



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

## **JA74-001**

### **Dual USB Charging Port**



## **Installation and Operating Manual**

**Rev A**

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Prepared:	Checked:	Approved:
MPB		



## Table of Contents

<b>SECTION 1 - DESCRIPTION .....</b>	<b>1</b>
1.1 System Overview .....	1
1.2 Features Overview .....	1
1.3 Inputs and Outputs .....	1
1.3.1 Inputs .....	1
1.3.2 Bi-Directional Ports .....	1
1.3.3 Output .....	1
1.4 Specifications .....	1
1.4.1 Electrical Specifications .....	1
1.4.2 Mechanical Specifications .....	2
1.4.3 Flammability of Materials .....	2
<b>SECTION 2 – INSTALLATION .....</b>	<b>3</b>
2.1 Introduction .....	3
2.2 Continued Airworthiness .....	3
2.3 Unpacking and Inspecting Equipment .....	3
2.3.1 Warranty .....	3
2.4 Installation Procedures .....	3
2.4.1 Installation Limitations .....	3
2.4.2 Cabling and Wiring .....	3
2.4.3 Mechanical Installation .....	4
2.4.4 Post Installation Checks .....	4
2.5 Installation Kit .....	4
2.5.1 Recommended Crimp tools .....	4
2.6 Installation Drawings .....	4
<b>SECTION 3 – OPERATION .....</b>	<b>5</b>
3.1 Introduction .....	5
3.2 Front Panel Connectors .....	5
3.2.1 USB Power Output 5V/2.1A .....	5
3.2.2 Audio I/O .....	5
3.3 Compatibility .....	5
<b>Appendix A - Installation Drawings .....</b>	<b>A1</b>
A1 Introduction .....	A1
A2 Installation Drawings .....	A1
<b>Appendix B - Installation Documents .....</b>	<b>B1</b>
B1 Airworthiness Approval .....	B2
B2 Instructions for Continued Airworthiness .....	B2

## JA74-001 Dual USB Charging Port

### SECTION 1 - DESCRIPTION

#### 1.1 System Overview

The JA74-001 Dual USB Charging Port allows the aircraft owner /operator to use an unused portion of the instrument panel for charging portable devices such as cell phones.

The JA74-001 includes two USB 2.0 Type A receptacles with a power supply (5 Volt, up to 2.1 Amp per port).

#### 1.2 Features Overview

The JA74-001 is painted in a baked-on flat black urethane finish to resist scratches and nicks during use.

#### 1.3 Inputs and Outputs

Refer to the JA74-001 [connector map](#) for the mating connector designators and pin assignments for the input and output signals.

##### 1.3.1 Inputs

Name	Qty	Type
D+ and D-	4	Charge sense
POWER INPUT	1	+ 28 Vdc power
SPARE	1	Spare

##### 1.3.2 Bi-Directional Ports

Name	Qty	Type
AUDIO LEFT, AUDIO RIGHT	2	Audio I/O connector, audio
RESERVED	1	Audio I/O connector, reserved
AUDIO LEFT, AUDIO RIGHT	2	Main connector, audio
RESERVED	1	Main connector, reserved

##### 1.3.3 Output

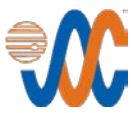
Name	Qty	Type
+5VDC	2	USB power output

#### 1.4 Specifications

##### 1.4.1 Electrical Specifications

###### Power Input

Primary nominal voltage	28.0 Vdc
Maximum voltage	32.2 Vdc
Minimum voltage	22.0 Vdc
Emergency voltage	18.0 Vdc
Power Input - Off	≤ 14 Vdc
Overvoltage	≥ 42 Vdc for ≥ 5 min
Input current at 28 Vdc	≤ 1.5 A



1.4.1.1      +5V Output Performance

Output rated current	2.10 A
Output rated voltage	+5 Vdc $\pm$ 12 %
Output capable of $\geq$ 110 % of rated power for	$\geq$ 2h
Regulation	$\leq$ 12 %
Ripple	$\leq$ 280 mVrms
Short circuit	$\geq$ 1 min
Dielectric strength	Not Applicable

