JA33-001

Bluetooth® Transceiver

Installation and Operating Manual

Rev C

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IMPORTANT:

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www.jupiteravionics.com

RECORD OF REVISIONS

Revision	Rev Date	Description	ECR
A	Dec 2015	Initial release, Serial number 1001 and higher.	3819
B	May 2016	Changes to ProCS; updated Connector Map/Interconnect	4225
C	Dec 2019	FCC and IC compliance statements added.	6848

Prepared:	Checked:	Approved:
MPB	JAC 12-03-19 MB	JAC 12-03-19 KDV

Table of Contents

SECTION 1 - DESCRIPTION

1.1 System Overview

The JA33-001 Bluetooth® Transceiver allows the aircraft audio management system to receive high-quality stereo audio from a Bluetooth®-enabled device.

The JA33-001 can provide a full duplex Bluetooth interface with a cell phone or mobile device.

The JA33-001 can also act as a Bluetooth®-to-RS-232 interface, allowing a Bluetooth®-enabled device to interact with an RS-232 device connected to the JA33-001. The JA33-001 provides fully isolated audio output to allow a noise free installation.

The JA33-001 is set up on a per installation basis using a Configuration Cable and downloading the system configuration settings from a PC into non-volatile control devices.

1.2 Features Overview

All internal settings are quickly adjusted using Jupiter's proprietary ProCS (Product Configuration Software).

A configuration port is provided for configuration loading.

All audio outputs are floating and balanced.

The JA33-001 provides artificial sidetone generation and microphone voltage biasing for easily cell phone integration.

The JA33-001 contains a Bluetooth® Audio Module and is a Bluetooth® class 3 device with a <10 meters operating range.

The JA33-001 is a Bluetooth® 3.0 compliant device with the following supported profiles:

- SPP (Serial Port Profile)
- A2DP (Advanced Audio Distribution Profile) Sink or Source
- HFP (Hands Free Profile)

1.3 Inputs and Outputs

Refer to the JA33-001 connector map for the mating connector designators and contact assignments for the input and output signals.

1.3.1 Inputs

Name	Qty	Type
BLUETOOTH DISABLE	1	Discrete signal
CONFIG DATA TO JA33	1	Data signal
DATA TO JA33	1	Data signal
MODE SELECT	1	Discrete signal
+28 VDC POWER	1	Power Supply
MIC INPUT	1	Audio signal
MUSIC INPUT	1	Audio signal (Configurable via ProCS)

1.3.2 Outputs

Name	Qty	Type
BLUETOOTH STATUS ANNUNCIATOR	1	Discrete signal
CONFIG DATA FROM JA33	1	Data signal
MUSIC LEFT	1	Audio signal
MUSIC RIGHT	1	Audio signal
MODE SELECT OUTPUT	1	Discrete signal
RECEIVE OUTPUT	1	Audio signal
DATA FROM JA33	1	Data signal

1.4 Specifications

1.4.1 Electrical Specifications

Power Input

Nominal voltage	28 Vdc
Maximum voltage	30.3 Vdc
Minimum voltage	22.0 Vdc
Emergency voltage	18.0 Vdc
Input current	0.5 A max

1.4.1.1 Audio Performance

Rated Input Level

MIC	0.250 Vrms ± 10%
Music - Rated Input Level	0.400 Vrms ± 10%

Rated Output Power

MUSIC	6.00 Vrms ± 10%
RECEIVE	6.00 Vrms ± 10%

Audio Frequency Response

MUSIC	≤ 3dB from 60 to 20000 Hz
RECEIVE	≤ 3dB from 300 to 6000 Hz

Distortion Characteristics

Distortion at rated power	≤ 10%

Input Impedance

MIC	150 Ω ± 10%
Music	1000 Ω ± 10%

Output Load

Receive Load	600 Ω ± 10%
Music Load	600 Ω ± 10%

Audio Noise Level without Signal

Noise level below rated output	≥ 60 dB

1.4.1.2 Audio Performance, Other

RECEIVE AND MUSIC Output circuitry type	Capacitively Coupled
MIC INPUT circuitry type	Single Ended

1.4.1.3 Radio Frequency Performance

RF output power	0 dBm (maximum)
Antenna gain	≤ 1.7 dBi
EIRP	≤ 1.7 dBm
Transmit frequency band	2400 to 2483.5 MHz
Radio performance operation	Class 3 radio power mode.

1.4.1.4 Bluetooth Performance

The JA33-001 is always discoverable by Bluetooth® devices when not connected to another Bluetooth device.
The JA33-001 supports Bluetooth® A2DP, HFP and SPP profiles.

1.4.2 Mechanical Specifications

Height		1.21 in [30.7 mm] maximum
Depth		2.42 in [61.5 mm] maximum
Width		4.52 in [114.8 mm] maximum
Weight		0.31 lb [0.14 kg] maximum
Enclosure Material		brushed aluminum with conversion coating
Enclosure Features		RF-Transparent window
Connectors	J1 J2	One 15-pin D-Sub male V5 locking One 4 pole 3.5mm jack
Mounting		4 x 10-32 fasteners
Bonding		≤ 2.5 mΩ
Installation kit part number		INST-JA33

1.4.3 FCC Compliance Statement

Contains Transmitter Module FCC ID: QOQWT32AE

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

1.4.4 IC Compliance Statement

Contains Transmitter Module Industry Canada ID: 5123A-BGTWT32AE

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:
(1) this device may not cause interference, and
(2) this device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil est conforme aux normes RSS sans licence d'Industrie Canada. Son fonctionnement est soumis aux conditions suivantes :
(1) cet appareil ne doit pas causer d'interférences et
(2) doit accepter toute interférence, y compris les interférences pouvant entraîner un fonctionnement indésirable de l'appareil.

1.4.5 Co-location with Other Transmitters

Ensure all JA33-001 units are installed with at least 20 cm between other Bluetooth® units and antennae from other transmitting equipment.

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 JA33-001 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.

2.3.1 Warranty

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 JA33-001 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.

Unless otherwise noted, all wiring shall be a minimum of 24 AWG, except power and ground lines, which shall be a minimum of 22 AWG. 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 JA33-001 can be mounted in any attitude and location with adequate space and sufficient clearance for the connector and wiring harness. It requires no direct cooling.

2.4.4 Post Installation Checks

2.4.4.1 Voltage/Resistance checks.

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

a) Check P1 pin **1** for +28 Vdc power.

b) Check P1 pin **9** (Power Ground) for continuity to ground (less than 0.5 Ω).

c) Check P1 pin **10** (Chassis Ground) for continuity to ground (less than 0.5 Ω).

d) Check P1 pin **13** (Bluetooth disable) for continuity to ground when switch is closed (less than 0.5 Ω).

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

2.4.4.2 Configuration

Ensure that the JA33-001 contains the correct configuration settings. This may be done at the factory, on the maintenance bench or in the aircraft before the power on checks are performed. Refer to section 2.5.

2.4.4.3 Power on Checks.

Power up the aircraft's systems and confirm normal operation of all functions of the JA33-001 (see section 2.5).

a) 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.

b) 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 System Operation

The JA33-001 is a remote mount unit and has no user accessible controls.

2.5.1 Configuration Operation

The JA33-001 accepts commands on the Configuration connector via the configuration cable (JA99-001) and the configuration tool (ProCS™). Refer to section 2.6 Adjustments and Configuration.

2.5.2 Bluetooth® Audio Receive Operation

The Bluetooth® Audio Input is level controlled and routed to the MUSIC LEFT HI/LO and MUSIC RIGHT HI/LO outputs.

