

# CTS

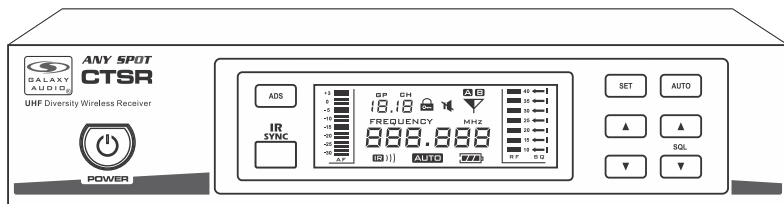
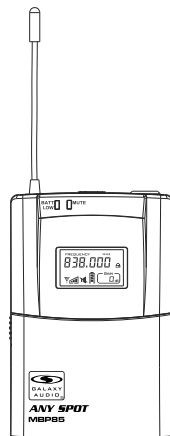
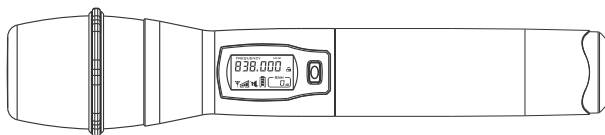
# UHF



## USER'S MANUAL

# ANY SPOT<sup>®</sup>

## WIRELESS MICROPHONE SYSTEM



MAKERS OF THE ORIGINAL  
HOT SPOT PERSONAL MONITOR

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Thank you for choosing the Galaxy Audio CTS Wireless Microphone System. You have joined hundreds of thousands of other satisfied Galaxy customers. Since 1977 Galaxy Audio's professional experience in design and manufacturing ensure our products quality, performance and reliability.

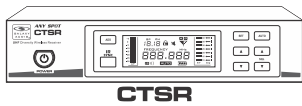
For the most up to date manual and information  
visit [www.galaxyaudio.com](http://www.galaxyaudio.com).

# CTS System Components

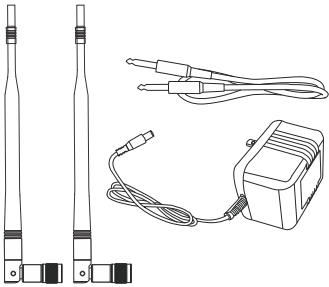
## System Overview

The CTS system is specifically designed for a variety of performance art. The CTS system has 18 different groups, and each group consists of 14 compatible receiving channels. The CTS system is capable of searching for vacant channels automatically. Syncing the transmitter with the receiver is simple via IR.

The CTS system consists of a receiver, transmitter, and power adaptor. The transmitter can either be a handheld or a belt pack (choice of headset or lavalier mic). Systems also include a 1/4" signal cable and a quick start guide.



CTS R

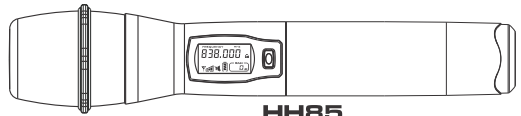


**All CTS systems include the following components:**

- CTS Receiver
- One 1/4" Audio Cable
- Power Adapter
- Two Antennas
- MREWD Single/Dual Rack Kit
- Quick Start Guide

**Handheld Microphone Systems include the following:**

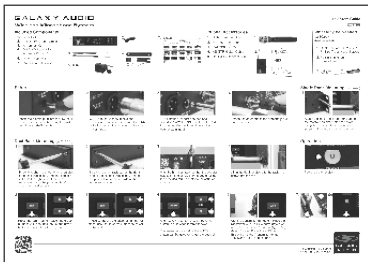
- HH85 Handheld Transmitter



HH85

**Lavalier/Headset Microphone systems include the following:**

- MBP85 Bodypack Transmitter
- Microphone (choice of Lavalier, or Headset)