1.4.2      Mechanical Specifications

Height	1.125 in (28.6 mm) max	
Behind panel depth	5.46 in (138.6 mm) max	
Faceplate width	5.75 in (146 mm) max	
Behind panel width	5.00 in (127 mm) max	
Weight	0.91 lbs. (0.41 kg) max	
Material	brushed aluminum with conversion coating	
Connectors (3):	J1 Main J2/3 USB	One 9-pin D-Sub male, V5 locking Two USB Type A Female
Mounting	2 Dzus fasteners	
Bonding	≤ 2.5 mΩ	
Installation kit part number	INST-JA74	

1.4.3      Flammability of Materials

The JA74-001 complies with the requirements of RTCA/DO-160G Sec 26.3.3 "Flammability", through equivalent flammability testing of materials and the Small Parts Exemption.

## **JA74-001 Dual USB Charging Port**

### **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 JA74-001 is on condition only. Scheduled inspection and/or periodic maintenance of this unit are 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 2 years from the date of installation 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.

THIS WARRANTY IS VOID IF THE PRODUCT IS NOT INSTALLED BY AN AUTHORIZED JAC DEALER. 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**



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**CAUTION:** The power input circuitry of the unit may be damaged if the installation does not conform to the wiring instructions in this manual.

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##### **2.4.1 Installation Limitations**

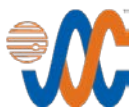
Those installing the JA74, on or in a specific type or class of aircraft, must determine that the aircraft installation conditions meet standards. The JA74 may be installed only by following the applicable airworthiness requirements.

##### **2.4.2 Cabling and Wiring**

All wire 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. Follow the Connector Map in Appendix A of this manual.

Note that this unit has a 'clamshell' hood that is installed after the wiring is complete.

Maintain wire segregation and route wiring in accordance with the original aircraft manufacturer's maintenance instructions.



Unless otherwise noted, all wiring shall be a minimum of 20 AWG. Refer to the Interconnect drawing for additional specifications.

### 2.4.3 Mechanical Installation

The JA74-001 can be mounted in any attitude and location with adequate space for the front panel and sufficient clearance for the connector and wiring harness. It requires no direct cooling.

### 2.4.4 Post Installation Checks

#### 2.4.4.1 Voltage/Resistance checks

Do not attach this unit until the following conditions are met:

- a) Check P1 pin **1** for +28 Vdc relative to ground.
- b) Check P1 pin **6** (power ground) for continuity to ground (less than 0.5  $\Omega$ ).
- c) Check P1 pin **7** (chassis ground) for continuity to ground (less than 0.5  $\Omega$ ).
- d) Check all pins for shorts to ground or adjacent pins.

#### 2.4.4.2 Power on Checks

Power up the aircraft's systems and confirm normal operation of all functions of the JA74. Refer to Section 3 (Operation) for specific operational details.

When all performance checks are satisfied, complete the necessary regulatory documentation before releasing the aircraft for service. Refer to [Appendix B](#).

## 2.5 Installation Kit

The kit required to install this unit is not included with the unit.

The installation kit (Part # INST-JA74) consists of the following:

Quantity	Description	JAC Part #
1	D-Sub 9-pin connector, hood and 9 crimp pins	CON-3420-0009
1	JA74 Assembly Notes, Installation Kit	DOC-INST-JA74

### 2.5.1 Recommended Crimp tools

Standard D-Sub Crimp Tool Chart			
Tool Type	Hand crimping tool	Positioner	Insertion/extractor tool
POSITRONIC	9507-0-0-0	9502-5-0-0	4711-2-0-0
DANIELS	AFM 8	K13-1	91067-2
MIL-SPEC	M22520/2-01	M22520/2-08	M81969/1-02

## 2.6 Installation Drawings

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



## JA74-001 Dual USB Charging Port

### SECTION 3 – OPERATION

#### 3.1 Introduction

This section contains the operating instructions for the JA74-001.

The JA74-001 allows an unused portion of the instrument panel to be utilized for charging phones or other devices.

#### 3.2 Front Panel Connectors

The JA74-001 has two front panel USB Power output connectors.



##### 3.2.1 USB Power Output 5V/2.1A

The Power Outputs are two USB Type A connectors.

