

DefendEar®

**DIGITALX™**  
CUSTOM-FIT HEARING PROTECTION 

## USER GUIDE

**Dx1**

**Dx3**

**Dx5**

**SAFETY NOTICE** - This product is designed for people with normal hearing only! The purpose of hearing protection is to reduce the impact of the sound and to reduce the potential for hearing loss. Hearing protection devices, including DefendEar products, do not eliminate sound. The user is responsible for determining whether the noise reduction provided by DefendEar products will provide adequate hearing protection based on the user's unique medical history and exposure level. Your medical history, particularly any prior trauma to the ear or prior hearing loss, as well as the noise (decibel level and exposure time) the user will be exposed to should be considered prior to using DefendEar products. If you have any questions concerning the appropriate exposure levels or the level of hearing protection provided by DefendEar products, or if you have hearing loss or ear injuries, contact your local hearing professional before using.

## INTRODUCTION

DefendEar® DigitalX™ custom hearing protection from Westone® is the most advanced way to prevent hearing loss from gunshot noise while enhancing ambient sounds for increased situational awareness. All DefendEar DigitalX models suppress high-level impulse sounds while enhancing low-level speech that is difficult or impossible to hear with traditional passive hearing protection.

**Digital X1:** Provides excellent all-around noise suppression and ambient awareness for a variety of shooting environments.

**Digital X3:** Offers three modes for either intermittent or continuous shots in addition to ambient sound enhancement.

**Digital X5:** Boosts low-level sounds for detecting game movement while providing impulse suppression tailored for continuous shots in addition to ambient sound enhancement. The X5 has a five modes that reduce wind noise typical in the open range and in hunting stands. The DefendEar modules are incorporated into Westone maximum attenuating OtoBlast™ silicone hearing protectors for the best comfort, fit, and protection available.

## REGISTRATION

**Register your DefendEar DigitalX custom hearing protection to receive:**

- Quick and efficient service
- Ensure product authenticity
- Receive product alerts, updates, solutions and news
- Expedited repair support
- Assure you maximize your warranty

**Register online at :** [www.Westone.com/DefendEar\\_registration](http://www.Westone.com/DefendEar_registration)

# IN THE BOX

**Pair of DefendEar  
DigitalX Modules**



Dx1

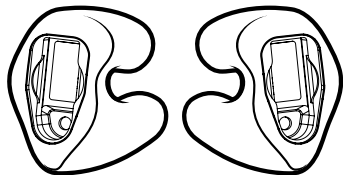


Dx3

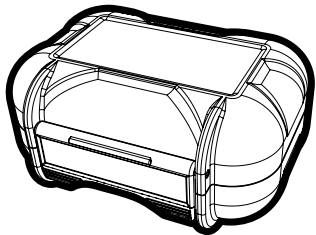


Dx5

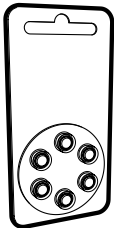
**Pair of Custom-Fit Earpieces**



**Monitor Vault**



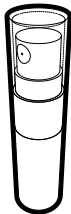
**6 Pack of Batteries  
Size 13**



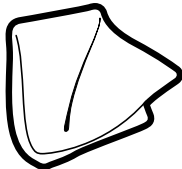
**Oto-Ease®  
Lubricant**



**Oto-Clens™  
Cleaning Spray**



**Cleaning Cloth**



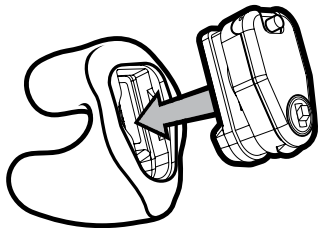
**Embroidered Patch**



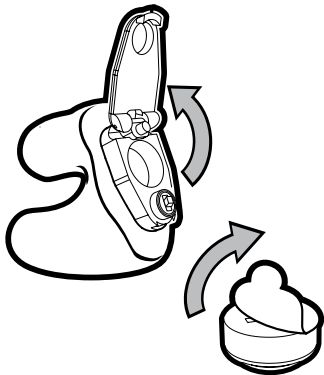
## SETUP - All Modules

Press modules into earpieces until they snap into place.