MBP85



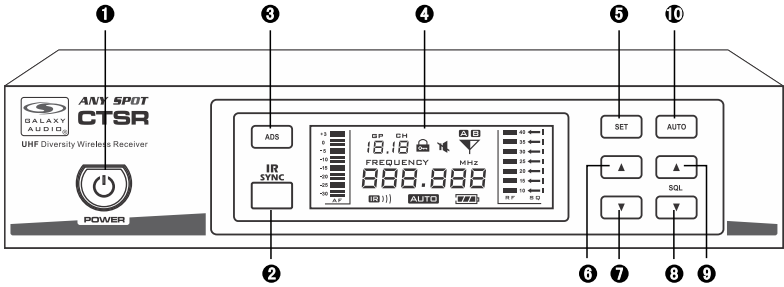
HS-U3BK



LV-U3BK

## CTSR Receiver Features

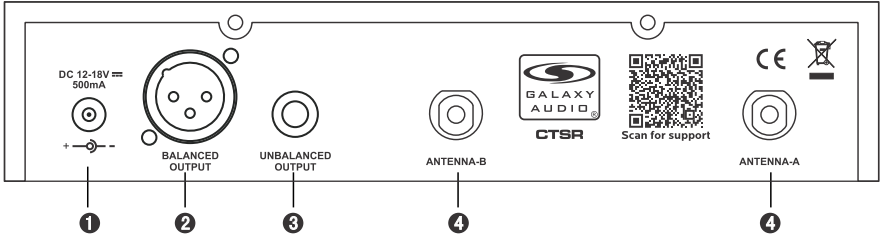
### Front Panel



- 1** Power Switch.  
With red light indicator, press it one second to turn it on or off.
- 2** IR Window
- 3** IR Sync Signal Button: Pressing button starts 10 second transmitter synchronization indicated by flashing Icon. During the 10 seconds aim the transmitter IR window at the receiver IR window and the transmitter will sync to the receiver frequency.
- 4** LCD Display Panel
- 5** System setting button
- 6** System Menu up button
- 7** System Menu down button
- 8** SQL decrease button
- 9** SQL increase button
- 10** Automatically Search for vacant channels

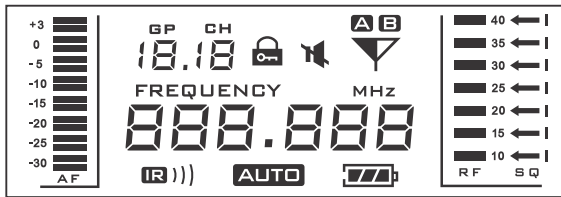
# Functions of the CTSR Receiver

## Rear Panel



- ① DC power socket
- ② Balanced audio output socket: XLR
- ③ Unbalanced audio output socket: 1/4"
- ④ Antenna Socket

## Receiver LCD Functions

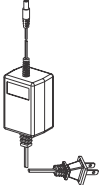


Display	Function
IR )))	IR Syncing Indicator
AF	Audio Level
GP	Current Group Number
CH	Current Channel Number
FREQUENCY	Current Frequency
MUTE	Mute, it will disappear when the mic is on
RF	Receiving Signal Level
SQ	Squelch Level
A/B	Antenna A/B status
AUTO	Automatically Search for vacant channels
///	Transmitter Battery Level

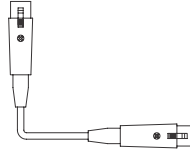
## Mounting & Connecting the Receiver



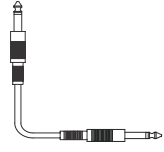
MREWD Single/Dual Rack Kit



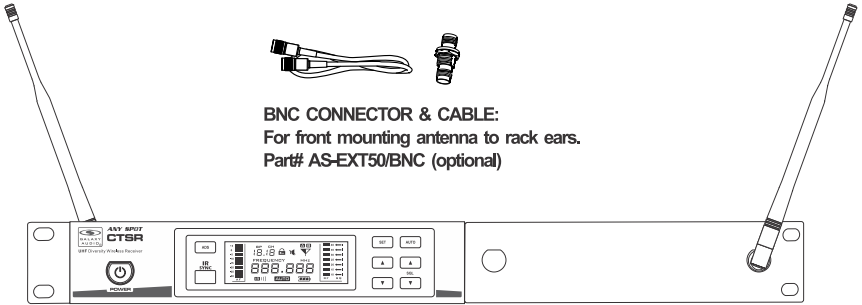
DC power adapter



Balanced output cable



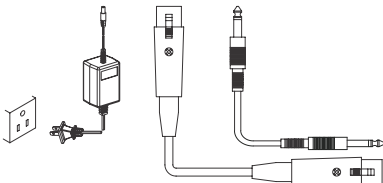
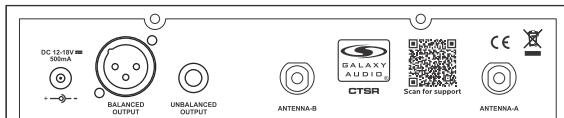
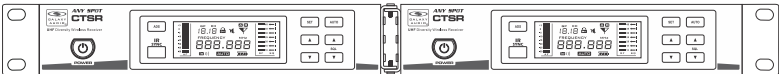
1/4 inch output cable



BNC CONNECTOR & CABLE:  
For front mounting antenna to rack ears.  
Part# AS-EXT50/BNC (optional)

