



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

JCP3-070

Control Panel with RX Volume Controls



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

Copyright 2019 Jupiter Avionics Corp.

All rights reserved

Jupiter Avionics Corporation (JAC) permits a single copy of this manual to be printed or downloaded for the express use of an installing agency. Any such electronic or printed copy of this manual must contain the complete text of this copyright notice. Any unauthorized commercial distribution of this manual is strictly prohibited. Except as described above, no part of this manual may be reproduced, copied, transmitted, disseminated, downloaded, or stored in any storage medium for any purpose without the express prior written consent of JAC.

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

[illegible]




Prepared:	Checked:	Approved:
MPB	 	



Table of Contents

SECTION 1 - DESCRIPTION	1
1.1 System Overview	1
1.2 Features Overview	1
1.3 Inputs and Outputs	2
1.3.1 Inputs	2
1.3.2 Outputs	2
1.3.3 Bi-directional Signals	2
1.4 Specifications	2
1.4.1 Electrical Specifications	2
1.4.2 Mechanical Specifications	3
SECTION 2 – INSTALLATION	4
2.1 Introduction	4
2.2 Continued Airworthiness	4
2.3 Unpacking and Inspecting Equipment	4
2.3.1 Warranty	4
2.4 Installation Procedures	4
2.4.1 Installation Limitations	4
2.4.2 Cabling and Wiring	4
2.4.3 Mechanical Installation	5
2.4.4 Legend Replacement	5
2.4.5 Post Installation Checks	5
2.5 Legend Text Selection using ProCS™	6
2.6 Adjustments and Configuration using ProCS™	7
2.6.1 ProCS™ Setup	7
2.6.2 Configuring the JRAC-xxx Remote Audio Controller via the JCP3-070	7
2.7 Installation Kit	7
2.7.1 Recommended Crimp tools	7
2.8 Installation Drawings	7
SECTION 3 – OPERATION	8
3.1 Introduction	8
3.2 Front Panel Controls	8
(1) Individual Receive Volume Controls	9
(2) Transceiver Switches	9
(3) Receiver Switches	9
(4) Master Receive Volume Control	9
(5) EMER/NORM Mode Switch	9
(6) Multi-function (Transmit/ICS) Switch	10
(7) Music/Configuration Connector Cover (🎵/io)	10
(8) Transmit Annunciator - TX	10
(9) Transmit Selector	11
(10) VOX Threshold Control	11
(11) CALL Annunciator	11
(12) ICS Volume Control	11
3.3 Normal Operation Mode	12
3.3.1 Panel Lighting	12
3.3.2 Receiving	12



3.3.3	Transmitting (Transmit Operation).....	12
3.3.4	VOX Operation	12
3.3.5	ICS Operation.....	12
3.3.6	Multi-Function (XMIT / ICS) Switch Operation	12
3.3.7	Music Operation	13
3.4	Emergency Operation Mode.....	13
Appendix A - Installation Drawings		A1
A1	Introduction	A1
A2	Installation Drawings.....	A1
Appendix B - Certification Documents.....		B1
B1	Airworthiness Approval	B2
B2	Instructions for Continued Airworthiness	B2

JCP3-070 Control Panel with RX Volume Controls

SECTION 1 - DESCRIPTION

1.1 System Overview

The JCP3-070 Control Panel with RX Volume Controls is part of an aircraft audio system consisting of one control panel and one remote audio controller.

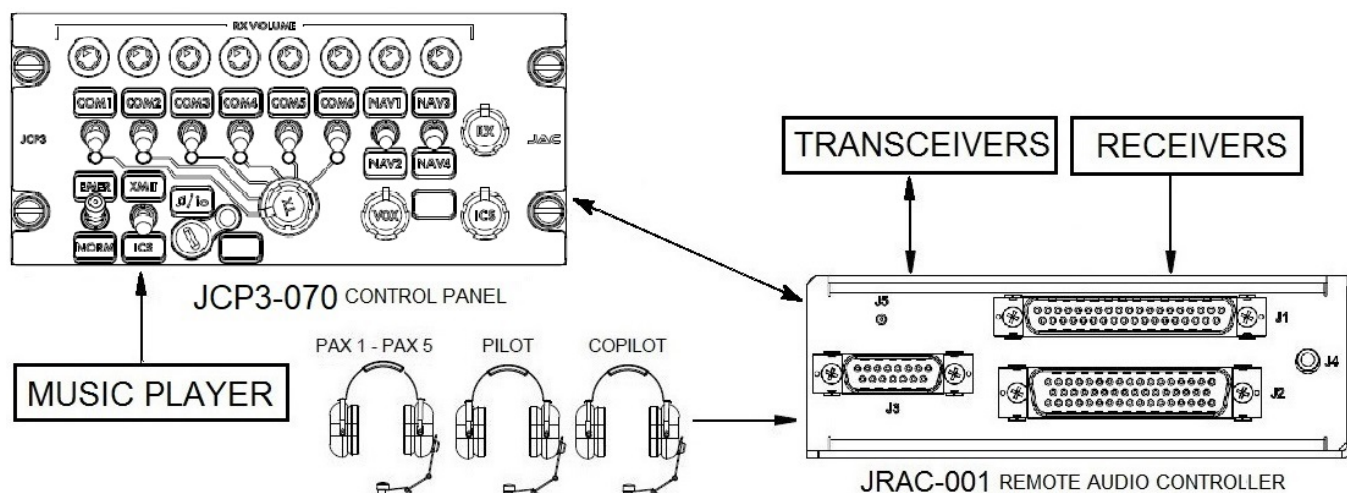


Figure 1-1 Aircraft Audio System

The JCP3-070 has the switches and level controls that allow the user to operate the remote audio controller. Control commands are sent to the remote audio controller via a serial data bus from the control panel. The control commands manage the user selectable functions of the audio system. The control panel provides a locking toggle switch with a discrete output that places the remote audio controller in emergency operating mode.

The JCP3-070 front panel music / configuration connector provides a discrete path to the JRAC music / configuration connections. Configuration settings can be sent to the JRAC using a configuration cable and a PC running the product configuration application ProCS™. To facilitate future customizations and certification, neither software nor complex electronic devices are used in the JCP3-070 design.

1.2 Features Overview

The JCP3-070 features a 15 pin D-Min connector, which interfaces to the remote audio controller. The JCP3-070 input power is derived from the remote audio controller.

The JCP3-070 has 1 rotary 6-position transmit selector switch and 6 transmit select annunciators.

The JCP3-070 has a transmit active annunciator

The JCP3-070 has 6 toggle transceiver monitor switches

The JCP3-070 has a call annunciator

The JCP3-070 has 2 center-off toggle receiver monitor switches.

The JCP3-070 has 1 of each rotary 16-position VOX threshold control, ICS volume control and RX volume control

The JCP3-070 has 1 locking toggle Emergency / Normal mode select switch.

The JCP3-070 has 1 spring load center off toggle switch, nominally for ICS and TX PTT control.

A 3.5mm Music / Configuration connector is provided on the faceplate of the JCP3-070 for downloading configuration data to the remote audio controller Remote Audio Controller. The connector can also be used as a music input and is compatible with most music players.



1.3 Inputs and Outputs

Refer to the JCP3-070 [connector maps](#) for the mating connector designators and pin assignments for the input and output signals.