Each module can be used in either the Left or Right earpiece.

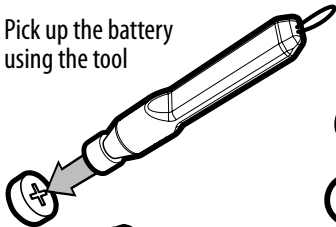


Open battery door and remove tab from battery.

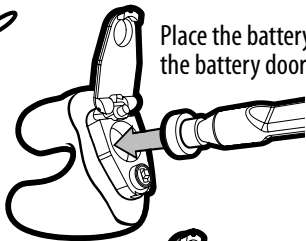


## Install the battery using the magnetic battery tool.

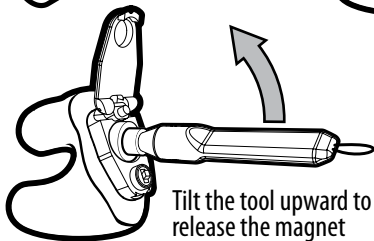
Pick up the battery using the tool



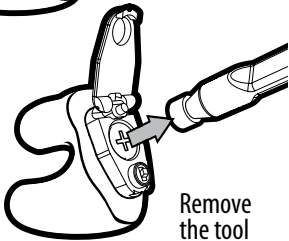
Place the battery into the battery door



Tilt the tool upward to release the magnet



Remove the tool

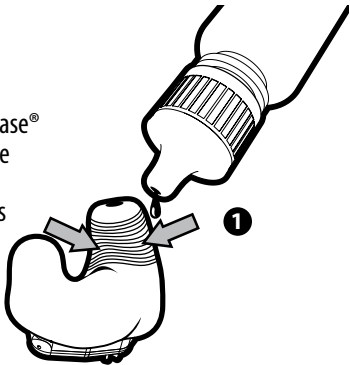


# EARPIECE INSERTION/REMOVAL: All Modules

**CAUTION:** If earpieces are not properly inserted, you may not obtain adequate hearing protection.

## INSERTION

**1** Optionally spread one drop of Oto-Ease<sup>®</sup> around the canal portion of each earpiece (the striped area shown here). Avoid the sound outlet and DefendEar module. This may aid in earpiece insertion/removal while improving the acoustic seal but is not required.

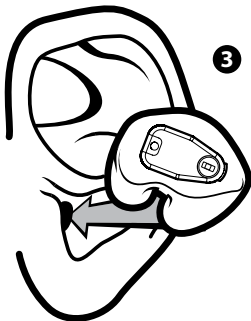




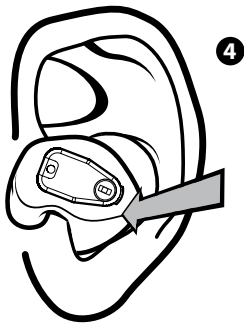
- 2** Identify the Left (blue dot) and Right (red dot) earpieces. Rotate the earpiece forward  $45^{\circ}$ – $90^{\circ}$ .



- 3** Place the earpiece into your ear canal. Pull the top of your ear with your opposite hand for easier insertion.



- 4** Rotate the earpiece backward and inward into its upright position to fully seat the earpiece in your ear canal. Make sure the top portion of the earpiece fits into the Helix Lock of your ear.

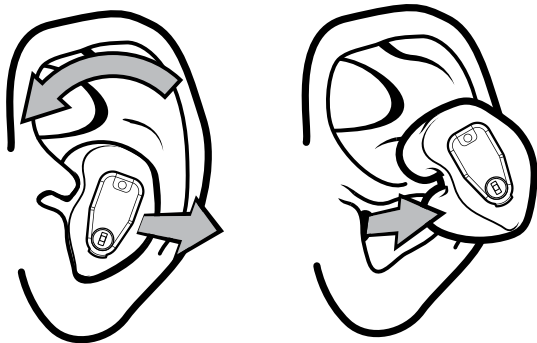


- 5** You will feel the earpiece lock into place once properly fitted.



