

## Argonaut<sup>®</sup> DHPC

Double Hearing Protection with  
Communications Headset

### Extreme Noise Hearing Protection, Maximum Speech Intelligibility and Clear Communications

Exceptional in extreme ambient noise fields up to and exceeding 125 dB(A), with a 32 dB Noise Reduction Rating (NRR), the Argonaut DHPC Headset provides double hearing protection and superior intelligibility for those working in the world's loudest military and industrial noise environments. The Argonaut DHPC Headset is compatible with multiple radio interfaces; the Digital Noise Canceling (DNC) microphone is boom mounted with a push to talk button. A muzzle is available to enhance speech communications.



Gentex Argonaut DHPC Headset

## KEY FEATURES

### Clear Communication

Designed for maximum performance of two-way communications in military and harsh industrial noise fields. The patented active DNC microphone optimizes response to the noise field present providing greater than 75% speech intelligibility with boom microphone and > 88% speech intelligibility with muzzle mic @ 125 dB(A) broadband noise, per ANSI S3.2.

### Hearing Protection

Double hearing protection is provided by custom molded earplugs or generic earplugs and the Argonaut headset for use in noise environments exceeding 125 dB(A).

The patented DNC microphone technology reduces noise transmitted through the microphone to listeners by more than 10 dB, preserving hearing and improving communication.

### Durable Design

Environmentally rugged design capable of withstanding harsh military environments and EMI conditions. The Argonaut DHPC Headset can be powered by many military, industrial and general aviation radios, and Intercom Systems (ICS). No battery required for many applications.

### Maximum Compatibility

The Argonaut DHPC Headset is compatible with:

- HGU-25/P series legacy cranial
- Argonaut Communication Earplugs with:
  - Gentex LPCCE
  - Generic communication ear/canal tips
- Multiple radios and communication platforms

### Compliance

- Compliant with sections of MIL-STD 810F, MIL-STD-461E, MIL-STD-464, etc.
- Certified to EMC directive 2004/108/EC

## Argonaut DHPC

### KEY FEATURES (CONTINUED)

#### Compliance


- Compliant with sections of MIL-STD 810F, MIL-STD-461E, MIL-STD-464, etc.
- Certified to EMC directive 2004/108/EC

#### Argonaut DHPC with CEP-15 Earplugs and Custom Communication Eartips

Frequency (Hz)	125	250	500	1000	2000	3150	4000	6300	8000
Mean Attenuation in dB	38.4	39.0	42.9	42.0	42.7	49.7	49.6	48.3	48.9
Standard Deviation in dB	6.7	5.5	5.8	4.0	4.7	4.5	4.1	4.7	3.4

Test data collected per ANSI S3.19- 1974

#### NRR Rating Information and Test Data per ANSI Standards

<b>Noise Reduction Rating</b>	<b>32</b> DECIBELS (WHEN USED AS DIRECTED)
THE RANGE OF NOISE REDUCTION RATINGS FOR EXISTING HEARING PROTECTORS IS APPROXIMATELY 0 TO 30 (HIGHER NUMBERS DENOTE GREATER EFFECTIVENESS).	
Gentex Manchester, New Hampshire	Argonaut DHPC
Federal law prohibits removal of this label prior to purchase	 Label Required by U.S. EPA regulation 40 CFR part 211, subpart B

#### Ordering Information

Part Number	Description	NSN
05-005061	Headset Argonaut DHPC Harris P7100	4220016099406
05-005064	Headset Argonaut DHPC F18ICS	4220016099407
05-055001	Headset Argonaut DHPC MBITR	---
05-005068	Headset Argonaut DHPC Muzzle mic Sound Powered Phone with Battery	4220016099408
05-016017	Argonaut Communication Earplugs	4220016099415
05-016020	Low Profile Custom Communication Eartips (LPCCE) with Passive Tether	---
05-012001	Battery Charger Two-gang for Argonaut® DHPC and DANR	4220016099413
05-012002	Power Cord for Two-gang Battery Charger	---
05-005023	DANR and Argonaut® Battery	4220016099398
05-999001	Foam Ear Seal (1 pair)	4220016099412
05-999002	Ear Lubricant Aegisound	---
05-999003	Wind Guard for Boom Mic	4220016099409

#### Contact Us

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## DC2 Hearing Protector



### Superior Hearing Protection, Unique Design

Offering maximum performance in high noise environments with a 31 dB Noise Reduction Rating (NRR), the Gentex DC2 Hearing Protector provides excellent safety for single hearing protection applications through its patented, unique ear cup/ear cushion design. The inner earcup is surrounded by a second outer earcup offering extra performance in high noise fields. The DC2 circumaural hearing protector is compatible with the US Navy cranial.

