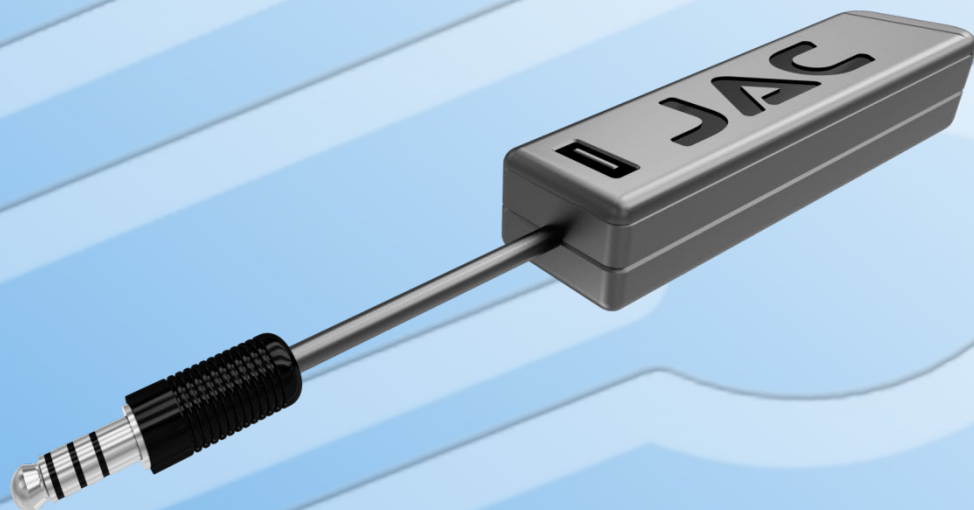




**JUPITER AVIONICS**  
CORPORATION

**JA44-001**

**High Impedance Headset to  
Low Impedance Intercom Adapter**



**Installation and Operating Manual**

**Rev A**

**Jupiter Avionics Corporation  
1959 Kirschner Road  
Kelowna BC  
Canada V1Y 4N7  
Tel: +1 778 478 2232  
Toll-Free: 1 855 478 2232  
[www.jupiteravionics.com](http://www.jupiteravionics.com)**





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## JA44-001 High Impedance Headset to Low Impedance Intercom Adapter

### SECTION 1 - DESCRIPTION

#### 1.1 System Overview

The JA44-001 High Impedance Headset to Low Impedance Intercom Adapter provides a battery driven microphone bias voltage and phone transformers to allow a high impedance headset to interface with a low impedance intercom system.

#### 1.2 Features Overview

The JA44-001 unit features an industry standard headset pin-out to allow plug and play operation.

The JA44-001 plugs in-line between the User's headset cord and the aircraft intercom system headset connector.

The JA44-001 supports a single control to adjust microphone level to intercom system.

The JA44-001 supports automatic on / off power function when user plugs / unplugs the headset from the unit.

#### 1.3 Inputs and Outputs

##### 1.3.1 Inputs

Name	Qty	Type
MIC INPUT HI/LO	2	Audio signal
PHONES INPUT HI/LO	2	Audio signal

##### 1.3.2 Outputs

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

#### 1.4 Specifications

##### 1.4.1 Electrical Specifications

###### Power Input

MIC INPUT nominal bias voltage	8 Vdc
MIC INPUT maximum bias voltage	9.5 Vdc
MIC INPUT minimum bias voltage	7.0 Vdc
BATTERY nominal voltage	9 Vdc
BATTERY minimum voltage	7 Vdc
BATTERY input current	12 mA max



### 1.4.1.1 Audio Performance

#### Rated Input Level

MIC INPUT rated level	0.25 Vrms $\pm$ 10%
PHONE INPUT rated level	0.9 Vrms $\pm$ 10%

#### Rated Output Level

MIC OUTPUT rated level	250 $\mu$ Vrms $\pm$ 10%
PHONE OUTPUT rated level	4.4 Vrms $\pm$ 10%

#### Audio Frequency Response

MIC OUTPUT audio frequency response	$\leq$ 3dB from 300 to 6000 Hz
PHONE OUTPUT audio frequency response	$\leq$ 3dB from 300 to 6000 Hz

#### Distortion Characteristics

PHONE OUTPUT distortion at rated power	$\leq$ 10% THD+N
PHONE OUTPUT distortion at 10% of rated power	$\leq$ 3% THD+N

#### Input Impedance

MIC INPUT Impedance	150 $\Omega$ $\pm$ 10%
PHONE INPUT Impedance	5 $\Omega$ $\pm$ 30%

