

# Telex

*User Instructions*



## **Air 3500 Noise Reduction Headset**

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### PURPOSE OF MANUAL

This manual contains information for the overhaul and servicing of the AIR3500 headset.

### TECHNICAL SUPPORT

A liaison between the customer and factory is provided by the Bosch Product Support Department. Consultation and assistance on technical problems, part information, and availability of local and factory repair facilities is available. When writing, include all information concerning problem and email:

Bosch Security Systems, LLC  
Email: [telexdispatchtechsupport@us.bosch.com](mailto:telexdispatchtechsupport@us.bosch.com)

Attn: Aircraft Product Support Mgr  
Telephone: 877-863-4188

### PARTS ORDERING

Replacement parts may be ordered from our parts department. When ordering, please include the following information.

- Model Number
- Part Description
- Part Number
- Quantity

Bosch Security Systems, LLC  
Attn: Parts Department  
Telephone: 800-553-5992  
Fax: 402-467-3279  
E-mail: [repair@us.bosch.com](mailto:repair@us.bosch.com)

### REPAIRS

In order to maintain the FAA certification, all repairs to the headset must be made only by persons authorized under Part 43 of the Federal Aviation Agency regulations. Bosch offers full support and repair.

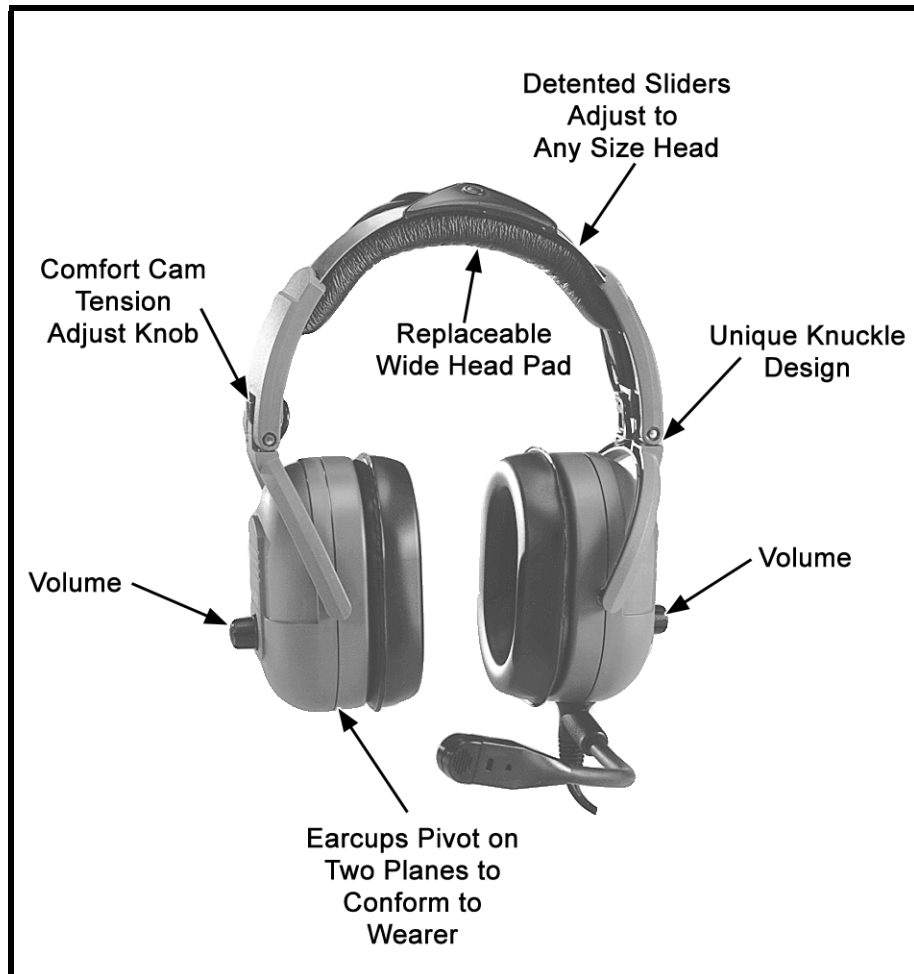


FIGURE 1. Air 3500 Noise Reduction Headset