### KEY FEATURES

#### Optimal Safety and Fit

Provides maximum hearing protection and comfort for single hearing protection applications through unique double-cup double-seal design and custom foam earseals. The earmuff and headband assembly are designed to increase population fit rate.

#### 31 dB NRR

Offers outstanding hearing protection and sound attenuation in the highest ambient noise found in the most extreme environments, with a Noise Reduction Rating of 31 dB. This is an increase of 9 dB NRR over legacy US Navy Cranial (HGU-25/P).

#### Double Hearing Protection

Provides double hearing protection when coupled with custom or foam earplugs.

#### Improved Design

Improved ear cup attachment point reduces foreign object debris (FOD) hazard. The DC2 Hearing Protector offers additional allowable exposure time when compared with legacy U.S. Navy earmuffs.

#### Compliance

- MIL-STD-810F environmentally compliant

#### Maximum Compatibility

The DC2 Hearing Protection System is compatible with:

- HGU-25/P Series Legacy Cranial

#### NRR Rating Information and Test Data per ANSI standards

<b>Noise Reduction Rating</b>	<b>31</b> DECIBELS (WHEN USED AS DIRECTED)
THE RANGE OF NOISE REDUCTION RATINGS FOR EXISTING HEARING PROTECTORS IS APPROXIMATELY 0 TO 30 (HIGHER NUMBERS DENOTE GREATER EFFECTIVENESS).	
Gentex Corporation Manchester, New Hampshire	DC2
Federal law prohibits removal of this label prior to purchase	EPA Label Required by U.S. EPA regulation 40 CFR part 211, subpart B

#### DC2 Real Ear Attenuation at Threshold Data

Frequency (Hz)	125	250	500	1000	2000	3150	4000	6300	8000
Mean Attenuation in dB	21.4	30.3	45.5	44.0	41.5	43.4	44.3	43.3	45.6
Standard Deviation in dB	3.0	3.9	4.8	3.9	3.8	3.8	3.3	3.9	2.9

Test data collected per ANSI S3.19- 1974

### Contact Us

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THE SOUND OF SAFETY

# HEADSET FITTING AND OPERATIONS MANUAL

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## DANR THP DANR THPC

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# Overview

The Digital Active Noise Reduction (DANR) Triple Hearing Protector (THP) offers superior performance as a double hearing protector with the addition of digital active noise reduction, for a third layer of protection. The DANR Triple Hearing Protector with Communications (THPC) represents Gentex Corporation's top of the line product for combined communications and hearing protection for excellent performance in extreme noise fields.

## Before Usage

Always evaluate the adequacy of your protective gear before entering hazardous environments.

### The wearer should ensure that:

- The earmuffs and earplugs are fitted, adjusted, and maintained in accordance with the manufacturer's instructions. Improper fit of this device will reduce its effectiveness in attenuating noise. Consult the included instructions for proper fit.
- The earmuffs and earplugs have been inspected for serviceability.
- The earmuffs and earplugs are worn at all times in noisy surroundings.

The use of any hearing protective device will not guarantee adequate protection for hearing loss for all persons under all circumstances. Consult your physician or audiologist frequently when being exposed to high noise levels. If exposure to high noise levels occurs during employment activities, also consult your employer regularly.

### US Federal Law requires the following additional statements:

The level of noise entering a person's ear, when hearing protector is worn as directed, is closely approximated by the difference between the A-weighted environmental noise level and the Noise Reduction Rating (NRR).

### Example:

1. The environmental noise level as measured at the ear is 92 dB(A)
2. The NRR is 32 decibels (dB)
3. The level of noise entering the ear is approximately equal to 60 dB(A)

## Caution:

For noise environments dominated by frequencies below 500 Hz, the C-weighted environmental noise level should be used.