#### Output Load

MIC OUTPUT load Impedance	5 $\Omega$ $\pm$ 30%
PHONE OUTPUT load Impedance	150 $\Omega$ $\pm$ 10%

#### Audio Noise Level without Signal

Noise level below the rated output	$\geq$ 60 dB
------------------------------------	--------------

### 1.4.2 Mechanical Specifications

Height	1.04 in [26.4 mm] max
Length (not including connector cable)	4.95 in [125.7 mm] max
Width	1.22 in [31 mm] max
Weight	0.32 lb [0.15 kg] max
Material	Black Polycarbonate Plastic
Connectors (2):	J1 (Headset Plug) J2 (Headset Jack)
Mounting	U-92A/U Jack
Bonding	N/A
Installation kit part number	N/A



## JA44-001 High Impedance Headset to Low Impedance Intercom Adapter

### 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 JA44-001 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 Authorized Release Certificate or Certificate of Conformance is included. Complete the on-line warranty card from the Jupiter Avionics Corporation (JAC) website - [www.jupiteravionics.com/warranty](http://www.jupiteravionics.com/warranty)

##### 2.3.1 Warranty

This product manufactured by JAC is warranted to be free of defects in workmanship or performance for 1 year from the date of purchase from by 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

##### 2.4.1 Installation Limitations

The JA44-001 may be installed only by following the applicable airworthiness requirements.

##### 2.4.2 Cabling and Wiring

The JA44-001 plugs directly into a standard aircraft audio system headset connector.

##### 2.4.3 Mechanical Installation

The JA44-001 can be mounted in any attitude and location sufficient clearance for the connector body and headset plug. It requires no direct cooling.



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**CAUTION:** When plugged in to a headset audio connector, the JA44-001 could create excessive strain on the connector. Ensure that the JA44-001 is protected from impact, and that no tension is applied to any attached headset cord.

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## **2.4.4 Post Installation Checks**

### **2.4.4.1 Configuration**

The JA44-001 has no configuration options.

### **2.4.4.2 Power on Checks.**

Power up the aircraft's systems and confirm normal operation of all functions of the JA44-001. Refer to Section 3 (Operation) for specific operational details.

- a) Begin with a high impedance headset attached. Confirm correct operation for both Mic and phones output. Do not proceed until the headsets are 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 JA44-001 is designed to operate regardless of the input and output polarities of the attached audio controller and headset.

### **2.5.1 Microphone Operation**

The JA44-001 allows the MIC INPUT audio to be biased and decreases the audio level from the MIC INPUT to MIC OUTPUT connectors by using a Step-down transformer.

The MIC OUTPUT audio output is adjusted through a trimpot.

### **2.5.2 Phones Operation**

The JA44-001 increases the audio level from the PHONE INPUT to the PHONE OUTPUT connectors by using a step-up transformer.

## **2.6 Installation Kit**

The JA44-001 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.





