INSTRUCTION MANUAL

duet IEM SYSTEM

DCHT

Digital Transmitter

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LECTROSONICS®
Rio Rancho, NM, USA
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Table of Contents

Introduction

The DCHT transmitter is designed to work with a companion receiver (such as the Lectrosonics M2R, part of the Duet IEM system) as an audio relay between an audio production bag or cart and a camera or other audio device. The 6-pin input jack accepts two mic or line level analog signals or AES digital signals from external sources with a variety of adapter cables. Analog inputs can be linked for the same gain when used with a stereo source, or operate independently with individual settings.

This third generation digital design features specially developed, high efficiency digital circuitry for extended operating time on two AA batteries. The transmitter can tune in coarse or fine steps across the UHF television band from 470.100 to 607.950 MHz, with a selectable output power of 10, 25 or 50 mW.

Studio quality audio performance is assured by high quality components in the preamp, wide range input gain adjustment and DSP-controlled limiting. and settings are included for any lavaliere microphone, dynamic microphones and line level inputs. Input gain is adjustable over a 51 dB range in 1 dB steps to allow a precise match to the input signal level, to maximize dynamic range and signal to noise ratio.

A separate switch is provided on the top panel that can be configured as mute, power or bypass.

The housing is constructed of solid machined aluminum for lasting ruggedness. The exterior is finished with an ultra hard, dark electroless nickel finish called ***ebENi***.

Firmware updates are made through a side panel micro USB port.

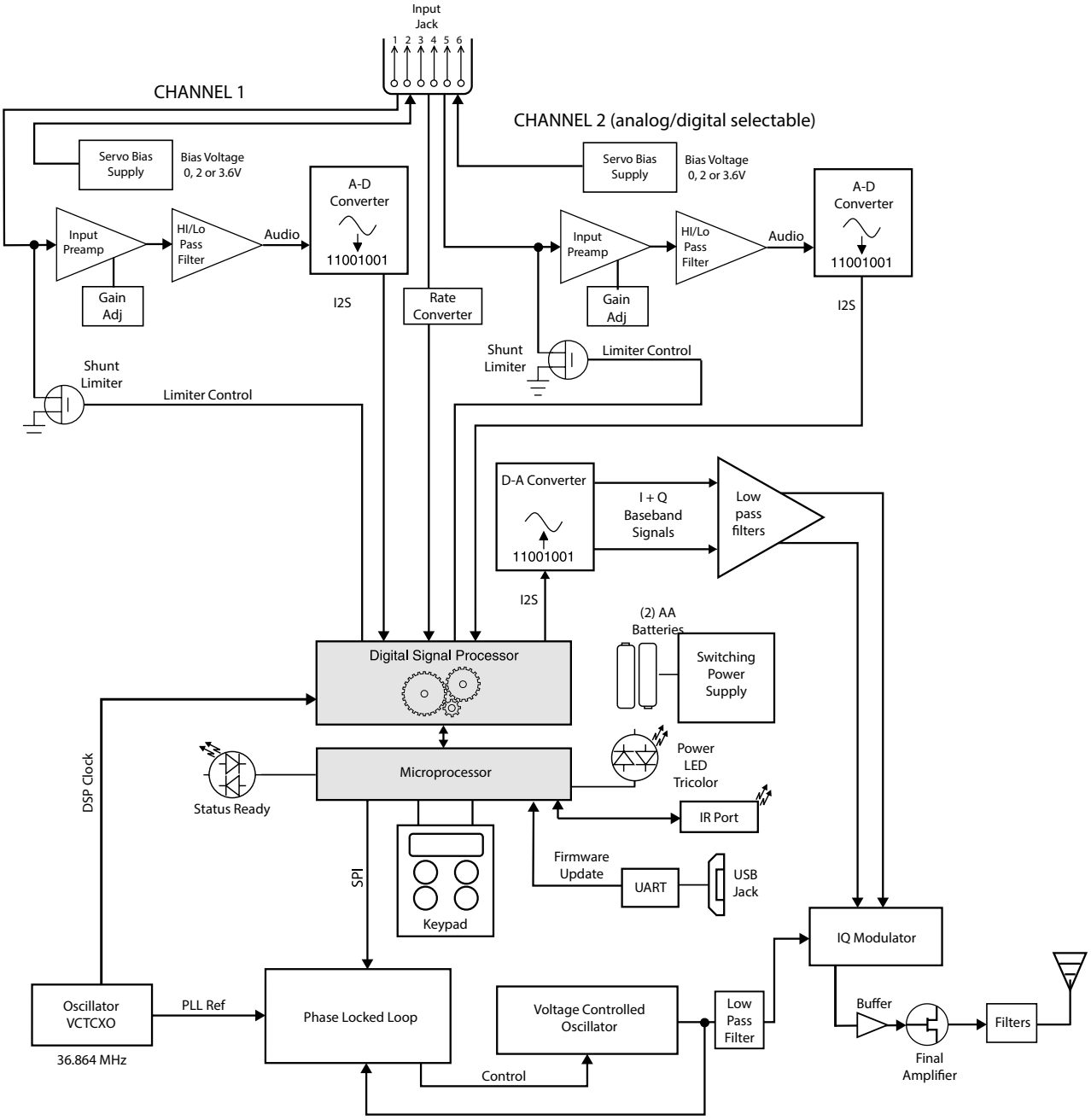
DSP-controlled Input Limiter

The transmitter employs a DSP-controlled analog audio limiter prior to the analog-to-digital converter. The limiter has a range greater 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, connected as a fast attack and release limiter followed by a slow attack and release limiter. The limiter recovers quickly from brief transients, so that its action is hidden from the listener, but recovers slowly from sustained high levels to keep audio distortion low and preserve short term dynamic changes in the audio level.

