LECTROSONICS M2Ra-B1C1 Digital IEM IFB Receiver Instruction Manual

Contents

LECTROSONICS M2Ra-B1C1 Digital IEM IFB Receiver

WARNING:
Moisture, including talent's sweat, will damage the receiver. Use our silicone cover (order part # M2RCVR) or other protection to avoid damage.

FCC STATEMENT

NOTE:
This equipment has been tested and found to comply with the limits for a Class B digital device, under part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used under 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 the receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Introduction

- **M2Ra Digital IEM Receiver**
  - The M2Ra Digital IEM Receiver is a compact, rugged body-worn unit providing excellent sound quality for performers or any professionals needing to monitor detailed audio wirelessly. The M2Ra employs advanced antenna diversity switching during digital packet headers for seamless audio. The receiver

uses digital modulation and covers a wide range of UHF frequencies – A1B1, or B1C1.
    - The headphone jack is fed from a high-quality stereo amplifier with 250 mW available to drive even inefficient headphones or earphones to sufficient levels for stage performance or other noisy environments. The receiver can select from stereo, mono from left or right channels only, or mono from both channels, giving the unit flexibility in terms of application as an IEM or IFB receiver. An intuitive interface and high resolution, color LCD on the unit provide performing artists and audio professionals alike with a comfortable and confident user experience.
    - The M2Ra also employs 2-way IR sync, so data from the receiver can be sent to an M2T transmitter and thus onto Wireless Designer™ Software. This way, frequency planning, and coordination can be done quickly and confidently with on-site RF information.
- **FlexList™**
    - Additionally, the M2Ra includes a FlexList™ mode, where up to 24 mixes can be accessed by name. This feature enables a user to quickly find and listen to any of the feeds on a stage or set.
    - A FlexList mix is a profile made up of the channel name, frequency, mixer settings, and limiter settings. The mix is easily added to the FlexList via the M2Ra IR port, as synced from an M2T or DCHT, and stored until cleared by the user. The M2Ra allows the user to scroll through the mixes, making listening and troubleshooting easy and efficient.
- **Smart Tuning (SmartTune™)**
  A major problem facing wireless users is finding clear operating frequencies, especially in RF-saturated environments. SmartTune™ overcomes this problem by automatically scanning all the frequencies available in the receiver's frequency range and tuning the receiver to the frequency with the lowest RF interference, significantly reducing setup time.

NOTE:
Some regions have certain frequency restrictions. Depending on LOCALE selection, the SmartTune and Scan frequency ranges are:

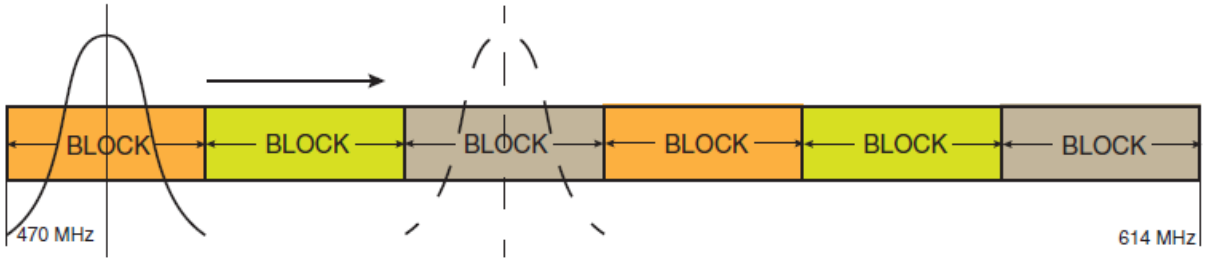
- **A1B1:**
    - **NA:** 470.100 – 607.950 MHz
    - **EU:** 470.100 – 614.375 MHz
    - **AU:** 520.000 – 614.375 MHz
    - **JA:** 470.150 – 614.375 MHz
- **B1C1:**
    - **EU:** 537.600 – 691.175 MHz
    - **AU:** 537.600 – 691.175 MHz
    - **JA:** 537.600 – 691.175 MHz

RF Front-End with Tracking Filter

- A wide tuning range helps find clear frequencies for operation, however, it also allows a greater range of interfering frequencies to enter the receiver. The UHF frequency band, where almost all wireless microphone systems operate, is heavily populated by high-power TV transmissions. The TV signals are immensely more powerful than a wireless microphone or IEM transmitter signal and will enter the receiver even when they are on significantly different frequencies than the wireless system. This powerful energy appears as noise to the

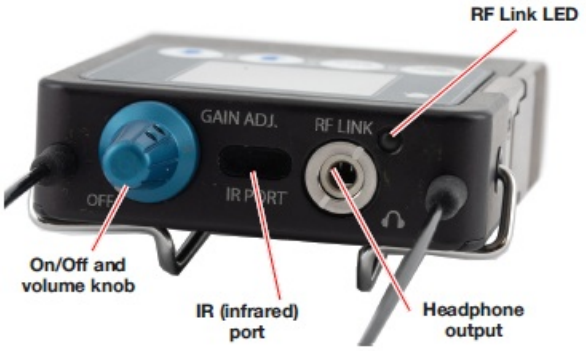
receiver and has the same effect as the noise that occurs with the extreme operating range of the wireless system (noise bursts and dropouts). To alleviate this interference, front-end filters are needed in the receiver to suppress RF energy below and above the operating frequency.

- The M2Ra receiver employs a selective frequency, tracking filter in the front-end section (the first circuit stage following the antenna). As the operating frequency is changed, the filters re-tune into six different “zones” depending on the selected carrier frequency.



Encryption
When transmitting audio, there are situations where privacy is essential, such as during professional sporting events, in courtrooms, or in private meetings. For instances where your audio transmission needs to be kept secure, without sacrificing audio quality, Lectro-sonics implements AES256 encryption in our digital wireless systems. High entropy encryption keys are first created by one of the units in the system. The key is then synced with another encryption-capable unit, via the IR port. The audio will be encrypted and can only be decoded if both the transmitter and receivers have the matching encryption key. If you are trying to transmit an audio signal and the keys do not match, all that will be heard is silence. The M2Ra gives the option of Encrypt-ed (DCHX, D2, or HDM modes) with AES 256-CTR, or non-encrypted (Duet mode) operation under one firm-ware version. Four different key management policies are available for different applications and workflows.