2.5.3 Bluetooth® Serial Data Operation

The BLUETOOTH SERIAL DATA IN input is level-translated to RS-232 levels and routed to the DATA FROM JA33 output. The DATA TO JA33 input is routed to the BLUETOOTH SERIAL DATA OUT.

2.6 Adjustments and Configuration using ProCS™

All the JA33-001 internal adjustments are set from the Product Configuration Software ProCS™. Configuration data is sent to the JA33-001 via the front panel connector (♫/io), 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.

2.6.1 Configuration Cabling Requirements

To configure the JA33-001, 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 JA33-001 are not included with the unit.

Cabling option 1:

Quantity	Description	JAC Part #
1	USB A to RS232 9-Pin Cable	CAB-USB-0002
1	Configuration Cable	JA99-001

Cabling option 2:

Quantity	Description	JAC Part #
1	USB A Male to RS232 3.5mm Plug	CAB-USB-0006

2.6.2 ProCS™ Setup

The ProCS™ JA33-001 menu item 'ProCS Setup' provides Setup drawings showing the cabling arrangement for connecting the JA33-001 to a computer running the ProCS™.

2.6.3 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.

Within ProCS™, the configurable settings are grouped together into the following sections:

2.6.4 JA33-001 Settings

The **Settings** window is divided into five sections:

- the Aircraft Audio System
- the Serial Data Devices
- the JA33-001 Bluetooth® Transceiver adjustments
- the Bluetooth® Transceiver
- the Bluetooth® Device Selection.

Each section is colour-coded to keep the relevant information together.

The Settings window will show different screens for MUSIC TRANSMITTER (A2DP SOURCE) (Fig. 1), Music Sink (Fig. 2) or Cell Phone (Fig. 3) selection (see below).

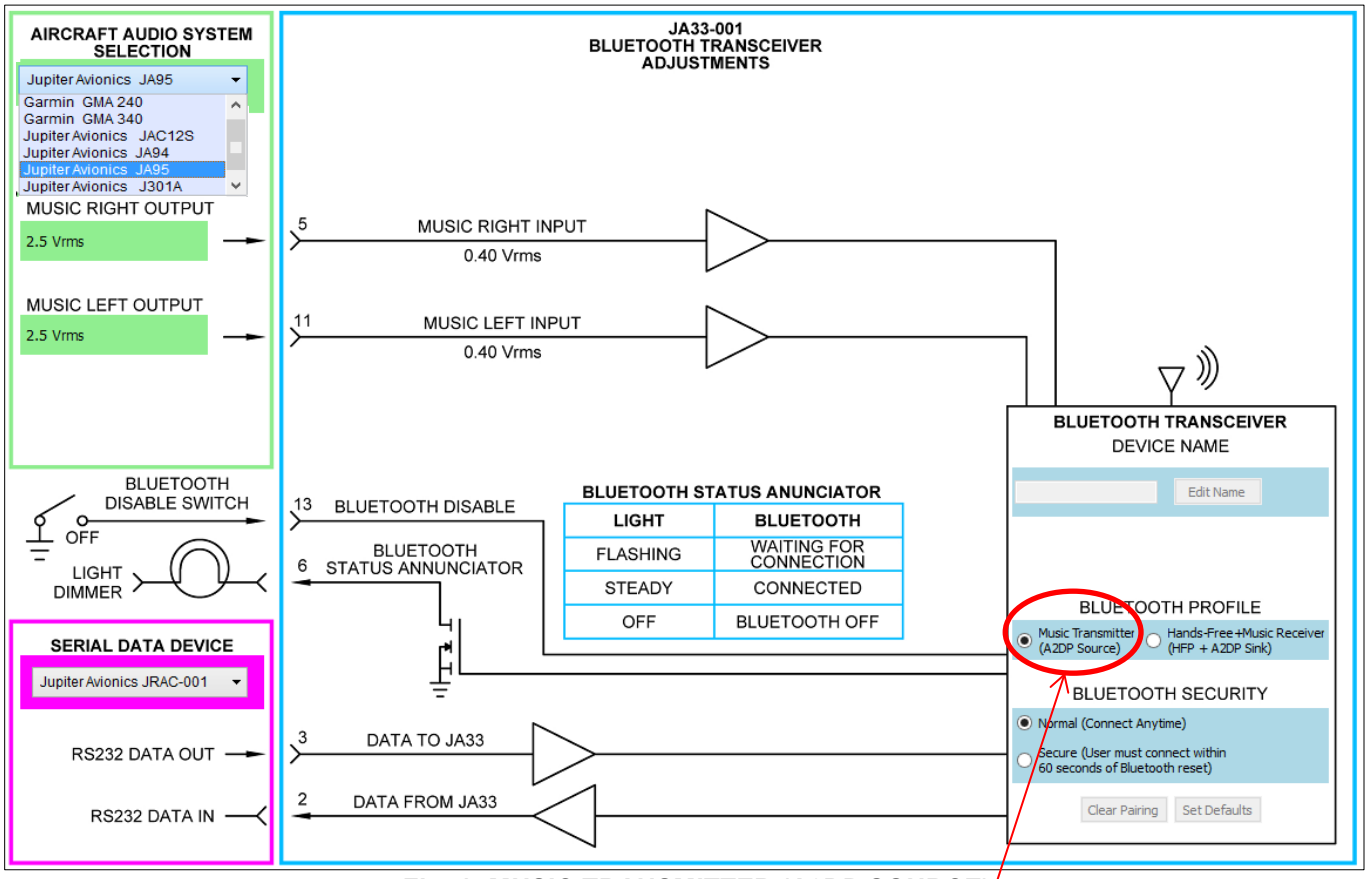


Fig. 1: MUSIC TRANSMITTER (A2DP SOURCE)

