INSTRUCTION MANUAL

HH
Handheld Transmitter

Digital Hybrid Wireless® Technology

US Patent 7.225.135

Fill in for your records:

LECTROSONICS®

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Consumer Alert for US Users - FCC Order DA 10-92

Most users do not need a license to operate this wireless microphone system. Nevertheless, operating this microphone system without a license is subject to certain restrictions: the system may not cause harmful interference; it must operate at a low power level (not in excess of 50 milliwatts); and it has no protection from interference received from any other device. Purchasers should also be aware that the FCC is currently evaluating use of wireless microphone systems, and these rules are subject to change. For more information, call the FCC at 1-888- CALL-FCC (TTY: 1-888-TELL-FCC) or visit the FCC's wireless microphone website at www.fcc.gov/cgb/wirelessmicrophones. To operate wireless microphone systems at power greater than 50mW, you must qualify as a Part 74 user and be licensed. If you qualify and wish to apply for a license go to: http://www.fcc.gov/Forms/Form601/601.html

General Technical Description

Introduction

The HH handheld transmitter uses state-of-the-art Digital Hybrid Wireless® wireless technology, selectable output power and a versatile microphone capsule mounting system to meet the needs of audio professionals and vocalists.

The compandor-free Digital Hybrid audio chain preserves the quality of the selected microphone capsule and delivers it to the sound and recording system without coloration. This superb audio performance and highly reliable RF transmission makes it ideally suited for high end stage and studio production.

Digital Signal Processor

The DSP encodes the digitized audio from the A-D converter and adds an ultrasonic pilot tone to control the receiver's squelch in systems that use pilot tone. It also controls the input limiter and audio metering.

Compatibility Modes

The transmitter was designed to operate with Lectrosonics Digital Hybrid Wireless® receivers and will yield the best performance when doing so. Due to the flexibility of digital signal processing, however, the transmitter is also able to operate with Lectrosonics 200 Series, Lectrosonics 100 Series, IFB and certain non-Lectrosonics analog receivers in special compatibility modes. (Contact the Lectrosonics Sales Department for a complete list of compatible receivers.)

Digital Hybrid Technology

All wireless links suffer from channel noise to some degree and all wireless microphone systems seek to minimize the impact of that noise on the desired signal. Conventional analog systems use compandors to increase the signal to noise ratio, at the cost of distortion artifacts. Wholly digital systems defeat the noise by sending the audio information in digital form, at the cost of some combination of power, bandwidth or channel count.

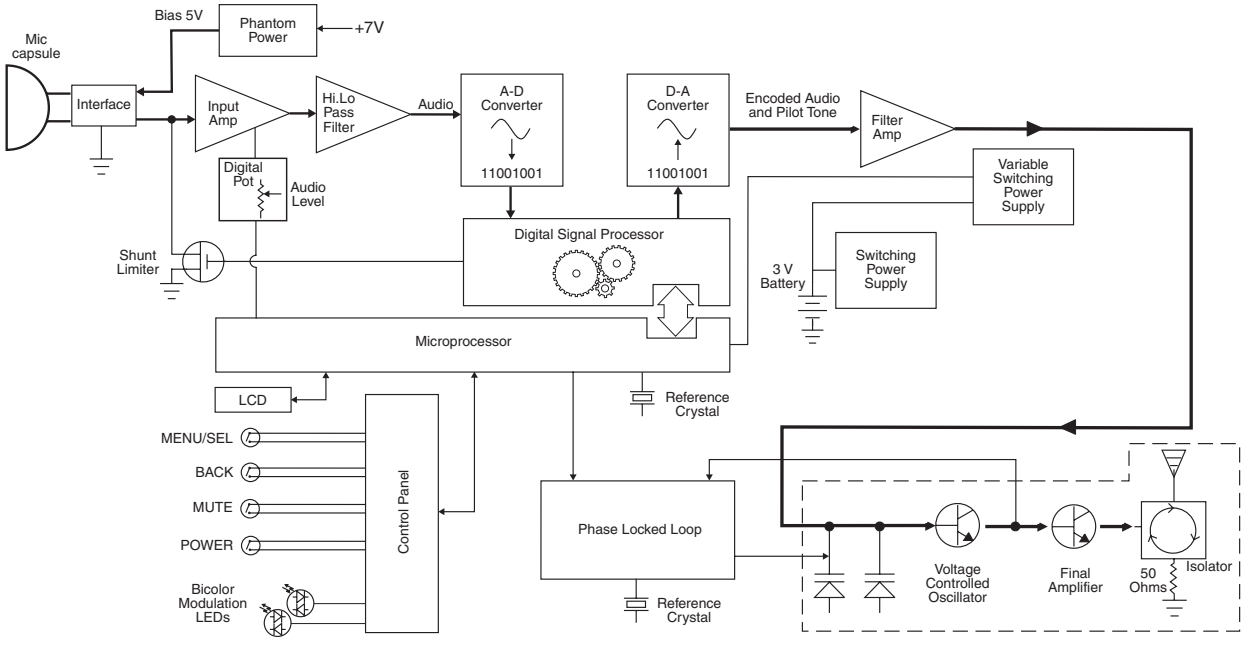
The Lectrosonics Digital Hybrid Wireless® system (also called Digital Hybrid) overcomes channel noise by digitally encoding the audio in the transmitter and decoding it in the receiver, yet still sending the encoded information via an analog FM wireless link.