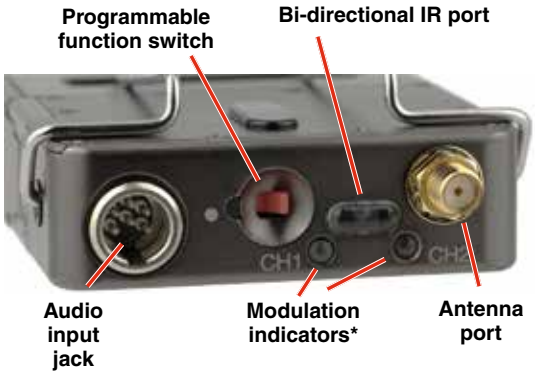
Canada ISED Notice

This device operates on a no-protection, no-interference basis. Should the user seek to obtain protection from other radio services operating in the same TV bands, a radio licence is required. For further details, consult Innovation, Science and Economic Development Canada's document Client Procedures Circular CPC-2-1-28, *Voluntary Licensing of Licence-Exempt_Low-Power Radio Apparatus in the TV bands.*

DCHT Block Diagram



Features and Functions



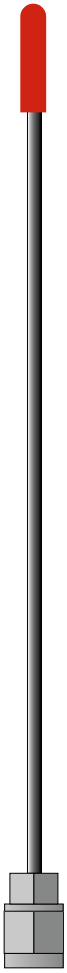
Optional Battery Eliminator

The transmitter can be powered by external DC using the optional LTBATELIM power supply adapter. The battery door is replaced by the adapter with a simple procedure. The adapter provides a locking coaxial connector and a variety of power cords and connectors are available.

Whip Antennas

Because the transmitter tunes across such a broad frequency range, it is best to use the appropriate antenna for maximum operation. Two antennas are included with the transmitter, and are shipped from the factory pre-cut and fully assembled. Each antenna covers three blocks. Refer to the chart below to determine which antenna matches the operating frequency you will be using.

Block	Frequency Range MHz	Cap Color	Antenna
470	470.100 - 495.600	Black	AMM19
19	486.400 - 511.900	Black	AMM19
20	512.000 - 537.500	Black	AMM19
21	537.600 - 563.100	Red	AMM22
22	563.200 - 588.700	Red	AMM22
23	588.800 - 607.950	Red	AMM22



Battery Status LED Indicator

The Power/Function LED on the top panel will mirror the keypad LED unless the programmable switch is set to Mute, and the switch is turned on.

Alkaline, lithium or rechargeable batteries can be used to power the transmitter. The type of batteries in use are selectable in a menu on the LCD.

When alkaline or lithium batteries are being used, the LED labeled BATT on the keypad glows green when the batteries are good. The color changes to red at a midpoint of the runtime. When the LED begins to *blink* red, there will be only a few minutes of operation remaining.

The exact point at which the LEDs turn red will vary with battery brand and condition, temperature and power consumption. The LEDs are intended to simply catch your attention, not to be an exact indicator of remaining time.

A weak battery will sometimes cause the Power LED to glow green immediately after the transmitter is turned on, but it will soon discharge to the point where it will turn red or the unit will turn off completely.

Rechargeable batteries give little or no warning when they are depleted. If you wish to use these batteries in the transmitter, the most accurate way to determine runtime status is by testing the time provided by a particular battery brand and type, then using the **BatTime** function to determine remaining runtime.

NOTE: Refer to the **Main Menu and Setup** section for **BatTime** details.

Belt Clips

The wire belt clip may be removed by pulling the ends out of the holes in the sides of the case. Be sure to have a firm grip to avoid scratching the surface of the housing.

An optional spring-loaded, hinged belt clip (model number BCSLEBN) is also available. This clip is attached by removing the plastic hole cap on the back of the housing and mounting the clip with the supplied screw.

IR (infrared) Port

The IR port is available on the top of the transmitter for quick setup using a receiver with this function available. IR Sync will transfer the settings for frequency from the receiver to the transmitter.

Status LED

Blue LED indicates ready status.

Battery Installation

The transmitter is powered by two AA batteries. Lithium batteries are recommended for longest life.

The battery status circuitry compensates for the difference in voltage drop between alkaline and lithium batteries across their usable life, so it's important to select the correct battery type in the menu.

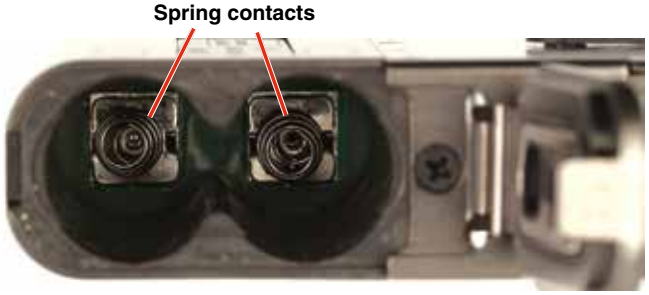
Because rechargeable batteries run down quite abruptly, using the Power LED to verify battery status will not be reliable. However, it is possible to track battery status using the battery timer function available in the receiver.

Push outward on the battery compartment door and lift it to open.

Insert the batteries according to the markings on the back of the housing.

If the batteries are inserted incorrectly, the door will close but the unit will not operate.

The battery contacts can be cleaned with alcohol and a cotton swab, or a clean pencil eraser. Be sure not to leave any remnants of the cotton swab or eraser crumbs inside the compartment.

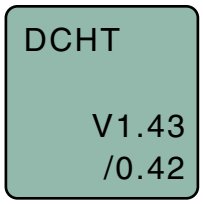


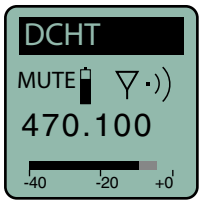
Powering On and Off

Powering On in Operating Mode

Press and hold the Power Button ⏻ for several seconds until a counter on the LCD progresses from 1 through 3.

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



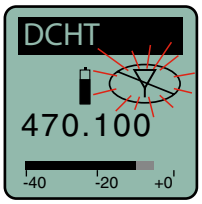


Powering On in Standby Mode

A brief press of the power button ⏻, and releasing it before the counter has reached 3, will turn the unit on with the RF output turned off. In this Standby Mode the menus can be browsed to make settings and adjustments without the risk of interfering with other wireless systems nearby.