## JA44-001 High Impedance Headset to Low Impedance Intercom Adapter

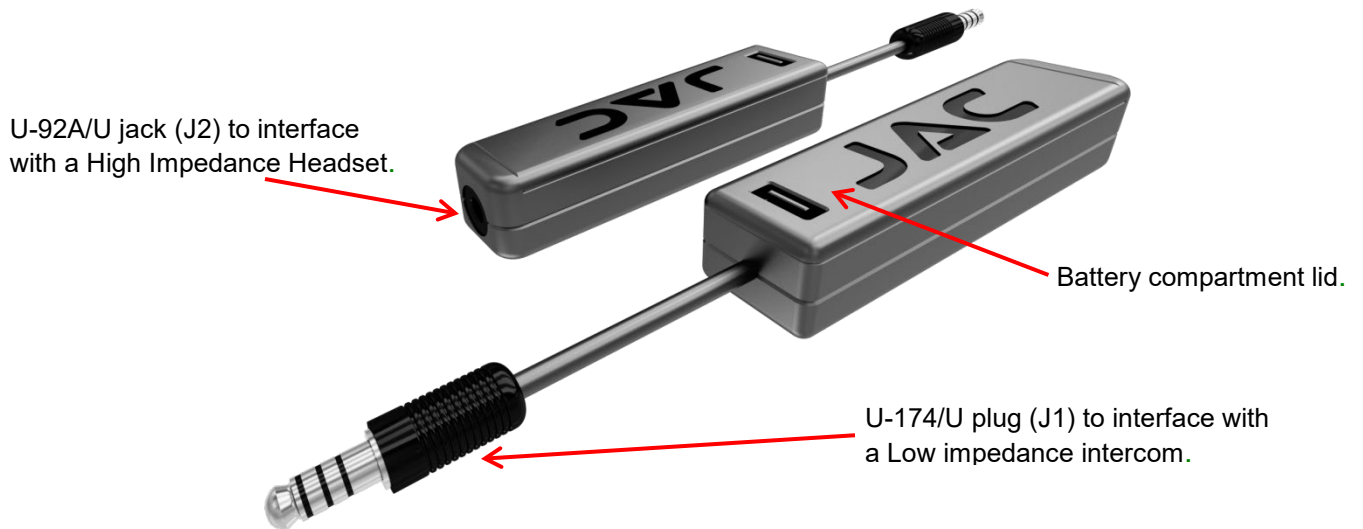
### SECTION 3 – OPERATION

#### 3.1 Introduction

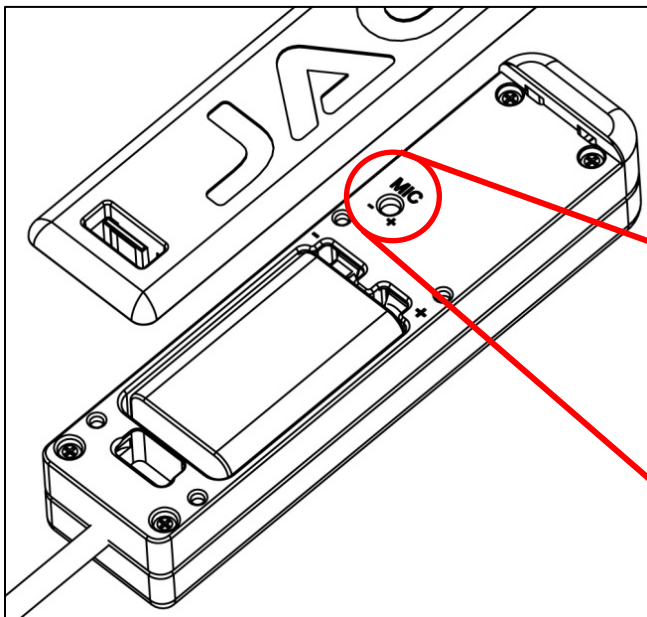
This section contains the operating instructions for the JA44-001.

#### 3.2 Controls and Connectors

The JA44-001 has an automatic on / off power function when the user plugs / unplugs the headset from the unit.



#### 3.2.1 Mic Level Control



Underneath the battery compartment lid (see section 3.3 below) the JA44-001 has one rotary control (trimpot) marked **MIC** for adjusting the Mic level.

The control is rotated using a flat blade screwdriver.

The Mic output audio will be increased when the control is rotated clockwise (cw) and decreased when the control is rotated counterclockwise (ccw).



