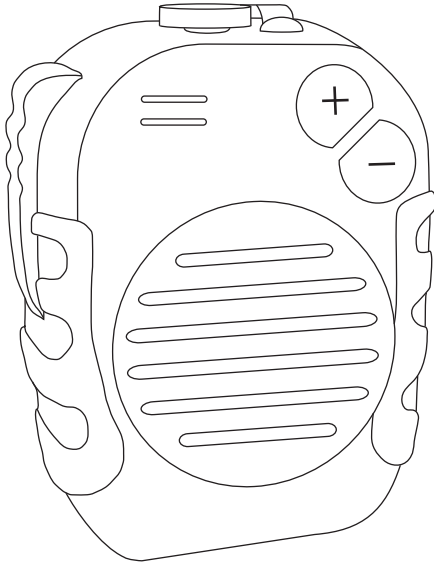# FreeLinc™
FreeMic™ 200
Product User Guide

FREELINC™

Warranty and FCC Compliance

Warranty

I. What this warranty covers and for how long:

a. Radeum, Inc., doing business as FreeLinc ("FreeLinc"), warrants to Purchaser that its FreeLinc manufactured products ("Product") will substantially conform to FreeLinc's published specifications, as of the date of the Purchaser's purchase of the Product, and for one (1) year from the date of purchase (the "Warranty Period").

b. Rechargeable batteries will be replaced during the warranty period if the battery develops leakage.

c. FreeLinc, at its option, will at no charge either repair, replace, or refund the purchase price for warranted Product during the warranty period provided it is returned in accordance with the terms of this warranty to the place of purchase. Repair, at FreeLinc's option, may include the replacement of parts or boards with functionally equivalent reconditioned or new parts or boards. Replaced parts or boards are warranted only for the balance of the original Warranty Period. All replaced parts or Product shall become the property of FreeLinc.

d. This express limited warranty is extended by FreeLinc to the original end user purchaser only and is not assignable or transferable to any other party. This is the complete warranty for Product manufactured by FreeLinc. FreeLinc assumes no obligations or liability for additions or modifications to this warranty unless made in writing and signed by an officer of FreeLinc. Unless made in a separate written agreement between FreeLinc and the original end user purchaser, FreeLinc does not warrant the installation, maintenance or service of warranted Product.

e. FreeLinc is not responsible in any way for any ancillary equipment not furnished by FreeLinc which is attached to or used in connection with Product, or for operation of the Product with any ancillary equipment and all such equipment is expressly excluded from this warranty. Because each system which may use the Product is unique, FreeLinc disclaims liability for range, coverage, or operation of the system as a whole under this warranty.

II. What this warranty does not cover:

a. Defects or damage resulting from use of the Product in other than its normal and customary manner.

b. Defects or damage from misuse, accident, water or neglect.

c. Defects or damage from improper testing, operation, maintenance, installation, alteration, modification, or adjustment.

d. A Product subjected to unauthorized Product modifications, disassemblies, or repairs.

e. Product which has had the serial number removed or made illegible.

f. Rechargeable batteries if the damage or defect is caused by charging or using the battery in equipment or service other than the Product for which it is specified.

g. Freight costs related to Product returned for warranty claims.

h. A product which, due to illegal or unauthorized alteration of the software/firmware in the Product, does not function in accordance with FreeLinc's published specifications or the FCC type acceptance labeling in effect for the Product at the time the Product was purchased.

III. How to get warranty service:

a. Purchaser shall notify FreeLinc of any nonconformance during the warranty period, and obtain a written return material authorization ("RMA") and an RMA number for the

nonconforming Product from FreeLinc.

b. Purchaser shall return the nonconforming Product to the place of purchase freight prepaid.

