



**JUPITER AVIONICS**  
CORPORATION

## **JA37-300 Aural Message Generator – 3 Channel - Analog Inputs**



### **Installation and Operating Manual**

**Rev A**

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





## Table of Contents

<b>SECTION 1 - DESCRIPTION</b> .....	<b>1</b>
1.1 System Overview .....	1
1.2 Features Overview .....	1
1.3 Inputs and Outputs .....	1
1.3.1 Inputs .....	1
1.3.2 Outputs .....	1
1.4 Specifications .....	2
1.4.1 Electrical Specifications .....	2
1.4.2 Mechanical Specifications .....	3
1.4.3 Flammability of Materials .....	3
<b>SECTION 2 – INSTALLATION</b> .....	<b>4</b>
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 .....	5
2.4.3 Mechanical Installation .....	5
2.4.4 Post Installation Checks .....	5
2.5 System Operation .....	5
2.5.1 Configuration Operation .....	5
2.5.2 Message Mute Operation .....	5
2.5.3 Message Operation .....	6
2.5.4 Power On Self-Test Operation .....	6
2.5.5 Priority Operation .....	6
2.5.6 Non-Priority Operation .....	6
2.5.7 RX Audio Operation .....	6
2.6 Adjustments and Configuration using ProCS™ .....	6
2.6.1 Configuration Cabling Requirements .....	6
2.6.2 ProCS™ Setup .....	7
2.6.3 Configurable Settings .....	7
2.6.4 Other Configuration Features .....	10
2.7 Installation Kit .....	10
2.7.1 Recommended Crimp tools .....	10
2.8 Installation Drawings .....	10
2.8.1 Generation of Custom Drawings .....	10
<b>SECTION 3 – OPERATION</b> .....	<b>11</b>
3.1 Introduction .....	11
3.2 Mute Switch/Button .....	11
<b>Appendix A - Installation Drawings</b> .....	<b>A1</b>
A1 Introduction .....	A1
A2 Installation Drawings .....	A1
<b>Appendix B - Installation Documents</b> .....	<b>B1</b>
B1 Airworthiness Approval .....	B2
B2 Instructions for Continued Airworthiness .....	B2



### SECTION 1 - DESCRIPTION

#### 1.1 System Overview

The JA37-300 Aural Message Generator - 3 Channel - Analog Inputs is a dual channel alerting system that provides up to three different messages.

The JA37-300 is setup on a per installation basis using a Configuration Cable and downloading the system configuration settings and aural messages into non-volatile devices.

#### 1.2 Features Overview

The JA37-300 unit features an industry standard D-Sub connector pin-out to allow easy field upgrades.

All internal adjustments are quickly adjusted using the proprietary ProCS (Product Configuration Software).

A port is provided beside the main connector for configuration loading.

All audio outputs are balanced.

Each message generator has two separate discrete trigger inputs which may be active low or high dependent on the configuration, or a single differential analog input.

Each message generator, when set to analog input, can select one of four different sensor types, which include Tachometer, 0-5 VDC Transducer, 0-100 mVDC Transducer or K-type Thermocouple.

Each sensor channel has a 'greater than' or 'less than' voltage trigger level that will cause the message to play when crossed.

Two isolation amplifiers are provided for mixing in other audio signals.

#### 1.3 Inputs and Outputs

Refer to the JA37-300 [connector map](#) for the mating connector designators and pin assignments for the input and output signals.

##### 1.3.1 Inputs

Name	Qty	Type
CONFIG DATA TO JA37-300	1	Data signal
MESSAGE DISCRETE TRIGGER	3	Active High/low discrete (Configurable)
MESSAGE ANALOG TRIGGER	3	Greater Than or Less Than (Configurable)
MESSAGE MUTE	1	Active low discrete
POWER INPUT	1	Power supply
RX1 and RX2 HI/LO	2	Audio signal (Configurable)

##### 1.3.2 Outputs

Name	Qty	Type
CONFIG DATA FROM JA37-300	1	Data signal
GROUND	4	Ground reference
PHONES HI/LO	2	Audio signal
LOW ISOLATION HI/LO	2	Audio signal
HIGH ISOLATION HI/LO	2	Audio signal (Configurable)



## **1.4 Specifications**

### **1.4.1 Electrical Specifications**

#### **Power Input**

Primary nominal voltage	28 Vdc
Secondary nominal voltage	14 Vdc
Maximum voltage	30.3 Vdc
Minimum voltage	11.0 Vdc
Emergency voltage	9.0 Vdc
Input current	0.5 A max

#### **1.4.1.1 Audio Performance**

##### **Rated Input Level**

RX audio rated input level	7.75 Vrms $\pm$ 10 %
Message Analog Triggers:	
Thermocouple rated input level	100 mVdc $\pm$ 1 %
0-5 VDC Pressure Transducer rated input level	5 Vdc $\pm$ 1 %
0-100 mVDC Pressure Transducer rated input level	100 mVdc $\pm$ 1 %
Tachometer rated input level (min)	0.2 Vrms $\pm$ 10 %
Tachometer rated input level (max)	22 Vrms $\pm$ 10 %

##### **Rated Output Level**

Phones rated output power into 600 Ohm	7.75 Vrms $\pm$ 10 %
Phones low isolation rated output power into 600 Ohm	3.87 Vrms $\pm$ 10 %
Phones high isolation rated output power into 600 Ohm	1.94 Vrms $\pm$ 10 %

##### **Audio Frequency Response**

Phones output audio frequency response	$\leq$ 3 dB from 300 to 6000 Hz
--	---------------------------------

##### **Distortion Characteristics**

Phones audio output distortion at rated power	$\leq$ 10 %
Phones audio output distortion at 10% of rated power	$\leq$ 3 %

##### **Input Impedance**

Receive Audio input Impedance	1000 $\Omega$ $\pm$ 10%
Message Analog Triggers:	
Thermocouple differential impedance	$\geq$ 500 k $\Omega$
Thermocouple impedance	$\geq$ 200 k $\Omega$
Pressure transducer differential impedance	$\geq$ 100 k $\Omega$
Pressure transducer impedance	$\geq$ 200 k $\Omega$
Tachometer differential impedance	$\geq$ 100 k $\Omega$
Tachometer impedance	$\geq$ 200 k $\Omega$

##### **Output Impedance**

Phones output Impedance	300 $\Omega$ $\pm$ 20 %
Phones low isolation output Impedance	1.2 k $\Omega$ $\pm$ 20 %
Phones high isolation output Impedance	3.0 k $\Omega$ $\pm$ 20 %

