IMPORTANT:

Information in this document is subject to change without notice.
To confirm the current revision status of this manual, visit the JAC website:

www.jupiteravionics.com

RECORD OF REVISIONS

<table>
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<th>Rev Date</th>
<th>Description</th>
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<tr>
<td>A</td>
<td>Jun 2015</td>
<td>Initial release, Serial number 1001 and higher.</td>
<td>1750</td>
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<tr>
<td>B</td>
<td>Jan 2016</td>
<td>Added bench test set up, new Interconnect.</td>
<td>3664</td>
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Prepared: MPB

Checked: JAC 01-27-16

Approved: JAC 01-27-16
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A1 Introduction

A2 Installation Drawings

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B2 Instructions for Continued Airworthiness
SECTION 1 - DESCRIPTION

1.1 System Overview

The JA94-001 dual audio controller is a centralized management system for two independent users that distributes and controls all transceiver, receiver and warning source audio in an aircraft. It enables the selected transmission of microphone audio to one or more transceivers and distributes all intercom audio. The JA94-001 dual audio controller can be used in a standalone configuration or a star configuration to prevent the loss of the entire system due to the failure of one controller. It provides a passive emergency mode that directs the Right User to the COM1 transceiver and NAV1 receiver, and the Left User to COM2 transceiver and NAV2 receiver.

The JA94-001 is set up on a per-installation basis using a configuration cable and a PC running the product configuration tool to download system configuration settings via the front panel music / configuration connector. To facilitate future customizations and certification, neither software nor complex electronic devices are used in the JA94-001 design.

1.2 Features Overview

The JA94-001 is comprised of four main subassemblies: the upper (receive) subassembly features a 37 pin D-Min connector, which interfaces to the radio receive audio and user phones. The lower (transmit) subassembly features a 50 pin and 15 pin D-Min connectors which interfaces to the power and passenger headset connections. This layout minimizes crosstalk and follows industry standard interconnect for multi-user single channel audio controllers. The middle (microphone) subassembly has microphone and VOX circuitry. The front (faceplate) subassembly contains the removable legend interface. Numerous input and output levels are adjustable and several audio paths are selectable using the configuration tool ProCS™ (Product Configuration Software) to write configuration commands via a configuration cable to the front panel music / configuration connector. The configuration commands set the level of non-volatile digital control potentiometers to control audio signal levels and to non-volatile expander latches which are connected to audio gates to control the audio signal routing.

The JA94-001 may be configured as a drop-in replacement for the Cobham/NAT AA92, AMS42 & AMS44.

The JA94-001 supports up to 6 transceivers, each selectable from two rotary switches.

The JA94-001 supports up to 4 selectable receivers in two banks of 4 switches.

The JA94-001 provides intercom functions for up to 2 users and up to 6 passengers.

The JA94-001 has individual VOX gating for each user and passenger.

The JA94-001 supports two Direct Audio inputs at a fixed level to two users in Normal and Emergency mode.

The Direct audios may be routed to both Left and Right User phones or Direct Audio 2 routed to Right User and Direct Audio 1 to Left User.

The JA94-001 supports a third Direct Audio input in Normal mode only.

The JA94-001 allows the receive audios to be disconnected from the Passenger Phones.

The JA94-001 supports two CVR outputs.

The JA94-001 allows transmit access for five crew members (Right User, Left User, Passenger 1, Passenger2, and Passenger 6). The JA94-001 allows ICS PTT access for all users and passengers.

The JA94-001 features a Music / Configuration connector on the faceplate for configuration of audio levels and routing. The port can also be used as a music input and is compatible with most music players.

The JA94-001 has three modes of operation: Normal Mode, Emergency Mode and ICS Isolate Mode.

The JA94-001 supports radio simulcast.

The JA94-001 supports a remote transmit select input.
1.3 Inputs and Outputs

Refer to the JA94-001 connector maps for the mating connector designators and pin assignments for the input and output signals.

1.3.1 Inputs

<table>
<thead>
<tr>
<th>Name</th>
<th>Qty</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONFIG DATA TO JA94-001</td>
<td>1</td>
<td>Data signal</td>
</tr>
<tr>
<td>MODE SELECT</td>
<td>1</td>
<td>Multi format signal</td>
</tr>
<tr>
<td>DIRECT AUDIO</td>
<td>3</td>
<td>Audio signal</td>
</tr>
<tr>
<td>ICS PTT</td>
<td>8</td>
<td>Control signal</td>
</tr>
<tr>
<td>LIGHTS INPUT</td>
<td>1</td>
<td>Analog control signal</td>
</tr>
<tr>
<td>MIC</td>
<td>8</td>
<td>Audio signal</td>
</tr>
<tr>
<td>MUSIC</td>
<td>4</td>
<td>Audio signal</td>
</tr>
<tr>
<td>POWER INPUT</td>
<td>1</td>
<td>Power supply</td>
</tr>
<tr>
<td>RX HI/LO</td>
<td>10</td>
<td>Audio signal (6 COMs, 4 NAVs)</td>
</tr>
<tr>
<td>TX PTT</td>
<td>5</td>
<td>Control signal</td>
</tr>
<tr>
<td>COM Remote TX Select</td>
<td>6</td>
<td>Control signal</td>
</tr>
<tr>
<td>ICS Isolate Mode</td>
<td>1</td>
<td>Control signal</td>
</tr>
</tbody>
</table>

1.3.2 Outputs

<table>
<thead>
<tr>
<th>Name</th>
<th>Qty</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVR</td>
<td>2</td>
<td>Audio signal</td>
</tr>
<tr>
<td>CONFIG DATA FROM JA94-001</td>
<td>1</td>
<td>Data signal</td>
</tr>
<tr>
<td>Headphones</td>
<td>8</td>
<td>Audio signal (Note: 7 outputs for driving 8 phones)</td>
</tr>
<tr>
<td>Transceiver MIC</td>
<td>6</td>
<td>Audio signal</td>
</tr>
<tr>
<td>Transmit PTT</td>
<td>6</td>
<td>Active low discrete</td>
</tr>
<tr>
<td>RX COMP OUT</td>
<td>2</td>
<td>Audio signal</td>
</tr>
</tbody>
</table>

