

Maxim II



Infrared Sound Field System

User Guide

TeachLogic

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FORWARD

Congratulations on the purchase of your new Maxim II Sound Field System produced by TeachLogic. Be assured that the Maxim II meets 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 selecting a TeachLogic product and it is TeachLogic's intent to support you in the use of your system.

We hope you will take some time to review this manual to familiarize yourself with the product features and its performance. The manual will help guide you to gain maximum use and benefit of the Maxim II sound field system.

The manual provides some basic explanation on the basic principles of Infrared transmission and its benefits. To be followed up with operator instruction and installation instruction. The manual will conclude with maintenance procedures and trouble shooting analysis.

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

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Brian Van Waay , President

How the System Works

A Brief Word About Infrared

Infrared is a light ray that is below the visible light spectrum, just like the sound spectrum extends beyond your hearing ability. An example of infrared transmission: is the remote control for your TV set. A beam of infrared light is emitted by a Light Emitting Diode (LED) from the remote control and it is detected by a receiving diode in your TV set. When you push a certain command on your control, the internal electronics causes 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 the TV set.

So how does this apply to the infrared communication system you are about to start using? The body-pack transmitter or handheld microphone has several Light Emitting Diodes (LED) that emit infrared light beams to the sensor located on the ceiling (the dark red dome). Now when you talk into the microphone, the microphone element modulates the light beam, causing it to flicker in sync with your speech. The dome sensor detects that sequential signal and an electronic signal is sent to the receiver inside the Maxim II mixer/amplifier unit. The receiver decodes the signal from the sensor and converts it into an electronic audio signal that is sent to the amplifier. The amplifier magnifies the electronic signal which is sent to the speakers. This causes speaker cone to move back and forth in sync with your voice. The speaker replicates your voice and disperses it so all can hear with ease.

The IR signal will bounce off walls, ceiling, floor, and be received by the sensor, therefore; the transmitter does not need to be pointed at the sensor. Resulting in total freedom of movement throughout the room and hands free mobility. Noted feature, infrared will not penetrate through a solid surface thus impeding any transmission from going out of the room.

“What’s said in the room stays in the room”

Features and Description of the Maxim II System

Mixer/amplifier (IMA-420) is the nucleus of the classroom sound field system. The pendant transmitter, body-pack transmitter or handheld microphone transmitter: transmit the vocal signal via infrared light to the dome sensor installed on the ceiling. The signal is then sent via cable to the receiver input of the mixer/amplifier. The signal is detected and then processed through the power amplifier to the speakers.



Front Panel

Power Switch with an associate red LED to indicate presence of power.

Channel "A" & "B" wireless microphone volume controls.

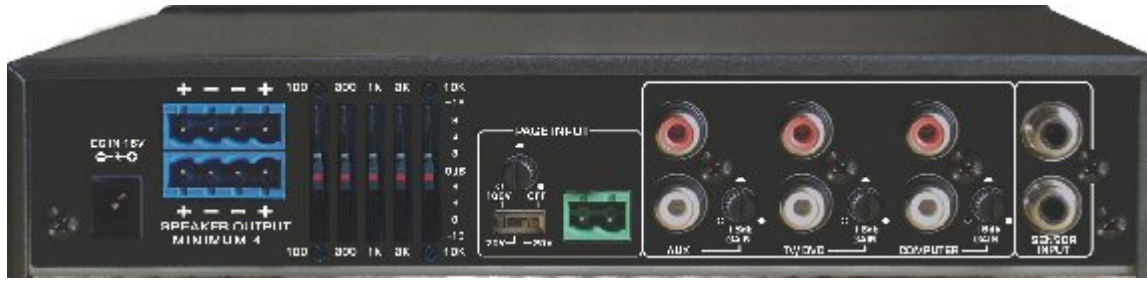
IR Indicator, LED adjacent to each control knob will light "Green" when a transmitter on that channel is turned "on", validating an IR transmission signal is being received.

