



# freedom back

Wireless Stereo In-Ear System

user guide

# ENGLISH

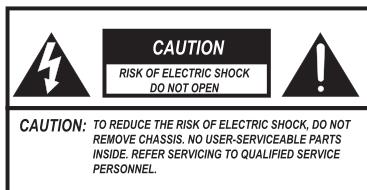
## Danger

Exposure to extremely high noise levels may cause a permanent hearing loss. Individuals vary considerably to noise induced hearing loss but nearly everyone will lose some hearing if exposed to sufficiently intense noise for a sufficient time.

The U.S. Government's Occupational Safety and Health Administration (OSHA) has specified the following permissible noise level exposures:

DURATION PER DAY (HOURS)	8	6	4	3	2	1
SOUND LEVEL (dB)	90	93	95	97	100	103

According to OSHA, any exposure in the above permissible limits could result in some hearing loss. Ear plugs or protectors in the ear canal or over the ears must be worn when operating this amplification system in order to prevent a permanent hearing loss. If exposure in excess of the limits as put forth above, to insure against potentially harmful exposure to high sound pressure levels, it is recommended that all persons exposed to equipment capable of inducing high sound pressure levels, such as this amplification system, be protected by hearing protectors while this unit is in operation.



THIS SYMBOL IS INTENDED TO ALERT THE USER TO THE PRESENCE OF NON-INSULATED "DANGEROUS VOLTAGE" WITHIN THE PRODUCT'S ENCLOSURE THAT MAY BE OF SUFFICIENT MAGNITUDE TO CONSTITUTE A RISK OF ELECTRIC SHOCK TO PERSONS.

THIS SYMBOL IS INTENDED TO ALERT THE USER TO THE PRESENCE OF IMPORTANT OPERATING AND MAINTENANCE (SERVICING) INSTRUCTIONS IN THE LITERATURE ACCOMPANYING THE UNIT.

## IMPORTANT SAFETY INSTRUCTIONS

1. Read all safety and operating instructions before using this product.
2. All safety and operating instructions should be kept for future reference.
3. Read and understand all warnings listed on the operating instructions.
4. Follow all operating instructions to operate this product.
5. This product should not be used near water, i.e. bathtub, sink, swimming pool, wet basement, etc.
6. Only use dry cloth to clean this product.
7. Do not block any ventilation openings. It should not be placed flat against a wall or placed in a built-in enclosure that will impede the flow of cooling air.
8. Do not install this product near any heat sources; such as, radiators, heat registers, stove or other apparatus (including heat producing amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles and the point where they exit from the apparatus. Do not break the ground pin of the power supply cord.
11. Only use attachments specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer or sold with the apparatus. When a cart is used, use caution when moving cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Care should be taken so that objects do not fall and liquids are not spilled into the unit through the ventilation ports or any other openings.
15. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way; such as, power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
16. WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

# FRENCH

## Danger

L'exposition à des niveaux élevés de bruit peut provoquer une perte permanente de l'audition. Chaque organisme humain réagit différemment quant à la perte de l'audition, mais quasiment tout le monde subit une diminution de l'acuité auditive lors d'une exposition suffisamment longue au bruit intense. Les autorités compétentes en réglementation de bruit ont défini les expositions tolérées aux niveaux de bruits:

DURE EN HEURES PAR JOUR	8	6	4	3	2	1
NIVEAU SONORE CONTINU EN dB	90	93	95	97	100	103

Selon les autorités, toute exposition dans les limites citées ci-dessus, peuvent provoquer certaines pertes d'audition. Des bouchons ou protections dans l'appareil auditif ou sur l'oreille doivent être portés lors de l'utilisation de ce système d'amplification afin de prévenir le risque de perte permanente de l'audition. Dans le cas d'expositions supérieures aux limites précitées il est recommandé, afin de se prémunir contre les expositions aux pressions acoustiques élevées potentiellement dangereuses, aux personnes exposées aux équipements capables de livrer de telles puissances, tels ce système d'amplification en fonctionnement, de protéger l'appareil auditif.



**AVIS: RISQUE DE CHOC ELECTRIQUE-NE PAS OUVRIR.**



CE SYMBOLE A POUR BUT D'AVERTIR L'UTILISATEUR DE LA PRÉSENCE DE VOLTAGE DANGEREUX NON-ISOLE À L'INTÉRIEUR DE CE PRODUIT QUI PEUT ÊTRE DE PUISSANCE SUFFISAMMENT IMPORTANTE POUR PROVOQUER UN CHOC ELECTRIQUE AUX PERSONNES.