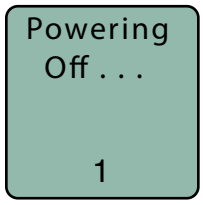
Release Power Button before the counter reaches 3 to enter Standby Mode

RF indicator blinks



After settings and adjustments are made, press the power button again to turn the unit off.

Powering Off



To turn the unit off, hold the Power Button ⏻ in and wait for the countdown, or use the programmable switch (if it is configured for this function).

If the power button is released, or the top panel switch is turned back on again 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.

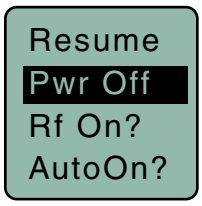
NOTE: If the programmable switch is in the OFF position, power can still be turned on with the power button.

Power Button Menu

Entering the Power Menu

When the unit is turned on and the Main Window is displayed, press the power button ⏻ to open a menu with various setting and functions. Use the ⏫ and ⏬ arrow buttons to highlight menu items. Then press MENU/SEL to execute the item or enter a setup screen. The following options are available:

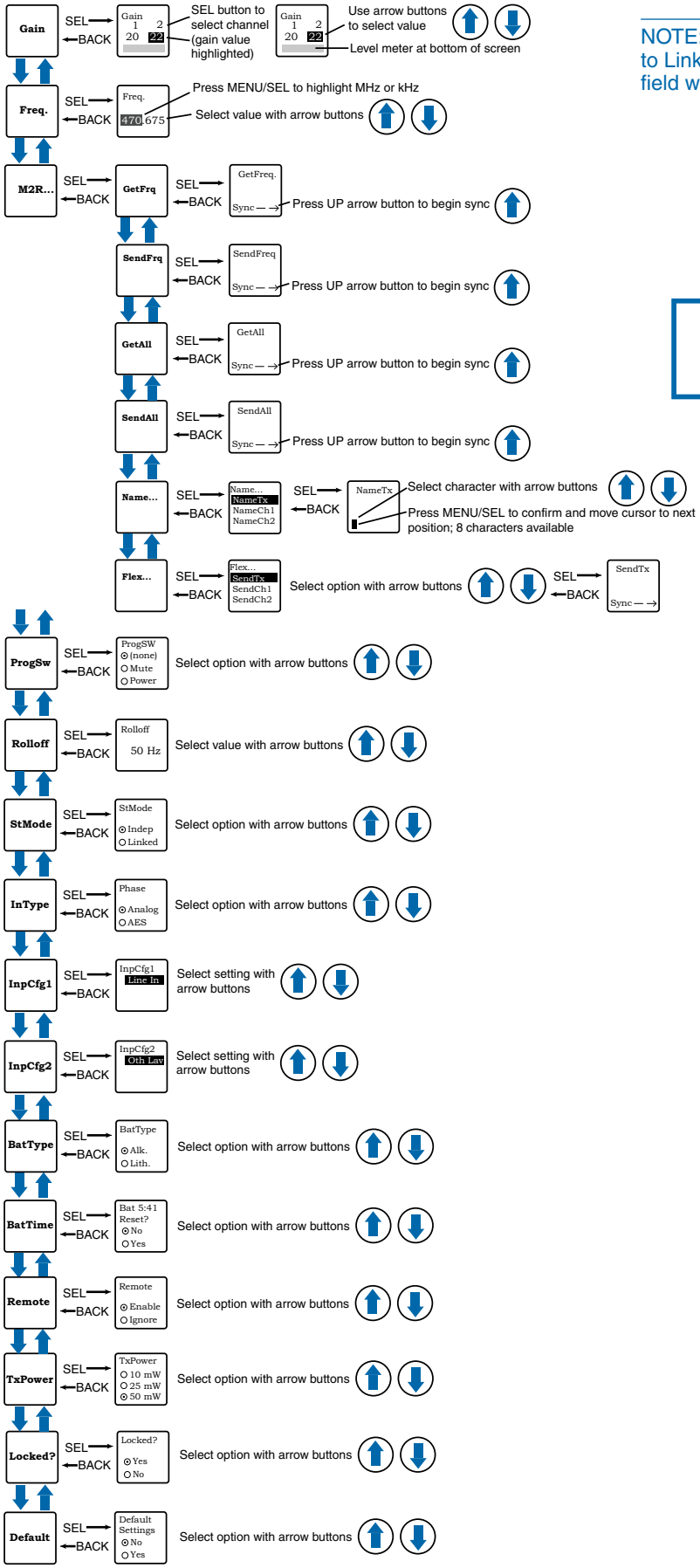
- **Resume** - returns to the previous mode and screen
- **Pwr Off** - turns the unit off irrevocably. Press either the power button ⏻ or MENU/SEL to turn the unit off. If the Programmable Switch has been set to control the power, a message will be displayed prompting you to use the switch to turn the power off.



Message appears if ProgSw is set to control power

- **Rf On?** - enters a screen to enable the operating or standby modes
- **AutoOn?** - If external power or batteries fail while the unit is transmitting, the unit will automatically turn back on after power is restored or fresh batteries are installed. This function is enabled by selecting **Yes** in the menu options. It does not work when the transmitter is in the **Standby** mode.
- **Backlit** - adjusts the duration of the LCD back light to 30 seconds, 5 minutes, or to remain on
- **LED Off** - enters a screen with options to turn the control panel LEDs on or off
- **About** - displays model number and firmware version

LCD Menu Map



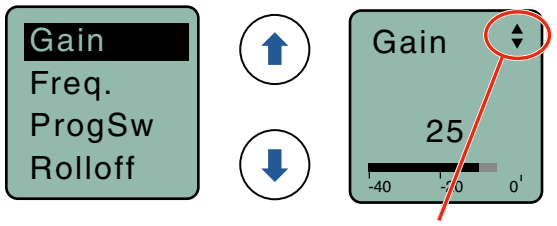
NOTE: When StMode is set to Linked, a single gain value field will be shown

Settings will be stored when the BACK button is pressed.