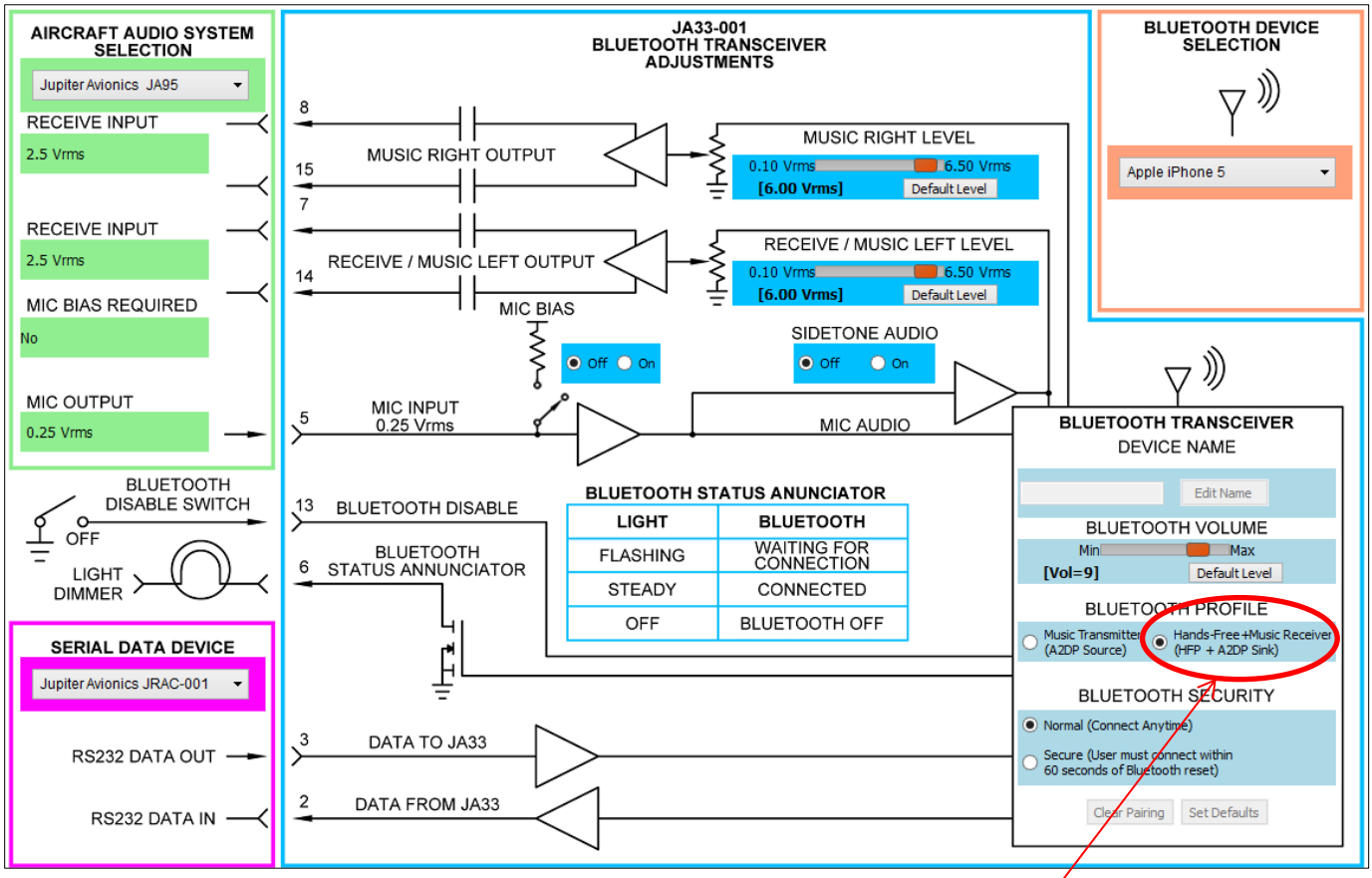


Fig. 2: HANDS-FREE + MUSIC RECEIVER (HFP + A2DP)

2.6.4.1 AIRCRAFT AUDIO SYSTEM SELECTION (Green block)

The appropriate aircraft audio system is selected from a drop-down list at the top of the block, and all relevant configuration information is added automatically. Other aircraft Audio systems can be added to the list (see section 2.6.5).

2.6.4.2 SERIAL DATA DEVICE (Magenta block)

The appropriate Serial Data Device is selected from a drop-down list at the top of the block, and all relevant configuration information is added automatically. Other Serial Data Devices can be added to the list (see section 2.6.7).

2.6.4.3 BLUETOOTH® TRANSCEIVER ADJUSTMENTS (Dark blue block)

The blue block refers to the adjustments and settings for the JA33-001.

MUSIC RIGHT LEVEL

The level of the **MUSIC RIGHT LEVEL** may be adjusted from 1.00 to 5.5 Vrms. (Default **5.5 Vrms**)

MUSIC LEFT LEVEL

The level of the **MUSIC LEFT LEVEL** may be adjusted from 1.00 to 5.5 Vrms. (Default **5.5 Vrms**)

MIC BIAS

The **MIC BIAS** may be adjusted from 0.10 to 6.50 Vrms. (Default **6.00 Vrms**)

SIDETONE AUDIO

The **SIDETONE AUDIO** may be selected as Off or On. (Default **Off**)

2.6.4.4 BLUETOOTH® TRANSCEIVER (Light blue block)

A custom Bluetooth® device name can be typed in to identify the JA33-001 in the user's cell phone.

A slider is used to set the volume (minimum 0 – maximum 10) to suit the user's preference. (Default **9**).

The Bluetooth® Profile is selected as **Music Transmitter (A2DP Source)** for playing audio from a smartphone or other music source, or **Hands-Free + Music Receiver (HFP + A2DP Sink)** for connecting to a cell phone. (A2DP = Advanced Audio Distribution Profile)

Bluetooth® Security allows the user to select between 'Normal (Connect Anytime)' and 'Secure (User must connect within 60 seconds of Bluetooth reset)'.

If a device is connected, the 'Clear Pairing' and 'Set Defaults' buttons will be available for use.

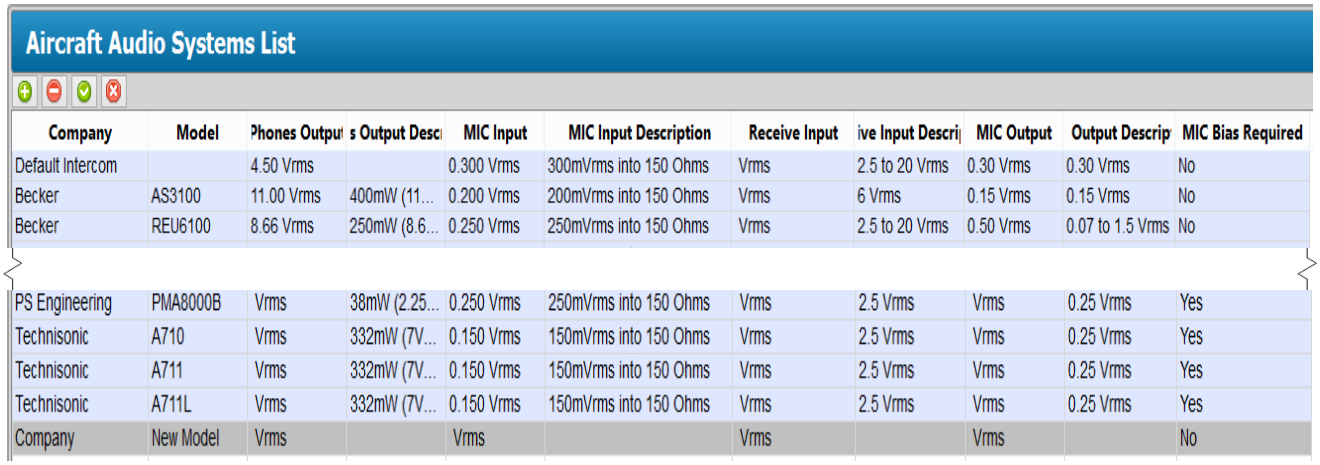
If a Status Indicator is installed, the Bluetooth Status Indicator table describes how an indicator lamp will behave at various stages of the connection process.

2.6.4.5 BLUETOOTH® DEVICE SELECTION (Orange block)

The appropriate Bluetooth® Source is selected from a drop-down list at the top of the block (as shown), and all relevant configuration information is added automatically. Other Bluetooth® Sources can be added to the list (see section 2.6.6).

2.6.5 Aircraft Audio Systems List

This is a list of Aircraft Audio Systems, and shows the configuration information that will be added to the **JA33-001 Settings** page.



