

Telex

Operating Instructions



Airman ANR™ 500 Headset

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- RTS www.rtsintercoms.com/warranty
- RTSTW www.rtstw.com/warranty
- AudioCom www.telexaudiocom.com/warranty
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Lincoln, NE 68507
800-898-6723

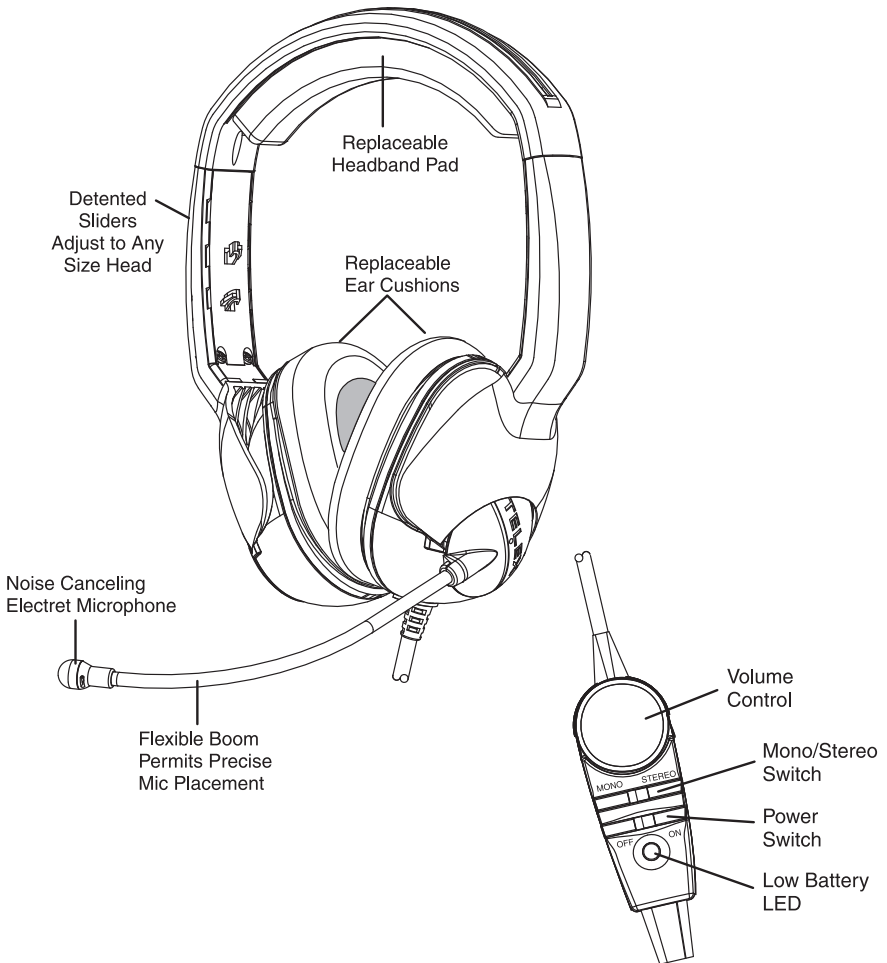


FIGURE 1. Reference View

NOTE: See page 11 for available replacement parts.

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Introduction

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 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 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 1.
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 the earcups 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 with the hole in the microphone housing pointing directly at the mouth and speak in a normal voice. (See Figure 2)
5. Select stereo operation if the headset is plugged into an aircraft intercom system that is wired for stereo, otherwise select mono operation.