Main Menu and Setup Screen Details

Entering the Main Menu

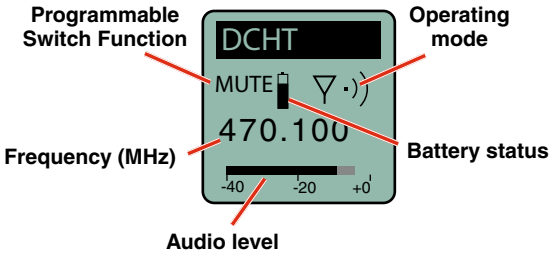
The LCD and keypad interface makes it easy to browse the menus and make the selections for the setup you need. When the unit is powered up in either the operating or the standby mode, press MENU/SEL on the keypad to enter a menu structure on the LCD. Use the ⇧ and ⇩ arrow buttons to select the menu item. Then press the MENU/SEL button to enter the setup screen.



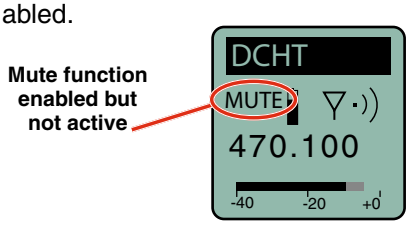
The prompt in the upper right corner may display one or both arrows, depending upon what adjustment can be made. If the changes are locked, a small padlock symbol will appear.

Main Window Indicators

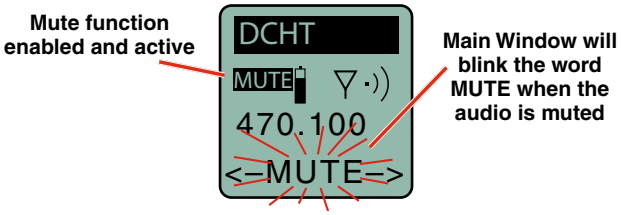
The Main Window displays the current settings, status, audio level and battery status.



If the programmable switch function is set for **MUTE**, the Main Window will indicate that the function is enabled.



When the switch is turned on, the mute icon appearance will change and the word MUTE will blink at the bottom of the display. The -10 LED on the top panel will also glow solid red.



Connecting the Signal Source

Microphones, line level audio sources and instruments can be used with the transmitter. Refer to the section entitled for details on the correct wiring for line level sources and microphones to take full advantage of the Servo Bias circuitry.

Adjusting the Input Gain for Analog Inputs

For analog gain adjustment, two multi-color LEDs on the top panel, one for each channel, provide a visual indication of the audio signal level entering the transmitter. The LEDs will glow either red or green to indicate modulation levels as shown in the following table.

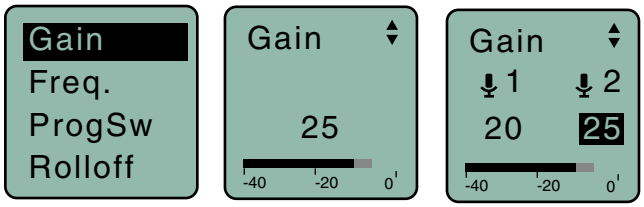
Signal Level	CH1	CH2
Less than -20 dB	● Off	● Off
-20 dB to +0 dB	● Green	● Green
+0 dB and greater	● Red	● Green

NOTE: This procedure is used for analog inputs only. AES digital input is factory set at the industry standard level. The LEDs on the top panel will glow blue when the audio level reaches about -40 FS.

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 or recorder during adjustment.

1) With fresh batteries in the transmitter, power the unit on in the standby mode (see previous section ***Powering On in Standby Mode***).

2) Navigate to the Gain setup screen.



Setup screen in Linked mode

Setup screen in Independent mode

3) Position a microphone the way it will be used in actual operation and have the user speak or sing at the loudest level that occur during use, or set the output level of the audio device to the maximum level that will be used.

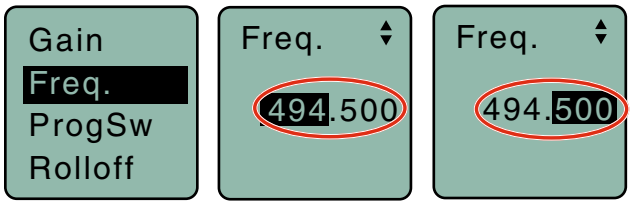
4) Use the ⇧ and ⇩ arrow buttons to adjust the gain until the LED glows green most or all of the time, and flicker red during the loudest peaks.

5) Turn the recorder or sound system gain down before setting the transmitter to the normal operating mode and enabling the audio output.

6) If the audio output level of the receiver is too high or low, use only the controls on the receiver to make adjustments. Always leave the transmitter gain adjustment set according to these instructions, and do not change it to adjust the audio output level of the receiver.

Selecting Frequency

The setup screen for frequency selection offers two ways to browse the available frequencies.



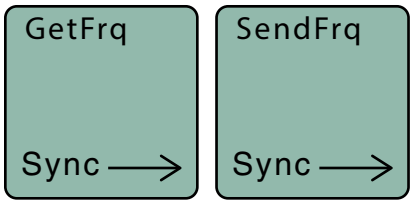
Press the MENU/SEL button to select each field. Use the ⬆ and ⬇ arrow buttons to adjust the frequency. Each field will step through the available frequencies in a different increment.

Selecting M2R Receiver Functions

The M2R Receiver includes a FlexList™ mode,where up to 16 mixes can be accessed by name. This feature enables a monitor engineer to quickly find and listen to any of the performer's mixes on the stage. A FlexList mix is a profile of a performer's personal transmitter. The mix includes the performer's name (or whatever name the user chooses for that unit), frequency, mixer settings and limiter settings. The mix is easily shared via the M2R IR port, added to the list of 16 mixes and stored until cleared by the user. The M2R allows the user to toggle between the mixes, making troubleshooting issues easy and efficient.

