

# Quick Start Guide



## IFB Receiver IFBR1A



U.S. Patent 7,225,135

Fill in for your records:

Serial Number:

Purchase Date:

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

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

[www.lectrosonics.com/manuals](http://www.lectrosonics.com/manuals)

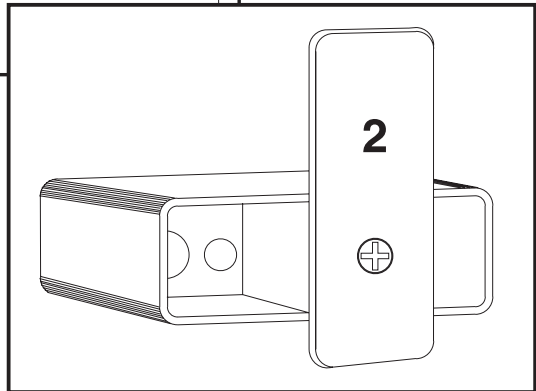
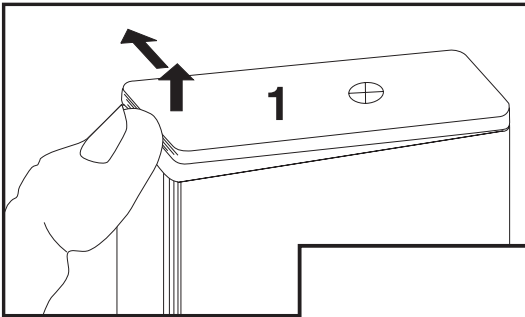
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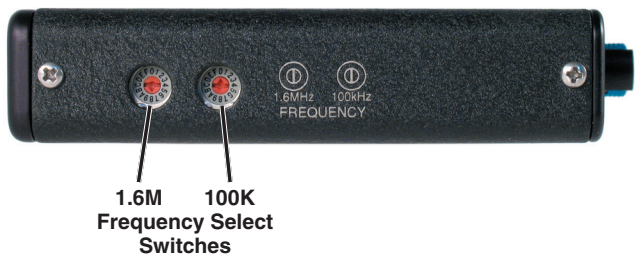
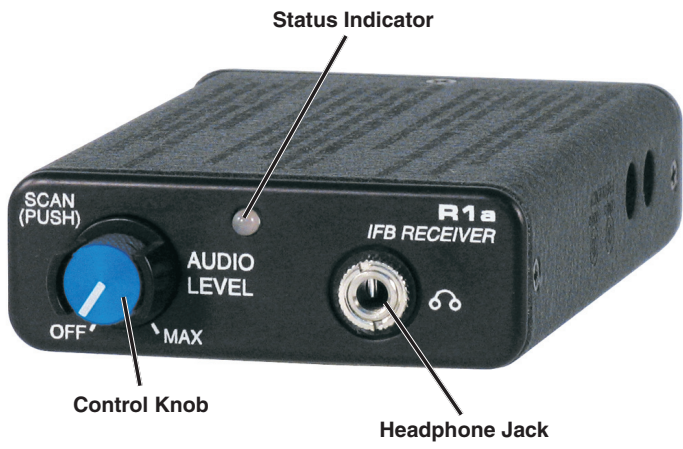
# Battery Installation

The battery you use in the R1a receiver should be a 9 Volt alkaline or lithium, available almost everywhere. An alkaline battery will provide up to 8 hours of operation and a lithium battery will provide up to 20 hours of operation. Carbon zinc batteries, even if marked “heavy duty” will only provide about 2 hours of operation. Rechargeable batteries will only operate the receiver for an hour or less. Make sure your batteries are marked “*alkaline*” or “*lithium.*” Short battery life is almost always caused by weak batteries or batteries of the wrong type.

A green LED corresponds to a fresh battery. The LED will change to yellow for low battery warning then to red to indicate the need for a fresh battery.