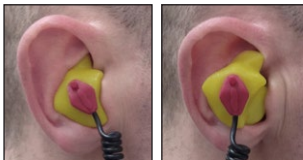
Although hearing protectors can be recommended for protection against the harmful effects of impulsive noise, the NRR is based on the attenuation of continuous noise and may not be an accurate indicator of the protection attainable against impulsive noise such as gunfire.

# Earplug Insertion

## See DANR Earplug manual for more detailed instructions

- Improper fit of this device will reduce its effectiveness in attenuating noise. Consult the included instructions for proper fit.
- Inspect the earplugs before each use. The earplugs should be free of debris, tears, and other physical damage.
- Inspect the earplug cable and the cable connection to the earplug.
- Lubricate the earplugs with water or Aegisound Ear Gel around the canal tip. DO NOT fill tip opening with fluid.

**Correct** Insertion  
(Earplug locked  
in helix)



**Incorrect** Insertion  
(Earplug not locked  
in helix)

## Custom Earplug Familiarization

- Wearing custom earplugs for long periods of time may require an adjustment period of a week or more.
- Begin by wearing earplugs for one hour at a time for the first several days.
- Once acclimated to the earplugs, start wearing them for two or more hours until they can be worn for an entire shift. Do not risk exposure to noise without wearing hearing protection.

# Headset Assembly and Fitting

## Connecting DANR Earplugs to Headset

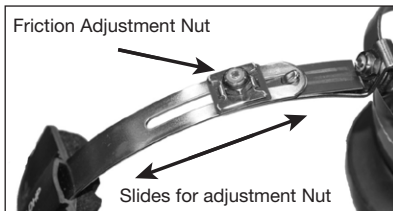
1. Rotate the earcup to gain access to the inside.
2. Identify the right and left sides of the headset. The right DANR earplug (RED) connects to the battery module side, and the left DANR earplug (BLUE) connects to the microphone (or blank) module side. The inside of each earcup is also labeled "R" and "L" corresponding to Right and Left respectively.
3. Grasp one DANR earplug connector, and insert the connector into the receptacle inside the appropriate earcup by aligning the red dot on the connector with the red dot on the receptacle. Gently press the connector until it snaps in place as shown in the right picture below.
4. Repeat Step 3 for the remaining DANR earplug.
5. To remove the connector, grip the knurled sleeve of the connector body and pull in the direction indicated in the right picture below. DO NOT pull on the earplug cable.



Aegisound's Argonaut Communication Earplugs (P/N 05-016017) may be used to offer two-way communications without active noise reduction when DANR earplugs are unavailable. The Communication Earplugs are compatible with Gentex's Low Profile Custom Communications Earplugs (LPCCE) and Aegisound's Full Concha Custom Communications Earplugs (FCCCE) as well as Comply™ foam eartips, and provide double hearing protection with two-way communications.

## Headband Adjustment

The headband is assembled to slide for adjustment at the factory. The friction required to adjust the headband or to fix the headband in place may be adjusted by tightening or loosening the lock nut on each side of the headband near the headpad with an 11/32 inch or adjustable wrench.



## Fitting DANR THP(C) Headset



1. Position the headset around the neck so that the right (RED) earplug is positioned on the right shoulder and the left (BLUE) earplug is positioned on the left shoulder.



2. Insert the right (RED) earplug into the right ear.



3. Insert the left (BLUE) earplug into the left ear.



4. Place the headset on the head and allow the coil to pull into the earcup.



5. Place the headset comfortably over the ears. Make sure the coil is completely inside the earcup. Do not allow the coil to break the headset earseal. The coiled cable should completely retract into the headset.

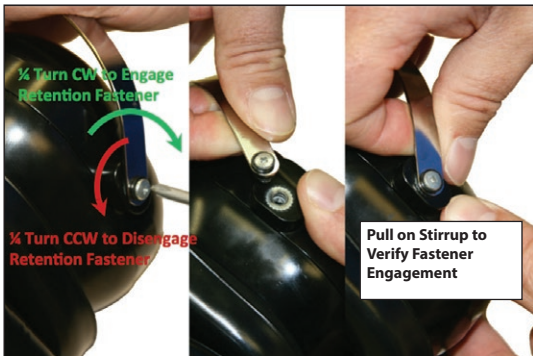
If the headset is installed in a helmet, the helmet should be placed on the head so that the earcups can be rotated away from the ears, allowing earplug insertion before donning the headset.