Panels and Features



Tip: The headphone jack is protcted from phantom power. However, it is always good practice to turn off P48 power on any device connected to this unit.

Battery Status LED

- When the battery status LED on the keypad glows green the batteries are adequate. The color changes to red at a midpoint during the runtime. When the LED begins to blink red, only a few minutes remain.
- The exact point at which the LED turns red will vary with battery brand and condition, temperature, and power consumption. The LED is intended to simply catch your attention, not to be an exact indicator of remaining time.
- A weak battery will sometimes cause the LED to glow green immediately after the transmitter is turned on, but it will soon discharge to the point where the LED will turn red or the unit will turn off completely.

RF Link LED
When a valid RF signal from a transmitter is received, this LED will light up blue.

On/Off and Volume Knob

Turns unit on or off and controls headphone audio level.

IR (infrared) Port
Settings, including frequency, name, limiter, mix mode, Flexlist, etc. can be transferred between transmitter and receiver or receiver and receiver (M2Ra to M2Ra). FlexList profiles can be gathered by the receiver. Frequency scan information can be sent from the receiver to the transmitter and onto Wireless Designer software for coordination purposes.

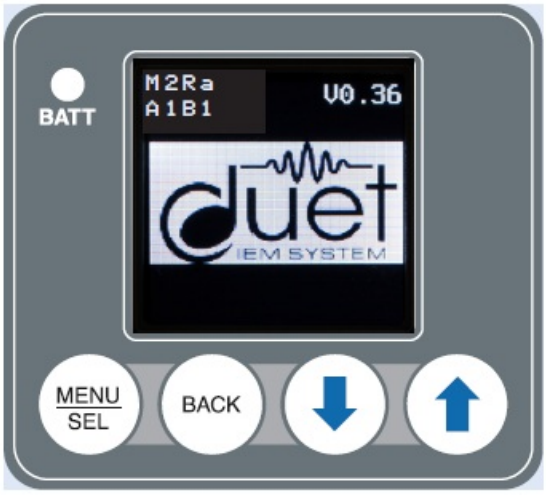
Headphone Output
A recessed, high-duty cycle 3.5 mm stereo jack is provided for standard headphones and earphones.

If using a mono earphone with this unit, you must select “Mono” under “Earphone Type” in the menu. Likewise, when using stereo earphones or headphones, select “Stereo” under “Earphone Type.” Otherwise, the unit will use batteries very quickly and get hot.

USB Port
Firmware updates via Wireless Designer are made easy with the USB port on the side panel.

Battery Compartment
Two AA batteries are installed as marked on the rear panel of the receiver. The battery door is hinged and remains attached to the housing.

Keypad and LCD Interface



- **MENU/SEL Button**

  Pressing this button enters the menu and selects menu items to enter the setup screens.
- **BACK Button**

  Pressing this button returns to the previous menu or screen.
- **Arrow Buttons**

  Used to navigate the menus. When on the Main Screen, the UP Button will turn the LEDs on and the DOWN Button will turn the LEDs off.

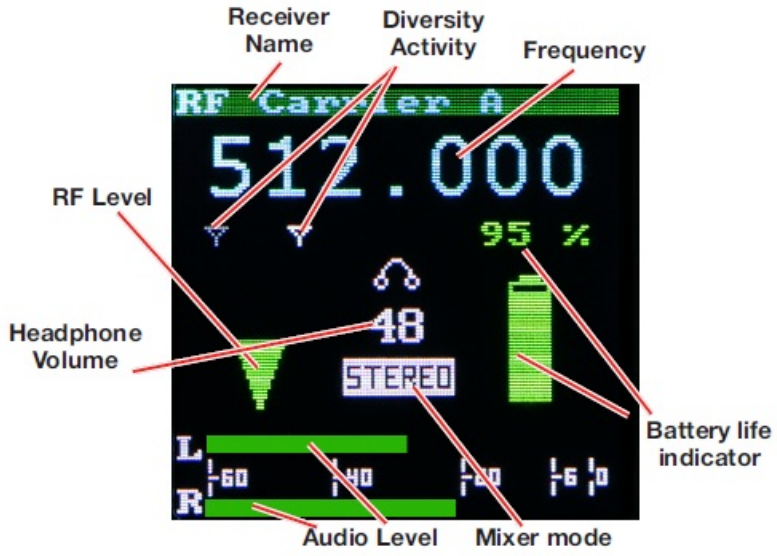
Installing Batteries

Power is provided by two AA batteries. The batteries are connected in series by a plate in the battery door. It is suggested that you use lithium or high-capacity NiMH rechargeable batteries. Do not use alkaline batteries.

WARNING:
Risk of explosion if the battery is replaced by an incorrect type.

Polarity is marked on the rear panel.

LCD Main Window



RF level
The triangle graphic corresponds to the scale on the left side of the display. The scale indicates the incoming signal strength in microvolts, from 1 uV at the bottom to 1,000 uV (1 millivolt) at the top.

NOTE:
RF level will turn from white to green when the signal is acquired. This is a redundant indication of the blue RF Link LED.

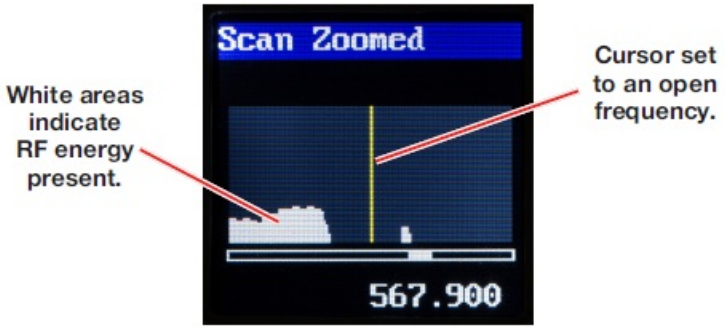
- **Diversity Activity**
  The two antenna icons will alternately light up depending on which one is receiving the stronger signal.
- **Battery life indicator**
  The battery life icon is an approximate indicator of the remaining battery life. For the most accurate indication, the user should select “Battery Type” in the menu and select Alkaline or Lithium.
- **Audio level**
  This bar graph indicates the level of the audio entering the transmitter. The “0” refers to the level reference, as chosen in the transmitter, i.e. either +4 dBu or -10 dBV.
- **Mixer mode**
  Indicates which mixer mode has been selected for the receiver.

