User Manual

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Firmware Version URX-2.21

ZAXCOM.COM

URX50

Front

1. **Volume Up and Down keys**
2. **Channel Up and Down keys**
   - When in the home or lock screen press to cycle through channel presets.
   - When in the sub menu press to cycle through the menus.
   - When in a menu press the keys to change the menu parameters.
3. **Power / Time Code key**
   - Press and hold for 2 seconds to power up the URX50.
   - Press and hold for 4 seconds to power down the URX50 - then pess the MENU key
   - Press three times quickly to enter or exit the menu groups.
   - From the home or lock screen press to display the time code and user bits.
4. **Menu key**
   - Press to cycle to the next menu item.

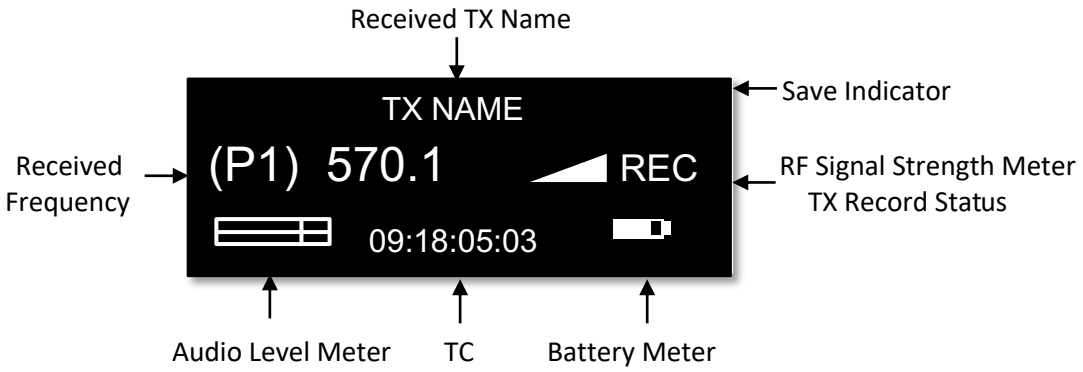
Top

1. **Antenna**
2. **OLED Display**
3. **3.5mm Headphone Jack**
   Please note that this jack acts as the second antenna for diversity reception..

Rear

1. **Battery Compartment** - The URX50 uses 3 AA batteries and will work with alkaline, NiMH or lithium AA batteries. The bottom of the URX50 has charging contacts so when using NiMH batteries, the batteries can be charged by using Zaxcom's drop in charger.
   WARNING: DO NOT USE THE CHARGER WHEN LITHIUM OR ALKALINE BATTERIES ARE INSTALLED.
2. **External Speaker**

Home Screen



Received Transmitter Name

This is the name of the transmitter being received by the URX50.

Received Transmitter Record Status

This displays the status of the internal recorder of the transmitter being received by the URX50. Stop (STP) Play (PLY) or Record (REC) will be displayed.

Save Indicator

The save indicator will briefly flash when after a setting change as a parameter is being written to the memory of the URX50.

Received Frequency

This is the preset position number and the UHF frequency that the URX50 is receiving.

RF Signal Strength

The RF strength meter shows the radio signal strength of the transmitter. The RF signal is depicted as a staircase pattern with the lowest step (low signal strength) on the left and building up to the right (higher signal strength). When more stairs are showing the stronger the signal is.

Audio Level

Displays the incoming audio level, the meter extends from the left to the right. The vertical bar is the -20dBFS mark and the far-right side of the box is 0dBFS.

Time Code

This is the time code of the transmitter that the URX50 is receiving.

Battery Meter

This displays a rough indication of the transmitter's battery level. For a more accurate battery reading the battery type being used in the transmitter needs to be set in the setup menu.

Main Menu

Navigating the Main Menu

- To enter the main menu - press the MENU key.
- To advance to the next menu press the MENU key again.

Frequency Select

The frequency select menu is where the URX50 receive frequency is set. This frequency needs to match the frequency that is set on the corresponding transmitter. To adjust the frequency, press the channel up key to increase the frequency and press the channel down key to decrease the frequency. When enabled, the URX will also scroll through its preset frequencies from this menu.
The frequency menu will display the modulation format, the name of the transmitter being received, a RF signal strength meter, audio meter and an arrow showing which antenna the signal is being received on.