These connectors are provided to supply 5 Vdc up to 2.1 Amps each, for charging cell phones and similar devices.



**Note:** These ports are **not** designed to be used for data transfer.

##### 3.2.2 Audio I/O

The Audio I/O jack provides a stereo audio input or output when the interconnect is wired to appropriate audio equipment. It accepts a 3 pole 3.5mm stereo plug with a slim diameter connector housing.

#### 3.3 Compatibility



**CAUTION:** Attempting to connect an incompatible plug or device could damage the JA74, the attached device, or both.

If in doubt regarding compatibility of a specific item, contact Jupiter Avionics ([www.jupiteravionics.com](http://www.jupiteravionics.com)).



# Installation and Operating Manual

## Appendix A - Installation Drawings

### **A1**      **Introduction**

The drawings necessary for installation and troubleshooting of the JA74-001 Dual USB Charging Port are in this Appendix, as listed below.

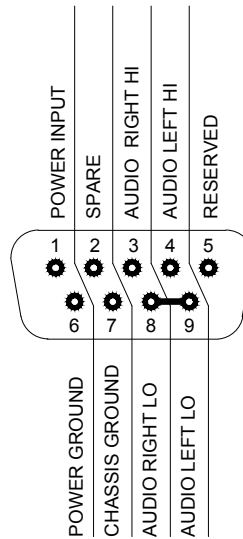
### **A2**      **Installation Drawings**

DOCUMENT	Rev
<a href="#">JA74-001 Connector Map</a>	<a href="#">A</a>
<a href="#">JA74-001 Interconnect</a>	<a href="#">A</a>
<a href="#">JA74-001 Mechanical Installation</a>	<a href="#">A</a>