System Setup Procedure

- **Step 1) Install Batteries**
  Install the batteries according to the diagram marked on the back of the housing. The battery door makes a connection between the two batteries. Use lithium or high-capacity NiMH rechargeable batteries. Do not use alkaline batteries.
- **Step 2) Turn the power on**
  Power on the M2Ra with the On/Off/Volume knob and select the battery type in the menu. Check the BATT LED on the control panel to verify adequate power is present. The LED will glow green with good batteries.
- **Step 3) Locate and Set a Clear Frequency**
  A clear frequency can be located and set using the SmartTune function, or with manual scanning of the spectrum and selecting a frequency. Before scanning, you will be prompted to choose a frequency band.
  Using SmartTune

- SmartTune will scan the entire tuning range of the receiver and automatically find a clear frequency for operation. Navigate to SmartTune in the menu and press MENU/SEL. The receiver will scan the spectrum and display and set a clear frequency.
- The clear frequency will then need to be chosen (it is not automatic) and then transferred to or set on the associated transmitter (see Step 4).

  Manual Scanning
- Navigate to Scan in the LCD menu and press MENU/SEL. The scanning will continue across the spectrum and then wrap back and start over. Allow the scan to complete at least once. If you let the scanning continue to wrap and repeat, the scanning results will accumulate and may identify RF signals that are intermittent and might be missed with a single scan.
- Press MENU/SELECT to pause the scan. Use the UP and DOWN arrows to roughly tune the receiver by moving the cursor to an open frequency.
- Press MENU/SELECT again to zoom in for fine-tuning and use the UP and DOWN arrows to scroll across the spectrum to a place with little or no RF activity (open frequency). Select a frequency and press the BACK button for the option to keep your newly selected frequency or to revert to the previous frequency.



- **Step 4) Sync with a Transmitter**

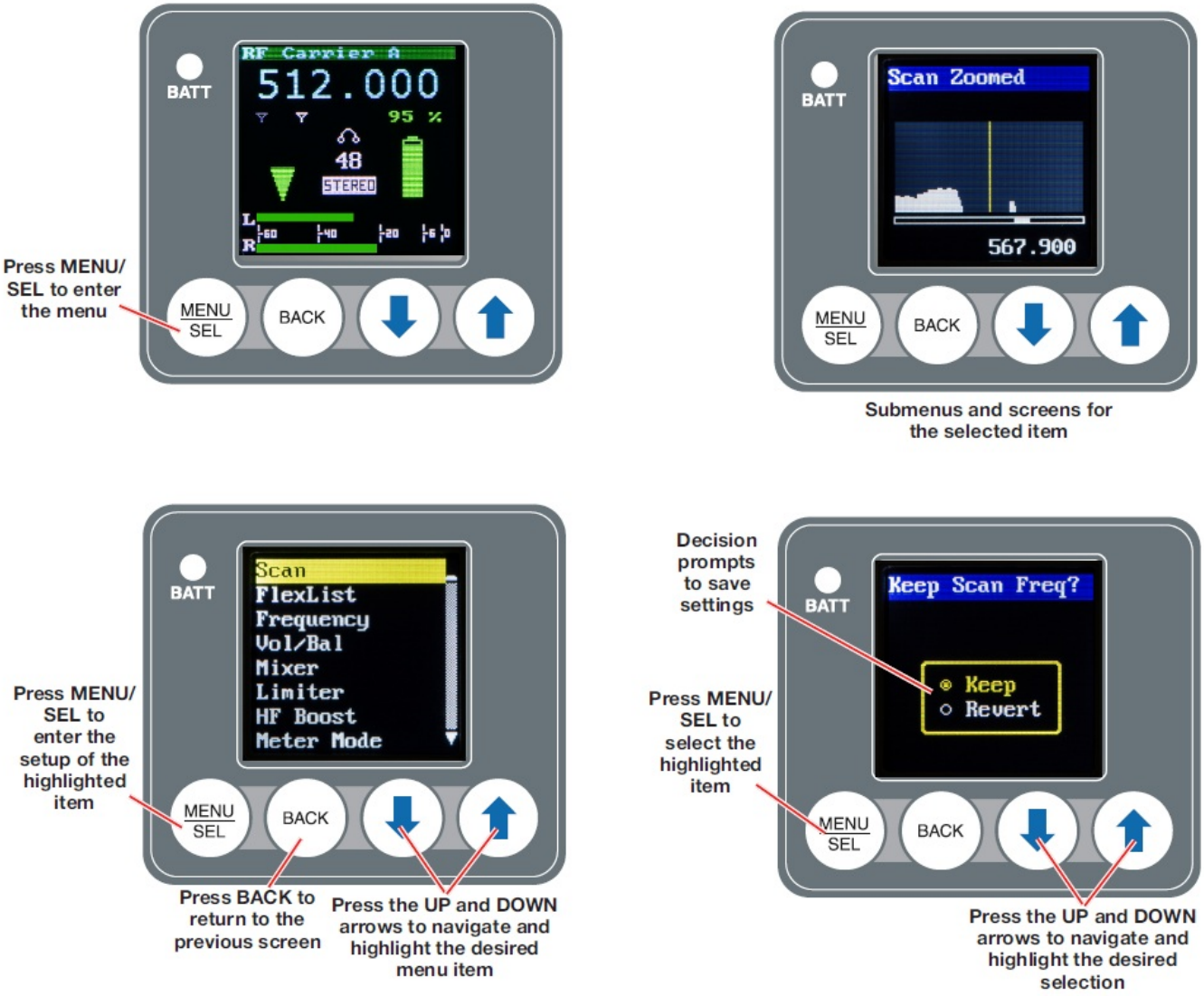
  In the transmitter, use “GET FREQ” or “GET ALL” in the menu to transfer frequency or other information via the IR ports. Hold the M2Ra receiver IR port close to the front panel IR port on the transmitter and press GO on the transmitter.
- **Step 5) Enable RF in the Transmitter**

  In the transmitter menu, enable RF and select the appropriate RF power level. The blue “link” LED on the top of the receiver should light up, indicating a valid RF link.
- **Step 6) Send Audio**

  Send an audio signal to the transmitter and the receiver audio meters should respond. Plug in headphones or earphones. (Be sure to start with the receiver volume knob at a minimum!)
  - **Tip:** The headphone jack is protected from phantom power. However, it is always good practice to turn off P48 power on any device connected to this unit.
  - **WARNING:** If using a mono earphone with this unit, you must select “Mono” under “Earphone Type” in the menu. Likewise, when using stereo earphones or headphones, select “Stereo” under “Earphone Type.” Otherwise, the unit will use batteries very quickly and get hot.
  - **NOTE:** Scan data is preserved when the receiver is powered off.

