



LECTROSONICS IFBR1B Series IFBR1B-VHF UHF Multi-Frequency Belt-Pack IFB Receiver Instruction Manual

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LECTROSONICS IFBR1B Series IFBR1B-VHF UHF Multi-Frequency Belt-Pack IFB Receiver



Introduction

Wireless IFB (interruptible fold back) systems are used for talent cueing and crew communications in broadcast and motion picture production. In other cases, the IFB system is used by directors and other management to monitor program audio during a production. The IFBR1B receiver provides simplicity and flexibility in a package that is intuitive for untrained users to operate. In spite of its tiny size, the new IFBR1B receiver offers excellent performance on par with all of Lectrosonics' IFB projects. The design uses ± 20 kHz FM deviation for efficient use of the bandwidth, with compandor noise reduction circuitry for an excellent signal-to-noise ratio. A supersonic Pilot Tone signal controls the audio output squelch to keep the receiver silent when no transmitter signal is received. The incoming RF signal is filtered and amplified, then mixed down to the IF frequency with a microprocessor-controlled synthesizer.

If a monaural earpiece is connected, this condition is automatically accommodated, with no loss of audio output power or battery life. Full output power is available with either type of connector, without the power losses that result from a resistive circuit design. The headphone cable doubles as the receiving antenna. The receiver will drive a wide variety of earbuds, headphones, and induction neck loops at substantial levels, with loads from 16 Ohms to 600 Ohms. The IFBR1B operates on a single 3.6 V rechargeable LB-50 Li-ion battery that will provide about eight hours of operation per charge. The LED indicator changes color from green to red as the battery voltage declines to provide plenty of warning before operation ceases. Inside the battery, the door is a USB port for firmware updates in the field. The IFBR1B is housed in a rugged machined aluminum package. A wire belt clip is included and provides a secure mounting on a wide variety of belts, pockets, and fabrics.

General Technical Description

Frequency Agility

The frequency-agile IFBR1B Receiver is designed to operate with the Lectrosonics IFB transmitters and compatible Digital Hybrid transmitters. Microprocessor control of frequencies within each frequency block provides the ability to work around interference problems quickly and simply.

Frequency Presets

There are 10 presets available for programming in the IFBR1B. The stored frequencies remain in memory during power OFF and even with the battery removed. Use the UP and DOWN arrows to scroll through the previously

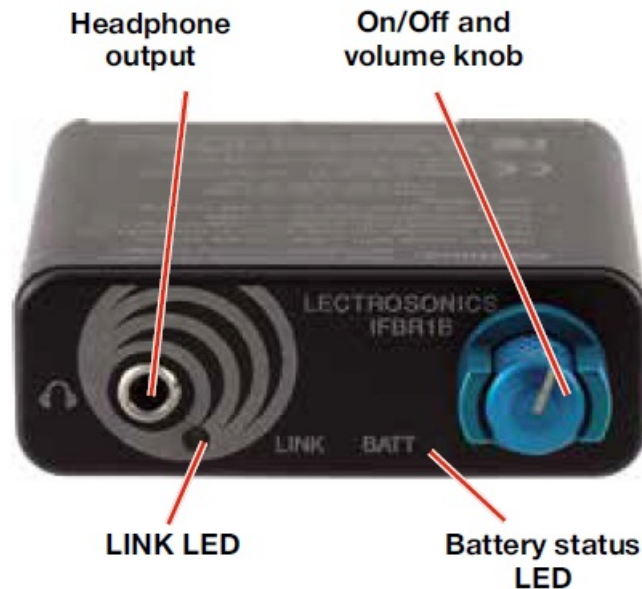
selected frequencies stored in the IFBR1B and quickly change frequencies for quick communication.

Simplicity

The unique design in this receiver is not only tiny but provides simple one-knob operation for on/off and audio level and easy on-the-fly programming with simple frequency adjustments and 10 preset slots available. Basic operation is simply a matter of rotating the knob to turn the power on and adjust the volume level.

Features

IFBR1B Features



On/Off and Volume Knob

Turns unit on or off and controls headphone audio level. When the IFBR1B is first turned on, the firmware version will display briefly.



Battery Status LED

When the battery status LED glows green, the batteries are good. 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 the remaining time.

NOTE: The LCD will also alert when the battery is critically low.



RF Link LED

When a valid RF signal from a transmitter is received, this LED will light up blue. Also, see Page 6 for information on behavior when Pilot Tone Bypass is enabled or disabled.