The DCHT's M2R functions create an easy interface with the FlexList feature. The following options are available:

- **GetFrq -** sync to receive (get) frequency from the M2R transmitter via the IR port
- **SendFrq -** sync to send frequency to the M2R transmitter via the IR port



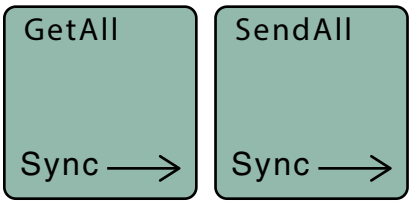
Press the ⬆ arrow button to begin sync

- **GetAll -** sync to receive (get) all available settings from the M2R transmitter via the IR port, including the performer's name, (or whatever name the user chooses for the DCHT), frequency, mixer settings and limiter settings

NOTE: The GetAll function is designed for trouble shooting and allows for settings to be cloned to transfer to another receiver if there is a problem to be identified. Not all copied settings are available on the DCHT.

- **SendAll -** sync to send all available settings to the M2R transmitter via the IR port, including the performer's name, (or whatever name the user chooses for the DCHT), frequency, mixer settings and limiter settings

NOTE: The SendAll function is designed for trouble shooting and allows for settings to be cloned to transfer to another receiver if there is a problem to be identified. Not all settings are available on the DCHT.



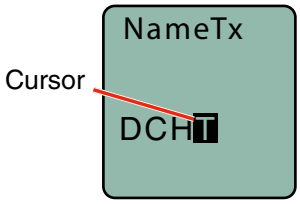
Press the ⬆ arrow button to begin sync

- **Name... -** Name the DCHT to allow easy identification on the M2R FlexList. The following are available for custom names:

  - **NameTx:** Name the DCHT
  - **NameCh1:** Name Channel 1
  - **NameCh2:** Name Channel 2

  Use the UP and DOWN arrows to choose which character you want and then MENU/SEL to move to next space (there are 8 spaces available for each name). Press BACK to save.

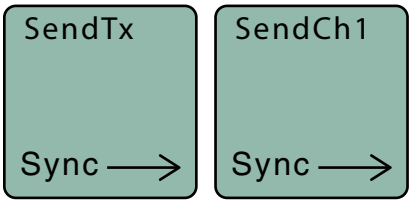
NOTE: Duplicate names are not allowed in a FlexList. Be sure to choose unique names for Tx, Ch1 and Ch2.



Press the ⬆ and ⬇ arrow buttons to select the desired character, press MENU/SELECT to move to next space; there are 8 spaces available.

- **Flex... -** Sync DCHT information to the M2R FlexList either as one stereo Channel or individual channels:

  - **SendTx:** Send (sync) all receiver information to the M2R FlexList as one stereo channel
  - **SendCh1:** Send (sync) Channel 1 unique information to the M2R FlexList
  - **SendCh2:** Send (sync) Channel 2 unique information to the M2R FlexList



Use the ⬆ arrow button to begin sync

Selecting Programmable Switch Functions

The programmable switch on the top panel can be configured using the menu to provide several functions:

- **(none) -** disables the switch
- **Mute** - mutes the audio when switched on; LCD will blink a message and -10 LED will glow solid red
- **Power** - turns the power on and off

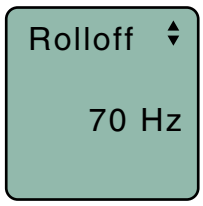
Press the ▲ and ▼ arrow buttons to select the desired function or disable the switch

NOTE: The programmable switch will continue to operate whether or not keypad changes are locked.

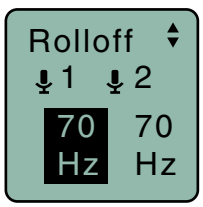
Selecting the Low Frequency Roll-off

The low frequency audio roll-off is adjustable to optimize performance for ambient noise conditions or personal preference.

Low frequency audio content may be desirable or distracting, so the point at which the roll-off takes place can be set at 20, 35, 50, 70, 100, 120 and 150 Hz.



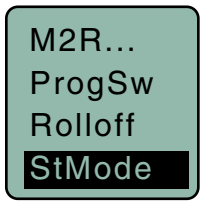
Setup screen in Linked mode

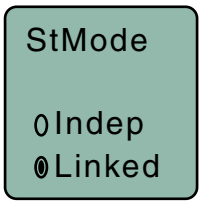


Setup screen in Independent mode

Selecting StMode (stereo mode)

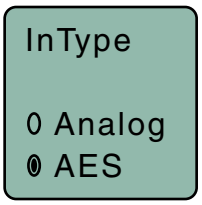
The two channels can be set to **Indep** (independent) or **Linked**. Indep allows the gain to be adjusted separately on each channel. Linked employs the gain adjustment to both channels.





Selecting Input Type

AES digital or analog audio input is selected with the **InType** menu item. With the AES selected, there are no additional settings needed for the input. Analog input configuration is set with the **InpCfg1 and InpCfg2** menu items.



Selecting Input Configuration

When the input type is set to Analog, **InpCfg1** and **InpCfg2** menus are used to configure the audio input for the respective channels. Use the ▲ and ▼ arrow buttons to select the input type.

TYPE	DESC, BIAS, IMPEDANCE, POLARITY
Line In	Line level signals up to +24 dBu
Dynamic	Low-Z dynamic microphones
DPA	DPA lavaliere; 4V, Mid-Z, (+)
B6	Countryman B6; 2V, Low-Z, (+)
COS-11	Sanken COS-11; 4V, Low-Z, (–)
MKE 2*	Sennheiser MKE 2; 4V, Low-Z, (+)
M152*	Lectrosonics M152; 4V, Low-Z, (+)
Oth Lav*	Other lavaliere; 4V, Low-Z, (+)
Custom	Manually configurable microphone level

* Separate listings for these microphones are included for convenience, however, they are all the same configuration.