##### **Output Load**

Phones load	600 $\Omega$ $\pm$ 10 %
-------------	-------------------------

##### **Input to Input Crosstalk Level**

Input to Input crosstalk	$\leq$ 60 dB
--------------------------	--------------



Audio Noise Level without Signal

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

1.4.1.2 Audio Performance, Other

RX input circuitry type Transformer coupled  
Phones output circuitry type Transformer coupled  
Message playback frequency error  $\pm 2$  % max

1.4.1.3 Discrete Signals

Message Trigger (active low) signal level active  $\leq +3$  Vdc  
Message Trigger (active low) signal level inactive  $\geq +6$  Vdc  
Message Trigger (active high) signal level active  $\geq +8$  Vdc  
Message Trigger (active high) signal level inactive  $\leq +6$  Vdc  
Message Mute active low signal  $\leq +3$  Vdc

1.4.2 Mechanical Specifications

Height 1.27 in [32.3 mm] max  
Depth 4.42 in [112.3 mm] max  
Width 4.52 in [114.8 mm] max  
Weight 0.74 lbs. [0.33 kg] max  
Material brushed aluminum with conversion coating

Connectors (2): J1 One 25-pin D-Sub male, V5 locking  
J2 One 4 pole 3.5mm stereo jack

Mounting 4 x 10-32 fasteners

Bonding  $\leq 2.5$  m $\Omega$

Installation kit part number INST-JA37

1.4.3 Flammability of Materials

The JA37-300 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 JA37-300 is on condition only. Scheduled inspection and/or periodic maintenance of this unit is not required.

#### 2.3 Unpacking and Inspecting Equipment

Unpack the equipment carefully. Check for shipping damage and report any problems to the relevant carrier. Confirm that the Authorized Release Certificate or Certificate of Conformance is included. Complete the on-line warranty card from the Jupiter Avionics Corporation (JAC) website – [www.jupiteravionics.com/warranty](http://www.jupiteravionics.com/warranty)

##### 2.3.1 Warranty

This product manufactured by JAC is warranted to be free of defects in workmanship or performance for 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.

---



---

**WARNING: The messages are intended only to supplement, NOT replace, airframe messages such as 'low rotor RPM', 'engine out' or 'decision height alerting'. The message audio feature is intended for use as a secondary alerting system where another device provides the primary annunciation.**

---

##### 2.4.1 Installation Limitations

Those installing the JA37-300, on or in a specific type or class of aircraft, must determine that the aircraft installation conditions are within standards. The JA37-300 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 JA37-300 can be mounted in any attitude and location with adequate space for the front panel and sufficient clearance for the connector and wiring harness. It requires no direct cooling.

## 2.4.4 Post Installation Checks

### 2.4.4.1 Voltage/Resistance checks.

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

- a) Check P1 pin **1** for +28 Vdc or +14 Vdc relative to ground.
- b) Check P1 pin **14** for continuity to ground (less than 0.5  $\Omega$ ).
- c) Check all pins for shorts to ground or adjacent pins.

### 2.4.4.2 Configuration

Ensure that the JA37-300 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 2.5.1](#).

### 2.4.4.3 Power on Checks.

Power up the aircraft's systems and confirm normal operation of all functions of the JA37-300.

- a) Check that all configuration 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

Many of the System Operation parameters are configured using ProCS™ (see [section 2.6](#)).

### 2.5.1 Configuration Operation

The JA37-300 accepts configuration commands on the Configuration connector via the configuration cable(s) and the configuration tool (ProCS™) – refer to [section 2.6](#).

### 2.5.2 Message Mute Operation

The JA37-300 stops playing all messages if the MESSAGE MUTE input is activated while any MESSAGE TRIGGER input is active (or when Power On Self-Test is occurring) and stays muted until the next message trigger event.





### 2.5.3 Message Operation

The JA37-300 Message 1, Message 2 and Message 3 audio signal playback mode are individually selectable between Continual and One-Shot. Message playback may also be configured for Priority operation, see [section 2.5.5 – Priority Operation](#).

When a message is configured as One Shot, the Message audio signal is routed to the phones output for the duration of the alert when the corresponding Message Trigger is active. When a message is configured as Continual, the Message audio signal is routed to the phones output for the duration of the trigger input being active.

### 2.5.4 Power On Self-Test Operation

When the JA37-300 power is off and then POWER INPUT is applied, the three messages will play in the following order: message 1; message 2; message 3. The Power On Self-Test messages may be muted at any time using the MESSAGE MUTE input. See section 2.5.2.

### 2.5.5 Priority Operation

When Message Trigger Priority is selected (see [Message Trigger Priority](#) in section 2.6.2.1), if more than one trigger is active, the messages will have the following priority: message 1; message 2; message 3. Note that if a higher priority message has been triggered and is set as continual, the lower priority messages will not play until the higher priority trigger is no longer active.

### 2.5.6 Non-Priority Operation

When Message Trigger Priority is not selected ('Equal Priority' in ProCS™) if more than one trigger is active, the messages will play simultaneously (both Continual and One-Shot messages).

### 2.5.7 RX Audio Operation

The RX 1 and 2 audio is level controlled and summed with the Message audio and routed to the Phones 1 and 2, Low Isolation 1 and 2 outputs.

## 2.6 Adjustments and Configuration using ProCS™

All the JA37-300 internal adjustments are set from the [Product Configuration Software ProCS™](#). Configuration data is sent to the JA37-300 via the J2 connector, using the Configuration Cables and a computer running the ProCS™ software. For configuration cabling 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](http://www.jupiteravionics.com/productsoftware).

### 2.6.1 Configuration Cabling Requirements

To configure the JA37-300, 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 JA37-300 are not included with the unit.

#### Cabling option 1:

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

#### Cabling option 2:

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



## 2.6.2 ProCS™ Setup



The JA37-300 menu item 'ProCS Setup' provides Setup drawings showing the cabling arrangement for connecting the JA37-300 to a computer to allow configuration using ProCS™.

## 2.6.3 Configurable Settings

A standard unit is shipped from the factory with all internal adjustments configured to the default levels (shown in bold). At installation, it may be desirable to change some of these settings to suit the aircraft operating requirements.

Within ProCS™ the configurable settings for the JA37-300 are grouped together into the following sections:

### 2.6.3.1 JA37-300 Configurable Pins Function Select

Several of the connector pins can be configured to meet the requirements of specific installations. Refer to the JA37-300 [Interconnect](#). Selections can be made to configure sensor types (Discrete; Tachometer; Pressure Transducer; Thermocouple) and their associated outputs and trigger levels.