1.3.3 Bi-directional Ports

<table>
<thead>
<tr>
<th>Name</th>
<th>Qty</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICS TIE</td>
<td>1</td>
<td>Audio signal</td>
</tr>
</tbody>
</table>
1.4 Specifications

1.4.1 Electrical Specifications

Power Input

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary nominal voltage</td>
<td>28 Vdc</td>
</tr>
<tr>
<td>Maximum voltage</td>
<td>32.2 Vdc</td>
</tr>
<tr>
<td>Minimum voltage</td>
<td>22.0 Vdc</td>
</tr>
<tr>
<td>Emergency voltage</td>
<td>18.0 Vdc</td>
</tr>
<tr>
<td>Power Off Voltage</td>
<td>≤ 15.0 Vdc</td>
</tr>
<tr>
<td>Input current</td>
<td>0.95 A max</td>
</tr>
</tbody>
</table>

1.4.1.1 Audio Performance

Rated Input Level

<table>
<thead>
<tr>
<th>Level Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receive audio rated input level</td>
<td>7.75 Vrms ± 10%</td>
</tr>
<tr>
<td>Direct audio rated input level</td>
<td>7.75 Vrms ± 10%</td>
</tr>
<tr>
<td>Music rated input level</td>
<td>400 mVrms ± 10%</td>
</tr>
<tr>
<td>Microphone input level</td>
<td>250 mVrms ± 10%</td>
</tr>
<tr>
<td>Intercom Tie Line type 1 input level</td>
<td>340 mVrms ± 10%</td>
</tr>
<tr>
<td>Intercom Tie Line type 2 input level</td>
<td>1.20 Vrms ± 10%</td>
</tr>
</tbody>
</table>

Rated Output Level

<table>
<thead>
<tr>
<th>Level Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phone rated output</td>
<td>12.3 Vrms ± 10% (250 mW into 600 Ω)</td>
</tr>
<tr>
<td>Left or Right User Phone rated output</td>
<td>2.10 Vrms ± 20%</td>
</tr>
<tr>
<td>Phone rated output, with MUSIC input</td>
<td>6.14 Vrms ± 10%</td>
</tr>
<tr>
<td>COM MIC rated output</td>
<td>250 mVrms ± 10%</td>
</tr>
<tr>
<td>CVR rated output</td>
<td>500 mVrms ± 10%</td>
</tr>
<tr>
<td>CVR rated output with MUSIC INPUT</td>
<td>250 mVrms ± 10%</td>
</tr>
<tr>
<td>CVR rated output with MIC INPUT</td>
<td>1.00 Vrms ± 10%</td>
</tr>
<tr>
<td>CVR rated output, in emergency mode</td>
<td>500 mVrms ± 10%</td>
</tr>
<tr>
<td>Receive Composite rated output</td>
<td>2.50 Vrms ± 10%</td>
</tr>
<tr>
<td>Intercom Tie Line type 1 rated output</td>
<td>340 mVrms ± 10%</td>
</tr>
<tr>
<td>Intercom Tie Line type 2 rated output</td>
<td>1.20 Vrms ± 10%</td>
</tr>
</tbody>
</table>

Audio Frequency Response

| Audio output audio frequency response  | ≤ 3 dB from 300 to 6000 Hz |

Distortion Characteristics

| Audio output distortion at rated power | ≤ 10% |

Input Impedance

<table>
<thead>
<tr>
<th>Impedance Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microphone input Impedance</td>
<td>150 Ω ± 10%</td>
</tr>
<tr>
<td>Direct Audio input Impedance</td>
<td>1000 Ω ± 10%</td>
</tr>
<tr>
<td>Receive Audio input Impedance</td>
<td>1000 Ω ± 10%</td>
</tr>
<tr>
<td>Music Audio input Impedance</td>
<td>1000 Ω ± 10%</td>
</tr>
<tr>
<td>Intercom Tie Line Audio input Impedance</td>
<td>2000 Ω ± 10%</td>
</tr>
</tbody>
</table>

Output Load

<table>
<thead>
<tr>
<th>Load Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phone load</td>
<td>600 Ω ± 10%</td>
</tr>
<tr>
<td>Transceiver Microphone load</td>
<td>150 Ω ± 10%</td>
</tr>
<tr>
<td>CVR load</td>
<td>5000 Ω ± 10%</td>
</tr>
</tbody>
</table>
Receive Composite Audio load 600 Ω ± 10%
Intercom Tie Line type 1 rated load 2000 Ω ± 10%
Intercom Tie Line type 2 rated load 2000 Ω ± 10%
Intercom Tie Line type 1 maximum load 666 Ω max (3 loads)
Intercom Tie Line type 2 maximum load 285 Ω max (7 loads)

**Volume Controls**

Receive Audio control variation 32 ± 3 dB min
ICS Audio control variation 42 ± 3 dB min

**Crosstalk Level**

Input to Output crosstalk ≤ 55 dB
Input to Input crosstalk ≤ 60 dB
Station to Station crosstalk ≤ 65 dB

