

Quick Start Guide



HM_a Plug-On Transmitter



Digital Hybrid Wireless®
U.S. Patent 7,225,135



Fill in for your records:

Serial Number:

Purchase Date:

This guide is intended to assist with initial setup and operation of your Lectrosonics product.

For a detailed user manual, download the most current version at:

www.lectrosonics.com

28 March 2019

Controls and Functions



LCD Screen

Backlit for easy viewing in bright or dimly lit conditions.

Pwr (power) LED

Indicates power status and battery strength.

XLR Input Jack

Standard 3-pin Switchcraft XLR type. Coupler is spring-loaded to maintain a snug fit and to prevent noise.

Modulation LEDs

Provides a visual indication of the audio input signal level - either red or green to indicate modulation levels.

AUDIO Button

Adjust the audio gain setting (0 dB to 44 dB).

FREQ Button

Used to set the operating frequency and toggle the LCD between the operating frequency in MHz and a two-digit hexadecimal frequency code.

UP/DOWN Arrows

Used to view and select parameters and values during setup and operation.

Battery Compartment Cover

Hinged to housing to prevent loss of cover.

USB Port

USB Port for firmware updates in the field.

IR Port

IR (infrared) port for fast setup.

Battery Installation

The transmitter is powered by two AA batteries (Lithium recommended).

Note: Standard zinc-carbon batteries marked “heavy-duty” or “long-lasting” are not adequate.

To install new batteries:

1. Slide open the Battery Cover and remove any old batteries.
2. Insert the new batteries into the housing. One battery goes in positive (+) end first, the other negative (-) end first. Look into the battery compartment to determine which end goes in which side. The side with the plastic ring is the side which accepts the positive end of the battery.

Note: It is possible to install the batteries backward and close the battery door, but the batteries will not make contact and the unit will not power up.

3. Slide the Battery Cover until it snaps securely shut.



Operating Instructions

Powering On in Operating Mode

- 1) Ensure that good batteries are installed.
- 2) Simultaneously press and hold the **AUDIO** and **FREQ** buttons as the timer counts from 1 to 3 (about 3 seconds).



Initial Power On
Timer Screen

Powering Off in Operating Mode

- 1) Simultaneously press and hold the **AUDIO** and **FREQ** buttons while observing that the word OFF and the counter in the LCD.
- 2) When the counter reaches 0, the unit turns off.



Initial Power Off
Timer Screen

Note: If the **AUDIO** and **FREQ** buttons are released before the end of the countdown, the unit will not turn off.

Powering On/Off in Standby Mode

From the **OFF** position, quickly press and release both the **AUDIO** and **FREQ** buttons simultaneously to enter and exit this mode. Adjustments and settings can be checked or changed, but the unit will not be transmitting to avoid interfering with other systems in the vicinity.



Standby Screen

Up Button Menu

Hold the **UP** button while powering up the unit. Then press the **AUDIO** button repeatedly to scroll through the following settings. Use the **UP** and **DOWN** arrow to select the available options under each setting.

Selecting the Compatibility Mode (Up Button Menu)



CP (Compatibility Mode); press the UP and DOWN arrows to select one of the following:

Note: RF transmission is prevented while selecting Compatibility Modes. Also, the HMA exits this screen to the Standby Mode.

- Nu Hybrid - Digital Hybrid receivers
- 3 - (Mode 3) For non-Lectrosionics analog receivers. Contact the the factory for details.
- IFB - For Lectrosionics IFB receivers.

While in the compatibility mode screen, pressing either the **AUDIO** or **FREQ** button exits to standby mode. To power off from the compatibility mode screen, press and hold **AUDIO** and **FREQ** together.

NOTE: If your Lectrosionics receiver does not have Nu Hybrid mode, set the receiver to Euro Digital Hybrid Wireless® (EU Dig. Hybrid).

RF Power Output (Up Button Menu)

Pr (RF Power output) may be selected as either 100 or 50.



Selecting the Audio Polarity (Up Button Menu)



Pin 2 (+) The input to the transmitter can be set for XLR Pin 2 as positive (+) or negative (-) to match the polarity of other mics being used.



Pin 2 (-)

Selecting Step Size Mode (Up Button Menu)

The frequency increments can be set at either 25 kHz or 100 kHz.



DOWN Button Menu

Hold the **DOWN** button while powering up the unit. Then press the **AUDIO** button repeatedly to scroll through the following settings. Use the **UP** and **DOWN** arrow to select the available options under each setting.

Enable Remote Control

rc on and *rc OFF* enable and disable remote control functions. See page 7.