IV. Limitation of Liability:

a. This warranty sets forth the full extent of FreeLinc's responsibilities regarding the Product. Repair, replacement, or refund of the purchase price, at FreeLinc's option, is the exclusive remedy.

b. THE FOREGOING WARRANTIES ARE THE SOLE WARRANTIES, EXPRESS OR IMPLIED, GIVEN BY FREELINC IN CONNECTION WITH THE PRODUCT, AND FREELINC DISCLAIMS ALL OTHER WARRANTIES EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTIBILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NONINFRINGEMENT OF THIRD-PARTY RIGHTS.

c. FREELINC SHALL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES IN CONNECTION WITH THE PRODUCT, EVEN IF FREELINC HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

d. EXCEPT FOR CLAIMS FOR BODILY INJURY (including death) AND CLAIMS FOR DAMAGE TO REAL PROPERTY AND TANGIBLE PERSONAL PROPERTY, FREELINC'S LIABILITY FOR ALL OTHER CLAIMS SHALL NOT EXCEED THE AMOUNT PAID TO FREELINC FOR THE PRODUCT GIVING RISE TO FREELINC'S LIABILITY. THIS LIMIT OF LIABILITY ALSO APPLIES TO OUR MANUFACTURERS AND DISTRIBUTORS. IT IS THE MAXIMUM AMOUNT FOR WHICH WE ARE COLLECTIVELY RESPONSIBLE.

FCC Compliance

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. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer's instructions, may cause interference harmful to radio communications.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

There is no guarantee however, 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 comparing 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 to which the receiver is connected.
- Consult your supplier or an experienced radio/TV technician for assistance.

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Safety Information

Caution: To reduce the risk of fire or injury to persons, read and follow these instructions.

Do not dispose of product in a fire. The battery cells may explode. Check with local codes for possible battery disposal instructions.

Use only the supplied charging unit to charge the product from an AC voltage or wall outlet.

If the product becomes hot during charging, disconnect the AC adapter from the wall and contact qualified support personnel.

Do not disassemble the AC adapter of this product as it may expose you to dangerous voltages or other risks. Incorrect reassembly can cause electric shock when the product is subsequently used.

Do not use the charger outdoors or in damp areas.

Only charge the product battery in accordance with the instructions of this manual.

Never submerge your product in water or other liquids.

Protect your product from spills, excessive rain, and wet locations.

Do not use liquid cleaners or aerosol cleaners as they may damage the product or finish of the product. Use a dry cloth to clean the external portions of the product.

Do not stick anything inside the product as this may damage internal components.

This product conforms to the following safety standards:

ANSI/UL 60950-1 1st Ed.
CAN/CSA C22.2 No. 60950-1-03
EN 60950-1 1st Ed.
IEC 60950-1 1st Ed.

Table of Contents

A detachable QuickStart Guide is included with this manual.
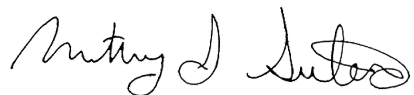
Introduction and General Information

Congratulations, and thank you for choosing the FreeLinc FreeMic 200 wireless product to enhance your two-way radio communications.

The FreeMic 200 uses cutting-edge Near-Field Magnetic Induction communication (NFMI) wireless technology. NFMI supports mobility, freedom-of-motion, exceptional battery life, audio integrity, ease-of-use, durability, secure communications, and comfort. This is the first technology of its kind to be implemented into practical voice and audio solutions for two-way radios.

The FreeMic 200 operates in a "bubble" that envelops one to three meters of each user's personal space, and is – by the laws of physics – fully private and secure. The result is the ability to eliminate the restrictive and hazardous cable, without sacrificing reliable and secure communications. Additionally, with NFMI, signals are designed to propagate only within a two-meter range, enabling a huge power and battery advantage (up to six times) over standard RF technology.

We are confident that you will immediately experience the benefit of using innovative FreeLinc products for your two-way radio transmissions. As the pioneer in wireless push-to-talk communications, we thank you for choosing FreeLinc.