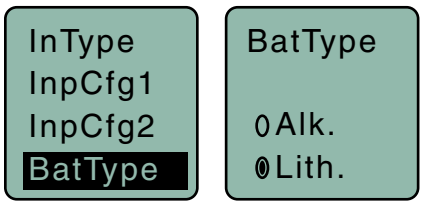
The **Custom** option opens a setup screen that provides a variety of settings. Press SEL to select the custom setup item, then press the ⬆ and ⬇ arrow buttons to adjust the setting.

Available settings:

- Input impedance (Z): LOW, MID, HIGH
- Bias voltage: 0V, 2V, 4V
- Audio polarity: + (pos.), – (neg.)

Selecting Battery Type

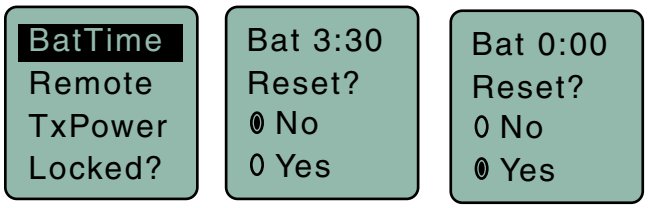
The voltage drop over the life of different batteries varies by type and brand. Be sure to set the correct battery type for accurate indications and warnings. The menu offers alkaline or lithium types.



If you are using rechargeable batteries, it is better to use the timer function on the receiver to monitor the battery life rather than the indicators on the transmitter. Rechargeable batteries maintain a fairly constant voltage across the operating time on each charge and stop working abruptly, so you will have little or no warning as they reach the end of operation.

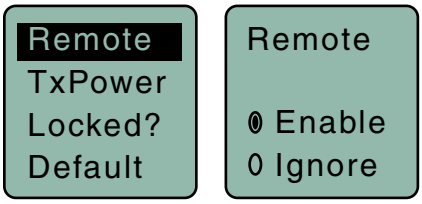
BatTime

A built-in timer can be used with any battery type, but it is especially valuable with rechargeable batteries such as NiMH types. The voltage remains fairly constant across the discharge time of a rechargeable battery, then drops quickly near the end of the operating time. The most accurate way to determine runtime status is by testing the time provided by a particular battery brand and type, then using the timer to determine remaining runtime. Rechargeable batteries lose capacity over their life, so it is good to run the battery down and note the runtime on older or unfamiliar batteries.



Enable/Disable Remote Control Function

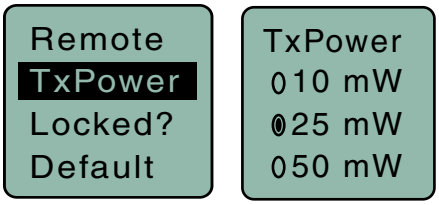
The “dweedle tone” remote control is turned on or off with the ***Remote*** menu, setting the transmitter to react to tones received (***Enable***) or to ***Ignore*** the tones.



NOTE: Remote control of settings is enabled using a third party smart phone app named LectroRM, published by New Endian.

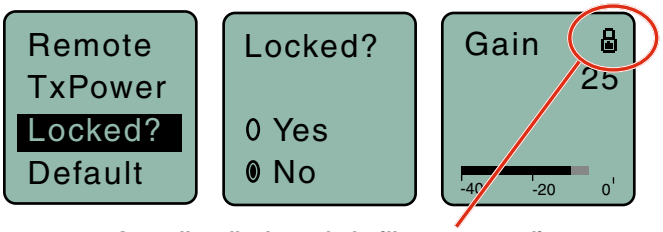
Setting Transmitter Output Power

The output power can be set to 10 mW, 25 mW or 50 mW.



Locking/Unlocking Changes to Settings

Changes to the settings can be locked to prevent inadvertent changes being made.



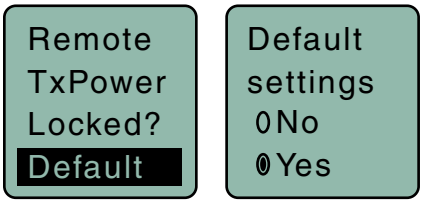
A small padlock symbol will appear on adjustment screens when changes have been locked.

When changes are locked, several controls and actions can still be used:

- Settings can still be unlocked.
- Menus can still be browsed.
- Programmable switch still works (Mute and On/Off).
- Power can still be turned off by using the power menu (if the programmable switch is NOT set to control power).

Restoring Default Settings

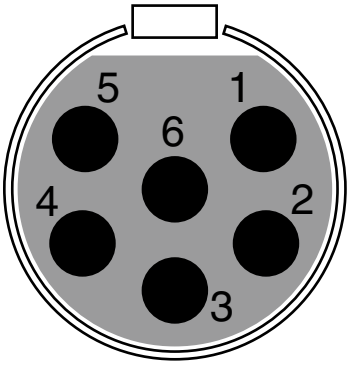
This is used to restore the factory settings.



Input Connections

The 6-pin input jack accommodates two discrete channels at microphone or line levels. The input connections are configured as follows:

	ANALOG	DIGITAL
Pin 1	CH 1 Shield/Gnd	AES GND
Pin 2	CH 1 Mic level	
Pin 3	CH 1 Line level	
Pin 4	CH 2 Mic level	AES CH 1
Pin 5	CH 2 Shield/Gnd	AES CH 2
Pin 6	CH 2 Line level	



TA6FLX connector viewed from outside

Refer to the Accessories section of this manual for details on the available adapter cables.

The mating connector for the DCHT input jack is a Switchcraft TA6FLX 6-pin female (nickel plated).

Lectrosonics P/N 21932.

NOTICE: Any microphone wired using pin 2 for electret bias will **NOT** work with the DCHT and MCTA6TA5M2 adapter. For example, see figures 1 and 2 (below) for servobias inputs that will not operate properly.