Auxiliary Input Controls for adjusting the volume of each media input source; COMPUTER, TV/DVD, AUX.

will light "Green" when an audio signal is present on that input.

Front Panel Auxiliary Input for "ipod" or similar device (3.5mm). The rear auxiliary input will disengage when the front input is in use and the "AUX" control will adjust the volume.

Line Out is for an "Assistive Listening System", Personal FM system or could used as a record output. Gain control adjusts the output signal to match the input of the auxiliary device.



Rear Panel

Power Input is 15 volts DC, 2.8 A.

Two Amplifier Outputs each terminated by a dual latching Phoenix connector (facilitating connecting two speakers in parallel).

Power output of each amplifier:

16 watt (RMS) into 4Ω load or

12 watt (RMS) into 8Ω load

Five-band Graphic Equalizer provides the installer capability to compensate for acoustical variance and maximum vocal clarity. A protective cover prevents maladjustment once the system has been professionally calibrated for optimum performance.

Page Over-ride allows the school announcements to pass through the classroom sound system. The announcing system (speaker level 25, 70, or 100 volt, selectable) is connected via the two-pin phoenix connector and the volume is adjusted with the gain control. The page will mute all the inputs during the page and restore to previous levels after page is completed.

Auxiliary Audio Inputs (stereo RCA) for various media sources such as: Computer, DVD, Projector, VCR, or other. The normal sensitivity of these inputs is -25 dB but the sensitivity of each can be increased with the sensitivity gain control adjacent to the input (up to 15dB).

Sensor Inputs (RCA) for powering the sensor and receiving IR transmission signal. Two sensor inputs allow installation of an additional sensor for odd shaped or large rooms requiring additional coverage. Normally only one sensor is required.

Infrared Dome Sensor (ICS-50) is installed on the ceiling. It is the component that collects the infrared transmission signal via 30 detecting diodes. The sensor sends the information to the mixer/amplifier and via a shielded cable.



Drop-in Battery Chargers

The battery chargers were specifically designed to recharge NiMH batteries at an optimum rate to maximize their usage. All the chargers feature a recycle function, which is used to recycle the battery to restore its charge capacity and extend its 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 automatically be made and charging will commence. Charger will automatically control the charge rate and maintain the full 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. The dual (*BRC-202*) can charge both simultaneously. Both chargers have a front tray to insert two “AA” batteries for recharging. Both chargers will automatically control the charge rate and maintain a full charge.

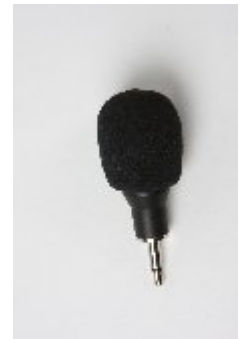


Pendant Transmitter (IRT-89) with a built-in microphone. The pendant transmitter is the smallest transmitter and is usually worn around the neck. Two lanyards are provided: one with a safety breakaway clasp and a longer adjustable over the head style. The transmitting diodes are in the top portion and the rechargeable NiMH batteries are housed below. The power switch is accompanied by a battery level LED (Green=Useable, Red=Needs Charge). The A-B switch selects the transmission channel. The pendant can be placed in either the BRC-101 or BRC-202



charger.

An optional Plug-in microphone (LM-300) can be plugged into the top of the pendant for enhanced performance. Although the built-in microphone gives satisfactory performance, the plug-in microphone is a unidirectional element resulting in better vocal quality and much more gain (more volume) before feedback.



Body-Pack Transmitter (IRB-30), usually worn on the waistband, is the component that transmits the IR signal to the sensor. The IRB-30 has 10 emitting diodes on its front panel and is powered by two rechargeable NiMH batteries. Controls include a power “on/off” switch and a mic gain control. Battery level indicator LED: Green = useable charge, Red = low battery.



It is required to plug in an external microphone. There are several optional microphones available and they plug into the top of the IRB-30. The IRB-30 is equipped with belt clip for waist attachment.