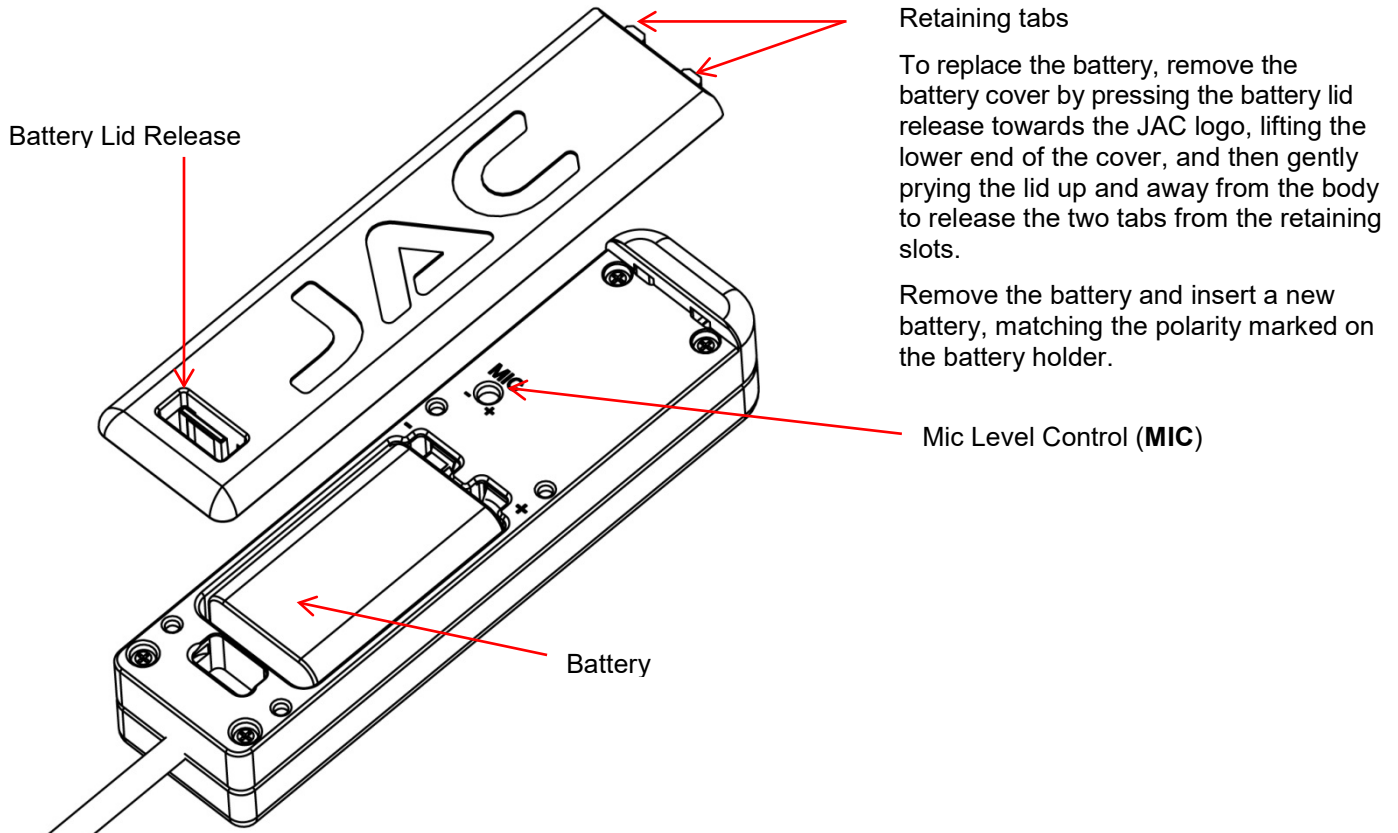




### **3.3 Battery Information**

The JA44-001 uses one nine volt alkaline battery.

#### **3.3.1 Inserting or Replacing the Battery**



Retaining tabs

To replace the battery, remove the battery cover by pressing the battery lid release towards the JAC logo, lifting the lower end of the cover, and then gently prying the lid up and away from the body to release the two tabs from the retaining slots.

Remove the battery and insert a new battery, matching the polarity marked on the battery holder.

Mic Level Control (MIC)

Battery

##### **3.3.1.1 Battery Life**

A good quality 9V alkaline battery at 23°C will provide typically 20+ hours of operation.

#### **3.3.2 Battery Cautions and Warnings**



**CAUTION:** Follow these guidelines to prolong battery life and minimize the risk of unit malfunction.

- ⚠ To ensure that the unit functions correctly, insert a new battery with the positive and negative poles aligned as indicated in the battery compartment.
- ⚠ When replacing the battery, use only a new battery.



**WARNING:** Follow these guidelines to prolong battery life, and minimize the risk of fire, chemical burns, electrolyte leaks and/or injury.

- ⚠ **FOLLOW** the manufacturer's instructions for care and disposal of batteries.
- ⚠ **DO NOT** use sharp objects to remove the battery.
- ⚠ **DO NOT** disassemble, puncture, burn or in any other way damage the battery.
- ⚠ **DO NOT** let children handle the battery.
- ⚠ **USE ONLY** recommended replacement batteries.