To replace the battery, open the bottom battery door cover with your thumb, rotate the door until it is perpendicular with the case and allow the battery to fall out of the compartment into your hand. It is difficult to install the battery backwards. Observe the large and small holes in the battery contact pad before inserting a new battery. Insert the contact end of the battery first, making sure the contacts are aligned with the holes in the contact pad, and then swing the door closed. You will feel it snap into place when it is fully closed.





# Controls and Functions

## Headphone Jack

On the front panel is a 3.5mm mini phone jack to accommodate a standard mono or stereo type 3.5 mm plug. The jack is also the receiver antenna input with the earphone cord acting as the antenna.

## Mono Plug/Stereo Plug

Although the IFBR1a is mono only, a Mono or Stereo plug can be used with the IFBR1a headphone jack directly. When a Mono plug is inserted, a special circuit senses the “ring” to “sleeve” short and automatically switches off the ring to prevent excess battery drain. To reset, switch power OFF then back ON.

## Audio Level

Headphones and ear pieces vary widely in sensitivity and impedance making it impossible to design a receiver with a fixed output power level that is correct for all situations. High impedance phones (600 to 2000) Ohms will have an inherently lower power level due to their high impedance and likewise low impedance phones may be extremely loud. CAUTION! Always set the Audio Level knob to minimum (counter-clockwise) when plugging phones into the jack, then adjust the knob for a comfortable audio level.

## Frequency Adjust

Two rotary switches adjust the center frequency of the carrier. The 1.6M is a coarse adjustment and the 100K is the fine adjustment. Each transmitter is factory aligned at the center of its operating range. The receiver and transmitter switches must be set to the same number/letter combination for proper operation.

To gain access to these switches, slide the access door sideways with a fingernail.

## Features

The frequency agile IFB R1a FM Receiver is designed to operate with the Lectrosonics IFBT1/T4 Transmitter and features 256 frequencies of operation within each frequency block. Each block covers 25.6 MHz. Any one of nine different frequency blocks are factory available from 537.6 MHz to 793.5 MHz.

The unique design in this receiver provides simple one knob and one LED operation for audio level, switching frequencies (channels), and easy on-the-fly programming. The receiver frequency can be set by manually using the two rotary HEX switches on the side of the unit or by using the automatic scan and store function, or both.

When powered ON, the receiver will default to the frequency set by the switches. A nonvolatile memory can store up to five additional frequencies accessible by pressing the knob. The memory remains during power OFF and even with the battery removed.

## Control Knob

The single front panel control knob performs multiple functions;

1. Rotate for Power ON/OFF
2. Rotate for Audio Level
3. Push quick, Channel Switching. (Also see page 9 for special knob setup.)
4. Push and rotate for Scan and Channel programming,

Refer to the OPERATING INSTRUCTIONS for full details on how to use the single knob control for channel selection, scanning, and programming of the five memory locations.

## LED Indicator

The three color LED indicator on the front panel provides multiple functions.

**CHANNEL NUMBER** - The LED will blink OFF a number of times corresponding to the Channel Number when the unit is switched ON and also when a new frequency is added to an open channel. For example, for channel 3 the LED would blink OFF three times. After blinking the channel number the LED will return to a steady ON indicating normal operation.

**BATTERY STATUS** – During normal operation, when the LED is GREEN, the battery is good. When the LED is YELLOW the battery is getting low. When the LED is RED, the battery is nearly depleted and should be replaced.

**PROGRAMMING FUNCTIONS** - In the programming mode, the LED will blink at a fast rate to indicate scanning for an active frequency. It also flashes briefly to indicate a frequency has been programmed into a channel.

# Receiver Normal Operation

1. Set the Frequency of the receiver to match the frequency of the transmitter by using the two HEX rotary switches located on the side of the receiver under the sliding door. The 1.6M switch is for “coarse” adjustment (1.6 MHz per click) and the 100k switch is for “fine” adjustment (0.1 MHz per click).
2. Plug an earphone or headset into the 3.5mm jack. Be sure the unit has a good battery.
3. Rotate the knob clockwise to switch the power ON (Do NOT hold the knob in while switching power ON). The LED will illuminate. Rotate the knob to set the desired audio level.
4. If channel frequencies have been stored in the memory, change channels by pressing the knob briefly and release. The LED will blink the next channel number (frequency) and the receiver will resume operation on that channel. If no channel frequencies have been stored when pressing the knob to change channels, the LED will flash from green to red to yellow to green, indicating no stored channels and the unit will resume operation on the channel set by the switches.
5. Whenever the power is switched ON, the unit defaults to the frequency set by the switches.