This proprietary algorithm is not a digital implementation of an analog compandor. Instead, it is a technique that can be accomplished only in the digital domain, even though the inputs and outputs are analog signals.

Because it uses an analog FM link, the Digital Hybrid enjoys all the benefits of conventional FM wireless systems, such as excellent range, efficient use of RF spectrum, and long battery life. However, unlike conventional FM systems, the Digital Hybrid has eliminated the analog compandor and its artifacts.

Wide Deviation

±75 kHz deviation is used in the Digital Hybrid and 200 Series compatibility modes to dramatically improve the capture ratio, signal to noise ratio and dynamic range of the wireless system. This, in conjunction with accurate input gain adjustment, produces dynamic range and signal to noise ratio.



Pilot Tone Squelch

The benefit of the pilot tone squelch system is that the associated receiver will remain muted until it receives the pilot tone from the matching transmitter, even if a strong RF signal is present on the carrier frequency of the system. All Digital Hybrid transmitters use one of 256 different ultrasonic tones between 25 and 32 kHz to operate the receiver squelch. The pilot tone frequency is chosen according to which of the 256 channels has been selected by the frequency switch setting. This ensures that all transmitters in a multi-channel system have different pilot tone frequencies so that even spurious RF from the wrong transmitters will not open the receiver squelch.

Input Gain Range and Limiter

45 dB range of input gain adjustment allows gain settings to accurately match the user's voice level. A DSP-controlled analog audio limiter is employed before the A-D converter. The limiter has a range of more than 30 dB for excellent overload protection. A dual release envelope makes the limiter acoustically transparent while maintaining low distortion. It can be thought of as two limiters in series, a fast attack and release limiter followed by a slow attack and release limiter. The limiter recovers quickly from brief transients, with no audible side effects, and also recovers slowly from sustained high levels to keep audio distortion low while preserving short term dynamics.

Long Battery Life

Switching power supplies throughout the design allow over 5 hours of operation using two alkaline AA batteries. Lithium batteries will provide over 8 hours of operation. The battery compartment and contacts are designed to prevent "rattle" as the unit is handled.

Menu-Driven Control

A high-resolution LCD and control panel with membrane switches provide access to the menu-driven setup. Transmitter RF power, high-pass filter, frequency selection, backlight timeout, mute or talkback functions and tuning modes are easily accessed.

Frequency Selection

Operating frequency is normally selected using a receiver or analyzer to assess signals in the local environment to avoid interference. Once an interference-free frequency is identified, the transmitter frequency is set to match the receiver.

The LCD on the transmitter displays frequency in MHz and with a two character hex code that is used on most Lectrosonics receivers.

Membrane switches on the control panel select 256 frequencies in 100 kHz steps or 1024 frequencies in 25 kHz steps over a 25.6 MHz range.

Output Isolator

The output circuit includes a special RF device called an *isolator*. Its purpose is to block radio signals from coming back into the transmitter final amplifier through the antenna.

The isolator suppresses IM (intermodulation) that can take place between two or more transmitters that are in close proximity to one another (a few feet). This form of IM is a particular concern in stage productions where the transmitters must operate very close together. Isolators allow the use of higher transmitter output power without sacrificing IM rejection.