# Installation and Operating Manual

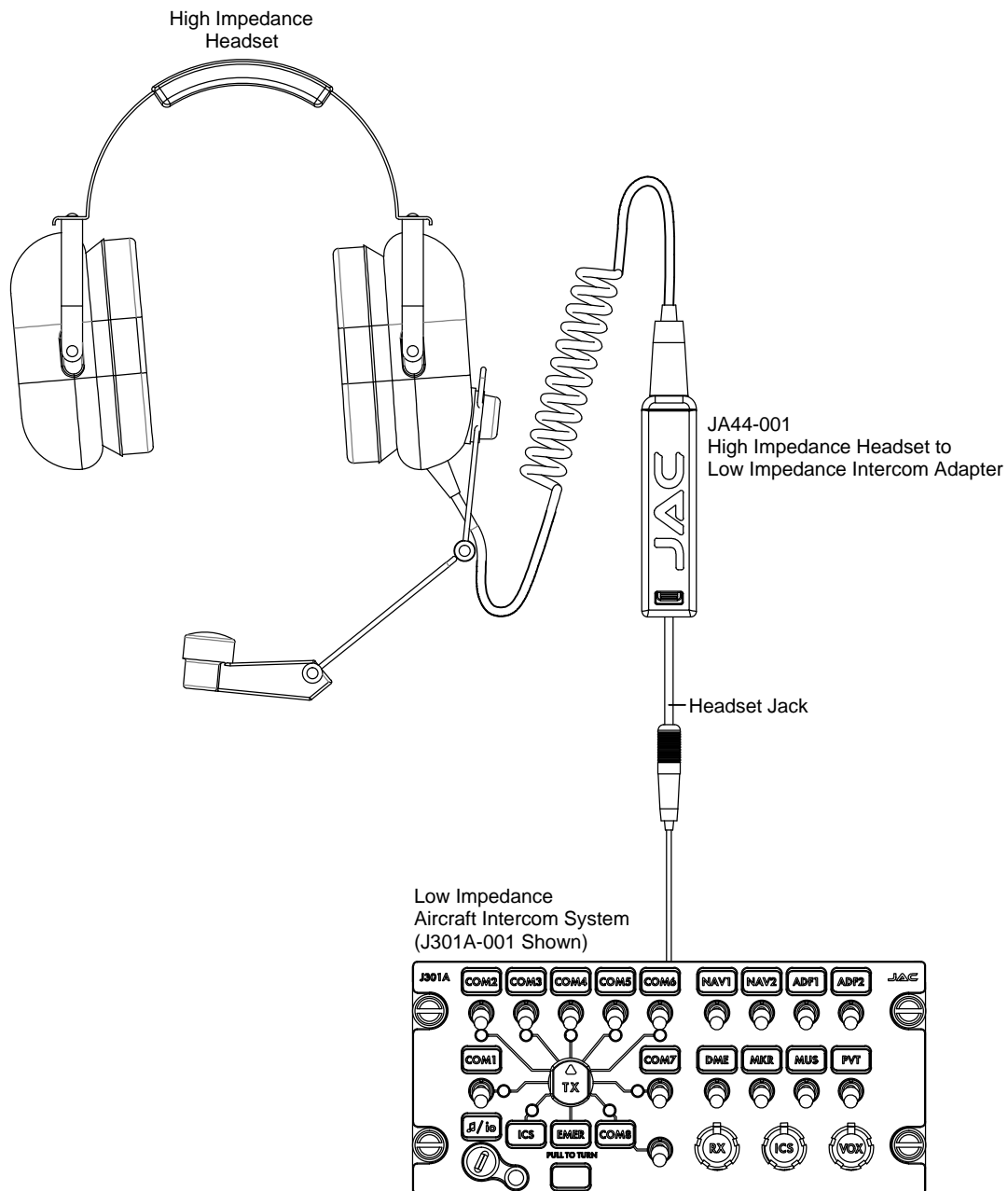
## Appendix A - Installation Drawings




### A1 Introduction

The drawings necessary for installation and troubleshooting of the JA44-001 High Impedance Headset to Low Impedance Intercom Adapter are in this Appendix, as listed below.