## Rack-Mounting Two CTS Receivers



Rack Brackets for mounting Two Receivers side by side  
Included Parts: MREWD

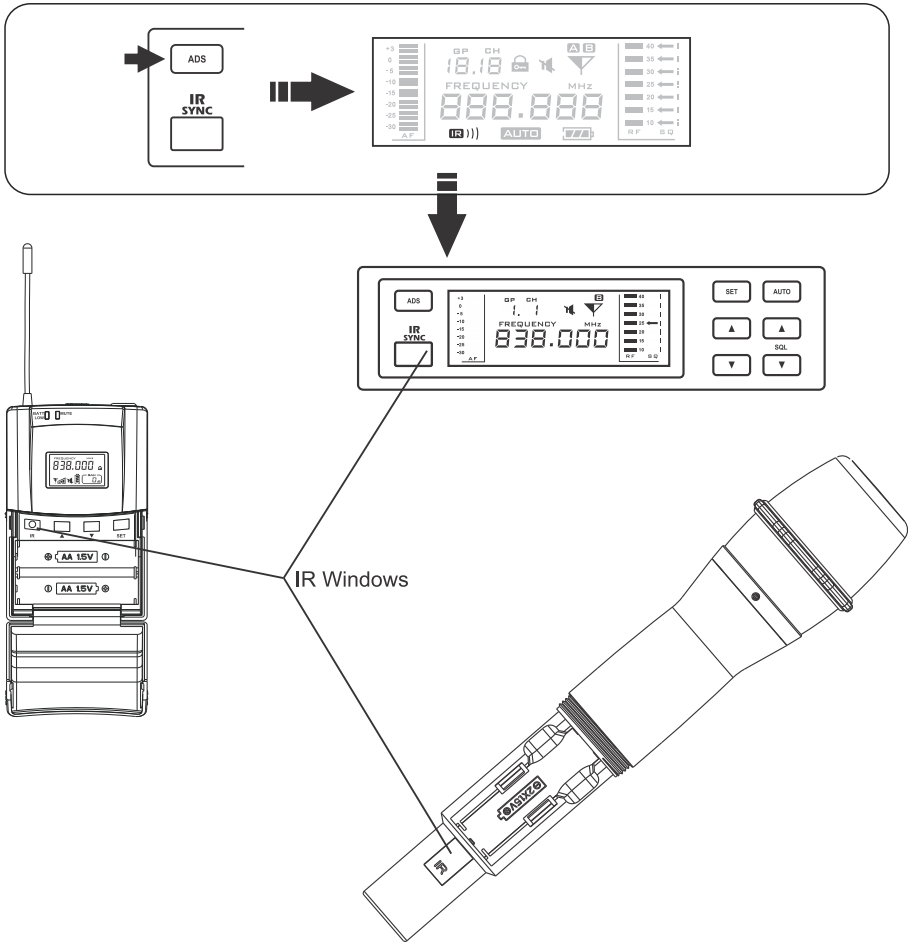


Connect to sound system  
microphone input

# System Setup

## 1. IR SYNC Setting

Press the **ADS** button, the icon  will flash for 10 seconds. During the 10 seconds aim the transmitter IR window at the receiver IR window and the transmitter will sync to the receiver frequency. When the sync is complete the icon  will disappear and the display will return to its normal state.

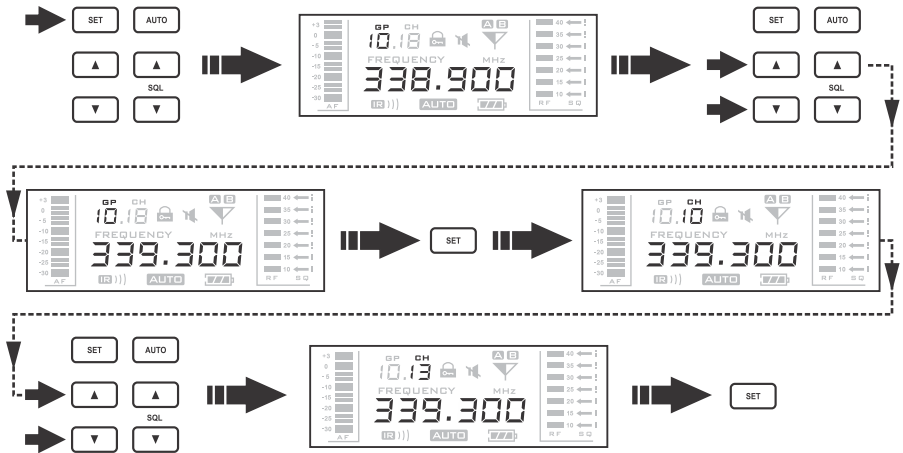




## 2. Selecting Frequency

Press **SET** button. The GP flashes to indicate the group can be chosen by pressing the **▲** or **▼** button, to confirm press the **SET** button. It will return back to the original state without any operation within 5 seconds. Press **SET** to confirm the group selection, the CH flashes to indicate the channel can be chosen, press the **▲** or **▼** button to choose, Press **SET** again to exit setting mode automatically after confirmation.