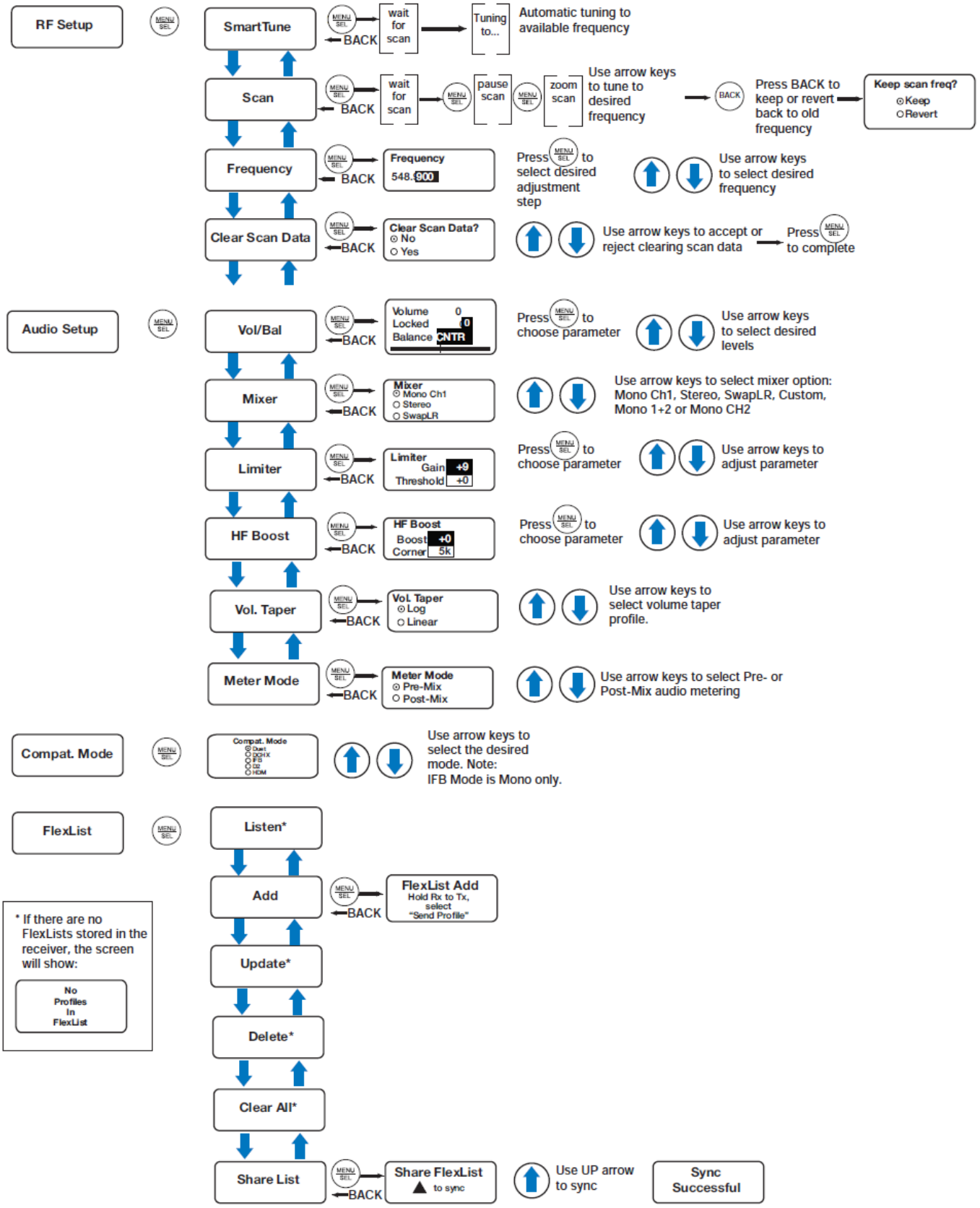
Navigating the Menus

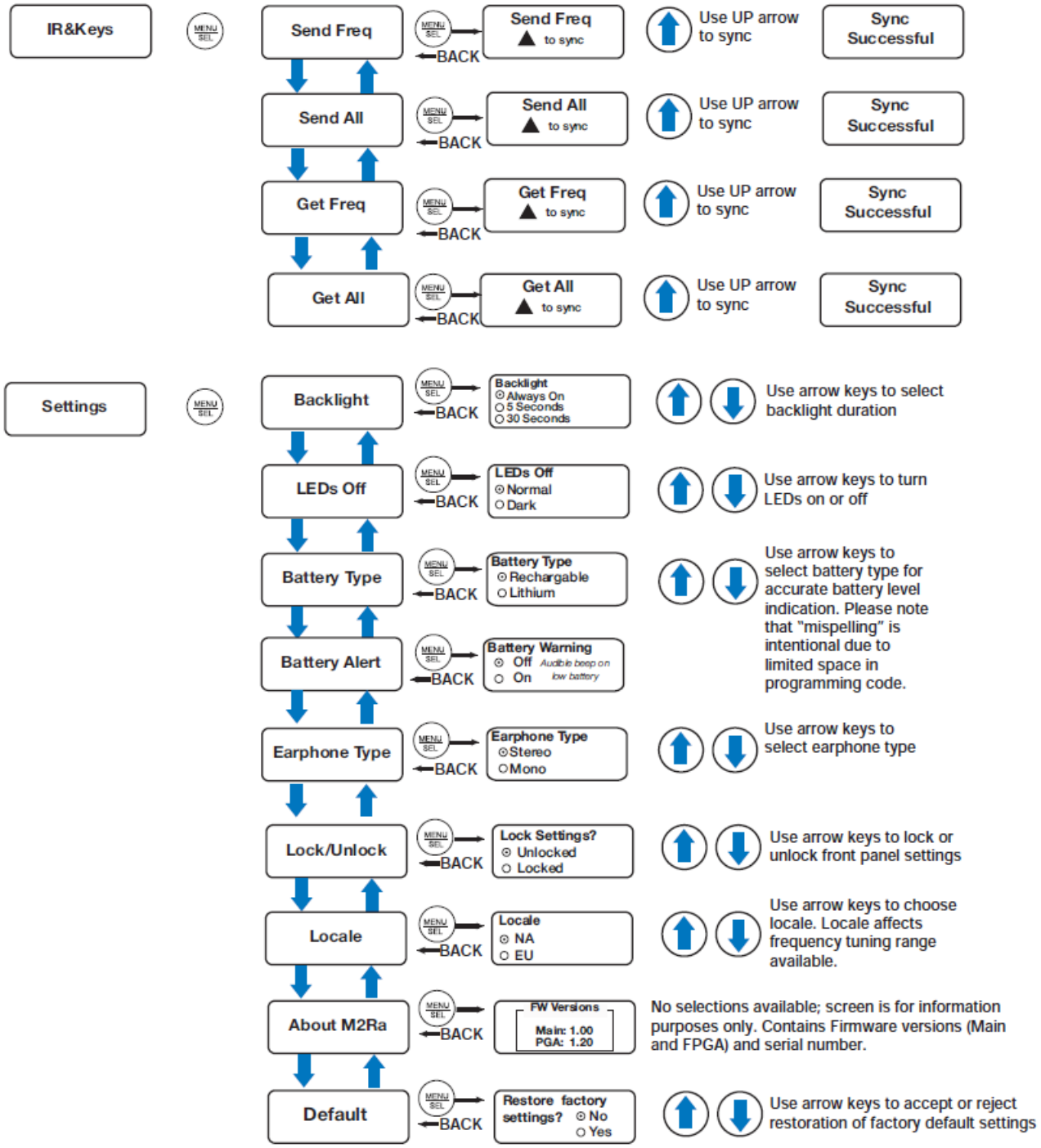
From the Main Window, press MENU/SEL to enter the menu, then navigate with the UP and DOWN arrows to highlight the desired setup item. Press MENU/SEL to enter the setup screen for that item. Refer to the menu map on the following pages.



M2Ra LCD Menu Map

The menus presented on the LCD are arranged straightforwardly, with those that are likely to be used more often located at the top of the tree.

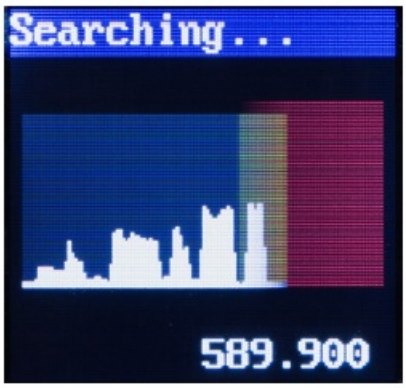

RF Setup
SmartTune
BACK
wait for scan
Tuning to...
Automatic tuning to available frequency
Scan
BACK
wait for scan
pause scan
zoom scan
Use arrow keys to tune to desired frequency
BACK
Press BACK to keep or revert back to old frequency
Keep scan freq?
Keep
Revert
Frequency
BACK
Frequency
548.900
Press to select desired adjustment step
Use arrow keys to select desired frequency
Clear Scan Data
BACK
Clear Scan Data?
No
Yes
Use arrow keys to accept or reject clearing scan data
Press to complete
Audio Setup
Vol/Bal
BACK
Volume 0
Locked 0
Balance CNTR
Press to choose parameter
Use arrow keys to select desired levels
Mixer
BACK
Mixer
Mono Ch1
Stereo
SwapLR
Use arrow keys to select mixer option: Mono Ch1, Stereo, SwapLR, Custom, Mono 1+2 or Mono CH2