Aircraft Audio Systems List

Company	Model	Phones Output	s Output Desc	MIC Input	MIC Input Description	Receive Input	ive Input Descri	MIC Output	Output Descrip	MIC Bias Required
Default Intercom		4.50 Vrms		0.300 Vrms	300mVrms into 150 Ohms	Vrms	2.5 to 20 Vrms	0.30 Vrms	0.30 Vrms	No
Becker	AS3100	11.00 Vrms	400mW (11...	0.200 Vrms	200mVrms into 150 Ohms	Vrms	6 Vrms	0.15 Vrms	0.15 Vrms	No
Becker	REU6100	8.66 Vrms	250mW (8.6...	0.250 Vrms	250mVrms into 150 Ohms	Vrms	2.5 to 20 Vrms	0.50 Vrms	0.07 to 1.5 Vrms	No
PS Engineering	PMA8000B	Vrms	38mW (2.25...	0.250 Vrms	250mVrms into 150 Ohms	Vrms	2.5 Vrms	Vrms	0.25 Vrms	Yes
Technisonic	A710	Vrms	332mW (7V...	0.150 Vrms	150mVrms into 150 Ohms	Vrms	2.5 Vrms	Vrms	0.25 Vrms	Yes
Technisonic	A711	Vrms	332mW (7V...	0.150 Vrms	150mVrms into 150 Ohms	Vrms	2.5 Vrms	Vrms	0.25 Vrms	Yes
Technisonic	A711L	Vrms	332mW (7V...	0.150 Vrms	150mVrms into 150 Ohms	Vrms	2.5 Vrms	Vrms	0.25 Vrms	Yes
Company	New Model	Vrms		Vrms		Vrms		Vrms		No

If it is desirable to add other Audio systems, click on the **Aircraft Audio Systems List**. A new audio system and its parameters can be added by clicking on (the '**New Aircraft Audio System**' button). A new line will be added to the bottom of the list, and double clicking on each part of the line will highlight it to allow changes. When the relevant details have been added, use the ('**Save Changes**') or ('**Cancel All Changes**') button as required. The added system will then appear on the appropriate drop-down menu list.

2.6.6 Bluetooth® Devices List

This is a list of Bluetooth® Sources and the configuration information that will be added to the **JA33-001 Settings** page. The list is similar to the Aircraft Audio Systems list, and new Bluetooth® Sources can be added in the same way.

2.6.7 Serial Data Devices List

This is a list of Serial Data Devices and the configuration information that will be added to the **JA33-001 Settings** page. The list is similar to the Aircraft Audio Systems list, and new devices can be added in the same way.

2.6.8 JA33-001 Connector Maps

JA33-001 Connector Maps and Interconnects are included here for information only.

2.6.9 Other Configuration Features

In the JA33-001 Product Information Window, the model number, serial number and check sum of the JA33-001 Bluetooth® Transceiver can be viewed.

2.7 Installation Kit

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

The installation kit (Part # INST-JA33) consists of the following:

Quantity	Description	JAC Part #
1	TAG ring	CON-5500-0375
1	D-Sub 15-pin connector, hood and 15 crimp pins	CON-3420-0015
1	Heat Shrink Tubing	WIR-HTSK-0750

2.7.1 Recommended Crimp tools

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

2.8 Installation Drawings

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

SECTION 3 – OPERATION

3.1 Introduction

This section contains the operating instructions for the JA33-001.

The JA33-001 Bluetooth® Transceiver allows the aircraft audio management system access to a non-aviation radio and Bluetooth® enabled devices.

3.2 Bluetooth® Operation

The JA33-001 is a remote mount unit and has no user accessible controls. However, a Bluetooth® disable input is provided to allow remote switching to control Bluetooth® connectivity. When a Bluetooth® enabled device such as a cell phone is introduced into the aircraft, it can be paired with the JA33-001.

The JA33-001 Bluetooth® Transceiver can be configured at installation or in the field by a dealer or installer, using the Jupiter Avionics Corporation ProCS™ configuration software. At that time, the Bluetooth® volume and profile (selected for either music input or cellphone use) and the device name can be chosen.

The default Bluetooth® device name is ***JA33-001-####*** where #### represents the serial number of the device.

3.3 Bluetooth® Pairing

Pairing is initiated using your cellphone or other Bluetooth® enabled device. Refer to your cellphone operating manual for full pairing information.

Typically, from the phone 'Settings' screen, select 'Bluetooth' and ensure that it is turned on. Then confirm that the list of discoverable devices includes **JA33-001-###** or the selected device name. Select this device.

The cellphone will pair with the JA33-001 in the mode selected via ProCS™ - HFP (Hands-Free Profile), A2DP Sink, or A2DP Source. If necessary, confirm the mode with the installer.

Note: If the Bluetooth® mode of the JA33-001 is changed at a later date, it may be necessary to un-pair the cellphone and repeat the pairing process to reset to the updated mode of operation.

3.3.1 iPhone Connectivity Configuration

The default setting for Call Audio Routing allows the iPhone to select where to route calls; either to the built-in speaker or a Bluetooth® headset. This can cause response delays and possible 'dropped calls'.

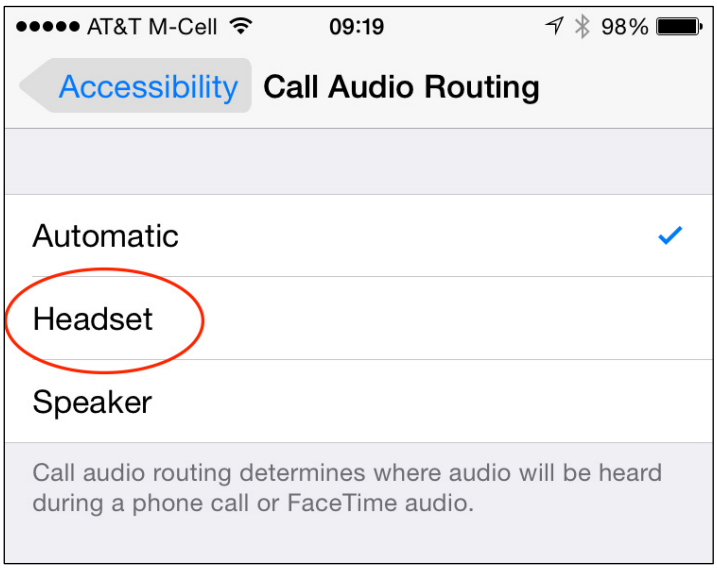
To ensure that the paired iPhone works more consistently, it should be configured to use the Bluetooth® device as a default when answering incoming calls.

Example from the iPhone 5:

- Select **Settings**
- Select **Accessibility**
- Select **Call Audio Routing**
- Choose **Headset**

Example from the iPhone 6:

- Select **Settings**
- Select **General**
- Select **Accessibility**
- Select **Call Audio Routing**
- Choose **Headset**



Changing the setting to **Headset** ensures that the iPhone selects the Bluetooth® device as its first option, but will revert to the iPhone's built-in speaker if no device is found.

3.4 Bluetooth® Status Indicator

If an optional Bluetooth® Status Indicator is installed, the table below describes how an indicator lamp will behave at various stages of the connection process.

Light	**Bluetooth® Connection Status**
Flashing	Waiting for connection
Steady	Connected
Off	Bluetooth® off

Installation and Operating Manual

Appendix A - Installation Drawings

A1 Introduction

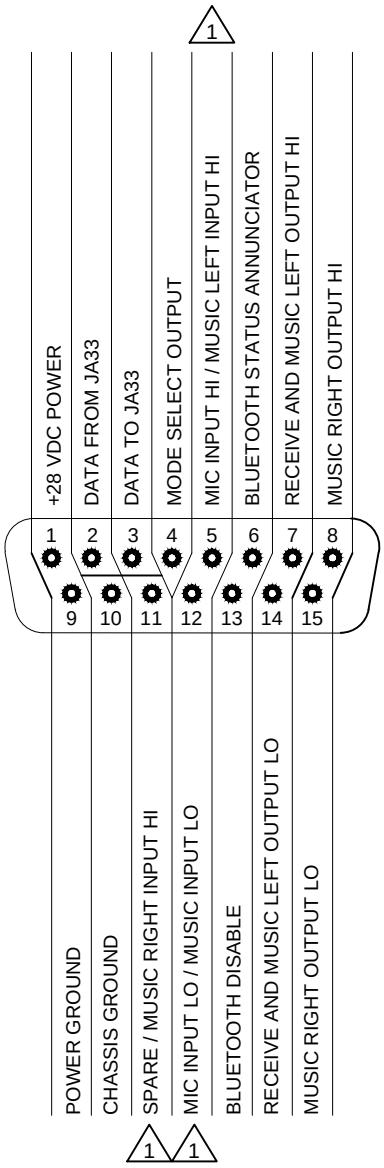
The drawings necessary for installation and troubleshooting of the JA33-001 Bluetooth® Transceiver are in this Appendix, as listed below.

