

**Telex**<sup>®</sup>

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# Operating Instructions



**Airman ANR<sup>™</sup> 500 Headset**

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**TELEX**

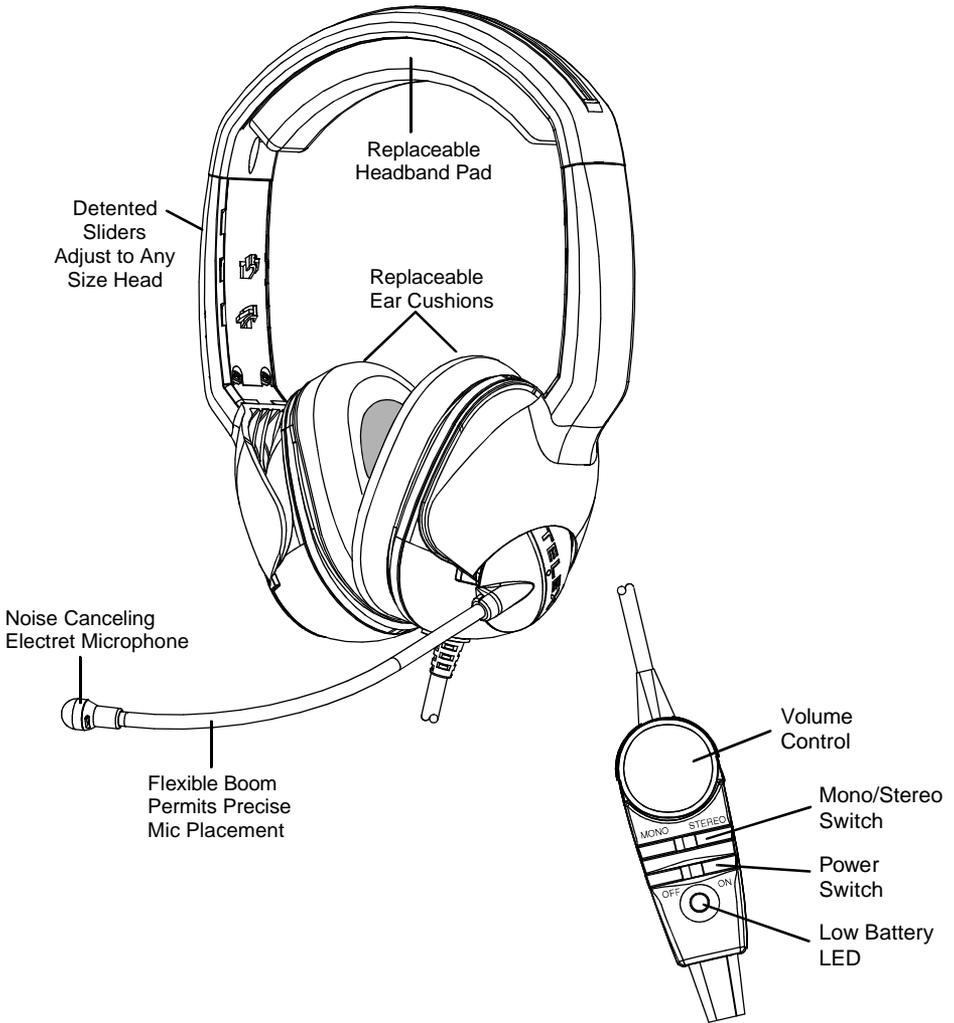


Figure 1: Reference View

Note: See page 7 for available replacement parts.

# General Description

The Telex Airman ANR™500 Active Noise Reduction headset combines design features of a lightweight headset with the advanced techniques of electronic noise reduction. The result is a comfortable light-weight headset that provides good electronic reduction of low frequency ambient noise, while the cushion design provides good passive reduction of high frequency ambient noise. To take advantage of this improved listening environment, the Airman ANR™500 also features extended response receivers for improved reproduction not only of radio communications, but also of stereo music played back over the aircraft entertainment system.

The headset comes in a fixed-wing version for use in aircraft with medium to low noise levels. This version can be plugged into an aircraft radio for standard monaural communications or into an intercom system wired for stereo entertainment.

The Airman ANR™ 500 headset is approved for aircraft use under FAA TSO's C57a and C58a.

