collar Microphone (CM-835) is a flexible rod that can be formed to fit around the neck. The end with the microphone is then contoured up toward the mouth. The cord exits the flexible rod from the back, out of the way. The collar microphone utilizes a unidirectional element for excellent voice reproduction and minimizes feedback.

Plug-in Microphone (LM-300) is a small capsule size microphone that plugs directly into the top of the body-pack. An adjustable lanyard is included to accommodate wearing the body-pack around the neck as a pendant microphone. The body-pack is easily removed from the lanyard to facilitate use as a handheld microphone.



Drop-in Battery Chargers (BRC-30) (BRC-101) (BRC-202)

The battery chargers are specifically designed to recharge NiMH batteries at an optimum rate for maximum operating capacity and extended service life. The chargers feature a recycle function, which is used to restore the battery charge capacity and extend their service life.

BRC-30 charger recharges the (*IRB-30*) body-pack transmitter and (*IRH-30*) handheld microphone. You merely place the body-pack and handheld microphone in their respective slot. Connection will be made and charging will commence. Charger will automatically control the rate and maintain the charge.



BRC-101 and BRC-202 drop-in chargers are for the handheld (*IRH-30*) and pendant transmitter (*IRT-89*). The single slot (**BRC-101**) can charge either or the dual (**BRC-202**) can charge both simultaneously. In addition, both have a tray to insert two “AA” batteries for recharging.



Drop-in Battery Charger Features and Operating Procedures

All drop-in chargers feature regulated charging rate, full charge maintenance, recycle function and auto protection against incorrect battery insertion.
FOR USE WITH RECHARGEABLE NiMH BATTERIES ONLY.

Operation and features of Drop-in Chargers

- Insert transmitter into appropriate receptacle
- **(BRC-30)**, Red LED will light indicating batteries being charged (4 – 5 Hours)
- **(BRC-101 & 202)**, Red LED blinks continuously indicating batteries being charged
- All models, Green LED indicates batteries are fully charged
- **(BRC-30)**, full charge audible alert (Turn “on / off”, switch on bottom)
- Recycle function: **(BRC-30)** push “Grey” button and hold 3-5 seconds. Yellow LED lights indicating batteries are being discharged. At end of discharge, charger will automatically reverse and charge batteries to full capacity. Green LED will light upon completion of cycle.
- Recycle function: **(BRC-101 & 202)**, remove batteries from transmitter and insert in front tray. Push “Black” button, Amber LED will light indicating batteries are being discharged. At end of discharge, charger will automatically reverse and charge batteries to full capacity. Green LED will light upon completion of cycle.

Recommendation: Recycling batteries every 30 – 90 day will help maintain the battery capacity for daily use and extend the service life of the batteries

- If non rechargeable batteries are placed in the charger, the charger should sense the non-rechargeable batteries and not attempt to charge them. The Red LED will commence blinking continuously

CAUTION: Do attempt to recharge non-rechargeable batteries such as Alkaline or similar. The charger will usually sense the fallacy, however; there are certain conditions that can prevent detection (battery type, condition of battery).

Attempting to charge non-rechargeable batteries can damage the transmitter, charger, cause batteries to leak, over heat, and even create a danger of fire.

Installation of System

Location of receiver is primarily determined by user accessibility and availability of an electrical outlet. Location of the sensor and routing of the sensor cable is a more critical issue. It is important to observe a central location for the sensor and adherence to the guidelines for the routing the sensor cable

Location of Receiver

Select a location that is close to a standard wall electrical outlet

Receiver on a shelf or cabinet

Under shelf or wall mount with SM- 400 mount kit

Route sensor cable from dome sensor to receiver

Interface to Amplifier with shielded audio cable

Selecting IR Sensor Placement

There are several outside factors that can influence the performance of an infrared transmission system. Central location of the sensor is of primary concern, however; other factors need to be taken into consideration as noted. Also important is the proper installation of the sensor cable per the guidelines.

Ceiling Center for best performance.

**Wall mount high on long side wall in center,
free of obstruction**

- Adhere to same factors noted for ceiling sensor

IR Sensor Installation (Ceiling Mount)

- **Factors to consider when determining Sensor location**
 - Do not locate in high intense fluorescent lighting or near ballast
 - No solid obstruction between transmitter and sensor
 - Avoid high level sunlight from outside
 - Do not install in front or rear of video projector lens
 - Observe that there are no other IR radiating devices or controls

- **Guidelines for routing the sensor cable**
 - Do not shorten, splice, or interface through a wall panel (The cable has been tested and certified for optimum performance)
 - The cable should not be left to lie on the ceiling tiles. Rather it should be secured to the ceiling suspension wires using cable/zip ties. Or be secured to other beams or other structural supports.
 - Avoid running the sensor cable near, across or in parallel to any control, data, video, speaker or power cables