Limiter
BACK
Limiter
Gain +9
Threshold +0
Press to choose parameter
Use arrow keys to adjust parameter
HF Boost
BACK
HF Boost
Boost +0
Corner 5k
Press to choose parameter
Use arrow keys to adjust parameter
Vol. Taper
BACK
Vol. Taper
Log
Linear
Use arrow keys to select volume taper profile.
Meter Mode
BACK
Meter Mode
Pre-Mix
Post-Mix
Use arrow keys to select Pre- or Post-Mix audio metering
Compat. Mode
Compat. Mode
Use arrow keys to select the desired mode. Note: IFB Mode is Mono only.
FlexList
Listen*
Add
BACK
FlexList Add
Hold Rx to Tx, select "Send Profile"
Update*
Delete*
Clear All*
Share List
BACK
Share FlexList
to sync
Use UP arrow to sync
Sync Successful
* If there are no FlexLists stored in the receiver, the screen will show:
No Profiles In FlexList



Menu Item Descriptions

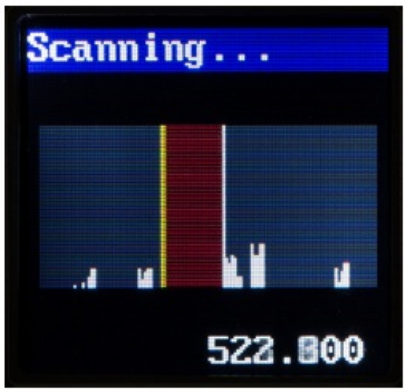
SmartTune

SmartTune™ automates the discovery of a clear operating frequency. It does this by scanning all the available operating frequencies within the system's frequency block range (in 100 kHz increments) and then selecting the frequency with the least amount of RF interference. When SmartTune™ is complete and the selection is confirmed, it returns to the Main Window displaying the selected operating frequency.