## Main Connector

**P1**

9 PIN FEMALE DMIN  
MATING CONNECTOR

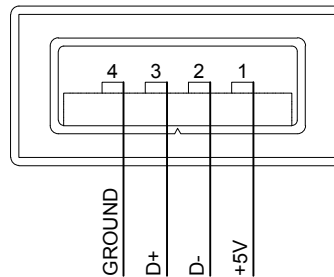


VIEW IS FROM REAR OF MATING CONNECTOR

## USB Connector

**P2 & P3**

USB TYPE A MALE  
MATING CONNECTOR

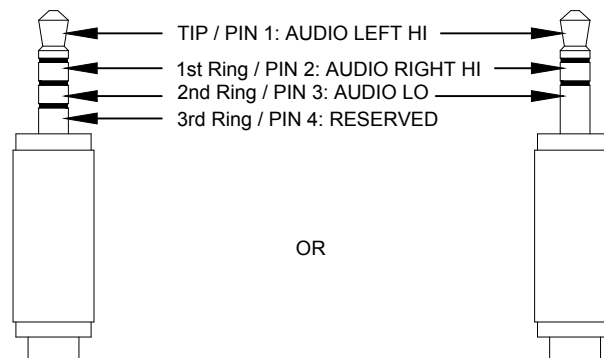


View is from front of mating connector

## Audio I/O Connector




**P4**

3 POLE OR 4 POLE MALE 3.5mm  
MATING CONNECTOR



View is from side of mating connector




View is from side of mating connector

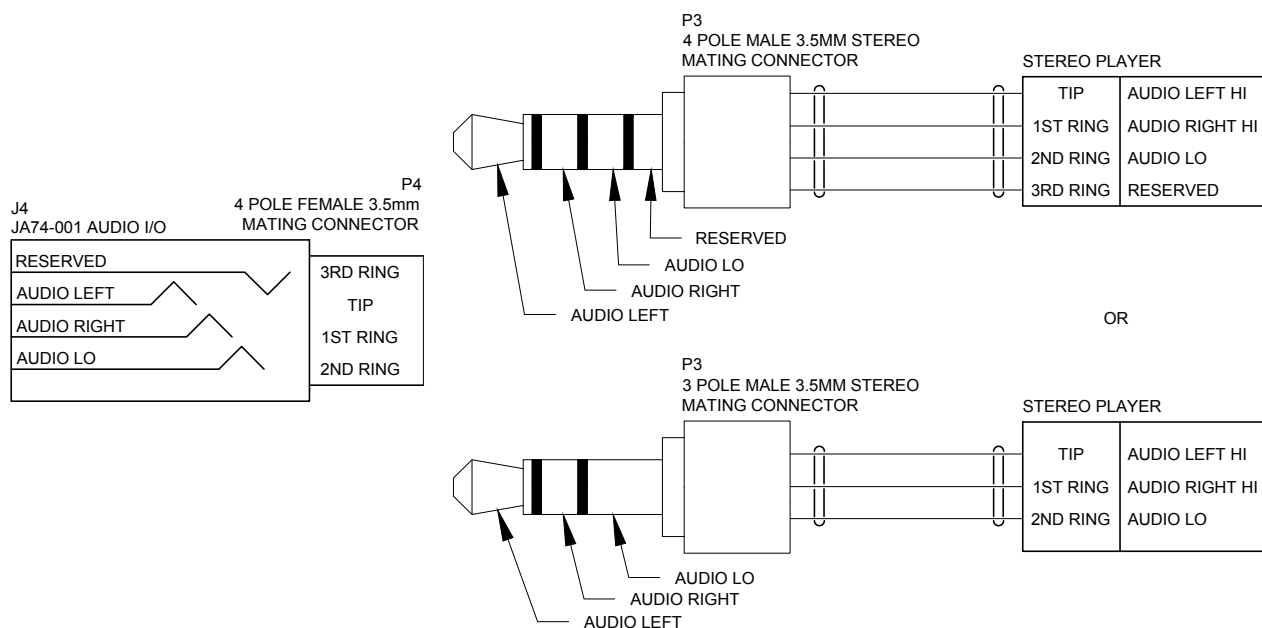
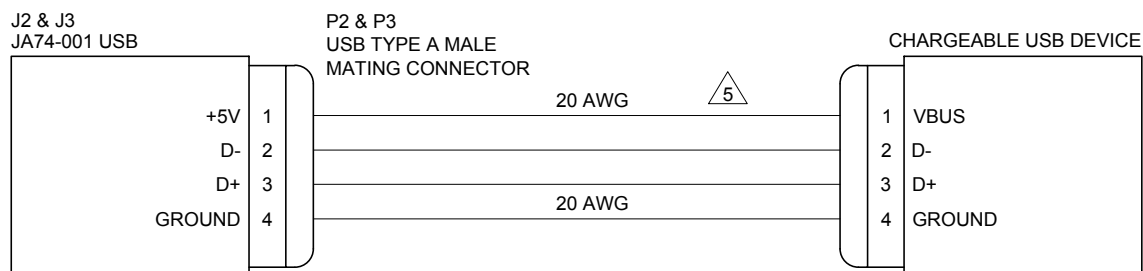
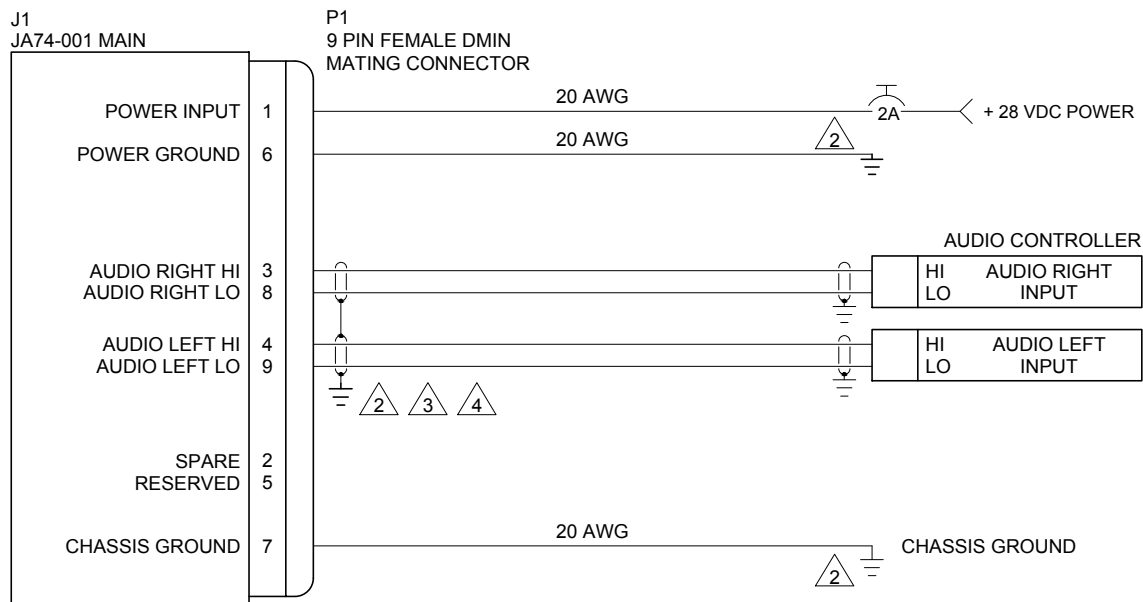
PREPARED	TAT	 <b>JUPITER AVIONICS</b> CORPORATION		
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APPROVED		<b>TITLE</b> Dual USB Charging Port P1, P2, P3 and P4 Connector Map		
CONFIDENTIAL & PROPRIETARY TO JUPITER AVIONICS CORP.		NCAGE CODE L00N3	PART NO. JA74-001	SHEET 1/1
		DOC NO. JA74-001 Connector Map Rev A.dwg		