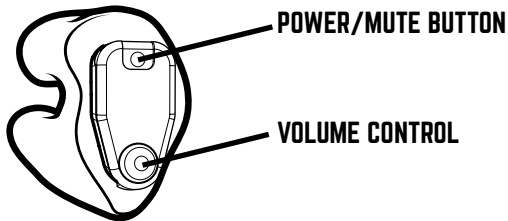
## REMOVAL

Grasp the earpiece and rotate it forward while pulling outward. Do not grasp the module. Pulling the top of the ear slightly may ease removal.



Sudden or fast removal of ear-plugs from the ear canal may damage the ear drum.

## **OPERATION: (Dx1)**



### **POWER ON/OFF**

Push and release once to toggle on and off. Once the device is on there may be up to a 5 second delay prior to activation. Sound will be heard as normal; however, when a loud noise is detected the device will automatically reduce the volume to a safe and comfortable level. After the loud sound has passed the volume will automatically return to normal.

### **MUTE**

Push and hold to activate the mute feature. Push and hold to deactivate.

# ADJUSTING VOLUME: (Dx1)

- Never use your device on a higher volume setting than is comfortable.
- All controls must be operated when the battery door is closed.
- Operate the volume control with light pressure from your finger tips. Excessive pressure may cause damage to the module. Handle with care.

## 4 Stage Volume Control

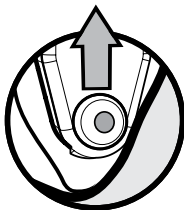
Level 4 ● Maximum

Level 3 ●

Level 2 ●

Level 1 ● Minimum

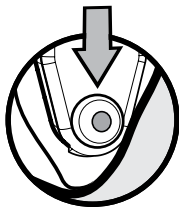
The volume will be at Level 1 when the device is powered on.



**PRESS**

**Increase Volume**

Press the button up to 4 times to reach the highest volume.

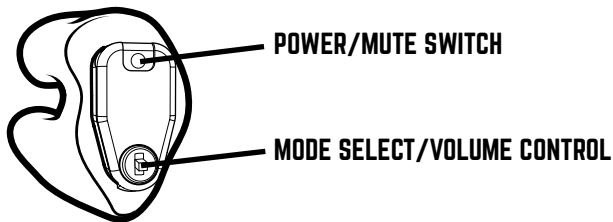


**PRESS**

**Decrease Volume**

After reaching volume Level 4, press the button to return to Level 1.

## **OPERATION:** (Dx3 and Dx5)



### **POWER ON/OFF**

Push and release once to toggle on and off. Once the device is on there may be up to a 5 second delay prior to hearing an audible voice indicating the current mode. The current mode and volume will be retained from the last used settings. Sound will be heard as normal; however, when a loud noise is detected the device will automatically reduce the volume to a safe and comfortable level. After the loud sound has passed the volume will seamlessly return to normal.

### **MUTE**

Push and hold to activate the mute feature. Push and hold to deactivate.

# ADJUSTING VOLUME: (Dx3 and Dx5)

- Never use your device on a higher volume setting than is comfortable.
- All controls must be operated when the battery door is closed.
- Operate the volume control with light pressure from your finger tips. Excessive pressure may cause damage to the module. Handle with care.

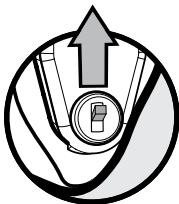
## 10 Stage Volume Control

Level 10 ● Maximum

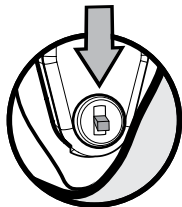


Level 1 ● Minimum

The volume level will remain at the last used setting when the device is powered on or the battery is removed.



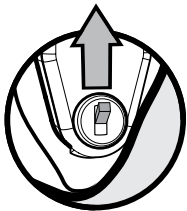
**SHORT PRESS UP**  
Increase Volume



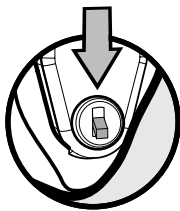
**SHORT PRESS DOWN**  
Decrease Volume

## MODE SELECTION: (Dx3 and Dx5)

Each user will have a personal preference to sound. For the best possible experience, users should take time to familiarize themselves with each program mode in varying surroundings to develop their own preferences. All programs offer the same level of hearing protection (NRR 26).