Caution: The body-pack cannot be placed in pocket and the red window cannot be obstructed, those are the emitting diodes.

Plug-in Microphone (LM-300) is a small capsule size microphone that plugs directly into the top of the IRB-30 body-pack. A lanyard cord is provided to accommodate wearing the body-pack transmitter around the neck and utilizing it as a pendant microphone. A windscreen is included to prevent breath pops when used in close proximity to the mouth.

Ultra Lite Microphone (ULM-835) is a miniature boom style microphone supported by a wire around the left ear. The mic boom extends along side of face and has a unidirectional microphone with windscreen. The small ring on the boom prevents perspiration from entering the mic element. Aside from comfort, the boom style mic renders the best performance in terms of sound quality and is not prone to feedback.



Caution: The boom can be formed to fit but it is not a flexible boom, do not bend back and forth. IT WILL BREAK !

Collar Microphone (CM-838) is a flexible rod that is formed around the neck. The end with the microphone and windscreen is then contoured up toward the mouth. The cord exits the rod in the center in back, out of the way, and is plugged into the body-pack. The collar mic utilizes a unidirectional mic element to minimize feedback and renders quality voice reproduction.



Lapel Microphone (LP-835) is a small capsule microphone with a spring clip for securing on to a clothing edge. The lapel microphone is well suited for out of sight application. However; as a result of the microphone being farther away from the mouth, more gain is required for adequate volume. An omni-directional microphone element is used to pick up from all directions. These two factors make the lapel microphone most prone to feedback when used near or under a speaker.





Handheld Microphone Transmitter (IRH-30) is most applicable for student use or direct presentation. It has an “on/off” switch and a battery level indicator LED; Green=useable charge, Red=low battery. The transmitter has 10 emitting diodes around the bottom of the handle. The metal housing provides low handling noise and insures durable longevity.

Speakers:

Ceiling Speaker (SP-628) is an extended frequency range 6” co-axial speaker housed in a metal back can sealed to the trim ring to form an infinite baffle enclosure. A screw terminal strip provides the external speaker connection. The speakers are equipped with three quick mount clamps for easy mounting into a blind hole. The speakers are supplied with a tile bridge for support above the ceiling tile. Plenum rated cable is provided for connecting the speakers to the amplifier.

Specification: SP-628 speaker is ETL plenum rated and meets the UL-2043 plenum code.



Wallmount Speaker (SP-2000) is a two-way speaker housed in a port tuned enclosure with a 6" woofer and a 1" H.F. domed tweeter. Euro-block connectors provide the speaker connection. Brackets are included for wall mounting. Heavy-duty speaker wire is provided for connecting the speakers to the amplifier.



PRIOR TO INSTALLATION

Be sure to observe all safety precautions

- Wear goggles when using power tools.
- Observe all safety guidelines when using ladders
- Do not install your system near water or heat sources
- Wear proper work clothing and sturdy shoes
- Clean all components with a dry cloth
- Use Teachlogic accessories only
- Protect all cables from abrasion, sharp edges, and install in a tidy manner

The following Tools/Supplies required for Installation

- Safety Goggles
- Power Drill Motor & Drills
- Phillip #2 Screw Driver
- Level & Tape Measure
- Side Cutter & Scissor
- Hammer
- Staple Gun & Staples
- Plastic Cable (zip) Ties
- Raceway & Screws (If exposed wiring is required)
- Aviation Metal Cutters
- Ladder
- Keyhole or Drywall Saw
- Electrical Tape
- Twine or Light Weight Pull Rope

INSTALLATION INSTRUCTION FOR THE MAXIM II SYSTEM

Organize and Plan Your Installation

Upon arrival to the jobsite, observe the following criteria:

- Observe the type of ceiling to determine your method of installation of the speakers
- Roughly layout the location of each speaker
- For installation of wallmount speakers, determine the mounting location.
- Where will the Maxim II (Receiver/Amplifier) be installed
- How will the Maxim II be mounted
- What will be the best routing of the speaker wires
- Where are the Auxiliary Audio Sources located and how will they be Interfaced with the sound system
- Determine the central location of the ceiling for installation of the dome sensor and routing of the sensor cable to the Maxim II

Installation Procedure

Installation of the Maxim II

Placement of the Maxim II mixer/amplifier is usually dictated by: what other equipment will be integrated with the sound system, and how it will be mounted. Location of the electrical AC power outlet and the routing of the speaker and sensor cables. Cushion pads are installed for free stance installation.

