

Infrared Wireless Microphone System





VoiceLink Plus owner's manual

notes
Date of Purchase:
Model Number:
Serial Number:
Notes:



thank you

Congratulations on the purchase of your new VoiceLink PLUS Infrared Wireless Microphone Sound System. You can be assured that the VoiceLink PLUS fulfills all specifications and was produced to very high quality control standards. TeachLogic incorporates the latest state of the art technology, employs the most advanced manufacturing methodology and uses only premium quality components to assure many years of reliable performance. We appreciate your confidence by your selection of our product. It is TeachLogic's intent to uphold that confidence by providing factory assistance and dealer support.

We hope you will take the time to view this manual to familiarize yourself with the product operation and features. This manual will help you learn to use and gain the maximum benefit of the VoiceLink PLUS system. The manual provides a basic explanation on the principles and advantages of infrared transmission. Following by the system description, operation and installation instructions, the manual will conclude with maintenance and troubleshooting procedures.

Brian Van Waay

Bein Van Waar

President

contact

If you should encounter some unresolved issue, please contact TeachLogic customer service department for further assistance.

- **1.**800.588.0018
- sales@teachlogic.com
- 1•760•631•1283
- www.teachlogic.com



CAUTION



RISK OF ELECTRIC SHOCK: DO NOT OPEN

Caution: To Reduce The Risk Of Electric Shock Do Not Remove Cover (Or Rack)

No User-serviceable Parts Inside Refer Servicing To Qualified Personnel

certifications



US



CA

Listed







TeachLogic systems are manufactured using lead-free processes and are free of materials harmful to the environment. They conform to the most stringent new European guidelines for consumer products (RoHS).

caution

Recycle—Do not dispose of rechargeable batteries in trash. Actually it is unlawful to do so in CA, NY & ME. Contact: Earth911.com

1-800-CLEANUP

Save our resources and don't contaminate.
Go Green

safety instructions

Read Instructions

All safety and operation instructions should be read before operating this TeachLogic product.

Retain Instructions

Safety and operating instructions should be kept for future reference.

Water & Moisture

This product should not be operated near water.

Heat Environment

Do not subject this product to excessive heat conditions.

Power Source

This product must be connected to an AC power source per the voltage input specified and marked on the power supply.

Power Cord Caution

Power cable should be routed clear of foot traffic and supported clear of kinking or abrasion.

Object Protection

Locate the operating unit so it will not be subjected to falling objects or water entry.

Internal Service

User should not attempt to service this product. All internal service must be accomplished by a qualified technician.

Electric Shock

Do not adapt or modify the AC power plug thus lifting the earth ground connection.



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IR transmission

The microphone/transmitter transmits the voice directly to the sensor via an infrared signal. Although infrared light is straight line directional, the signal is transmitted in a special pattern and can bounce off solid surfaces. Thus, continuous connectivity is assured throughout the room. Benefit: total freedom of movement within the room with no restriction

"What's said in the room, stays in the room"

of orientation.

Infrared will not penetrate a solid surface thus preventing any transmission going out of the room.

a brief word about infrared

Infrared is a light ray that is below the visible spectrum, just like the sound spectrum extends beyond your hearing ability. An example of infrared transmission is the remote control for your TV set. When a button is pressed, a beam of infrared light is emitted by a Light Emitting Diode (LED) from the remote control. It is detected by a receiving diode in your TV set. When you press a certain command on your control, the internal electronics cause the infrared light to flicker in a programmed sequential pattern (called modulating the light beam). The modulated infrared beam is detected by a receiving diode and is electronically decoded. The decoded signal activates the circuitry to perform the command function on your TV set.

So how does this apply to the infrared communication system you are about to start using? The microphone/transmitter has several Light Emitting Diodes (LED) that emit infrared light beams to the sensor located in the corner of the room. Now when you talk into the microphone, the microphone element modulates the light beam, causing it to flicker in sync with your speech. The sensor detects the sequential signal and the electronic circuitry in the VoiceLink PLUS converts that sequential signal into a line level analog audio signal. Now that audio signal can be fed into an amplifier. The amplifier magnifies the electronic signal and sends it output to the speakers. This causes the speaker cone to move in sync with your voice. The speaker replicates your voice and disperses your voice evenly throughout the room.