Isolators are rarely found in wireless microphone transmitters due to the high cost, but they are the best solution to address multi-channel IM between multiple transmitters.

Antenna

A newly designed helical antenna allows the mic to be held in any position, since the user's hands have little or no effect on the radiated power.

Microphone Capsules

The HH handheld transmitter is available from Lectrosonics with the HHC cardioid condenser. Capsules from several other manufacturers are compatible with the HH: those with a 1.25" x 28 thread pitch and three contact rings. Dynamic and condenser microphone heads can be used with the HH, depending on the user's preference or the application.

IR Sync

The HH is equipped with an IR (infrared) port for use with receivers that will be developed in the future. Settings such as frequency stored in the receiver will be sent to the transmitter via the IR port. No such receivers are available as of the date of this writing.

Mute and Talkback Functions

A programmable switch on the housing (side switch) can be configured as a mute switch or to provide a talkback function for communication with the crew or director/producer through a different audio channel.

As a mute switch, it works in a "push off/push on" fashion as a toggle to disable and enable the audio signal. Push to mute. Push again to restore audio. The mute function defeats the audio in the transmitter, so it works in all compatibility modes and will all receivers.

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. 2.4 or higher. When pressed and held in, the side switch 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.

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.

The control panel and battery compartment are accessed by opening the lower housing. Rotate the housing as shown and pull it downward until you feel the detent.

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

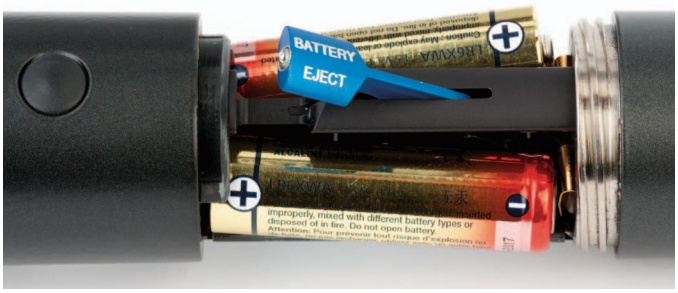
The lower housing opens by rotating it in the direction shown. After the threads are disengaged, pull the housing downward until it engages the detent that holds it open.

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

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.

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.

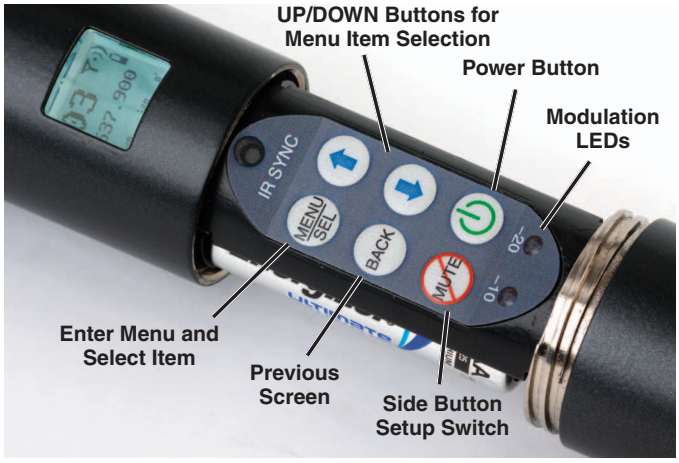
To remove the batteries, pull the eject lever outward. The battery tips will move outward, making them easier to grasp.



Control Panel

Six membrane switches on the control panel are used to set up the transmitter by navigating the menus on the LCD and selecting the desired values.

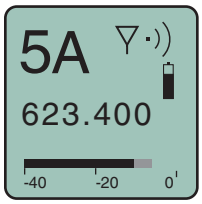
The IR SYNC port is reserved for future use with IR enabled receivers. These receivers are not available as of the date of this writing.



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.

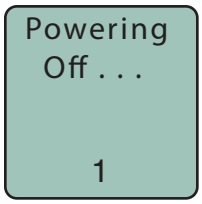


The Main Window

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 countdown 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.

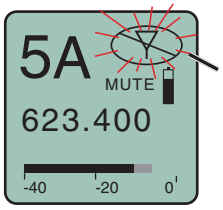


NOTE: If the *Power Button* is released before the countdown is completed, the unit will remain turned on and the LCD will return to the same screen or menu that was displayed previously.

