



User Manual
QR-M2
Portable Receiver

Rev: 0.1

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Document Description

This document is the user manual for the QR-M2 UHF receiver, designed and manufactured by Q5X. Detailed descriptions of the products functionality and operation can be found below.

Revision History

10-14-2016	First revision 0.1

FCC Notices

To be completed

Introduction

The QR-M2 is a handheld wireless receiver which receives RF signals from UHF wireless audio transmitters and routes the audio through an XLR cable to be used for all aspects of broadcast audio. The QR-M2 is a true dual diversity receiver designed with two internal receivers which both receive the transmitter's signal. The QR-M2 uses the stronger of the two signals to avoid any drops in signal strength due to position. The QR-M2 has several features to monitor and control reception. The device features an LCD screen and touch pad user interface for easy operation and a 3.5 mm headphone output for easy real time monitoring for the audio professional. Both series of Q5X transmitters, the QT-300 and QT-5100 series work with the QR-M2.

The QR-M2 Hardware

The QR-M2 is very user friendly in design. It utilizes a single mini-track pad, which is also a button, to activate and navigate the on-screen UI (user interface). There are several audio outputs and power connections. The following images label these components:

INSERT IMAGES HERE

1: Connections to attach the two antennae
2: LCD display
3: Touch sensitive mini-trackpad. Swipe your finger over the trackpad to navigate and scroll, and press down on it to select items.
4: Female mini-XLR output
5: Female 3.5 mm headphone connection
6: Female power connection
7: Detachable Antennae

Out-of-the-Box Setup

The QR-M2 is powered by either; 1x 18650 battery, the 4 pin Hirose camera compatible receptacle or with the DC adapter. The battery is installed in the back of the QR-M2 by sliding open the battery panel.

NOTE: there are several versions of the 18650 on the market it is necessary to use the exact same type as sold by Q5X.

Powering On

Press down on the top power button and hold for 3 seconds to turn the receiver on. Pressing and holding while it is powered on will also turn it off.

The Home Screen

When powered on, the following home screen will appear:

INSERT SCREEN CAPTURE HERE

1. This is a graphic display of the received Signal Strength Indicator. It indicates the strength of the received signal in dBm.
2. This is a graphic display of the variance in the received frequency indicating the volume picked up by the microphone. A large variance ($\pm 50\text{kHz}$) indicates a loud volume picked up by the mic.
3. This value is the frequency the QR-M2 is tuned to pick up.
4. This is the percentage of battery life remaining.

Locking

If the screen has been unlocked for programming and the trackpad is not touched for 25 seconds, the device will automatically “lock”, turning off the backlight and return to the home screen. To unlock the device, press down on the trackpad. This will reveal the following screen:

INSERT SCREEN CAPTURE HERE

Slide your finger over the trackpad in an upward direction until the bar is filled.

The Main Menu

While at the home screen press on the trackpad to bring up the main menu. The track pad is used by swiping your finger over it to scroll up and down the main menu.

Home

Selecting this option will return you to the home screen.

Lock

Selecting this item will lock the screen, the same as when it times out from lack of activity via the trackpad.

Power OFF

Selecting this item powers off the device and shuts down the LCD display.

Frequency

Selecting this item will allow you to adjust the receiving frequency the QR-M2 is tuned to. Follow the on-screen instructions to select and save a new frequency. The QR-M2 is available in two 25Mhz bands; 550-575Mhz and 575-600Mhz

Headphone Volume

Selecting this option will allow you to adjust the volume of the monitor headphones connected to the output on the bottom of the device. Follow the on-screen instructions to select and save a new volume.

XLR Volume

Select this item to adjust the volume sent through the XLR output to the sound system. Follow the on-screen instructions to select and save a new volume.

XLR Level

Select this to swap between line and mic voltage levels sent through the XLR output.

Squelch Level

Squelch is a circuit function that acts to suppress the audio output of a receiver in the absence of a sufficiently strong desired input signal. Without squelch, noise will be heard if the transmission is weak. Weak transmissions can be the result of being too far from the transmitter, improperly set antennas, multipath drop outs, etc. Anything that weakens the signal can cause noise at the receiver if the desired signal drops out. Setting squelch to the correct level will prevent loud noise from entering the audio path when working with weak signals. Higher squelch values are indicated when there is no issue receiving a strong signal from the transmitter (such as inside a building with little interference). The device mutes all signals below the set value. Lower squelch values are desired when the signal from the transmitter is not particularly strong. Use a low squelch setting only when necessary.

LCD Contrast

To adjust the contrast between the dark and light colors of the LCD display, select this option and follow the on screen instructions.

Presets

The “Presets” menu allows you to save certain frequencies and select them easily. Selecting this option will bring up a list of all the saved frequencies as shown:

INSERT SCREEN HERE

To edit one of the preset slots select it, which will bring up the following window:

INSERT SCREEN HERE

- Selecting “Load” will set the QR-M2 frequency to the value of the selected preset.
- Selecting “Add/Exit” will allow you to manually change the value of the current preset slot.
- Selecting “Delete” will clear the selected slot.
- Selecting “EXIT” will return you to the main menu.

Scan

Selecting “Scan” will bring up a new screen of an empty graph as shown:

INSERT SCREEN HERE

Select start to begin scanning. This will make the QR-M2 slowly tune its frequency from 665 to 690 MHz recording the strength of the received signal on the graph. To quit this screen select “Quit”, to stop the scan select “Stop”. Once the scan is stopped, you can swipe up on the trackpad to navigate the graph. Swiping to the side will slide a cursor along the graph displaying the frequency. Selecting the graph will zoom in to allow for a more accurate search. Selecting the graph once more will load the selected frequency and tune the QR-M2 to it.

About...

Selecting the “About...” option will display;

- the firmware version,
- the voltage supplied by the batteries
- the percent of battery life remaining.

Specifications

To be completed