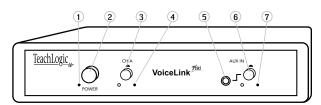
product description

The VoiceLink PLUS is a complete classroom sound system. It includes an infrared wireless microphone/transmitter receiver and a 20 watt power amplifier. A corner sensor senses the infrared signal emitted from the microphone/transmitter and sends the voice signal to the receiver. The receiver can also accept an input from another audio source such as an iPod™, Computer, DVD, or video projector. The receiver passes the composite signal to the power amplifier which drives the two speakers. In addition, a drop-in charger is included to recharge the transmitter battery for daily use.

Reliable
Performance.
Use with
confidence.

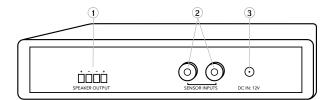
VoiceLink plus system

The VoiceLink PLUS system is comprised of a microphone/transmitter, either the Crescent (IRT-30), the Pendant (IRT-89), or a Body-Pack with an external microphone (IRB-30) for voice transmission to a corner sensor (IWS-30). The sensor sends the signal to the receiver/mixer (IMA-100). The receiver processes the signal and produces an analog signal which is fed to the power amplifier. The output of the amplifier is fed to the speakers (SP-628 or SP-2000).



front of IMA-100 receiver/mixer

- 1 Power LED (Red)
- 2 Power Button (Black)
- 3 Microphone Volume Control
- 4 Microphone Transmission Indicator LED (Orange)
- 5 Auxiliary Input (3.5mm)
- 6 Auxiliary Volume Control
- 7 Auxiliary Signal Present Indicator LED (Orange)



back of IMA-100 receiver/mixer

- 1 Two Amplifier Outputs (10 Watts ea.) (Dual 2-pin Phoenix Connector)
- 2 Two Sensor Inputs (RCA)
- 3 Power Input: 12VDC



IWS-30 corner sensor

The Sensor is the component that receives the infrared transmission from the microphone/transmitter and sends the signal to the receiver via a dual shielded cable. The sensor has 15 receiving diodes providing 90° conical reception from the front. It is designed for mounting in a corner near the ceiling. Its interconnect is a short cable with a female RCA connector. The sensor can be installed on a wall with satisfactory performance., but many have some disconnectivity at extreme off-axis reception. An additional sensor can be installed for broader coverage or as a supplement to cover a remote area.



power "on" LED

Green light indicates that the sensor is receiving power from the receiver.

30' cable

A Cable (30') connects the sensor to the receiver. The cable is dual-shielded with a male RCA connector on each end and is plenum rated.



infrared microphone/transmitters

The infrared microphone/transmitter is comprised of a microphone input, signal processing circuits and several emitting diodes that transmit the vocal signal to the sensor.

The microphone/transmitter can be the Crescent or Pendant style worn around neck, or Body-Pack clipped to your waist with your choice of microphone (Lapel, Collar, or Headband). The rechargeable batteries will provide 6–8 hours of service per charge. Place the microphone/transmitter in the charger for overnight charge and it will be ready for another day's use.

The drop-in battery chargers are specifically designed to recharge NiMH batteries at an optimum rate for maximum operating capacity and extended service life. Charger will automatically start charging the batteries upon insertion and will shift to a maintenance charge when batteries are fully charged.



features

- Snap-in lanyard attachment (Breakaway Safety)
- Push "on/off" power button
- Battery level indicator
- Useable charge–Green LED
- Recharge needed–Red LED
- Push "on/off" mute button (Blinking LED)
- Powerful infrared transmission output
- Dual internal microphones
- Auxiliary input jack: (Switchable to Mic or Line Level)
- Channel "A" or "B" Selector switch
- Volume Control
- Single "AA" rechargeable NiMH battery
- External contacts for dropin charger

(IRT-30) crescent transmitter

The Crescent is a lightweight microphone/ transmitter designed to be worn under the chin suspended by an adjustable lanyard. The Crescent shape was designed for efficient performance and user comfort. The dual internal microphones render optimum voice pick up and quality vocal reproduction. The Crescent provides an auxiliary input (3.5mm) to accommodate the insertion of an iPod™ or similar device for supplementary program material.