Lock Screen

When the lock screen is landed on a 5 second countdown clock will start. After 5 seconds elapse the URX50 will lock and the menus cannot be accessed, this is to prevent the URX settings from accidentally be changed.
When the URX50 is locked the volume adjust keys, the channel preset keys and the time code display key can still be used.
To exit the lock screen, hold the MENU key and press the CH UP key 4 times.

Sub Menus

Menu groups

The URX50 has four sub menu groups

- **Channel Preset** - Sets the number of preset channels and sets the frequency of each preset channel.
- **Scan** - This is where the URX50 can scan the set RF spectrum.
- **Audio** - This is where the audio functions of the URX50 are set.
- **Setup** - This is where the setup parameters of the URX50 is set.

Accessing and navigating the menu groups

From in the main menu press the POWER / TC key three times quickly to access the menu groups. Then pressing the CH UP or CH DOWN key will cycle between the menu items.

Entering and navigating a sub menu

When landing on the desired menu group press the MENU key to enter that menu. Pressing the MENU key again will cycle through the menu items.

To return to the top of the menu press the MENU key to cycle to the top or press and hold the MENU key for 1.5 seconds.

Exiting the extended menu

To exit the menus, press the POWER / TC key 3 times quickly to return to the main menu.

CHANNEL PRESET MENU

Number of Presets

From this menu the number of presets that the URX50 will display can be selected. The URX50 can have up to 31 presets.

Preset Adjust

From this menu each preset frequency can be adjusted by pressing the CH UP and CH DOWN keys. If the frequency has a corresponding transmitter that is on the name of the transmitter will be displayed.
Each preset can be toggled on and off by pressing the POWER/TC key. When the preset is ON the user will be able to cycle to that preset and listen to it, if the preset is OFF the user will not be able access that preset.
After the frequency is set press the MENU key to advance to the next preset.
Please note the number of available frequencies will be determined by the number of presets that was set in the previous menu.

It is important to note that when using the URX remote preset number 1 will need to be set to the frequency of the TRXCL3 that is supplying the data to the URX50.

SCAN MENU

Frequency Scan

The frequency scan menu is where the URX50 will scan the user specified frequency range and search for a clear frequencies. The frequency range that will be scanned will be displayed on the bottom half of the screen. The frequency range that will be scanned is set and can be changed in the next menu.
After the scan is completed a graphic display of the RF that is present, in the specified range, will be shown. The URX50 will also suggest a clear frequency. That frequency can be accepted by pressing the CH UP key. Or press the CH DOWN key to skip the first chosen frequency and have the URX50 suggest another frequency.

Scanning for a frequency

- Turn off the transmitter(s).
- From the scan menu press the CH UP key to initiate a scan.
- While the URX50 is scanning, the frequency being examined is displayed in the bottom half of the screen. Once the scan has completed a graphic map of the scan will be displayed. The low end of the frequency range is on the left side and the high end is on the right. Wherever RF is found, a vertical line will be drawn. The line extends from the baseline up. The length of the line indicates the level or strength of the found RF at that frequency.

Selecting the frequency

When the scan is complete the URX50 will draw a vertical blinking line on the display to indicate where the first suggested frequency is, and the frequency in MHz will appear below the scan graphic.

- Press the CH UP key to accept the new frequency.
- Press the CH DOWN key to decline and suggest a different frequency.

Setting the Scan Range

The scan range menu sets the frequency range that the URX50 will scan. Pressing the CH UP and CH DOWN keys will cycle through the scanning options.

Available Scan Ranges

- **All 200** - All frequencies from 512.0MHz through 698.0MHz will be scanned.
- **LO 100** - Corresponds to the frequency range of 3.5 transmitters, when selected the URX50 will scan all frequencies from 512.0MHz through 614.0MHz.
- **HI 100** - Corresponds to the frequency range of 3.6 transmitters, when selected the URX50 will scan all frequencies from 596.0 through 698.0MHz.
- **BLK (20 -26**) - Allows the URX50 to scan a specific block (Blocks 20-26).
  - Block 20 - 518-542 MHz
  - Block 21 - 536-572 MHz
  - Block 22 - 560-590 MHz
  - Block 23 - 590-614MHz (block 23 needs to be enabled)
  - Block 24 - 614-644 MHz
  - Block 25 - 638-668 MHz
  - Block 26 - 662-692 MHz

AUDIO MENU

Headphone Router

When receiving a stereo signal, the headphone routing will which signal (Left, Right or Both) will be routed to the headphones.

