

Quick Start Guide



DCHT

Digital Transmitter

DCHT, DCHT/E01, DCHT-B1C1,
DCHT/E01-B1C1



U.S. Patent 7,225,135

Fill in for your records:

Serial Number:

Purchase Date:

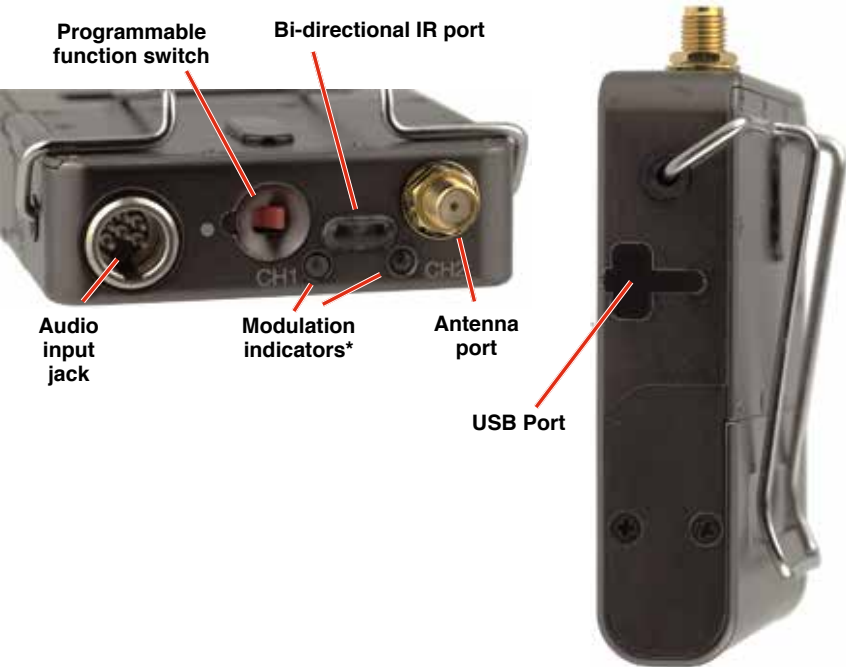
This guide is intended to assist with initial setup and operation of your Lectrosonics product.

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

www.lectrosonics.com

23 January 2024

Features and Functions



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 mid-point 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.

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

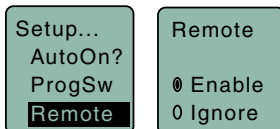
The IR port is available on the top of the transmitter for quick setup using a receiver with this function available. IR Sync will transfer the settings for frequency from the receiver to the transmitter.

Status LED

Blue LED indicates ready status.

Remote Function

In the **Setup Menu**, choose to turn remote function on/off. 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 DCHTRemote, published by New Endian, LLC.

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.

Slide door outward,
then lift up 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.

Spring contacts




Optional Battery Eliminator

The transmitter can be powered by external DC using the optional LTBATELIM power supply adapter.

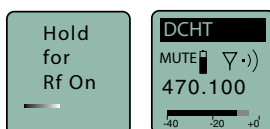


Powering On/Off


Powering On in Operating Mode

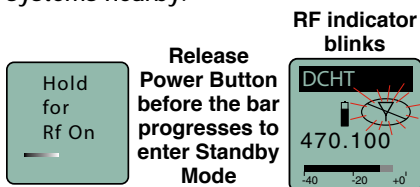
Press and hold the Power Button  briefly until a bar on the LCD finishes.

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



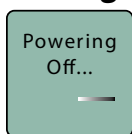
Powering On in Standby Mode


A brief press of the power button , and releasing it before the progress bar finishes, 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.



NOTE: After settings and adjustments are made, press the power button again to turn the unit off or navigate to menu item Xmit, RFOn? to choose to begin transmitting.

Powering Off



To turn the unit off, hold the Power Button  in briefly and wait for the progress bar to finish, 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 progress bar finishes, 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.