## Design Features (see Figure 1)

### Fitting and Comfort:

An adjustable ratcheted headband allows the wearer to make quick and easy adjustments to fit a wide range of head sizes, while the gimbal mounted earcups improve the headset comfort.

### Control Module:

The power on/off switch and the stereo/mono switch are both located on the control module. The control module can be clipped to a shirt collar or pocket, using the clothing clip.

### Boom Microphone:

A flexible gooseneck boom permits precise microphone placement. The boom rotates 120° to use the microphone on either side of the head. The microphone cartridge features a noise-canceling electret element. The microphone amplifier is built into the headset and operates on power supplied by the aircraft radio.

The microphone amplifier has an adjustable gain control to provide an output level equivalent to carbon microphone levels. (Adjustment by a qualified avionics technician is recommended.)

### Cordage and Plugs:

The microphone cordage is protected inside the boom arm. Shielded wire throughout the headset protects against RFI and EMI. Strain reliefs on all cords provide maximum durability.

# HEADSET OPERATION

1. Connect the headset as shown in Figure 2.
2. Rotate the entire boom to wear the microphone on either the right or left side of the head.
3. With the Airman ANR™ 500 headband resting securely on the top of the head, check that the ear cups are centered over the ears. Proper performance depends on proper fit of the headset.
4. For best noise canceling, position the microphone as close to the mouth as possible and speak in a normal voice. (See Figure 3)
5. Select stereo operation if the headset is plugged into an aircraft intercom system that is wired for stereo, otherwise select mono operation.

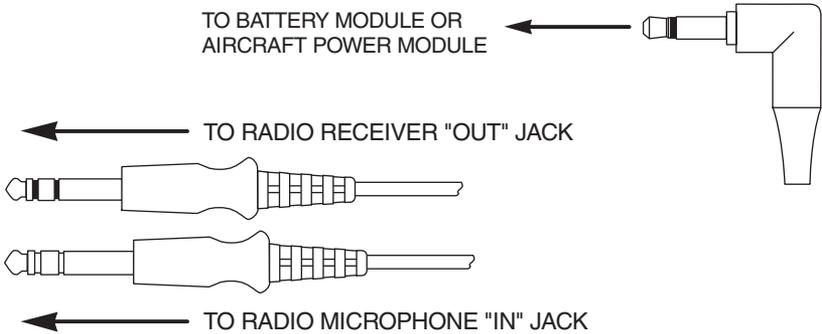


Figure 2: Connections

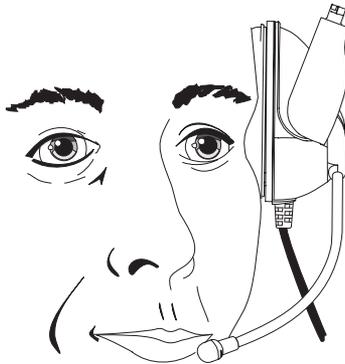


Figure 3: Microphone Placement

# Microphone Gain Adjustment

The microphone gain has been factory-adjusted to the nominal level required for normal radio operation and should normally not require adjustment. If needed, adjustment by a qualified avionics technician is recommended. To access the microphone gain, insert a small phillips head screwdriver through the access hole in the headset (refer to Figure 4). Clockwise rotation increases the microphone gain.

**NOTE:** The microphone gain adjustment does not have a stop; at one point the gain will go abruptly from maximum to minimum and will remain at minimum gain for approximately 30° of rotation.