CE SYMBOLE A POUR BUT D'AVERTIR L'UTILISATEUR DE LA PRÉSENCE D'INSTRUCTIONS D'UTILISATION ET DE MAINTENANCE DANS LES DOCUMENTS FOURNIS AVEC CE PRODUIT.

## IMPORTANTES INSTRUCTIONS DE SECURITE

1. Lire avec attention toutes les recommandations et précautions d'emploi avant d'utiliser ce produit.
2. Toutes les recommandations et précautions d'emploi doivent être conservées afin de pouvoir s'y reporter si nécessaire.
3. Lire et comprendre tous les avertissements énumérés dans les précautions d'emploi.
4. Suivre toutes les précautions d'emploi pour utiliser ce produit.
5. Ce produit ne doit pas être utilisé près d'eau, comme par exemple baignoires, évier, piscine, sous-sol humides...etc.

6. Utiliser exclusivement un chiffon sec pour nettoyer ce produit.
7. Ne bloquer aucune ouverture de ventilation. Ne pas placer le produit tout contre un mur ou dans une enceinte fermée, cela générera le flux d'air nécessaire au refroidissement.
8. Ne pas placer le produit près de toute source de chaleur telle que radiateurs, arrivées d'air chaud, fourneaux ou autres appareils générant de la chaleur (incluant les amplificateurs producteurs de chaleur).
9. Ne pas négliger la sécurité que procure un branchement polarisé ou avec raccordement à la terre. Un branchement polarisé comprend deux fiches dont l'une est plus large que l'autre. Un branchement à la terre comprend deux fiches plus une troisième reliée à la terre. Si la fiche secteur fournie ne s'insère pas dans votre prise de courant, consulter un 'électricien afin de remplacer votre prise obsolète.
10. Protéger le cordon d'alimentation de tout écrasement ou pincement, particulièrement au niveau des fiches, des réceptacles utilisés et à l'endroit de sortie de l'appareil. Ne pas casser la fiche de terre du cordon d'alimentation.
11. Utiliser uniquement les accessoires spécifiés par le constructeur.
12. Utiliser uniquement avec le chariot de transport, le support, le trépied, la console ou la table spécifiés par le constructeur ou vendus avec l'appareil. Lors de l'utilisation d'un chariot, bouger avec précaution l'ensemble chariot/appareil afin d'éviter les dommages d'un renversement.
13. Débrancher cet appareil lors d'orages ou s'il n'est pas utilisé pendant une longue période.
14. Des précautions doivent être prises afin qu'aucun objet ne tombe et qu'aucun liquide ne se répande à l'intérieur de l'appareil par les orifices de ventilation ou nimporte quelle autre ouverture.
15. Pour toutes interventions techniques s'adresser à un technicien qualifié. L'intervention technique est nécessaire lorsque l'appareil a été endommagé de n'importe quelle façon, comme par exemple si le cordon secteur ou sa fiche sont détériorés, si du liquide a coulé ou si des objets sont tombés à l'intérieur de l'appareil, si l'appareil a été exposé à la pluie ou à l'humidité, s'il ne fonctionne pas normalement ou s'il est tombé.
16. ATTENTION: Pour réduire le risque d'incendie ou de choc électrique ne pas exposer l'appareil à la pluie ou à l'humidité.



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## LIMITED WARRANTY

Quantum Technologies, Inc. (QTI) warrants the equipment against defects in materials and labor for a period of one year from the original date of purchase. The duration of this warranty is limited to claims made to QTI within the periods stated with respect to parts and labor from the date of purchase. During the warranty period, defective equipment will be replaced or repaired to the general condition as received, at the discretion of QTI.

All transportation is the responsibility of the purchaser or owner. Equipment should be shipped in the original shipping box.