Screen Details

Entering the Main Menu

The LCD and keypad interface makes it easy to browse the menus and make the selections

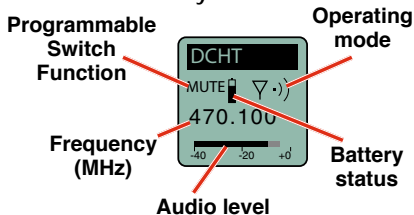
for the setup you need. When the unit is powered up in either the operating or the standby mode, press **MENU/SEL** on the keypad to enter a menu structure on the LCD. Use the  and  arrow buttons to select the menu item. Then press the **MENU/SEL** button to enter the setup screen.



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.

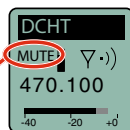
Main Window Indicators

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.

Mute function enabled but not active



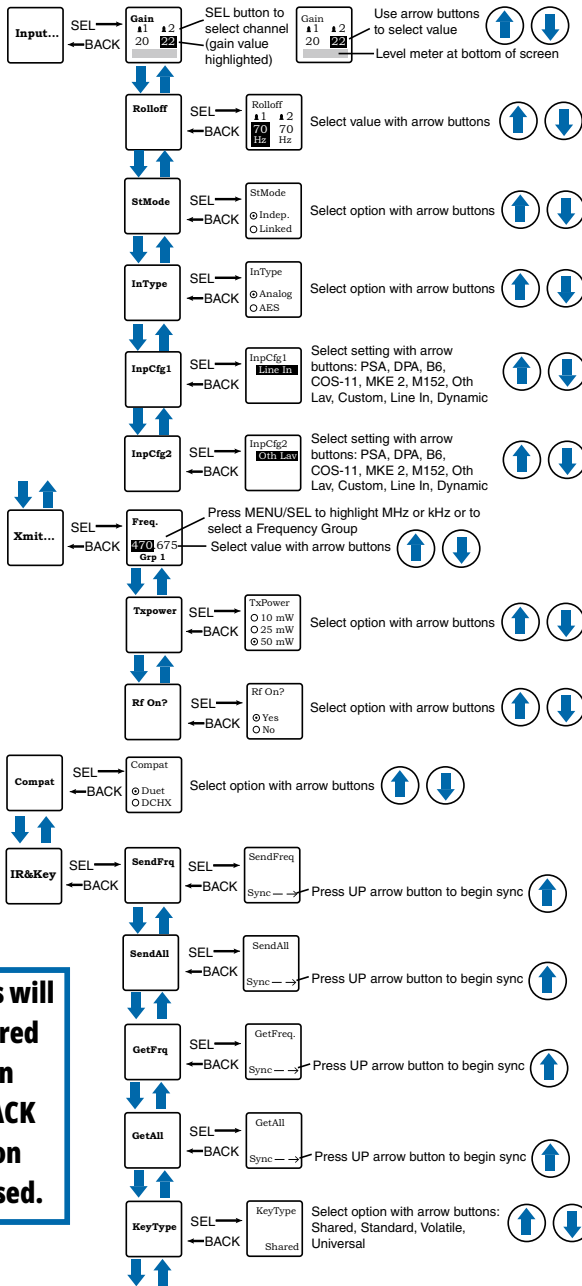
When the switch is turned on, the mute icon appearance will change and the word **MUTE** will blink at the bottom of the display. The -10 LED on the top panel will also glow solid red.