Installing the Maxim II under or above a shelf

- Use the SM – 700 shelf mount kit
- Mount the two tabs on the sides of the amplifier using the threaded mounting holes and the threaded screws provided.
- The tabs can be mounted oriented inward or outward
- With the tabs mounted, hold the amplifier in position and mark the mounting holes
- Drill mounting holes in support structure in accordance with mounting hardware being used.
- With tabs oriented outward, install the Maxim II onto support

- With tabs oriented inward, remove the tabs and install them on the support.
- Insert and install the amplifier between the mounted tabs

Installing the Maxim II in an electronic equipment rack

- Use the RM – 400 rack mount kit.
- Mount the tabs on the side of the amplifier
- Install the Maxim II in the rack at desired location

Installation of Speakers

The Maxim II can accommodate four (8Ω) speakers. You will connect two speakers in parallel and connect to one amplifier. Do the same for the other two speakers. This will distribute 8 watt to each speaker. Four speakers will be adequate to distribute sound evenly throughout a classroom of approximately 2500 sq. ft.

When installing ceiling speakers in a dropped ceiling, you need to consider will the room always be arranged in the same seating arrangement or be moved about randomly?

For a room with permanent seating arrangement:

Designate the listening area and divide the area into four quadrants. Then install one speaker in the center of each quadrant.

For a room with random seating arrangement:

The whole room becomes the listening area. Begin by splitting the room into four quadrants and skew away from areas known not to be listening areas. Relay out the area and divide into four quadrants and install one speaker in center of each quadrant.

Smaller rooms may only require two speakers. Two speaker installation, locate the speakers in the center of the listening area (front to back) and equidistant side to side of the listening area. Install one speaker in the center of each half quadrant.

Installing the SP – 628 ceiling speaker

- Locate and identify the speaker locations in the ceiling grid
- With clean hands, remove the ceiling tile from the ceiling grid
- Lay ceiling tile face down on clean flat surface
- Center the large hole of the tile bridge on the ceiling tile

- Trace and cut the speaker hole using a keyhole or drywall saw
- With the ceiling tile removed, measure the distance to the next speaker and cut a speaker cable appropriate length.
- Strip the speaker cable ends approximately $\frac{3}{4}$ "
- String the cut speaker cable from speaker location to next speaker location.
- Reinstall the ceiling tile with the tile bridge located above the speaker hole.
- With a pointed tool, remove the speaker grille.
- Pull the speaker cable back through the speaker hole and connect speaker cable to speaker
 - *Caution: Observe polarity, connect **Red** wire to (+) terminal and other wire to the "C" terminal*
- Remove the speaker grille using a paper clip
- Insert speaker into speaker hole
- Hold in place and tighten the three quick clamps with a #2 phillips screw driver.
- Reinstall speaker grille.
- Remove any soil and fingerprints
- Repeat above steps with the following additions:
- Measure distance from speaker to amplifier
- Cut and strip speaker wire.
- Advance the wire from speaker to amplifier
- Twist the two speaker cables together (Red to Red) and Black to Black.
- Connect the **Red** pair to the (+) terminal and **Black** to (C).

Installing the SP-2000 Wall Mount Speakers

- First observe the shape of the room, ceiling height, door locations, windows, mounting surfaces and seating area. In a rectangular or square room, you would locate the two wall speakers (one on each side) approximately even with the front row listeners. Locate the other pair approximately mid-way to the rear of the listening area.
- The speakers should be mounted vertically about 5-6 feet above the floor. Using the most appropriate fastener, mount the speaker brackets onto the wall.