When choosing frequencies from the “U” group, press **SET** button, and the top three numbers before the point flash, press **▲** or **▼** buttons to choose, 1MHz for every push, and press **SET** again to confirm, then the last three number after the point blink, press **▲** or **▼** buttons to choose, every step for 25kHz.



## 3. SQL Setting and Change

The CTSR receiver has a built-in adjustable SQL (Squelch Level) function which silences the output when the receiver does not get a strong or quality signal from the transmitter, instead of reproducing noise. When squelch is adjusted, the threshold of the signal quality or level is adjusted.

Press SQL **▲** or **▼** to change the value. The higher value means the lower reception sensitivity and stronger anti-interference ability.

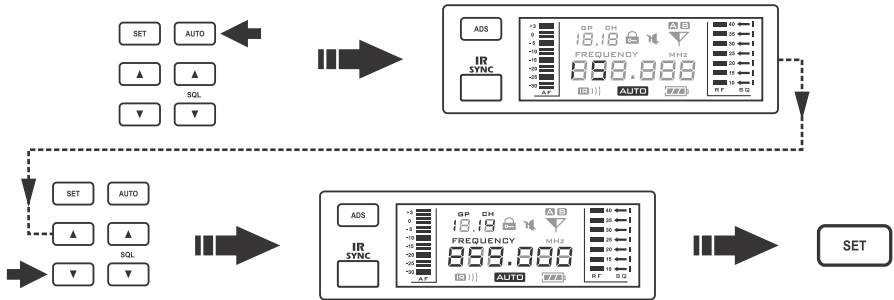


Use the lowest setting that rejects noise. High settings will dramatically reduce range.


# System Setup

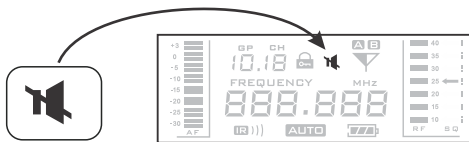
## 4. Automatically Search for Vacant Channel

Press **SET**, the **AUTO** icon will start to flash then available channels within the selected group will be shown on the LCD display. For example, the LCD display shows 15, that means there are 15 vacant channels available. Then Press the button **▲** or **▼** to select an appropriate channel. Once a channel is selected, press **SET** to confirm the setting. If no vacant channel can be found within 5 seconds, receiver will automatically return to the original state. If no channels are available, try scanning another group.





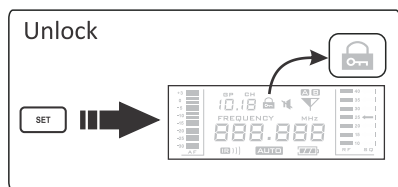
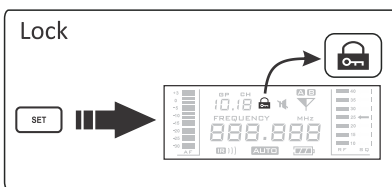
## 5. Auto Muting

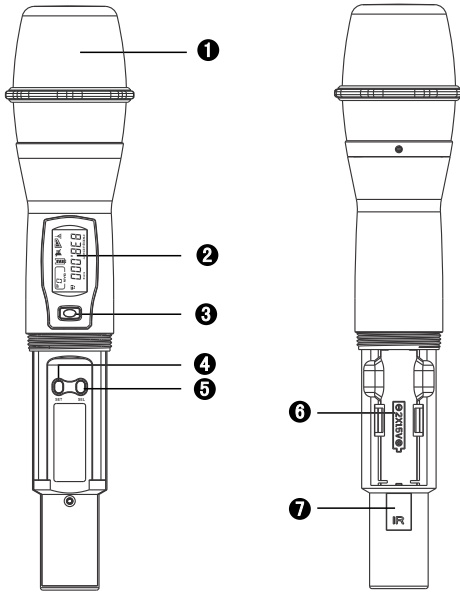
The  icon is displayed in the receiver LCD screen when the receiver is no longer picking up the transmitter, and the receiver mutes. This prevents the receiver from picking up noise when the transmitter is out of range.



## 6. Locking and Unlocking

Press **SET** and hold for one second until LCD shows “”. At this time, all buttons except Power will be disabled. All receiver’s setting functions are now locked. To unlock, press **SET** and hold it until the “” icon disappears, the receiver is now unlocked.