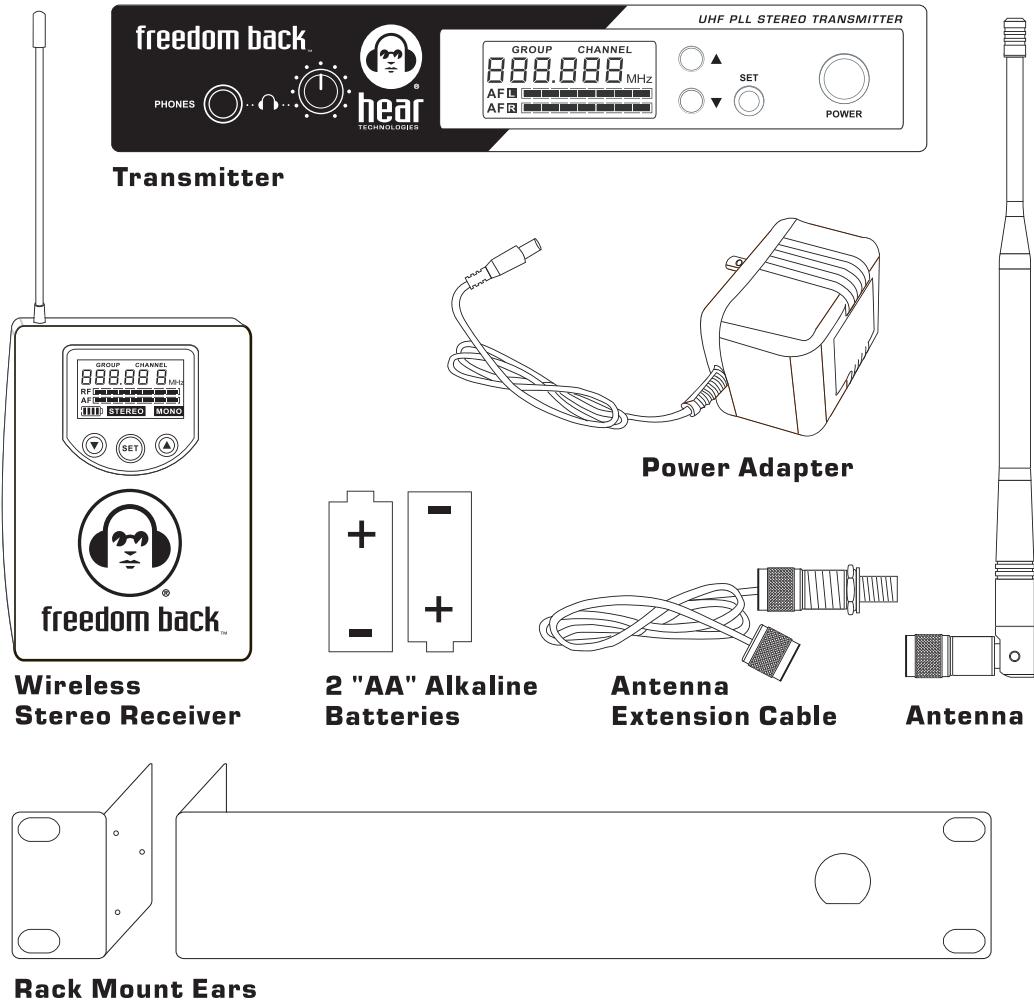
This warranty applies only to defects in materials and workmanship and does not cover failure or damage due to shipping loss or damage, abuse, misuse, misapplication, incorrect or varying power line voltages, lack of proper maintenance, natural disasters, acts of God, or unauthorized modifications, repairs, or any alterations done without the expressed written consent by QTI.

QTI shall not be liable for any loss of use of the equipment, or consequential damages, including damages to other parts of the installation in which the equipment is a part.

QTI does not make any warranty, express or implied, other than the warranty contained herein. No agent, representative, or employee has the authority to increase or alter the liability, obligations, and terms of this warranty or sale of the equipment. NOTE: It is strongly recommended that any equipment returned to QTI be properly packaged and insured for its full value in case of loss, handling or shipping damage.

QTI shall not be responsible for damage or loss of equipment during shipment.

# SYSTEM COMPONENTS



## FCC FCC Statement

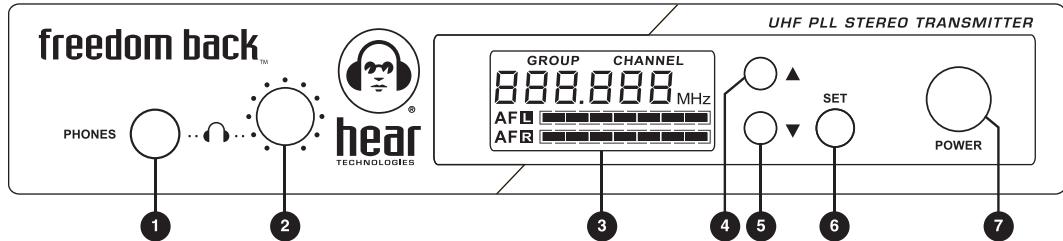
Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the 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 receiver.
- Connect the equipment into 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.