**JA37-300 Configurable Pins Function Select**

**J1 Contacts Selection**

Pin 10/22:  HIGH ISOLATION 1 OUTPUT  RX 1 INPUT

Pin 13/25:  HIGH ISOLATION 2 OUTPUT  RX 2 INPUT

**Message Trigger Activation Type**

MESSAGE 1 SENSOR TYPE: Discrete (dropdown menu open showing Discrete, Tachometer, 0 to 5Vdc Transducer, K-Type Thermocouple)

Pin 2: MESSAGE 1 TRIGGER A: Less Than, EQUAL PRIORITY, 0 VDC to 30 VDC [3 VDC]

Pin 3: MESSAGE 1 TRIGGER B: Less Than, EQUAL PRIORITY, 0 VDC to 30 VDC [3 VDC]

MESSAGE 2 SENSOR TYPE: Discrete

Pin 4: MESSAGE 2 TRIGGER A:  ACTIVE LO  ACTIVE HI, Less Than, EQUAL PRIORITY, 0 VDC to 30 VDC [3 VDC]

Pin 5: MESSAGE 2 TRIGGER B:  ACTIVE LO  ACTIVE HI, Greater Than, EQUAL PRIORITY, 0 VDC to 30 VDC [8 VDC]

MESSAGE 3 SENSOR TYPE: Discrete

Pin 6: MESSAGE 3 TRIGGER A:  ACTIVE LO  ACTIVE HI, Less Than, EQUAL PRIORITY, 0 VDC to 30 VDC [3 VDC]

Pin 7: MESSAGE 3 TRIGGER B:  ACTIVE LO  ACTIVE HI, Greater Than, EQUAL PRIORITY, 0 VDC to 30 VDC [8 VDC]

Message Trigger Priority

Drop-down windows allow selection of sensor type and trigger activation (Greater Than; Less Than)

If the 'Message Trigger Priority' box is checked, the signal Priority will be shown.

**Message Trigger Activation Type**

MESSAGE 1 SENSOR TYPE: Discrete

Pin 2: MESSAGE 1 TRIGGER A:  ACTIVE LO  ACTIVE HI, Less Than, PRIORITY 1, 0 VDC to 30 VDC [3 VDC]

Pin 3: MESSAGE 1 TRIGGER B:  ACTIVE LO  ACTIVE HI, Less Than, PRIORITY 1, 0 VDC to 30 VDC [3 VDC]

MESSAGE 2 SENSOR TYPE: Discrete

Pin 4: MESSAGE 2 TRIGGER A:  ACTIVE LO  ACTIVE HI, Less Than, PRIORITY 2, 0 VDC to 30 VDC [3 VDC]

Pin 5: MESSAGE 2 TRIGGER B:  ACTIVE LO  ACTIVE HI, Greater Than, PRIORITY 2, 0 VDC to 30 VDC [8 VDC]

MESSAGE 3 SENSOR TYPE: Tachometer 0.2Vrms to 2.2Vrms

Pin 6, 7 Analog Input: Less Than (dropdown menu open showing Less Than, Greater Than), PRIORITY 3, 2 Hz to 32000 Hz [2 Hz]

Message Trigger Priority

**Message Playback Type**

Message 1:  CONTINUAL  ONE-SHOT

Message 2:  CONTINUAL  ONE-SHOT

Message 3:  CONTINUAL  ONE-SHOT

The message Playback may be selected as 'Continual' or 'One-Shot' for each message (1 through 3).



2.6.3.2 JA37-300 Messages



**WARNING: The messages are intended only to supplement, NOT replace, airframe messages such as 'low rotor RPM', 'engine out' or 'decision height alerting'. The message audio feature is intended for use as a secondary alerting system where another device provides the primary annunciation.**

Audio Files

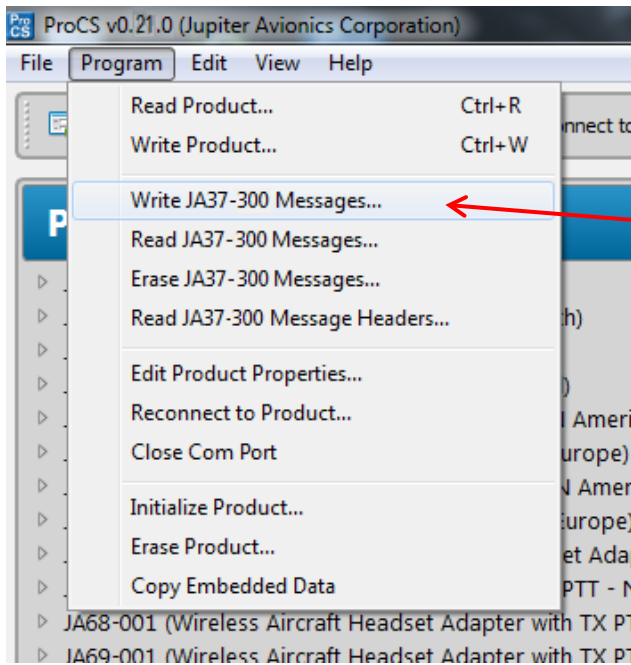
The JA37-300 is loaded with standard audio signals for each of the three messages, but the audio files window allows these signals to be replaced with other recordings during the configuration process. Selecting 'Open...' will open to the Jac>ProCS folders on the attached computer, but will also allow browsing of any directory accessible from the computer, and any suitable uploaded WAV file. If a new audio file is selected, it may be played using the arrow to the right of the Message line. See 'Saving new Audio files' below.

Phones 1 and Phones 2 Message Levels

For each of the Phones Outputs, the levels for the Messages can be adjusted from -42.5 to 0 dB. (default -20 dB)



### Saving new Audio Files



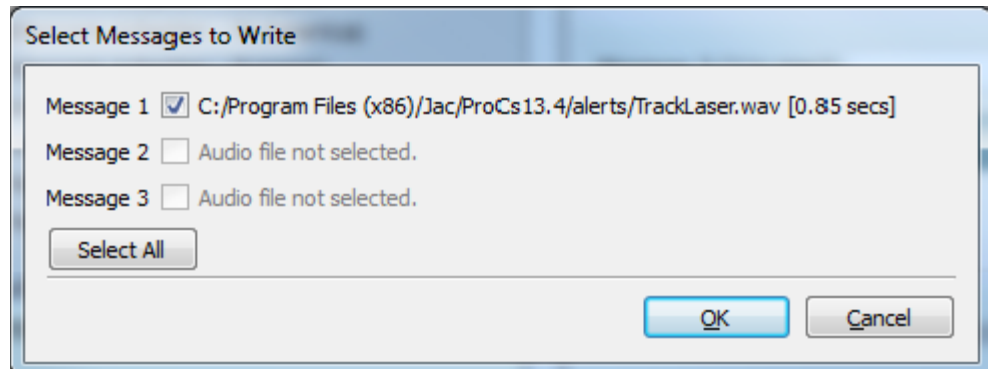
**Note:** This pane will not have the full content shown here if no JA37-300 is connected.