**LONG PRESS UP**  
Incremental Mode Selection



**LONG PRESS DOWN**  
Incremental Mode De-selection



# DIGITAL X 3

## **PROGRAM 1: CLAY MODE - Outdoor Clay Range**

Optimized for a faster rate of fire with other shooters firing nearby, leaving the user exposed to more prolonged loud levels.

## **PROGRAM 2: GAME MODE - Outdoor Game Shooters**

Following a gunshot, the device activates reducing output levels to keep the shooter safe from harmful noise. The sound level then immediately returns to normal, allowing the user to hear approaching quarry.

## **PROGRAM 3: TACTICAL/PRACTICAL - Outdoor Fast Action Shooting**

Reduced low level gain minimises irritating sounds like those caused as a shooter runs on gravel or dry grass for example. Following a gunshot, the device activates reducing output levels to keep the shooter safe from harmful noise. The sound level then immediately returns to normal, allowing the user to communicate with their team.

# DIGITAL X5

## **PROGRAM 1: GAME MODE - Outdoor Game Shooters**

Following a gunshot, the device activates reducing output levels to keep the shooter safe from harmful noise. The sound level then immediately returns to normal, allowing the user to hear approaching quarry. A single microphone wind noise reduction algorithm is initiated in the program.

## **PROGRAM 2: CLAY MODE - Outdoor Clay Range**

Optimized for a faster rate of fire with other shooters firing nearby, leaving the user exposed to more prolonged loud levels. A single microphone wind noise reduction algorithm is initiated in the program.

## **PROGRAM 3: RANGE MODE - Indoor Range Firing or Large Caliber**

Ambient awareness is still provided although the reduced output levels may degrade close conversation. Double protection is advised while shooting indoors.

#### **PROGRAM 4: WIRELESS COMMUNICATION - General Shooting**

Ambient awareness but with the added feature of wireless audio input via the Dx5 Neck Loop. The wireless levels have been increased over our previous DefendEar Digital product line models to provide a crisper sound quality. Full two-way communications are possible with the optional extra SRC harness. Each harness is made to suit the users proprietary radio. A remote PTT (transmit switch) and microphone is also provided so the user has basic remote access to the radio functionality. **The Dx5 Neck Loop is sold separately.**

#### **PROGRAM 5: HUNTER MODE - Outdoor Hunter/Game Stalker**

Amplification of quieter sounds is reduced compared to the previous programs in order that the sounds of footsteps on dry forestation and grass are reduced so as not to be annoying to the user. A single microphone wind noise reduction algorithm is initiated in the program.

# MAINTENANCE

Your new DefendEar DigitalX is a precision-engineered, micro-electronic hearing protection device. Although it is robust in construction, it should always be handled with care to prolong its useful working life.

To keep your DefendEar DigitalX in top operating condition:

- Always clean and dry the earpieces after every use. Remove the modules before cleaning. Use the wax loop and cleaning cloth to remove wax and any other foreign particles.
- Avoid dropping the units.
- Do not expose to high temperatures (i.e., on a dashboard or window sill) for excessive periods of time.
- For prolonged use in hot and humid conditions, remove the units at regular periods of inactivity, clean around the sound outlet, and air out for 5–10 minutes to prevent damage from condensation. Dehumidifiers are available at [www.Westone.com](http://www.Westone.com) to help with any condensation issues.

- Never attempt to repair or adjust your unit at home, as this will void the warranty and may cause permanent damage.
- Remove the battery when not in use for extended periods of time.
- Batteries are hazardous if swallowed. Store your DefendEar DigitalX and its batteries in a safe place away from children and pets.
- A yearly cleaning by Westone is recommended.