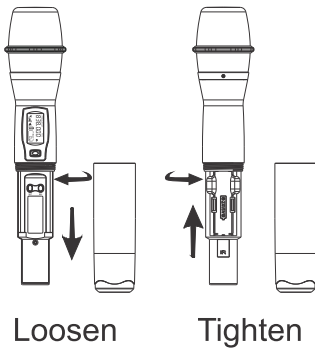


## Functions:

- ① Microphone Grille
- ② LCD Display
- ③ Power and Mute switch: hold for three seconds to power on or off. Click once to mute or unmute output signal
- ④ System setting button.
- ⑤ System selection button.
- ⑥ Battery holder.
- ⑦ IR port: Receives the IR signal to SYNC to the CTSR receiver.

## Changing Batteries:

Unscrew cover to access the Battery Tray. Observe correct polarity markings when installing Batteries.



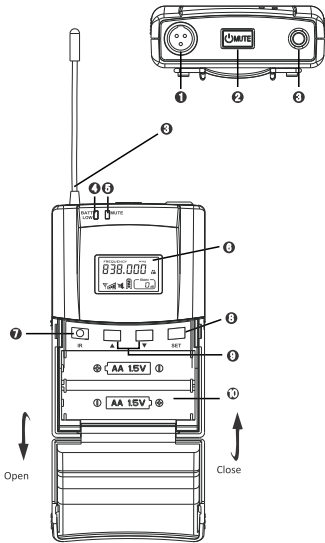
## Battery Life

Display	Approximate Hours Remaining (alkaline batteries)
	<b>8 Hrs +</b>
	<b>5 to 6 Hrs</b>
	<b>2 to 3 Hrs</b>
	<b>Change Battery</b>

# MBP85 Body Pack Transmitter

## Functions:

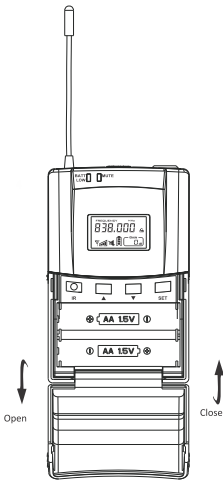
- ❶ Mini XLR input socket
- ❷ Power/Mute switch: Press it and hold for three seconds to power on or off. Click once to mute or unmute output signal
- ❸ Antenna
- ❹ Low battery indicator
- ❺ Mute indicator
- ❻ LCD Display
- ❼ IR window: Receives the IR signal to SYNC to the CTSR receiver
- ❽ System setting button
- ❾ System Up or Down buttons
- ❿ Battery holder



## Battery Replacement:

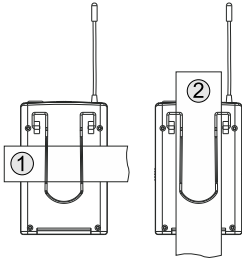
Fold open the Battery Door as shown. Install Batteries while observing correct polarity markings.

The life expectancy of two alkaline batteries is about 8 hours.



Display	Approximate Hours Remaining (alkaline batteries)
	<b>8 Hrs +</b>
	<b>5 to 6 Hrs</b>
	<b>2 to 3 Hrs</b>
	<b>Change Battery</b>

# MBP85 Body Pack Transmitter



## How to Wear the MBP85 Transmitter:

Clip the transmitter to belt ①, or slide a guitar strap through the transmitter's clip ②, as shown in the diagram at left.

For best results, slide the transmitter until the belt is pressed against the base of the clip ①.

## Microphones for Body Pack Transmitter

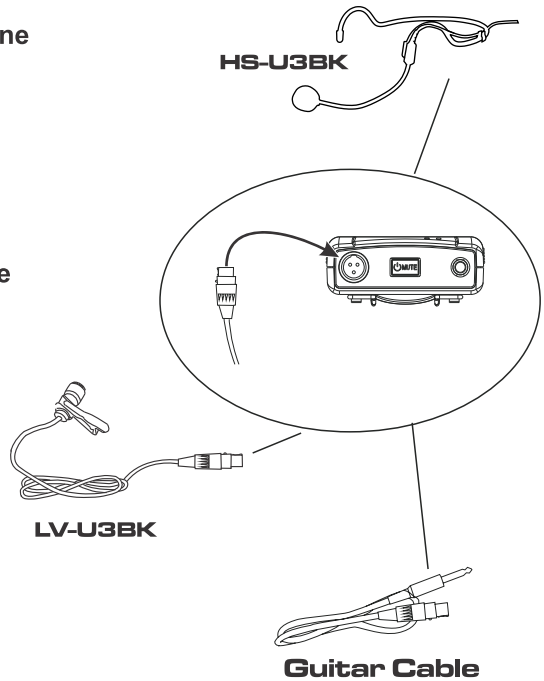
### HS-U3BK Headset Microphone

Polar Patten: Unidirectional  
Sensitivity:  $-65\text{dB} \pm 2\text{dB}$   
Frequency Response:  
50Hz-18KHz  
Output impedance:  $\leq 2\text{K} \Omega$   
S/N Ratio:  $\leq 38\text{dB}$