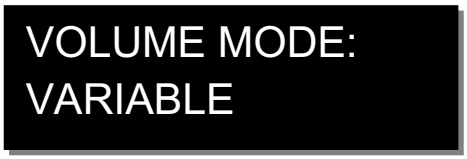
Speaker Enable

- **ON** - Turns on the speaker.
- **OFF -** Turns off the speaker.

Audio Delay Set

The audio delay menu is where a variable delay to the output audio is set. A delay is useful if the URX is being used for personal monitoring and there is a video processing delay to the monitors - so engaging the delay will delay the audio to match the video. The audio delay can be adjusted from 1MS to 400MS in 1MS increments.

Volume Mode

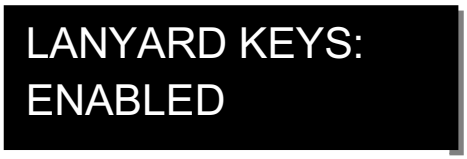


- **Variable** - The volume keys will function as normal
- **Fixed** - The volume keys will be disabled, and the audio output will be fixed at the current gain setting.

Extra Volume

Up to 10dB of digital gain and be added to the headphone output from this menu.

Lanyard Keys



When using a headphone with a built -in volume control switches can be disabled from this menu.

1KHZ Notch

When turned on the 1Kilohertz filter will notch out audio at the 1KHz frequency, this way if someone is monitoring audio and a tone is sent the listener will not hear it.

Volume Beeps

- **ON** - There will be a beep tone in the headphone out when adjusting the headphone volume.
- **OFF** - The headphone volume beeps will be muted.

Mute If Unit Code

This menu sets if transmitters with certain ZaxNet unit codes will not be able to be monitored by the URX50. For example, if this menu is set to 30 any transmitter with a ZaxNet unit code below 30 will not be able to be monitored by the URX50.
If a muted preset is selected to be monitored “MUTE” will appear on the display and that preset will not be able to be listened to - even if that preset is enabled.

SETUP MENU

Modulation Select

The modulation menu is where the receive format is set. Modulation is simply the way a transmitter "modulates", or sends, its signal to the URX50. This setting needs to match the modulation mode that the corresponding transmitter is set to - if the two setting do not match the URX50 will not be able to receive and decode the signal from the transmitter.

Modulation types

- **MONO XR** - Select when receiving audio from a transmitter sending mono, stereo or XR modulation.
- **ZHD 96** - Select when receiving signal from a ZHD transmitter set to ZHD-96.

Unit Code

This is where the code is set to identify the URX. Each URX needs to have a unique identifier code so it can be controlled by the remote GUI.

IFB Voting

The IFB voting feature will allow the URX50 to automatically switch to a secondary frequency when it loses its signal from the primary transmitter. One purpose of this is, on a large set, a second transmitter can be placed at a distant location, so if the URX50 loses the signal from one transmitter it will automatically switch to the other transmitter.

To use IFB voting just set the offset in this menu. Then set the second transmitters frequency to the primary frequency + the offset. So, for example if the primary frequency is 560.000 MHz and the offset is 200 KHz then the second transmitter should be set to 560.200 MHz

Software Update

This is where the URX software is updated from.
When in this menu pressing the CH UP key will initiate the update process and the URX50 will wait and search for software that will be transmitted from a Zaxcom transmitter *(please refer to the software update section of this manual for more information on how to update the URX)*.

Display Flip

The display flip menu changes the orientation of the display. Please note when the display is flipped the CH UP and CH DOWN keys are flipped as well.

Battery Type

The battery chemistry that is being used in the URX50 is selected in this menu. Lithium, NIMH or Alkaline can be selected.

Scan on boot

- **ON** - When the URX boots up it will look for and if necessary, scan for the data channel being sent from the Zaxcom GUI Bridge via a Zaxcom TRXCL3 camera link transmitter.
  When the URX boots up it will look for data from the TRXCL3's on preset number 1 if the URX does not find the data it will initiate a scan to search for the data.
  For the URX to automatically find the data from the TRXCL3 the UNIT ID code on the camera link needs to be set to 99 and transmit frequency needs to be set to a whole MHz frequency (for example any frequency like 550.00 MHz or 551.000 MHz will work - a frequency like 550.100 MHz will not work). Then after the data is received the URX will automatically go back to the frequency it was originally set at.
- **OFF** - The URX will boot up as normal. If the data is present on the frequency it booted up to it will take the data if no data is present the URX will continue to operate as normal.