A2 Installation Drawings

DOCUMENT	Rev
JA33-001 Connector Map	B
JA33-001 Interconnect	B
JA33-001 Mechanical Installation	C

P1

15 PIN FEMALE DMIN
MATING CONNECTOR



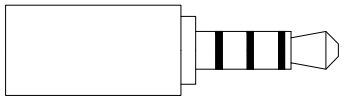
1 Configurable Contact

VIEW IS FROM REAR OF MATING CONNECTOR

CONFIGURATION CONNECTOR

P2

JA99 CONFIGURATION CABLE
4 POLE MALE 3.5MM STEREO



MATING PLUG NAMES	JA33 SIGNAL NAMES
TIP: TX DATA	CONFIG DATA TO JA33
1ST RING: RX DATA	CONFIG DATA FROM JA33
2ND RING: GROUND	GROUND
3RD RING: MODE SELECT	MODE SELECT

PREPARED	TAT	JUPITER AVIONICS CORPORATION	
CHECKED	JAC 05-19-16 DS	TITLE: Bluetooth Transceiver	
APPROVED	JAC 05-19-16 KDV	NCAGE CODE: L00N3	PART NO.: JA33-001 / SHEET: 1/1
CONFIDENTIAL & PROPRIETARY TO JUPITER AVIONICS CORP.		DOC NO.: JA33-001 Connector Map Rev B.dwg	

JA33-001 INTERCONNECT WIRING NOTES

NOTES

1. All wire size should be 24 AWG min unless otherwise specified. Unshielded wire should be selected per FAA AC43.13-1B change 1 para 11-76 TO 11-78. Wire types should be in accordance with MIL-W-22759 as described in FAA AC43.13-1B change 1 para 11-85 and 11-86 and listed in table 11-11 or 11-12. All shielded cable should be in accordance with MIL-DTL-27500 (Revision H or later).

△2 Ground pin to disable Bluetooth operation.

△3 Open-drain output for Bluetooth status indicator lamp.

△4 Outputs are Balanced.

△5 Connection to airframe ground should not exceed 3 FT (0.9 M).

△6 Cable shields at the JA33-001 connector pins should be terminated to airframe ground using a tag ring P/N: MS27741-3 or equivalent.