- Insert the speaker in the bracket and secure with the hand screws
- Orient the speakers toward the center of the listening area and pointed mid way toward the rear.
- Strip speaker cable ends $\frac{3}{4}$ " and connect to speaker
 - *Caution: Observe polarity, connect **Red** wire to (+) Red terminal and Black wire to Black (-) terminal.*
- Route the speaker cable to the Maxim II; observing safe, unsightly, least visible, and tidy route
- Remove any soil, fingerprints and debris.

Installation of the Dome Sensor

The preferred location for the dome sensor would be in the center (side to side) and favored forward towards the front. This will provide a clear and direct IR transmission path from transmitter to sensor without any obstruction or interference. The 360° reception pattern provides coverage through the entire room.

- Locate the center ceiling tile or one forward of it and mark the approximate location for the sensor.
- Remove the designated ceiling tile, measure and mark the center location for the sensor.
- Drill or cut a $\frac{3}{4}$ " hole through the tile.
- Place the mounting bracket across the center hole and drill two holes, one on each side nearest to the center hole for the mounting screws.
- Route the sensor cable through the bracket & tile hole and connect to sensor.
- Mount the sensor with the two #6 sheet metal screws, $\frac{3}{4}$ " long.
- Advance the roll of sensor cable toward its exit point going to the amplifier.
- Reinstall the ceiling tile.
- Remove any soil, fingerprints and debris.

Installing the Dome Sensor on a Hard Surface

- Observe the notches and the grooved lines on bracket

- Hold bracket with the two center grooved lines facing up
- Bend the side straps at the grooved lines up toward you, little less than 90°
- Bend the end straps at grooved lines in the opposite direction
- You should now have bracket that is modified U shaped with side mounting tabs
- Mount the bracket to the sensor with the short screws provided
- Connect cable to the sensor
- Locate the center of the ceiling and mount the sensor to the ceiling with appropriate fasteners
- Route the sensor cable either up through the ceiling if feasible or surface mount using a raceway or use of self adhesive wire tie pads & wire ties
- Route to the Maxim II amplifier
- If surface mounting, observe straight taut runs in a tidy manner
- Remove any soil, fingerprints and debris

Final Connection of the System

With all the two speaker wires and sensor cable neatly routed to the amplifier, we are ready to complete the installation.

- Connecting the Dome Sensor
- Plug the sensor cable into either of the sensor input jacks (RCA)
- Coil up the excess cable (if applicable) and place it out of the way and view
- Connect the auxiliary audio sources
- The auxiliary input jacks are dual RCA phono jacks. They are labeled on the back corresponding to the volume control on the front panel. Connect each source using a shielded cable with RCA connectors.
- You can use stereo cables because the two channels will be summed internally so both channels will be passed through as a combined monaural signal.

Connecting the Speakers

- Cut the speaker wires to the proper length.
- Split the cable and strip approximately $\frac{3}{8}$ - $\frac{1}{2}$ " off each wire.
- Twist the stranded wire and if you have a soldering iron available, it is a good practice to tin the wire ends.
- It is important to observe speaker polarity (note speaker diagram on back panel of Maxim II).
- Unplug the phoenix block connector and insert the **RED** wire to either outside screw terminal. Insert other wire into the next slot. Tighten the setscrew.
- Do same with the other speaker cable.

Operating the System

Now that the system has been installed, we are ready to turn the system "on" and test its operation. We'll assume the inputs will include a wireless body-pack transmitter, handheld microphone and at least one auxiliary audio source.

Turn Maxim II "on", power switch on left side

- Red LED will light to indicate power
- Set the Ch. A and Ch. B controls to 12 O'clock

Test using a microphone

Using the body-pack transmitter with a microphone plugged in or a handheld, the procedure will be the same.