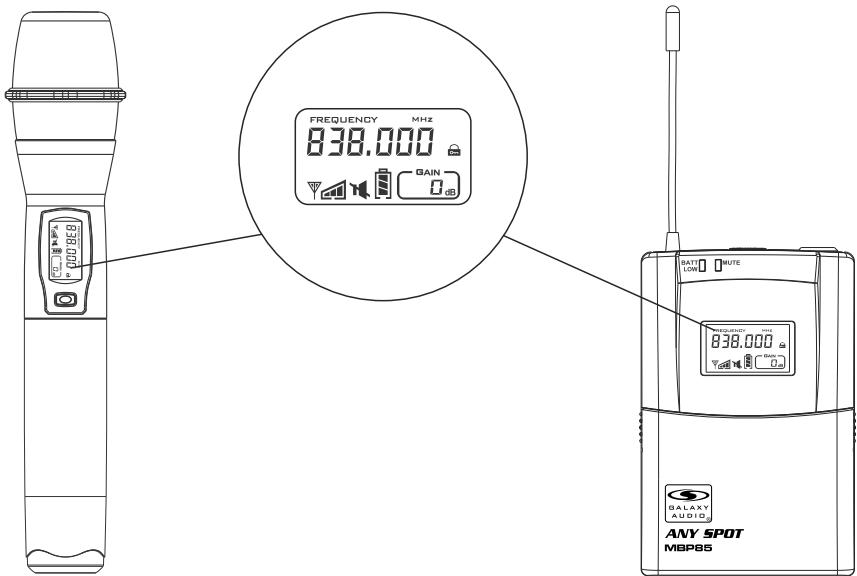
### LV-U3BK Clip-on Microphone







Polar Patten: Unidirectional  
Sensitivity:  $-64\text{dB} \pm 2.2\text{dB}$   
Frequency Response:  
100Hz-20KHz  
Output impedance:  $2\text{K} \Omega$   
S/N Ratio:  $>44\text{dB}$

This is just a sample of the many headset options available from Galaxy Audio.



## Main Functions Description of Transmitters



Display	Function
	Transmitter Output Power
	Battery Status
	Current Frequency
	Mute Symbol
	Transmitter Output Level
<b>GP</b>	Current Group Number
<b>CH</b>	Current Channel Number
	Function Locked Indicator

# Handheld and Body Pack Transmitter

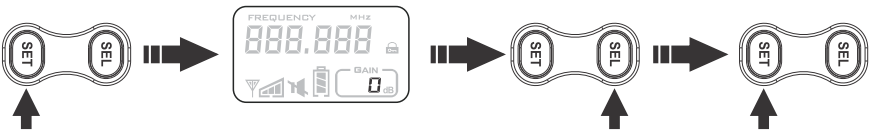
## Current Frequency Checking:

Press **(SEL)** button to show the current frequency, press **(SEL)** to return.  
If no operation was performed within 5 seconds, the display will return back to normal display automatically.




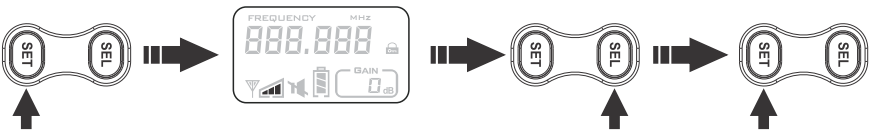
## Transmitter gain adjust:


Press **(SEL)**, **(GAIN dB)** symbol flashing, press the **(SEL)** button to change the relative level in dB. (-9dB, -6dB, -3dB, 0dB, 3dB) then press the **(SEL)** button again to confirm it or press on Mute button to exit the setting.







## Transmitter RF Power adjust:

Press **(SEL)** twice, the signal icon  flashes, press the **(SEL)** button to change the relative output level in mW. (5mW, 10mW, 20mW) then press **(SEL)** again to confirm it or press on Mute button to exit the setting.