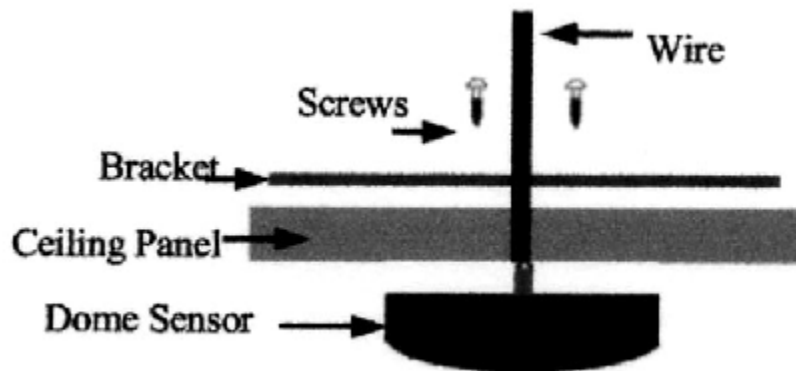
Caution: Take care to clean hands before removing ceiling tile.

Locate the center ceiling tile and mark approximate sensor location

Lift and remove the selected ceiling tile

Measure and mark exact center location for sensor

Drill a $\frac{3}{4}$ " hole through tile



Route sensor cable through support bracket (center hole)

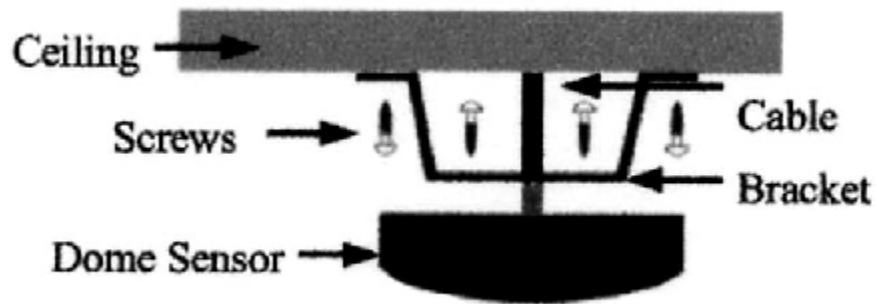
Route cable through tile hole from back side of tile to front side

Plug sensor cable into sensor

Position sensor against front of tile and bracket against back of tile

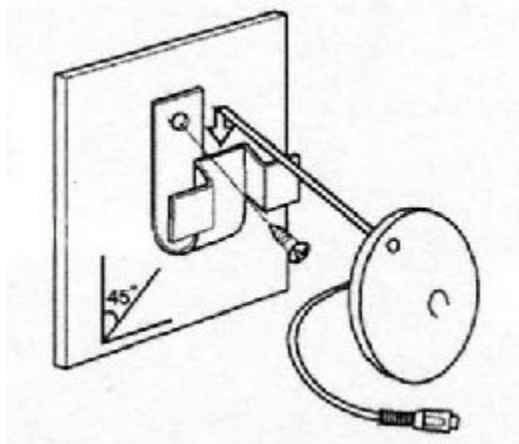
Observe two screw holes adjacent to bracket center hole

Push an awl or similar pointed round rod through tile (for screw holes)
Place the two long screws (3X25mm) through bracket and tile
Screw into sensor holes and tighten snug
Route the sensor cable to its exit location near the receiver
Reinstall the ceiling tile.



IR Sensor Installation (Wall Mount)

Locate the center of the long sidewall or the center of hard ceiling
Bend bracket at the scoured bend grooves
Mount bent bracket onto sensor using the short sheet metal screws
Hold sensor / bracket in place on the wall or ceiling and mark mounting holes
Drill hole for installing appropriate mounting hardware
Plug sensor cable into sensor
Install sensor
Route sensor cable to receiver in a tidy manner



Final Connection of the VoiceLink II to Audio System

- Power supply plugged into AC outlet, DC plug plugged into receiver
- Dome sensor plugged into sensor input, coil extra cable neatly and place out of view
- Connect receiver output to amplifier or media sound system
 - Each male XLR jack is a balanced line level output from each channel
 - Three pin Phoenix connector is a balanced output of channel “A” and “B”
 - Pin 1 – Ground (Chassis)
 - Pin 2 – Positive (Hot)
 - Pin 3 – Negative
 - Three pin Phoenix connector (Unbalanced)
 - Connect Pin 1 and Pin 3 together with shield connected to ground
 - Connect Pin 2 to positive input
 - Unbalanced ¼” phone jack, switchable to either “Line” or “Mic” level output
 - Sleeve - negative / ground
 - Tip – positive

System Operation

Now that the system is installed and connected, we are ready to turn the system “ON” and test its performance. The testing will be done using an IR transmitter (Body-Pack, Pendant or Handheld) to confirm good connectivity and quality audio.