Mute function enabled and active



Main Window will blink the word MUTE when the audio is muted

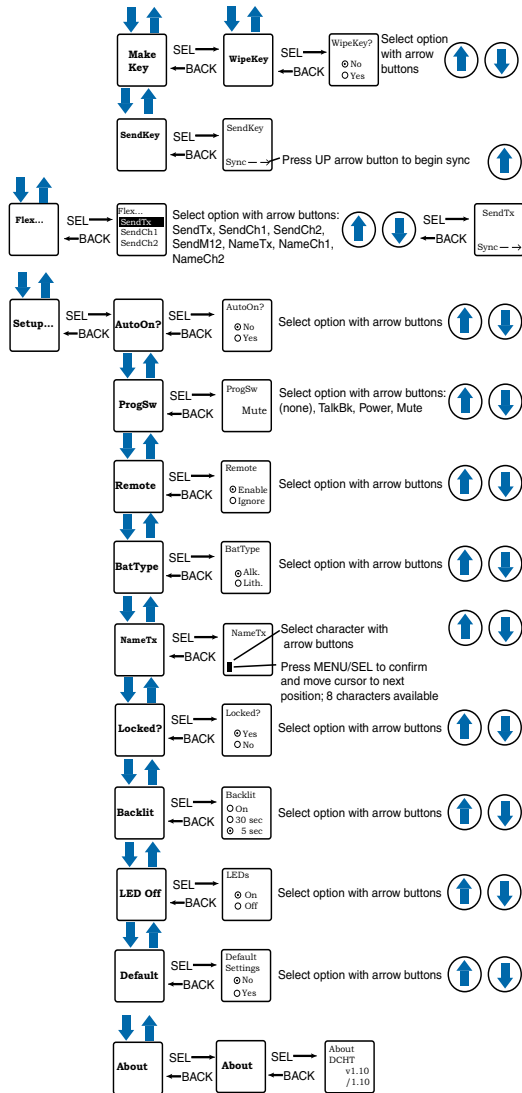
LCD Menu Map



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.

NOTE: The key menu selections only show when DCH(X) compatibility mode (encryption) is selected.



NOTE: Make, Wipe and Send Key Menu options are only available in Shared, Standard and Volatile Key Types. They will not be displayed in the menu if Universal Key Type is chosen.

Quick Start

- 1) Install good batteries and turn power on (see page 4).
- 2) Set compatibility mode to match the receiver (see page 8).
- 3) Connect signal source, select input type and adjust input gain for optimum modulation level (see pages 8 and 9).
- 4) Set or sync frequency to match receiver (see page 9). Also see receiver manual for scanning procedure.
- 5) Set encryption key type and sync with receiver (see pages 10 and 11).
- 6) Set programmable switch to desired function (see page 11).
- 7) Verify RF and audio signals are present at the receiver (see receiver manual).

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.

Xmit Menu

Selecting Receiver Compatibility Mode

The transmitter can be set to operate with different receivers:

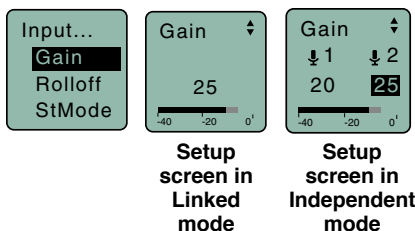
Duet: M2R digital IEM/IFB receiver

DCH(X): M2R-X encrypted (FW v3.x)

Input Menu

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.

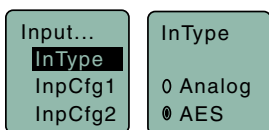


- 3) Position a microphone the way it will be used in actual operation and have the user speak or sing at the loudest level that occur during use, or set the output level of the audio device to the maximum level that will be used.
- 4) Use the and arrow buttons to adjust the gain until the LED glows 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.

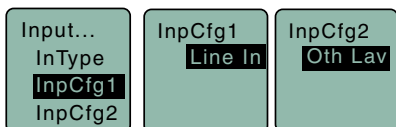
Selecting Input Type

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.

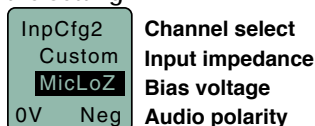


Selecting Input Configuration

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.



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.