JA74-001 INTERCONNECT WIRING NOTES

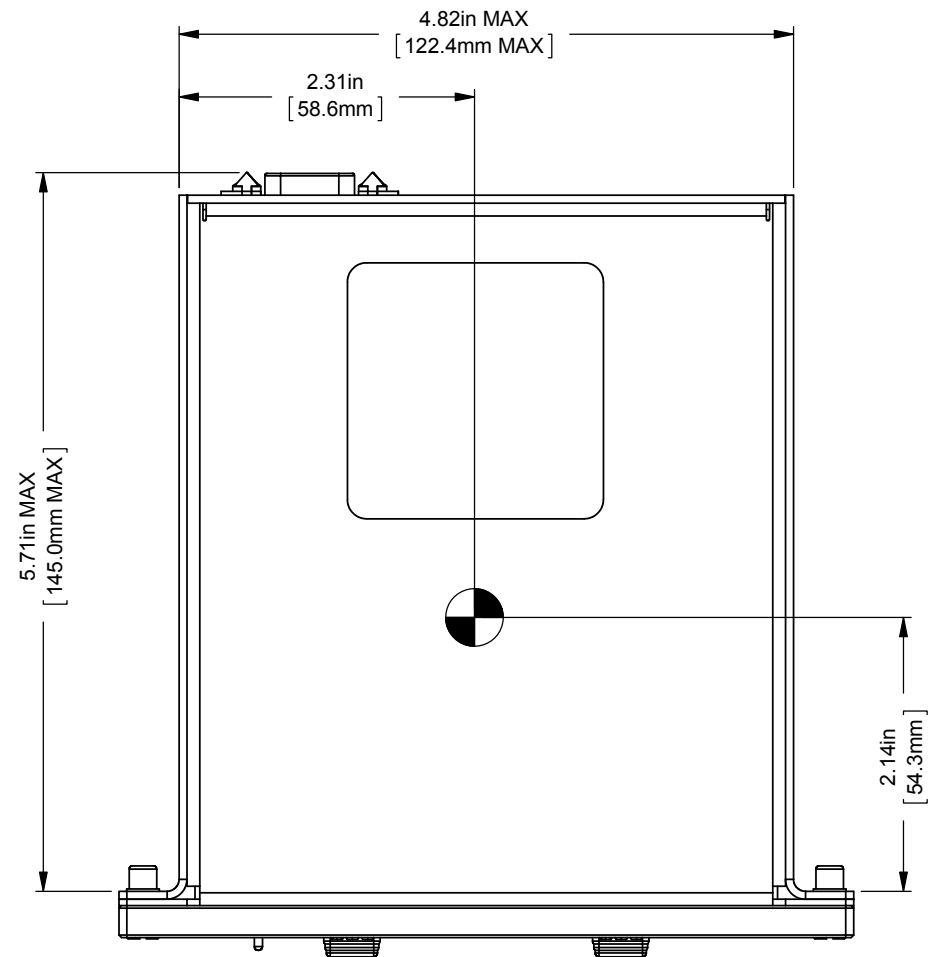
NOTES


1. ALL WIRE SIZE SHOULD BE 24 AWG MIN UNLESS OTHERWISE SPECIFIED. UNSHIELDED WIRE SHOULD BE SELECTED PER FAA AC43.13-1B CHANGE 1 PARA 11-76 TO 11-78. WIRE TYPES SHOULD BE IN ACCORDANCE WITH MIL-W-22759 AS DESCRIBED IN FAA AC43.13-1B CHANGE 1 PARA 11-85 AND 11-86 AND LISTED IN TABLE 11-11 OR 11-12. ALL SHIELDED CABLE SHOULD BE IN ACCORDANCE WITH MIL-DTL-27500 (REVISION H OR LATER).
2. CONNECTION TO AIRFRAME GROUND SHOULD BE MADE WITH 20 AWG WIRE. LENGTH NOT TO EXCEED 3 FT (0.91 M).