Fig. 1

2 VOLT POSITIVE BIAS 2-WIRE ELECTRET

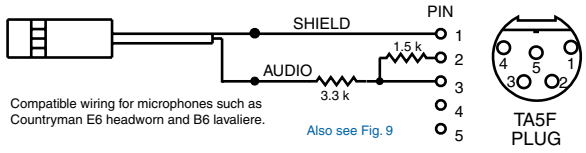
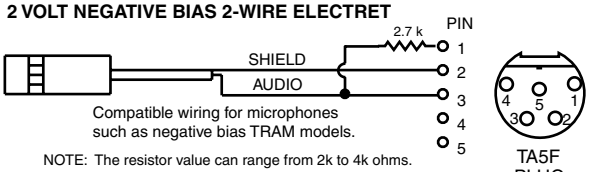


Fig. 2

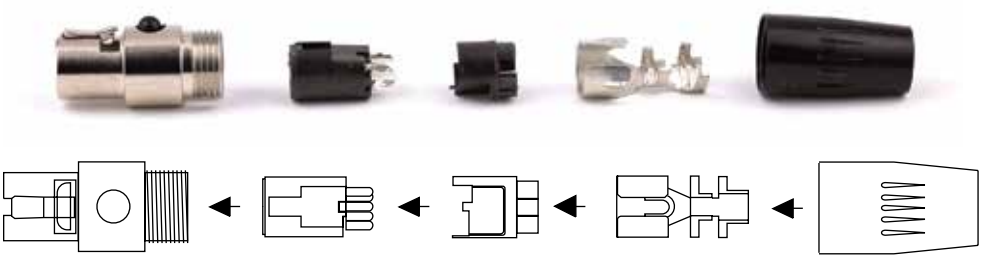
2 VOLT NEGATIVE BIAS 2-WIRE ELECTRET



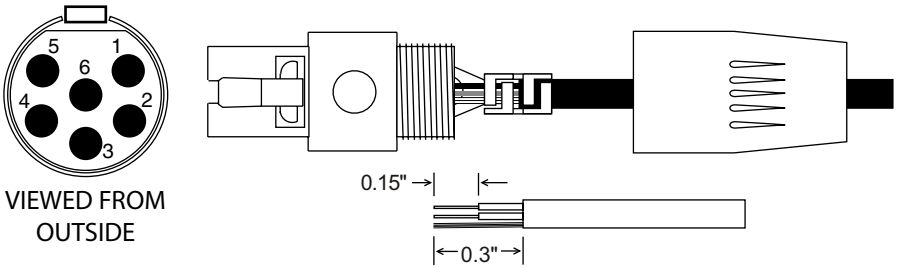
NOTE: The Sanken CUB-01 is wired using pin 2 for the bias and will not work with the DCHT and MCTA6TA5M2 adapter.

Microphone Cable Termination for Non-Lectrosonics Microphones

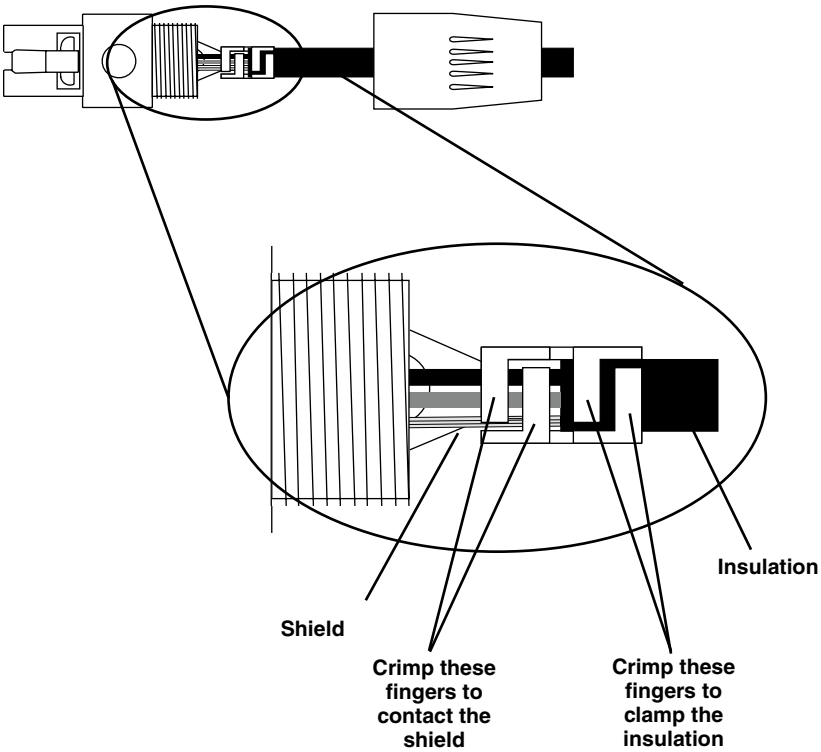
TA6F Connector Assembly



Mic Cable Stripping Instructions



Crimping to Shield and Insulation



Strip and position the cable so that the clamp can be crimped to contact both the mic cable shield and the insulation. The shield contact reduces noise with some microphones and the insulation clamp increases ruggedness.

Wireless Designer Software

Download the Wireless Designer software installer from the web sites under the SUPPORT tab at:

http://www.lectrosonics.com/US

http://www.lectrosonics.com/europe/

Wireless Designer only needs to be installed the first time the software is used. Once the software is installed, updates are available by simply clicking on an item in the Help Menu.

Note: If Wireless Designer is already installed, you must uninstall it before attempting to install a new copy.

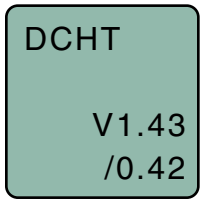
Firmware Update Instructions

Firmware updates are made with a file downloaded from the web site and the DCHT connected via USB.

The USB port on the transmitter requires a micro-B male plug on the connecting cable. The other end of the cable would normally be a USB A-Type male connector to fit the most common type of USB jack used on computers.

Put the transmitter in UPDATE mode by simultaneously holding down the ***UP*** and ***DOWN*** arrow buttons on the transmitter control panel while powering it up.

Refer to ***Help*** in Wireless Designer software for the procedure.



Once the Updater has completed, turn off the transmitter, then turn it back on to verify that the firmware version on the transmitter LCD matches the firmware version shown on the web site. The firmware is the second LCD display during boot up sequence.