**Audio Noise Level without Signal**

Noise level below the rated output ≥60 dB

### 1.4.1.2 Audio Performance, Other

- CVR HI / LO output circuitry type (Normal) differential
- CVR HI / LO output circuitry type (Emergency) single ended
- Microphone inputs designed for MIC type amplified dynamic/electret
- Microphone inputs bias voltage 12 Vdc ± 10%
- Microphone inputs circuitry type single ended
- MUSIC LEFT / RIGHT HI / LO audio input circuitry type differential
- FRONT MUSIC LEFT / RIGHT audio input circuitry type: single ended
- MUSIC attenuation 38 dB max
- RECEIVE AUDIO input circuitry type differential
- PHN HI / LO output circuitry type single ended
- MIC output circuitry type differential
- RX Composite Audio output circuitry type differential
- ICS TIE HI / LO Circuitry Type differential
- PHN HI / LO output music fade in duration 2.5 ± 1.0 seconds
- VOX Threshold level range relative to rated MIC input -28 to +6 dB
- VOX off Delay Time range 0.5 to 2.0 seconds
- Transmit Timeout Timer 90 ± 10 seconds

### 1.4.1.2 Lights Input

- LIGHTS INPUT ranges 0 to 28, 0 to 14 and 0 to 5 Vdc
- LIGHTS INPUT current 10 mA max.
### 1.4.2 Mechanical Specifications

- **Height**: 1.875 in [47.63 mm] max
- **Behind panel depth**: 5.48 in [139.2 mm] max
- **Faceplate width**: 5.75 in [146.1 mm] max
- **Behind panel width**: 5.00 in [127 mm] max
- **Weight**: 1.99 lbs. [0.91 kg] max
- **Material**: brushed aluminum with conversion coating
- **Connectors**:
  - J1: One 37-pin D-Sub male, V5 locking
  - J2: One 50-pin D-Sub male, V5 locking
  - J3: One 15-pin D-Sub male, V5 locking
  - J4: One 4 pole 3.5mm stereo jack
  - J5: One 4-40, 0.5 in. max
- **Mounting**: 4 Dzus fasteners
- **Bonding**: \( \leq 2.5 \text{ m}\Omega \)
- **Installation kit part number**: INST-JA94

### 1.4.3 Flammability of Materials

The JA94-001 complies with the requirements of RTCA/DO-160G Sec 26.3.3 "Flammability", through equivalent flammability testing of materials and the Small Parts Exemption.
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 JA94-001 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

2.3.1 Warranty

All products manufactured by JAC are 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

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

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

2.4.1 Installation Limitations

Those installing the JA94, on or in a specific type or class of aircraft, must determine that the aircraft installation conditions. The JA94-001 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. 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.
Allow 3” from the end of the shielded wiring to the shield termination to allow the connector hood to be easily installed. Refer to the Interconnect drawing in Appendix A of this manual for shield termination details. 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.

Refer to the Interconnect drawing for additional specifications. Check that the ground connection is clean and well secured, and that it shares no path with any electrically noisy aircraft accessories such as blowers, turn-and-bank instruments, or similar loads.

2.4.3 Mechanical Installation

The JA94-001 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.

**Note:** During bench test set up, it is normal for the JA94-001 chassis to become warm to the touch.

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 Legend Replacement

The JA94-001 illuminated legends are field replaceable. For further information, refer to the ‘Legend Replacement’ document in Appendix A of this manual.

2.4.6 Post Installation Checks

2.4.6.1 Voltage/Resistance checks.

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

a) Check P1 pin 19 for lights buss voltage +28 Vdc +14 Vdc or +5 Vdc.

b) Check P2 pin 17 for +28 Vdc power relative to ground.

c) Check P2 pin 34 for continuity to ground (less than 0.5 Ω).

d) Check P2 pins 6 thru 10 for continuity to ground (less than 0.5 Ω) when the relevant switch is closed.

e) Check P3 all pins for continuity to ground (less than 0.5 Ω) when the relevant switch is closed or selection made.

f) Check all pins for shorts to ground or adjacent pins.

2.4.6.2 Configuration

Ensure that the JA94-001 contains the correct configuration settings. This may be done at the factory, on the maintenance bench or in the aircraft before or during the power on checks. Refer to section 2.5.1.

2.4.6.3 Power on Checks.

Power up the aircraft’s systems and confirm normal operation of all functions of the JA94. Refer to Section 3 (Operation) for specific operational details.

a) Begin with only the Right user headset attached. Confirm correct ICS and radio operation for both receive and transmit. Check yoke or cyclic switch action. Check the radio selection and inputs. Do not proceed until the radios are functioning correctly.

b) If there is a music source in the system, turn it on and check for proper mute operation.
c) 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. If a transmitter fails to key or correctly modulate it is often the result of not connecting all required grounds to the radio or external audio system.

d) Check the ICS operation and Emergency operation.

e) Plug in the Left user headset. Check for correct ICS operation. Check yoke or cyclic switch functions.

f) Plug in any remaining headsets, and check for correct ICS operation. Note that an incorrect cordset (drop cord) or improper jack wiring may cause a wide range of problems, from loss of audio to a tone heard in the headset.

g) Check that all configurations settings are correct.

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

2.5 Adjustments and Configuration using ProCS™

All the JA94-001 internal adjustments are set from the Product Configuration Software ProCS™. Configuration data is sent to the JA94-001 via the front panel connector (I/O), using the Configuration Cables and a computer running the ProCS™ software. For configuration requirements, see section 2.5.1.

For full information on the configuration process, and for installation of ProCS™ on your computer, refer to the ProCS™ manual on the Jupiter Avionics website - www.jupiteravionics.com/productsoftware.

2.5.1 Configuration Cabling Requirements

To configure the JA94-001, it is necessary to load the Product Configuration Software ProCS™ onto a Windows-based computer as described in the ProCS™ manual.

The cables required to configure the JA94-001 are not included with the unit.