Hide Frequency Menu

- **ON** – The frequency menu will not be available from the home menu; this is to prevent the user from accidentally changing the frequency.
- **OFF** - The frequency adjust menu will appear in the main menu.

Test Tone

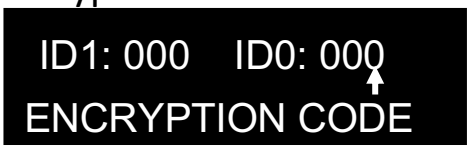
The URX50 can be set to output a test tone from this menu. This is useful to set levels and check routing. Pressing the INC and DEC key will cycle through the different tone settings.

- **OFF** - No tone is being outputted.
- **-20dBFS** -Tone is simultaneously sent to both outputs at -20dBFS.
- **+0dBFS** - Tone is simultaneously sent to both outputs at full scale 0dBFS.

Information Page

This page displays the current firmware version and the serial number of the URX50.

Encryption Code Set



This is where the encryption is turned on and the code is set. This code needs to match the encryption code of the associated transmitter(s). If an encryption code is set on the transmitter the transmitted audio will be encrypted and can only be listened to if the URX has the same matching encryption code entered. When the codes do not match, all that will be heard is white noise.
These two sets of numbers are formed into a single six-digit encryption code which provides a total of 16,777,216 possible combinations. For non-encrypted operations, all six numbers should be set to 0.

Adjusting the encryption code

1. Press the menu key to cycle to the next character.
2. To change the designated character, press the CH UP or CH DOWN key.
3. To exit this page, press and hold the MENU key.

Name Set

The name menu allows the URX50 to be named which aids in identifying the URX.
The maximum name length is 8 characters. Any letter or number can be used and if desired a space can be used.

To set/change the transmitter name:

1. Press the INC or DEC key to change the character in the current position above the arrow.
2. Press the MENU key to proceed to the next character.
3. When finished, press, and hold the MENU key to set the name

Operating Frequencies

UHF Audio

URX50 - L Tuning Range: 500 - 638 MHz
URX50 - H Tuning Range: 542 - 698 MHz

Firmware

Updating the URX50 firmware using a Zaxcom transmitter

1. Format a micro-SD card in the programing transmitter.
2. With a computer take the formatted card and perform the following:
   - Delete the "DELETE.ME" file from the card.
   - Download the new URX50 firmware from the Zaxcom website and load it into the card (URX-XXX.BIN). *https://zaxcom.com/support/updates/*
3. At the URX (please note multiple URX's can be updated at a time):
   - Verify that the batteries in each URX has sufficient battery power.
   - Verify the modulation mode is set to mono or stereo.
   - Verify encryption is off (ID1 and ID0 are both set to 000)
   - Set the UHF Frequency to the same frequency as the programming transmitter.
   - Proceed to the software update page in the setup menu and press the CH UP key.
   - "WAITING FOR PROGRAM" will be displayed - this indicates that the URX is ready to receive the new software.
   - Place the URX within 10' and line-of-sight of the programming transmitter. All the units should remain motionless to insure they receive a strong and undisturbed signal.
4. At the programing transmitter:
   - Insert the card with the BIN file.
   - Verify that transmitter has sufficient battery power.
   - Verify the modulation mode is set to mono or stereo.
   - Verify encryption is off (ID1 and ID0 are both set to 000)
   - Set the UHF Frequency to the same frequency as the URX100 is set to.
   - Start the software transmission. *Please Refer to the specific transmitter manual for instructions on how to transmit the software to the receiver.*
   - The transmitter will indicate that it found the program on the card and that it has started sending it. Please note the transmit process will cycle over and over until manually stopped.
5. Each URX50 should indicate it is receiving the software.
6. The programing transmitter will automatically resend the software until it is manually stopped. So if there is a reception error, the URX50 will automatically restart the update process with the start of the next cycle.
7. When the URX50 is done updating the software "SUCCESS . . . PRESS TC TO REBOOT" will be displayed. **Please note that it is important that the URX50 is not powered down before this is displayed.**
8. It is now safe to stop the firmware transmission.
9. At each URX100 press the POWER / TC key and verify that the URX100 is running the new software.