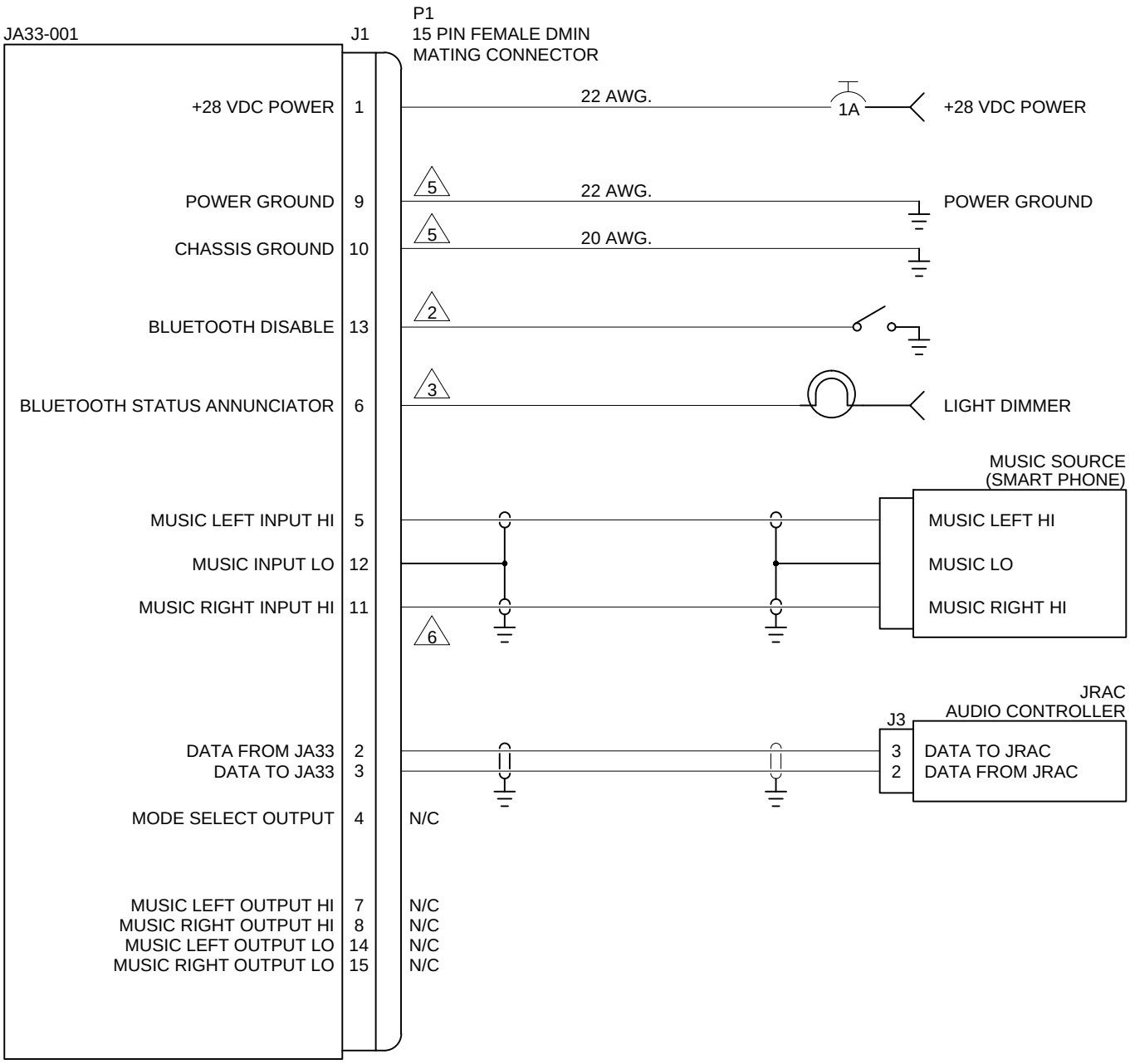
CONNECTOR PIN LEGENDS

LEGEND

N/C	No Connection

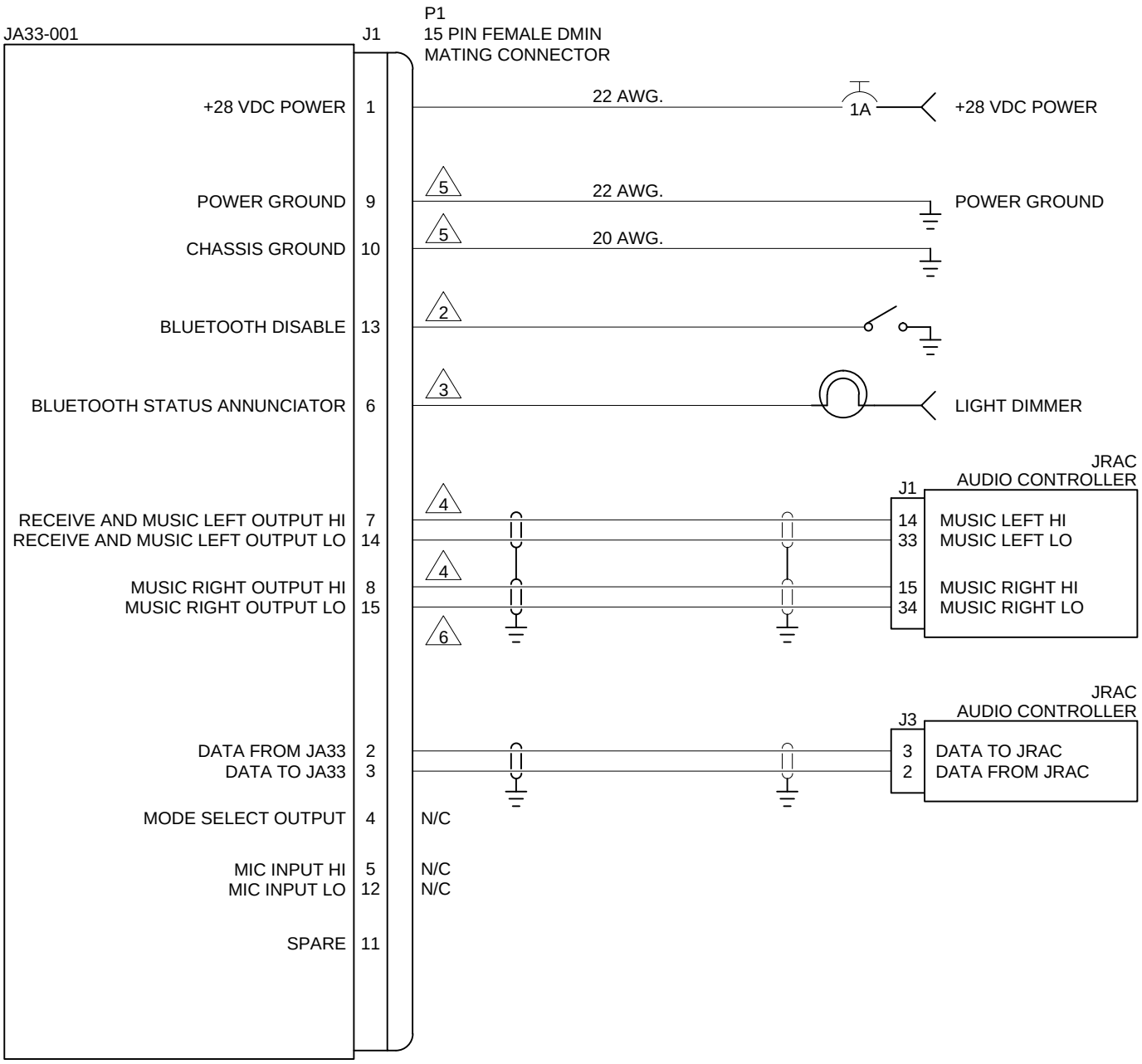
PREPARED	TAT	JUPITER AVIONICS CORPORATION	
CHECKED	JAC 05-19-16 DS	TITLE	Bluetooth Transceiver
APPROVED	JAC 05-19-16 KDV	NCAGE CODE: L00N3	PART NO.: JA33-001 / SHEET: 1/6
CONFIDENTIAL & PROPRIETARY TO JUPITER AVIONICS CORP.		DOC NO.	JA33-001 Interconnect Rev B.dwg

MUSIC TRANSMITTER PROFILE
OPTION: BLUETOOTH MUSIC TRANSMITTER (SOURCE) WITH SERIAL DATA



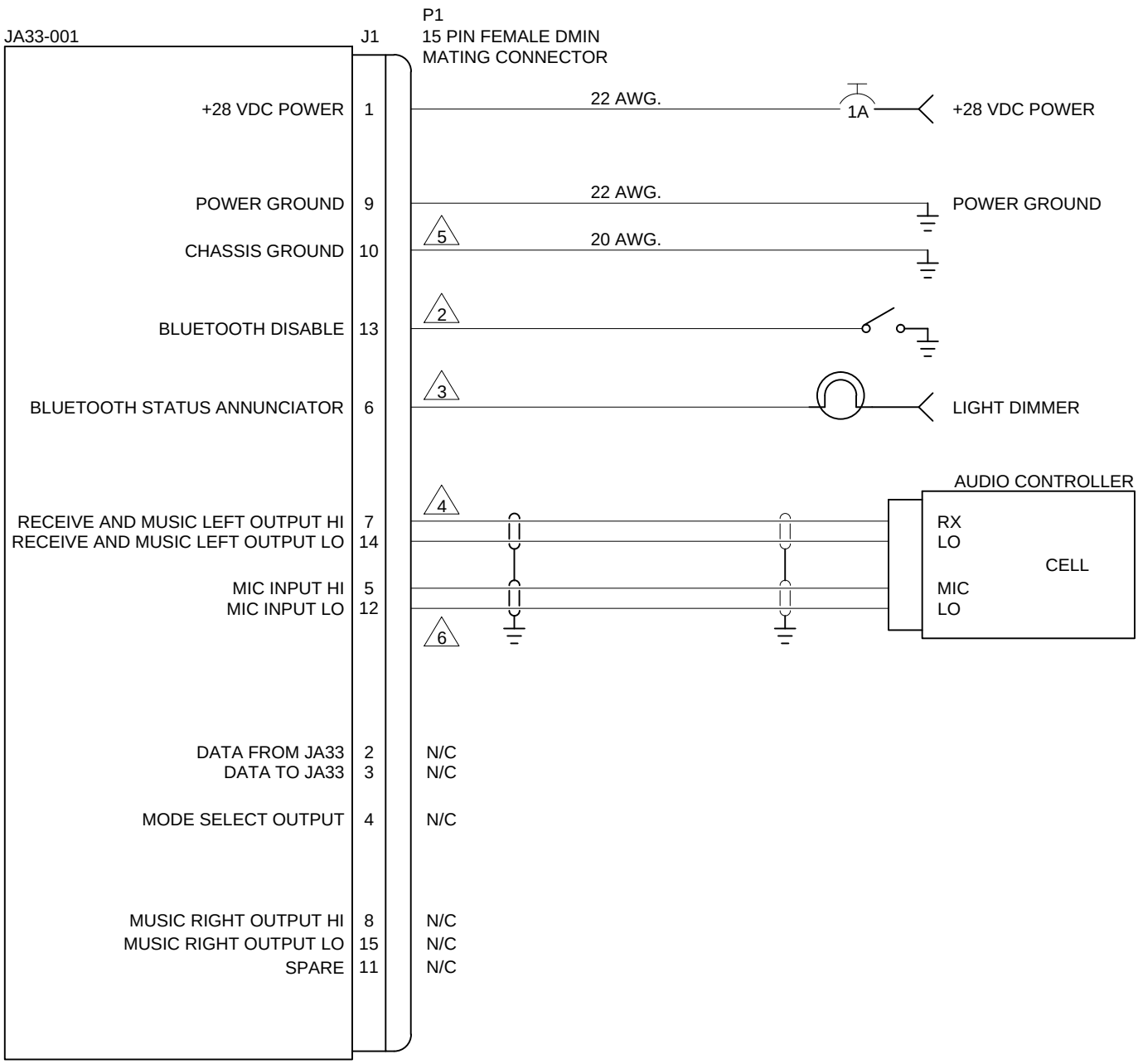
PREPARED	TAT	JUPITER AVIONICS CORPORATION		
CHECKED	JAC 05-19-16 DS	TITLE: Bluetooth Transceiver		
APPROVED	JAC 05-19-16 KDV	NCAGE CODE: L00N3	PART NO.: JA33-001	SHEET: 2/6
CONFIDENTIAL & PROPRIETARY TO JUPITER AVIONICS CORP.		DOC NO.: JA33-001 Interconnect Rev B.dwg		

