

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

J1

J2



Rev B

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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 configured using the proprietary ProCS (Product Configuration Software).

A port is provided beside the main connector for connection to the configuration cable.

All audio outputs are balanced.

The message generator input types may be configured as one of the following: discrete trigger, tachometer, 5Vdc transducer, 100 mVdc transducer, K-Type thermocouple.

Each analog input may be configured to trigger when the input signal is 'greater than' or 'less than' the configured level.

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.

<u>1.3.1 Inputs</u>

Name	Qty	Туре
CONFIG DATA TO JA37-300	1	Data signal
MESSAGE MUTE	1	Control signal active low
POWER INPUT	1	Power supply
RX1 and RX2 HI/LO	2	Audio signal (configurable via ProCS)
MESSAGE 1 TRIGGER		Control signal configurable as one of the following:
	2	Discrete
	1	Analog balanced tachometer
	1	Analog balanced 5 Vdc transducer
	1	Analog balanced K-Type thermocoupler
MESSAGE 2 TRIGGER		Control signal configurable as one of the following:
	2	Discrete
	1	Analog balanced tachometer
	1	Analog balanced 100 Vdc transducer
	1	Analog balanced K-Type thermocoupler
MESSAGE 3 TRIGGER		Control signal configurable as one of the following:
	2	Discrete
	1	Analog balanced tachometer
	1	Analog balanced 5 Vdc transducer
	1	Analog balanced 100 Vdc transducer



1.3.2 Outputs

	Name	Qty	Туре
	CONFIG DATA FROM JA37-300	1	Data signal
	GROUND	3	Ground
	PHONES HI/LO	2	Audio signal
	LOW ISOLATION HI/LO	2	Audio signal
	HIGH ISOLATION HI/LO	2	Audio signal (configurable via ProCS)
	MESSAGE ACTIVE	1	Control signal active low
<u>1.4</u>	Specifications		
1.4.1	Electrical Specifications		
Power Inpu	<u>t</u>		
	Primary nominal voltage Secondary nominal voltage Maximum voltage Minimum voltage Emergency voltage		28 Vdc 14 Vdc 30.3 Vdc 11.0 Vdc 9.0 Vdc
	Input current		0.5 A max
<u>1.4.1.1</u>	Audio Performance		
Rated Input	<u>Level</u>		
Me	RX audio rated input level ssage Analog Triggers: Thermocouple rated input level 0-5 VDC Pressure Transducer rated 0-100 mVDC Pressure Transducer r Tachometer rated input level (min) Tachometer rated input level (max)	l input le rated inp	$\begin{array}{c} 7.75 \ \text{Vrms} \pm 10 \ \% \\ 100 \ \text{mVdc} \pm 1 \ \% \\ 5 \ \text{Vdc} \pm 1 \ \% \\ 100 \ \text{mVdc} \pm 1 \ \% \\ 100 \ \text{mVdc} \pm 1 \ \% \\ 0.2 \ \text{Vrms} \pm 10 \ \% \\ 22 \ \text{Vrms} \pm 10 \ \% \end{array}$
Rated Outp	<u>ut Level</u>		
	Phones rated output power into 600 Phones low isolation rated output po Phones high isolation rated output p	Ohm ower into ower int	7.75 Vrms ±10 % 0 600 Ohm 3.87 Vrms ±10 % 0 600 Ohm 1.94 Vrms ±10 %
Audio Frequ	uency Response		
	Phones output audio frequency resp	onse	≤ 3 dB from 300 to 6000 Hz
Distortion C	haracteristics		
	Phones audio output distortion at ra Phones audio output distortion at 10	ted powe)% of rat	er ≤ 10 % ed power ≤ 3 %
Input Imped	lance		
Me	Receive Audio input Impedance ssage Analog Triggers: Thermocouple differential impedance Thermocouple impedance	e	1000 Ω ± 10% ≥500 kΩ ≥200 kΩ
	Pressure transducer differential imp	edance	≥100 kΩ
	Pressure transducer impedance		≥200 kΩ
	Tachometer differential impedance		≥100 kΩ
	l achometer impedance		≥200 kΩ