When suitable alert messages are listed in the 'Audio Files' section, they are uploaded to the JA37-300 by selecting 'Program' from the main ProCS menu, and clicking on 'Write JA37-300 Messages...'

The window 'Select Messages to Write' (see below) will open, allowing the selected audio file message to be uploaded to the JA37-300. ProCS will automatically convert any WAV file to the required audio sample rate for the JA37-300.

A selection of suitable WAV files can be found on the JAC website:  
Products>Software>Wave File Messages  
[www.jupiteravionics.com/productsoftware](http://www.jupiteravionics.com/productsoftware)

The 'Select Messages to Write' window is shown. Similar windows will open for the 'Read' and 'Erase' selections. The desired message is chosen using the check box to the right of the message number, or by clicking on the 'Select All' button.



### 2.6.3.3 JA37-300 RX Audio Levels

The Phones 1 and Phones 2 RX AUDIO levels may be selected from 1 to 8 Vrms (default **7.8 Vrms**).





**2.6.3.4 JA37-300 Connector Maps**

The connector Maps and Interconnects for the unit showing any changes made to the connector pin selection (section 2.6.3.1 - [J1 Contacts Selection](#)) are shown in this section.

**2.6.4 Other Configuration Features**

In the JA37-300 Product Information Window, the model number, serial number and check sum of the JA37-300 Aural Message Generator - 3 Channel 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-JA37) consists of the following:

<b>Quantity</b>	<b>Description</b>	<b>JAC Part #</b>
1	TAG ring 3/8" ID	CON-5500-0375
1	D-Sub 25-pin connector, hood and 25 crimp pins	CON-3420-0025
1	3/4" Inside Diameter, Heat Shrink Tube	WIR-HTSK-0750

**2.7.1 Recommended Crimp tools**

<b>Tool Type</b>	<b>Hand crimp tool</b>	<b>Positioner</b>	<b>Insertion/extraction tool</b>
Positronic	9507-0-0-0	9502-5-0-0	4711-2-0-0
Daniels	AFM8	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.

**2.8.1 Generation of Custom Drawings**

The connector map and interconnects in Appendix A of this manual are generic drawings based on the standard version of the JA37-300. However, if a unit has been configured using JAC's ProCS™ software to change connector pins, the software can be used to generate fully customized drawings for use by the installer.





### SECTION 3 – OPERATION

#### **3.1 Introduction**

This section contains the operating instructions for the JA37-300.



---

Note: The JA37-300 has no integrated operator controls. However, a remote-mounted mute switch or button may be installed, which affects the operation of the unit.

---

#### **3.2 Mute Switch/Button**

If the JA37-300 is playing Alert messages (either because an alert input is active or when Power On Self-Test is occurring), momentary activation of the remote Message Mute switch or button stops all messages from playing until the next message is triggered.





# Installation and Operating Manual

## Appendix A - Installation Drawings

### A1 Introduction

The drawings necessary for installation and troubleshooting of the JA37-300 Aural Message Generator - 3 Channel - Analog Inputs are in this Appendix, as listed below.



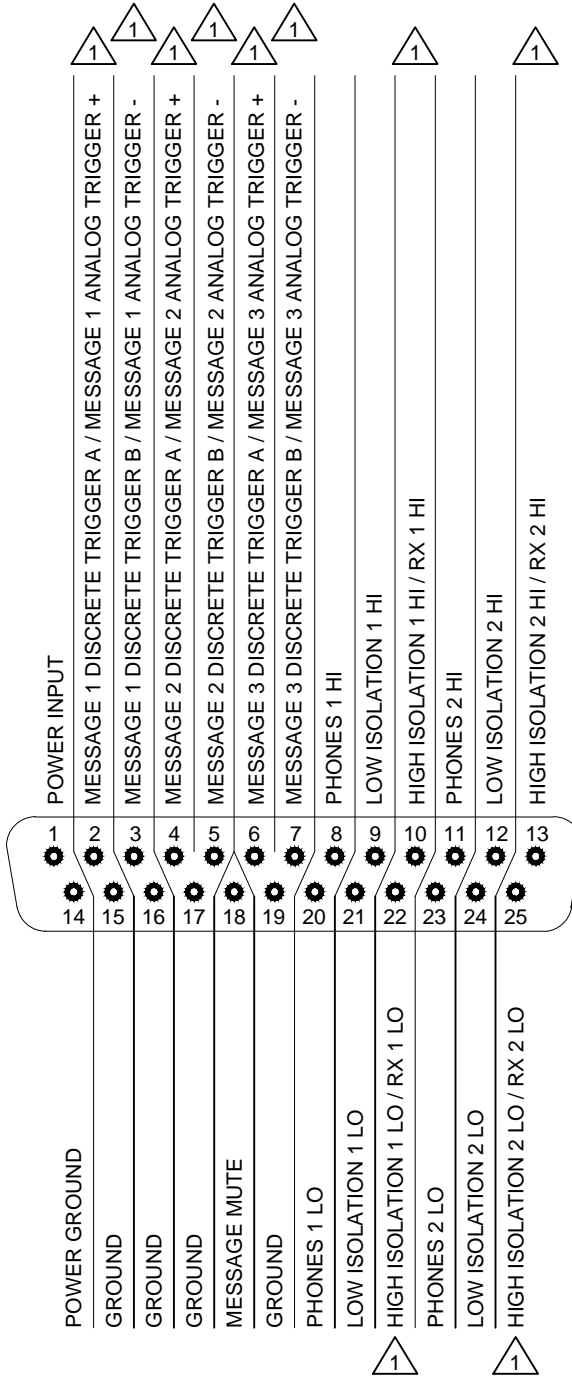
Note: A fully customized set of Connector Maps and Interconnects can be created using the ProCS software. Refer to the [ProCS™ manual](#) for further information.