Anthony J. Sutera
President & CEO

PACKAGE CONTENTS

FreeMic 200 (FMC-200):

- One Wireless Speaker-Microphone
- One AC Power Adapter
- One User Guide
- One Quick Start Guide
- One Tether Cord
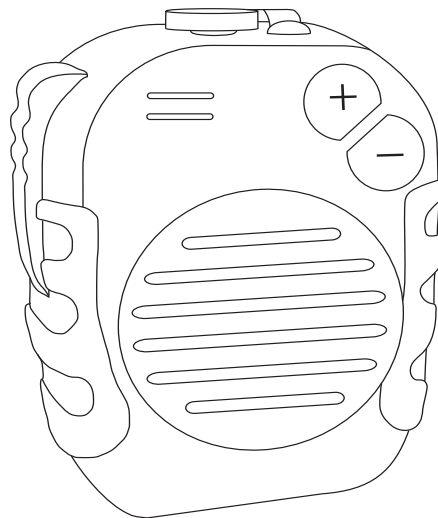
Parts of the Product - Diagrams

FreeMic 200 (FMC-200) Product

Charge Indicator LED Light

Accessory/ Headphone Jack

Push-to-Talk Button

Volume/ VOX Sensitivity Adjustment Buttons

Microphone

Powerful Speaker

Rugged All-Weather Design

Accessory/ Headphone Jack