1.3.1 Inputs

Name	Qty	Type
CALL ANNUNCIATOR	1	Active low discrete
CONTROL DATA TO JCP3	1	Data signal
MUSIC LEFT/ MUSIC RIGHT	2	Audio signal
+5/+28 VDC LIGHTS INPUT	2	Analog control signal
MODE SELECT / CONFIG AUDIO	1	Multi format signal
POWER INPUT	1	Power Supply
RESET INPUT	1	Active low discrete
TX ANNUNCIATOR	1	Active low discrete
CONFIG DATA TO REMOTE AUDIO CONTROLLER	1	Data signal
CONFIG DATA FROM REMOTE AUDIO CONTROLLER	1	Data signal

1.3.2 Outputs

Name	Qty	Type
CONFIG DATA FROM REMOTE AUDIO CONTROLLER	1	Data signal
CONFIG DATA TO REMOTE AUDIO CONTROLLER	1	Data signal
CONTROL DATA FROM JCP3	1	Data signal
MODE SELECT / CONFIG AUDIO	1	Multi format signal
NORM MODE SELECT	1	Active low discrete

1.3.3 Grounds

Name	Qty	Type
POWER GROUND	1	Ground
CHASSIS GROUND	1	Ground
MUSIC/CONFIG COMMON	2	Ground

1.4 Specifications

1.4.1 Electrical Specifications

Power Input

Primary nominal voltage (from remote audio controller)	13.5 Vdc
Input current	≤ 0.2 A at 13.5 Vdc

1.4.1.1 Audio Performance

Volume Controls

Master Receive Audio Control variation	32 ±3 dB
Receive Audio Controls variation	32 ±3 dB



Rated Input Level

Music rated input 400 mVrms $\pm 10\%$

Rated Output Power

Music rated output level 400 mVrms $\pm 10\%$

Output Load

Music load 1000 $\Omega \pm 10\%$

1.4.1.4 Discrete Signals

Active low control input, active signal level $\leq +3$ Vdc
Active low control input, inactive signal level $\geq +9$ Vdc
Active low control input signals, when active, source 0.1 to 10 mA
Active low control output, active output $\leq +2$ Vdc
Active low control output signals, when active, sink ≤ 100 mA
Active low control input signals have an internal pull-up resistor

1.4.1.5 Lights Input

LIGHTS INPUT current 10 mA max.

1.4.2 Mechanical Specifications

Height 2.625 in [66.7 mm] max
Behind panel depth 1.65 in [41.9 mm] max
In front of panel depth 1.22 in [31.0 mm] max
Faceplate width 5.75 in [146.1 mm] max
Behind panel width 4.95 in [125.7 mm] max
Weight 1.12 lb [0.53 kg] max
Enclosure material 5052-H32 brushed aluminum with conversion coating

Connectors (4): J1 (System) One 15-pin D-Sub male, V5 locking
J2 (Music /configuration) One 4 pole 3.5mm stereo jack
J3 *Maintenance only access*
J4 (Rear stud fastener) One 4-40, 0.5 in. max

Mounting 4 Dzus fasteners

Bonding ≤ 2.5 m Ω

Installation kit part number INST-JCPX

JCP3-070 Control Panel with RX Volume Controls

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 JCP3-070 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/warrantyregistration.

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

The JCP3-070 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 JCP3-070 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 Legend Replacement

The JCP3-070 illuminated legends are field replaceable. For further information, refer to the ['Legend Replacement'](#) document in Appendix A of this manual.

2.4.5 Post Installation Checks

2.4.5.1 Voltage/Resistance checks.

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

- a) Check P1 between pins **1** and **9** for +13 Vdc power.
- b) Check P1 pin **14** for +5 Vdc lights voltage or P1 pin **15** for +28 Vdc lights voltage.
- c) Check P1 pin **10** (Chassis ground) for continuity to ground (less than 0.5 Ω).
- d) Confirm P1 pin **13** (RESET INPUT) is connected to the Remote Audio Controller P3 pin **13** (RESET OUTPUT)
- e) Check all pins for shorts to ground or adjacent pins.

2.4.5.2 Power on Checks.

Power up the aircraft's systems and confirm normal operation of all functions of the JCP3-070. Refer to Section 3 (Operation) for specific operational details.

- a) Begin with only the pilot's 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 co-pilot's 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 Legend Text Selection using ProCS™

The configuration program ProCS™ can be used to customize the text for each legend either at the time of ordering the unit, or if text changes are required after installation. The JCP3-070 need not be connected to a computer to select the legend text.

For information on ordering customized legends, refer to [How to Order a Custom Unit](#) or the [Configuration Chart](#) on the [JAC website](#) and in [Appendix A](#) of this manual.

2.5.1 Virtual Front Panel

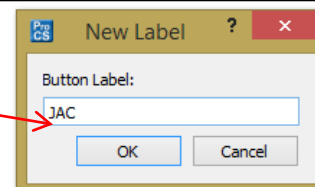
The Virtual Front Panel window is used to specify the text for each legend.



Clicking on a customizable legend will open a **drop-down menu** listing the options for that label. The currently selected option will be highlighted. To escape from the menu, click on the desired option, or right-click in the window. A 'Print...' box will appear. Click outside the box to escape, or select it to print the **Virtual Front Panel** window showing the current label selections.

Among the options is '---' which signifies that the legend will be left blank, and 'New...' which allows the user to enter a completely new legend of up to five characters. If a 'new' legend has been added, the option 'Edit ...' is added to the menu to enable changes to the newly created label.

In the example shown here, the option 'New...' has been selected. A pop-up 'New Label' window will appear, allowing the user to create a customized legend – in this case, JAC. The new legend name will now be shown in the appropriate position on the faceplate representation in the software program, and will be used in the connector maps and interconnect.



Note: If the name of a front panel switch is changed using this software, the change will be incorporated in the connector maps and interconnect, to give truly customized installation diagrams.

2.5.2 Connector Maps

This section contains connector maps and interconnects that are automatically generated to show changes to switch labels that affect the installation of the remote audio controller.



2.6 Adjustments and Configuration using ProCS™

2.6.1 Configuring the JRAC-xxx Remote Audio Controller via the JCP3-070

The JCP3-070 has no internal adjustments; however, configuration data for the remote audio controller Remote Audio Controller can be sent via the JCP3-070 front panel connector (♫/io), using the [configuration program ProCS™](#). For full information on configuring the remote audio controller, refer to the remote audio controller manual on the JAC website.



The front panel Music/Configuration port (♫/io) is protected by a urethane rubber cover, which can be lifted upwards or rotated round (as shown) to provide access to the port

♫/io port

Port cover

For full information on the configuration process, refer to the [ProCS™ manual](#) on the Jupiter Avionics website.

2.6.2 ProCS™ Setup



The JCP3-070 menu items 'ProCS Setup' provide Setup drawings showing different cabling arrangements for connecting the JCP3-070 to a computer and other equipment.

ProCS Setup - JA99, **ProCS Setup - CAB-USB-0006** and **ProCS Setup - Virtual Panel** show the connections used for testing the JCP3-070. These setup drawings would not be used in normal operation.

ProCS Setup - JRAC-001 shows the cabling for using the JCP3-070 for configuring the JRAC Remote Audio Controller using ProCS™ (see section 2.6.1 above).

2.7 Installation Kit

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

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

Quantity	Description	JAC Part #
1	0.375" Inside Diameter TAG ring	CON-5500-0375
1	D-Sub 15-pin connector, hood and 15 crimp pins	CON-3420-0015
1	3/4" I/D Heat Shrink Tubing	WIR-HTSK-0750

2.7.1 Recommended Crimp tools

Connector Type	Hand crimp tool	Positioner	Insertion/extraction tool
Positronic	9507	9502-3	M81969/1-04
Positronic	AFM8 (Daniels)	M22520/2.08 KB-1	

2.8 Installation Drawings

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

JCP3-070 Control Panel with RX Volume Controls

SECTION 3 – OPERATION

3.1 Introduction

This section contains the operating instructions for the JCP3-070.