3. CABLE SHIELDS AT THE JA74-001 CONNECTOR PINS MAY BE TERMINATED TO AIRFRAME GROUND USING A TAG RING P/N: MS27741-5 OR EQUIVALENT.
4. AUDIO LO's ARE CONNECTED TOGETHER INTERNALLY.
5. CABLE LENGTH NOT TO EXCEED 6 FT (1.82 M).

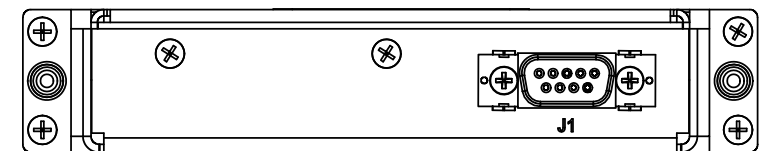
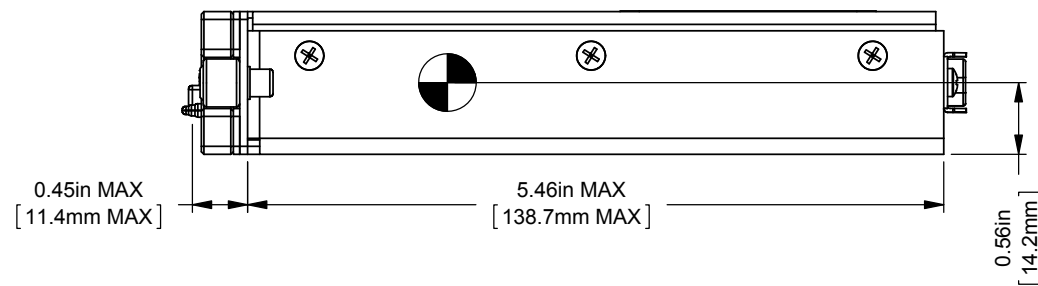
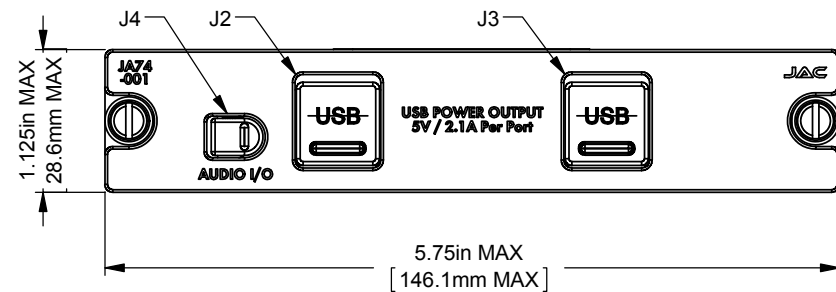
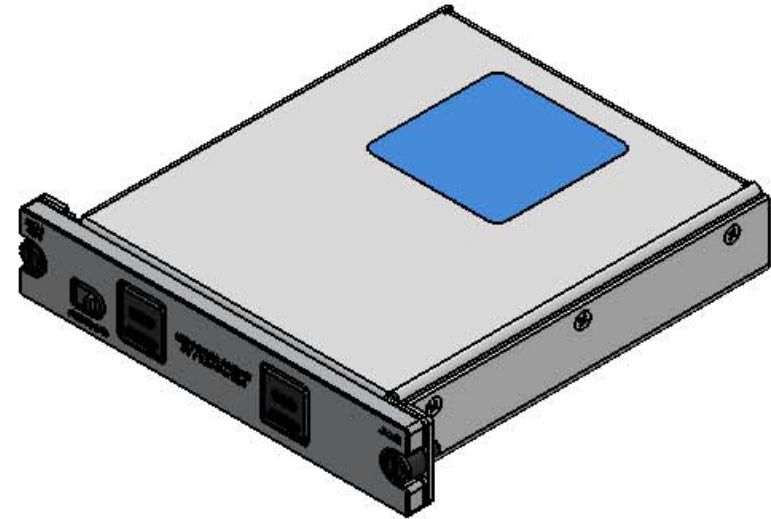
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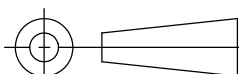