A soft touch mute button cuts the microphone "off" for private conversation (the power LED will flash in the mute position). A volume control allows adjustment of the microphone volume. The external battery contacts accommodate the convenient use of a drop-in charger.





IRT-89 pendant transmitter

The Pendant Transmitter (IRT-89) is a complete self-contained unit with a built-in microphone. It is worn around the neck, suspended by an adjust-able lanyard to position for optimum performance and comfort. The transmitter is easily unclipped from the lanyard for handheld use and student participation. Ten transmitting diodes assure continuous connectivity. A volume control allows remote adjustment of the microphone volume. An external mic input (top/center) permits insertion of a unidirectional microphone for enhanced performance and anti-feedback. The external battery contacts accommodate the convenient use of a drop-in charger.







LM-300 plug-in microphone capsule

Although the built-in microphone provides satisfactory performance, the optional plug-in microphone is a unidirectional microphone thus reproducing better vocal quality and rendering more gain (more volume before feedback). With the windscreen, the pendant can be used as a handheld microphone without breath pops.

features

- · Excellent performance
- Quality vocal reproduction
- Conducive to handheld use
- Power "on/off" switch on front panel
- Battery level indicator, LED: Green–useable charge; Red–needs recharging
- Channel selector switch: Ch. "A" or "B"
- Volume Control
- External microphone input: Top center (3.5mm)
- Rechargeable batteries: Two "AA" NiMH
- External battery contacts for drop-in charger
- Dimensions: 5.25" H x 1.5" W x 1" D
- Weight: 4.8 oz. with batteries

IRB-30 body-pack transmitter

The 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-935). Or with a lanyard and a Plug-in microphone capsule (LM-300) plugged into the top, it can be worn as a pendant microphone/transmitter. Ten transmitting diodes provide 180° spherical transmission, assuring optimum connectivity. A volume control allows remote adjustment of the microphone volume. The external battery contacts accommodate the convenient use of a drop-in charger.

Tradition .

features

- Power ON/OFF switch on side with LED indicator
- Battery level indicator: Green—useable charge; Red—needs recharging
- Channel selector switch: Ch. "A" or "B"
- Power output switch: Hi/Lo (located inside battery compartment)
- · Volume Control
- External microphone input: Top center (3.5mm)
- Rechargeable batteries: Two "AA" NiMH
- External battery contacts for drop-in charger
- Dimensions: 4.75 "H x 2.75 " W x 0.75 " D
- Weight: 4.8 oz. with batteries

note

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

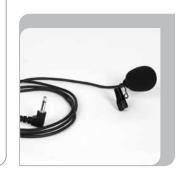


optional microphones for body-pack transmitter

Any of the microphones below may be used with the Body-Pack Transmitter.

LM-835 lapel microphone

The 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 to 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.



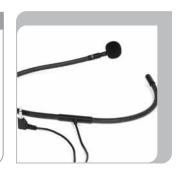
HBM-935 headband microphone

The Headband Microphone (HBM-935) is worn around the head with a unidirectional microphone located on the end of a flexible boom. This is the best performing microphone due to its unidirectional mic element and its always close proximity to the mouth. The microphone also renders maximum gain and is least prone to feedback.



CM-835 collar microphone

The 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.





ULM-835 ultra-lite microphone

The 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 make it comfortable and inconspicuous. It is available in either beige or black.

caution

The boom can be formed to fit but it is not considered to be flexible.

So it cannot be bent back and forth; IT WILL BREAK!