Cabling option 1:

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Description</th>
<th>JAC Part #</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>USB A to RS232 9-Pin Cable</td>
<td>CAB-USB-0002</td>
</tr>
<tr>
<td>1</td>
<td>Configuration Cable</td>
<td>JA99-001</td>
</tr>
</tbody>
</table>

Cabling option 2:

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Description</th>
<th>JAC Part #</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>USB A Male to RS232 3.5mm Plug</td>
<td>CAB-USB-0006</td>
</tr>
</tbody>
</table>

2.5.2 ProCS™ Setup

The ProCS™ JA94-001 menu item 'ProCS Setup' provides Setup drawings showing the cabling arrangement for connecting the JA94-001 to a computer running the ProCS™.

2.5.3 Configurable Settings

A standard unit is shipped from the factory with all internal adjustments configured to the default levels. At installation, it may be desirable to change some of these settings to suit the local operating environment.

**Note:** To properly configure the JA94-001, power must be applied, and the left TX Select switch must be in the COM1 to COM6 position.

Within ProCS™, the configurable settings are grouped together into the following sections:
2.5.3.1 Front Panel Switches

The Front Panel Switches window is used to specify the text for each legend.

**Note:** If the name of a front panel switch is changed using this software, the change will be incorporated in every other section that refers to that switch name, including the connector maps, to give truly customized installation diagrams.

2.5.3.2 Radios

The Radios window is used to define the radios for the transceivers, receivers and CVR.
2.5.3.3 Receive Levels

The receive and direct audio input level of each of the eight RX and the three DIRECT AUDIO inputs can be adjusted from 1 to 10 Vrms. (Default 7.75 Vrms)

The level of the receive composite audio output (RX COMP OUT) can be adjusted from 0.25 to 2.5 Vrms. (Default 1.00 Vrms)

The Receive Audio Detector threshold can be adjusted from -36 to -12 dB of rated input level. (Default -24 dB)

The DIRECT3 line allows DIRECT3 audio to be routed to the left and/or right users.
- DIRECT 3 Enabled for LEFT User
- DIRECT 3 Enabled for RIGHT User

Note: The Receive Composite pin is configured on the Connector Pin Configuration page.
2.5.3.4 Transmit Levels

When the Transmit Timeout check box is checked the transmit time-out is enabled (Default not checked)

When the COM5 Duplex check box is checked the COM5 (FM2) radio is set to duplex operation (Default not checked) (see section 3.3.4)

2.5.3.5 Simulcast Selection

When a User's COM6 Simulcast Enable button is checked, the COM1 through COM5 radios may be selected for simulcast (active together).

(Note: if Simulcast is enabled for a user, the JA94 Transmit Selector must be in the COM6 position to start a Simulcast.)
2.5.3.6 Sidetone Levels

The Receive Sidetone Level can be adjusted from 0 to -12 dB of the rated phone Level. (Default -6 dB)

<table>
<thead>
<tr>
<th>Sidetone Levels</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEFT USER COM1</td>
<td>0 dB</td>
<td>PhN output:</td>
</tr>
<tr>
<td>RIGHT USER COM1</td>
<td>0 dB</td>
<td>PhN output:</td>
</tr>
<tr>
<td>COM6 Artificial</td>
<td>0 dB</td>
<td>Level on PhN output:</td>
</tr>
</tbody>
</table>

The level of the COM6 Artificial Sidetone can be adjusted from 0 to -12 dB of the rated phone Level. (Default -6 dB)

2.5.3.7 Passenger Settings

This window is used to assign the passengers to either the RIGHT USER or LEFT USER controls. By checking the box, passengers will hear the assigned user's Receive Audio.

2.5.3.8 Connector Pin Configuration

Several of the connector pins can be configured to meet the requirements of specific installations. Refer to JA94-001 Interconnect sheet 5 of 6. Direct Audio routing can also be selected in this section.

ICS Isolation Mode can be selected for the Right User, Left User or Crew (both users).
2.5.3.9 Audio Muting (During Transmit)

When the Mute RX Audio check box is checked the Receive Audio is muted during transmit (Default checked)

When the Mute ICS Audio check box is checked the ICS Audio is muted during transmit (Default checked)

The Mute Music Audio check box is always checked (i.e. Mute Music Audio is always enabled.)

2.5.2.10 CVR Level

The output levels of the Cockpit Voice Recorder audio may be adjusted as shown.
2.5.3.11 **Music Levels**

![Diagram of Music Levels](image)

LEFT USER, RIGHT USER and Music Input Levels may be individually adjusted.

2.5.3.12 **ICS Tie Line**

![Diagram of ICS Tie Line](image)

The rated input and output levels of the intercom tie line can be selected as Type 1 or Type 2 (Default Type 2).

The quantity of external loads for a type 1 intercom tie line can be selected from 0 to 3 (Default 0).

The quantity of external loads for a type 2 intercom tie line can be selected from 0 to 7 (Default 0).

2.5.3.13 **Lighting Voltage Selection**

![Diagram of Lighting Voltage](image)

The rated input level for the lighting voltage may be selected from +5 Vdc, +14 Vdc or +28 Vdc (Default +28 Vdc).
2.5.3.14 **VOX**

The VOX OFF Delay Time can be adjusted from 0.50 to 2.00 sec (*Default 1 sec*).

2.5.3.15 **Connector Maps**

This section contains connector maps and interconnects that are automatically generated to show changes that affect the installation of the JA95-N32, such as switch labels and voltages. See section 2.7.1.

2.5.4 **Other Configuration Features**

In the JA94-001 Product Information Window, the model number, serial number and check sum of the JA94-001 audio panel can be viewed.

