Quick Start Guide

Handheld Transmitter

HHa, HHa-941, HHa/E01, HHa/E02, HHa/E06, HHa/X

Digital Hybrid Wireless®

US Patent 7,225,135

CE

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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/manuals

14 October 2019

Capsule and Battery Installation

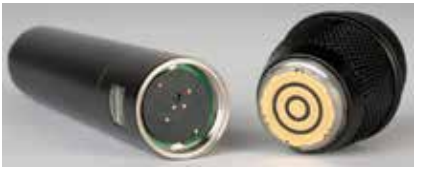
A common threaded mount allows the use of a variety of different capsules from different manufacturers. Capsules are attached with a right-hand thread

A mic capsule is threaded onto the body of the transmitter in the direction shown. Do not overtighten it.

The lower housing opens by rotating it in the direction shown. After the threads are disengaged, pull the housing downward until it engages the detent that holds it open.

The threaded interface is a 1.25" opening with 28 threads per inch and three contact rings

Do not touch the contacts between the mic capsule and transmitter body. When necessary, the contacts can be cleaned with a cotton swab and alcohol.

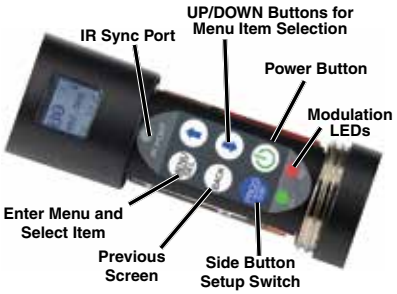


To insert batteries, close the eject lever and insert the upper contacts first (closest to the mic capsule). Polarity is marked on the label in the bottom of the battery compartment.

To remove the windscreen from the mic capsule, line up the blue wrench (that was included with your unit) with the flat notches on the lower threaded area of mic capsule.

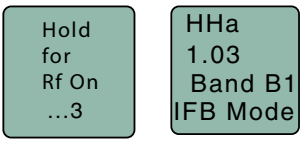
To remove the batteries, pull the eject lever outward. the battery tips will move outward, making them easier to grasp.

Controls and Functions

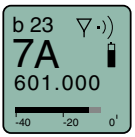


Powering On

Press and hold the *Power Button* for several seconds until a countdown on the LCD is completed. The countdown from 1 through 3 will appear on the LCD, followed by a display of the model, firmware version, frequency block and compatibility mode.



When you release the button, the unit will be operational with the RF output turned on and the *Main Window* displayed.

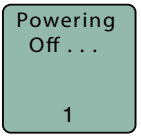


The Main Window

NOTE: If the *Power Button is released before the countdown is* completed, the unit will boot up in the "standby" mode with the RF output turned off.

Powering Off

Press and hold the *Power Button* for several seconds and observe the count-down on the LCD. The countdown on the LCD will progress from 3 to 1 and the power will then be turned off. This can be done from any menu or screen.

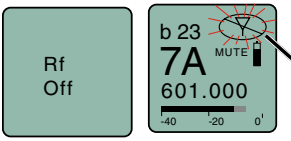


NOTE: If the *Power Button* is released before the countdown is completed, the unit will remain turned on and the LCD will return to the same screen or menu that was displayed previously.

Standby Mode

A brief push of the *Power Button* turns the unit on and places it into a "standby" mode (not transmitting). This allows the transmitter to be set up without the risk of creating interference for other wireless systems that are operating in the vicinity.

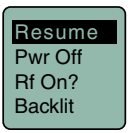
A notice will appear briefly confirming that the RF output of the transmitter is turned off, followed by the *Main Window.* A symbol will blink as a reminder that the RF output is turned off.



Symbol blinks when RF output is turned OFF

Power Menu

With the unit turned on, a brief push of the *Power Button* will reveal a menu allowing you to choose between **Resume**, **Pwr Off, Rf On?**, and **Backlit**. Use the UP/DOWN buttons to select one of these menu items, then press the *MENU/SEL* button to confirm this action.



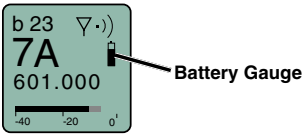
Continued on pg 4.

- **Resume:** Continue operating in the same condition as before.
- **Pwr Off?:** Turns off the transmitter.
- **Rf On?:** Begin transmitting the RF signal.
- **Backlit:** The LCD backlight is set to come on when any button on the control panel is pressed, then stay on for either 30 seconds or 5 minutes, or to stay on all the time..