### A2 Installation Drawings

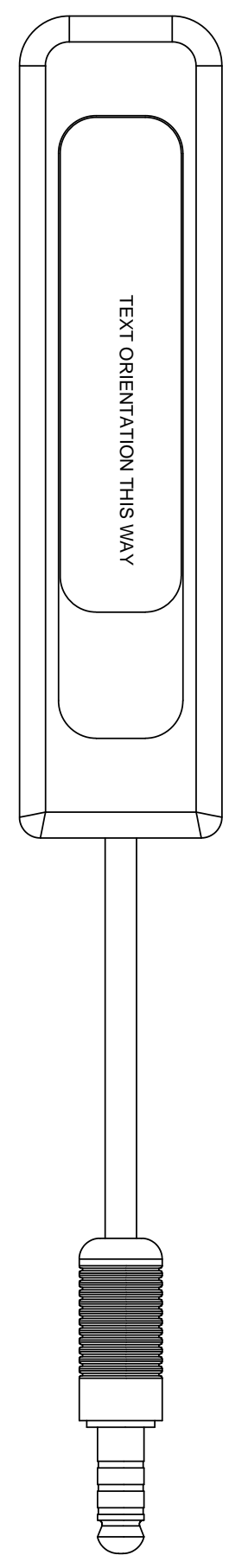
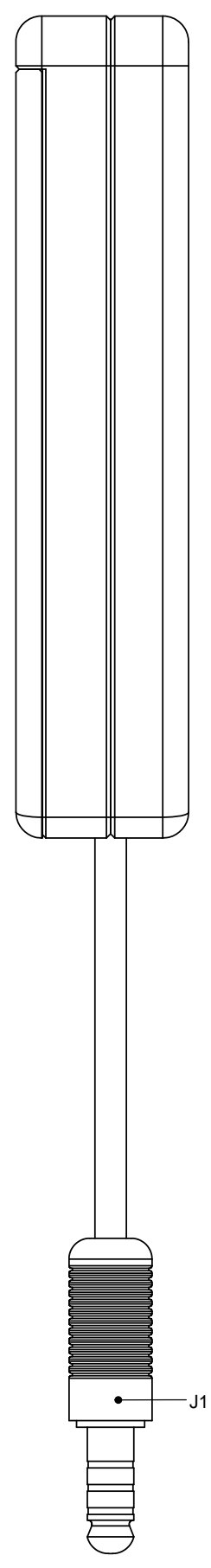
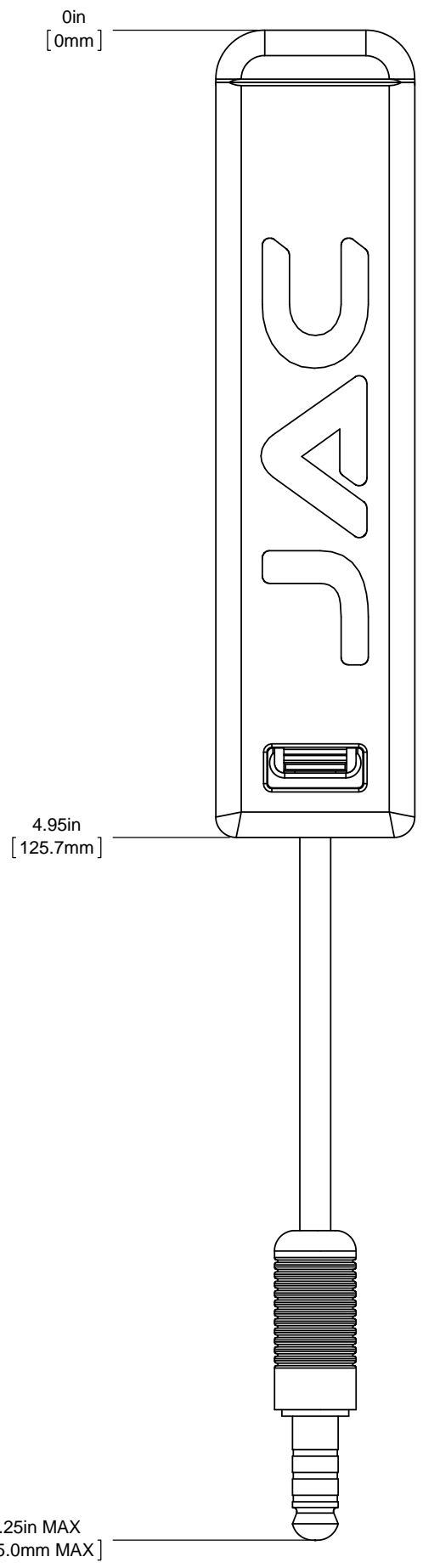
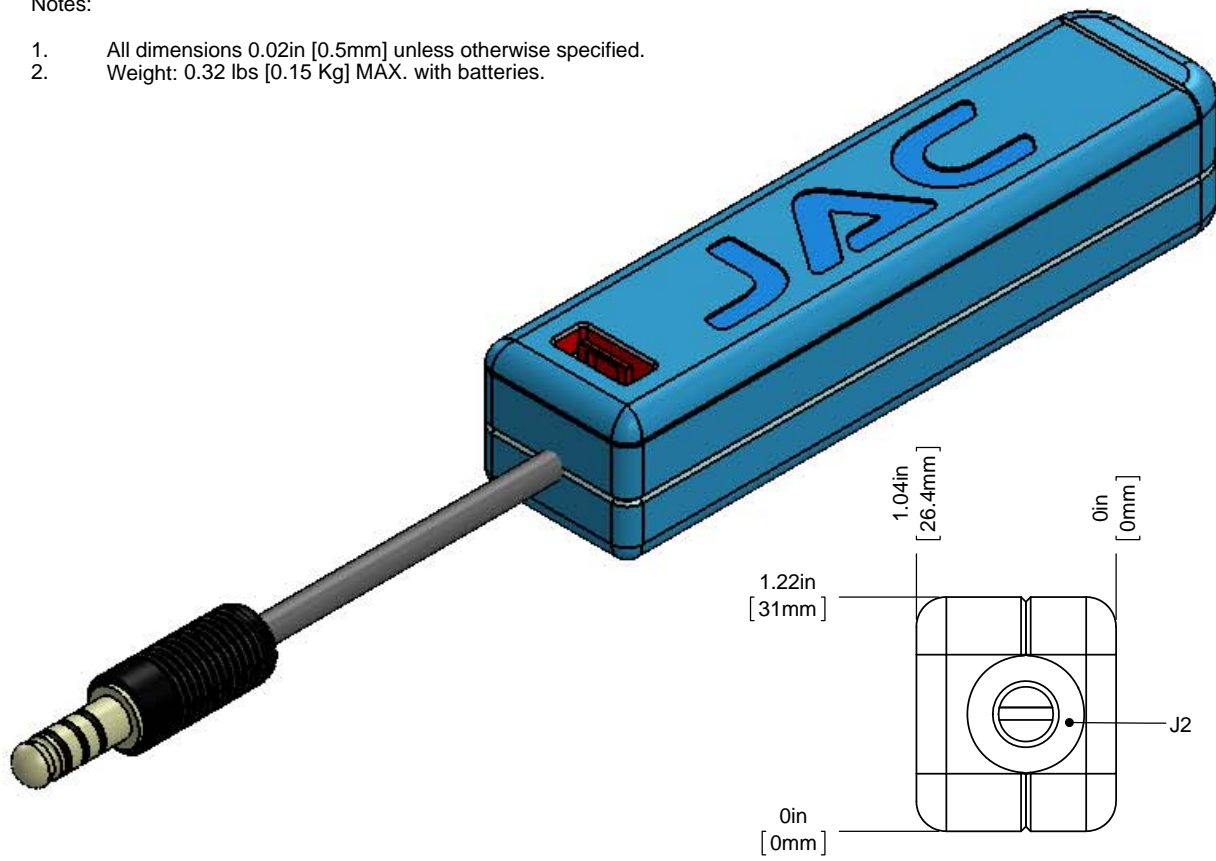
DOCUMENT	Rev
<a href="#">JA44-001 Interconnect</a>	A
<a href="#">JA44-001 Mechanical Installation</a>	A