- Turn the VoiceLink II “ON” , Red power LED
- Confirm power to sensor, Green LED light in center of sensor
- Set volume of each channel “A” & “B” to mid scale (12”clock)
- Using a Transmitter (Handheld, Pendant, or Body-Pack with microphone)
- Select channel “A”
 - Pendant: “A – B” switch on front panel
 - Body-Pack (open battery compartment) observe “ A – B” slide switch
 - Unscrew sleeve: Observe “A – B” switch on side of battery compartment
- Switch “ON” transmitter (Pendant, Body-Pack, or Handheld)
- Observe power LED (Green) - use fully charged batteries only
- Observe signal presence, Green LED on receiver adjacent to the channel “A” knob
- Turn volume control fully CC (counter clockwise)
- Performing test with a Body-Pack with mic plugged in or Pendant Transmitter
 - Slowly adjust volume control while talking into mic
 - Using Handheld transmitter, adjust volume on receiver
- Walk around the room while talking into microphone to confirm good IR connectivity

Caution: Be aware of walking under or in front of a speaker, feedback can occur

- Switch transmitter to channel “B” and repeat above performance test

Upon completion of performance test, the installation is complete.

TROUBLE SHOOTING GUIDE

Note: Most problems are directly related to low battery power. So please verify that the batteries are fully charged and less than two years old.

No Sound (Nothing works)	Check for power. Red LED next to power switch. Verify that AC outlet has power. Verify that the sound system works Verify dome sensor is receiving power, Green LED in center of sensor
Body-Pack or Handheld Transmitter does not work	Check batteries, Green LED when turned “on” Check microphone cable, wiggle back & forth at microphone and at connector end. Verify signal reception from transmitter to receiver, LED (green) adjacent to volume control.
Static, Noisy, or fuzzy Sound	Check charge on batteries. Check Hi / Lo switch inside battery compartment (Place in “Hi” position) Along side of battery barrel on handheld Verify that no other transmitter is turned “on” on the same channel. Bright sunlight, high intense fluorescent or halogen lights near sensor.
Dropouts	Verify that the infrared beam transmitted from the transmitter (dark red window) is not being obstructed by clothing or other solid objects. Dark colored walls have a tendency to absorb infrared and do not reflect efficiently. Glass windows and doors allow competing infrared light which weakens IR transmission. Persistent dropouts may require installation of an additional sensor.

Feedback (Mic Squeals)

Feedback is the result of a resonant sound coming from the speaker into the microphone creating a closed loop audio signal.

This can only be avoided by not walking under or in front of the speaker. Or reduce the gain (volume).

Relocation of speaker is another consideration to prevent the close proximity of microphone to speaker.

Lapel microphones are the most prone to feedback because of distance from mouth to microphone. Therefore, if the problem persists, you may want to consider using another microphone such as a collar, headband with a boom, or a unidirectional microphone plugged into the pendant or body-pack with a lanyard worn around the neck.

To reiterate: Batteries in the transmitter is our greatest grievance. Life expectancy of “Duracell” batteries given conscientious care is about two years. We have experienced much shorter service life from other brands and batteries that are not recycled on occasion. Batteries should be stored in a fully charged condition and stored in a cool place.

Evidence of weakening batteries: (1) shortened service per charge, (2) batteries won't take a charge, (3) lack of output, causing noisy operation.

Five Year Limited Warranty

TeachLogic Infrared products are guaranteed to be free of defects in workmanship or material for a period of five (5) years from date of original purchase, subject to the following conditions:

1. Warranty excludes defects caused by normal use and wear, any abuse, or failure to use the product in accordance per instructions.
2. Warranty is void if damage occurred because of misuse, or attempted repair or modification by unauthorized personnel.
3. Warranty on batteries, cables, and cable connections are limited to one (1) year.
4. Warranty on microphones/microphone elements are limited to one (1) year.
5. Warranty does not extend to finish or appearance past ninety (90) days.
6. All warranty service will be provided by TeachLogic or authorized service center
7. Warranty is made to the original purchaser and may not be transferred another user.
8. Warranty service rendered will be on a repair basis or replacement, which ever TeachLogic deems to be most prudent for customer satisfaction and economic feasibility.

TeachLogic will only accept warranty shipments accompanied by Return Authorization Number previously assigned by TeachLogic personnel. Advance warranty replacements will be made per the discretion of TeachLogic personnel.

TeachLogic will pay return shipping cost on all warranty repairs or replacements.

For Warranty Service: TeachLogic, Inc.

Tel: (800) 588-0018 or (760) 631-7800

Customer Service Department

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Oceanside, CA 92056

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