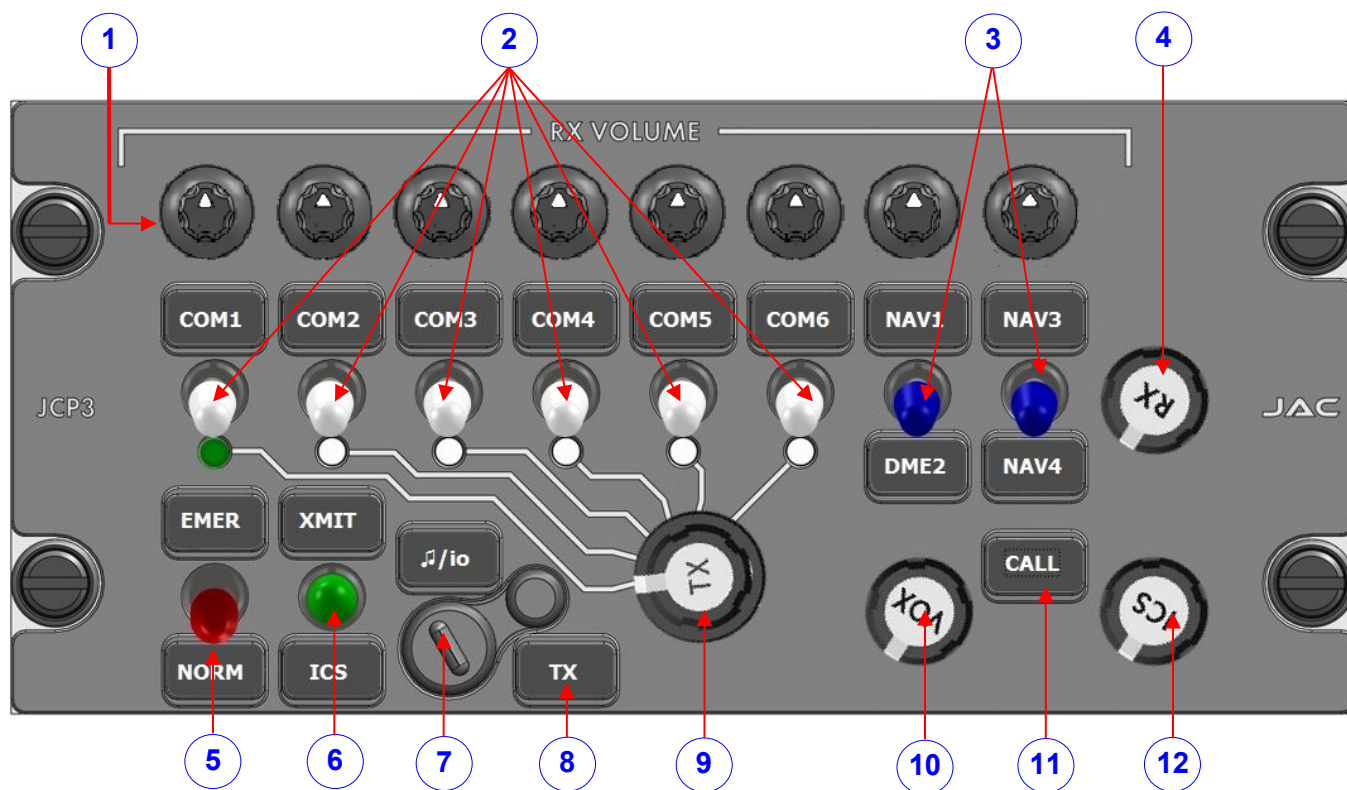
The JCP3-070 acts as a Control Panel for a remote audio controller such as the Jupiter Avionics JRAC-001.

The JCP3-070 commands the remote audio controller, and this manual is written to describe the results of any operation of the JCP3-070 controls.

3.2 Front Panel Controls



Note: The legends and 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 names as shown below.



- | | |
|---|---|
| 1. Individual Receive Volume Controls | 7. Music/configuration port cover and legend (♫/io) |
| 2. Transceiver switches and associated legends | 8. Transmit annunciator (deadfront) |
| 3. Receiver switches and associated legends | 9. Transmit selector |
| 4. Master Receive volume control | 10. VOX threshold control |
| 5. EMER/NORM switch | 11. CALL annunciator (deadfront) |
| 6. Pilot's Transmit/ICS (Multi-function) switch | 12. ICS volume control |



(1) Individual Volume Controls

These are eight non-illuminated rotary controls, each of which is associated with the COM or NAV switch below it.

Rotating a control clockwise (cw) will increase the volume of the associated radio, and rotating it counterclockwise (ccw) will reduce it.



(2) Transceiver Switches

These are six white two-position toggle switches. When a switch is set to the 'up' position, audio from the associated transceiver is routed to the phones.

The legends (above the switches) are interchangeable to allow customization. (Default – COM1, COM2, COM3, COM4, COM5 and COM6)



(3) Receiver Switches

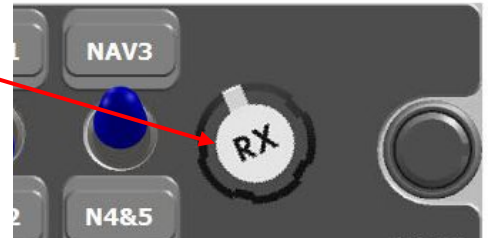
These are two blue two-position centre-off toggle switches. When a switch is set to the 'up' or 'down' position audio from the selected receiver is routed to the phones.

The legends (two above and two below the switches) are interchangeable to allow customization. (Default – NAV1, NAV2, NAV3, N4&5.)



(4) Master Receive Volume Control

This is a rotary knob that adjusts the phones volume of the receive audio from minimum - fully counterclockwise (ccw) to maximum - fully clockwise (cw). Individual radio volume controls should be set to a nominal level, and then adjusted for changing flight conditions using this control.

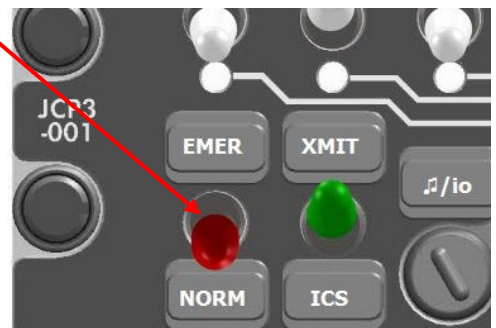


(5) EMER/NORM Mode Switch

This is a red two-position locking toggle switch. When set to the 'up' position, the unit is Emergency mode, and when set to the 'down' position, the unit is in Normal mode. The legends are interchangeable to allow customization. (Default – EMER, NORM.)

The switch is lockable to prevent accidental changing of the mode. The switch must be lifted to release the lock.

For full information on Emergency and Normal Mode operation, see sections 3.3 and 3.4 below.



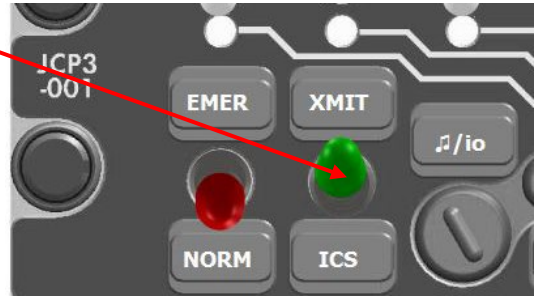


(6) Multi-function (Transmit/ICS) Switch

This is a green two-position centre-off momentary toggle switch.

When in the default XMIT/ICS configuration, this switch acts as the pilot's 'Press-to-talk' (PTT) button. The unit will transmit on the selected transceiver when the switch is held in the 'up' position, and when held in the 'down' position, it will transmit on the intercom.

See [section 3.3.6](#) below for Multi-function Switch operation.

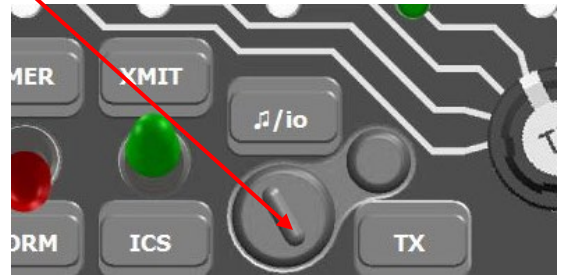
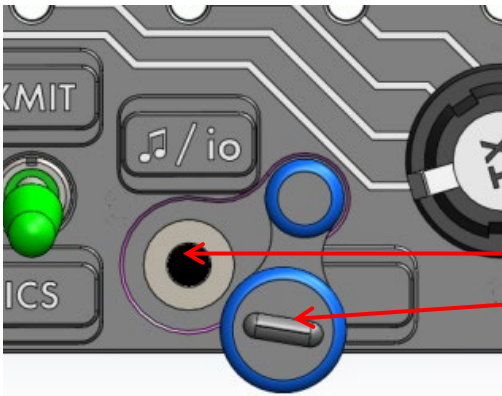


Note: At installation, this switch may be configured to operate in default (XMIT/ICS) or alternative mode. Check with your installing agency for confirmation of the operation of this switch. The legends are interchangeable to allow customization.

(7) Music/Configuration Connector Cover (♫/io)

This is a music input that is compatible with most music players. It accepts a 3 pole 3.5mm stereo plug with a slim diameter connector housing.

(This connector may also used during installation to change configuration settings for the remote audio controller.)



The port (♫/io) is protected by a urethane rubber cover, which can be lifted upwards or rotated round (as shown) to provide access to the port.

♫/io port

Port cover

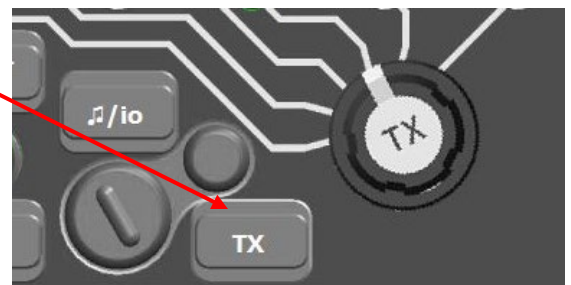


CAUTION: If an unapproved connector or cable is used, damage to the unit or to any attached device may occur. If in doubt, contact JAC for a list of approved cables, music sources and devices.