WARNING: After the URX50 has received its entire program, it will erase and burn its firmware into its ROM. During this process, which will take about a minute, **DO NOT** turn off the URX50.
When **"SUCCESS . . . PRESS TC TO REBOOT NOW"** is displayed it is safe to reboot the URX50.
If the program is never fully received, it is safe to cycle the power.

Please note the following transmitters can update the URX50:

- *ZHD transmitter running firmware version THD-275A or THD-286 or higher.*
- *TRXCL3 Camera Link running firmware version CL-286 or higher.*
- *ZMT transmitter running version firmware version ZMT-285 or higher.*

Specifications

Receiver

Receiver RF Channels: 1
Frequency selection: 20 discrete channels
Diversity method: antenna switching
RF Modulation: proprietary digital method
URX50-L Tuning Range: 500 - 638 MHz
URX50-H Tuning Range: 542 - 698 MHz
RF Frequency Step: 100 KHz
RF Signal Bandwidth: 200 KHz
Channel Separation: 300 KHz (300Khz to 500kHz Transmission / Modulation dependent)
Sensitivity: -100 dBm
RF channel voting: 2 or 3 channel auto selection
Modulation decode: Mono, Stereo, XR and ZHD96

Receiver Audio

Analog Output
Dynamic Range: 110 dB
Distortion: 0.002%
Frequency Range: 20Hz to 16 kHz
DAC Bit-depth: 24 bits
Audio Delay: 0 to 200mS
1 Khz Notch Filter: 60 dB attenuation / 5 Hz Bandwidth

Headphone Output

Impedance: 16 ohms
Output Power: 100 mW
Output Type: Headphone driver
Output connector: 3.5 mm
Mode: 2-Channel unbalanced

Speaker Output

Impedance: 16 ohms
Output Power: 200 mW
Speaker: 2” Permanent magnet
Frequency Response: 200Hz to 16KHz

Timecode

Visible display on OLED

Power

Internal Power: 3 AA Batteries
Li-Ion Battery Life: Up to 11 hours
NiMH Battery Life: Up to 10 hours
Alkaline Battery life: Up to 7 hours
Power Consumption: .8 watts
these times are approximate and will be refined as more testing is done

Misc.

Timecode output, Left audio out, Walkie Microphone out, Walkie Audio return
Weight: 4.5 oz. without batteries
Dimensions: 4.1” x 2.5” x .9”
Display: Graphic OLED Panel

Product Support

Register your product with Zaxcom:	***http://zaxcom.com/support/product-registration/***
Download the latest **Firmware** from:	***http://zaxcom.com/support/updates/***
Download the latest **User Manuals** from:	***http://zaxcom.com/support/updates/***
Submit Technical Questions at:	***http://www.zaxcom.com/submit-a-technical-question***
Submit information for **Repair Services** at:	***http://www.zaxcom.com/support/repairs***
Join the **Zaxcom User Forum** at:	***http://www.zaxcom.com/forum/forum.php***
Join the **Zaxcom Face Book User Group** at:	***https://www.facebook.com/groups/682199065139938/***

Zaxcom Warranty Policy and Limitations

Zaxcom Inc. values your business and always attempts to provide you with the very best service.

No limited warranty is provided by Zaxcom unless your URX50 ("Product") was purchased from an authorized distributer or authorized reseller. Distributers may sell Product to resellers who then sell Product to end users. Please see below for warranty information or obtaining service. No warranty service is provided unless the Product is returned to Zaxcom Inc. or a Zaxcom dealer in the region where the Product was first shipped by Zaxcom.

Warranty Policy

The Product carries a Standard Warranty Period of one (1) year.

NOTE: The warranty period commences from the date of delivery from the Zaxcom dealer or reseller to the end user.

There are no warranties which extend beyond the face of the Zaxcom limited warranty. Zaxcom disclaims all other warranties, express or implied, regarding the Product, including any implied warranties of merchantability, fitness for a particular purpose or non-infringement. In the United States, some laws do not allow the exclusion of the implied warranties.