Standby Mode

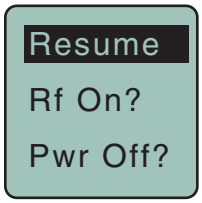
A brief push of the *Power Button* turns the unit on and places it into a "standby" mode (not transmitting). This allows the transmitter to be set up without the risk of creating interference for other wireless systems that are operating in the vicinity.

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

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

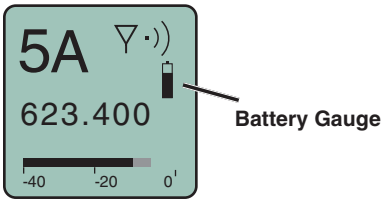


- **Resume:** Continue operating in the same condition as before.
- **Rf On?:** Begin transmitting the RF signal.
- **Pwr Off?:** Turns off the transmitter.

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

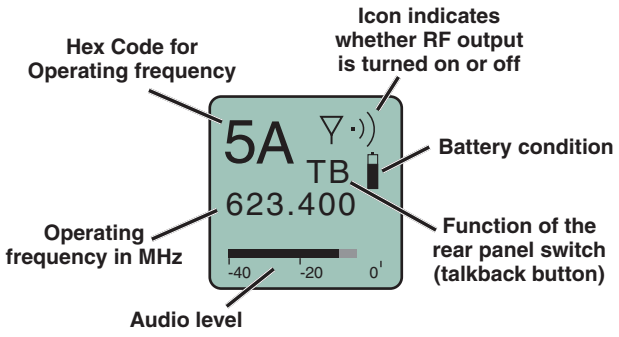
An icon on the *Main Window* indicates the remaining power of the transmitter batteries. This battery gauge is most accurate with the typical voltage drop across the life of alkaline and dry cell lithium batteries.



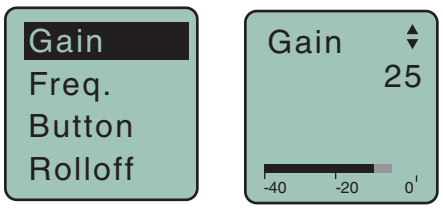
Rechargeable batteries give little or no warning when nearing depletion. If you use rechargeable batteries in the HH, we recommend trying fully charged batteries first, noting the length of time that the batteries will run the unit, and in the future using somewhat less than that time to determine when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

Navigating Menus and Screens

The *Main Window* displays the following information:



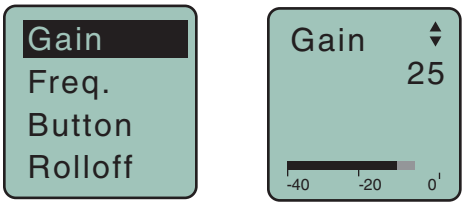
1) Press the *MENU/SEL* button to enter the setup menu. Use the UP/DOWN buttons to highlight the menu item.
2) Press the *MENU/SEL* button to enter the setup screen for that item. Use the UP/DOWN buttons to select the desired value or mode.



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

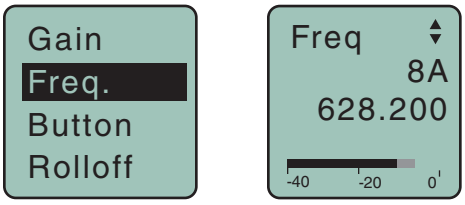
This setting is very important since it will determine the audio signal to noise ratio and dynamic range that the wireless system will deliver. Gain must be set according to the individual voice, the mic capsule in use and the handling technique of the user. LEDs in the control panel facilitate accurate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



IMPORTANT: See the section *About Setting Audio Gain* on page 10 for details.

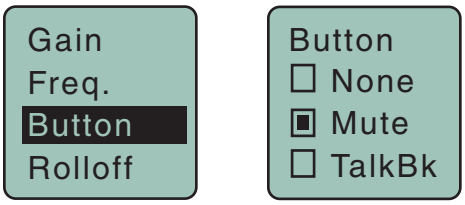
Freq.

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.