Headphone Output

A 3.5 mm mini phone jack accommodates a standard mono or stereotype 3.5 mm plug. The unit will drive low or high-impedance earphones. The jack is also the receiver antenna input with the earphone cord acting as the

antenna. The cord length is not critical but must be at least 6 inches minimum.

USB Port

Firmware updates via Wireless Designer are made easy with the USB port in the battery compartment.

Installing the Battery



An attached latching door makes battery installation easy. The USB port is located in the battery compartment. The battery door was designed to latch, providing extra security. To open, press at the lower right corner as shown.



Slide the battery compartment door open, drop the battery in so that the connectors match, and slide the battery door closed. The battery door will now “lock” when fully closed. To “unlock,” press down the actuator and slide the battery door open.



Battery Charging

The receiver operates on a 3.6 V rechargeable battery that will provide about eight hours of operation per charge.

CAUTION:

Use only Lectrosonics LB-50 supplied battery (P/N 40106-1).



The optional battery charger kit provides a USB terminating plug (standard and micro USB) on the charger. The LED glows red during charging and turns green when the battery is fully charged.

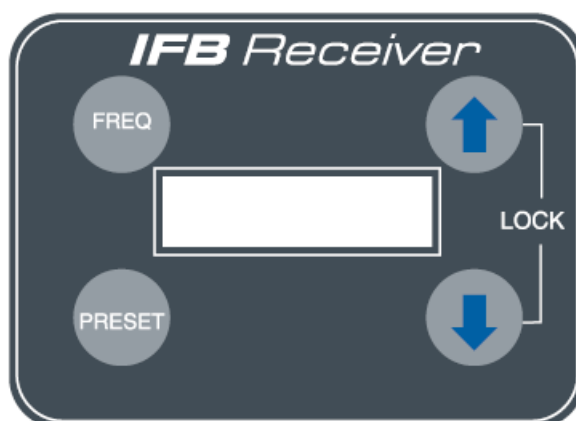
Battery charger kit P/N 40117



CAUTION:

Use only Lectrosonics battery chargers; P/N 40117 (as shown) or CHSIFBRIB.

IFBR1B Functions



Frequency Selection

Press the FREQ button to select receiver frequency. The frequency is shown in MHz. The UP and DOWN arrow buttons adjust the frequency in 25 or 100 kHz steps (VHF: 125 kHz steps). Simultaneous press of FREQ + UP or FREQ + DOWN adjusts the frequency in 1 MHz steps.

535.275

NOTE:

Holding down the UP or DOWN arrow button, as opposed to a quick press, will scroll through the frequency steps at an accelerated pace.

Preset Selection

Press the PRESET button to select preset frequencies for future use. Presets are displayed as:



P on the left and the current preset number (1-10) on the right OR



If the current preset slot is empty, and E also appears on the right. Use the UP and DOWN arrow buttons to navigate among any programmed presets, tuning the receiver to each.

NOTE:

If the preset number is blinking, the receiver IS NOT currently tuned to that preset.

There are two options available for setting presets:

Choosing the preset slot first:

1. Press PRESET to display the preset menu.
2. Use PRESET + UP and PRESET + DOWN to choose the desired slot. When navigating among the preset slots in this way, all slots are accessible, even the empty ones and the receiver's tuning is not affected.
3. If the desired preset slot is occupied, you can reprogram it by pressing PRESET + DOWN to clear the slot.
4. Press FREQ to display the frequency, then use the UP and DOWN arrow buttons to adjust the frequency in 25 kHz steps.
5. Press PRESET again to return to the presets menu. You should see an E next to the blinking preset number.
6. Press and hold PRESET + UP to program the preset. The E will disappear and the preset number will stop blinking, indicating that this slot has now been programmed with the current frequency.

Choosing the frequency first:

1. Press FREQ to display the frequency, then use the UP and DOWN arrow buttons to adjust the frequency in 25 kHz steps.
2. Press PRESET to display the preset menu.
3. Use PRESET + UP and PRESET + DOWN to choose the desired slot. When navigating among the preset slots in this way, all slots are accessible, even the empty ones and the receiver's tuning is not affected.
4. If the desired preset slot is occupied, you can reprogram by pressing PRESET + DOWN to clear the slot.
5. Press and hold PRESET + UP to program the preset. The E will disappear and the preset number will stop blinking, indicating that this slot has now been programmed with the current frequency.