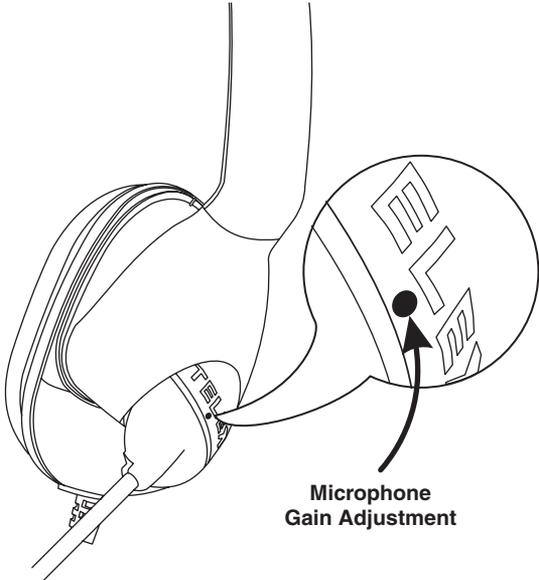


Figure 4: Microphone Gain Adjustment

# MICROPHONE BIAS VOLTAGE REQUIREMENTS

The boom microphone requires a bias voltage of 8-16 VDC through 470Ω DC resistance, 150Ω AC resistance (per RTCA DO-170). If you are uncertain whether your avionics equipment meets this requirement, consult the avionics equipment manufacturer.

# BATTERY MODULE BATTERY INSTALLATION

The battery module requires one 9 volt battery. Alkaline batteries are recommended for best performance. Do not use nickel-cadmium rechargeable batteries or lithium batteries.

1. To remove the battery door press down on the detent while sliding the battery door over in the direction of the arrow, then lift up.
2. Install the battery as shown. The unit will not operate properly if the battery is installed incorrectly.
3. Replace the battery door.

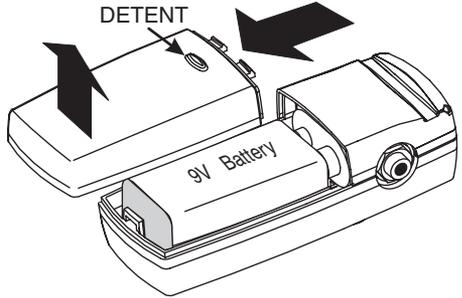


Figure 5: Battery Installation

## NOTES:

1. Avoid unplugging the headset while noise reduction is turned on, as this could cause a loud popping sound in the ears.
2. If the batteries are low, the red LED will light on the battery module. Replace batteries as soon as possible to ensure continued ANR™ 500 operation.
3. If the ANR operation shuts down due to low batteries, the Airman ANR™ 500 headset will function as a conventional headset.

# OPTIONAL AIRCRAFT POWER SUPPLY MODULE

The power supply module is designed for use in negative ground electrical systems only. Do not attempt to use with positive-ground electrical systems.

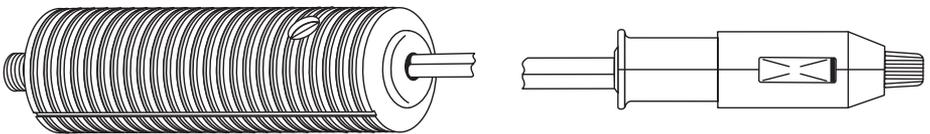


Figure 6: Power Supply Module

## Specifications

### Receivers:

Type: Dynamic

Frequency Response:  $\pm 6$  dB re 1000 Hz over the range 350 - 3000 Hz

Sensitivity:  $90 \pm 5$  dB SPL (1 kHz, 1 mW input per earcup side)

Impedance:  $300\Omega$  stereo or  $150\Omega$  monaural mode

Stereo/Mono:

Switch located on the control module, allows stereo or monaural headset operation

### Microphone and Amplifier:

Element Type: Noise-canceling electret

Frequency Response: 300 to 5 kHz

Sensitivity:  $-51 \pm 3$  dB (ref:  $1V/\mu\text{bar}$  at 1 kHz with 12 VDC and  $470\Omega$  DC load,  $150\Omega$  AC load)

Matching Impedance: 50-600 ohms

Gain Adjustment Range:  $\pm 5$  dB (clockwise rotation increases gain)

Operating Voltage (supplied by aircraft radio): 8-16 Volts DC

Microphone Interface:

Operates from a typical aircraft radio per RTCA DO-170; 8 to 16 Volts DC with 470 ohms DC resistance, 150 ohms AC resistance

### Power:

Switch: On/Off switch on control module.

Batteries: One 9V alkaline battery installed in the battery module ANR Battery Life:

Operates 40 hours continuous until the red low battery light turns on. At that point 4 to 8 hours of ANR operation remains.

### Fail-Safe Mode:

If battery power is too low for normal ANR operation or if the power switch is in the off position, communications input will be automatically routed to the headset receivers.

