

Telex

User Instructions

CE



Air3100 Headset
Air3100L Headphone

TELEX[®]



Figure 1
Air3100 Reference View

General Description

The Telex Air3100 is a medium-weight noise-reduction headset with amplified, noise-canceling, electret microphones. The Telex Air3100L is a headphone only and does not have a microphone. They both have a noise reduction rating of 21 dB, and are suitable for use in moderately noisy aircraft. All models feature a unique headband design that distributes ear cushion pressure evenly over the entire ear with no pressure points, unlike conventional designs which apply more pressure on the bottom of the ear than on the top. An added advantage of this design is that the headset folds into an extremely compact shape for storage. The Air3100 headset is approved for aircraft use under FAA TSO's C57a and C58a. The Air3100L headphone is approved for aircraft use under FAA TSO's C57a.

Design Features

(See Figure 1)

Comfortable foam-filled headband pad and ear cushions. The headband pad evenly distributes the headset weight, with no pressure points, for maximum wearer comfort. The ear cushions combine comfort and light weight with excellent acoustic seal. An outer urethane layer ensures long life. Gel-filled ear cushions are also available for this headset for users who prefer this type. All cushions are field-replaceable.

Boom Microphone: The boom arm features a sealed ball-and-socket joint and flexible boom for precise microphone placement on any head size. The boom rotates overhead for microphone placement on either side of the head. The microphone cartridge features a noise-canceling electret element. The cartridge snaps on and off for easy replacement. The microphone amplifier is in the microphone cartridge. It operates on current supplied by the aircraft radio via the microphone jack. The amplifier output level is adjustable through an opening in the microphone assembly.

Cordage: 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.

Sound Attenuation Data: The following measurements for the Telex Air3100 and AIR3100L Headsets were made according to the American National Standard Institute (ANSI) S3.19-1974 by Paul Michael and Associates. These laboratory-derived attenuation data are for comparison purposes only, as the amount of protection afforded in field use is often significantly lower depending upon how the headphones are fitted and worn.

Center Frequency (dB)	125	250	500	1000	2000	3150	4000	6300	8000
Mean Attenuation (dB)	15.7	17.9	23.7	26.9	28.1	34.1	38.8	37.3	38.0
Standard Deviation (dB)	2.4	1.8	2.4	2.2	2.1	3.1	2.5	3.0	2.2
Headband Force = 2.5 Pounds									
Noise Reduction Rating (NRR) = 21 dB									

Operation

Headband Pressure Adjustments

There are three pressure settings. Increasing the pressure will improve the seal between the earcup and the head for greater noise reduction. To change the pressure setting, remove the headset and fold the earcup inward as shown, then rotate the adjustment knob to the desired setting. Repeat for both earcups. Both sides of the headband should be set to the same pressure setting to keep the headband properly centered on the head.

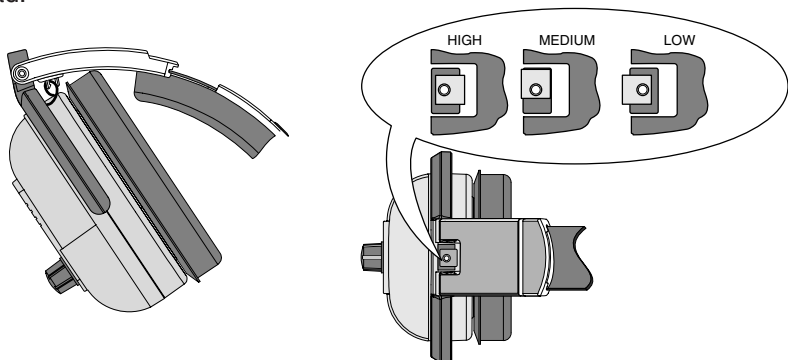


Figure 2

Boom Microphone Placement

1. Rotate the entire boom overhead to wear the microphone on either the right or left side of the head.
2. For best noise canceling, position the microphone as close to the mouth as possible and speak in a normal voice. (See figure 3)
3. When the microphone is not in use, it may be swung slightly away from the mouth.

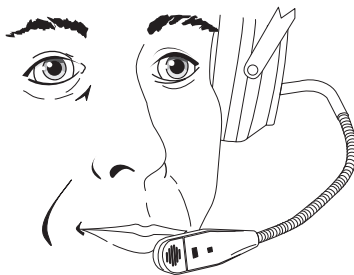
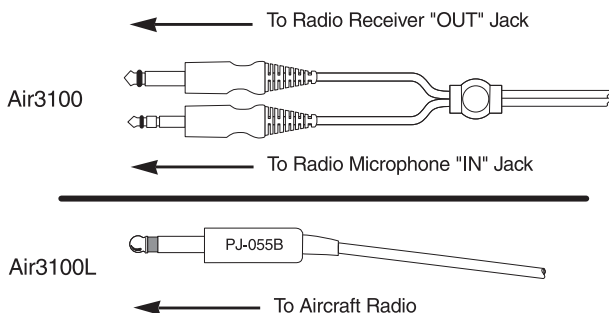