Power Back On (DOWN Button Menu)

PbAc (Power back on after power loss) allows the unit to either (1) turn back on after power loss or (0) remain off.



LCD Backlight Setting (DOWN Button Menu)

The LCD backlight can be set to stay on continuously or turn off after either 5 minutes or 30 seconds



Audio Screen Menu

Aud 12

LF 35

PH 48

The Audio Screen is used to adjust input gain and low frequency roll-off, and to turn phantom power on and off. Repeatedly pressing the AUDIO button selects the setting. Press and hold the AUDIO button and use the UP and DOWN arrows to adjust the value.

Adjusting the Input Gain (Audio Screen Menu)

The control panel Modulation LEDs indicate the modulation level and limiter activity. This gain adjustment matches the transmitter gain with the microphone's output level, the user's voice level and the position of the microphone. Once set, the transmitter's audio level setting **should not** be used to control the volume of your sound system or recorder levels. The audio input level can be set with the unit in Standby Mode or while powered up in normal operation.

Signal Level	-20 LED	-10 LED
Less than -20 dB	● Off	● Off
-20 dB to -10 dB	● Green	● Off
-10 dB to +0 dB	● Green	● Green
+0 dB to +10 dB	● Red	● Green
Greater than +10 dB	● Red	● Red

Note: Voice levels vary significantly between different people. If several different people will be using the transmitter and there is not time to make the adjustment for each individual, adjust it for the loudest voice.

- 1) With the HMA powered off, insert the microphone plug into the XLR Input Jack, aligning the pins and ensuring that the connector locks.
- 2) Place the transmitter in the Standby Mode, or if the unit is to be powered up and adjusted, mute the main sound system prior to powering up the transmitter.
- 3) Position the microphone in the location where it will be used in actual operation.
- 4) Observe the audio level LEDs while speaking or singing into the microphone at the same voice level that will be used during use. While holding the AUDIO button, press the UP or DOWN arrows until both the -20 and -10 LEDs glow green, with the -20 LED flickering red on louder peaks. This will optimize the signal to noise ratio of the system with full modulation and adequate headroom to prevent overload and audible compression of signal peaks.

Note: Setting the audio level too high reduces the dynamic range of the audio signal. Setting the audio level too low may cause hiss and noise in the audio.

- 5) If the unit was set up in Standby Mode, it will be necessary to turn the transmitter off, then power it up again in normal operation so the RF output will be on. Then the other components in the sound or recording system can be adjusted.

Adjusting the Low Frequency Roll-Off (Audio Screen Menu)

The image shows a close-up of the LCD screen displaying the text "LF 35" in a simple, blocky font. The "LF" is on the left and "35" is on the right, separated by a small space.

Repeatedly press the AUDIO button until the LF roll-off adjustment screen appears. Then press and hold the AUDIO button while selecting the desired roll-off frequency with the UP and DOWN arrows.

The image shows a close-up of the LCD screen displaying the text "LF 70" in a simple, blocky font. The "LF" is on the left and "70" is on the right, separated by a small space.

Selecting the Phantom Power Supply (Audio Screen Menu)

The transmitter input jack can provide phantom power for the attached microphone if needed, with voltages at 5, 15, or 48. Phantom power will consume a slight amount of battery power, so it can also be turned off. With the transmitter powered on and in the normal or standby mode, press and hold the audio button and observe the LCD. Release the button and press and hold it again. Repeat this process until the display indicates the **PH**.

The image shows a close-up of the LCD screen displaying the text "PH off" in a simple, blocky font. "PH" is on the left and "off" is on the right, separated by a small space.The image shows a close-up of the LCD screen displaying the text "PH 48" in a simple, blocky font. "PH" is on the left and "48" is on the right, separated by a small space.

Once you get to the **PH** setting, keep the **AUDIO** button pressed, then use the UP and DOWN arrow keys to cycle through the available settings (off, 5, 15, 48 volts) until the desired setting is displayed.

When you release the **AUDIO** button, the setting will be stored to the value you selected.

Remote Control Functions (dweedle tones)

Settings can be adjusted with the **LectroRM** phone app. **LectroRM** is a mobile application for iOS and Android operating systems. Its purpose is to remotely control Lectrosonics transmitters. The available functions are:

- Input Gain
- Lock/Unlock
- Tx power output
- Frequency
- LEDs on/off
- Audio LF roll-off

The app was released by New Endian, LLC in September 2011. The app is available for download and sells for \$20 on the Apple App Store and Google Play Store.

Setting Transmitter Operating Frequency

- 1) If the LCD is displaying something other than the Frequency Screen, press the **FREQ** button on the Control Panel to enter this screen.