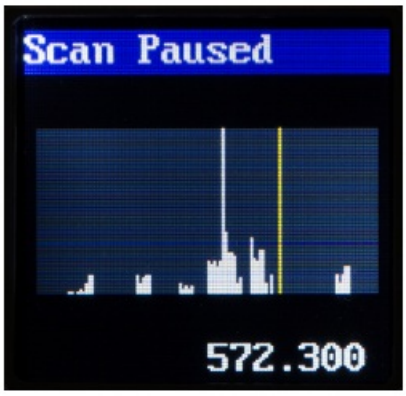


Scan

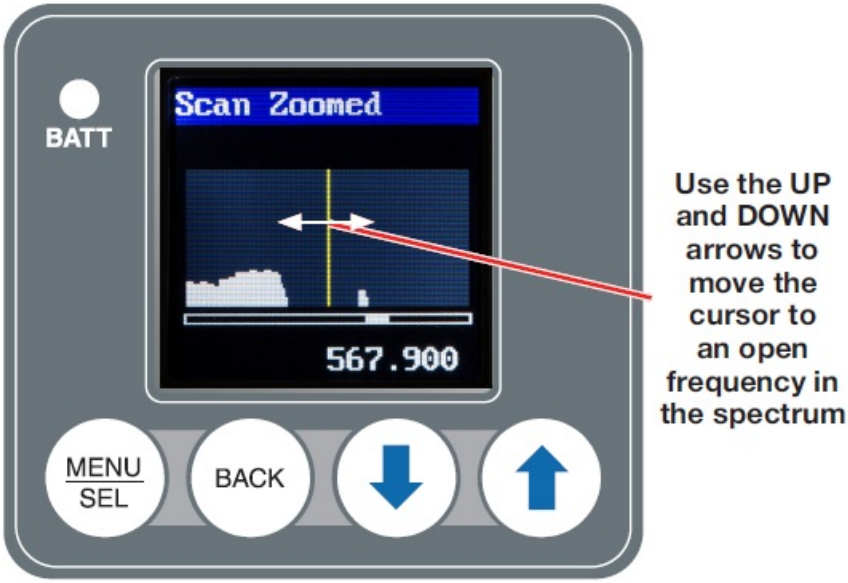
Use the scan function to identify a usable frequency. The area in red has not been scanned. Allow the scan to continue until the entire band has been scanned.



Once a full cycle has been completed, press MENU/SE-LECT again to pause the scan.



Use the UP and DOWN arrows to roughly tune the receiver by moving the cursor to an open spot. Press MENU/SELECT to zoom in for fine-tuning.



When a usable frequency has been selected, press the BACK button for the option to keep your newly selected frequency or to revert to where it was set before the scan.

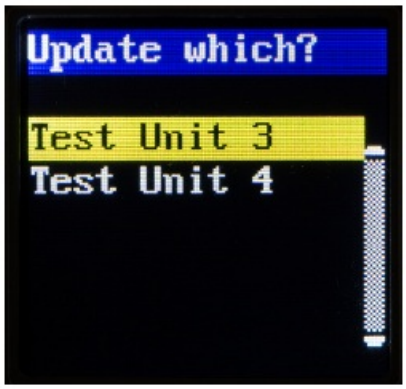
To capture this scan info in the transmitter and thus make it available to wireless designers, use the SYNC SCAN menu function in the M2T Transmitter.

Flex List

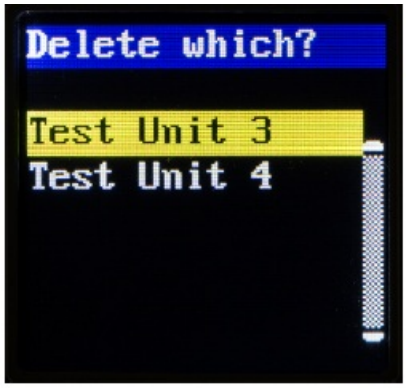
- FlexList allows the user to set up a list of profiles, by name, to quickly and easily listen to any of the mixes on site individually.
- Listen – choose a mix from the list and hear what is transmitting. The list may contain frequencies that are outside the receiver's frequency coverage; those entries will appear grayed out.

- Add – add a mix to the available Flex List (action performed via the IR port) using an M2T or DCHT.

- Update – Update settings in a mix (frequency, etc.). Action is performed via the IR port using an M2T or DCHT.

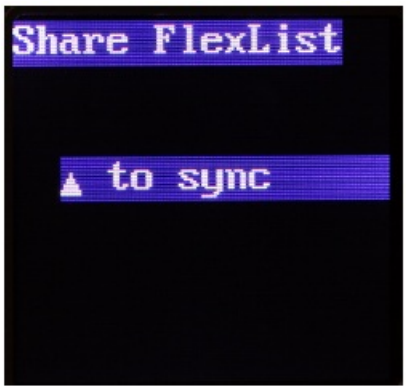


- Delete – Remove a mix from the Flex List



- Clear All – Remove all mixes from the Flex List

- Share List – Share Flex List from one M2Ra to another via IR port.



Frequency
Allows manual selection of the operating frequency in MHz and KHz, tunable in 25 kHz steps.

Vol/Bal
Displays the volume, from 0 to 100, Locks or Unlocks the volume control (lock shown on the main screen), and adjusts the balance to left, right, or center.

Volume locked display on main screen

Mixer
This screen allows you to choose a stereo mix, mono mix from either audio channel 1, channel 2, or both, or custom, allowing for varied width of the signal and how many levels from each channel.

The available modes are:

- Stereo
- SwapLR
- Custom
- Mono 1&2
- Mono Ch 1
- Mono Ch 2

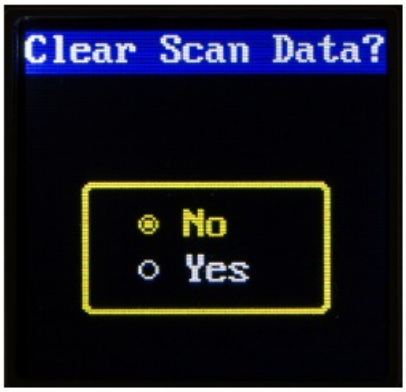
Limiter
The limiter function allows the user to set the volume and dynamic range for headphone use.

- **Gain** – The default setting (0) is linear, but if volume adjustments are needed, use the UP and DOWN arrows to adjust the audio by up to +18 dB and down to -6 dB in 3dB steps.
  WARNING: Increasing the Gain can make the headphone volume excessively loud. Use caution when setting and using.
- **Threshold** – Use the UP and DOWN arrows to adjust the threshold for limiter engagement in 3dB increments.
  NOTE: A common setup to play loud and bring softer dynamics up a bit is to set the gain at +6 or +9 dB and set the threshold for -3 or -6dB.