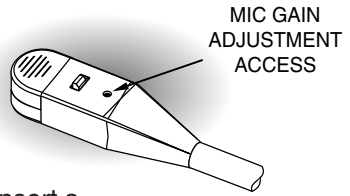
Figure 3

Connections



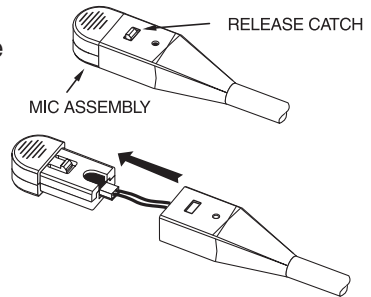
Microphone Gain Adjustment

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. To access the gain trimmer, insert a small flat-blade screwdriver through the access hole in the mic assembly. Clockwise rotation of the trimmer increases gain.

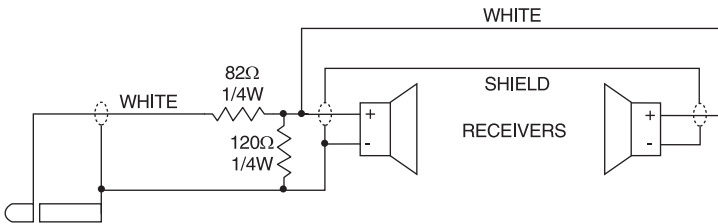


Mic Assembly Removal

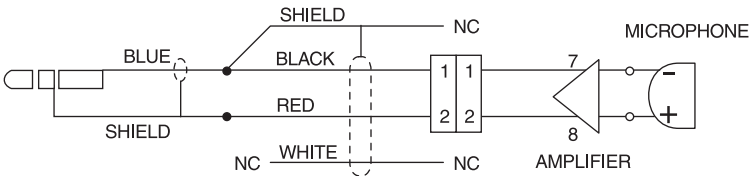
Press the release catch on the microphone assembly, and carefully pull out the assembly. Avoid pulling the microphone wires. Pull on the plastic connector housing to unplug the microphone assembly.



Air3100 & Air 3100L Headset Wiring Diagram



Air3100 Microphone Wiring Diagram



Exploded View Parts List (See Figure 4)

Item No.	Part No.	Description	3100	3100L
1	800037-000	Earcup Assembly, Boom Left	1	–
	800037-002	Earcup Assembly, No Boom Left	–	1
2	800037-001	Earcup Assembly, Right	1	1
3	700085-000	Cover, Left	1	1
4	700085-001	Cover, Right	1	1
9	800103-000	Receiver Assembly w/Foam Donut	2	2
10	800136-000	Microphone Assembly	1	–
11	700486-002	Boom Assembly	1	–
19	70381-000	Boom Stop	1	–
20	700007-000	Ball Half	2	–
21	700094-001	Ball Spring	1	–
22	60074-130	Y-Cord Assembly	1	–
	60051-190	Cord Assembly	–	1
25	51856-004	Screw, Plastite, #4-20 x 1/4" Long	1	–
26	51856-030	Screw, Plastite, #4-20 x 5/8" Long	4	4
27	700140-002	Cup Liner	2	2
28	700141-000	Receiver Cover	2	2
29	59145-002	Foam Donut	2	2
33	800154-005	Headband Assembly	1	–
	800154-006	Headband Assembly	–	1
34	700134-001	Extrusion, Cord Clip	2	2
35	700453-001	Clamp Knob	2	–
	700453-000	Clamp Knob	–	2
36	800198-001	Headpad	1	1
37	63456-007	Bend Relief	1	–
	63456-003	Bend Relief	–	1
38	800024-001	Cushion, Foam	2	2
39	58364-000	Overhead Cord, 28" Long	AR	AR
41	590637-000	Clothing Clip	1	1