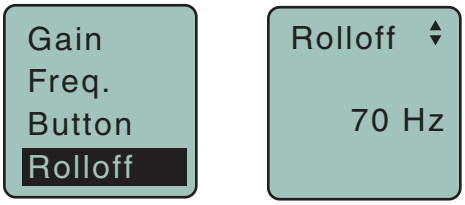
Button

The *Side Button* on the housing can be set as an audio mute, a talkback function, or be bypassed.



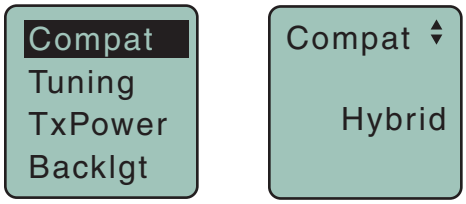
Rolloff

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 HH 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.

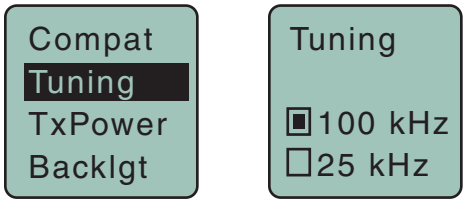


The available modes are as follows:

- **Hybrid** Digital Hybrid receivers
- **Mode 3** (other brand contact the factory)
- **200 Mode** Earlier Lectrosonics receivers
- **100 Mode** 100 Series Lectrosonics receivers
- **Mode 6** (other brand contact the factory)
- **IFB Mode** Lectrosonics IFB receivers

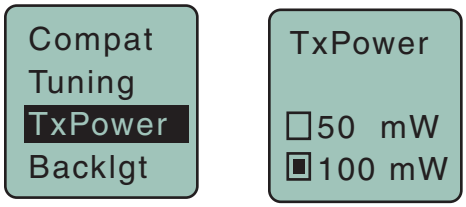
Tuning

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.



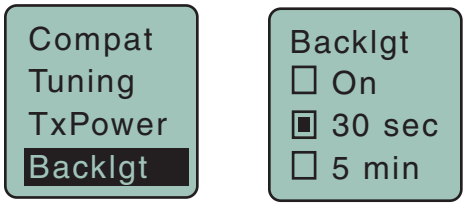
TxPower

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.



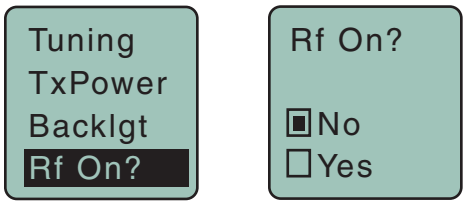
Backlgt

The LCD includes a backlight that illuminates the display for easier viewing in dim lighting conditions. It 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.



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.

About Setting Audio Gain

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 7).

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

Mute and Talkback Functions

A special button (the *Side Button*) on the outside of the housing can be configured to provide a mute or talkback function, or to be inoperative.

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

Press the Side Button Setup Switch to enter the setup screen for the Side Button

Side Button Setup Switch

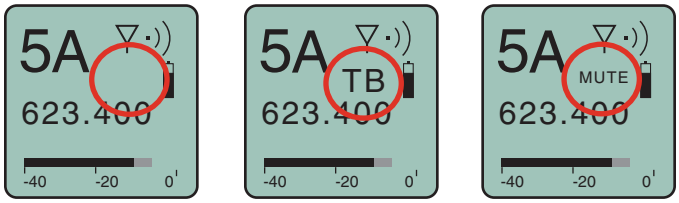
Use the UP/DOWN arrows to select the desired function and then press the *MENU/SEL* button to return to the *Main Window*.

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 will all receivers.

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. 2.4 or higher. When pressed and held in, the side switch 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.

Main Window Displays for Mute and Talkback Functions

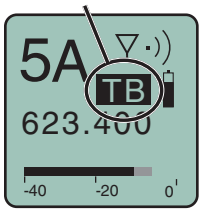
The function of the *Side Button* is displayed in the LCD *Main Window*.



No Function **Talkback** **Audio Mute**

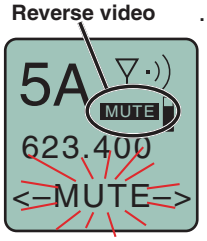
When the *Side Button* is pressed, the function will be active and the LCD will display an indication.