HF Boost
Adjusts loudness of higher frequencies in the audio output as preferred by the listen of 5 KHz or 7 KHz can be selected and boosted.

Meter Mode
Changes the appearance of the audio level indicator on the main window; can show either pre- or post-mix audio levels.

Clear Scan Data
Erases scan results from memory.



Backlight
Selects the length of time the backlight on the LCD remains turned on: Always on, 5 seconds, and 30 seconds.

LEDs Off
Select front and top panel LED status: On, Off, or AlwaysOff (persists through the power cycle).

Battery Type

- Selects the type of battery being used: NiMH or Lithium so the remaining battery meter on the home screen is as accurate as possible.
- Do not use alkaline batteries.
- Please note that the screen and menu “misspelling” is intentional due to limited space in the programming code.

Battery Alert
Selects whether or not an audible low battery warning (a beep sound) is inserted into the audio stream. The low battery audible warning corresponds to when the BATT LED on the front of the unit starts to blink red.

Earphone Type
Selects the type of earphone being used Stereo (default) or Mono. Choose the correct type to match with earphones or headphones to avoid short battery life (Mono with mono, Stereo with stereo).

Vol. Taper
Choose between Log or Linear taper volume control.

Compat. Mode
Compatibility mode is available to allow the receiver to operate with IFB (FM). The icon on the main screen is shown when the IFB (FM) Mode is active. The M2Ra is compatible with Lectrosonics Hybrid transmitters in IFB mode.

Lock/Unlock
The front panel controls can be locked to prevent unwanted changes. To lock/unlock, hold UP + DOWN.

Locale
North America (NA) and Australia (AU) have certain frequency restrictions, and the restricted frequencies are not available in SmartTune. When chosen, these locales include the following available frequency selections in SmartTune:

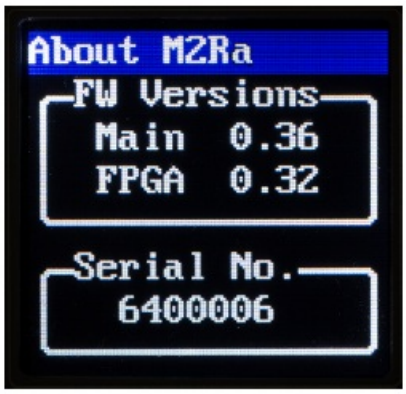
A1B1:

- **NA:** 470.100 – 607.950 MHz
- **EU:** 470.100 – 614.375 MHz
- **AU:** 520.000 – 614.375 MHz
- **JA:** 470.150 – 614.375 MHz

B1C1:

- **EU:** 537.600 – 691.175 MHz
- **AU:** 537.600 – 691.175 MHz
- **JA:** 537.600 – 691.175 MHz

About M2Ra
Displays general information about the M2Ra, including serial numbers and the versions for both FPGA and main firmware running in the receiver.



Default
Returns all settings to the factory defaults as shown in the table below.

Menu Item	Setting
Flexlist	Cleared
Vol/Bal	Centered
Mixer Mode	Stereo
Limiter	Pregain 0
HF Boost	0
Meter Mode	Post-Mix
Backlight	Always On
Battery Type	Lithium
Earphone Type	Stereo
Settings	Unlock
Receiver Name	M2Ra IEM Receiver
Frequency	Depends on Locale: A1B1 NA/EU/JA 512.000 AU 525.000 B1C1 EU/JA 537.600 AU 537.600

Supplied Accessories

35854
Hex key wrench for tightening screws on the volume knob

40073 Lithium Batteries
M2Ra is shipped with two (2) batteries. Brand may vary.

26895
Wire belt clip.

35983 Case Insulating Pad
Two (2) foam pads for M2Ra.

Optional Accessories

21926
USB cable for firmware updates

LRSHOE
This optional kit includes the accessories needed to mount the M2Ra on a standard cold shoe using the wire belt clip that comes with the receiver.

P1291
Replacement USB port dust cover.

LTBATELIM
Battery Eliminator for LT, DBu, and DCHT transmitters, and M2Ra; camera hop and similar applications. Optional power cables include: P/N 21746 right angle, locking cable, 12 in.; P/N 21747 right angle, locking cable, 6 ft.; DCR12/A5U universal power supply for AC power; DC cable, P/N PS200A.

M2RCVR
This tough silicone cover protects the M2Ra from moisture and dust. The pliable material and the two-part design make it easy to install and remove. Cutouts for the antennas and knob and the raised dome for the LED provide a snug fit.

Specifications

- **Operating Spectrum (dependent on Locale):**
  - **A1B1**
    - **NA:** 470.100 – 607.950 MHz
    - **EU:** 470.100 – 614.375 MHz
    - **AU:** 520.000 – 614.375 MHz
    - **JA:** 470.150 – 614.375 MHz
  - **B1C1**
    - **EU:** 537.600 – 691.175 MHz
    - **AU:** 537.600 – 691.175 MHz
    - **JA:** 537.600 – 691.175 MHz
- **Modulation Type:** 8PSK with Forward Error Correction
- **Encryption Type:** AES-256 in CTR mode
- **Latency:** (overall system)
  - **Digital Source:** 1.0 ms plus Dante network
  - **Analog Source:** <1.6 ms
- **Audio Performance:**
  - **Frequency Response:** 10 Hz – 12 KHz, +0, -3dB
  - **THD+N:** 0.15% (1kHz @ -10 dBFS)
  - **Dynamic Range:** >95 dB weighted
  - **Adj.** Channel Isolation >85dB
- **Third Order Intercept:** +15 dBu
- **Diversity Type:** Switched antenna phase, during packet headers
- **Audio Output:** 3.5 mm stereo jack
- **Power requirements:** 2 x AA batteries (3.0V)
- **Battery life:** 7 hours; (2) Lithium AA
- **Power consumption:** 1 W
- **Dimensions:**

- **Height:** 3.5 in. / 90 mm. (with knob)
- **Width:** 2.375 in. / 60.325 mm.
- **Depth:** .625 in. / 15.875 mm.

- **Weight:** 5.6 ounces / 159 grams (with batteries)

Specifications are subject to change without notice.

Wireless Designer Software

Download the Wireless Designer software installer from the web sites under the SUPPORT tab at: **https://lectrosonics.com/wireless-designer.html**.