300048 Rev BN
300448 Rev G

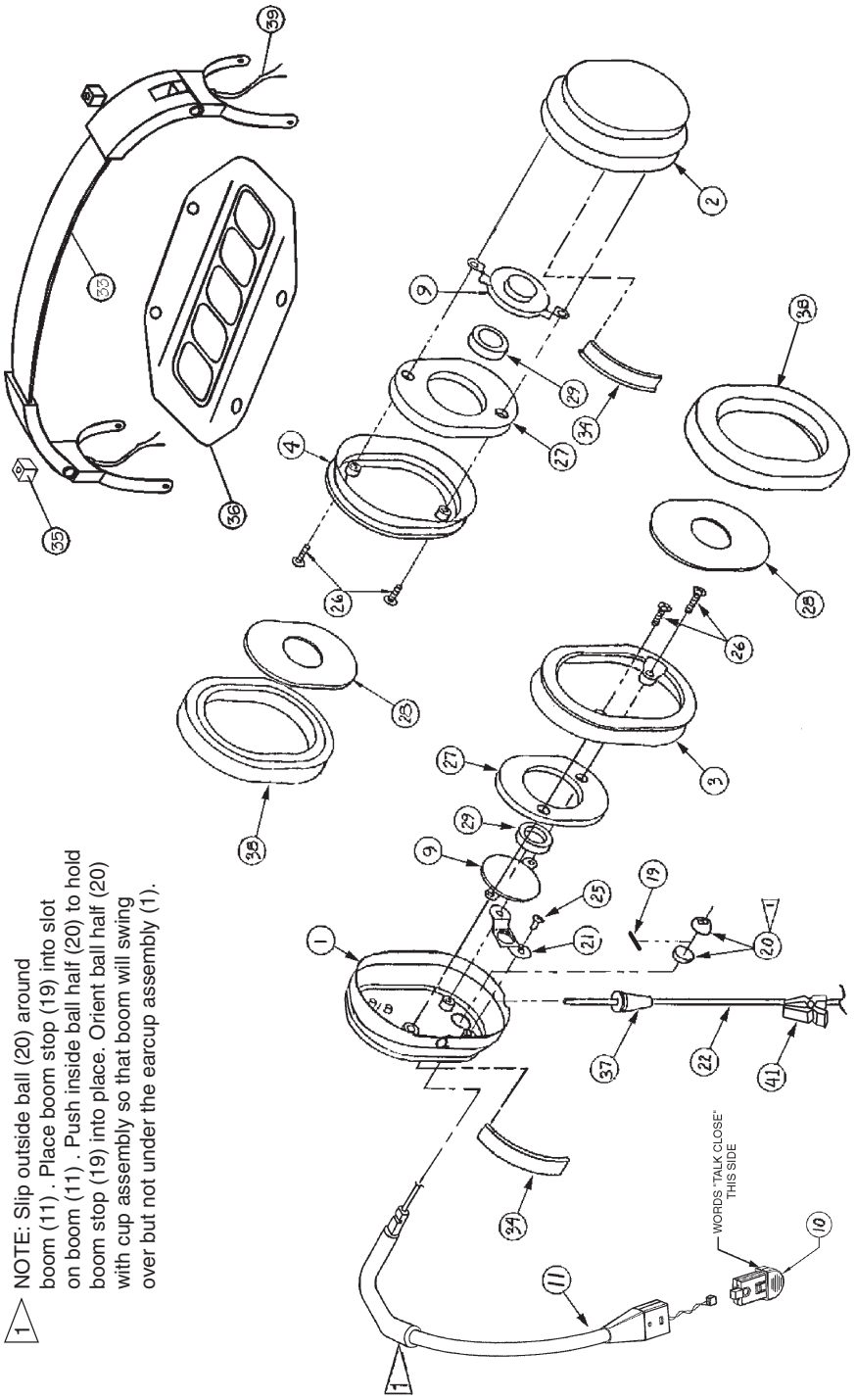


Figure 4

Specifications

Receivers:

Type: Dynamic

Frequency Response: 350 Hz - 6 kHz

Sensitivity: 100 \pm 5 dB SPL (1 kHz, 1 mW input)

Impedance (at 1 kHz): 150 ohms (receivers wired in parallel)

Microphone and Amplifier: (AIR3100 only)

Element Type: Noise-canceling electret

Frequency Response: 100 Hz - 3.5 kHz

Sensitivity: -53 \pm 2/-1 dB (ref:1 V/ μ bar at 1 kHz with 12 Vdc supply voltage and 100 ohm 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

Cordage:

Air3100: Straight Y-cord, 5 ft (1.5 m)

Air3100L: Straight, 5 ft (1.5 m)

Connectors:

Air3100: PJ-068 equivalent plug for radio mic jack; PJ-055 equivalent plug for radio phone jack

Air3100L: PJ-055 plug or equivalent

Weight:

Gross Weight: Approximately 16oz. (454 g)

Effective Head Weight: Approximately 14.2 oz. (403 g)

Color: Gray

Ordering Information

(See Exploded View Parts List for a complete listing of replacement parts)

Air3100 Headset Catalog no. 300048-200

Air3100L Headphone (listen only) Catalog no. 300448-000

Thin-skin foam ear cushions (set of two) Catalog no. 800027-003

Gel-filled ear cushions (set of two) Catalog no. 800027-002

Head pad Catalog no. 800198-001

Microphone cartridge Catalog no. 800136-000

Microphone windscreen Catalog no. 57012-001

Model PT-300 Portable Push-To-Talk Switch* Catalog no. 63966-000

* 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.

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