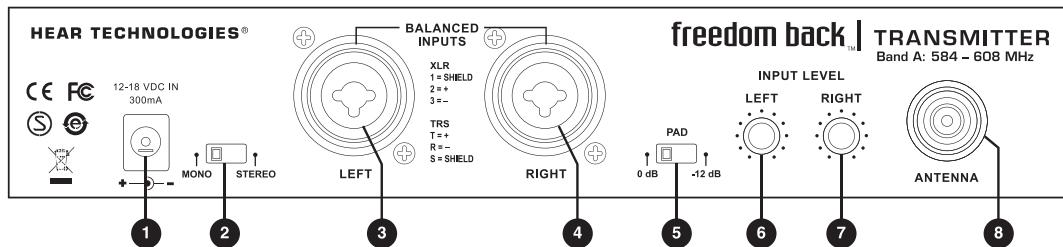
# TRANSMITTER FEATURES

## front panel



- 1 Stereo Headphone jack
- 2 Headphone Output level control
- 3 Back-lit LCD screen
- 4 Transmitter menu “up” button
- 5 Transmitter menu “down” button
- 6 Transmitter program “set” button
- 7 Power switch  
Press and hold for two (2) seconds to turn on or off.

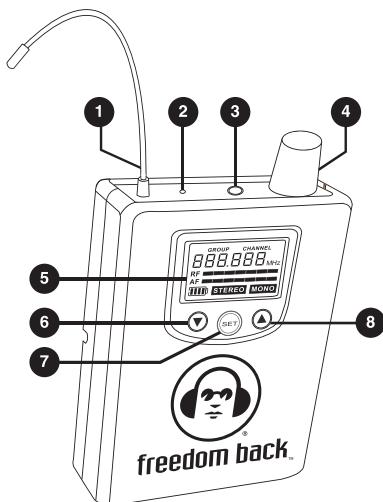
## rear panel



- 1 Power adapter jack
- 2 Stereo / Mono switch
- 3 Left / Mono audio balanced input, XLR or TRS
- 4 Right audio balanced input, XLR or TRS
- 5 0 dB / -12 dB PAD switch
- 6 Left audio input level control
- 7 Right audio input level control
- 8 Antenna connector, 50 ohm

# WIRELESS STEREO RECEIVER FEATURES

## receiver detail

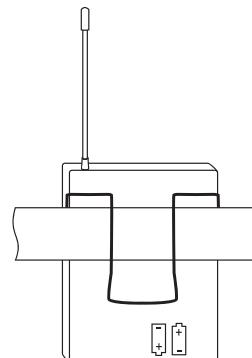


- 1 Antenna
- 2 RF signal LED  
Lights when RF signal is present.
- 3 Stereo earphone jack
- 4 Audio volume control and  
On / Off switch
- 5 Back-lit LCD screen
- 6 Receiver menu “down” button
- 7 Receiver menu program “set” button
- 8 Receiver menu “up” button

## Wearing the Wireless Stereo Receiver

Clip the receiver to a belt.

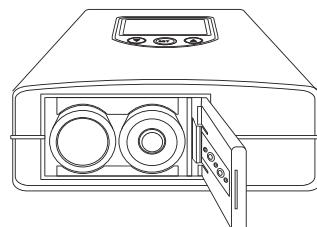
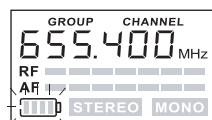
For best results, slide the receiver until the belt is pressed against the base of the clip.



## Changing Batteries

Expected life for two (2) Alkaline batteries is approximately five (5) hours. When the LCD panel battery sign begins flashing (see below), the batteries should be changed immediately, as illustrated on the right.

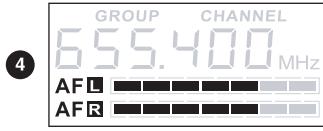
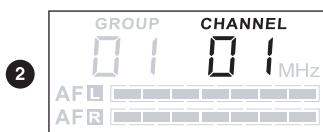
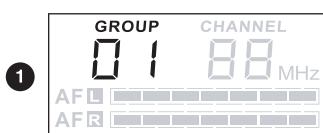
Battery orientation is displayed on the back of the receiver.