2.6 **Installation Kit**

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

The installation kit (Part # INST-JA94) consists of the following:

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Description</th>
<th>JAC Part #</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>15 Socket Positions, Zinc Plated, D-Subminiature - Crimp Socket Housing</td>
<td>CON-3460-0115</td>
</tr>
<tr>
<td>1</td>
<td>37 Socket Positions, Zinc Plated, D-Subminiature - Crimp Socket Housing</td>
<td>CON-3460-0137</td>
</tr>
<tr>
<td>1</td>
<td>50 Socket Positions, Zinc Plated, D-Subminiature - Crimp Socket Housing</td>
<td>CON-3460-0150</td>
</tr>
<tr>
<td>1</td>
<td>15 Pin Clamshell, Hardware - Plastic D-Sub Hoods</td>
<td>CON-5300-0115</td>
</tr>
<tr>
<td>1</td>
<td>37 Pin Clamshell, Hardware - Plastic D-Sub Hoods</td>
<td>CON-5300-0137</td>
</tr>
<tr>
<td>1</td>
<td>50 Pin Clamshell, Hardware - Plastic D-Sub Hoods</td>
<td>CON-5300-0150</td>
</tr>
<tr>
<td>102</td>
<td>Machined 20 to 24 AWG wire size range, MIL spec, D-Submini - Crimp Socket</td>
<td>CON-3320-2024</td>
</tr>
<tr>
<td>3</td>
<td>For Any D-sub Connector, Hardware - Slide Locks - Vertical</td>
<td>CON-5275-0050</td>
</tr>
<tr>
<td>2</td>
<td>0.625&quot; Inside Diameter, Hardware - Tag Ring</td>
<td>CON-5500-0625</td>
</tr>
<tr>
<td>2</td>
<td>1&quot; Inside Diameter, Heat Shrink Tube</td>
<td>WIR-HTSK-1000</td>
</tr>
</tbody>
</table>

2.6.1 **Recommended Crimp tools**

<table>
<thead>
<tr>
<th>Tool Type</th>
<th>Hand crimp tool</th>
<th>Positioner</th>
<th>Insertion/extraction tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positronic</td>
<td>9507-0-0-0</td>
<td>9502-5-0-0</td>
<td>4711-2-0-0</td>
</tr>
<tr>
<td>Daniels</td>
<td>AFM8</td>
<td>K13-1</td>
<td>91067-2</td>
</tr>
<tr>
<td>MIL-SPEC</td>
<td>M22520/2-01</td>
<td>M22520/2-08</td>
<td>M81969/1-02</td>
</tr>
</tbody>
</table>

2.7 **Installation Drawings**

The drawings and documents required for Installation can be found in Appendix A of this manual.

2.7.1 **Generation of Custom Drawings**

The interconnects and connector maps in Appendix A of this manual are generic drawings based on the standard version of the JA94-001. However, if a unit has been configured using JAC’s ProCS™ software to change switch legends or lighting voltages, the software can be used to generate fully customized interconnects and connector maps for use by the installer.
SECTION 3 – OPERATION

3.1 Introduction

This section contains the operating instructions for the JA94-001.

3.2 Front Panel Controls

Note: The 21 legends and 2 deadfront annunciators are removable and may be replaced with custom ordered parts. For the purpose of this manual the controls will be referred to by the default legend and annunciator names as shown below.

1. Left User Receive select switches, TX select annunciators and associated legends
2. Right User Receive select switches, TX select annunciators and associated legends
3. Left and Right User COM5/COM6 receive select switches, TX select annunciators and associated legends
4. VOX threshold control
5. Left User Transmit Selector Switch and Emergency Switch
6. EMER (Emergency) Legend
7. Left User ICS/RX Volume control and legend
8. Right User Transmit Selector Switch
9. Music/configuration input connector cover (\io)
10. Left User ICS/RX Volume control and legend
11. Left User Transmit Deadfront Annunciator
12. Right User Transmit Deadfront Annunciator
(1) NAV1- COM4 Receive Select Switches and Legends

Each User has four white two-position centre-off toggle switches for the NAV1/COM1 to NAV4/COM4 receivers/transceivers. When a left or right switch is set to the 'up' position, audio from the receiver associated with the legend above the switch is routed to the phones of that side's user (and passengers if configured.) In the 'down' position, audio from the transceiver associated with the legend below the switch is routed to the phones of that side's user (and passengers if configured.)

The backlit legends are interchangeable to allow customization. The default legends are NAV1, NAV2, NAV3 and NAV4 above the switches, and COM1, COM2, COM3 and COM4 below the switches.

(2) COM5/COM6 Receive Select Switches and Legends

The COM5/COM6 switches are two white two-position centre-off toggle switches. The left-hand switch is associated with the Left User, and the right-hand switch is for the Right User.

To select COM5, the appropriate switch is set to the 'up' position, and for COM6 it is in the 'down' position. Audio from the associated receiver is routed to the phones of that side’s user (and passengers if configured).

The backlit legends are interchangeable to allow customization. The default legends are COM5 above the switches and COM6 below the switches.

(3) VOX Threshold Control

The VOX Threshold Control is an unlit rotary knob in the centre top of the panel that is used to set the VOX threshold level of the unit for all users and passengers.

When rotated fully clockwise (cw), the threshold will be at maximum, VOX ICS operation is disabled and ICS PTT input is required for ICS operation.

When rotated fully counterclockwise (ccw), the threshold will be at minimum (almost live).

To adjust the unit for VOX (Voice activated) use, the VOX control should be set fully ccw and then slowly rotated cw to the point where no intercom audio can be heard. The VOX control may require adjustment for proper operation as ambient noise changes.
The **Right User** TX selector is an unlit rotary seven-position knob that is used to select transmission for one of the six transceivers, or the RMT (remote) position. Below the knob is a 'TX' deadfront annunciator (12) which will illuminate during transmission. For Remote operation, refer to section 3.3.11.

Each of the transmit selector positions is linked by a white line to the corresponding transceiver switch and legend, and each transceiver has a transmit select annunciator pointing to the associated switch or legend. The appropriate annunciator will light green to show which transceiver is selected for transmit (right user COM6 in the example above).