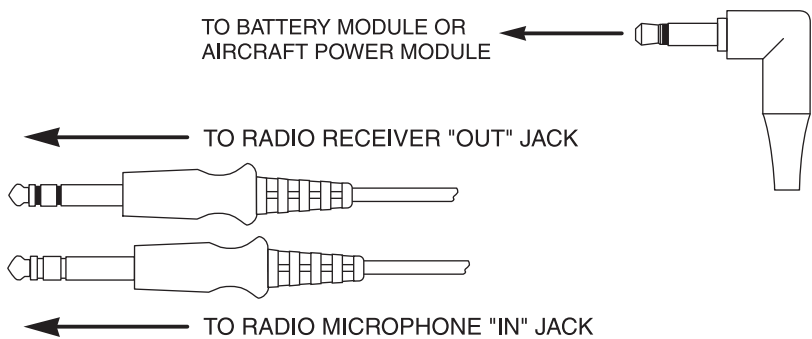


FIGURE 1. Connections

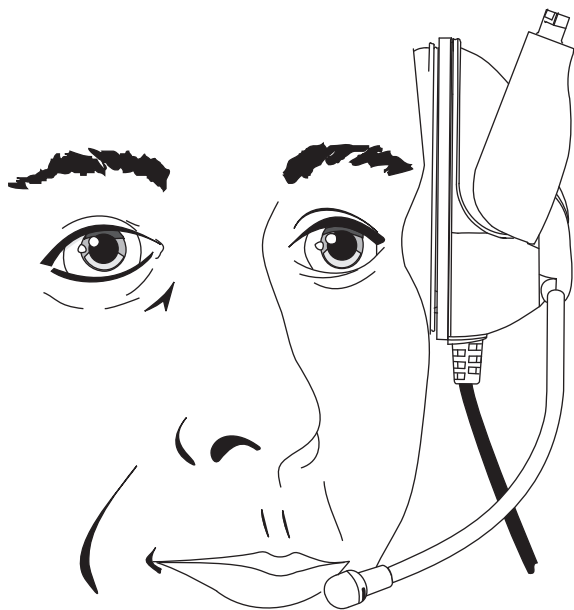


FIGURE 2. Microphone Placement

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 (see Figure 3) 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.

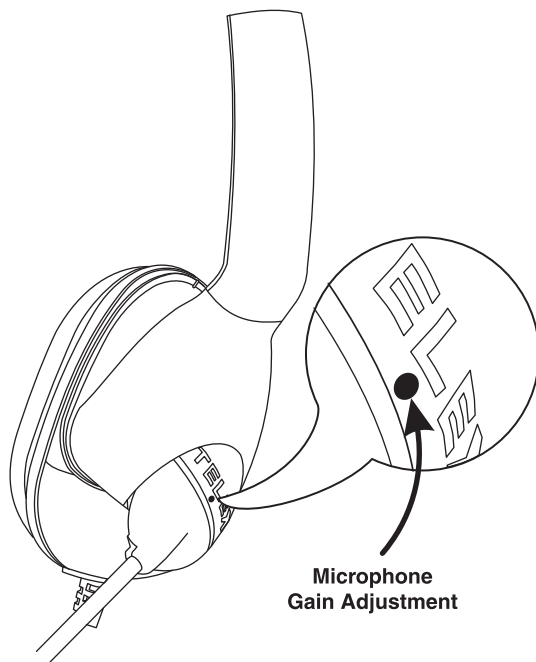


FIGURE 3. Microphone Gain Adjustment

Microphone Bias Voltage Requirements

The boom microphone requires a bias voltage of 8-16VDC through 170Ω 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.

Module Battery Installation

The battery module requires one (1) 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 detente 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.

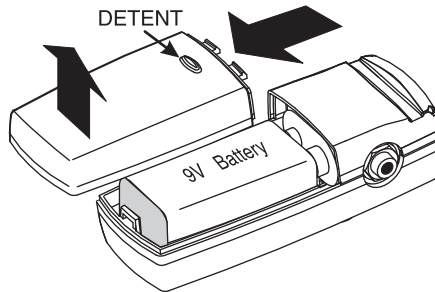


FIGURE 4. Battery Installation

NOTE:

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

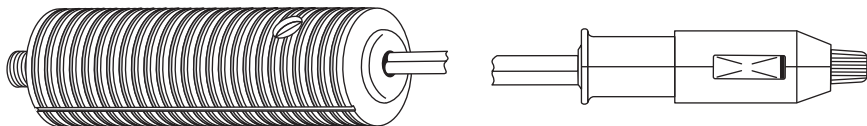


FIGURE 5. Power Supply Module

Specifications

Receivers

Type: Dynamic

Frequency Response: ± 6 dB re 1000Hz over the range 350-3000Hz

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

Impedance: 300 Ω stereo or 150 Ω monaural mode

Stereo/Mono:

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

Microphone/Amplifier Assembly

Element Type: Noise-canceling electret

Frequency Response: 300 to 5kHz

Sensitivity:

-51 $\pm$ 3dB (ref. 1V/ μ bar at 1kHz with 12VDC and 470 Ω DC load 150 Ω AC load)

Matching Impedance: 50-600 Ohms

Gain Adjustment Range: ± 5 dB (clockwise rotation increases gain)

Operating Voltage (supplied by aircraft): 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 (1) 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 is automatically routed to the headset receivers.

General

Cordage

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

Radio Connections

Receiver; 1/4" diameter stereo plug

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

Weights

Headset only: 7oz. (198g)

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

Color

Black

Order Information

Headset with Battery Box.....	300735-002
Microphone Windscreen.....	59688-000
Headband Pad.....	590561-002
Ear Cushions (set of two)	590619-003
Model PT-300 Push-to-Talk Switch ¹	63966-000
Zippered Pouch.....	57893-000
Clothing Clip	590637-000
Battery Module.....	590564-002
Aircraft Power Module.....	71046-002

1. For aircraft without a push-to-talk switch, a portable push-to-talk switch must be used.

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