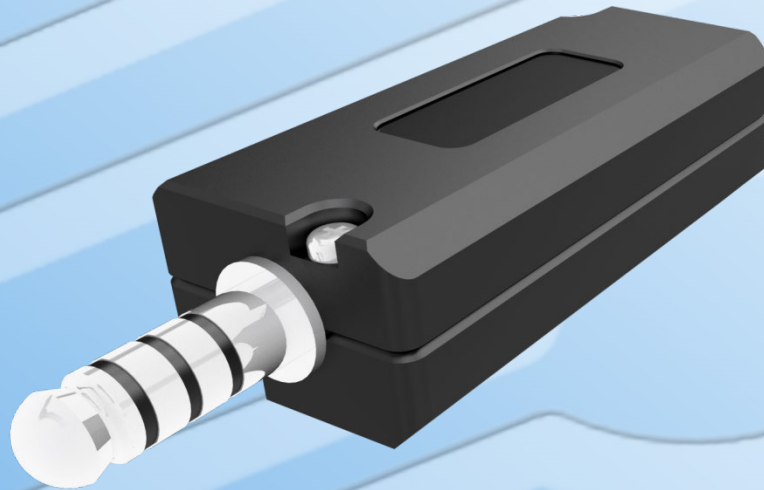




JUPITER AVIONICS
C O R P O R A T I O N

JA39-017

**Headset Adapter
150 Ohm Mic - 115 Ohm Phones**



Installation Manual

Rev. A

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Prepared:	Checked:	Approved:
MPB		



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JA39-017 Headset Adapter - 150 Ω Mic - 115 Ω Phones

SECTION 1 - DESCRIPTION

1.1 System Overview

The JA39-017 Headset Adapter - 150 Ohm Mic - 115 Ohm Phones allows a PELTOR™ headset to be used with a high impedance aviation audio controller. The JA39-017 operates using the microphone bias supply of the audio controller and requires no other external power. The phones audio from the audio controller is routed matched directly to the headset phones without impedance matching.

1.2 Features Overview

The JA39-017 unit features a NATO style aviation headset pin-out for the plug.

The JA39-017 unit features a NATO style headset pin-out for the jack.

The JA39-017 plugs in-line with the headset cord.

The JA39-017 uses a metalized enclosure to shield the circuitry from Radio Frequency Interference.

1.3 Inputs and Outputs

Refer to the JA39-017 connector maps for the mating connector designators and pin assignments for the input and output signals.

1.3.1 Inputs

Name	Qty	Type
MIC INPUT +/-	2	Audio signal
PHONES INPUT	2	Audio signal

1.3.2 Outputs

Name	Qty	Type
MIC OUTPUT HI/LO	2	Audio signal
PHONES OUTPUT +/-	2	Audio signal

1.3.3 Mic Bias Voltage Supply

The Microphone Output accepts a DC MIC INPUT bias voltage supply from the Audio Controller.

1.3.4 Input and Output Polarities

The JA39-017 is designed to operate regardless of the input and output polarities of the attached audio controller and headset.



1.4 Specifications

1.4.1 Electrical Specifications

Power Input

Primary nominal bias voltage	12.0 Vdc
Maximum bias voltage	16.0 Vdc
Minimum bias voltage	10.0 Vdc
Input current at 12 Vdc	12 mA max

1.4.1.1 Audio Performance

Rated Input Level

Phones rated input level	3.4 Vrms $\pm 10\%$
Microphone input level	4.0 mVrms $\pm 10\%$

Rated Output Level

Phone rated output into 115 Ohms	3.4 Vrms $\pm 10\%$
Microphone rated output into 150 Ohms AC	250 mVrms $\pm 20\%$

Audio Frequency Response

Phone output audio frequency response	$\leq 3\text{dB}$ from 300 to 6000 Hz
Microphone output audio frequency response	$\leq 3\text{dB}$ from 300 to 6000 Hz

Distortion Characteristics

Phones output distortion at rated power	$\leq 10\%$ THD+N
Phones output distortion at 10% of rated power	$\leq 3\%$ THD+N

Input Impedance

Microphone input Impedance	840 $\Omega \pm 20\%$
Phones input Impedance	115 $\Omega \pm 10\%$

Output Impedance

Phones output Impedance	$\leq 12 \Omega$
Microphone output Impedance	190 $\Omega \pm 10\%$