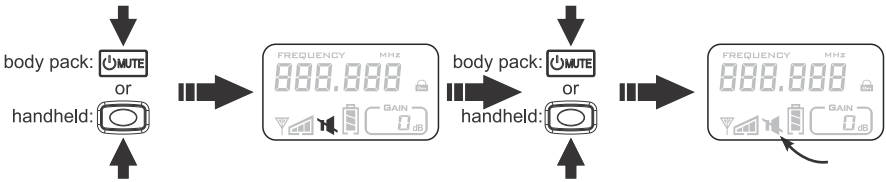
\* Button **(SEL)** on handheld microphone has an identical function as the button  on body pack transmitter.

For the body pack, press the  button multiple times to step through each setting. When the desired setting flashes, use the  or  buttons to change the parameter to the desired setting. Then press the  button multiple times until no setting flashes.


# Handheld and Body Pack Transmitter

## Mute setting:

On the body pack, press **MUTE** once, the transmitter will be muted right away and the icon  displayed, press one more time to unmute it. For the handheld, repeat the same steps using the  button.

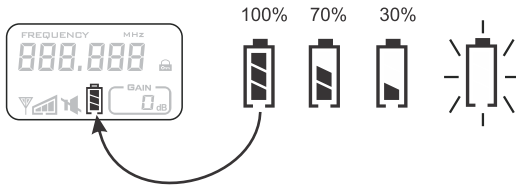


## Battery Status Indicator:



When the battery is low, the display shows an empty flashing battery icon . The battery status of transmitter and receiver is synchronized.

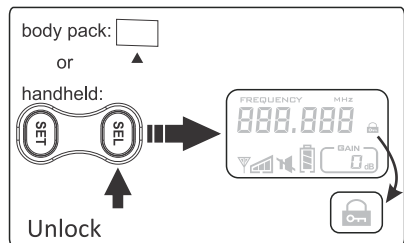
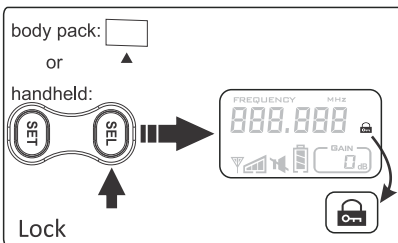
When the battery is too low, an empty battery icon and Lo will appear on the display for about three seconds, then an internal control circuit will force the transmitter into off state automatically.

We recommend users change to a pair of new batteries when the battery icon shows as 30%.



## Lock and Unlock Setting:

For the handheld, Press **SEL** button and hold it until LCD shows "🔒". At this time, all buttons except Power on/off will be disabled. All transmitter's functions are now locked. Press **SEL** and hold until the "Lock" symbol goes away to unlock. For the body pack, press and hold the  button to lock. Press and hold  again to unlock.





## Tips for Improving System Performance

- Maintain a line of sight between transmitter and antenna.
- Avoid placing the receiver near metal surfaces or any digital equipment (CD players, computers, etc).
- Keep the receiver away from the wall and over 1m to the ground.
- Cellular telephones, two-way radios and other RF transmitters can interfere with the transmitting frequencies, maintain a distance from interfering equipment.

## Troubleshooting

Issue	Indicator Status	Solution
No sound or faint sound.	Transmitter ON Indicator stop flashing	Turn on transmitter. Make sure the +/- indicator on battery match the transmitter terminals
	Power indicator off	Make sure AC adapter is securely plugged into electrical outlet and into DC input connector on rear panel of receiver.
	Receiver RF indicator glows	Turn the receiver up Turn up the Gain adjustment switch in the transmitter Check the power connection of the receiver and amplifier or mixer
	Receiver RF indicator off, transmitter indicator ON	Take the receiver away from the metal objects Check whether there are obstructions between receiver and transmitter Move the transmitter near the receiver Check the receiver and transmitter whether use the same frequency
	Transmitter low battery indicator ON	Change the batteries in transmitter.
Distortion or unwanted noise bursts.	Receiver RF indicator ON	Remove nearby sources of RF interference (CD players, computers, in-ear monitor systems, etc.)
Distortion level increases gradually.	Transmitter low battery indicator ON	Replace Transmitter batteries.
Sound level different from cabled guitar or microphone, or when using different guitars.		Adjust Transmitter Gain and Receiver Volume as necessary.