(8) Transmit Annunciator - TX

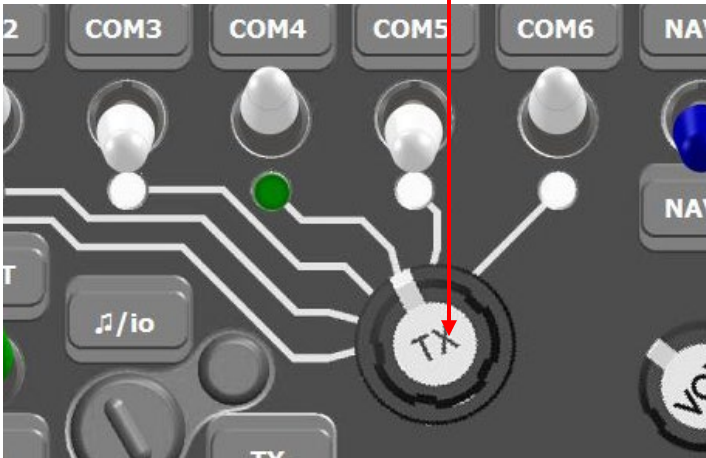
This is a deadfront annunciator that will illuminate when the remote audio controller is transmitting.

The default legend is 'TX', but it is interchangeable to allow customization.





(9) Transmit Selector



This is a rotary six-position control that is used to select transmission via one of the six transceivers.

Each of the transmit selector positions is linked by a white line to the corresponding transmit select annunciator, transceiver switch and legend.

The appropriate annunciator will light green to show which transceiver is selected for transmit - 'COM4' in this example.

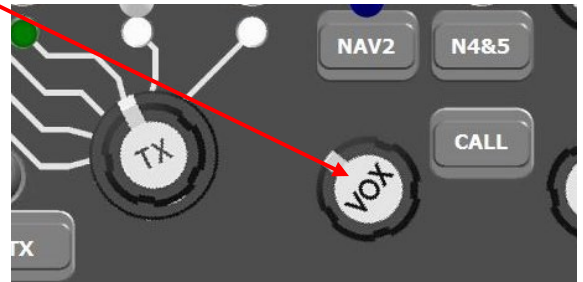
(10) VOX Threshold Control

This is a rotary knob that is used to select the VOX threshold of the unit. See below.

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

When rotated fully 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 should be adjusted for proper operation according to the ambient noise.



(11) CALL Annunciator

This is a customizable deadfront annunciator activated by an external switch.

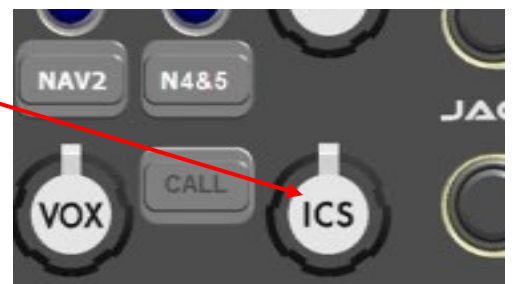
When enabled, it will illuminate when a call is received from another user's audio controller, or by a remote 'call' button within the aircraft.



Note: Check with your installing agency for confirmation of the operation of this annunciator. The legends are interchangeable to allow customization.

(12) ICS Volume Control

This is a rotary control used to adjust the volume of all ICS audio to suit the ambient conditions. Rotating the control fully cw gives rated level, and fully ccw reduces the output to minimum level.





3.3 Normal Operation Mode



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

The Audio System is in Normal mode when the front panel EMER / NORM switch **(5)** is in the NORM position and suitable electrical power is supplied to the audio system (Control Panel with RX Volume Controls, and Remote Audio Controller).

All operation described is for an Audio System consisting of a JCP3 Control Panel with RX Volume Controls and a JRAC Remote Audio Controller.

3.3.1 Panel Lighting

The Control Panel with RX Volume Controls legends and annunciators will be illuminated and dim (when appropriate) through the aircraft lighting buss.

3.3.2 Receiving

When the Audio System receives an incoming transmission on a transceiver or receiver that has been selected, either by the white transceiver receive switches **(1)** or the transmit selector **(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 front panel RX volume control **(3)**. It will be muted if the unit is transmitting and muting of receive audio during transmit is enabled.

3.3.3 Transmitting (Transmit Operation)

To select a transceiver, rotate the Transmit Select Switch until it aligns with the line leading to the Transceiver Select switch legend - see **(1)** - default legends COM 1 through COM 6. The corresponding Transmit Select annunciator will illuminate.

When the user's TX PTT is activated, the Audio System will transmit on the selected transceiver, and the deadfront Transmit Annunciator **(7)** will illuminate 'TX'. All MIC and sidetone audio will be routed to the user's phones, and any music will be muted for the duration of the transmission.

3.3.4 VOX Operation

A user's MIC audio is routed to the ICS when the MIC audio level exceeds the VOX threshold.

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. The VOX level is controlled by the VOX knob **(9)**.

3.3.5 ICS Operation

ICS audio routed to the PHONES 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 routed to the PHONES also includes the audio input on the ICS TIE from other audio controllers.

The sum of all the MIC audio from users with ICS KEY active or with MIC audio level exceeding the VOX Threshold level is output on the ICS TIE line.

The ICS audio is muted during transmit (if selected via ProCS).

The ICS audio level at the phones is controlled by the ICS volume control **(11)**.



3.3.6 Multi-Function (XMIT / ICS) Switch Operation



Note: At installation, this switch may be configured to operate in default or alternative mode. Check with your installing agency for confirmation of the operation of this switch.

Default Operation

When in the default XMIT/ICS configuration, this switch acts as the pilot's 'Press-to-talk (PTT) button. The Audio System will transmit on the selected transceiver when the switch is set to the 'up' position, and when set to the 'down' position, it will transmit on the intercom.

Alternative Operation

This switch may be configured to provide a ground signal to operate other equipment.

3.3.7 Music Operation

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

3.4 Emergency Operation Mode

Emergency mode can be selected by the EMER / NORM switch on the Control Panel with RX Volume Controls.

Refer to the controlled device operating manual for information on operation during emergency mode.



Installation and Operating Manual

Appendix A - Installation Drawings

A1 Introduction

The drawings necessary for installation and troubleshooting of the JCP3-070 Control Panel with RX Volume Controls 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.

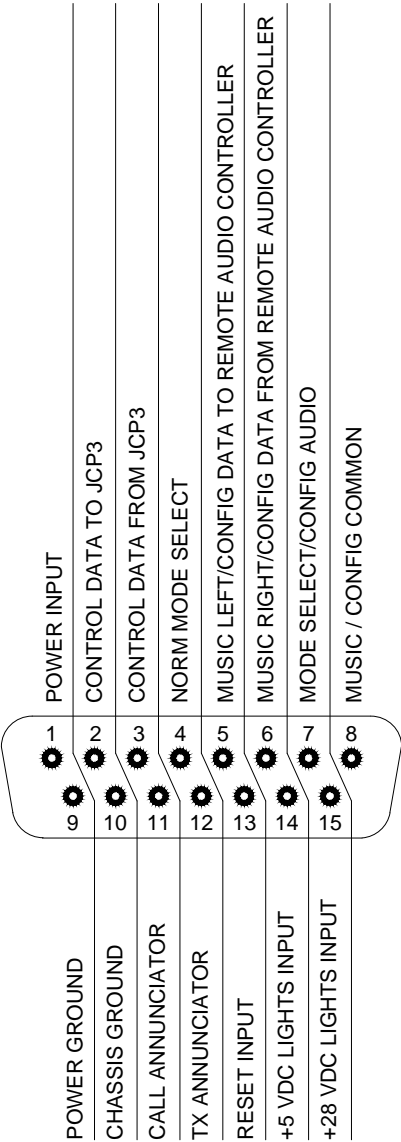
A2 Installation Drawings

DOCUMENT	Rev
JCP3-070 Connector Map	A
JCP3-070 Interconnect	A
JCP3-070 Mechanical Installation	A
JCP3-070 Configuration Chart (DOC-CONF-P3X70)	(A)