- Verify that the batteries are fully charged for optimum performance.
- Set the body-pack gain control to minimum, fully CCW
- Turn "on" the body-pack via the slide switch on the side of the body-pack.
- Observe the Green LED on top of body-pack transmitter (Good charge on battery).
- Observe the LED next to Ch. A volume control indicating IR signal being received when the body-pack is turned "on"
- If the Ch. B LED turns "on", remove the battery cover of the body-pack and slide the channel selector switch to Ch. A.
- Locate yourself directly under a speaker.

- While speaking into the microphone, slowly adjust the volume using the gain control on top of the body-pack.
- When you begin to hear a ringing sound (initial indication of feedback) reduce gain to stable sound.
- While talking, walk around the perimeter of the room to verify 100% reception of the signal.
- Upon completion of the test, put the belt-pack in the charger for recharging

Handheld Microphone Transmitter and its Features

- Turn “on” the microphone with slide switch and observe, Green LED
- Observe the LED next to Ch. B volume control indicating IR signal being received when the microphone is turned “on”
- If the Ch. A LED turns “on”, unscrew the bottom half of the handheld and slide the channel selector switch to Ch. B.
- Speak into the microphone and adjust the volume using Ch. B control on Maxim II.
- While talking, walk around the perimeter of the room to verify 100% reception of the signal.
- Upon completion of test, put the microphone in the charger for recharging

Drop-in Battery Charger BRC-30

The BRC-30 charger is for recharging the batteries in the Body-Pack transmitter (IRB-30) or Handheld transmitter (IRH-30). Insert either transmitter into the fitted receptacle. Charging will commence automatically.

USE RECHARGEABLE NiMH BATTERIES ONLY

The battery charger is a rather sophisticated charger. It will charge the NiMH batteries at an optimum charge rate, maintain a full charge, and can recycle the batteries for extended battery service life.

- Plug the power adapter Plug into an AC outlet
- Plug DC cable into charger

- Place handheld microphone and/or body-pack transmitter into their appropriate slot
- A Red LED will light indicating unit is charging
- At full charge, the LED will change to Green.
- An audible buzzer will buzz an alert when the batteries are fully charged. The buzzer can be turned “on or off” with the slide switch located on the bottom of the charger. (The charger is normally shipped with the switch in the “off” position).
- To recycle the rechargeable batteries, push and hold the black button for 3-5 seconds. A YELLOW LED will light indicating the batteries are being discharged. When the batteries are exhausted, the charger will reverse and charge the batteries to full capacity. Recycling the batteries on a monthly or bi-monthly basis will extend the service life of the batteries.
- If non-rechargeable batteries are placed in the charger, it will sense the non-rechargeable batteries and will not charge them. The red LED will commence blinking continuously.

Caution: Do not attempt to recharge non-rechargeable batteries such as Alkaline or similar. The charger will usually sense the fallacy, however; there are certain conditions that are not detectable depending on the condition of the batteries.

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

BRC-101 and BRC-202 can recharge the batteries in the Pendant transmitter (IRT-89) or Handheld transmitter (IRH-30). Insert either transmitter into the fitted stand receptacle. Charging will commence automatically. Two “AA” batteries can also be inserted into the front tray for charging.

USE RECHARGEABLE NiMH BATTERIES ONLY

Charging Batteries in “Stand” Receptacle:

- Plug power supply into an AC outlet and insert plug into charger.
- Insert transmitter, either Pendant or Handheld into receptacle, the “**STAND**” Red and Green LED’s will blink once, indicating charger is operational.
- “**STAND**” LED will start **Blinking Red**, indicating batteries are being charged. (3 – 4 Hours)
- “**STAND**” LED will change to “**Green**” when batteries are fully charged.

Charging Batteries in Front Tray:

- Insert two “AA” batteries in tray (observe polarity)
- Center “**BATTERY**” LED will start **Blinking Red**, indicating batteries being charged. (3 – 4 Hours)
- “**BATTERY**” LED will change to “**Green**” when batteries are fully charged.