**General:**

**Cordage:**

Straight cord from headset to battery module, 5.5 ft (66")

**Radio Connections:**

Receiver; 1/4" diameter stereo plug

Microphone: 0.206" diameter plug (PJ-068 equivalent)

**Weights:**

Headset only: 7 oz. (198g)

Battery module with battery: 17 oz. (482g)

**Color:**

Black

**ORDERING INFORMATION**

<u>Product</u>	<u>Catalog number</u>
Headset with Battery Box . . . . .	300735-002
Microphone Windscreen . . . . .	59688-000
Headband Pad . . . . .	590561-002
Moleskin Ear Cushions (set of two) . . . . .	590619-001
Model PT- 300 Push-to-Talk Switch* . . . . .	63966-000
Zippered Pouch . . . . .	57893-000
Clothing Clip . . . . .	590637-000
Battery Module . . . . .	590564-001
Aircraft Power Module . . . . .	71046-002

\* For aircraft without a push-to-talk switch, a portable push-to-talk switch must be used

## LIMITED WARRANTY — VALID ONLY IN UNITED STATES AND CANADA

TELEX Communications, Inc. (“Telex”) warrants to the user, who originally purchased the product delivered with this card, that the product will be free from defects in material and workmanship for the following periods after such date of purchase: Material 36 months, workmanship 36 months. Telex will, at its option, repair or replace, free of charge, such defective products subject to the following conditions:

1. Delivery of the product or parts postage prepaid to the Telex dealer, authorized service facility or factory.
2. Determination by Telex that a defect exists and is covered by the limited warranty. Defects due to alteration, repair by an unauthorized person, insertion of non-Telex parts, misuse, accidental damage, use of the equipment for purposes other than those for which it was designed, and the like, are not covered by this limited warranty and repairs thereof will be subject to normal service charges.
3. Repairs and replacement parts are covered under this limited warranty only for the unexpired term of the original limited warranty.
4. Products purchased from unauthorized dealers are not warranted.
5. You must fill out and return the attached registration card within 10 days after such purchase or this limited warranty is void.

THIS LIMITED WARRANTY IS EXPRESSLY IN LIEU OF ANY EXPRESS OR IMPLIED WARRANTY, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WHICH EXTENDS BEYOND THE TERM HEREOF. THE REMEDIES PROVIDED BY THIS LIMITED WARRANTY ARE THE ONLY REMEDIES AVAILABLE TO ANY PERSON. NO PERSON HAS ANY AUTHORITY TO BIND TELEX TO ANY REPRESENTATION OR WARRANTY OTHER THAN THOSE PROVIDED BY THIS LIMITED WARRANTY. TELEX SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES CAUSED BY FAILURE OR OTHERWISE OF THE PRODUCT.

Some states do not allow exclusions or limitations of incidental or consequential damages or limitations on how long an implied warranty lasts, so the limitations or exclusions herein may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

\* HEADPHONES/HEADSETS/MICROPHONES DO NOT HAVE SERIAL NUMBERS ASSIGNED.

# CUSTOMER SERVICE

For information or technical assistance, call or write to Telex at:

Customer Service Department  
Telex Communications, Inc.  
12000 Portland Ave. So.  
Burnsville, MN 55337 U.S.A.  
(952) 884-4051  
Domestic Toll Free: (877) 863-4168  
(Collect calls not accepted)

All equipment returned for repair must be accompanied by documentation stating your return address, telephone number and proof of date of purchase, along with a description of the problem.

Return equipment for factory repair to:

Customer Service Department  
Telex Communications, Inc.  
1720 East 14th St.  
Glencoe, MN 55336 U.S.A.  
(320) 864-3177

**Warranty Repairs** - If in warranty, no charge will be made for the repairs. Equipment being returned for warranty repair must be sent prepaid and will be returned prepaid.

**Non-Warranty Repairs** - Equipment that is not under warranty must be sent prepaid to Telex. If requested, an estimate of repair costs will be issued prior to service. Once your approval for repair, and repair of equipment is completed, the equipment will be returned on a collect basis. Collect charges may be avoided by sending a signed check for payment in full along with your signed estimate approval form (the estimate includes the shipping charge).

# Notes

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