**If batteries are swallowed, call your local Poison Control service or contact the National Button Battery Ingestion Hotline at (202) 625-3333.**

# TROUBLESHOOTING

<b>SYMPTOM</b>	<b>PROBABLE CAUSE</b>	<b>SOLUTION</b>
<b>Unit Inoperative/ output appears lower than normal</b>	Battery is low or needs replaced Wax build-up Moisture build-up in sound tube Component Fault	Replace battery Clean the earpiece Clean and dry the earpiece Consult supplier
<b>Intermittent output</b>	Defective battery Component Fault	Replace battery Consult supplier
<b>Sound is weak</b>	Battery is low or needs replaced	Replace battery Increase volume Close battery door completely
<b>Unit buzzing</b>	Battery is low	Replace battery

<b>SYMPTOM</b>	<b>PROBABLE CAUSE</b>	<b>SOLUTION</b>
<b>Distortion or whistling</b>	Battery is low Wax build-up Improper Fitting Component Fault	Replace battery Clean the earpiece Refit earpiece/consult supplier Consult supplier
<b>White noise</b>	Microphone grille is blocked Faulty/damaged mic	Replace battery Consult supplier <b>DO NOT TOUCH the Mic</b>
<b>Multiple "beeping" sounds</b>	Battery is low	Replace battery
<b>Ambient sound not as expected</b>	Conflicting modes selected	Select same mode for both L and R modules

# TECHNICAL INFORMATION

ALL MODULES: NRR 26 / IPIL 37.3/44/42

## DIGITALX<sub>1</sub> & DIGITALX<sub>3</sub>

Sound Attenuation

<b>Frequency (Hz)</b>	<b>63</b>	<b>125</b>	<b>250</b>	<b>500</b>	<b>1000</b>	<b>2000</b>	<b>4000</b>	<b>8000</b>
<b>Mean Attenuation</b>	26.1	25.9	26.0	26.5	27.6	33.3	41.3	43.6
<b>Standard Deviation</b>	8.1	7.2	7.3	8.9	6.8	4.7	3.8	5.2
<b>Assumed Protection</b>	18.0	18.7	18.7	17.6	20.8	28.6	37.5	38.4

## DIGITALX<sub>5</sub>

Sound Attenuation

<b>Frequency (Hz)</b>	<b>63</b>	<b>125</b>	<b>250</b>	<b>500</b>	<b>1000</b>	<b>2000</b>	<b>4000</b>	<b>8000</b>
<b>Mean Attenuation</b>	26.1	24.6	23.2	23.3	23.4	31.6	31.8	36.4
<b>Standard Deviation</b>	6.4	4.6	3.8	3.5	3.4	3.6	3.3	4.8
<b>Assumed Protection</b>	19.7	20.0	19.4	19.8	20.0	28.0	28.5	31.6



# WARRANTY

Westone warrants this product to be free of defects in material or workmanship for a period of two years from the date of original retail purchase. Retain the original dated sales receipt. Proof of the date of purchase will be required with any request for warranty service. If the product components, excluding batteries, are found to be defective during the warranty period, Westone will replace the defective components. This warranty does not apply to any defects attributable to damage beyond the reasonable control of Westone, including damage caused by abuse, misuse, misapplication, or modifications performed by anyone other than Westone. This warranty is non-transferable.

The warranty period for fit of custom products is ninety days from the date of original purchase. Westone will adjust or remake the product to resolve fit issues during this warranty period.

## **REQUESTING A WARRANTY REPAIR**

If your product is not functioning properly, first ensure that the sound bore is not blocked by earwax and that the unit is completely dry. Performing these simple troubleshooting steps could solve the problem and eliminate the need for a return. If it is necessary to return your product for warranty service, please return the product to the point of purchase and include a description of the problem. For out-of-warranty concerns, please contact Westone directly to discuss your options. Westone is not responsible for shipping costs when returning defective products to Westone for warranty service; however, Westone will cover shipping costs when sending warranty-replacement units back to the customer.