The unit can also be turned off from any menu or screen on the LCD by holding the power button in for the duration of the countdown.

Battery Condition

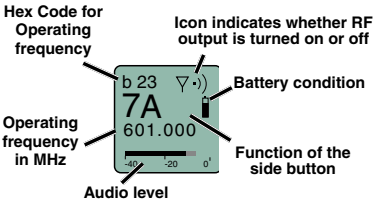
An icon on the *Main Window* indicates the remaining power of the transmitter batteries. This battery gauge is most accurate with the typical voltage drop across the life of alkaline and dry cell lithium batteries.



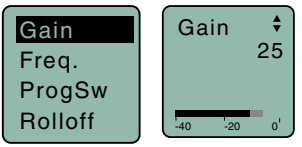
Rechargeable batteries give little or no warning when nearing depletion. If you use rechargeable batteries in the HHa, we recommend trying fully charged batteries first, noting the length of time that the batteries will run the unit, and in the future using somewhat less than that time to determine when the battery needs to be replaced. The Venue and other receivers from Lectrosonics offer a timer function to assist in this process.

Menus and Screens

The *Main Window* displays the following information:



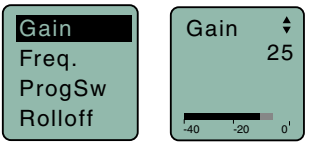
1) Press the *MENU/SEL* button to enter the setup menu. Use the UP/DOWN buttons to highlight the menu item.
2) Press the *MENU/SEL* button to enter the setup screen for that item. Use the UP/DOWN buttons to select the desired value or mode.



3) Press the *MENU/SEL* button to save this setting and return to the previous screen.
4) Press the *BACK* button to return to the *Main Window*.

Gain

This setting is very important since it will determine the audio signal to noise ratio and dynamic range that the wireless system will deliver. Gain must be set according to the individual voice, the mic capsule in use and the handling technique of the user. LEDs in the control panel facilitate accurate gain adjustment.



IMPORTANT: See the section *About Setting Audio Gain* on page 6 for details.

Freq.

The operating frequency is normally determined using the scanning function in the receiver or with coordination software. The frequency is shown on the transmitter LCD display in MHz and with a hexadecimal code that is used on most Lectrosonics receivers.

ProgSw

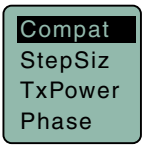
The *Programmable Switch* on the housing can be set to Talkback, Power, Cough or a Mute function, or be bypassed (none).

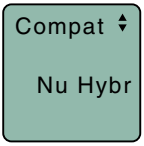
Rolloff

A sharp low frequency rolloff filter protects against breath pops and can be used to adjust the frequency response to suit personal preferences. The slope is typically 36 dB/octave and varies slightly as the turnover point is selected.

Compat

The HHa can be used with earlier Lectrosonics wireless and IFB systems and systems from other manufacturers by selecting the correct *Compatibility Mode*. The receiver must be set to the same mode.





The available modes are as follows:

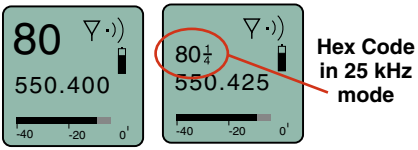
- **Nu Hybrid:** Digital Hybrid receivers
- **Mode 3:** (other brand contact the factory)
- **IFB Mode:** Lectrosonics IFB receivers

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

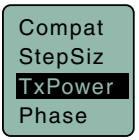
StepSiz

The frequency can be adjusted in 100 kHz or 25 kHz steps to match the receiver. 100 kHz is the standard increment for Lectrosonics wireless systems, but 25 kHz increments may be needed for use with systems from other manufacturers or when frequency coordination requires it.

The Hex Code on the Main Screen will be smaller in the 25 kHz mode and a fraction will appear next to the characters if a frequency in between even 100 kHz steps is selected.



TxPower

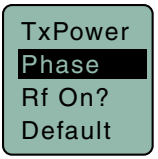


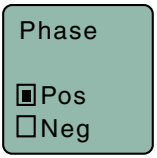
Output power can be set to 100 mW to extend operating range (which can also suppress noise and dropouts to some extent) or set to 50 mW to extend the operating life of the batteries.