The **Left User** TX selector is an unlit rotary seven-position knob that operates in the same manner as the Right User selector, except that position 7, marked PULL TO TURN (extreme ccw) is used to select Emergency (EMER) mode.

Below the knob is a 'TX' deadfront annunciator (11) which will illuminate during transmission.

For full information on Emergency mode see section 3.4.

---

**Note**: To prevent accidental selection of Emergency mode, the knob must be pulled towards the user before it can be rotated to the EMER position.

---

The backlit EMER (Emergency) legend is associated with the Left User TX control only. For full information on Emergency mode see section 3.4.
RX/ICS Volume control and legend

These are two unlit dual rotary knobs that adjust the receive (RX) volume (the smaller, top knob marked RX) and the ICS volume (the larger, bottom knob).

Each user can adjust the volumes individually. Rotating the knobs clockwise (cw) will increase the volume, and counterclockwise (ccw) will reduce it.

Individual radio volume controls should be set to a nominal level, and then adjusted for changing flight conditions using this control.

Legend

Music/Configuration Connector cover (♫/io)

This cover is located between the Right User RX/ICS and TX controls. It protects a music input port compatible with most music players, and accepts a 3 pole 3.5mm stereo plug with a slim diameter connector housing.

(This connector is also used during installation to change configuration settings.)

CAUTION: If an unapproved connector or cable is used, damage to the unit or to any attached device may occur. If in doubt, contact JAC for a list of approved cables, music sources and devices.

3.3 Normal Operation Mode

The JA94-001 is in Normal mode unless EMER mode has been selected via the Left User TX control, or if the power input is off.

Note: Numbers in parentheses refer to the front panel controls shown in section 3.2.

3.3.1 Panel Lighting

The legends and annunciators will be illuminated (when appropriate) and dim through the aircraft lighting buss.

3.3.2 Receiving

When the JA94-001 receives an incoming transmission on a transceiver or receiver that has been selected, either by the white transceiver receive switches (1) (2) or (3) or a transmit selector (5) or (8), the incoming audio will be directed to the user's phones.

The audio level of any incoming transmission will depend upon the level selected by the user's front panel RX volume control – (7) or (10). It will be muted if the unit is transmitting and muting of receive audio during transmit is enabled.

ProCS™ can be configured to route no receive audio, Right User receive audio, or Left User receive audio to passengers.
3.3.3 Transmitting (Transmit Operation)

To select a transceiver, rotate the Transmit Select Switch (5) or (8) until it aligns with the line leading to the Transceiver Select switch legend (1) (2) or (3) - default legends COM1, COM2, COM3, COM4, COM5 or COM6. The corresponding Transmit Select annunciator will illuminate green.

When the user’s TX PTT is activated, the unit will transmit on the selected transceiver, and the deadfront Transmit Annunciator will illuminate ‘TX’. All MIC and sidetone audio will be routed to the user’s phones, and any music (and RX and/or ICS audio if selected by ProCS™) will be muted for the duration of the transmission.

Passengers 1, 2 and 6 (designated at installation) will transmit on the radio selected by either the Right User or Left User, as configured by ProCS™.

3.3.3.1 Simulcast Operation

**Note:** It is important to be aware of the Simulcast configuration of the aircraft.

The ProCS™ configuration program allows the selection of Simulcast Mode. This can be for the left user or the right user or both, and for each user the simulcast radio selections can be selected separately.

If simulcast has been enabled via ProCS™ and the user’s Transmit Selector Switch is set to COM 6 (simulcast position), the user will transmit on multiple radios as configured by ProCS™.

3.3.3.2 Transmit Timeout Operation

**Note:** It is important to be aware of the Transmit Timeout configuration of the aircraft.

The ProCS™ configuration program allows the selection of Transmit Timeout. If selected, transmissions will timeout after 90 seconds.

3.3.3.3 COM5 PTT Operation

**Note:** If the COM5 transceiver has been configured as duplex, it can be used with a cellphone or sat-phone. Check your configuration with the installing agency.

If the unit has been configured for cellphone or sat-phone use and COM5 has been selected for transmit, momentarily activating the TX PTT (either from the faceplate or by some other method) will keep COM5 transmitting. A second momentary activation of the TX PTT, or moving the Transmit Selector away from COM5, will stop COM5 from transmitting.

3.3.4 VOX Operation

A user’s MIC audio is routed to the ICS when the MIC audio level exceeds the VOX threshold (3).

A user’s MIC audio is disconnected from the ICS when the MIC audio level falls below the VOX threshold for 0.5 to 2 seconds.

3.3.5 ICS Operation

ICS audio is the sum of all the MIC audio from users with ICS KEY active or with MIC audio level exceeding the VOX Threshold level.

The ICS audio also includes the audio input on the ICS TIE from other audio controllers.

The ICS audio is output on the phones of each user.

The ICS audio is muted during transmit as configured by ProCS™.

The ICS audio level at the phones is controlled by the ICS volume control (7) or (10).

**Note:** If Legacy Passenger ICS Mode has been selected via ProCS™ for compatibility with a previously installed unit, the passenger microphones are always open when the VOX control is set to PTT and should be controlled by in-line PTT drop-cords.
3.3.6 ICS Isolation Operation

**Note:** It is important to be aware of the ICS Isolation configuration of the aircraft.

When the external control signal ICS ISOLATE is active: the LEFT or RIGHT User, as configured by ProCS™, are isolated from the ICS signal of the passengers and the other User; when configured as both the LEFT and RIGHT user, the LEFT and RIGHT Users will be connected to each other via an ICS but are isolated from the Passengers ICS.

In Isolate Mode, the selected user's MIC audio input is disconnected from the ICS TIE output, the user's phones are disconnected from the ICS TIE input circuit, and the music to the user's PHN output will be muted.