### A2 Installation Drawings

DOCUMENT	Rev
<a href="#">JA37-300 Connector Map</a>	A
<a href="#">JA37-300 Interconnect</a>	A
<a href="#">JA37-300 Mechanical Installation</a>	B

**P1**

25 PIN FEMALE DMIN  
MATING CONNECTOR



VIEW IS FROM REAR OF MATING CONNECTOR

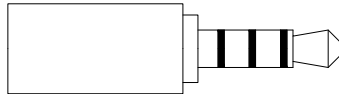
PREPARED	TAT	<b>JUPITER AVIONICS</b> CORPORATION		
CHECKED				
APPROVED		NCAGE CODE L00N3	PART NO. JA37-300	SHEET 1/2
CONFIDENTIAL & PROPRIETARY TO JUPITER AVIONICS CORP.		DOC NO. JA37-300 Connector Map Rev A.dwg		

## CONFIGURATION CONNECTOR

**P2**

ACCEPTS THE FOLLOWING PLUG FORMATS

CAB-USB-0006 or  
JA99-001 CONFIGURATION CABLE  
4 POLE MALE 3.5MM PLUG



MATING PLUG NAMES

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

JA37 SIGNAL NAMES




CONFIG DATA TO JA37  
CONFIG DATA FROM JA37  
GROUND  
MODE SELECT

PREPARED	TAT	<b>JUPITER AVIONICS</b> CORPORATION		
CHECKED				
APPROVED		Aural Message Generator - 3 Channel - Analog Inputs P2 Connector Map		
CONFIDENTIAL & PROPRIETARY TO JUPITER AVIONICS CORP.		NCAGE CODE	PART NO.	SHEET
		L00N3	JA37-300	2/2
		DOC NO.		
		JA37-300 Connector Map Rev A.dwg		

JA37-300 INTERCONNECT WIRING NOTES

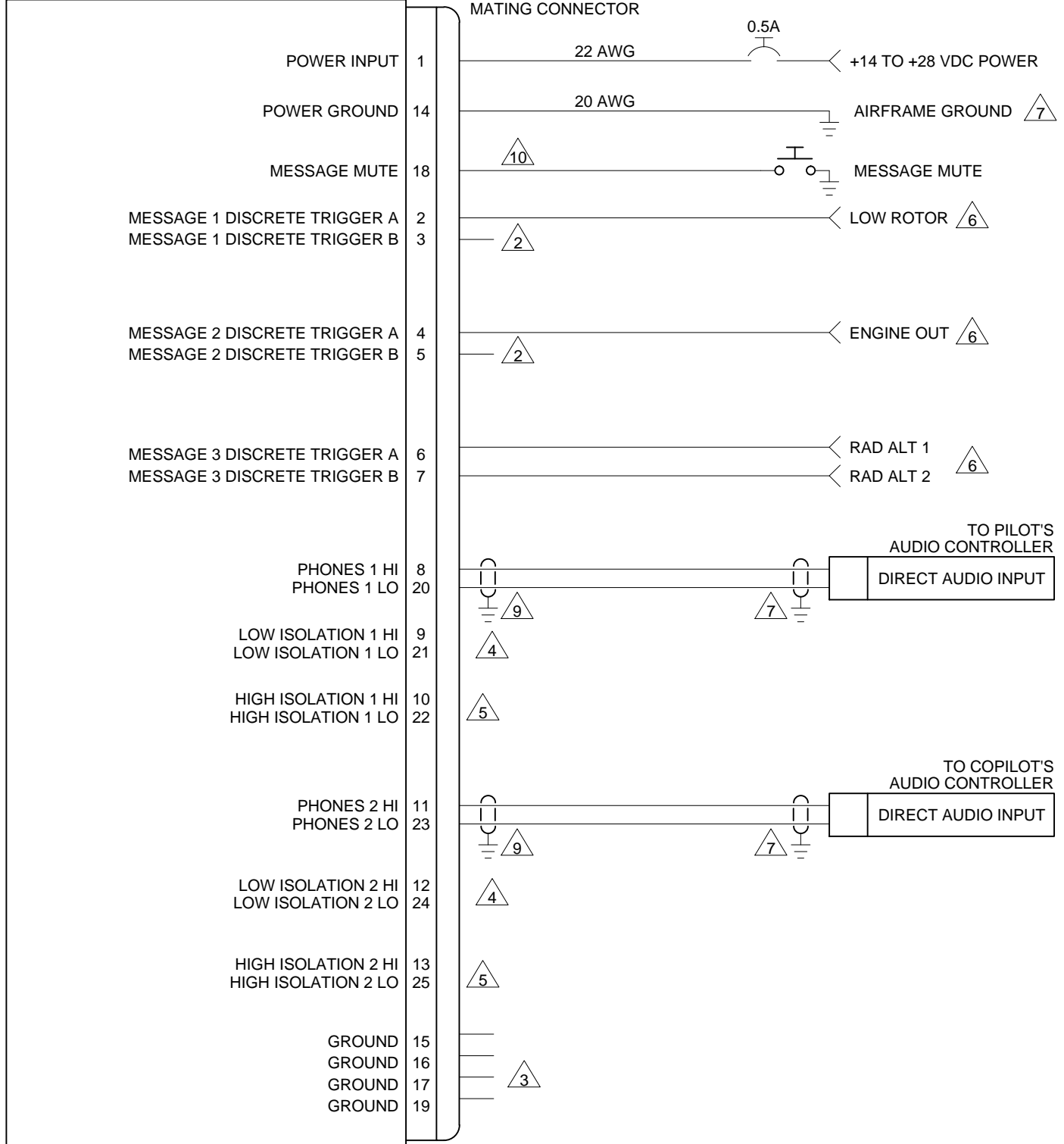
NOTES




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. USE FOR SECOND SOURCE INPUT.
3. USE AS GROUND REFERENCE FOR SWITCH CLOSURE WHEN TRIGGERS CONFIGURED AS ACTIVE LOW.
4. PROVIDES 50% REDUCTION IN AUDIO POWER AND LESS LOADING.
5. PROVIDES 67% REDUCTION IN AUDIO POWER AND THE LEAST LOADING.
6. EXAMPLES OF MESSAGE TRIGGERS.
7. CONNECTION TO AIRFRAME GROUND SHOULD BE MADE WITH 20 AWG WIRE. LENGTH NOT TO EXCEED 3 FT (0.91 M).
8. CONNECTOR PIN HAS MORE THAN ONE FUNCTION. SEE THE OPTIONS SECTION OF THIS DRAWING FOR ALTERNATIVE INTERCONNECT WIRING.
9. CABLE SHIELDS AT THE JA37 CONNECTOR END SHOULD BE TERMINATED TO AIRFRAME GROUND USING THE TAG RING SUPPLIED IN THE INSTALLATION KIT OR EQUIVALENT.
10. USE FOR MUTING OR ACKNOWLEDGING MESSAGE.
11. EXAMPLE WHEN CONTACTS ARE CONFIGURED AS RX HI/LO.
12. EXAMPLE WHEN CONTACTS ARE CONFIGURED AS HIGH ISOLATION HI/LO.
13. EXAMPLE WHEN CONTACTS ARE CONFIGURED TO INTERFACE WITH A K TYPE THERMOCOUPLE.
14. EXAMPLE WHEN CONTACTS ARE CONFIGURED TO INTERFACE WITH A 0 TO 5 VDC TRANSDUCER.
15. EXAMPLE WHEN CONTACTS ARE CONFIGURED TO INTERFACE WITH A TACHOMETER.
16. THERMOCOUPLE EXTENSION WIRE MUST MATCH THERMOCOUPLE TYPE.