Reference Documents	
TOL-CUST-EXTR Legend Replacement	A

MAIN CONNECTOR

P1
15 PIN FEMALE DMIN
MATING CONNECTOR



VIEW IS FROM REAR OF MATING CONNECTOR

PREPARED	TAT	<div>JUPITER AVIONICS CORPORATION</div>		
CHECKED	<div></div>			
APPROVED	<div></div>	TITLE Control Panel with RX Volume Controls P1 Main Connector		
CONFIDENTIAL & PROPRIETARY TO JUPITER AVIONICS CORP.		NCAGE CODE L00N3	PART NO. JCP3-070	SHEET 1/2
		DOC NO. JCP3-070 Connector Map Rev A.dwg		

FRONT PANEL MUSIC / AUDIO CONTROLLER CONFIGURATION CONNECTOR

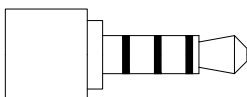
P2

ACCEPTS THE FOLLOWING
PLUG FORMATS

MATING PLUG NAMES

JCP3 SIGNAL NAMES

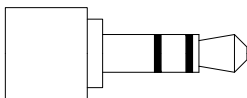
JA99 CONFIGURATION CABLE
4 POLE MALE 3.5MM STEREO



TIP: TX DATA
1ST RING: RX DATA
2ND RING: GROUND
3RD RING: CONFIG AUDIO

CONFIG DATA TO AUDIO CONTROLLER
CONFIG DATA FROM AUDIO CONTROLLER
MUSIC / CONFIG COMMON
MODE SELECT / CONFIG AUDIO

MP3 STEREO PLAYER,
IPHONE 3GS OR 4
3 POLE MALE 3.5MM STEREO



TIP: LEFT MUSIC
1ST RING: RIGHT MUSIC
2ND RING: GROUND

FRONT PANEL MUSIC LEFT
FRONT PANEL MUSIC RIGHT
MUSIC / CONFIG COMMON

JCP3 CONFIGURATION CONNECTOR (ACCESSIBLE DURING MAINTENANCE)

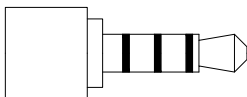
P3

ACCEPTS THE FOLLOWING
PLUG FORMATS

MATING PLUG NAMES




JCP3 SIGNAL NAMES

JA99 CONFIGURATION CABLE
4 POLE MALE 3.5MM STEREO



TIP: TX DATA
1ST RING: RX DATA
2ND RING: GROUND
3RD RING: MODE SELECT

CONFIG DATA TO JCP3
CONFIG DATA FROM JCP3
GROUND
MODE SELECT

PREPARED	TAT	 JUPITER AVIONICS CORPORATION		
CHECKED				
APPROVED		TITLE Control Panel with RX Volume Controls P2 and P3 Connector Map		
		NCAGE CODE L00N3	PART NO. JCP3-070	SHEET 2/2
CONFIDENTIAL & PROPRIETARY TO JUPITER AVIONICS CORP.		DOC NO. JCP3-070 Connector Map Rev A.dwg		

JCP3-070 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 CONNECTOR PINS SHOULD BE TERMINATED TO AIRFRAME GROUND USING A TAG RING P/N: MS27741-5 OR EQUIVALENT.
4. GROUND PIN TO ILLUMINATE ANNUNCIATOR ON FACEPLATE.
5. MOMENTARILY GROUND PIN TO RESET CONTROL PANEL.
6. ONLY CONNECT ONE OF EITHER +28 VDC OR +5 VDC LIGHTS INPUT.
7. FOR MUSIC INPUT, CONNECT MODE SELECT TO GROUND THROUGH 3.5MM MALE CABLE CONNECTOR RING 2.
8. THE FRONT PANEL MUSIC INPUT SHALL NOT BE CONNECTED TO ANY OTHER AUDIO INPUT.

CONNECTOR PIN LEGENDS

LEGEND

SPARE	INTERNAL CIRCUITS MAY EXIST AND MAY BE ACTIVATED FOR FUTURE USE. NO EXTERNAL WIRE CONNECTION.
N/C	NO CONNECTION

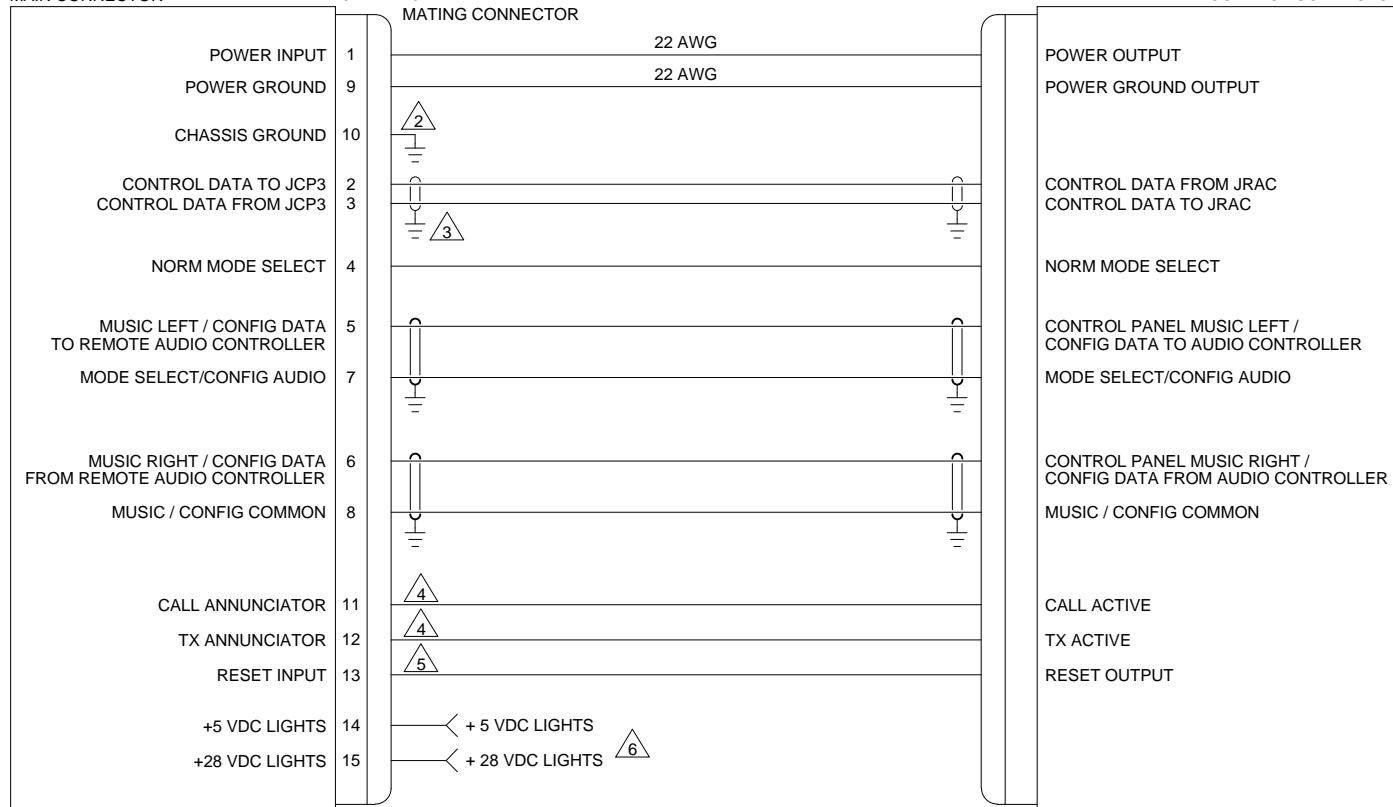
PREPARED	TAT	 JUPITER AVIONICS CORPORATION		
CHECKED				
APPROVED		TITLE Control Panel with RX Volume Controls Interconnect Notes		
CONFIDENTIAL & PROPRIETARY TO JUPITER AVIONICS CORP.		NCAGE CODE L00N3	PART NO. JCP3-070	SHEET 1/3
		DOC NO. JCP3-070 Interconnect Rev A.dwg		