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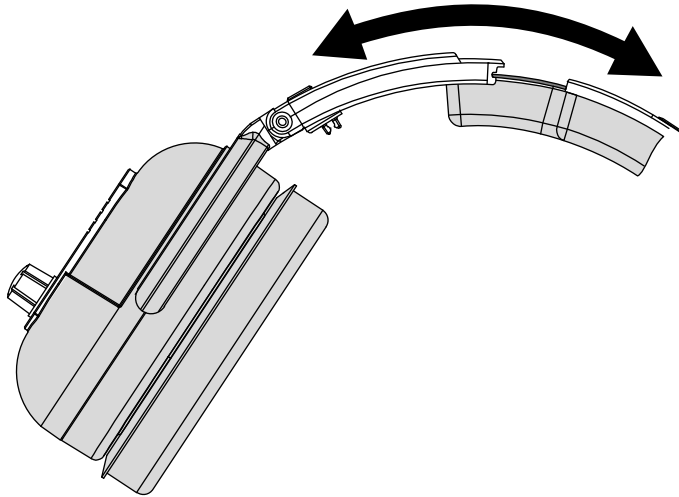
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## Headband Size Adjustment

To adjust the headband size, do the following:

- > Move the **earcup sliders up or down** on the headband.  
*Size is properly adjusted when the earcups are centered over the ears.*

**IMPORTANT:** It is important to adjust both sides of the headband the same to keep the headband and pad properly centered over the head.



**FIGURE 1.** Headband Size Adjustment

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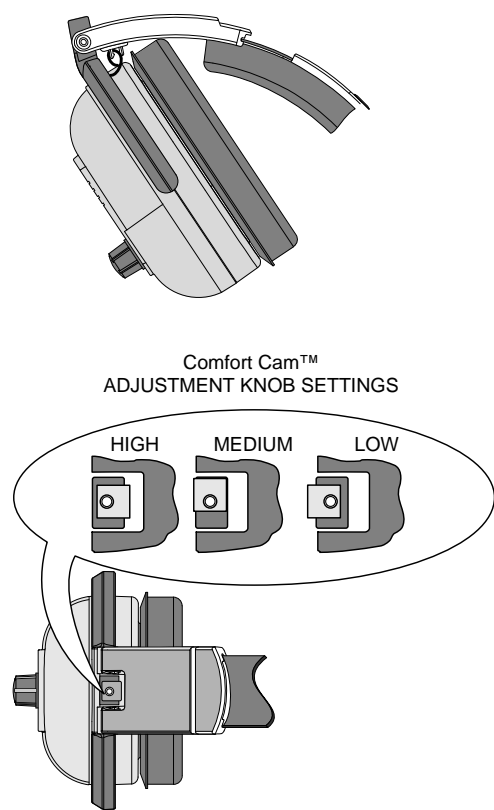
## Headband Pressure Adjustment

There are three (3) pressure settings. Increasing the pressure improves the seal between the earcup and the head for greater noise reduction.

To **change the pressure setting**, do the following:

1. Fold the **earcup** in as shown in Figure 2.
2. Rotate the **Comfort Cam adjust knob** to the desired setting.
3. Repeat for the **other earcup**.

**IMPORTANT:** Both sides of the headband should be set to the same pressure setting to keep the headband properly centered on the head.



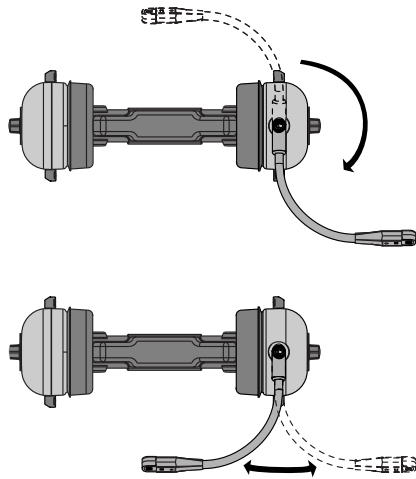
**FIGURE 2.** Headband Pressure Adjustment

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## Left or Right Side Microphone Placement

To **place the microphone**, do the following:

1. Rotate the **boom**, as shown in Figure 3.



**FIGURE 3.** Rotating and Reshaping the Boom

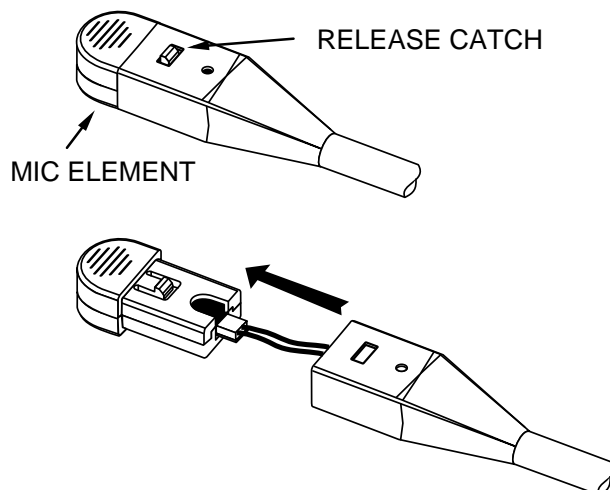
2. Reshape the **boom** so the microphone is at the corner of the mouth.

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## Permanently Changing Microphone Side

To **permanently change the side of the headset the microphone is on**, do the following:

1. Press the **release catch** and carefully pull out the **mic element**.  
*Avoid pulling the connecting wires.*
2. Turn the **microphone element over** and reinsert it as shown in Figure 4.



**FIGURE 4.** Mic Element Rotation

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## Connection

To **connect the headset**, do the following:

- > Using Figure 5, connect the **headset to the aircraft radio or intercom system**.

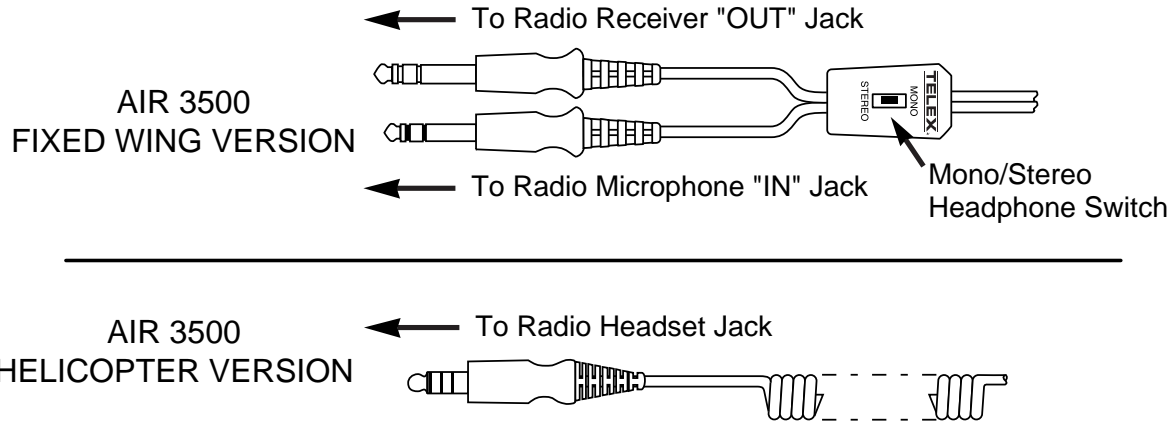


FIGURE 5. Air 3500 Connectors

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## Stereo Mono Switch (fixed-wing version only)

This switch is located on the y-cord (Figure 5).

To **set the stereo mono switch**, do the following:

- > Set the switch to **stereo** for aircraft with stereo intercom systems.  
OR  
Set the switch to **mono** for monaural intercom system or for direct connection to the aircraft radio.

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## Volume Adjustment

To **adjust the volume**, do the following:

- > When the microphone is worn on the left side, volume is increased by rotating the **top of the controls clockwise**.  
OR  
When the microphone is worn on the right side, volume is increased by rotating the **top of the controls counter-clockwise**.



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## Microphone Gain Adjustment

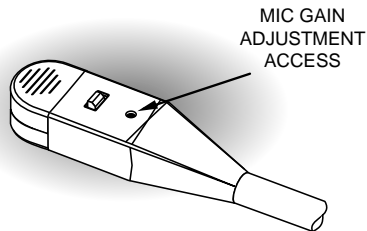
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**IMPORTANT:** The microphone gain has been factory-adjusted to the nominal level required for FAA certification, and it should normally not require readjustment. Readjustment by a qualified avionics technician is recommended.

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To **access the gain trimmer**, do the following:

1. Insert a **small flat-blade screwdriver** in the mic element. (Figure 6)



**FIGURE 6.** Air 3500 Mic Gain Adjustment

2. Rotate the **trimmer** clockwise to increase the gain.

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## Ear Cushion Replacement

To **remove an old ear cushion**, do the following:

- > Grasp the old **ear cushion** and pull it off the earcup.