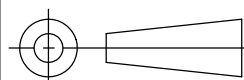
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CHECKED	 TITLE High Impedance Headset to Low Impedance Intercom Adapter			
APPROVED		NCAGE CODE L00N3	PART NO. JA44-001	SHEET 1/1
CONFIDENTIAL & PROPRIETARY TO JUPITER AVIONICS CORP.		DOC NO. JA44-001 Interconnect Rev A.dwg		

Notes:

1. All dimensions 0.02in [0.5mm] unless otherwise specified.
2. Weight: 0.32 lbs [0.15 Kg] MAX. with batteries.



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	TAT
CHECKED	JAC 10-24-18 TAT
APPROVED	JAC 10-24-18 KDV
CONFIDENTIAL & PROPRIETARY TO JUPITER AVIONICS CORP. DRAWING NOT TO SCALE	



**JUPITER AVIONICS**  
CORPORATION

TITLE High Impedance Headset to Low Impedance Intercom Adapter		SHEET 1/1
NCAGE CODE L00N3	PART NO. JA44-001	
DOC. NO. JA44-001 Mechanical installation Rev A.SLDDRW		



# **Installation and Operating Manual**

## **Appendix B - Installation Documents**



## **B1                    Airworthiness Approval**

Airworthiness approval of the JA44-001 may require completion of a TCCA Major Modification Report per CAR STD (AWM) 571 Appendix L, or a FAA Form 337. The sample wording for a description of the work is provided to assist the Installing Agency in preparing Instructions for Continued Airworthiness (ICA) when replacing an existing audio panel with a Jupiter Avionics JA44-001 High Impedance Headset to Low Impedance Intercom Adapter. This sample may be modified appropriately for new installations. It is the installer's responsibility to determine the applicability of the method used. Installations performed outside Canada must follow the applicable aviation authority's regulations.