Reverse video



Talkback active

Reverse video .



Mute active (MUTE blinks)

Troubleshooting

SYMPTOM	POSSIBLE CAUSE
HH WILL NOT POWER ON	1) Batteries are inserted backwards. 2) Batteries are dead, or too low to be used.
HH MODULATION LEDs OFF	1) Audio Gain set too low. 2) Battery is inserted backwards. Check LCD for power indication. 3) Mic capsule is damaged or malfunctioning. Contact the factory for repair.
HH MODULATION LEDs GOOD BUT NO SOUND	1) Talkback function is engaged (release multi-function button). See p. 10 2) Receiver on wrong frequency or wrong block. 3) Receiver connected incorrectly to sound system.
RECEIVER RF INDICATOR OFF	1) HH not turned on. 2) HH is in “standby” (non-transmitting) mode. Check the LCD for the antenna/transmission icon status. 3) Batteries are dead or installed backwards. 4) Receiver antenna missing, defective or improperly positioned. 5) HH and receiver not on same frequency block. Check labels on HH and receiver to be sure they are operating on the same frequency block. 6) Make sure the transmitter and receiver associated frequency settings are in agreement. 7) Operating range is too great.
NO SOUND BUT RECEIVER AUDIO LEVEL METER INDICATES SOUND	1) Receiver audio is muted. (Unmute receiver.) 2) Receiver audio output levels set too low. 3) Receiver audio output is disconnected or cable defective or miswired. 4) Sound system or recorder input level is turned down.
DISTORTED SOUND	1) HH Audio Gain set too high. Speak or sing into the HH and check the Audio Level LEDs, Audio Level bar graph in the HH LCD and corresponding indicators on the receiver. 2) Receiver output level may be too high for the sound system or recorder input. 3) Excessive wind noise or breath “pops.” Microphone may require an additional wind screen. 4) HH Frequency setting is not correct. 5) Compatibility Mode mismatch between transmitter and receiver.
HISS AND NOISE -- AUDIBLE DROPOUTS	1) HH Audio Gain set too low. See page 10 for proper audio gain setting. 2) Receiver antenna missing, defective or obstructed. 3) Operating range too great. 4) HH transmitting frequency set incorrectly. 5) Interference may be present. Turn transmitter off and observe the RF level indicator on the receiver. Change frequency if necessary.
EXCESSIVE FEEDBACK	1) HH Audio Gain set too high. Check level adjustment, reduce receiver output level, or both. 2) Microphone too close to speaker system. 3) Move microphone closer to the user’s mouth and lower the sound system volume.

Specifications

Operating frequencies:†		Export only frequencies:	
Block 470	470.100 - 495.600	Block 606	606.000 - 631.500
Block 19	486.400 - 511.900	Block 27	691.200 - 716.700
Block 20	512.000 - 537.500	Block 28	716.800 - 742.300
Block 21	537.600 - 563.100	Block 29	742.400 - 767.900
Block 22	563.200 - 588.700	Block 30	768.000 - 793.500
Block 23	588.800 - 614.300	Block 779	779.125 - 787.875
Block 24	614.400 - 639.900		797.125 - 805.875
Block 25	640.000 - 665.500		806.125 - 809.750
Block 26	665.600 - 691.100	Block 31	793.600 - 819.100
		Block 32	819.200 - 844.700
		Block 33	844.800 - 861.900

Frequency selection:
(Normal Tuning mode); 256 frequencies in 100 kHz steps
(Fine Tuning mode) 1024 frequencies in 25 kHz steps
(except block 23, 33 and 779 - contact Lectrosonics for details)

Channel Step Size:
Normal Tuning mode: 100 kHz in Normal Tuning mode
Fine Tuning mode: 25 kHz in Fine Tuning mode
(except block 779 - 125 kHz steps)

RF Power output:	Selectable at 50 or 100 mW
Pilot tone:	25 to 32 kHz frequency - 5 kHz deviation (Hybrid, IFB, 200 Series, Mode 6)
Frequency stability:	± 0.002%
Deviation:	± 75 kHz (max) (±50 kHz for EU version)
Spurious radiation:	90 dB below carrier
Operating temperature range:	-30° C to +60° C
Input compressor:	Dual envelope compressor, >30 dB range
Audio Gain range:	45 dB; menu-driven control
Modulation indicators:	Dual bicolor LEDs indicate modulation of -20, -10, 0 and +10 dB referenced to full modulation, LCD bar-graph indicator
Frequency response	40 Hz to 20 kHz (+/- 1dB)
Low frequency roll-off:	-3 dB selectable @35, 50, 70, 100, 125 Hz, 36 dB/octave (varies slightly w/ selection)

Controls:
External: Programmable mute/talkback button
Internal control panel: Power, Side Button Setup, MENU/SEL, BACK and Up/Down arrow buttons for menu item selection and settings.