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		DOC NO. JA74-001 Interconnect Rev A.dwg		



 CENTER OF GRAVITY  
±0.03in [0.8mm]  
WEIGHT: 0.91 lbs [0.41 kg] MAX.

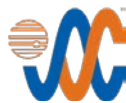


<div>UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES TOLERANCES: 1 DEC PLACE: ± 0.1 2 DEC PLACE: ± 0.01 3 DEC PLACE: ± 0.005 ANGLES: ± 0.5 DEG</div> <div></div>	PREPARED	TAT	<div><div>JUPITER AVIONICS CORPORATION</div></div> <div>TITLE</div> <div>Dual USB Charging Port</div>		
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	APPROVED	<div></div>	NCAGE CODE	PART NO.	SHEET
	MATERIAL: N/A	CONFIDENTIAL & PROPRIETARY TO JUPITER AVIONICS CORP.		L00N3	JA74-001
FINISH: N/A	DRAWING NOT TO SCALE		DOC. NO. JA74-001 Mechanical Installation Rev A.SLDDRW		

# **Installation and Operating Manual**

## **Appendix B - Installation Documents**





## **B1                      Airworthiness Approval**

Airworthiness approval of the JA74-001 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 existing equipment with a Jupiter Avionics JA74-001 Dual USB Charging Port. 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] equipment and replaced with a Jupiter Avionics JA74-001 Dual USB Charging Port in [aircraft location].

See Section 1 of the JA74-001 Installation Manual.

Installed in accordance with the JA74-001 Installation Manual, Revision [ ], and AC 43.13-2, Chapters 2, and 3.

The JA74-001 interfaces with existing aircraft systems per the Installation Manual instructions.

The JA74-001 Installation Manual provides detailed installation instructions and wiring diagrams (Section 2, and Appendices A and B).

Power is supplied to the JA74-001 through a [ ]-Amp circuit breaker.

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 JA74-001 Dual USB Charging Port is "on condition" only. Refer to the JA74-001 Maintenance Manual. Periodic maintenance of the JA74-001 is not required.

The following sample Instructions for Continued Airworthiness (ICA) provides assistance in preparing ICA for the Jupiter Avionics JA74-001 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 JA74-001 Dual USB Charging Port 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 JA74-001 installed in an [aircraft make and model].

**Applicability:** Applies to a Jupiter Avionics JA74-001 installed in an [aircraft make and model].

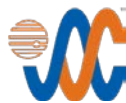
**Definitions/Abbreviations:** None, N/A.

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

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

**Referenced Publications:** JA74-001 Installation and Operating Manual  
JA74-001 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 JA74-001 Dual USB Charging Port with interface to [include 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 JA74-001 is 'on condition' only. Periodic maintenance is not required. Refer to the JA74-001 Maintenance Manual.

## **6. Troubleshooting Information**

Refer to the JA74-001 Maintenance Manual.

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

Refer to Section 2 of this manual - the JA74-001 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 JA74-001 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**

JA74-001 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 JA74-001 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