3.3.7 Direct Audio Operation

DIRECT AUDIO 1 and, when configured by ProCS™, the DIRECT AUDIO 2 & 3, are routed to the LEFT USER Phones.

DIRECT AUDIO 2 and, when configured by ProCS™, the DIRECT AUDIO 1 & 3 are routed to the RIGHT USER Phones.

3.3.8 Music Operation

Music to the phones will be muted by incoming audio (ICS, Receive, or Direct Audio) or if the unit is transmitting. When the incoming audio has ended, the music will gradually return to the previous level.

3.3.9 Rear Hand Mic Operation

When configured by ProCS™, the Rear Hand MIC audio and PTT signal are connected to the Transceiver as selected by the left or right TX Select switch. The Rear Hand MIC is assigned to left or right user's controls by ProCS™ in the Passenger and Rear Hand MIC settings.

3.3.10 Cockpit Voice Recorder (CVR) Operation

The RIGHT CVR output consists of the sum of the RIGHT USER MIC input (independent from VOX control setting) and the RIGHT USER PHONE output, and the LEFT CVR output is the sum of the LEFT USER MIC input (independent from VOX control setting) and the LEFT USER PHONE output.

3.3.11 Remote RMT Operation

A remote transmit selector may be linked to the JA94-001 to allow remote selection for transmission via the right user controls. (This remote selector could be on the right user's cyclic control.) When a remote transmit selector is installed and the RIGHT USER TX SELECT switch is in the RMT position, then the RIGHT USER will transmit on the radio or radios as selected by the remote transmit selector.

**Note:** It is important to be aware of the Remote Operation configuration of the aircraft.
3.4 **Emergency Operation Mode**

The JA94-001 operates in Emergency Mode automatically (**Auto Emergency Mode**) when the power to the unit is off, or when the left Transmit Selector Switch is in the EMER position (**Selected Emergency Mode**).

3.4.1 **Left User Emergency Mode**

In emergency mode, the Left User phone and MIC signals are connected by mechanical relay contacts to the COM2 transceiver and the NAV2 receiver. Left User PTT is routed directly to COM2 PTT and the LEFT USER MIC is routed to the COM 2 MIC.

The sum of COM 2 RX, NAV 2 RX and Direct Audio 1 (and Direct Audio 2 if configured by ProCS™) is routed to the LEFT USER PHN output. The LEFT USERPHN is routed to the LEFT CVR output.

3.4.2 **Right User Emergency Mode**

In emergency mode, the Right User phone and MIC signals are connected by mechanical relay contacts to the COM1 transceiver and the NAV1 receiver. Right User TX PTT is routed directly to COM1 PTT, and the RIGHT USER MIC is routed to the COM 1 MIC. The Right User is disconnected from the ICS.

The sum of COM 1 RX, NAV 1 RX and Direct Audio 2 (and Direct Audio 1 if configured by ProCS™) is routed to the RIGHT USER PHN output. The RIGHT USERPHN is routed to the RIGHT CVR output.

3.4.3 **Auto Emergency Mode**

The unit will enter emergency mode automatically if power to the unit is off.

Other than Emergency operation described above, no functions of the JA94-001 will operate when power is lost. Legends and annunciators will not be illuminated.

3.4.4 **Selected Emergency Mode**

If the JA94-001 retains power, the unit can be placed into emergency mode by rotating the Left User TX control to the EMER position (pull to turn).

Emergency mode conditions will apply (see above) but all other functions of the JA94-001 will operate. The LEDs, legends and annunciators will retain normal functionality.
Appendix A - Installation Drawings

A1 Introduction

The drawings necessary for installation and troubleshooting of the JA94-001 Audio Controller are in this Appendix, as listed below.

Note: A fully customized set of Connector Maps and Interconnects can be created using the ProCS™ software. Refer to the ProCS™ manual for further information.

A2 Installation Drawings

<table>
<thead>
<tr>
<th>DOCUMENT</th>
<th>Rev</th>
</tr>
</thead>
<tbody>
<tr>
<td>JA94-001 Connector Map</td>
<td>A</td>
</tr>
<tr>
<td>JA94-001 Interconnect</td>
<td>B</td>
</tr>
<tr>
<td>JA94-001 Mechanical Installation</td>
<td>C</td>
</tr>
</tbody>
</table>

Reference Documents

| TOL-CUST-EXTR Legend Replacement | A   |
37 PIN FEMALE DMIN MATING CONNECTOR

NOTE:

△ CONFIGURABLE CONTACT

VIEW IS FROM REAR OF MATING CONNECTOR
REMOTE TX SELECTOR CONNECTOR

MATING PLUG NAMES
COM 1 REMOTE TX SELECT
COM 2 REMOTE TX SELECT
COM 3 REMOTE TX SELECT
COM 4 REMOTE TX SELECT
COM 5 REMOTE TX SELECT
COM 6 REMOTE TX SELECT
PAX 1 TX PTT
PAX 2 TX PTT
PAX 3 ICS PTT
PAX 4 ICS PTT
PAX 5 ICS PTT
PAX 6 ICS PTT
ICS ISOLATE MODE

JA99 CONFIGURATION CABLE
4 POLE MALE 3.5MM STEREO
TIP: TX DATA
1ST RING: RX DATA
2ND RING: GROUND
3RD RING: CONFIG AUDIO

MP3 STEREO PLAYER
3 POLE MALE 3.5MM STEREO
TIP: LEFT MUSIC
1ST RING: RIGHT MUSIC
2ND RING: GROUND

IPHONE
4 POLE MALE 3.5MM STEREO
TIP: LEFT MUSIC
1ST RING: RIGHT MUSIC
2ND RING: GROUND
3RD RING: MICROPHONE

FRONT PANEL MUSIC/CONFIGURATION CONNECTOR

ACCEPETS THE FOLLOWING PLUG FORMATS

P4

JA94-001 SIGNAL NAMES
CONFIG DATA TO JA94-001
CONFIG DATA FROM JA94-001
GROUND
MODE SELECT
FRONT PANEL MUSIC LEFT
FRONT PANEL MUSIC RIGHT
GROUND
MODE SELECT