To **install a new ear cushion**, do the following:

1. Starting at the top of the earcup, place the **flap on the back of the ear cushion** over the lip along the top of the earcup.
2. Pull the **bottom of the ear cushion** down over the lip at the bottom of the earcup.

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## Head Pad Replacement

To **replace the head pad**, do the following:

1. Unsnap the **old head pad**.
2. Pry the **head pad** off the headband (it is held in place with adhesive).
3. Peel off the **adhesive backing** on the new head pad.
4. Attach the **new pad** to the headband.

**IMPORTANT:** Make sure the overhead cord is inside the flaps of the head pad.

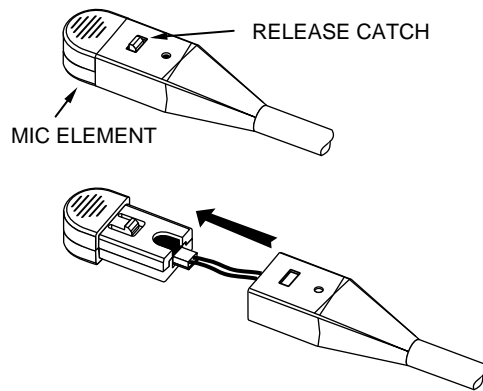
5. Snap the **flaps** closed.

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## Mic Element Removal

To **remove the mic element**, do the following:

1. Press the **release catch** on the microphone element.



**FIGURE 7.** Mic Element Removal for Replacement

2. Carefully pull out the **element**.

**NOTE:** Avoid pulling on the microphone wires.

3. Pull the **plastic connector housing** to unplug the microphone element.

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## *Specifications*

### **Receivers**

Type: Dynamic

Impedance: Accepts 150-600 Ohm sources

Frequency Response: 350Hz -3.0kHz  $\pm 6$ dB

Sensitivity: 90  $\pm 5$ dB SPL for 1mW, 1kHz input

Maximum Power Input: 30mW

### **Microphone/Amplifier Assembly**

Microphone Type: Noise-canceling electret condenser

Output Impedance:

50 Ohms (designed for radio input impedances from 50-600 Ohms)

Frequency Response: 100Hz – 3.5kHz

Sensitivity: -53  $\pm 2$ /-1dB (ref: 1V/ $\mu$ bar)

Operating Voltage: 8-16 Vdc

### **Cords and Plugs**

Air 3500, general aviation version:

Cord: 5.5ft (1.7m) “Y” cord with stereo/mono selector switch

Receiver Plug: 1/4” stereo phone plug

Microphone Plug: PJ-068 equivalent

Air 3500HE, Helicopter version:

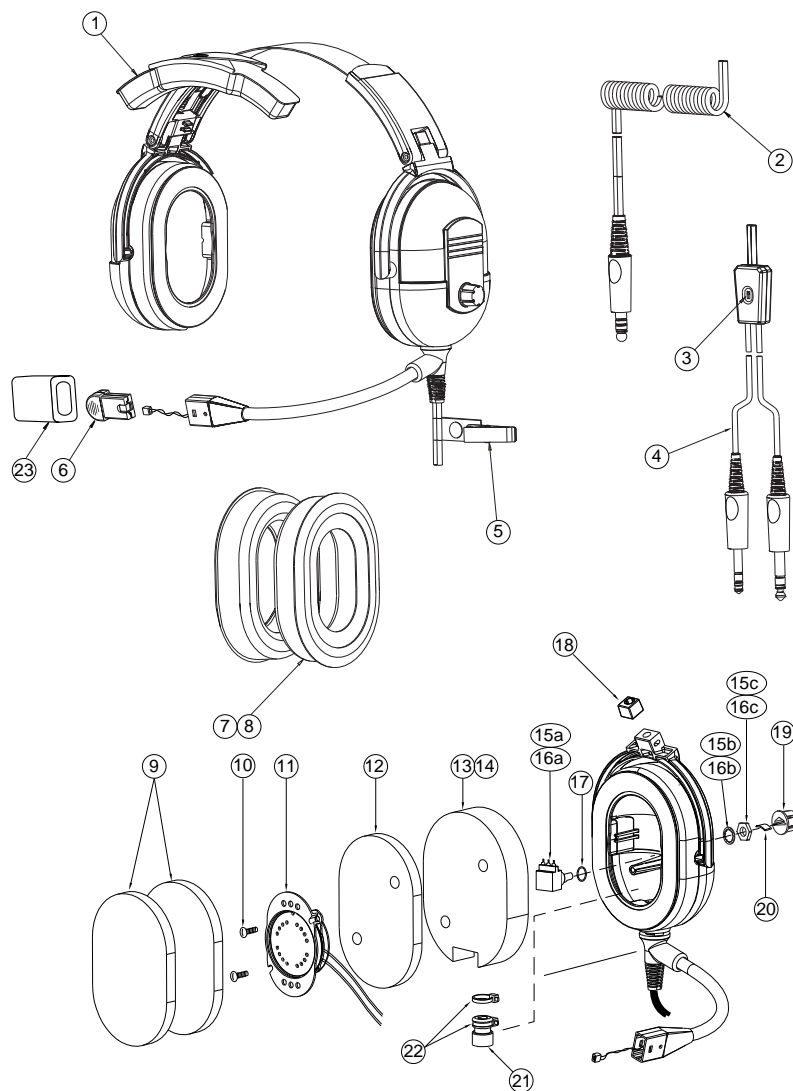
Cord: 5.5ft (1.7m) coiled cord

Plug: TP-120, U-93A/U, U-174/U equivalent

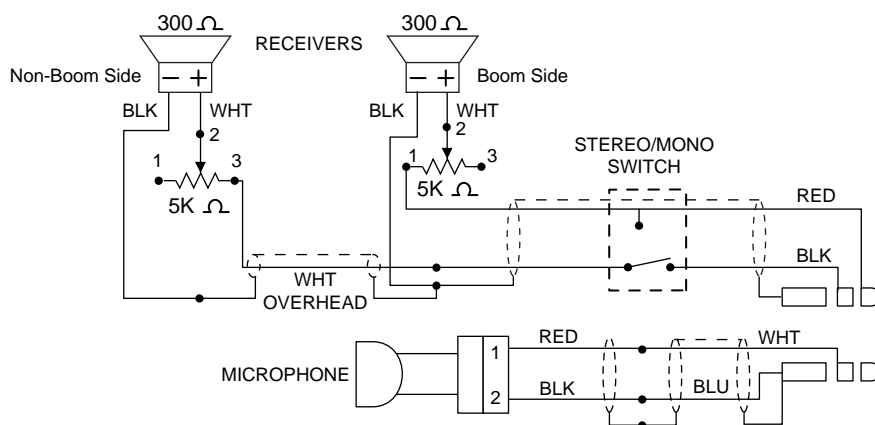
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*Exploded View Parts List*

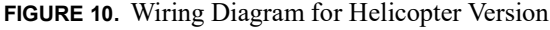
Item No.	Part No.	Description	Qty
1	800198-001	Replacement Head Pad	1
2	19652-057	Coiled Cord (helicopter version only)	1
3	545015-000	Stereo/Mono Switch (fixed wing-version only)	1
4	800138-000	Y-cord, Complete W/Switch (fixed-wing version only)	1
5	590060-000	Cord Clip (fixed-wing version only)	1
6	800136-000	Microphone Element Assembly	1
7	800147-001	Foam Ear Pads (set of 2)	1
8	800027-002	Gel-filled Ear Pads (set of 2)	1
9	700498-000	Foam Top Cover	4
10	51856-003	Screw, Plastite, #2-56 x .5"	4
11	590055-001	Headphone Driver Assembly	2
12	700487-004	Foam Liner	2
13	700487-002	Foam Liner (non-boom side only)	1
14	700487-000	Foam Liner (boom side only)	1
15	54131-008	Potentiometer with Nut and Lockwasher (non-boom side)	2
16	54131-009	Potentiometer with Nut and Lockwasher (boom side)	2
17	580001-001	O-ring	2
18	700453-000	Tension Adjustment Knob	2
19	53435-000	Volume Knob	2
20	56517-000	Volume Knob Insert	2
21	700449-000	Wire Boot	2
22	51709-000	Tie Wrap	2
23	57012-001	Windscreen	1



**FIGURE 8.** Exploded View for Parts Replacement



**FIGURE 9.** Wiring Diagram for Fixed-Wing Version





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**Bosch Security Systems, LLC**

130 Perinton Parkway

Fairport, NY 14450

USA

**[www.telex.com](http://www.telex.com)**

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**EU importer:**

**Bosch Sicherheitssysteme GmbH**

Robert-Bosch-Platz 1

70839 Gerlingen

Germany

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