Output Load Impedance

Phones output load Impedance	115 $\Omega \pm 10\%$
Microphone output Impedance	150 $\Omega \pm 10\%$

Audio Noise Level without Signal

Noise level below the rated output	$\geq 55 \text{ dB}$
------------------------------------	----------------------

1.4.1.2 Audio Performance, Other

Microphone input designed for MIC type	Dynamic
Phones output circuitry type	Direct Coupled



1.4.2 Mechanical Specifications

Height		3.14 in [79.8 mm] max
Depth		1.05 in [26.7 mm] max
Width		0.73 in [18.5 mm] max
Weight		0.11 lbs. [51.2 g] max
Connectors (2):	J1	One U-174/U plug
	J2	One U-92A/U jack
Mounting		Insertion into U-92A/U jack
Installation Kit		Not Required.



JA39-017 Headset Adapter - 150 Ω Mic - 115 Ω Phones

SECTION 2 – INSTALLATION

2.1 Introduction

This section contains unpacking and inspection procedures, installation information, and post-installation checks.

2.2 Continued Airworthiness

Maintenance of the JA39-017 is on condition only. Scheduled inspection and/or periodic maintenance of this unit is not required.

2.3 Unpacking and Inspecting Equipment

Unpack the equipment carefully. Check for shipping damage and report any problems to the relevant carrier. Confirm that the Certificate of Conformance is included. Complete the on-line warranty card from the Jupiter Avionics Corporation (JAC) website – www.jupiteravionics.com/warranty.

2.3.1 Warranty

All JA39 products manufactured by JAC are warranted to be free of defects in workmanship or performance for 1 year from the date of purchase from an approved JAC dealer or agency. This warranty covers the cost of all materials and labour to repair or replace the unit, but does not include the cost of transporting the defective unit to and from JAC or its designated warranty repair centre, or of removing and replacing the defective unit in the aircraft. This warranty does not cover failures due to abuse, misuse, accident, or unauthorized alteration or repairs.

If the on-line warranty card is not completed, the product will be warranted from the date of manufacture.

Contact JAC for return authorization, and for any questions regarding this warranty and how it applies to your unit(s). JAC is the final arbiter concerning warranty issues.

2.4 Installation Procedures



WARNING: Loud noise can cause hearing damage. Set audio system headset volumes to minimum before conducting tests, and slowly increase the volume to a comfortable listening level.

2.4.1 Installation Limitations

The JA39 may be installed only by following the applicable airworthiness requirements.

2.4.2 Cabling and Wiring

The JA39 plugs directly into a standard aircraft audio system headset connector. All wires to said connector shall be selected in accordance with the original aircraft manufacturer's maintenance instructions, or AC43.13-1B Change 1, Paragraphs 11-76 through 11-78. Unshielded wire types shall qualify to MIL-W-22759 as specified in AC43.13-1B Change 1, Paragraphs 11-85, 11-86, and listed in Table 11-11. For shielded wire applications, use Tefzel MIL-C-27500 shielded wire with tag ring or equivalent (for shield terminations) to make the most compact and easily terminated interconnect. Follow the Connector Map in Appendix A of this manual.

2.4.3 Mechanical Installation

The JA39-017 can be mounted in any attitude and location sufficient clearance for the connector body and headset plug. It requires no direct cooling.



CAUTION: When plugged in to a headset audio connector, the JA39 could create excessive strain on the connector. Ensure that the JA39 is protected from impact, and that no tension is applied to any attached headset cord.

2.4.4 In-Line PTT Cordsets

If in-line PTT cordsets (drop cords) are used, be aware that incorrectly configured or improperly shielded in-line PTT cordsets can lead to significant audio problems.

2.4.5 Post Installation Checks

2.4.5.1 Configuration

The JA39 has no configuration options.

2.4.5.2 Power on Checks.

Power up the aircraft's systems and confirm operation of all functions of the JA39.

- a) Begin with a headset attached. Confirm correct operation for both Mic and phones output. Do not proceed until the headset is functioning correctly.
- b) Unusual buzzes, hums or other background audio are symptomatic of multiple grounds, or noisy external systems such as blowers or pumps sharing wiring with the audio system.

2.5 System Operation

The JA39-017 is designed to operate regardless of the input and output polarities of the attached audio controller and headset.