HANDS-FREE AND MUSIC RECEIVER PROFILE
OPTION: BLUETOOTH MUSIC RECEIVER (SINK) WITH SERIAL DATA



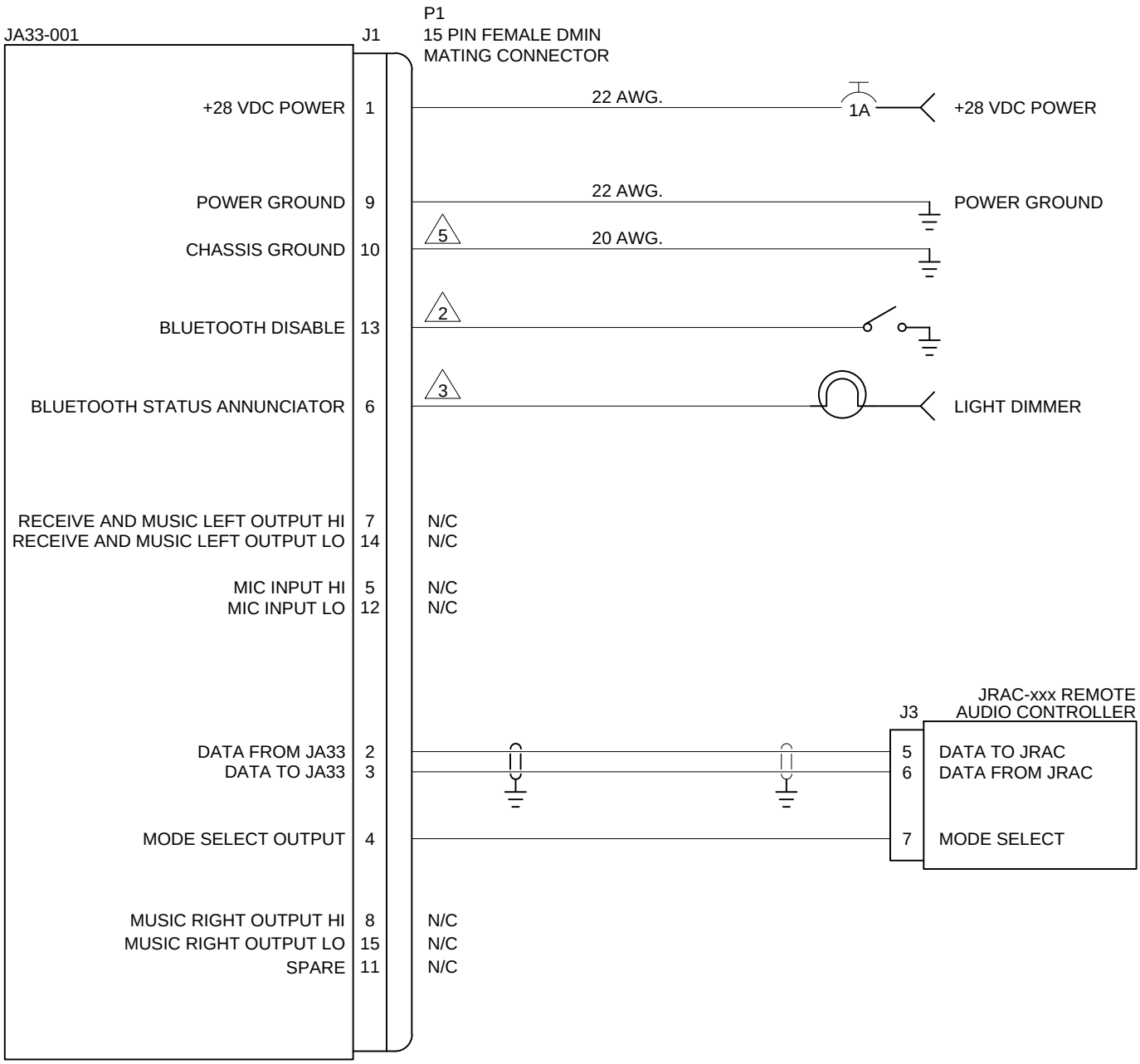
PREPARED	TAT	JUPITER AVIONICS CORPORATION		
CHECKED	JAC 05-19-16 DS	TITLE: Bluetooth Transceiver		
APPROVED	JAC 05-19-16 KDV	NCAGE CODE: L00N3	PART NO.: JA33-001	SHEET: 3/6
CONFIDENTIAL & PROPRIETARY TO JUPITER AVIONICS CORP.		DOC NO.: JA33-001 Interconnect Rev B.dwg		

HANDS-FREE AND MUSIC RECEIVER PROFILE
OPTION: CELL PHONE INTERFACE



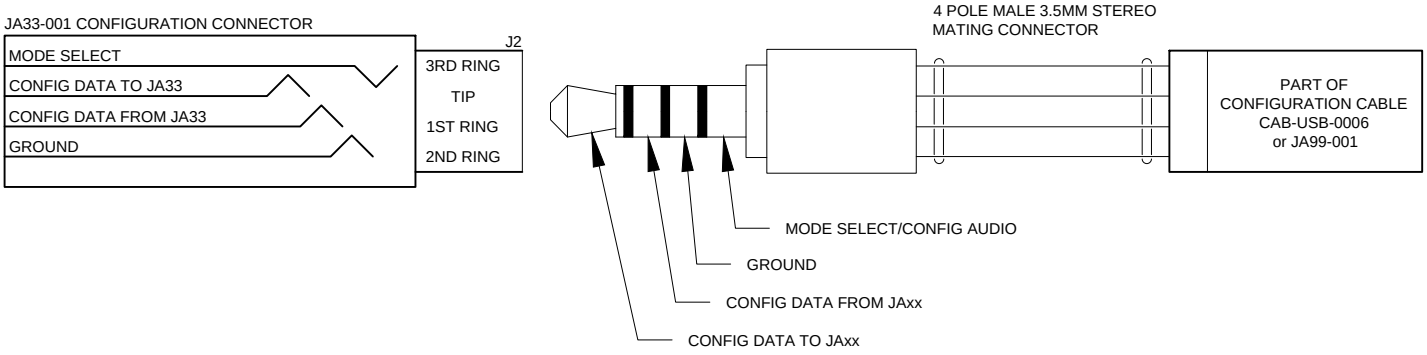
PREPARED	TAT	JUPITER AVIONICS CORPORATION		
CHECKED	JAC 05-19-16 DS	TITLE: Bluetooth Transceiver		
APPROVED	JAC 05-19-16 KDV	NCAGE CODE: L00N3	PART NO.: JA33-001	SHEET: 4/6
CONFIDENTIAL & PROPRIETARY TO JUPITER AVIONICS CORP.		DOC NO.: JA33-001 Interconnect Rev B.dwg		