Specifications

Operating Frequencies:	470.100 - 607.950 MHz
Frequency Selection Steps:	25 kHz
RF Power Output:	Selectable; 10, 25 or 50 mW
Frequency Stability:	± 0.002%
Spurious Radiation:	Compliant ETSI EN 300 422-1 v1.4.2
Digital Modulation:	8PSK
Equivalent Input Noise:	–128 dBV
Input Types:	• Analog; mic and line level • AES digital
Input Level (analog)	• Mic: Nominal 2 mV to 300 mV, before limiting Greater than 1V maximum, with limiting • Line: +24 dBu before limiting
Input Impedance:	• Mic: 300 or 4.5 k ohm; selectable • Line: greater than 100 k ohm
Input Limiter:	Dual envelope type; 30 dB range
Gain Control Range:	51 dB in 1 dB steps; digital control
Modulation Indicators:	• Bicolor LED indicates modulation of -20 and 0 dB referenced to full modulation • LCD bar graph
Compatibility Modes:	• DCH (Digital Camera Hop) • Duet (IEM)
Frequency Response:	15 Hz – 11.3 kHz, +0, -3 dB
Controls:	• Top panel toggle switch; programmable as ***power***, ***mute*** or ***none*** (off) function • Side panel membrane switches with LCD interface for power on/off and all setup and configuration controls
Audio Input Jack:	Switchcraft 6-pin locking (TA6F)
Antenna:	Galvanized steel, flexible wire, SMA connector
Battery:	Two AA Duracell Quantum recommended
Battery Life:	5 hours; Duracell Quantum alkaline
Weight:	• 5.75 ozs. (163 grams); w/ belt clip and lithium AA batteries • 6.40 ozs. (181 grams); w/ belt clip and Duracell Quantum AA batteries
Overall dimensions:	3.45 x 2.44 x .742 in. (88 x 62 x 19 mm)
Emission Designator:	200KG7E

Specifications subject to change without notice

For body worn operation, this transmitter model 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.

This device complies with ISED Canada radiation exposure limits as set forth for an uncontrolled environment.

Cet appareil est conforme avec les normes d'Industrie Canada concernant les limites d'exposition aux radiations pour un environnement incontrôlé.

This radio transmitter [IC: 8024A-DCHT] has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

Lectrosonics provides dipole "whip" antennas for use with the DCHT transmitter. The antennas are cut to the frequency range shown below and include a 50 Ohm SMA connector.

Antenna Model	Freq Range (MHz)	Gain (dBi)
AMM19	470.100 - 537.500	2.15
AMM22	537.500 - 607.950	2.15

Accessories

26895: Wire belt clip

BCSLEBN: Spring-loaded belt clip

LTBATELIM: Replaces the batteries for powering the DCHT from external DC, 5 to 25 volts.

MCTA6AESXLRF: AES3 digital signal from XLR-F output. 18 inch length.

MCTA6PT: General purpose cable with TA6FLX 6-pin female on one end and stripped and tinned wires on the other end with two separate cables. Wired for connection to microphone level signals. 18 inch length.

MCTA6TA3F2: Line level signals from two TA3-M outputs. 18 inch length.

MCTA6TA5M2: Microphone and line level signals from microphones and other devices configured with TA5F connectors for Lectrosonics wireless transmitters. 6 inch length.

MCTA6XLRF2: Line level signals from two XLR-M outputs. 18 inch length.

Troubleshooting

Symptom:	Possible Cause:
Transmitter Battery LED off when Power Switch "ON"	1. Batteries are inserted incorrectly. 2. Batteries are low or dead.
No Transmitter Modulation LEDs when Signal Should be Present	1. Gain control turned all the way down. 2. Batteries are inserted incorrectly. Check power LED. 3. Mic capsule is damaged or malfunctioning. 4. Input cable damaged or miswired.
Receiver Indicates RF But No Audio	1. Audio source or cable connected to transmitter is defective. Try using an alternate source or cable. 2. Ensure musical instrument volume control is not set to minimum.
Receiver RF Indicator Off	1. Ensure that the transmitter and receiver are set to the same frequency, and that the hex code matches. 2. Transmitter not turned on, or battery is dead. 3. Receiver antenna missing or improperly positioned. 4. Operating distance is too great. 5. Transmitter may be set to the Standby Mode.
No Sound (Or Low Sound Level), Receiver Indicates Proper Audio Modulation	1. Receiver output level set too low. 2. Receiver output is disconnected; cable is defective or miswired. 3. Camera/Recorder/Mixer input is turned down.
Distorted Sound	1. Transmitter gain (audio level) is too high. Check Modulation LEDs on transmitter and receiver while distortion is being heard. 2. Receiver output level may be mismatched with the Camera Recorder/Mixer input. Adjust output level on receiver to the correct level for the device it is feeding. 3. RF interference. Reset both transmitter and receiver to a clear channel. Use scanning function on receiver if available.
Wind Noise or Breath "Pops'"	1. Reposition microphone, or use a larger windscreen, or both. 2. Omni-directional mics produce less wind noise and breath pops than directional types.
Hiss and Noise -- Audible Dropouts	1. Transmitter gain (audio level) far too low. 2. Receiver antenna missing or obstructed. 3. Operating distance too great. 4. RF interference. Reset both transmitter and receiver to a clear channel. Use scanning function on receiver if available.

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 email 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.

Lectrosonics USA:

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

Shipping address:
Lectrosonics, Inc.
561 Laser Rd. NE, Suite 102
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
service.repair@lectrosonics.com

Lectrosonics Canada:

Mailing Address:
720 Spadina Avenue,
Suite 600
Toronto, Ontario M5S 2T9

Telephone:
(416) 596-2202
(877) 753-2876 Toll-free
(877-7LECTRO)
(416) 596-6648 Fax

E-mail:
Sales: colinb@lectrosonics.com
Service: joeb@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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(505) 892-4501 • (800) 821-1121 • fax (505) 892-6243 • sales@lectrosonics.com

31 May 2019