LM-300 plug-in microphone

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



drop-in battery chargers

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-50

The BRC-50 charger recharges the Crescent (IRT-30) and Body-Pack transmitter (IRB-30). You merely place the Crescent or Body-Pack in their respective slot. Connection will be made and charging will commence. Charger will automatically control the rate and maintain the charge.



BRC-40

The BRC-40 charger recharges the (IRB-30) Body-Pack transmitter and (IRH-30N) Handheld transmitter. You merely place the Body-Pack and/or Handheld in their respective slots. Upon insertion connection will be made and charging will commence. Charger will automatically control the rate and maintain the charge.



BRC-101

The BRC-101 drop-in charger is for the Pendant transmitter (IRT-89). The single slot (BRC-101) can also charge a pair of "AA" batteries in the tray. Charger will automatically control the rate and maintain the charge.



installation of receiver/amplifier

Location of the receiver/amplifier is primarily determined by user accessibility, availability of an electrical outlet, location of the auxiliary input source, and routing of the sensor and speaker cables. The receiver/amplifier can be placed on desk top, mounted on the wall, mounted on top or under a shelf using the mounting flanges and hardware provided.

mounting receiver/amplifier

Desk Top Location

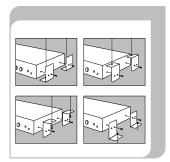
- Install soft vinyl pads on bottom of receiver
- Locate for convenient use

Shelf or Wall Mount

 Attach the mounting flanges using round holes and small plastic rivets.

Caution: Assure rivets are aligned and seated before pushing rivet into hole

- With flanges attached, hold receiver in place.
- Mark mounting holes
- Drill a ³/₃₂" pilot hole for screwing directly into a solid surface using the mounting screws.
- Drill a ⁵/₃₂" hole and insert a plastic anchor in drywall or concrete wall.





installation of speakers

Two wall mount or ceiling speakers can be powered by the receiver/amplifier. It has two amplifiers (10 watts ea.). One speaker will be connected to each amplifier.

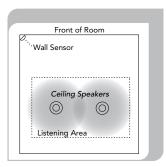
Optional: Two additional speakers can be powered by the amplifier. Connect two speakers in parallel. Then bring a cable from each pair to the amplifier. Connect one pair to each amplifier.

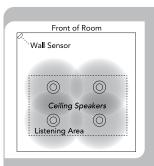
installing two SP-628 ceiling speakers

- Determine the listening area.
- Divide listening area into two quadrants
- Locate and identify the center most tile in each quadrant
- Lay ceiling tile face down on clean flat surface
- Lay tile bridge on ceiling tile and center it
- Trace and cut the large hole using a keyhole or drywall saw
- Strip the speaker cable ends, approx. ½"
- Route speaker wire from speaker opening to amplifier
- Reinstall ceiling tile with tile bridge in place above the hole
- Pull speaker cable back down through speaker hole
- With a pointed tool or paper clip, lift up and remove speaker grille
- Set speaker on top of ladder and connect speaker cable connect
- Observe speaker polarity, connect Red wire to (+) terminal and other wire to the (C) terminal
- With the mounting clamps folded back, position speaker into speaker hole
- With a #2 Phillips screwdriver, tighten the quick clamps
- Reinstall speaker grille and remove any soil or fingerprints
- Repeat same for other speaker

continued on next page

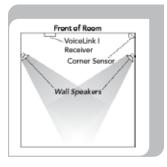


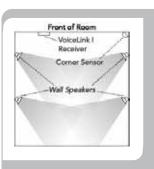




Optional: Two Additional Speakers







Optional:

installing SP-2000 wall mount speakers

- First observe the shape of the room: ceiling height, door locations, windows, mounting surface, and seating area
- Ordinary installation would be to locate the speakers on each side wall approximately even with the front row of listeners
- Mount the speakers 6–7 feet above the floor
- Install the mounting brackets in the vertical (up/down) orientation
- Mount brackets using the appropriate hardware
- Insert speaker with the tweeter in upper position
- Secure speaker in bracket with the hand fasteners
- Orient each speaker toward the center of that half of the listening area
- Strip speaker cable ends ½" and connect to speaker
- Observe speaker polarity: Connect (+) wire (with printed writing) to (+) terminal and (-) wire (unprinted & textured) to the (-) terminal
- Route speaker cable to the receiver/amplifier in a safe, least visible, tidy manner

final connection of the system

With receiver/amplifier located, speaker and sensor cables neatly routed, we are ready to complete the installation.