PREPARED	TAT			
CHECKED				
APPROVED		NCAGE CODE L00N3	PART NO. JA37-300	SHEET 1/5
CONFIDENTIAL & PROPRIETARY TO JUPITER AVIONICS CORP.		DOC NO. JA37-300 Interconnect Rev A.dwg		

JA37-300

P1  
25 PIN FEMALE DMIN  
MATING CONNECTOR

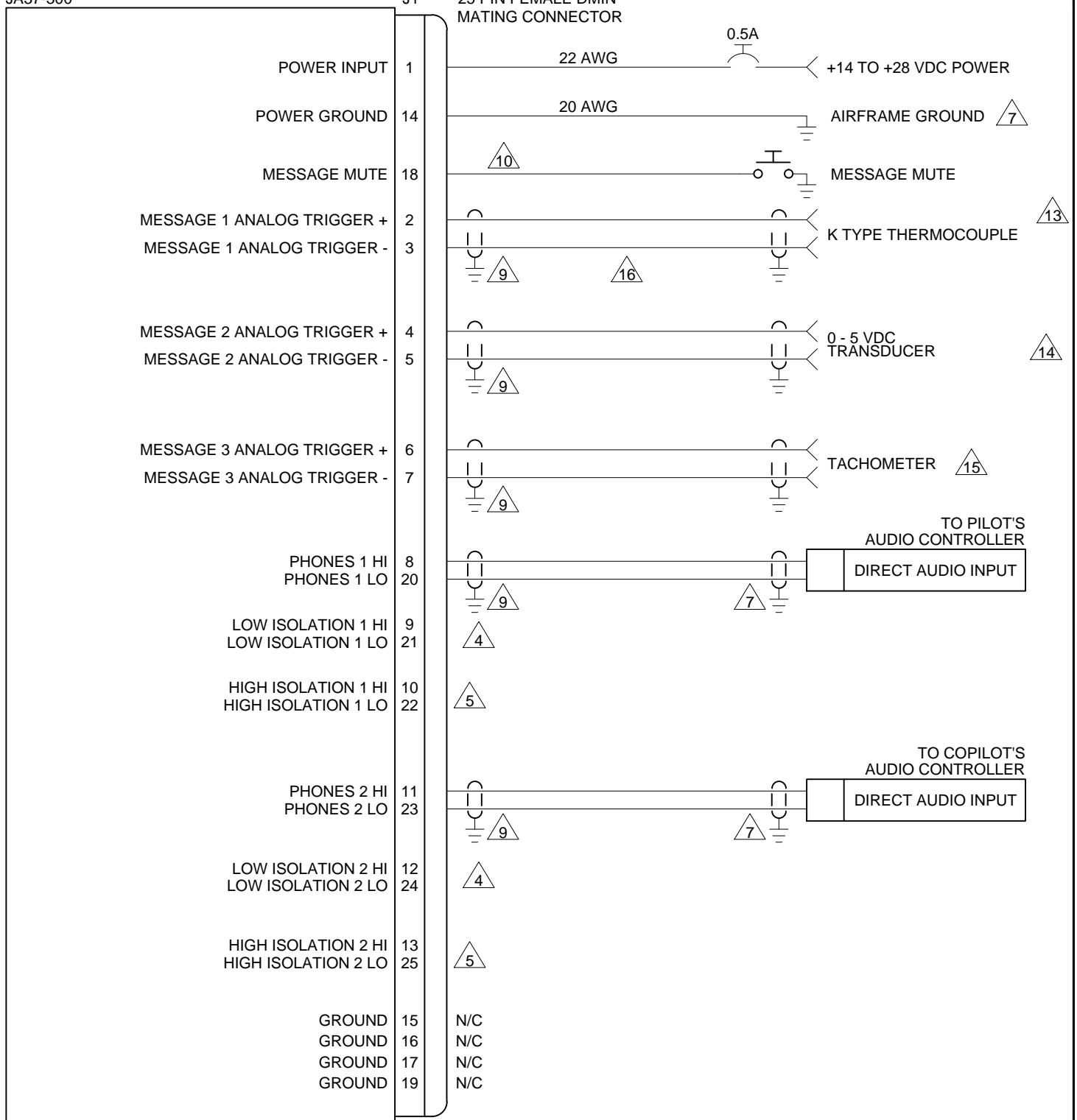


PREPARED	TAT			
CHECKED				
APPROVED		NCAGE CODE L00N3	PART NO. JA37-300	SHEET 2/5
CONFIDENTIAL & PROPRIETARY TO JUPITER AVIONICS CORP.		DOC NO. JA37-300 Interconnect Rev A.dwg		