Channel select
Input impedance
Bias voltage
Audio polarity

Available settings:

Input impedance (Z): LOW, MID, HIGH

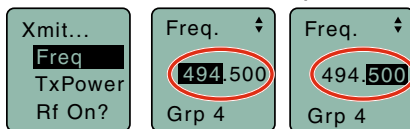
Bias voltage: 0V, 2V, 4V

Audio polarity: + (pos.), - (neg.)

Xmit Menu

Selecting Frequency

The setup screen for frequency selection offers multiple 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.

NOTE: When the frequency is highlighted, hold down the MENU/SEL button to increase or decrease frequency in higher increments.

M2R Menu

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 user to quickly find and listen to any of the performer's mixes on the stage. The mix includes the name, 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.

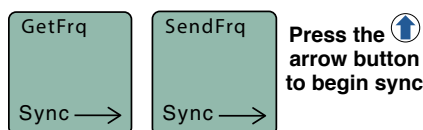
The DCHT, DCHT/E01's M2R functions create an easy interface with the FlexList feature. The following options are available:

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



GetAll

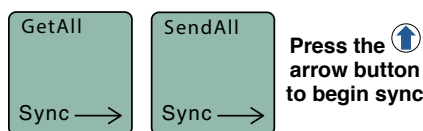
Sync to receive (get) all available settings from the M2R transmitter via the IR port, including the performer's name, (or whatever name the user chooses for the DCHT, DCHT/E01), frequency, mixer settings and limiter settings.

NOTE: The GetAll function is designed for troubleshooting 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, DCHT/E01.

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, DCHT/E01), 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, DCHT/E01.



Key Menu

Encryption Key Management

KeyType

The DCHT has four options for encryption keys:

- **Universal:** This is the most convenient encryption option available. All encryption-capable Lectrosonics transmitters and receivers contain the Universal Key. The key does not have to be generated by the DCHT. Simply set a Lectrosonics encryption-capable receiver and the DCHT to Universal, and the encryption is in place. This allows for convenient encryption amongst multiple transmitters and receivers, but not as secure as creating a unique key.

NOTE: When the DCHT is set to Universal Encryption Key, Make Key, Wipe Key and Share Key will not appear in the menu.

- **Shared:** There are an unlimited number of shared keys available. Once generated by the DCHT and transferred to an encryption capable receiver, the encryption key is available to be shared (synced) by the receiver with other encryption capable transmitters/receivers via the IR port.
- **Standard:** Standard Keys are unique to the DCHT. The transmitter generates the Standard Key. The DCHT is the sole source of the Standard Key, and because of this, the DCHT may not receive (get) any Standard Keys.
- **Volatile:** This one-time only key is the highest level of encryption security. The Volatile Key exists only as long as the power in both the DCHT Transmitter and an encryption capable receiver remains on during a single session. If the receiver is powered off, but the DCHT has remained turned on, the Volatile Key must be sent to the receiver again. If the power is turned off on the DCHT, the entire session concludes and a new Volatile Key must be generated by the transmitter and sent to the receiver via the IR port.

MakeKey

When the transmitter key type is set to Volatile, Standard or Shared, use this menu item to create a key that can be synced with an encryption capable receiver.

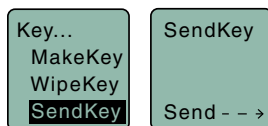
WipeKey

This menu item is only available if there is a Key Type currently on the DCHT that can be deleted.

Select Yes to wipe the current key and enable the DCHT to create a new key.

SendKey

This menu item is only available if Key Type is set to Volatile, Standard or Shared, and a new key has been created. Press Menu/Sel to sync the Encryption key to another transmitter or receiver via the IR port.

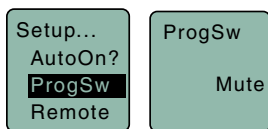




Setup Menu

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
- **TalkBk** - redirects the audio to a different output channel on the receiver (only available in DCH(X) compatibility mode)



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.

LIMITED ONE YEAR WARRANTY

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

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

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

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

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



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