HANDS-FREE AND MUSIC RECEIVER PROFILE
OPTION: WIRELESS ProCS CONFIGURATION INTERFACE

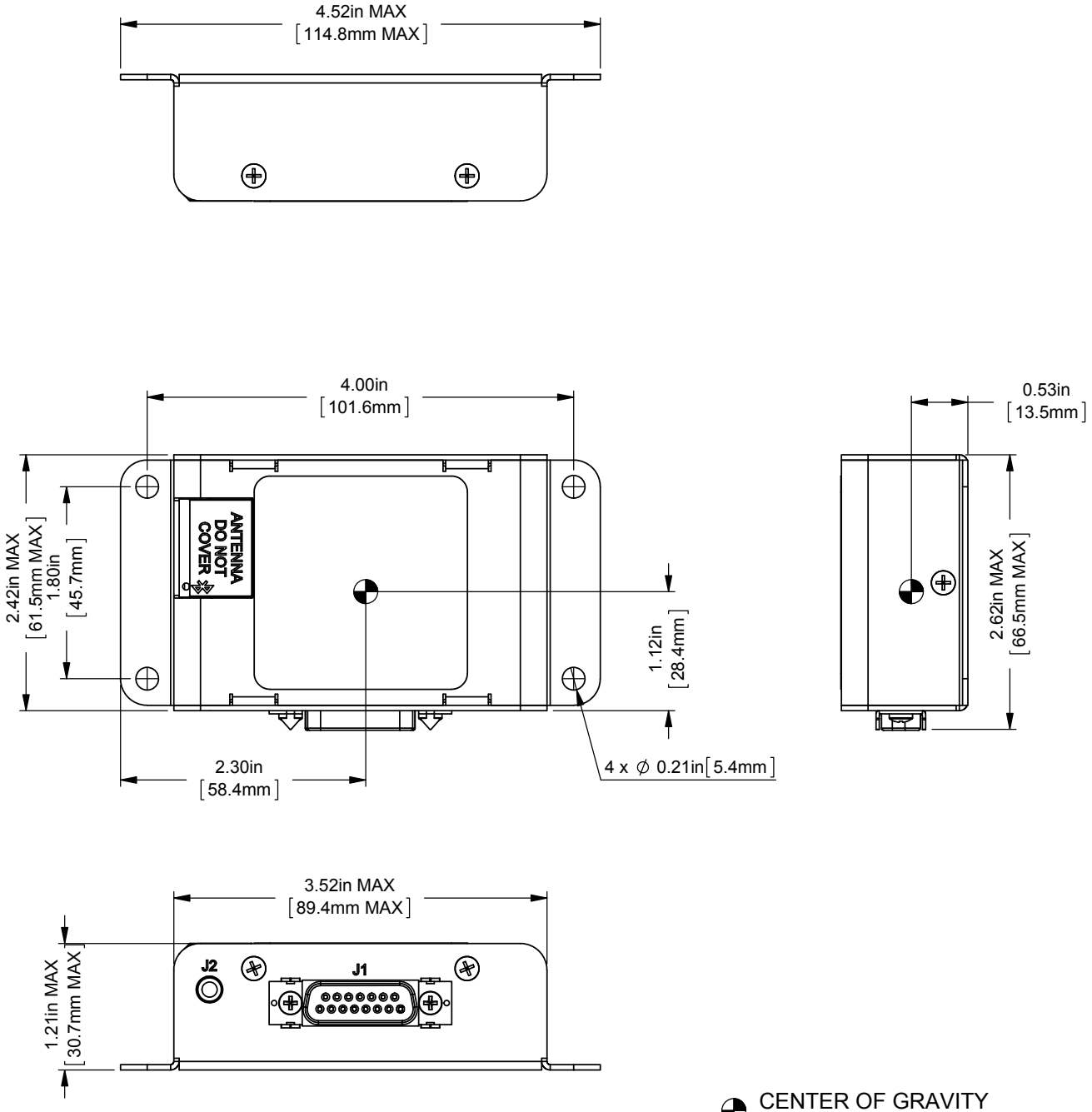


PREPARED	TAT	JUPITER AVIONICS CORPORATION		
CHECKED	JAC 05-19-16 DS	TITLE: Bluetooth Transceiver		
APPROVED	JAC 05-19-16 KDV	NCAGE CODE: L00N3	PART NO.: JA33-001	SHEET: 5/6
CONFIDENTIAL & PROPRIETARY TO JUPITER AVIONICS CORP.		DOC NO.: JA33-001 Interconnect Rev B.dwg		

CONFIGURATION CONNECTOR



PREPARED	TAT	JUPITER AVIONICS CORPORATION		
CHECKED	JAC 05-19-16 DS	TITLE: Bluetooth Transceiver		
APPROVED	JAC 05-19-16 KDV	NCAGE CODE: L00N3	PART NO.: JA33-001	SHEET: 6/6
CONFIDENTIAL & PROPRIETARY TO JUPITER AVIONICS CORP.		DOC NO.: JA33-001 Interconnect Rev B.dwg		



CENTER OF GRAVITY
±0.03in [0.8mm]

WEIGHT: 0.31 lbs [0.14 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	PREPARED	TAT	JUPITER AVIONICS CORPORATION
	CHECKED	JAC 12-31-15 DS	TITLE: Bluetooth Transceiver
	APPROVED	JAC 12-31-15 KDV	NCAGE CODE: L00N3 / PART NO.: JA33-001 / SHEET: 1/1
MATERIAL: N/A	CONFIDENTIAL & PROPRIETARY TO JUPITER AVIONICS CORP.		DOC. NO. JA33-001 Mechanical Installation Rev C.SLDDRW
FINISH: N/A	DRAWING NOT TO SCALE		

Installation and Operating Manual

Appendix B - Installation Documents

B1 Airworthiness Approval

Airworthiness approval of the JA33-001 may require completion of a TCCA Major Modification Report per CAR STD (AWM) 571 Appendix L, or a FAA Form 337. The sample wording for a description of the work is provided to assist the Installing Agency in preparing Instructions for Continued Airworthiness (ICA) when replacing existing equipment with a Jupiter Avionics JA33-001 Bluetooth® Transceiver. 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 JA33-001 Bluetooth® Transceiver in [aircraft location].

See Section 1 of the JA33-001 Installation Manual.

Installed in accordance with the JA33-001 Installation Manual, Revision [ ], and AC 43.13-2, Chapters 2, and 3.

The JA33-001 interfaces with existing aircraft systems per the Installation Manual instructions.

The JA33-001 Installation Manual provides detailed installation instructions and wiring diagrams (Section 2, and Appendices A and B).

Power is supplied to the JA33-001 through an existing [ ]-Amp circuit breaker that was previously used by the original audio panel. The net electrical load is unchanged.

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

B2 Instructions for Continued Airworthiness

Maintenance of the JA33-001 Bluetooth® Transceiver is "on condition" only. Refer to the JA33-001 Maintenance Manual. Periodic maintenance of the JA33-001 is not required.

The following sample Instructions for Continued Airworthiness (ICA) provides assistance in preparing ICA for the Jupiter Avionics JA33-001 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 JA33-001 Bluetooth® Transceiver 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 JA33-001 installed in an [aircraft make and model].

Applicability: Applies to a Jupiter Avionics JA33-001 installed in an [aircraft make and model].

Definitions/Abbreviations: None, N/A.

Precautions: None, N/A.

Units of Measurement: None, N/A.

Referenced Publications: JA33-001 Installation and Operating Manual
JA33-001 Maintenance Manual
JA33-001 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 JA33-001 Bluetooth® Transceiver interfaces 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 JA33-001 Operating Manual.

4. Servicing Information

N/A

5. Maintenance Instructions

Maintenance of the JA33-001 is 'on condition' only. Periodic maintenance is not required. Refer to the JA33-001 Maintenance Manual.

6. Troubleshooting Information

Refer to the JA33-001 Maintenance Manual.

7. Removal and Replacement Information

Refer to Section 2 of this manual - the JA33-001 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 JA33-001 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

JA33-001 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 JA33-001 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