JA37-300

P1  
25 PIN FEMALE DMIN  
MATING CONNECTOR

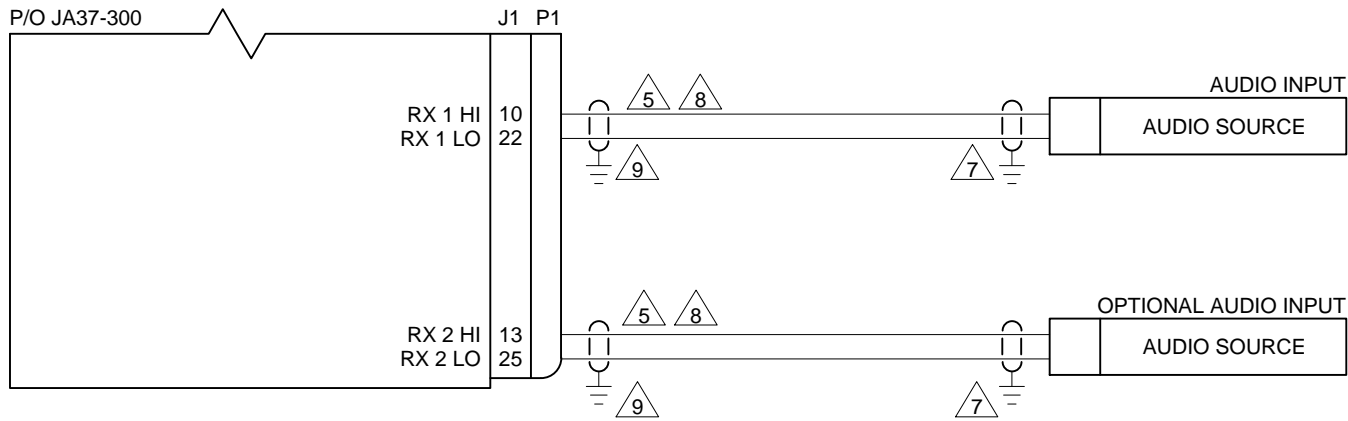
OPTIONAL ANALOG INPUTS



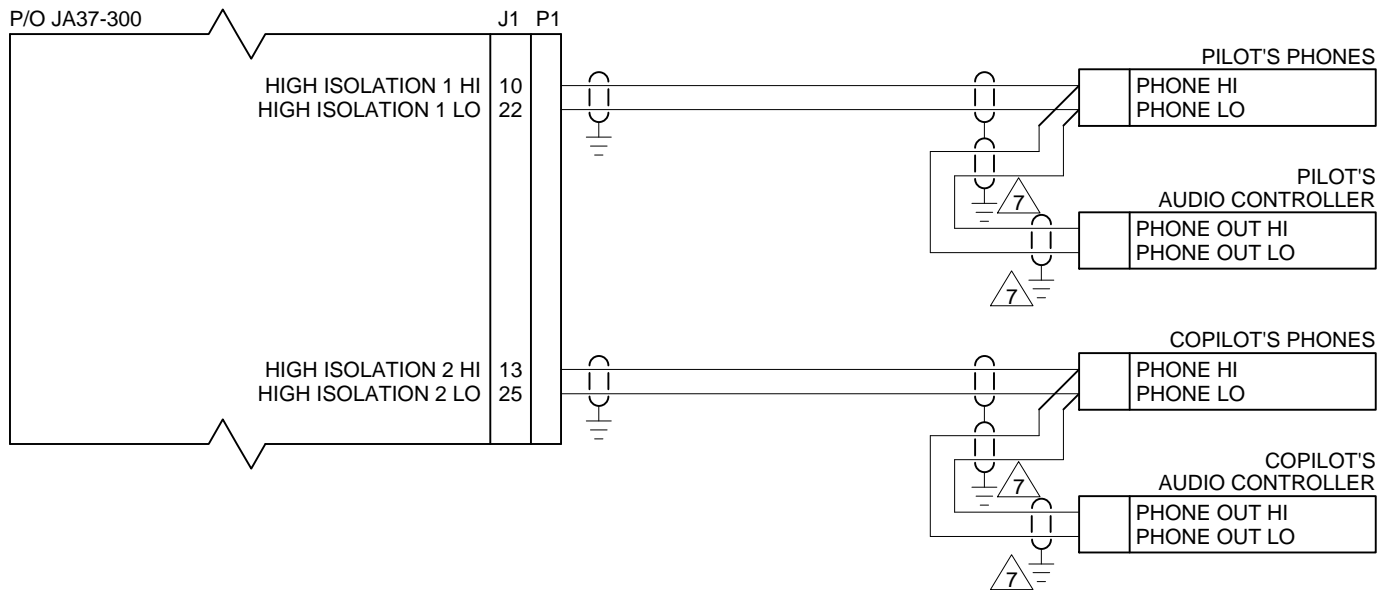
PREPARED	TAT			
CHECKED				
APPROVED		NCAGE CODE	PART NO.	SHEET
		L00N3	JA37-300	3/5
CONFIDENTIAL & PROPRIETARY TO JUPITER AVIONICS CORP.		DOC NO. JA37-300 Interconnect Rev A.dwg		