Discharging Batteries:

- Discharge batteries to rejuvenate and extend service life.
- Remove batteries from transmitter and insert in front tray.
- Push “**DISCHARGE**” button.
- “**Amber**” LED will light, indicating batteries being discharged.
- Upon exhaustion and recharging, center “**BATTERY**” LED will glow “**Green**”, completing the cycle.
- Recommend recycling every 30 – 60 days. **Will increase service life.**

Trouble Shooting:

- Battery service per charge has shortened. Attempt discharging, sometimes that will rejuvenate the batteries and restore some capacity. Otherwise, it is an indication the batteries have reached their service life and need to be replaced. **Useful Life Expectancy:** 1½ - 2 years.
- If you should observe: overheating of batteries or charger. Unplug charger immediately and either notify your dealer or TeachLogic.

- Do not leave batteries in discharged state for extended periods of time.
- Do not subject batteries to high temperature.
- For additional information on battery care, consult your system manual or

Teach Logic customer service. (800) 518-0018 or
 customerservice@teachlogic.com

Congratulations, this completes the installation and it is now time to show the user how to use the system

- Turn “on” the Maxim II via the power switch
- Plug a microphone into the body-pack and set the gain control at zero (max. CCW)
- Turn the body-pack transmitter “on” via slide switch on the side of the transmitter
- Observe the Green LED on the body-pack indicating a useable charge on the batteries
- Observe the Red LED near the Ch. A volume control, it indicates a signal being received from the body-pack
- Turn Ch. A volume to approximately mid scale (12 o’clock)
- While talking into the microphone, slowly turn the gain control CW until you’ve achieved a comfortable listening level
- Using the Handheld microphone, turn it “on”, the Green LED will light and the Red LED adjacent to the Ch. B control will light indicating signal presence from the handheld microphone
- Slowly turn the Ch. B volume control CW until the desired listening level is achieved
- Now venture around the room while alternately talking into each microphone. Observe no interruption or drop outs while moving about
- Connect an auxiliary audio source (computer, Video projector, DVD player, VCR, ipod) using a shielded cable with appropriate connectors, plugged into the designated RCA jack

- Turn the audio source “on” and engage its operation. Adjust the volume level of each auxiliary input to the desired listening level.
- Computers and remote control projectors often have very low output. If more volume is required, adjust the respective input sensitivity control on back panel. Adjust to desired volume level.
- Once all the auxiliary inputs have been verified and adjusted, the system is ready for full operation

Trouble Shooting

- 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
 - Verify charged batteries in body-pack
 - Turn “on” body-pack and check for signal presence (Green LED below volume control)
 - Check the Green LED in the center of the dome sensor
 - If sensor LED is not lit, the dome sensor has either been disconnected or the power for the sensor has failed
 - If LED is lit but there is no sound
 - If either condition cannot be resolved, call TeachLogic customer service.
 -
- When using the microphone, the voice is distorted and/or signal drop out occurs
 - Check the charge on your batteries
 - Recycle the batteries by placing the transmitter in the charger and press the black button and hold for 3-5 seconds
 - The yellow LED will light and the charger will automatically discharge the batteries and then

recharge to full charge. (Time required 4 -6 hours)

- Recheck the system after cycling the batteries
- If the problem persists, replace the batteries
- When using the body-pack transmitter and microphone, the voice is intermittent and/or has a static like sound
 - Try moving the cable back and forth at the plug-in connector or where it is connected to the microphone
 - If the noise and intermittent connection is associated with the movement of the cable, the cable connection needs to be repaired

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

General Specifications:

Amplifier / Receiver (IMA-420)

Amplifier and Mixer:

Two Power Amplifier:

12 watt ea. into 8Ω load

16 watt ea. into 4Ω load

32 watt max (RMS)

Frequency Response

40Hz – 18KHz, ±3 dB

S/N Ratio

>65dB

THD

< 1%@1KHz

(3) Aux Inputs

Line Level w/+ 15dB gain

Front Panel Input

Line Level (3.5mm)

Front Panel Output

Line Level w/ gain for AIS

Line Output

Line Level (Pre-fader)