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 Wireless Designer software and a file downloaded from the website and the M2Ra connected via USB. Firmware files are located at **https://lectrosonics.com/firmware.html** and Wireless Designer software can be downloaded for Mac or Windows here **https://lectrosonics.com/wireless-designer.html**. 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. Our part number for this cable is 21926.

- **Step 1:**
  Connect your computer to the M2Ra using the USB cable. The receiver will automatically power on into Update mode.
- **Step 2:**
  Start Wireless Designer and under the “Connect (Live)” menu, scroll down to Update Firmware, and in the Duet submenu, click on M2Ra.
- **Step 3:**
  Follow the on-screen instructions to choose the update file, check to see if an update is needed, and initiate the update process. When finished, check the firmware version in Setup>About to verify the update.

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. 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 under 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 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:

- DO NOT return equipment to the factory for repair without first contacting us by e-mail 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).
- 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.
- Pack the equipment carefully and ship it to us, shipping costs are prepaid. If necessary, we can provide you with the proper packing materials. UPS or FEDEX is usually the best way to ship the units. Heavy units should be “double-boxed” for safe transport.
- 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., Suite 102 Rio Rancho, NM 87124 USA
- **Telephone:** +1 505-892-4501 800-821-1121 Toll-free US and Canada Fax +1 505-892-6243
- **Web:** www.lectrosonics.com.
- **E-mail:**
  - service.repair@lectrosonics.com
  - sales@lectrosonics.com.

Lectrosonics Canada:

- **Mailing Address:**
  720 Spadina Avenue, Suite 600 Toronto, Ontario M5S 2T9
- **Telephone:** +1 416-596-2202 877-753-2876 Toll-free Canada (877) 7LECTRO
- **Fax** 416-596-6648
- **E-mail:**
  - **Sales:** colinb@lectrosonics.com
  - **Service:** joeb@lectrosonics.com.

Self-Help Options for Non-Urgent Concerns
Our Facebook groups and web lists are a wealth of knowledge for user questions and information. Refer to:

- Lectrosonics General Facebook Group: https://www.facebook.com/groups/69511015699
- D Squared, Venue 2 and Wireless Designer Group: https://www.facebook.com/groups/104052953321109
- The Wire Lists: https://lectrosonics.com/the-wire-lists.html.

Declaration of Conformity

EU Declaration of Conformity

LECTROSONICS, INC.
581 Laser Road
Rio Rancho, NM 87124 USA

Declares under our sole responsibility that the following product:

Model: M2RA-A1B1

Wireless microphone receiver

are in conformity with the provisions of the following EC directive(s) (including applicable amendments) and are designed and manufactured in accordance with the harmonized standards:

Document	Description	Date/Version
RL 2014/53/EU	**Radio Equipment Directive 2014/53/EU (RED)**	**2014-04**
EN 300 422-1	Wireless Microphones; Audio PMSE up to 3 GHz; Part 1: Class A Receivers	V2.2.1 (2021-11)
	Electromagnetic Compatibility	
EN 301 489-1	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Common Technical Requirements	V2.2.3 (2019-11)
EN 301 489-9	Specific Conditions for wireless microphones, similar Radio Frequency (RF) audio link equipment, cordless audio and in-ear monitoring devices	V2.1.1 (2019-04)
	Safety and Health	
EN 62368-1	Audio/Video, information and communication technology equipment – Safety Requirements	2020+A11:2020
RL 2011/65/EU	**RoHS Directive 2011/65/EU: Restriction of the use of certain hazardous substances (RoHS Recast)**	**2011**

The EU type examination was performed by notified body Bay Area Compliance Laboratories Corp.

Software version of M2RA-A1B1: 0.17/0.20

Rio Rancho, NM USA, 21 November 2022

Robert Cunnings
V.P. IT & Logistics
Lectrosonics, Inc.

UKCA Declaration of Conformity

LECTROSONICS, INC.
581 Laser Road
Rio Rancho, NM 87124 USA

Declares under our sole responsibility that the following products:

Model: M2RA-A1B1

Wireless microphone receiver

is in conformity with the provisions of the following EC directive(s) (including applicable amendments) and are designed and manufactured in accordance with the harmonized standards:

Document	Description	Date/Version
	UK: Radio Equipment Regulations	**2017**
EN 300 422-1	Wireless Microphones; Audio PMSE up to 3 GHz; Part 1: Class A Receivers	V2.2.1 (2021-11)
	UK: Electromagnetic Compatibility Regulations	**2016**
EN 301 489-1	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Common Technical Requirements	V2.2.3 (2019-11)
EN 301 489-9	Specific Conditions for wireless microphones, similar Radio Frequency (RF) audio link equipment, cordless audio and in-ear monitoring devices	V2.1.1 (2019-04)
	UK: Electrical Equipment (Safety) Regulations	**2016**
EN 62368-1	Audio/Video, information and communication technology equipment – Safety Requirements	2020+A11:2020
	UK: The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations	**2012**
RL 2011/65/EU	RoHS Directive 2011/65/EU: Restriction of the use of certain hazardous substances (RoHS Recast)	2011

The EU type examination was performed by notified body Bay Area Compliance Laboratories Corp.

Software version of M2RA-A1B1: 0.17/0.20

Rio Rancho, NM USA, 11 November 2022

Robert Cunnings
V.P. IT & Logistics
Lectrosonics, Inc.

LIMITED ONE-YEAR WARRANTY

The equipment is warranted for one year from the date of purchase against defects in materials or workmanship provided it was purchased from an authorized dealer. This warranty does not cover equipment that 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.

- 581 Laser Road NE • Rio Rancho, NM 87124 USA
- www.lectrosonics.com
- +1(505) 892-4501
- **fax** +1(505) 892-6243 • 800-821-1121 US and Canada
- sales@lectrosonics.com.

Documents / Resources

	LECTROSONICS M2Ra-B1C1 Digital IEM IFB Receiver [pdf] Instruction Manual M2Ra-A1B1, M2Ra-B1C1, M2Ra-B1C1 Digital IEM IFB Receiver, M2Ra-B1C1, Digital IEM IFB Receiver, IEM IFB Receiver, Receiver

References

- Lectrosonics
- Lectrosonics
- Firmware – Lectrosonics
- Wireless Designer Software – Lectrosonics
- User Manual