Battery:	(2) AA with polarity protection and battery ejection lever
Battery Life:	5.5 hours (alkaline); 8-10 hours (lithium)
Battery Status Indication:	Transmitted to Lectrosonics Digital Hybrid and 200 Series receivers
Capsule Interface:	1.25"/28 thread pitch. Power available: 5V, 25 mA max Input impedance: 1000 Ohms
Weight:	11.4 oz. with lithium batteries and HHC capsule
Dimensions:	9.5" long x 1.97" diameter at largest point with HHC capsule attached
Emission Designator:	180KF3E

Specifications subject to change without notice.

The FCC requires that the following statements be included in this manual:

For body worn operation, this HM Transmitter has been tested and meets the FCC RF exposure guidelines when used with the Lectrosonics accessories supplied or designated for this product. Use of other accessories may not ensure compliance with FCC RF exposure guidelines. Contact Lectrosonics if you have any questions or need more information about RF exposure using this product..

This device complies with FCC radiation exposure limits as set forth for an uncontrolled environment. This device should be installed and operated so that its antenna(s) are not co-located or operating in conjunction with any other antenna or transmitter.

† Not all frequency blocks are available in all countries. Consult your local representative or contact Lectrosonics for more information.

Service and Repair

If your system malfunctions, you should attempt to correct or isolate the trouble before concluding that the equipment needs repair. Make sure you have followed the setup procedure and operating instructions. Check the interconnecting cables and then go through the **Troubleshooting** section in this manual.

We strongly recommend that you **do not** try to repair the equipment yourself and **do not** have the local repair shop attempt anything other than the simplest repair. If the repair is more complicated than a broken wire or loose connection, send the unit to the factory for repair and service. Don't attempt to adjust any controls inside the units. Once set at the factory, the various controls and trimmers do not drift with age or vibration and never require readjustment. **There are no adjustments inside that will make a malfunctioning unit start working**.

LECTROSONICS' Service Department is equipped and staffed to quickly repair your equipment. In-warranty repairs are made at no charge in accordance with the terms of the warranty. Out-of-warranty repairs are charged at a modest flat rate plus parts and shipping. Since it takes almost as much time and effort to determine what is wrong as it does to make the repair, there is a charge for an exact quotation. We will be happy to quote approximate charges by phone for out-of-warranty repairs.

Returning Units for Repair

For timely service, please follow the steps below:

A. DO NOT return equipment to the factory for repair without first contacting us by letter or by phone. We need to know the nature of the problem, the model number and the serial number of the equipment. We also need a phone number where you can be reached 8 A.M. to 4 P.M. (U.S. Mountain Standard Time).

B. After receiving your request, we will issue you a return authorization number (R.A.). This number will help speed your repair through our receiving and repair departments. The return authorization number must be clearly shown on the **outside** of the shipping container.

C. Pack the equipment carefully and ship to us, shipping costs prepaid. If necessary, we can provide you with the proper packing materials. UPS is usually the best way to ship the units. Heavy units should be "double-boxed" for safe transport.

D. We also strongly recommend that you insure the equipment, since we cannot be responsible for loss of or damage to equipment that you ship. Of course, we insure the equipment when we ship it back to you.

Mailing address:
Lectrosonics, Inc.
PO Box 15900
Rio Rancho, NM 87174
USA

Shipping address:
Lectrosonics, Inc.
581 Laser Rd.
Rio Rancho, NM 87124
USA

Telephone:
(505) 892-4501
(800) 821-1121 Toll-free
(505) 892-6243 Fax

Web:
www.lectrosonics.com

E-mail:
sales@lectrosonics.com

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.

LECTROSONICS®

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20 October 2011

LECTROSONICS, INC.