JCP3-070
CONTROL PANEL
MAIN CONNECTOR

J1

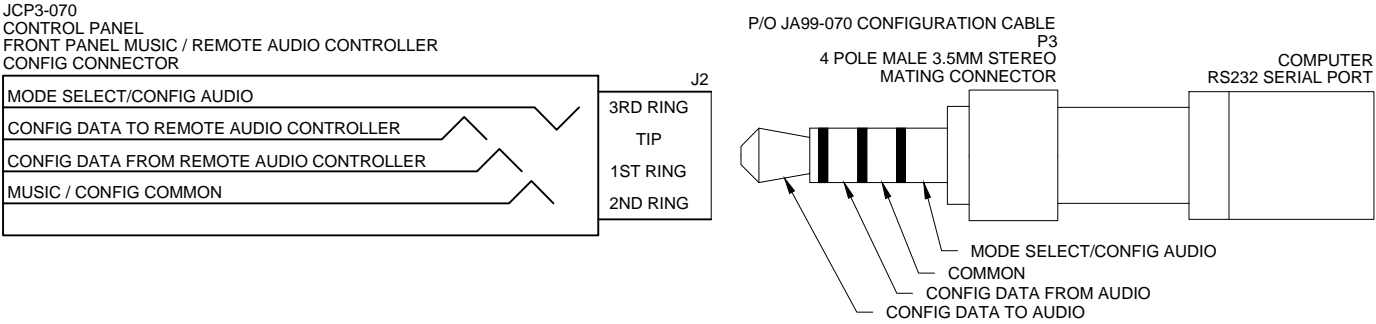
P1
15 PIN FEMALE DMIN
MATING CONNECTOR

AUDIO CONTROLLER
CONTROL CONNECTOR

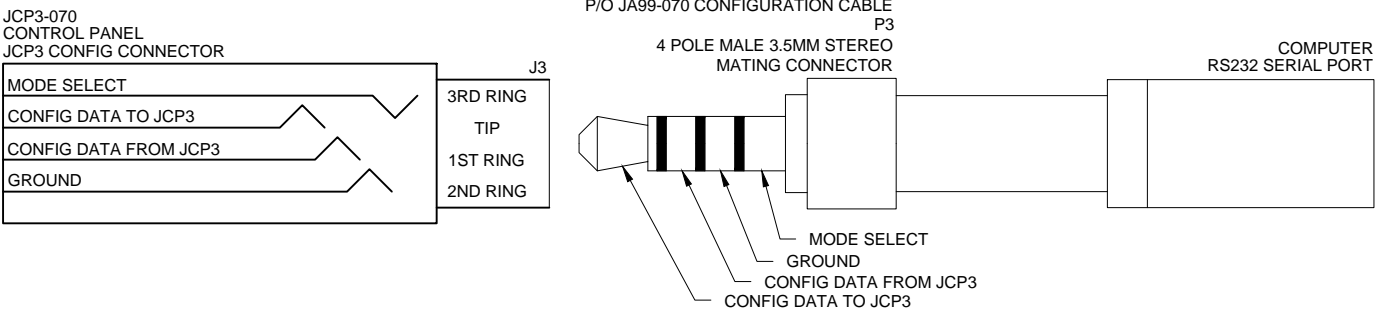


PREPARED	TAT			
CHECKED				
APPROVED		TITLE Control Panel with RX Volume Controls Main Connector		
CONFIDENTIAL & PROPRIETARY TO JUPITER AVIONICS CORP.		NCAGE CODE L00N3	PART NO. JCP3-070	SHEET 2/3
		DOC NO. JCP3-070 Interconnect Rev A.dwg		

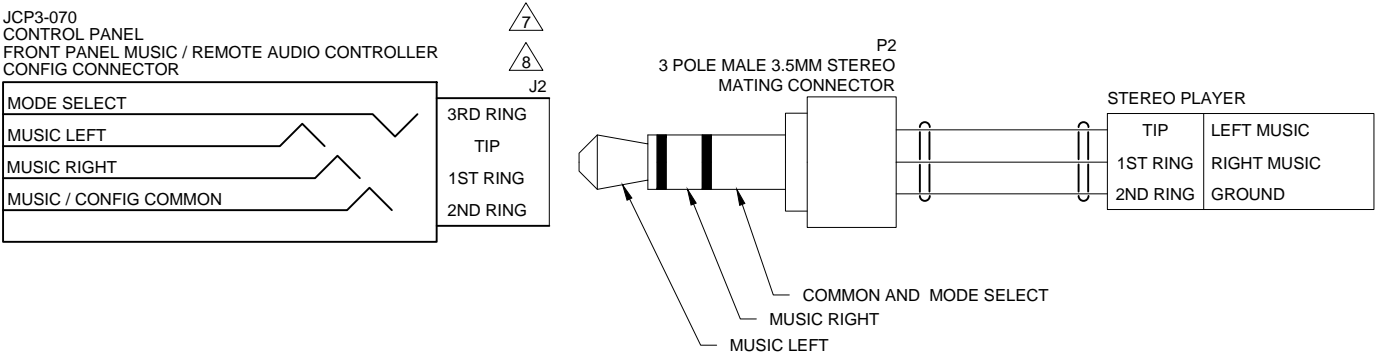
OPTION: AUDIO CONTROLLER CONFIGURATION
VIA JCP3 FRONT PANEL MUSIC / AUDIO CONTROLLER CONFIGURATION CONNECTOR



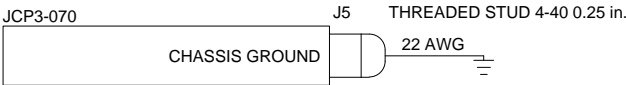
JCP3 CONFIGURATION VIA JCP3 CONFIGURATION CONNECTOR
(ACCESSIBLE DURING MAINTENANCE)