US: Selectable 25 or 100 mW
941: Selectable 50 or 100 mW
E01: Selectable 25 or 50 mW
E02: 10 mW
E06: Selectable 50 or 100 mW EIRP
X: Selectable 50 or 100 mW

Phase

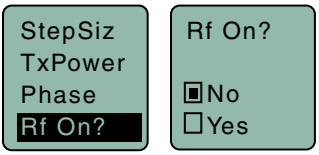
The phase (polarity) of the audio can be inverted to match other microphone capsules as needed.





Rf On?

The transmitter output can be switched on or off with this menu item. This is useful, for example, when the transmitter is in the “standby” mode during setup, allowing it to be turned on for normal operation without having to cycle the power.



This menu item can also be used to change the transmitter to the “standby” mode with the RF output turned off for additional setup.

Default

The default setting simple returns the transmitter back to the factory settings and any of the menu items can be readjusted from that default point.

Input Gain Adjustment

The two bicolor Modulation LEDs (located at the bottom of the control panel) provide a visual indication of the audio signal level entering the transmitter.

The modulation LEDs are oriented and labeled to be read when holding the mic capsule in front of your mouth.

The gain should be set so that the -20 LED just turns red on the loudest peak.

The LEDs will glow either red or green to indicate modulation levels as shown in the following table.

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

It is best to go through the following procedure with the transmitter in the “standby” mode so that no audio will enter the sound system, which could cause feedback.

1) With fresh batteries in the transmitter, power the unit on into “standby” (no transmission) mode.

2) Press the *MENU/SEL* button once to enter the setup menu. Use the UP/DOWN buttons to select *Gain*. Press the *MENU/SEL* button again to enter the setup screen.

3) Hold the microphone the way it will be used in actual operation.

4) Speak or sing at the same voice level that will actually be used during the program, while observing the modulation LEDs. Use the UP/DOWN buttons to adjust the gain until the **–20 dB** LED starts to flicker red and the **–10 dB** glows green.

5) Once the audio gain has been set, the signal can be sent through the sound system for overall level adjustments, monitor settings, etc. To do this, the unit must be set to transmit (see ***Powering On and Off***, and the ***Standby Mode*** on page 3).

NOTE: Full modulation is achieved when the -20 LED first turns red. 30 dB of clean limiting is available above this point.

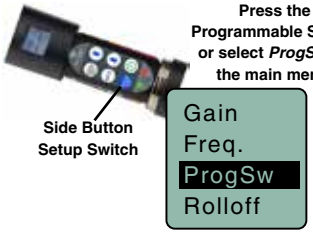
Programmable Switch Functions

A special button (the ***Side Button***) on the outside of the housing can be configured to provide several different functions, or to be inoperative.

The ***ProgSw*** on the control panel opens a setup screen to select the function of the ***Side Button***.

Functions:
- **TalkBack**
- **Power**
- **Cough**
- **Push To Talk**
- **Mute**
- **(none)**

The *ProgSw* menu provides a scrollable list of the available functions. Us the UP/DOWN arrows to highlight the desired function and press BACK or MENU/SEL to select it and return to the main menu.



Talkback is a "push to talk" function that is active only while the button is pressed. The talkback function provides a communication channel when used with a receiver equipped with this function, such as a Venue Wideband receiver with firmware Ver. 5.2 or higher. When pressed and held in, the side button re-directs the audio output to a different audio channel on the receiver. As soon as the switch is released, audio is returned to the program channel.

NOTE: The ***Talkback*** function is only available in the Digital Hybrid compatibility mode. An error message will appear if ***Talkback*** is selected while in another mode.

Power turns the power on and off. Hold the button in until the countdown sequence from 3 to 1 is completed. The power will then be turned off.

Cough is a momentary mute switch. Audio is muted while the button is held in.

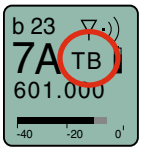
Push to Talk is a momentary talk switch. Audio is transmitted while the button is held in (opposite of cough).

Mute is a "push on/push" off function that toggles on and off each time the *Side Button* is pressed. The mute function defeats the audio in the transmitter, so it works in all compatibility modes and with all receivers.

(none) disables the switch.

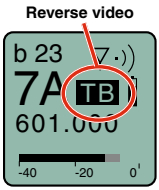
For detailed information on setting up the ***Talkback*** function and the Venue receiver, refer to the Installation Guide for the Venue Wideband Receiver.

Main Window Displays for Mute and Talkback Functions



Talkback

The function of the ***Side Button*** is displayed in the LCD *Main Window*.



Talkback active

When the ***Side Button*** is pressed, the function will be active and the LCD will display an indication.

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 liablility 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.

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