### **Sample Wording:**

Removed the existing [model] audio panel and replaced with a Jupiter Avionics JA44-001 High Impedance Headset to Low Impedance Intercom Adapter in [aircraft location].

See Section 1 of the JA44-001 Installation Manual.

Installed in accordance with the JA44-001 Installation Manual, Revision [ ], and AC 43.13-2, Chapters 2, and 3.

The JA44-001 interfaces with existing aircraft systems per the Installation Manual instructions.

The JA44-001 Installation Manual provides detailed installation instructions and wiring diagrams (Section 2, and Appendices A and B).

Power is supplied to the JA44-001 through an existing [ ]-Amp circuit breaker that was previously used by the original audio panel. The net electrical load is unchanged.

Aircraft equipment list, weights and balance amended. Compass compensation checked and found to conform to applicable regulations.

## **B2                    Instructions for Continued Airworthiness**

Maintenance of the JA44-001 High Impedance Headset to Low Impedance Intercom Adapter is "on condition" only. Refer to the JA44-001 Maintenance Manual. Periodic maintenance of the JA44-001 is not required.

The following sample Instructions for Continued Airworthiness (ICA) provides assistance in preparing ICA for the Jupiter Avionics JA44-001 unit installation as part of a Type Certificate (TC) or Supplemental Type Certificate (STC) project to comply with CAR STD (AWM) 523/527/525/529.1529 or FAR 23/25/27/29.1529 "Instructions for Continued Airworthiness".

Items that may vary by aircraft make and model are shown in brackets ("[ ]") and should be filled in as appropriate. Some of the checklist items do not apply, in which case they should be marked "N/A" (Not Applicable).

## **Instructions for Continued Airworthiness, Jupiter Avionics JA44-001 High Impedance Headset to Low Impedance Intercom Adapter in an [Aircraft Make and Model]**

### **1. Introduction**

[Aircraft that has been altered: Registration number, Make, Model and Serial Number]

**Content, Scope, Purpose and Arrangement:** This document identifies the Instructions for Continued Airworthiness for a Jupiter Avionics JA44-001 installed in an [aircraft make and model].

**Applicability:** Applies to a Jupiter Avionics JA44-001 installed in an [aircraft make and model].

**Definitions/Abbreviations:** None, N/A.

**Precautions:** None, N/A.

**Units of Measurement:** None, N/A.

**Referenced Publications:** JA44-001 Installation and Operating Manual  
JA44-001 Maintenance Manual  
STC/TC # [applicable STC/TC number for the specific aircraft installation]

**Distribution:** This document should be a permanent aircraft record.





## **2. Description of the System/Alteration**

Jupiter Avionics JA44-001 High Impedance Headset to Low Impedance Intercom Adapter with interface to external transceivers and [include other equipment/systems as appropriate]. Refer to Appendix A of this manual for interconnect information. Refer to aircraft manufacturer approved interconnect for actual installation.

## **3. Control, Operation Information**

Refer to section 3 of this manual.

## **4. Servicing Information**

N/A

## **5. Maintenance Instructions**

Maintenance of the JA44-001 is 'on condition' only. Periodic maintenance is not required. Refer to the JA44-001 Maintenance Manual.

## **6. Troubleshooting Information**

Refer to the JA44-001 Maintenance Manual.

## **7. Removal and Replacement Information**

Refer to Section 2 of this manual - the JA44-001 Installation and Operating Manual. If the unit is removed and reinstalled, a functional check of the equipment should be conducted.

## **8. Diagrams**

Refer to Appendix A of this manual - the JA44-001 Installation and Operating Manual - for installation drawings and interconnect examples.

## **9. Special Inspection Requirements**

N/A

## **10. Application of Protective Treatments**

N/A

## **11. Data: Relative to Structural Fasteners**

JA44-001 and appropriate mounting hardware installation, removal and replacement should be in accordance with applicable provisions of AC 43.13-1B and AC 43.13-2A.

## **12. Special Tools**

N/A

## **13. This Section is for Commuter Category Aircraft Only**

A. **Electrical loads:** Refer to Section 1 of the JA44-001 Installation and Operating Manual.

B. **Methods of balancing flight controls:** N/A.

C. **Identification of primary and secondary structures:** N/A.

D. **Special repair methods applicable to the airplane:** N/A.

## **14. Overhaul Period**

No additional overhaul time limitations.

## **15. Airworthiness Limitation Section**

N/A