Clear a Preset Selection

1. Press PRESET to display the preset menu.
2. Press either UP or DOWN arrow buttons (tuning as you scroll) or PRESET + UP and PRESET+ DOWN (selecting the preset without tuning) to select the preset number you wish to clear.

NOTE: If there is an E next to the preset number, the slot is already clear.

3. Press and hold PRESET + DOWN to clear the slot. The E will appear and the preset number will blink, indicating the slot is now empty.

Backlight Settings

Press the UP arrow button while powering on the receiver to display the backlight time-out the menu. Use the UP and DOWN arrow buttons to scroll through the options:

- bL: Backlight always on; the default setting
bL 30: Backlight times out after 30 seconds
- bL 5: Backlight times out after 5 seconds Press the FREQ button to exit and save settings.

LED On/Off

Press the UP arrow button while powering on the receiver. From the backlight time-out menu, press the FREQ button to access the LED on/off menu. Use the UP and DOWN arrow buttons to scroll through the options. Press the FREQ button to exit and save settings.

Pilot Tone Bypass

When pilot tone bypass is enabled, the IFBR1B will not mute itself in the presence of a pilot tone. It will only mute based on RSSI and window detection. This feature is enabled and disabled by holding the UP button while powering the unit ON and is cycled through by pressing the PRESET button.



The setting page is labeled “Pb.” The default value is OFF. Pressing the DOWN button changes the value to ON while pressing the UP button will change the value back to OFF.

NOTE:

The LINK LED behaves differently when the Pilot Tone Bypass feature is enabled. In this mode, it indicates if the unit is unmuted. When this feature is disabled, the LINK LED lights up when a pilot tone is present (regardless of whether the device is muted because of RSSI or the window detector).

Locale Menu

On block 941 receivers ONLY, from the LED On/Off menu, press the FREQ button to access the LOCALE menu. Use the UP and DOWN arrow buttons to scroll through the options: LC CA: Use with SMV/E07-941, SMQV/E07-941, HMA/E07-941, HHA/E07-941, SMWB/E07-941, and SMDWB/E07-941 LC –: Use with all other Block 941 transmitters Press the FREQ button to exit and save settings.

Locking the Settings

To lock or unlock the IFBR1B settings, press and hold the UP and DOWN arrow buttons simultaneously until the countdown completes.

Firmware Update Instructions

Use the Lectrosonics wireless Designer program to install firmware updates. Firmware update files and change notes are available from the Lectrosonics website. Remove the battery and connect the IFBR1B to your Windows or macOS computer with a USB cable. The cable must have a micro-B male connector to mate with the USB jack in the IFBR1B. When updating firmware, the IFBR1B is powered by a USB cable. Use the “Firm-ware Update” Wizard in Wireless Designer to open the firmware file and install the new firmware version.

Specifications and Features

Operating Frequencies (MHz):

- Band A1: 470.100 – 537.575
- Band B1: 537.600 – 614.375
- Band C1: 614.400 – 691.175
- Block 941: Local — Local CA
 - 941.525 – 951.975 941.525 -951.975
 - 952.875 – 956.225 953.025 – 956.225
 - 956.475 – 959.825 956.475 – 959.825
- VHF: 174.100 – 215.750

NOTE: It's the user's responsibility to select the approved frequencies for the region where the transmitter is operating.

- **Frequency Selection Steps:** 25 kHz or 100 kHz, selectable; VHF: 175 kHz
- **Sensitivity:** 1 uv (20 dB SINAD)
- **Signal/Noise ratio:** 95 dB A-weighted
- **Squelch quieting:** 90 dB
- **AM rejection:** 50 dB, 10 uV to 100 mV
- **Modulation acceptance:** ±20 kHz
- **Spurious rejection:** Greater than 70 dB
- **Operating temperature range:** -20 to 45 degrees C.
- **Third-order intercept:** 0 dBm
- **Frequency response:** 100 Hz to 10 kHz, (+/-1 dB)
- **Audio output:** 1V RMS into 50 ohms minimum
- **Antenna:** Headphone cable
- **Min. headphone impedance:** 16.0 Ohms
- **Programmable memory:** 10 frequencies can be stored as presets
- **Controls:**
 - Top Panel: Single knob controls Audio Output Level and Power On
 - Side Panel: Membrane switches with LCD interface for Frequency Selection and Preset function
- **Indicators:** Multi-color LED indicator for power on and battery status
- **Battery:** LB-50 Li-ion 3.6 V 1000 mAH
- **Battery Life:** 8 hours per charge with LB-50 Li-ion battery
- **Current consumption:** 120 mA
- **Weight:** 3.4 oz (with battery and wire belt clip)

- **Size:** 2.8 x 2.4 x 0.8 in.
x 70.0 x 20.3 mm

71.1

Specifications are subject to change without notice.