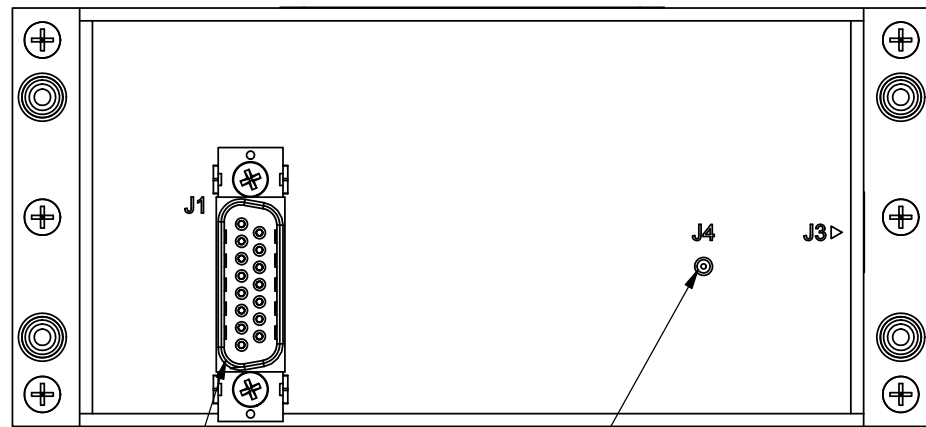
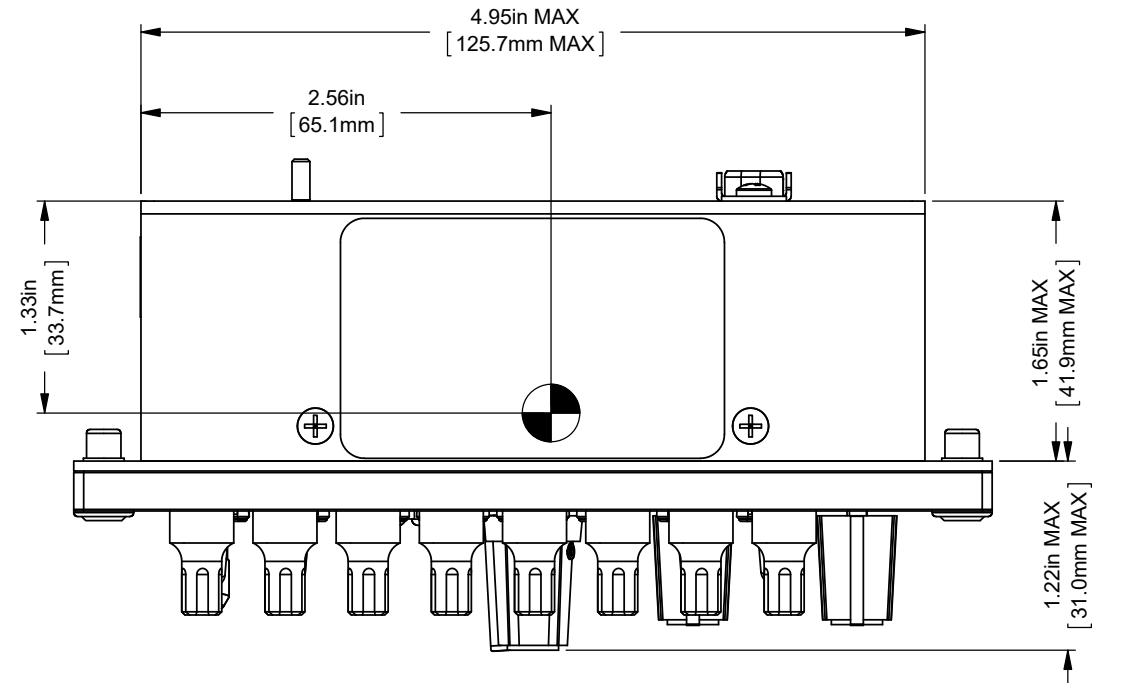
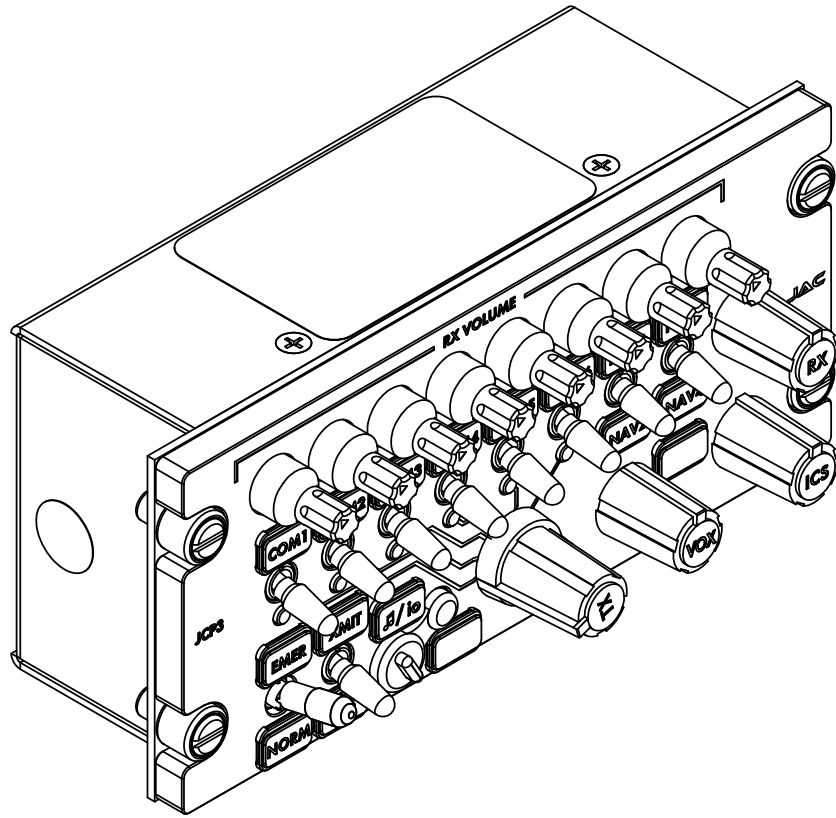
OPTION: STEREO PLAYER INPUT VIA JCP3 FRONT PANEL MUSIC / AUDIO CONTROLLER CONFIGURATION CONNECTOR



OPTION: CHASSIS GROUND



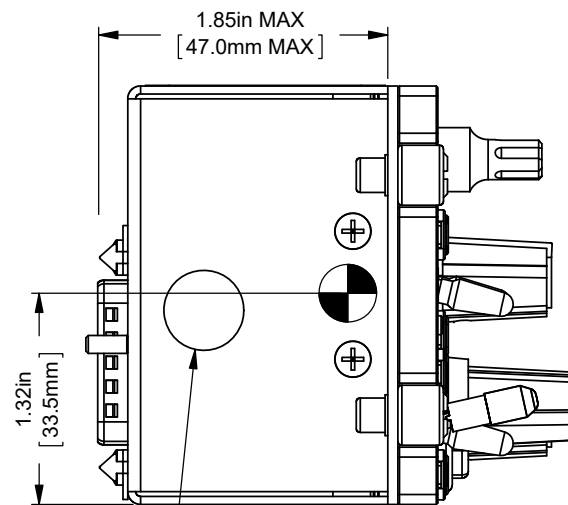
PREPARED	TAT	 JUPITER AVIONICS CORPORATION		
CHECKED	JAC 10-31-19 AH			
APPROVED	JAC 10-31-19 KDV	TITLE Control Panel with RX Volume Controls Configuration and Music Options		
CONFIDENTIAL & PROPRIETARY TO JUPITER AVIONICS CORP.		NCAGE CODE L00N3	PART NO. JCP3-070	SHEET 3/3
		DOC NO. JCP3-070 Interconnect Rev A.dwg		



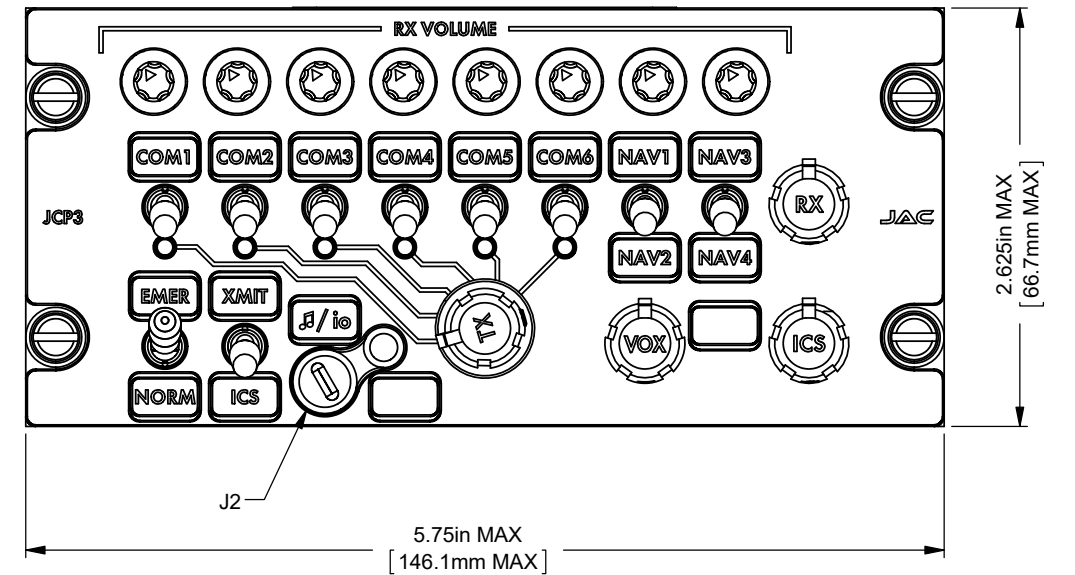
J1

J4


J3
FACTORY ONLY ACCESS OR USE
(UNDER SEAL)



J3

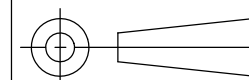


J2


 CENTER OF GRAVITY
±0.03in [0.8mm]