2.5.1 Microphone Operation

The JA39-017 amplifies the MIC INPUT audio and routes it to the MIC OUTPUT.

2.5.2 Phones Operation

The JA39-017 routes the PHONES INPUT audio to the PHONES OUTPUT.

2.6 Installation Kit

The JA39-017 does not require an installation kit.

2.7 Installation Drawings

The drawings and documents required for Installation can be found in [Appendix A](#) of this manual.



Installation Manual

Appendix A - Installation Drawings

A1 Introduction

The drawings necessary for installation and troubleshooting of the JA39-017 Headset Adapter - 150 Ω Mic - 115 Ω Phones are in this Appendix, as listed below.

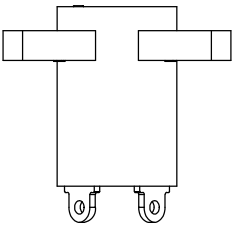
A2 Installation Drawings

DOCUMENT	Rev
JA39-017 Connector Map	A
JA39-017 Interconnect	A
JA39-017 Mechanical Installation	A

Aircraft Connector

P1

TJ-120 or U-92 A/U
MATING CONNECTOR



- PIN 1: MIC OUTPUT HI
- PIN 2: PHONES INPUT HI
- PIN 3: MIC OUTPUT LO
- PIN 4: PHONES INPUT LO

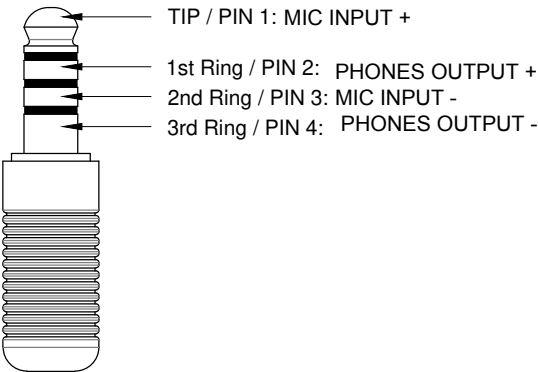
View of Aircraft mating connector

PREPARED	KV	 JUPITER AVIONICS CORPORATION		
CHECKED	JAC 03-12-20 SDB			
		TITLE Headset Adapter - 150 Ohm Mic - 115 Ohm Phones P1 - Aircraft Connector		
APPROVED	JAC 03-12-20 KDV	NCAGE CODE L00N3	PART NO. JA39-017	SHEET 1/2
CONFIDENTIAL & PROPRIETARY TO JUPITER AVIONICS CORP.		DOC NO. JA39-017 Connector Map Rev A		

Headset Connector

P2

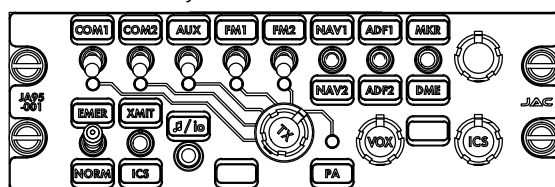
U174/U or U-93A/U
MATING CONNECTOR



View of Headset mating connector

PREPARED	KV	JUPITER AVIONICS CORPORATION		
CHECKED	JAC 03-12-20 SDB			
APPROVED		TITLEHeadset Adapter - 150 Ohm Mic - 115 Ohm Phones P2 - Headset Jack Connector		
		NCAGE CODE L00N3	PART NO. JA39-017	SHEET 2/2
CONFIDENTIAL & PROPRIETARY TO JUPITER AVIONICS CORP.		DOC NO. JA39-017 Connector Map Rev A		