PREPARED
CHECKED
APPROVED
CONFIDENTIAL & PROPRIETARY TO JUPITER AVIONICS CORP.
JAC 07-28-15
JAC 07-28-15
KDV 07-28-15
L00N3
JA94-001
INTERNAL USE ONLY
JUPITER AVIONICS TEMPLATE ADTOO0 PLOT AT SIZE A REV B.DWT
JUPITER AVIONICS TEMPLATE ADTOO0 PLOT AT SIZE A REV B.DWT
JUPITER AVIONICS TEMPLATE ADTOO0 PLOT AT SIZE A REV B.DWT

DOC NO.
JA94-001 Connector Map Rev A.DWG

TITLE
Dual Audio Controller
P3, P4 Connector Map
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 JA94-001 CONNECTOR PINS SHOULD BE TERMINATED TO AIRFRAME GROUND USING A TAG RING P/N: MS27741-5 OR EQUIVALENT.

4. CONNECTOR PIN HAS MORE THAN ONE FUNCTION. SEE THE OPTIONS SECTION OF THIS DRAWING FOR ALTERNATE INTERCONNECT WIRING.

5. ONLY +28 VDC OR +14 VDC OR +5 VDC LIGHTS INPUT VOLTAGE MAY BE APPLIED AT ONE TIME.

6. THE FRONT PANEL MUSIC INPUT SHALL NOT BE CONNECTED TO ANY OTHER AUDIO INPUT.
Dual Audio Controller
J3 Interconnect

COM 1 REMOTE TX SELECT 1
COM 2 REMOTE TX SELECT 2
COM 3 REMOTE TX SELECT 3
COM 4 REMOTE TX SELECT 4
COM 5 REMOTE TX SELECT 5
COM 6 REMOTE TX SELECT 6

PAX 1 TX PTT 7
PAX 2 TX PTT 8
PAX 1 ICS PTT 9
PAX 2 ICS PTT 10
PAX 3 ICS PTT 11
PAX 4 ICS PTT 12
PAX 5 ICS PTT 13
PAX 6 ICS PTT 14
ICS ISOLATE MODE 15

REMOTE TX SELECTOR
PARKED POSITION

ICS ISOLATION
OPTION: MULTIPLE DISCRETE TX SELECT AND PTT

DIODES: IN4005 OR EQUIVALENT
CENTER OF GRAVITY

WEIGHT: 1.99 lbs [0.91 kg] 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

CONFIDENTIAL & PROPRIETARY
TO JUPITER AVIONICS CORP.
DRAWING NOT TO SCALE
Field-Replaceable Legends

Jupiter Avionics Corporation (JAC) products have field-replaceable illuminated legends. This permits easy customization, and allows the same units to be used in multiple different configurations with only minimal changes.

The internal circuitry ensures that, although the legends are individually illuminated, the illumination is consistent and uniform throughout all legends, and never needs to be balanced. This means that if it is a requirement to change the labelling due to damage or for a different project, there is no need for costly and time-consuming illumination checks.

Legend Removal

**Caution:** Take care not to scratch or otherwise damage the faceplate or the legend.

To facilitate legend removal, JAC provides a legend extractor tool - part # TOL-CUST-EXTR (figure 1) that fits into the recesses on the legend.

To remove a legend, hold the extractor firmly between the forefinger and thumb, and use a tweezer-like action to grip the legend (figure 2).

Pull the legend away from the faceplate as shown in figure 3.

Legend Replacement

To replace a legend, align the text correctly, and then apply gentle pressure until the body of the legend support seats firmly into the faceplate.

Once the new legend is in place, ensure that it has seated correctly by checking that it illuminates. The unit is now ready for use.
Installation and Operating Manual

Appendix B - Installation Documents
B1  Airworthiness Approval

Airworthiness approval of the JA94-001 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 JA94-001 Audio Controller. 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 JA94-001 Audio Controller in [aircraft location].

Installed in accordance with the JA94-001 Installation Manual, Revision [, and AC 43.13-2, Chapters 2, and 3.

The JA94-001 interfaces with existing aircraft systems per the Installation Manual instructions.

The JA94-001 Installation Manual provides detailed installation instructions and wiring diagrams (Section 2, and Appendices A and B).

Power is supplied to the JA94-001 through a 2-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 JA94-001 Audio Controller is “on condition” only. Refer to the JA94-001 Maintenance Manual. Periodic maintenance of the JA94-001 is not required.

The following sample Instructions for Continued Airworthiness (ICA) provides assistance in preparing ICA for the Jupiter Avionics JA94-001 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 JA94-001 Audio Controller 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 JA94-001 installed in an [aircraft make and model].

Applicability: Applies to a Jupiter Avionics JA94-001 installed in an [aircraft make and model].

Definitions/Abbreviations: None, N/A.

Precautions: None, N/A.

Units of Measurement: None, N/A.

Referenced Publications: JA94-001 Installation and Operating Manual
JA94-001 Maintenance Manual
JA94-001 Operating 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 JA94-001 Audio Controller 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 or to the Jupiter Avionics JA94-001 Operating Manual.

4. Servicing Information
   N/A

5. Maintenance Instructions
   Maintenance of the JA94-001 is ‘on condition’ only. Periodic maintenance is not required. Refer to the JA94-001 Maintenance Manual.

6. Troubleshooting Information
   Refer to the JA94-001 Maintenance Manual.

7. Removal and Replacement Information
   Refer to Section 2 of this manual - the JA94-001 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 JA94-001 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
   JA94-001 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 JA94-001 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