Charge Indicator LED Light

Wall Charger Connection
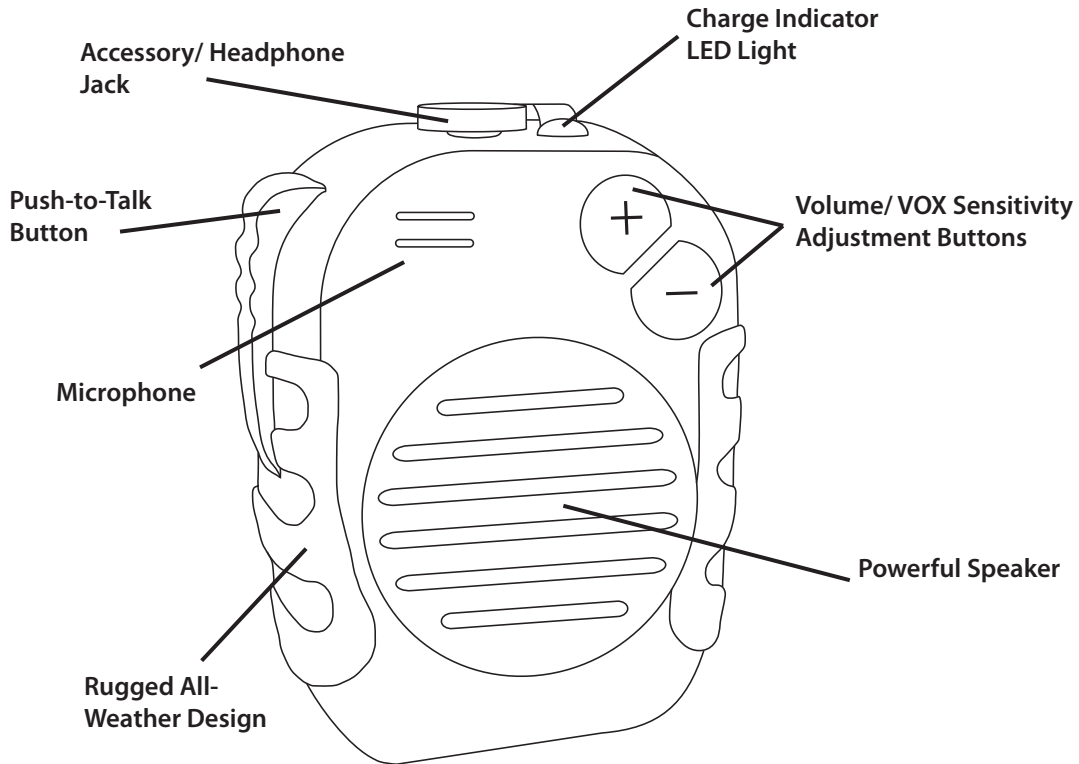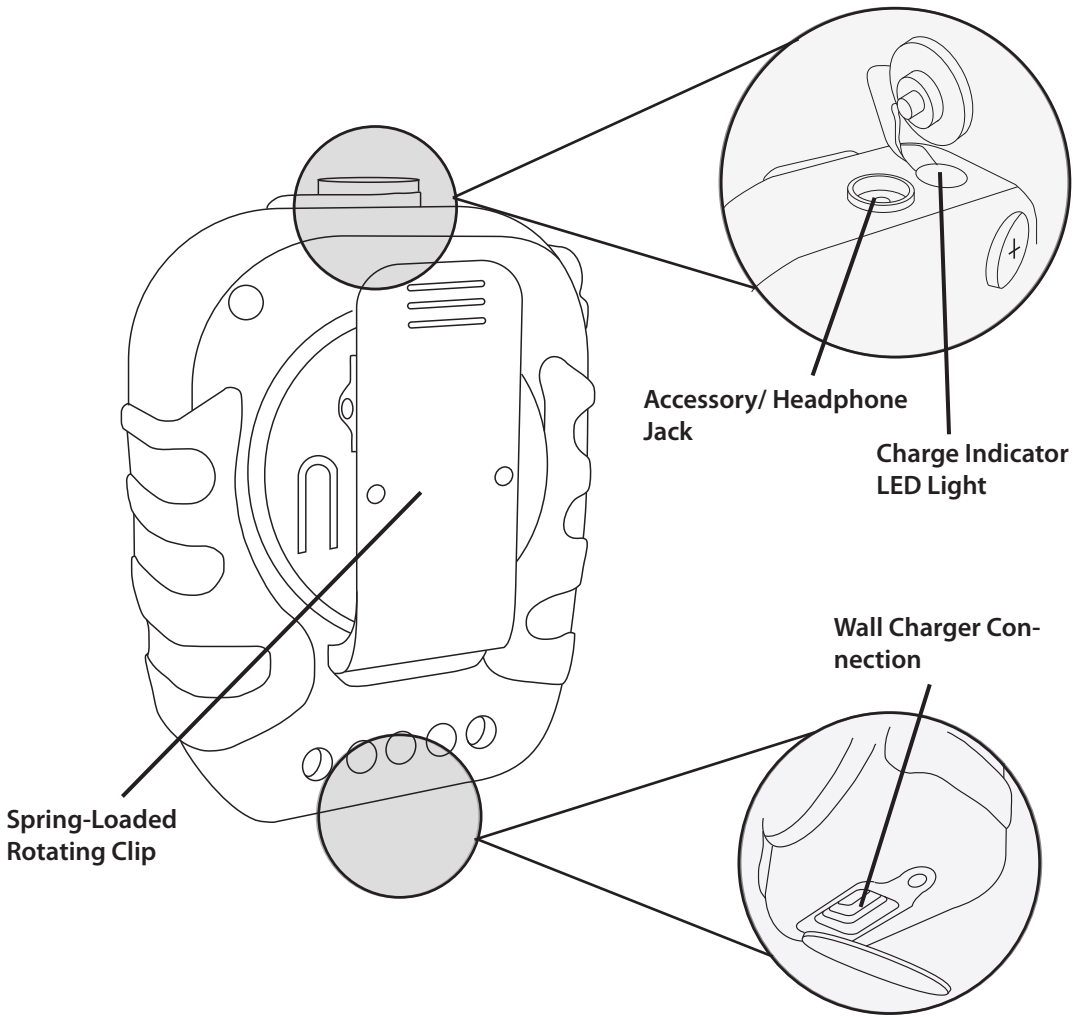
Spring-Loaded Rotating Clip

Parts of the Product

Charge Indicator Light

The charge indicator light on your FreeMic 200 speaker-microphone indicates battery charge status when plugged into the charger:

LED BEHAVIOR	INDICATION
Red, Solid	Charging
Green, Solid	Charging Complete

The FreeMic LED will not illuminate when it is unplugged from the charger.