## Add a New Frequency to The Next Open Channel

Before operating a receiver, one or more IFBT1/T4 transmitters must be placed in XMIT mode, with each transmitter set to the desired frequency and connected to a proper antenna, audio source, and power source. The transmitter frequency block must be the same as the receiver frequency block as marked on each unit.

1. Position the receiver at a location within 20 to 100 feet of the transmitter or transmitters.
2. With the power ON, depress the knob until the LED starts rapidly blinking, then release the knob.
3. The unit goes into program mode and does a scan/search. Previously programmed frequencies will be automatically skipped. When the unit stops on a new frequency audio from the transmitter will be heard in the earphone and the LED will stop blinking rapidly and will change to a slow blink mode.

The unit is now waiting for an operator decision. You must now decide to either SKIP or STORE the frequency (step 4 or 5 below.) Switching the power to OFF without storing will delete the frequency.

4. To SKIP the frequency, depress the knob briefly and the scan/search will resume.
5. To STORE the frequency into a channel memory, depress the knob and hold it until the LED blinks the new channel number, then release the knob. The frequency is now stored in an open channel.
6. The unit will continue scan/search for other frequencies. To store more frequencies repeat steps 4 and 5 above. Up to 5 frequencies can be stored in memory channels.

7. When all desired frequencies are stored switch the power to OFF for a few moments, then switch back to ON. The unit will default to the channel number set by the switches and resume normal operating mode.
8. The first scan is made at low sensitivity and searches for only *high* level transmitter signals to avoid intermods. If the receiver does not stop on any frequency in the first scan, that means an IFB transmitter was not detected. In this condition the LED will change from a fast blink to a slow blink indicating the end of the scan. The complete scan should take 15 to 40 seconds.
9. A second scan at high sensitivity is initiated by depressing the knob briefly at the end of the first scan to search for low level transmitter signals. When the scan stops and the transmitter audio is heard, either SKIP or STORE the frequency (step 4 or 5 above).
10. If the receiver still does not stop on any frequency, check that the transmitter is ON. Also, if a frequency is not received or received but distorted, some other signal may be interfering on that frequency. Change the transmitter to another frequency and try again.
11. Switching the POWER to OFF during any mode simply terminates that mode and returns the unit to normal operating mode when the power is switched back to ON.

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Note: If knob does not change frequencies or begin scanning when pressed, check to see if its function has been changed.

## Erase All 5 Channel Memories

1. With power OFF, depress the knob and turn the unit ON. Continue to hold the knob down until the LED starts rapidly blinking. The memory is now erased and the unit will go into scan/search mode.
2. Continue from step 3 above - Add New Frequency.

## Multiple Transmitter Setup

When using this IFB receiver in a search mode, with two or more transmitters running at the same time, the receiver may stop on a false signal under the following conditions:

- Two transmitters are on and transmitting.
- The distance from the transmitters to the IFB receiver is less than 5 feet.

The false hits are caused by intermodulation or mixing in the front end of the IFB receiver. At a 5 to 10 foot distance, the two carriers are so strong at the receiver, that even this well designed front end will mix the carriers and produce phantom frequencies. The IFB receiver then halts its scan and stops on these false frequencies. All receivers will exhibit this type problem at some transmitter power level and range. You notice false signals more with a scanning mode receiver since it will find them all.

Prevention is simple. Do one of the following:

- Do the scan with only one transmitter on at a time. (Time consuming)
- Increase the receiver to transmitter distance to at least 10 feet. (Preferred)

## LIMITED ONE YEAR WARRANTY

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

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

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

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

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



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