- Cut the speaker wire to the appropriate length
- Strip about 3/8" off the end of each speaker wire.
- Twist the wire and if you have a soldering iron, tin the wire ends
- Unplug the phoenix connector, insert (+) wire (with printed writing) into either outside (+) terminal. Plug the other (-) wire into center (-).
- Tighten set screws.
- Repeat for other pair and insert plug firmly into speaker receptacle
- Plug power supply into AC outlet



installation of IWS-30 corner sensor

The corner sensor is a critical component of the system for reliable operation of the wireless transmitter. It receives the infrared signal and sends it to the receiver/amplifier. Its location is very important. Corner installation provides the best performance. The receiving pattern is spherical shaped about 90°. By mounting in the corner, the infrared transmission can bounce off the walls and ceiling giving a reflective funnel effect.

corner mounting

- Reshape the bracket so when screwed to the wall, the sensor will be diagonally across the corner
- Locate sensor near ceiling, within 12 inches is preferred
- Slide sensor onto bracket in most appropriate position for routing sensor cable
- Connect sensor cable and route in tidy manner to receiver
- Plug into either sensor input on receiver

wall mounting

- Locate sensor bracket on front or side wall, preferably side wall near ceiling
- Slide sensor onto bracket in most appropriate position for routing sensor cable
- Connect sensor cable and route in tidy manner to receiver
- Plug into either sensor input on receiver

optional

For large or odd shaped rooms, an additional sensor can be added to the system for additional wireless transmission coverage.



operating the system

We will test of the system with the wireless microphone/transmitter purchased with the system and an external auxiliary source i.e., an iPod™, computer, or DVD player.

system operation

- Set volume control of receiver and microphone to "Minimum"
- Turn power "on", push button on left side
- Red LED indicates power "on"
- Check power to sensor, "Green" LED
- Rotate "CH A" volume control to about mid scale
- Turn "on" microphone, Green LED
- Verify IR transmission, "Orange" LED adjacent to volume control
- While standing either under or in front of a speaker, slowly increase the volume of the microphone while talking into microphone
- Adjust until you begin to get feedback (squealing)
- Reduce volume to stable non-ringing condition
- While talking into microphone, walk around the room verifying continuous connectivity throughout the room
- Hopefully the test was 100% satisfactory, this competes the vocal test of the system

Test of the auxiliary input using an external audio source i.e. iPod, DVD, or computer

- With receiver turned "on", set "AUX IN" volume to minimum
- Plug in an auxiliary source using an audio cable with a 3.5mm plug
- Turn "on" your auxiliary source i.e. iPod, DVD, Computer
- Observe signal presence indicator, "Orange" LED
- Increase "AUX" volume to about mid scale
- Slowly increase volume or gain of auxiliary source to desired volume



troubleshooting		
Problem	Solution	
System is turned "on" but there is no sound	 Verify AC power; the Red LED lights when turned "on" Check if system has been unplugged Check circuit breaker Call maintenance for assistance 	
System has power but no sound	Turn "on" microphone/ transmitter Check for IR transmission, Signal presence (Orange LED) Check the Green LED in the sensor If sensor LED is not lit Sensor has been disconnected (unplugged or broken cable) Power output to sensor has failed (Receiver/ amplifier needs to be replaced)	
Voice is distorted and/or signal drop- out occurs	 Check the charge on your batteries Verify power switch in battery compartment is in "Hi" position (Body-Pack transmitter) Verify that the diodes on transmitter or sensor are not being covered or obstruction between transmitter and sensor 	

contact

If your problem persists and this guide has not resolved the issue, call our customer service department for additional assistance. (800) 588-0018

VoiceLink Plus (IMA-100) specs.