OPTIONAL AUDIO INPUT 

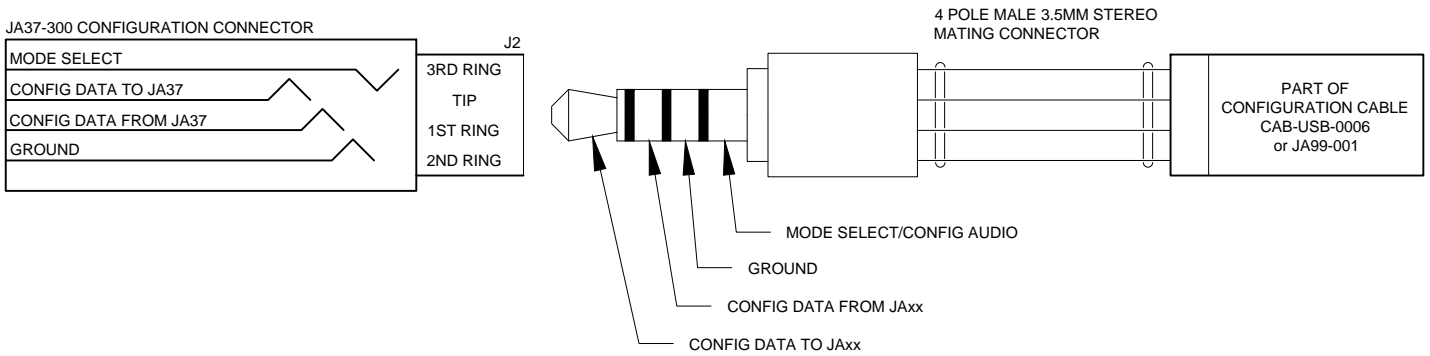





OPTIONAL CONNECTION TO PHONES 

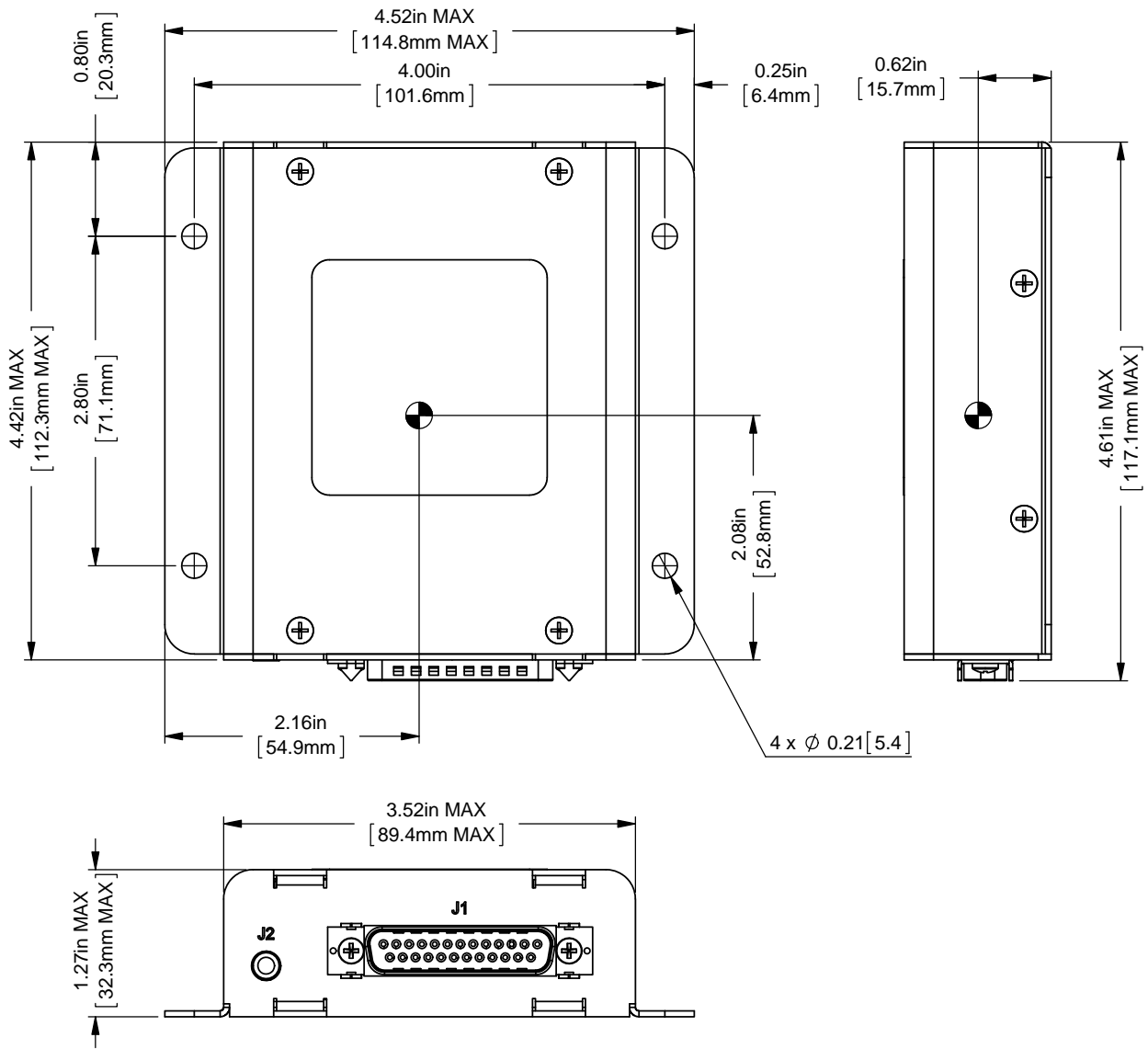



PREPARED	TAT			
CHECKED				
APPROVED		Aural Message Generator - 3 Channel - Analog Inputs J1 Interconnect		SHEET
		NCAGE CODE	PART NO.	4/5
		L00N3	JA37-300	
CONFIDENTIAL & PROPRIETARY TO JUPITER AVIONICS CORP.		DOC NO. JA37-300 Interconnect Rev A.dwg		

CONFIGURATION CONNECTOR

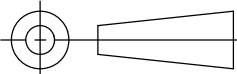





PREPARED	TAT	 <b>JUPITER AVIONICS</b> CORPORATION		
CHECKED				
APPROVED		Aural Message Generator - 3 Channel - Analog Inputs J2 Interconnect		SHEET
CONFIDENTIAL & PROPRIETARY TO JUPITER AVIONICS CORP.		NCAGE CODE L00N3	PART NO. JA37-300	5/5
		DOC NO. JA37-300 Interconnect Rev A.dwg		



 CENTER OF GRAVITY  
 ±0.03in [0.8mm]

WEIGHT: 0.74 lbs [0.33 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	 <b>JUPITER AVIONICS</b> CORPORATION		TITLE	SHEET
	CHECKED					
	APPROVED		NCAGE CODE	PART NO.	1/1	
	MATERIAL: N/A	CONFIDENTIAL & PROPRIETARY TO JUPITER AVIONICS CORP.	L00N3	JA37-300		
FINISH: N/A	DRAWING NOT TO SCALE	DOC. NO.	JA37-300 Mechanical Installation Rev B.SLDDRW			



# **Installation and Operating Manual**

## **Appendix B - Installation Documents**



## **B1                    Airworthiness Approval**

Airworthiness approval of the JA37-300 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 JA37-300 Aural Message Generator - 3 Channel - Analog Inputs. This sample may be modified appropriately for new installations. It is the installer's responsibility to determine the applicability of the method used. Installations performed outside Canada must follow the applicable aviation authority's regulations.

### **Sample Wording:**

Removed the existing [model] equipment and replaced with a Jupiter Avionics JA37-300 Aural Message Generator - 3 Channel - Analog Inputs in [aircraft location].

See Section 1 of the JA37-300 Installation Manual.

Installed in accordance with the JA37-300 Installation Manual, Revision [ ], and AC 43.13-2, Chapters 2, and 3.

The JA37-300 interfaces with existing aircraft systems per the Installation Manual instructions.

The JA37-300 Installation Manual provides detailed installation instructions and wiring diagrams (Section 2, and Appendices A and B).

Power is supplied to the JA37-300 through an existing [ ]-Amp circuit breaker that was previously used by the original equipment. 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 JA37-300 Aural Message Generator - 3 Channel - Analog Inputs is "on condition" only. Refer to the JA37-300 Maintenance Manual. Periodic maintenance of the JA37-300 is not required.

The following sample Instructions for Continued Airworthiness (ICA) provides assistance in preparing ICA for the Jupiter Avionics JA37-300 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 JA37-300 Aural Message Generator - 3 Channel - Analog Inputs 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 JA37-300 installed in an [aircraft make and model].

**Applicability:** Applies to a Jupiter Avionics JA37-300 installed in an [aircraft make and model].

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

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

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

**Referenced Publications:** JA37-300 Installation and Operating Manual  
JA37-300 Maintenance Manual  
STC/TC # [applicable STC/TC number for the specific aircraft installation]

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



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

Jupiter Avionics JA37-300 Aural Message Generator - 3 Channel - Analog Inputs with interface to external transceivers and [include other equipment/systems as appropriate]. Refer to Appendix A of this manual for interconnect information. Refer to aircraft manufacturer approved interconnect for actual installation.

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

Refer to section 3 of this manual.

## **4. Servicing Information**

N/A

## **5. Maintenance Instructions**

Maintenance of the JA37-300 is 'on condition' only. Periodic maintenance is not required. Refer to the JA37-300 Maintenance Manual.

## **6. Troubleshooting Information**

Refer to the JA37-300 Maintenance Manual.

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

Refer to Section 2 of this manual - the JA37-300 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 JA37-300 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**

JA37-300 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 JA37-300 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