Output Impeda	ance		
	Phones output Impedance Phones low isolation output Impedance Phones high isolation output Impedance		$\begin{array}{l} 300 \; \Omega \pm 20 \; \% \\ 1.2 \; k\Omega \pm 20 \; \% \\ 3.0 \; k\Omega \pm 20 \; \% \end{array}$
Output Load			
	Phones load		600 $\Omega \pm$ 10 %
Input to Input (Crosstalk Level		
	Input to Input crosstalk		≤ 60 dB
Audio Noise L	evel without Signal		
	Noise level below the rated output		≥ 60 dB
1.4.1.2	Audio Performance, Other		
	RX input circuitry type Phones output circuitry type Message playback frequency error		Transformer coupled Transformer coupled ±2 % max
1.4.1.3	Discrete Signals		
	Message Trigger (active low) signal level active Message Trigger (active low) signal level inactive Message Trigger (active high) signal level active Message Trigger (active high) signal level inactive Message Mute active low signal Active low control output, active output Active low control output, active, current		 ≤ +3 Vdc ≥ +6 Vdc ≥ +8 Vdc ≤ +6 Vdc ≤ +3 Vdc ≤ +2 Vdc ≤ +1 Adc
1.4.2	Mechanical Specifications		
	Height		1.27 in [32.3 mm] max
	Depth		5.02 in [127.5 mm] max
	Width		4.52 in [114.8 mm] max
	Weight		0.76 lbs. [0.35 kg] max
	Material		brushed aluminum with conversion coating
	Connectors (2):	J1 J2	One 25-pin D-Sub male, V5 locking One 4 pole 3.5mm stereo jack
	Mounting		4 x 10-32 fasteners
	Bonding		\leq 2.5 m Ω
	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.

1.4.4 Product Configuration Software Version

Configuration of the JA37-300 requires the Product Configuration Software (ProCS) version 0.68.2 or later. Refer to the release notes from <u>https://www.jupiteravionics.com/productsoftware.php</u> or contact Jupiter Avionics to ensure the correct version is used.



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 – <u>www.jupiteravionics.com/warranty</u>

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 online 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.



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 0.5Ω).
- 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 ($ProCS^{TM}$) – 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 momentarily 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 message. 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 2.6.3.1), 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 configured as equal, 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.

2.6.1 Configuration Cabling Requirements

To configure the JA37-300, it is necessary to load the Product Configuration Software ProCS[™] onto a Windowsbased computer as described in the ProCS[™] manual.

The cables required to configure the JA37-300 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 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.



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

Message Trigger Activation	Туре						
MESSAGE 1 SENSOR TYPE:	Discrete	-	PRIO	RITY 1			
Pin 2: MESSAGE 1 TRIGGER A	ACTIVE LO	ACTIVE HI	Less Than	0 VDC		30 VDC	[3 VDC]
Pin 3: MESSAGE 1 TRIGGER B		ACTIVE HI	Less Than	0 VDC		30 VDC	[3 VDC]
MESSAGE 2 SENSOR TYPE:	Discrete	· ·	PRIO	RITY 2			
Pin 4: MESSAGE 2 TRIGGER A	ACTIVE LO	ACTIVE HI	Less Than			30 VDC	[3 VDC]
Pin 5: MESSAGE 2 TRIGGER B		ACTIVE HI	Greater Than	0 VDC	-	30 VDC	[8 VDC]
MESSAGE 3 SENSOR TYPE:	Tachometer 0.2Vrms	to 2.2Vrms	PRIO	хпү з			
Pin 6, 7 Analog Input:	Less Than	•		2 Hz 📟		32000 Hz	[2 Hz]
	Less Than Greater Than			ssage Trigger Priori	ty		
Message Playback Type							
Message 1:		(ONE-SHOT		The message Pl	ayback may b	be Ol u
Message 2:		(ONE-SHOT		selected as 'Cor	itinual' or 'Or le (1 through)	ie-Shot' 3)
Message 3:	 CONTINUAL 	(ONE-SHOT				<i>o</i> j.



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.

JA37-300 Messages	Browse for audio files	Play selecte	ed audio file
Audio Files			
Message 1 (11s max): C:/Program Files (x86)/Jac/ProCs/alerts/Alert_sample.wav	Open C	ilear 🕑
Message 2 (11s max):		Open	Clear
Message 3 (11s max):		Open	Clear

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 Message Levels					
OdB = Rated	Phones Output				
Message 1:	-42.5 dB	•	0 dB	[-20 dB]	Default Level
Message 2:	-42.5 dB	•	0 dB	[-20 dB]	Default Level
Message 3:	-42.5 dB	•	0 dB	[-20 dB]	Default Level
Note: The inp	uts are configured on the <u>Con</u>	nector Pin Configura	ation page.		
Phones 2 M	essage Levels				
OdB = Rated	Phones Output				
Message 1:	-42.5 dB	•	0 dB	[-20 dB]	Default Level
Message 2:	-42.5 dB	-	0 dB	[-20 dB]	Default Level
Message 3:	-42.5 dB	-	0 dB	[-20 dB]	Default Level

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)



here if no JA37-300 is connected.