Indicator Tones

During operation, you will hear the following tones from your FreeMic 200 speaker-microphone:

INDICATION	TONE
Low Battery	Double short chirp, repeating when recieving and transmitting
Seeking	Single short chirp, repeating
Pairing Achieved	Long single tone
VOX Activated/Deactivated	Double short tone

Volume Adjustment Tones

When clicking the Volume Up or Volume Down buttons to adjust FreeMic volume, you will hear the following tones:

INDICATION	TONE
Volume Up/Volume Down Buttons Clicked	Single short tone
Maximum Volume Reached	Double short tone, high pitched
Minimum Volume Reached	No tone, speaker muted

General Operation

Operating Concepts and Terms

Personal Communication Bubble
The FreeMic 200 works within a small field, or "bubble" of communication surrounding the user. The size of the bubble is determined by the distance between the FreeMic and the adapter. If the FreeMic and adapter are close together, the bubble shrinks to approximately three feet (0.91 meters) in diameter – just large enough to accommodate the range of communication between adapter and FreeMic. As you increase the distance between the FreeMic and adapter, the size of the bubble expands accordingly, up to approximately four or five feet (1.2-1.5 meters) in diameter.

Pairing
Before your FreeMic can communicate with an adapter, it must establish a link. In order to establish a link, the FreeMic and the adapter must exchange a randomly generated software ID code, which is stored on each device. This process is called "pairing." The FreeMic and adapter remain paired until you initiate the manual pairing sequence (see page 18) to pair your FreeMic with a different adapter.

Seek Mode
When your FreeMic is searching for an adapter with which to establish a link, it will initially enter "Seek Mode". If it does not detect the adapter with which it has been paired, the FreeMic will remain in Seek Mode for two minutes before entering Sleep Mode (see page 15).

Linking
After entering Seek Mode and finding the adapter with which it is paired, the FreeMic will establish a link, after which communication can occur. This link will remain active until you switch off the adapter or radio, at which point the FreeMic returns to Seek Mode.

Sleep Mode

When your FreeMic has remained in Seek Mode for two minutes without finding a link, it will go into Sleep Mode. While in Sleep Mode, the FreeMic uses no power. To awaken your FreeMic from Sleep Mode, depress the Push-To-Talk (PTT) button and hold for one second, which activates Seek Mode.

Charging the Battery

Charging the Battery

To charge the battery on your FreeMic, connect the included AC power adapter into your AC power outlet, and then to the charging jack located on the bottom of the FreeMic. (see diagram on page 9) In a few seconds, the charge indicator light on the FreeMic will illuminate red, indicating that charging is in progress.

Note: Please do not use or wear the FreeMic while charging.

Important: Charge the FreeMic battery at least

six hours before first use. Subsequent charges take just three hours (approximate). The charge indicator light will turn green when the FreeMic battery is fully charged.

Important: Do not attempt to charge the FreeMic battery using a USB cable other than the USB cable provided by FreeLinc. Failure to comply may result in decreased battery capacity.

General Operation

Using Your FreeMic for the First Time

Step One: Charge FreeMic Battery
Plug the FreeMic into an electrical socket using the included wall charger. Please refer to the diagram on page 11 for the location of the wall charger connection on the FreeMic.

Step Two: Attach Adapter
Fit adapter to the accessory interface of the portable radio (see your portable radio's user manual if you need assistance locating the accessory interface). If your adapter has a mounting clip on top, this will fit into a corresponding notch on top of your portable radio. If your adapter does not have a mounting clip, use the set screw (see diagram) to secure it to your radio. When properly attached, the spring-loaded pins should align with the contacts on the accessory interface of your portable radio and adapter should fit securely.

Step Three: Turn On Adapter
Turn on your portable radio and set toggle switch on your FreeLinc adapter to "On" position. (see diagram) Note that this will automatically silence the speaker on your portable radio and route all communications to the FreeMic.

Step Four: Exit Sleep Mode
Your FreeMic will be in Sleep Mode when you unplug it from the charger. To awaken your FreeMic from Sleep Mode, depress the PTT button once and hold it for one second. Once you have awakened your FreeMic from Sleep Mode, it automatically enters Seek Mode (see definition above).

Step Five: Pair FreeMic to Adapter
When you take your FreeMic out of the box for the first time, you will need to pair it with an adapter manually. To initiate manual pairing, hold the FreeMic close to the adapter and simul-

taneously depress the Volume Up and Volume Down buttons on the FreeMic. When you have successfully paired your FreeMic to the adapter, the adapter LED will turn solid green and then begin flashing green, indicating a link has been established.