Carrier Reception
Reception System
Reception Frequency
Infrared Wavelength
Modulation
Tone Signal

De-emphasis Frequency Response

S/N Ratio THD

Max. Deviation
Output Level
Output Connection

Two Sensor Inputs Aux. Input (Front Panel)

Weight Enclosure Size Infrared Heterodyne Ch. A:2.08MHz 850nm FM Wide-Band

FM Wide-Band Ch A:32.768KHz 50µS

50Hz -13KHz ±3dB >55dB <1.0% @1KHz

22.5KHz Balanced: 0–1 volt Pheonix, Dual 2-Pin

RCA

Line Level (3.5mm)

1.0 lb. ABS

5" W x 4½" D x 1" H

general transmitter specs.

Transmission Carrier
Transmission Frequencies
Channel Switchable A or B
Transmitting Diodes
Modulation
Pilotone Frequency
Peak Deviation
Operating Range
Power Switch (Slide)
Battery Charge Level (LED)

Battery Life

External Battery Contact

Infrared

2.08 MHz & 2.54 MHz Field Switchable

Ten

FM Wide-Band 32.768 KHz ± 25KHz 2500 Ft². 60 Ft. On/Off

Green, (Useable Charge) Red, (Needs Charging) Approx. 7 Hr./Charge Charger Connection

VoiceLink Plus

owner's manual

Pendant transmitter (IRT-89) specs.

Adjustable Lanyard Transmission Angle

Input

Microphone Input

Waist Band Clip

Dimensions Weight LM-300

Mic Type Pick-Up Pattern Connector

Frequency Response

Windscreen

Safety Breakaway Clasp

180°

Top/Center 3.5mm Jack, Lo-z

Tension Wire

5.25" H x 1.5" W x 1" D

4.8 oz. w/ Batteries

Plug-In Microphone

Electret/Condenser

Unidirectional

Male, 3.5 mm

100 Hz-16 kHz

Pop Filter

Body-Pack transmitter (IRB-30) specs.

Transmission Angle

External Mic. Input

Dimensions

User Controls

Power Output

180° User Controls

Mic. Volume

Power On/Off

IR Power Output: (Hi/Lo)

CH. Select (A or B)

Lo-z. 3.5mm

Waist Band Clip Heavy Spring Wire

434" H x 234" W x 34" D

Weiaht 4.8 oz. w/ Batteries

Crescent transmitter (IRT-30) specs.

Shape

Lanyard Attachment

Transmission Angle

Emittina Diodes

Mute Switch

Aux. Input (3.5mm)

Volume Control

Two Microphone Elements

Battery

Power Consumption

Battery Life

Battery LED

Dimensions

Weight

Crescent, Under Chin

Snap-In, Top (Safety) 180°, Conical

Momentary, On/Off

Switchable, Mic. or Line

Level

Thumb, Rotary

Condenser Type, Unidirectional

Single "AA" NiMH, Rechargeable

300 mA@1.2Volt

6-7 Hours

Green—Useable

Red—Needs Charging

4¾" W x 1" D x 1¾" H

3.0 oz. w/ Battery

five year limited warranty

TeachLogic RF 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 cables and cable connections are limited to one (1) year.
- 4. Warranty on microphones and microphone elements are limited to one (1) year.
- 5. Warranty on batteries is for ninety (90) days.
- Warranty does not extend to finish or appearance past ninety (90) days.
- All warranty service will be provided by TeachLogic or authorized service center
- 8. Warranty is made to the original purchaser and may not be transferred another user.
- Warranty service rendered will be on a repair or replacement basis, whichever 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.

contact

TeachLogic, Inc. Customer Service Dept. 1688 Ord Way Oceanside, CA 92056

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