Supplied Parts and Accessories

27258

Wire belt clip.



40106-1

LB-50. 3.6V lithium-ion battery pack



VSR-1

Self-adhesive Velcro strip. Helps to alleviate cord stress at the jack.



Optional Parts and Accessories

40117

USB-powered IFBR1B Receiver battery charging station; charges two batteries at once.



CHSIFBR1B

Ideal for large studio or performance installations. A convenient and organized means of recharging 4 LB-50 batteries and IFBR1B receivers with numerous batteries in regular use. Each charging module may be daisy-chained to 3 additional modules using a single AC-DC power supply for a total of 16 units charging at once (LB50s and/or IFBR1Bs). Requires DCR5/9AU power supply.



DCR5/9AU

Power supply for the CHSIFBR1B. Includes AC cord. Can power up to 4 CHSIFBR1Bs at once.



IFBR1BBCSL

Spring loaded beltclip for IFBR1B



IFBR1BCVR

This tough silicone cover protects the IFBR1B from moisture and dust. The pliable material and the two-part design make it easy to install and remove. Cutouts for the antenna and knob and the raised dome for the LED provide a snug fit.



Symptom Possible Cause

LED NOT LIT

- Battery not installed or depleted.
- Power not turned

NO SOUND IN THE HEADPHONE

- AUDIO LEVEL turned all the way down.
- Headphone plug not inserted
- Defective headphone or connector
- Transmitter not (See separate transmitter manual.)
- The receiver is not on the same frequency as the See page 5.

DISTORTED SOUND

- Transmitter gain (audio level) is far too high. Refer to the operating instructions section in the transmitter manual for details on gain adjustment.
- The receiver output may be mismatched with the headset or earphone. Adjust the audio level on the receiver to the correct level for the headset or earphone.

HISS AND NOISE, AUDIBLE DROPOUTS

- Transmitter gains far too low.
- Receiver antenna missing or (Headphone cable is the antenna.)
- Transmitter antenna missing or
- Operating range too
- The transmitter antenna was obstructed. Move transmitter antenna and/or receiver to a position with a line of sight between the transmitter antenna and the receiver.
- The receiver antenna (headset cord) may need to be repositioned for a line of sight to the transmitter antenna

SHORT-RANGE

- Receiver headphone cable is also the antenna. Make sure the cable is not coiled or wound up or wrapped around the receiver case.

DECIMAL POINT IS BLINKING ON FREQUENCY

- It is normal to see the decimal point blink briefly when making large changes to frequency, as when wrapping around the band edges.
- Can also mean the receiver is currently tuned to an invalid
- Otherwise, a blinking decimal point is a sign that something is wrong with the hardware.

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 and then go through the Troubleshooting section in this manual. 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 in accordance with 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 make the 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 email 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 from 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 prepaid. If necessary, we can provide you with the proper packing materials. UPS 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 ensure the equipment when we ship it back to you.

Lectrosonics USA:

Mailing address: Lectrosonics, Inc. PO Box 15900 Rio Rancho, NM 87174 USA Web: www.lectrosonics.com.

Telephone:

- (505) 892-4501
- (800) 821-1121 Toll-free
- (505) 892-6243 Fax

Lectrosonics Canada:

Mailing Address: 720 Spadina Avenue, Suite 600 Toronto, Ontario M5S 2T9

Telephone:

- (416) 596-2202
- (877) 753-2876 Toll-free
- (877-7LECTRO)

- (416) 596-6648 Fax

Shipping address:

Lectrosonics, Inc. 561 Laser Rd. NE, Suite 102 Rio Rancho, NM 87124 USA

E-mail:

- sales@lectrosonics.com.
- service.repair@lectrosonics.com.
- 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>.

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.

Documents / Resources

	<p>LECTROSONICS IFBR1B Series IFBR1B-VHF UHF Multi-Frequency Belt-Pack IFB Receiver [pdf] Instruction Manual IFBR1B Series, IFBR1B-VHF, IFBR1B-941, IFBR1B, UHF Multi-Frequency Belt-Pack IFB Receiver</p>
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