Troubleshooting & Repair Services

No Product should be returned to Zaxcom without first going through some basic troubleshooting steps with the dealer you purchased your gear from.

To return a product for repair service, go to the Zaxcom Repair Services page ***http://www.zaxcom.com/repairs*** and fill in your information; there is no need to call the factory for an RMA. Then send your item(s) securely packed (in the original packaging or a suitable substitute) to the address that was returned on the Repair Services page. Ensure the package, as we cannot be held responsible for what the shipper does.

Zaxcom will return the warranty repaired item(s) via two-day delivery within the United States at their discretion. If overnight service is required, a FedEx or UPS account number must be provided to Zaxcom to cover the shipping charges.

*Please note a great resource to troubleshoot your gear is the Zaxcom Forum: ***http://www.zaxcom.com/forum***.

Warranty Limitations

Zaxcom's limited warranty provides that, subject to the following limitations, each Product will be free from defects in material and workmanship and will conform to Zaxcom's specification for the particular Product.

Limitation of Remedies

Your exclusive remedy for any defective Product is limited to the repair or replacement of the defective Product.

Zaxcom may elect which remedy or combination of remedies to provide in its sole discretion. Zaxcom shall have a reasonable time after determining that a defective Product exists to repair or replace a defective Product. Zaxcom's replacement Product under its limited warranty will be manufactured from new and serviceable used parts. Zaxcom's warranty applies to repaired or replaced Product for the balance of the applicable period of the original warranty or thirty days from the date of shipment of a repaired or replaced Product, whichever is longer.

Limitation of Damages

Zaxcom's entire liability for any defective Product shall, in no event, exceed the purchase price for the defective Product. This limitation applies even if Zaxcom cannot or does not repair or replace any defective Product and your exclusive remedy fails of its essential purpose.

No Consequential or Other Damages

Zaxcom has no liability for general, consequential, incidental or special damages. These include loss of recorded data, the cost of recovery of lost data, lost profits and the cost of the installation or removal of any Product, the installation of replacement Product, and any inspection, testing or redesign caused by any defect or by the repair or replacement of Product arising from a defect in any Product.

In the United States, some states do not allow exclusion or limitation of incidental or consequential damages, so the limitations above may not apply to you. This warranty gives you specific legal rights and you may also have other rights, which vary from state to state.

Your Use of the Product

Zaxcom will have no liability for any Product returned if Zaxcom determines that:

- The Product was stolen.
- The asserted defect:
- Is not present,
- Cannot reasonably be fixed because of damage occurring when the Product is in the possession of someone other than Zaxcom, or
- Is attributable to misuse, improper installation, alteration, including removing or obliterating labels and opening or removing external covers (unless authorized to do so by Zaxcom or an authorized Service Center), accident or mishandling while in the possession of someone other than Zaxcom.
- The Product was not sold to you as new.

Additional Limitations on Warranty

Zaxcom's warranty does not cover Product, which has been received improperly packaged, altered or physically abused.

ZAXCOM

Declaration of Conformity

ZAXCOM, INC.
230 West Parkway, Unit 9
Pompton Plains, NJ 07444
December 15, 2020

We certify and declare under our sole responsibility that the following product:

QRX200, QRX235, QRX212, MRX214, RX-12, RX-12R, RX200, URX100, and URX50 wireless microphone receivers
Restrictive use for residential, office and professional use only

Conforms with the essential requirements of the EMC Directive 2004/108/EC and R&TTE Directive 99/5/EC, based on the following specifications applied:

EN 300 422-2 v1.3.1 Radio Parameters
EN 301 489-9 v1.4.1 Immunity
EN 60950: 2006/A1:2011 Product Safety (low voltage directive)
EN 50566: 2013 RF Exposure Safety

Our authorized representative in Europe is Mr. Roger Patel, Director of Everything Audio located at Elstree FIlm Studios, Shenley Road, Borehamwood, Herts WD61JG in England.

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07444 USA

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973.835.5000 (tel)
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FCC Notice:

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. The equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: • Reorient or relocate the receiving antenna • Increase the separation between the equipment and receiver • Connect the equipment into an outlet on a circuit different from that which the receiver is connected • Consult the dealer or an experienced radio/TV technician for help. Changes or modifications to this equipment not expressly approved by Zaxcom, Inc. could void the user's authority to operate it.