WEIGHT: 1.12 lbs [0.53 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



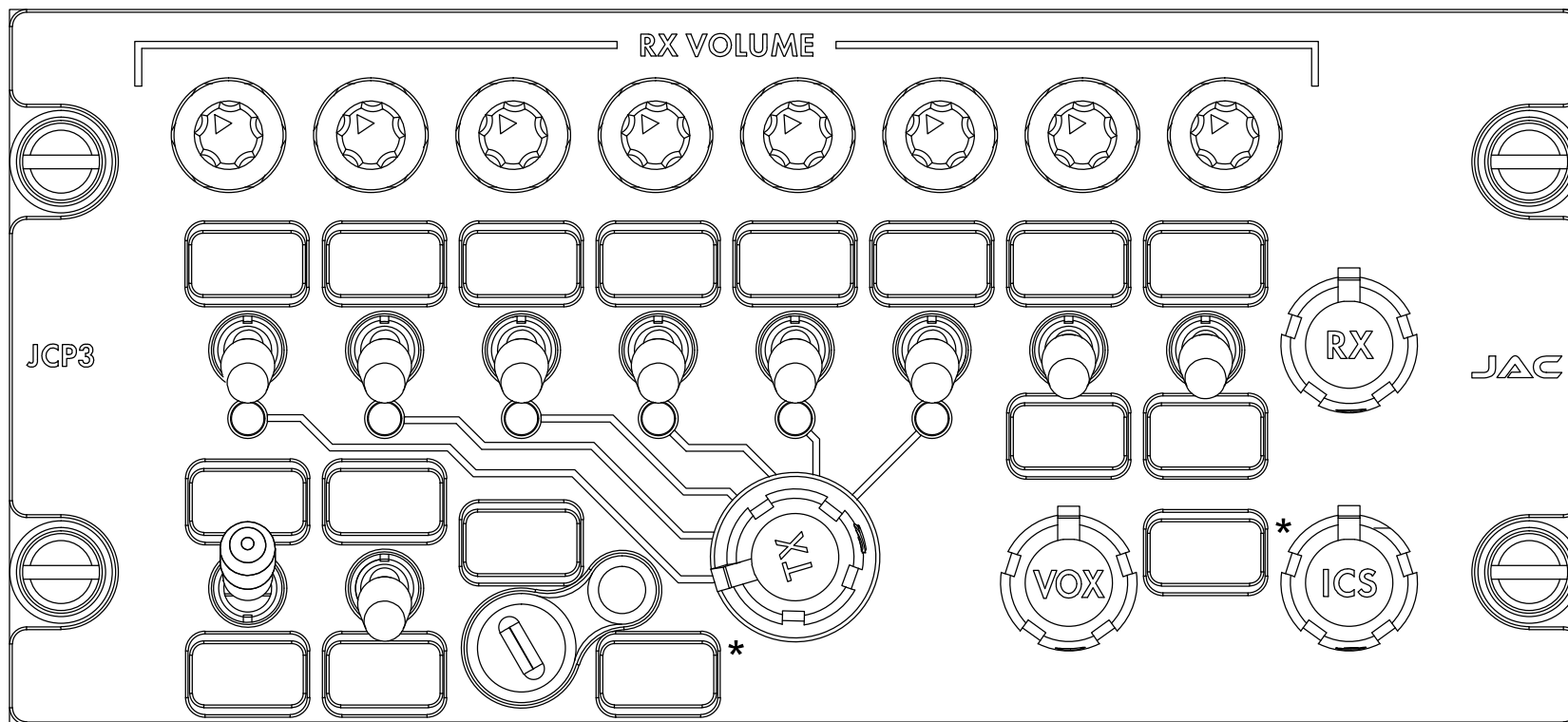
MATERIAL: N/A
FINISH: N/A

PREPARED	TAT	 JUPITER AVIONICS CORPORATION		
CHECKED	JAC 10-30-19 SRM			
APPROVED	JAC 10-30-19 KDV	TITLE Control Panel		
CONFIDENTIAL & PROPRIETARY TO JUPITER AVIONICS CORP. DRAWING NOT TO SCALE		NCAGE CODE L00N3	PART NO. JCP3-070	SHEET 1/1
		DOC. NO. JCP3-070 Mechanical Installation Rev A.SLDDRW		



JCP3-x70 Configuration Chart

Standard legends shown, all legends are customizable up to 4 characters. Click on legend to customize. Save and email file to sales@jupiteravionics.com



System Lighting Type: Standard White ☐ NVIS Compatible ☐

* Deadfront

Customer Information

Installation Company: _____

Phone: _____

Contact: _____

End User Name: _____

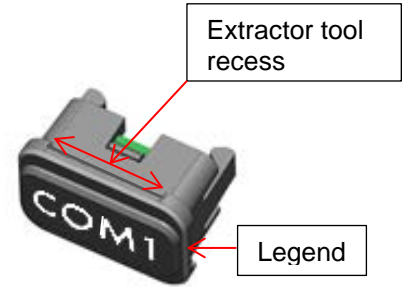
Aircraft Type: _____



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.

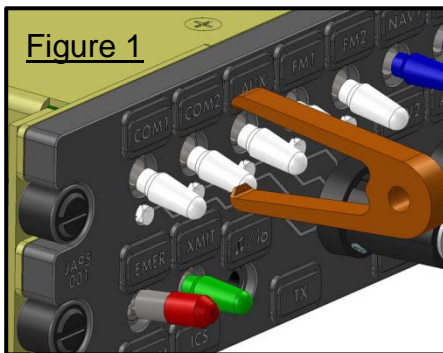


Figure 1

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).

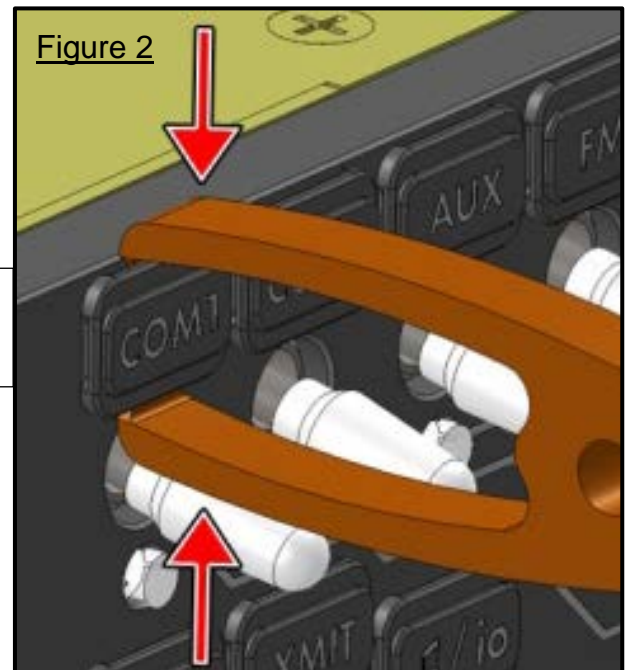


Figure 2

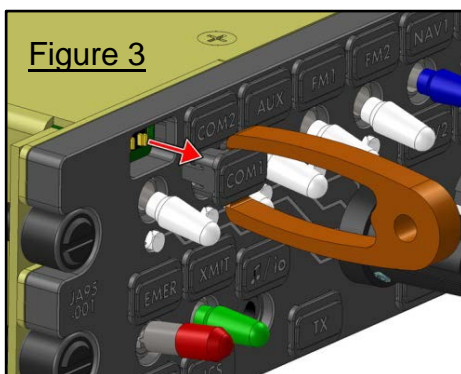


Figure 3

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 - Certification Documents



B1 Airworthiness Approval

Airworthiness approval of the JCP3-070 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 JCP3-070 Control Panel with RX Volume Controls. 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 JCP3-070 Control Panel with RX Volume Controls in [aircraft location] and a Jupiter Avionics [Part Number] Remote Audio Controller in [aircraft location].

Installed in accordance with the JCP3-070 Installation Manual, Revision [], and AC 43.13-2, Chapters 2, and 3.

The JCP3-070 interfaces with the Remote Audio Controller per the Installation Manual instructions.

The JCP3-070 Installation Manual provides detailed installation instructions and wiring diagrams (Section 2, and Appendices A and B).

Power is supplied to the JCP3-070 from the Remote Audio Controller.

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 JCP3-070 Control Panel with RX Volume Controls is "on condition" only. Refer to the JCP3-070 Maintenance Manual. Periodic maintenance of the JCP3-070 is not required.

The following sample Instructions for Continued Airworthiness (ICA) provides assistance in preparing ICA for the Jupiter Avionics JCP3-070 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 JCP3-070 Control Panel with RX Volume Controls 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 JCP3-070 installed in an [aircraft make and model].

Applicability: Applies to a Jupiter Avionics JCP3-070 installed in an [aircraft make and model].

Definitions/Abbreviations: None, N/A.

Precautions: None, N/A.

Units of Measurement: None, N/A.

Referenced Publications: JCP3-070 Installation and Operating Manual
JCP3-070 Maintenance Manual
JCP3-070 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 JCP3-070 Control Panel with RX Volume Controls with interface to a Remote Audio Controller 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 JCP3-070 Operating Manual.

4. Servicing Information

N/A

5. Maintenance Instructions

Maintenance of the JCP3-070 is 'on condition' only. Periodic maintenance is not required. Refer to the JCP3-070 Maintenance Manual.

6. Troubleshooting Information

Refer to the JCP3-070 Maintenance Manual.

7. Removal and Replacement Information

Refer to Section 2 of this manual - the JCP3-070 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 JCP3-070 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

JCP3-070 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 JCP3-070 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