## Earcup Removal and Attachment

To install the headset into some head protective devices, one or both of the earcups may need to be temporarily removed.

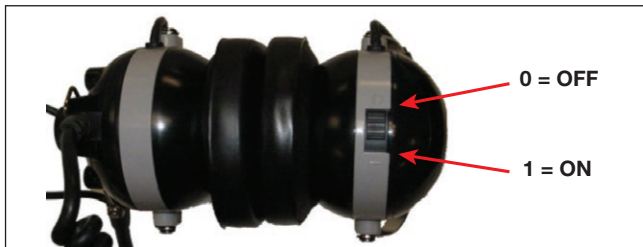
1. Use a #1 Phillips screw driver to remove the ¼ turn fastener holding each side of the earcup to the metal stirrup.
2. To remove, gently rotate the fastener ¼ turn counter clockwise (CCW). The cam will disengage, and the fastener will stop turning when the fastener is disengaged. Too much applied torque may break the fastener or damage the insert.
3. Pull the stirrup away from the cup. The fastener is captured on the stirrup so it will not fall away.
4. To reinstall the cup, insert the fastener into the receptacle, and gently rotate the fastener ¼ turn clockwise (CW) to reengage the fastener. A click should be heard as the fastener cam engages. Too much torque may cause damage to the fastener or the insert.
5. Gently try to pull the stirrup away from the earcup to verify the fastener is reengaged.
6. Repeat for the opposite earcup side.



# Operation

## Power

The power switch is located below the battery at the bottom of the right side earcup. The switch slides forward and backward with the 0 indicating the OFF position and 1 indicating the ON position. The headset power should be in the OFF position when not in use and anytime the earplugs are not fully inserted in the ears.



## DANR Controller

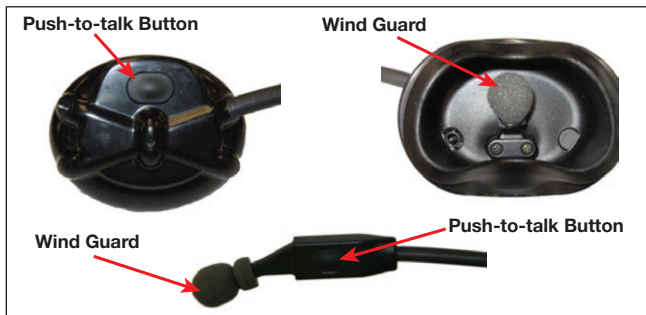
The headset controller automatically initializes to the user's ear each time the power is turned on. This process is referred to as "AutoID". AutoID should be conducted with the **earplugs fully inserted**, with the **ear cups in normal position over the ears**, and in a **relatively quiet environment**. The user should wait 1-3 minutes after inserting the earplugs before turning on the power. After turning on the power, the user will hear a brief noise in both ears for 3-10 seconds. After the initial AutoID sequence has stopped, the system may take as long as 60 seconds to initialize to the user. The user will hear a voice stating that the headset is online after the controller comes on. If the AutoID process fails, or if the user hears objectionable noises after the controller turns on, the power should be cycled off and then back on, to repeat the AutoID process. The different voice messages and when they will be heard are summarized in the table to the right.

Message	When
"Identifying User"	After power up
"Headset Online"	~1 min after power up
"ANR Disabled"	within 1min if error on start
"Headset Problem, Restart Headset"	Error is detected after start
"Battery Low"	Battery power is low

In the event that either "ANR disabled" or "Headset Problem" messages are delivered, two-way communications capability will remain completely operational. Communications is also available during headset initialization.

## Muzzle and Boom Communications Modules

The muzzle and boom communications modules provide two-way communication capability to the DANR THPC. The muzzle contains a digital noise canceling microphone surrounded by a plastic housing lined with a compliant seal, called the "muzzle". The boom contains a similar microphone without the housing and seal. There is a replaceable wind guard over the microphone that is held in place with a small o-ring.



After connecting the DANR THPC headset to the radio, use the oval shaped button on the back of the muzzle or boom (shown above) to transmit the voice. In most cases, the radio PTT button can also be used. When talking in high noise environments, the muzzle should be centered and tightly sealed around the mouth to transmit the best speech quality.

It is advisable to first connect the DANR THPC to the radio or phone and turn the headset on before turning on the radio or phone.