Equalizer

5 Band, ± 12dB

Page Override/Pass Through

Speaker Level Input

25v, 70v, 100v Selectable

Gain Control

Power Supply

15v DC, 2.8A, 42 watt

CE, CSA, and UL Listed

Infrared Receiver Section

Two IR Receivers:

Channel A: 2.08 MHz

Channel B: 2.54 MHz

Receiver Sensitivity:

6μV for 60 dB S/N

Modulation

FM wide-band

Nominal Deviation

± 10KHz

Maxmim Deviation

± 25KHz

Receiving Range:

2500 Sq. Ft

60 Ft. Line of Sight

External Sensor Inputs:

Two

Dimensions:

9" W x 1.75" H x 8' D

Weight

3.5 lbs. (1.6 Kg) (including Pwr. Supply)

IRB – 30 BODY-PACK TRANSMITTER

Transmission Carrier

Infrared Ray

Carrier Frequency

Channel A: 2.08 MHz

(field switchable)

Channel B: 2.54 MHz

Modulation

FM wide-band

Pilotone Frequency

32.768KHZ

IR Wavelength

850 nm

Peak Deviation

±25KHz

No. of Emitting Diodes

Ten

Compander Circuit

Yes

Pre-emphasis

50μS

IR Emitter Location

Built-in

Transmission Angle

360°

IR Power Output

High - Low Selectable

Current Consumption Range	Hi - 400ma Lo - 330 ma Hi about 30 yds. Lo about 20 yds
Microphone Input	3.5mm jack, Lo-z
Battery	Two Rechargeable NiMH, 1.2v / 2650mAH
Battery Life	Approximately 7 Hours
Dimensions	4 ^{3/8} " H x 2 ^{5/8} " W x 3/4" D
Weight	4.8 oz. (with batteries)

IRH – 30 HANDHELD TRANSMITTER

Transmission Carrier	Infrared Ray
Carrier Frequency (switchable)	Channel A: 2.08 MHz Channel B: 2.54 MHz
Modulation	FM wide-band
Pilotone Frequency	32.768KHZ
IR Wavelength	850 nm
Peak Deviation	±25KHz
No. of Emitting Diodes	Ten
Companer Circuit	Yes
Pre-emphasis	50µS
IR Emitter Location	Built-in
Transmission Angle	360°
Current Consumption	330ma
Microphone Element	Unidirectional, Dynamic
Battery	Two Rechargeable NiMH, 1.2v / 2650mAh
Battery Life	Approximately 6 Hours
Housing	Aluminum
Dimensions	10" L x 1½" Dia.
Weight	11.4 oz. (with batteries)

BRC - 30 DROP- IN BATTERY CHARGER

Charging Slots	Two Handheld, Slots A & C Two Body-Pack, Slots B & D
Charging Mode	Switching
Charging Current	1700ma ±10%
Discharge Rate	350ma
Red LED Indicator	Batteries being Charged
Green LED Indicator	Batteries Fully Charged
Yellow LED Indicator	Batteries being Discharged
Audible Alert	Intermittent Buzz - Batteries Fully Charged
Recycle Button (Grey)	Press for Full Discharge and Auto Recharge
Auto Switching	Switch from Discharge to Charge Mode

Charging Time	1.5 - 3Hr.
Power Supply	12VDC / 1.5A (Fuse protected)
Dimensions	6½" L x 3⅜" W x 1½" H
Weight	12.2 oz.

ICS - 50 CEILING DOME SENSOR

Operating Frequency	2MHz to 2.6 MHZ
Number of IR LED's	30 Radial Spaced
Interconnection	50Ft. Plenum Rated Shielded Cable, RCA Connectors
Operating Range	50 - 60 Feet Line of Sight
Reception Area	2500 Ft.²
Power Indicator	Green LED
Reception Angle	360° Semi-Spherical Coverage
Dimensions	5" D x 1½" H
Weight	1.2 lbs.(with 50' cable)