Aircraft Intercom System



Aircraft Headset Jack

NATO STYLE
WIRING

JA39-017
Headset Adapter

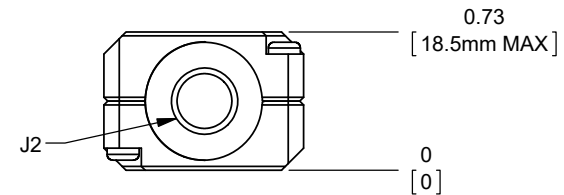
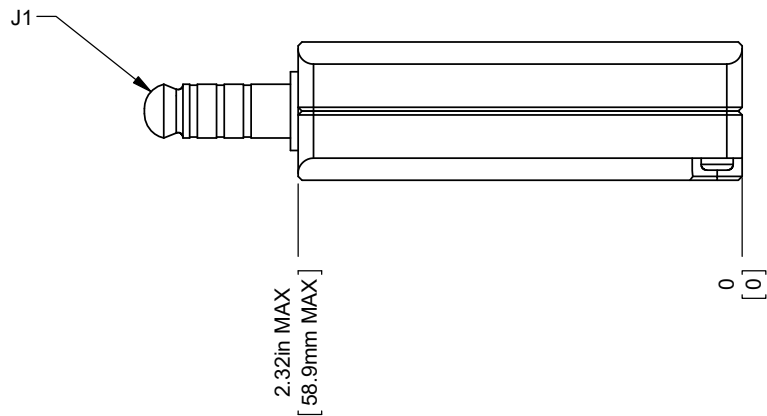
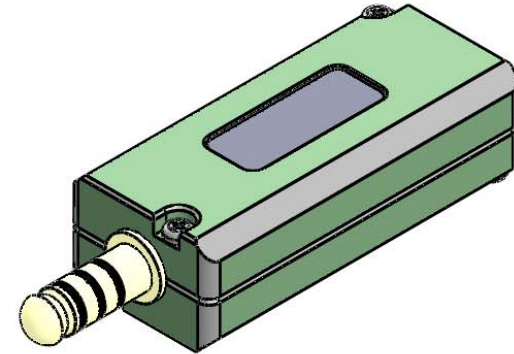
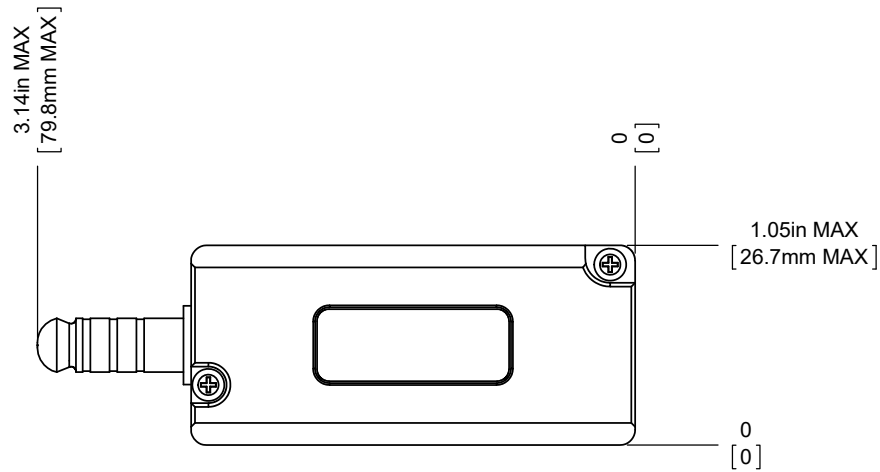
NATO STYLE
WIRING

Peltor Headset

115 Ohm
Phones

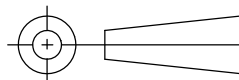
150 Ohm Mic

PREPARED	TAT	 JUPITER AVIONICS CORPORATION		
CHECKED	JAC 03-12-20 SDB			
APPROVED	JAC 03-12-20 KDV	TITLE Headset Adapter 150 Ohm Mic - 115 Ohm Phones		
CONFIDENTIAL & PROPRIETARY TO JUPITER AVIONICS CORP.		NCAGE CODE L00N3	PART NO. JA39-017	SHEET 1/1
		DOC NO. JA39-017 Interconnect Rev A.dwg		



WEIGHT: 0.11 lbs [51.2 g] MAX.

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
ANGLES ARE IN DEGREES
TOLERANCES:
1 DEC PLACE: ± 0.1
2 DEC PLACE: ± 0.01
3 DEC PLACE: ± 0.005
ANGLES: ± 0.5 DEG



MATERIAL: N/A
FINISH: N/A

PREPARED

CHECKED

APPROVED

CONFIDENTIAL & PROPRIETARY
TO JUPITER AVIONICS CORP.
DRAWING NOT TO SCALE

TAT

JAC
03-12-20
SDB

JAC
03-12-20
KDV



JUPITER AVIONICS
CORPORATION

TITLE

Headset Adapter - 150 Ohm Mic - 115
Ohm Phones

NCAGE CODE
L00N3

PART NO.
JA39-017

SHEET
1/1

DOC. NO.

JA39-017 Mechanical Installation Rev A.SLDDRW