**For warranty inquiries:**

**Phone:** 719-540-9333

**Toll Free:** 800-525-5071

**Physical address:**

2235 Executive Circle

Colorado Springs, CO 80906

## **LIMITATION OF LIABILITY**

Westone disclaims any and all implied warranties, warranties of merchantability, and fitness for a particular purpose to the maximum extent permissible by law. Westone shall not be liable for any special, incidental, or consequential damages caused by the use, misuse, or inability to use this product. If purchased under a government contract, those contract terms supersede the terms stated herein.

# REMAKE & RETURN POLICIES

All returned merchandise must be accompanied by a Return Merchandise Authorization (RMA) number. Please call us at 1-800-525-5071 to request an RMA number. We will need the following information:

- Purchaser/business name, account number and invoice number
- Product serial number
- Reason for return. If defective, describe specifically what is wrong
- Place the manufacturer's box into a shipping box (envelopes and bubble mailers are not sufficient packaging)
- Merchandise should be packaged in such a way as to protect the product and its packaging
- Clearly mark the RMA number on the outside of the shipping box
- Include a copy of the original invoice in the package
- All merchandise must be shipped prepaid and fully insured to:

Westone Laboratories, Inc.

RMA# \_\_\_\_\_

2260 Executive Circle

Colorado Springs, CO 80906

*Westone will not be responsible for lost or damaged return packages.*

## **Earpiece Remake Policy**

We will remake an earpiece at no additional charge if it breaks within one year due to failure of materials or workmanship. In addition, we will remake an earpiece within 90 days of the invoice date under the following circumstances:

- An earpiece does not fit properly
- An earpiece we sent out is lost during shipment
- We made a manufacturing error

## **No-charge remakes are not available under the following circumstances:**

- Incorrect information is supplied on the order form
- Fit problems arise after 90 days
- Occlusion

*Note: Shipping charges apply on all remakes.*

## **Defective DefendEar DigitalX Modules**

- May be returned for credit or exchange within 1 year of the invoice date
- If you received incorrect, damaged or defective merchandise, we will provide you with a label for return shipping

- All consumable items, warranties and instructions must be returned along with the original packaging. DO NOT put any stickers, labels, tape or marks on the original manufacturer's packaging

### **Non-Defective DefendEar DigitalX Modules**

- May be returned within 30 days of the invoice date
- Non-defective returns will be subject to a \$75.00 restocking fee
- Must be returned in the original packaging
- All consumable items, warranties and instructions must be returned along with the original packaging. DO NOT put any stickers, labels, tape or marks on the original manufacturer's packaging. Damaged or missing items will be subject to additional charges.
- All non-defective returns must be insured for the full price of the product
- Return freight and insurance charges on non-defective DefendEar DigitalX modules are the responsibility of the customer. We recommend that you use FedEx or UPS with insurance for all returns. Westone cannot be responsible for lost or damaged packages.

# REPLACEMENT PARTS

The following replacement parts/accessories and other DefendEar products are available at: [www.Westone.com/DefendEar](http://www.Westone.com/DefendEar)

## METALLIC BATTERY DOORS

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Green	PN 64104
Red	PN 64105
Copper	PN 64102
Gold	PN 64101
Silver	PN 64100
Blue	PN 64103

## BATTERY DOOR ACCESSORIES

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Battery Door Hinge Pin	PN 78308
Battery Removal Tool	PN 78309
Door Removal Tool	PN 78310

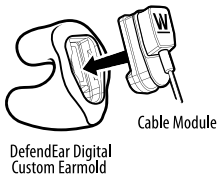
## BATTERIES

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Size 13 - 80ct Box	PN 52205-B
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# EARPIECE ACCESSORIES

Remove the DefendEar Digital or DigitalX module from your custom earmold and insert the cable module.



## SMARTPHONE HEADSET | PN 64110



## BLUETOOTH HEADSET | PN 64109



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## Dx5 Neck Loop | PN 64113

# **Westone**<sup>®</sup>

THE IN-EAR EXPERTS<sup>®</sup>

**Phone:** 719-540-9333 | **Toll Free:** 800-525-5071  
2235 Executive Circle | Colorado Springs, CO 80906

**[westone.com/digitalx](https://westone.com/digitalx)**