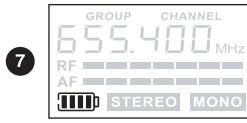
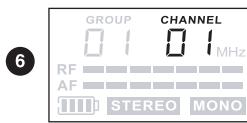
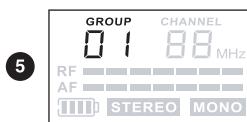
→ Open  
← Close

## SYSTEM SETUP

transmitter screen



receiver screen



## Transmitter Programming:

### Transmitter Power

Press and hold the POWER button for two (2) seconds to switch on.

### Select a Group and/or Channel

Tap SET button until GROUP is flashing. Then press **▲** or **▼** button to select one of 10 desired groups **①**. Press SET button again until CHANNEL is flashing. Then press **▲** or **▼** button to select one of 16 desired channels **②**.

Note: When using multiple systems, set all transmitters to the same frequency group for best results. Then setup a special channel for each transmitter in the group.

### Full Display with Frequency

Displays working frequencies and left and right audio input levels when input source is present **③**.

### Adjust Audio Input Level

Adjust audio input level controls on transmitter rear panel until the AF level displays five (5) bars for both left and right signals **④**.

## Wireless Stereo Receiver Programming:

### Receiver Power

Rotate audio VOLUME control clockwise to switch on.

### Select a Group and/or Channel

Press and hold SET button until GROUP is flashing. Select the same group as programmed on transmitter using the **▲** or **▼** button **⑤**. Press SET button again until CHANNEL is flashing. Then press **▲** or **▼** button to select the same channel as on transmitter **⑥**.

### Battery Status

Five (5) level battery status on receiver, as shown **⑦**.

### Stereo / Mono Status Indication

The receiver indicates the position of the stereo/mono switch on the transmitter by lighting the corresponding STEREO or MONO display **⑧**.

### Full Display

Displays working frequencies, RF/audio level, battery status, and stereo/mono mode **⑨**.

## Typical Application:

Up to 10 Freedom Back systems may be used in the same space, depending on local UHF interference.

When on the same frequency, unlimited receivers may be used with one transmitter.

# SPECIFICATIONS

## FREEDOM BACK SYSTEM

Frequency Range and Transmitter Output Level		
Bands:	UA	UB
Frequency Range:	584 ~ 608 MHz	655 ~ 679 MHz
Transmitter Output Level:	10 dBm	10 dBm
Channels:	120 (10 groups of 12 channels)	120 (10 groups of 12 channels)
Operating Range:	330 ft (100 m) line of sight, under typical conditions <i>Note: Actual range depends on RF signal absorption, reflection, and interference.</i>	
Frequency Response (+/- 3 dB):	40 Hz ~ 16 KHz	
Total Harmonic Distortion (+/- 30 KHz deviation, 1 KHz tone):	<1%	
Dynamic Range:	>90 dB A-weighted	
Operating Temperature Range:	-10°C to +50°C <i>Note: Battery characteristics may limit this range.</i>	

## TRANSMITTER

Physical	
Max Audio Input Level:	+6 dBV, +18 dBV with -12dB PAD engaged
Gain Adjustment Range:	16 dB
Input Impedance:	10 K Ohms unbalanced, 20 K Ohms balanced
Dimensions:	1.5" H x 8.35" W x 3.78" D (38mm H x 212mm W x 96mm D)
Weight:	1.34 lbs (0.6 kg)
Power Requirements:	12-18 VDC at 300 mA, supplied by external power supply
XLR Input:	Balanced Pin 1 = Shield Pin 2 = + Audio Pin 3 = - Audio
TRS Input:	Tip = + Audio Ring = - Audio Sleeve = Shield

## WIRELESS STEREO RECEIVER

Physical	
Audio Output Level:	100 mW
Sensitivity:	-94 dB for 30 dB SINAD, typical
Image Rejection:	>55 dB
Dimensions:	3.74" H x 2.56" W x 0.98" D (95mm H x 65mm W x 25mm D)
Weight:	3.52 oz (100 g) without batteries
Power Requirements:	2 "AA" size Alkaline or rechargeable batteries
Battery Life:	Approximately 4 ~ 5 hours (alkaline), load and level dependent

Note: 0 dBu = 0.775 V rms

\*Specifications and features subject to change without notice.

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