Step Six: Establish Link (Automatic)
Once you have paired your FreeMic to an adapter, the two devices can establish a communication link. This occurs automatically immediately after pairing, and the link persists as long as the FreeMic remains within the Personal Communication Bubble (see definition; page 14). When your FreeMic moves outside of the bubble, the link is lost, and the unit returns to Seek Mode.

While in Seek Mode, the FreeMic is attempting to locate the adapter to which it is paired (see above definition). The adapter LED will flash red and you will hear a repeating short single tone from the FreeMic speaker. This will persist until the unit exits Seek Mode by either:

- Re-establishing the link with the adapter

with which it is paired - when this occurs the adapter LED will resume flashing green, or
- Entering Sleep Mode - this occurs when no link is established for two (2) minutes.

Step Seven: Adjust FreeMic Volume
The FreeMic has eight different volume levels. Use the Volume Up and Volume Down keys on your FreeMic to increase or decrease the volume level. Depress Volume Up or Volume Down once for each level you want the volume to increase or decrease. Setting the FreeMic volume to the lowest possible level causes all audio to be disabled.

CAUTION
If the volume buttons are held down continuously to increase or decrease the volume levels, after six seconds, the unit will switch into VOX mode.

Step Eight: Ending Use
There is no On/Off switch on the FreeMic. To turn off the FreeMic, you can either switch the adapter toggle switch to the OFF position (see

General Operation

diagram) or turn the portable radio off. Once you have powered off the adapter, the link will be broken and the FreeMic will move into Seek Mode. When the link has been broken for two (2) minutes, the FreeMic will move into Sleep Mode, and will thus power off.

VOX Operation

Entering VOX Mode
To enter VOX mode, depress the Volume Down button on FreeMic for six seconds. The adapter LED will change from flashing green to flashing orange.

Operating in VOX Mode
To initiate a transmission in VOX mode, you simply speak into the microphone on the FreeMic. The sound of your voice activates the transmission in the same way depressing the PTT button does in normal mode.

Adjusting VOX Sensitivity
Depending on background audio conditions, you may need to adjust the microphone sensitivity. Use the Volume Up and Volume Down buttons on your FreeMic to increase or decrease sensitivity while in VOX mode.

Exiting VOX Mode
To exit VOX mode, depress the Volume Down button on the FreeMic for six seconds. The adapter LED will change from flashing orange to flashing green.

CAUTION
While in VOX mode, any communication may be transmitted over the airway.

Pairing Your FreeMic with Other Adapters

Manually Initiating the Pairing Process
To initiate pairing, hold the FreeMic close to the adapter and simultaneously depress the Volume Down and Volume Up buttons on the FreeMic. Hold the Volume Up and Volume Down buttons on the FreeMic simultaneously for two seconds. The adapter LED will flash solid green indicating a successful pairing. You can repeat this process at any time to break the existing pairing and establish a new pairing with any other adapter. Keep in mind that the FreeMic can only be paired with one adapter at a time.

Accessories

FreeLinc continually releases new accessories for FreeMic products. Please refer to the FreeLinc website at www.freelinc.com to see the latest offerings.

Tips and Suggestions

To learn more about Near-Field Magnetic Induction Technology, please visit the technology area of the FreeLinc website at http://www.freelinc.com.

Specifications

Wireless Technology	Near-Field Magnetic Induction
Battery Type	Lithium Polymer Rechargeable
Talk Time	up to 20 hours continuous talk
Charger Type	Wall wart with USB connector
Range	up to 5 feet (.1.52 meters)
Dimensions	0.5 x 3.4 x 3.6 inches (1.3 x 8.6 x 9.1 cm)
Weight	1.2 oz (34 g)
Operating Temperature	-30 C to +60 C
Humidity	95% @ 8 hours (non-condensing)

Troubleshooting

For up-to-date troubleshooting information, to get help with a specific problem, or to contact a customer service representative, please visit www.freelinc.com, and click the "support" link or call 1-866-467-1199.

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FREELINC™