# Specifications

## CTS System:

**Available Channels:** 920 Selectable Frequencies  
(18 groups of 14 channels)

**Band:** UHF Frequency

**Operating Range Under Optimum Conditions:** 300'

**Audio Frequency Response:** 60Hz - 16kHz

**Note:** battery characteristics may limit this range.

## CTSR Receiver:

**Frequency Range:** CODE D 584~607 MHz  
CODE J 514~537 MHz

**Channels:** 920 Selectable Frequencies  
(18 groups of 14 channels)

**Power Requirements:** 12Vdc, 500mA

**Bandwidth:** 24MHz

**Sensitivity:** -102dBm

**Signal-to-noise ratio:** >105dB(A)

**Frequency Response:** 60Hz - 15kHz

**Output Level:** 8dBu Max

**Output Connections:** Balanced XLR,  
Unbalanced 1/4"

**IR Sync transmitter with receiver**

**Dimensions:** 1.73" x 8.34" x 6.29"  
(44 x 212 x 160 mm)(HxWxD)

**Weight:** 1.98 lbs (900 g)

## HH85 Handheld Transmitter:

**Frequency Range:** CODE D 584~607 MHz  
CODE J 514~537 MHz

**Polar Pattern:** Cardioid

**Element Type:** Dynamic

**LCD Display:** Frequency, Battery Life,  
Mute, Gain, RF Power, Lock

**Selectable Power:** 5, 10, 20mW

**Selectable Gain:** -3, 0, 3, 6, 9

**Power Requirements:** 2 "AA" Batteries alkaline  
or rechargeable batteries

**Battery Life:** About 8 Hrs dependent on power setting

**Dimensions:** 9.68" x 2.08" (246 x 53 mm)(LxDia.)

**Weight:** 8.8 oz (250 g)

## MBP85 Body Pack Transmitter:

**Frequency Range:** CODE D 584~607 MHz  
CODE J 514~537 MHz

**LCD Display:** Frequency, Battery Life,  
Mute, Gain, RF Power, Lock

**Selectable Power:** 5, 10, 20mW

**Selectable Gain:** -3, 0, 3, 6, 9

**Power Requirements:** 2 "AA" size alkaline or  
rechargeable batteries

**Battery Life:** About 8 Hrs dependent on power setting

**Dimensions:** 3.85" x 2.51" x 0.90"  
(98 x 64 x 23 mm)(HxWxD)

**Weight:** 3.17 oz (90 g)

### CTS

Frequency Chart



<https://www.galaxyaudio.com/assets/uploads/media/MasterFrequency.pdf>

### GALAXY AUDIO

Frequency Page



<http://www.galaxyaudio.com/support/schematics-and-frequency-charts>

## DTV Frequency Ranges & FCC Consumer Alert

DTV RF Channel	Frequency Range
14	470-476
15	476-482
16	482-488
17	488-494
18	494-500
19	500-506
20	506-512
21	512-518
22	518-524
23	524-530
24	530-536
25	536-542
26	542-548
27	548-554
28	554-560
29	560-566
30	566-572
31	572-578
32	578-584
33	584-590
34	590-596
35	596-602
36	602-608
37	608-614
38	614-620
39	620-626
40	626-632
41	632-638
42	638-644
43	644-650
44	650-656
45	656-662
46	662-668
47	668-674
48	674-680
49	680-686
50	686-692
51	692-698

The frequencies of the Galaxy UHF Wireless Systems are on frequencies that are used by Digital Television stations.

To be assured of the best performance, you should determine on what RF channels the DTV stations in your area are broadcasting, then set your wireless systems on frequencies that are not being used.

You can find that information on this FCC web site.

<http://transition.fcc.gov/mb/engineering/dtvmaps/>

Enter the zip code of the location where the wireless system will be used into the location search bar. A list of stations in that area will be listed. Click on the call sign of the stations and the details will appear, showing you the RF channel the TV station is using. Compare these with the chart to the left, and, using the Galaxy frequency charts online, find a frequency that is not on an active DTV RF channel.

For example, if you have an L-Band CTSR and your location has DTV stations on RF channels 45 and 48, you will want to set your CTSR on a frequency that is on RF channel 46 or 47.

### FCC Consumer Alert for Wireless Microphones (U.S.)

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](http://www.fcc.gov/cgb/wirelessmicrophones)

Please visit [galaxyaudio.com](http://galaxyaudio.com) for the latest updates



MAKERS OF THE ORIGINAL  
HOT SPOT PERSONAL MONITOR



[www.galaxyaudio.com](http://www.galaxyaudio.com)

## ***THREE YEAR LIMITED WARRANTY***

**WARRANTY** Information can be viewed online at  
<http://www.galaxyaudio.com/support/warranty>



[www.galaxyaudio.com/support/warranty](http://www.galaxyaudio.com/support/warranty)

## **CTS** **USER'S MANUAL**

Specifications in this manual are subject to change without notice.  
For the most up to date manual and information  
visit [www.galaxyaudio.com](http://www.galaxyaudio.com).

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