ProCS menu, and clicking on 'Write JA37-300 Messages...'.

audio sample rate for the JA37-300.

Products>Software>Wave File Messages www.jupiteravionics.com/productsoftware

Note: This pane will not have the full content shown

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

A selection of suitable WAV files can be found on

When suitable alert messages are listed in the 'Audio Files' section, they are uploaded to the JA37-300 by selecting 'Program' from the main

Saving new Audio Files

CS Pro	oCS v0.21.0 (Jupiter Avionics Corpor	ration)	
File	Program Edit View Help		
1	Read Product	Ctrl+R	
	Write Product	Ctrl+W	
	Write JA37-300 Messages	<	
P	Read JA37-300 Messages		
⊳	Erase JA37-300 Messages		
▷.	Read JA37-300 Message Head	lers :h)	
	Edit Product Properties	0	
⊳	Reconnect to Product	Ameri	
⊳	Close Com Port	urope)	
▷.	Initialize Product	l Amer	
₽.	Frase Product	(urope)	
2	Conv Embedded Data	et Adaj	
	Copy Embedded Data	PTI - N	
	A68-001 (Wireless Aircraft Head	set Adapter with TX P1	
	M60-001 (Miroloss Aircraft Hoad	cot Adaptor with TV DI	

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.

Select Messages to Write	
Message 1 🔽 C:/Program Files (x86)/Jac/ProCs13.4/al	erts/TrackLaser.wav [0.85 secs]
Message 2 Audio file not selected.	
Message 3 🗌 Audio file not selected.	
Select All	
	QK Cancel

the JAC website:

2.6.3.3 JA37-300 RX Audio Levels

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

JA37-300 Rx Audio Levels						
RX 1 Input	Audio Levels					
RX Audio 1:	1.0 Vrms	8.0 Vrms	[7.8 Vrms]	Default Level		
RX Audio 2:	1.0 Vrms	8.0 Vrms	[7.8 Vrms]	Default Level		
RX 2 Input	Audio Levels					
RX Audio 1:	1.0 Vrms	8.0 Vrms	[7.8 Vrms]	Default Level		
RX Audio 2:	1.0 Vrms	8.0 Vrms	[7.8 Vrms]	Default Level		



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:

Quantity	Description	JAC Part #
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

Tool Type	Hand crimp tool	Positioner	Insertion/extraction tool
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.

3.3 Message Active Output

If an external annunciator is installed and connected to the JA37-300's MESSAGE ACTIVE OUTPUT, the annunciator will illuminate while any message is playing.



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
JA37-300 Connector Map	В
JA37-300 Interconnect	В
JA37-300 Mechanical Installation	С

P1 25 PIN FEMALE DMIN MATING CONNECTOR		1 0 Message 1 Discrete Trigger A / Message 1 Analog Trigger + 1 1 0 0 Message 1 Discrete Trigger B / Message 1 Analog Trigger - 1 1 0 0 Message 1 Discrete Trigger B / Message 1 Analog Trigger - 1 1 0 0 Message 2 Discrete Trigger B / Message 2 Analog Trigger + 1	80 0 0 MESSAGE 3 DISCRETE TRIGGER A / MESSAGE 3 ANALOG TRIGGER + 1 0 0 MESSAGE 3 DISCRETE TRIGGER B / MESSAGE 3 ANALOG TRIGGER + 1 1 0 0 MESSAGE 3 DISCRETE TRIGGER B / MESSAGE 3 ANALOG TRIGGER + 1 1 0 0 MESSAGE 3 DISCRETE TRIGGER B / MESSAGE 3 ANALOG TRIGGER + 1 1 0 0 LOWISOLATION 1 HI MESSAGE 3 ANALOG TRIGGER + 1 1 0 0 HIGH ISOLATION 1 HI / RX 1 HI MESSAGE 3 ANALOG TRIGGER + 1 1 0 1 PHONES 2 HI MESSAGE 3 ANALOG TRIGGER + MESSAGE 3 ANALOG TRIGGER + 1 1 1 1 MESSAGE 3 ANALOG TRIGGER + MESSAGE 3 ANALOG TRIGGER + 1 1 1 1 1 1 1 1 2 0 1 1 1 1 1 1 1 2 0 1 1 1 1 1 1 1 3 0 1 1 1 1 1 1 1 2 0 <t< th=""></t<>
Configurable Contact	POWER GROUND	GNULOR GNULOR GROUND ERM IS FROM	MESSAGE MUTE MESSAGE ACTIVE OUTPUT PHONES 1 LO LOW ISOLATION 1 LO / RX 1 LO PHONES 2 LO LOW ISOLATION 2 LO / RX 2 LO MIGH ISOLATION 2 LO / RX 2 LO
	PREPARED CHECKED APPROVED CONFIDENTIAL & TO JUPITER AVIO	TAT JAC 01-21-21 SRM JAC 01-21-21 KDV A PROPRIETARY DNICS CORP.	Image: Second Stress S