Note: The default display is in MHz. Pressing the **FREQ** button again displays the operating frequency as a two-digit hexadecimal number that corresponds to legacy Lectrosonics products that used two 16-position switches to set the frequency.

- 2) While holding the **FREQ** button, use the **UP** or **DOWN** arrow buttons to move the operating frequency up or down.

Note: The operating frequency displayed on the LCD wraps as it reaches the upper or lower end of its range. Thus, if you intend to move the operating frequency from the lower end of the range to the upper end, it may be faster to do this by using the **DOWN** arrow until the frequency wraps to the upper end.

Set Up in 100 kHz Mode



Frequency displayed
in MHz

The operating frequency can be displayed either in MHz or as a two-digit hexadecimal number. The example of the two-digit display shown here indicates **CH** (channel) and **2C** as the frequency.



Frequency displayed as
two-digit hexadecimal
number

The frequency can be set with the unit in standby mode or when powered up for normal operation.

Set Up in 25kHz Mode



Frequency expressed in MHz

The hexadecimal display in the 25 kHz mode will appear with a decimal suffix to indicate the 25 kHz steps.



Frequency in hex

Standard
frequency
block (20)

Frequency
in hex
code (F6)

Offset in
MHz (.25)

Lock/Unlock Screen

Simultaneously pressing and holding both the UP and DOWN arrow buttons during normal operation starts the Lock timer. The timer starts at three and counts down to zero. When the timer reaches zero, the keypad controls are locked.



The LCD will display the locked condition as long as the arrow buttons are held, then revert back to the previous screen when either button is released.



With the controls locked, the AUDIO and FREQ buttons can still be used to display current settings. Any attempt to change a setting by pressing either the UP or DOWN arrow button will result in an on-screen **Loc** reminder that the controls are locked. Remove the batteries to unlock the control panel.

Important: Once the transmitter is locked, it cannot be unlocked or powered off using the buttons. The only way to unlock a locked transmitter is to remove the batteries.

Special Purpose Barrel Adapters

Mic adapter for Earthworks M30 microphone with HM, HMa and UH400a/TM transmitters.

This polarity reversing adapter may be needed to correct for asymmetrical current draw in some P48 powered condenser microphones, including older Neumann 100 Series, Rode NTG3 and others. If your microphone does not power on correctly when used with these transmitters, insert the adapter between the transmitter and microphone.



MCA-M30



This adapter may be needed if you are experiencing noise or distortion with measurement microphones, particularly the Earthworks M30. The adapter has a common mode choke for suppressing RF noise. If your microphone signal exhibits the problems listed above when connected to a UH400, HM or HMa transmitter, insert the adapter between the microphone and the transmitter.

Insert the adapter between the transmitter and microphone to alleviate the problems listed above.

LIMITED ONE YEAR WARRANTY

The equipment is warranted for one year from date of purchase against defects in materials or workmanship provided it was purchased from an authorized dealer. This warranty does not cover equipment which has been abused or damaged by careless handling or shipping. This warranty does not apply to used or demonstrator equipment.

Should any defect develop, Lectrosonics, Inc. will, at our option, repair or replace any defective parts without charge for either parts or labor. If Lectrosonics, Inc. cannot correct the defect in your equipment, it will be replaced at no charge with a similar new item. Lectrosonics, Inc. will pay for the cost of returning your equipment to you.

This warranty applies only to items returned to Lectrosonics, Inc. or an authorized dealer, shipping costs prepaid, within one year from the date of purchase.

This Limited Warranty is governed by the laws of the State of New Mexico. It states the entire liability of Lectrosonics Inc. and the entire remedy of the purchaser for any breach of warranty as outlined above. NEITHER LECTROSONICS, INC. NOR ANYONE INVOLVED IN THE PRODUCTION OR DELIVERY OF THE EQUIPMENT SHALL BE LIABLE FOR ANY INDIRECT, SPECIAL, PUNITIVE, CONSEQUENTIAL, OR INCIDENTAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THIS EQUIPMENT EVEN IF LECTROSONICS, INC. HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO EVENT SHALL THE LIABILITY OF LECTROSONICS, INC. EXCEED THE PURCHASE PRICE OF ANY DEFECTIVE EQUIPMENT.

This warranty gives you specific legal rights. You may have additional legal rights which vary from state to state.



Made in the USA by a Bunch of Fanatics®

581 Laser Road NE • Rio Rancho, NM 87124 USA • www.lectrosonics.com
(505) 892-4501 • (800) 821-1121 • fax (505) 892-6243 • sales@lectrosonics.com