## Battery Charging and Maintenance

The battery is supplied with a minimal charge. Charge the battery to a full charge level prior to its first use per the battery charger instructions. When the user has the earplugs installed, a vocal audio warning from the headset will alert the user when the battery charge is low.

See instructions for the particular battery charger used.

## Removing the Battery from Headset

The rechargeable battery is attached to the earcup. A four step action is required to release the battery, as illustrated below. A locking lever prevents the battery from accidentally becoming disengaged from the headset.



- 1.** Place the index finger on the release lever.



- 2.** Push the release lever towards the earcup until it stops.



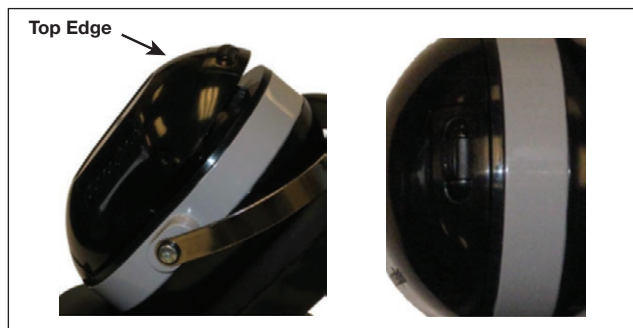
- 3.** With the release lever in position, press the button down.



- 4.** With the button pressed, pull back on the release lever and remove the battery.

## Battery Installation into Headset

The battery is installed by placing the battery bottom in the earcup pocket and pushing the top edge of the battery against the earcup until it latches in place.



# Earseal Replacement



Remove the seal by grasping and pulling the rear flap of the seal over the retention lip of the earcup on each side.



Replace the earseal by stretching the rear flap of the earseal over the retention lip of the earcup on each side.

## Maintenance

The earplugs should be cleaned periodically with warm, soapy water and/or non-alcohol wipes to prevent buildup of dirt and to disinfect. (NOTE: Do NOT submerge or allow water to enter the sound port in the tip of the canal.) Earseals, earcups, and headband may be wiped down with a cloth dampened with water.

The earplugs, headset, and associated equipment should be stored in the protective cases provided.

See the Troubleshooting and Maintenance guide for details on headset maintenance.

See the DANR Earplug Manual for required DANR earplug service and maintenance.

Replacement Parts	Description	
05-021001	DANR Earplug Set	Earplugs
05-021008	Replacement Waxguards with Applicator	
05-999002	Aegisound® Ear Gel	
05-999001	Replacement Earseal Kit	
05-005001	DANR THP base headset with blank module (battery not included)	Headset
05-005023	Battery Pack	
05-012001	Two Gang Desktop Battery Charger	
Boom and Muzzle Modules	Please contact Gentex Corporation for information on currently available configurations	

# Warning



This hearing protector is provided with active noise reduction. The wearer should check correct operation before use. If distortion or failure is detected, the wearer should refer to the manufacturer's advice for maintenance and replacement of the battery.



Performance may deteriorate with battery usage. The typical period of continuous use that can be expected from the hearing protector is 12 hours.



The hearing protector is provided with electrical audio input and output to allow for two-way communications. The wearer should check correct operation before use. If distortion or failure is detected, the wearer should refer to the manufacturer's advice.



The performance of the active noise reduction may be adversely affected when sustained oscillation (whistling or instability) is perceived. If refitting the hearing protector or replacement of the batteries does not overcome this malfunction, the wearer should contact the supplier or manufacturer.



The output of the electrical audio circuit of this hearing protector may exceed the daily limit sound level and/or upper action level.



The audibility of ambient warning signals at a specific workplace transmitted by sound generated outside the hearing protector may be impaired.



Protection afforded by the DANR system will be severely impaired if:

- The earmuffs and earplugs are not fitted, adjusted, and maintained manufacturer's instructions.
- The earmuffs and earplugs are not regularly inspected for serviceability.
- The earmuffs and earplugs are not worn at all times in noisy surroundings.



Earmuffs, and in particular cushions, may deteriorate with use and should be examined at frequent intervals for cracking and leakage, for example.



The fitting of hygiene covers to the cushions may affect the acoustic performance of the earmuffs.



This product may be adversely affected by certain chemical substances. Further information should be sought from the manufacturer.



See supplemental component manuals for additional warnings and cautionary statements.

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