JUPITER AVIONICS TEMPLATE AUTOCAD PORTRAIT SIZEA REV B.DWT

CONFIGURATION CONNECTOR

ACCEPTS THE FOLLOWING PLUG FORMATS

P2

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 JAC 01-21-21 SRM JAC 01-21-21 KDV			
	APPROVED		TITLE Aural Message Generator - 3 Channel - Analog Inputs P2 Connector Map		
			NCAGE CODE L00N3	PART NO. JA37-300	SHEET 2/2
	CONFIDENTIAL & PROPRIETARY TO JUPITER AVIONICS CORP.		DOC NO. JA37-300 Cor	nnector Map Rev B.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.

 $\underline{3}$ USE AS GROUND REFRENCE 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.
- ∠. CONNECTION TO AIRFRAME GROUND SHOULD BE MADE WITH 20 AWG WIRE. LENGTH NOT TO EXCEED 3 FT (0.91 M).
- <u>(A.)</u> CONNECTOR PIN HAS MORE THAN ONE FUNCTION. SEE THE OPTIONS SECTION OF THIS DRAWING FOR ALTERNATIVE INTERCONNECT WIRING.
- 6. 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.
- 1. EXAMPLE WHEN CONTACTS ARE CONFIGURED AS RX HI/LO.
- $\cancel{12}$ EXAMPLE WHEN CONTACTS ARE CONFIGURED AS HIGH ISOLATION HI/LO.
- AS EXAMPLE WHEN CONTACTS ARE CONFIGURED TO INTERFACE WITH A K TYPE THERMOCOUPLE.
- AA EXAMPLE WHEN CONTACTS ARE CONFIGURED TO INTERFACE WITH A 0 TO 5 VDC TRANSDUCER.
- $\cancel{15}$ EXAMPLE WHEN CONTACTS ARE CONFIGURED TO INTERFACE WITH A TACHOMETER.
- 16. THERMOCOUPLE EXTENSION WIRE MUST MATCH THERMOCOUPLE TYPE.
- /元 OPTIONAL MESSAGE ACTIVE ANNUNCIATOR.

PITER AVIONICS TEMPLATE AUTOCAD PORTRAIT SIZEA REV B.DW

PREPARED	TAT					
	JAC (01-29-21)					
CHECKED	SRM	Aural Message Generator - 3 Channel - Analog				
JAC						
APPROVED (01-29-21)	(01-29-21)	NCAGE CODE	PART NO.	SHEET		
	(NDV)	L00N3	JA37-300	1/5		
CONFIDENTIAL & PROPRIETARY DOC NO.						
TO JUPITER AVIONICS CORP. JA37-300 Interconnect Rev B.dwg						





OPTIONAL AUDIO INPUT P/O JA37-300 J1 P1 AUDIO INPUT RX 1 HI 10 AUDIO SOURCE RX 1 LO 22 OPTIONAL AUDIO INPUT <u>′5\ /8`</u> RX 2 HI 13 AUDIO SOURCE RX 2 LO 25 ∕9∖ OPTIONAL CONNECTION TO PHONES 12 J1 P1 P/O JA37-300 PILOT'S PHONES PHONE HI **HIGH ISOLATION 1 HI** 10 HIGH ISOLATION 1 LO PHONE LO 22 PILOT'S AUDIO CONTROLLER 7 PHONE OUT HI PHONE OUT LO COPILOT'S PHONES 13 25 HIGH ISOLATION 2 HI PHONE HI Y HIGH ISOLATION 2 LO PHONE LO COPILOT'S AUDIO CONTROLLER PHONE OUT HI PHONE OUT LO ∕<mark>7</mark>∖= PREPARED TAT JAC (01-29-21 CHECKED SRM TITLE Aural Message Generator - 3 Channel - Analog Inputs JAC J1 Interconnect 01-29-21 APPROVED NCAGE CODE PART NO. SHEET KDV L00N3 JA37-300 4/5 DOC NO. CONFIDENTIAL & PROPRIETARY TO JUPITER AVIONICS CORP. JA37-300 Interconnect Rev B.dwg

JUPITER AVIONICS TEMPLATE AUTOCAD PORTRAIT SIZEA REV B.D

CONFIGURATION CONNECTOR





JUPITER AVIONICS TEMPLATE SOLIDWORKS PORTRAIT SIZEA REVB .DRWDO



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