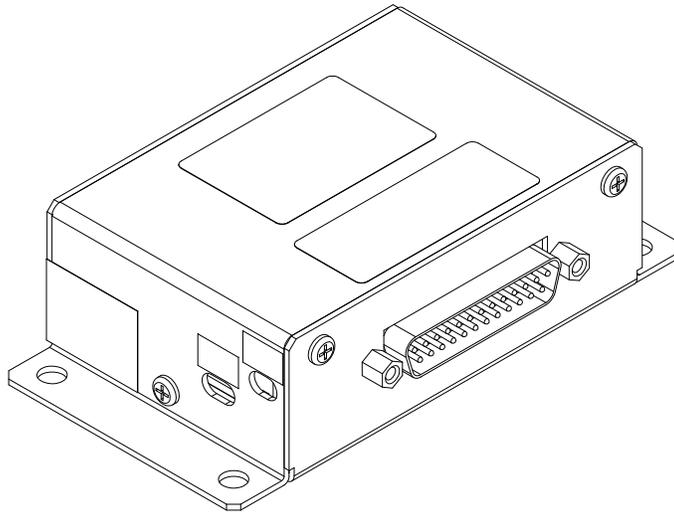




Installation and Operation Manual

AA34 Series Universal Radio Interface



COBHAM
Published on
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SM36

ISSUE 4.02

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AA34 Series Universal Radio Interface
SM36 Installation and Operation Manual

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AA34 Series Universal Radio Interface SM36 Installation and Operation Manual

Section 1 Description

1.1 Introduction

Information in this section consists of product description, design features and specifications for the AA34-200, AA34-300 and AA34-301 Universal Radio Interfaces. All other derivative product information shall be contained in the applicable manual supplement, which may be obtained from Northern Airborne Technology Ltd. as required.

Review all notes, warnings and cautions.

1.2 Product Description

The AA34 Universal Radio Interface will handle the interface and switching requirements of mobile or CB radio systems when integrated into an aircraft audio system.

1.3 Design Features

The AA34 Universal Radio Interface units provide microphone excitation; relay keying, and sidetone generation, all fully isolated from airframe ground.

1.4 Specifications

1.4.1 Electrical Specifications

Input Power		+13.8 Vdc \pm 10% or 27.5 Vdc \pm 10% (Selected by appropriate pin)
	(AA34-200)	160 mA
	(AA34-300\301)	70 mA
Input Signals		
	Mic	250 mVrms @ 150 Ω \pm 10%
	Audio	2.5 Vrms @ 600 Ω \pm 10%
Output Signals		
	Mic (AA34-200)	Approx. 225 mVrms max into 150 Ω
	(AA34-300\301)	Adjustable to 1.5 Vrms max into 600 Ω or 178 mVrms into 8 Ω
	Audio (AA34-200)	200 mW into 150 or 600 Ω nominal
	(AA34-300\301)	100 mW into 8 or 600 Ω nominal
	*Frequency Response	<3 dB from 350 Hz to 6 kHz
	*Distortion	<10% @ rated output
	*Noise level without signal	>50 dB down from rated output



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*Regulation <10% variation from 75% to 400% of load

* These signals have been determined for the AA34-300 and AA34-301 only

1.4.2 Physical Specifications

Height		1.30 inches (33.0 mm) max
Depth		2.71 inches (68.8 mm) max excluding connector
Width		4.54 inches (115.3 mm) max
Weight		
	AA34-200	0.63 lb (285 g) max
	AA34-300\301	0.40 lb (180 g) max
Mounting		Bulkhead mount with four 10-32 screws
Material/Finish		5052-H32 brushed aluminum chassis and cover with conversion finish
Connectors	AA34-200	25 pin male D-sub
	AA34-300\301	25 pin male filtered D-sub

1.4.3 Environmental Specifications

Temperature		-20 C to +55 C (Operating) -55 C to +85 C (Survival)
Altitude		
	AA34-200	15,000 ft (tested to 25,000 ft)
	AA34-300\301	35,000 ft
Humidity		95% non-condensing
Shock		6g (any axis)
Vibration (AA34-300)		RTCA/DO-160C categories (B,M,N)

Qualification of the AA34-300 Universal Radio Interface was completed in accordance with DO-160C Env. Cat. C1-BA[BMN]XXXXXXABABATAXXX

Qualification of the AA34-301 Universal Radio Interface was completed in accordance with DO-160C Env. Cat. C1-BA[MN]XXXXXXABABATAXXX

Note: Refer to Environmental Qualification Form located in Section 2 of this Manual for complete details of the environmental categories.

1.4.4 Product Approval

FAA: TSO-C50c (RTCA/DO-170 Class II, RTCA/DO-160C)

Applicable to AA34-300 units s/n 20,001 and up



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1.5 Unit Nomenclature

Model	Description
AA34-200	Mobile/FM radio interface. Provides floating key lines. Internal RX & Sidetone Amplifier. Provides floating audio lines in and out. Internal mic exciter with adjustable output. Internally selectable functions and levels.
AA34-300	Mobile/FM radio interface. Provides floating key lines. Internal RX, Sidetone and Microphone Amplifiers. Provides floating audio lines in and out. Internal mic exciter with adjustable output. Internally selectable functions and levels. Designed to meet the requirements of TSO C50c.
AA34-301	Mobile/FM radio interface. Provides floating key lines. Internal RX & Sidetone Amplifier. Provides floating audio lines in and out. Internal mic exciter with adjustable output. Internally selectable functions and levels. External on/off control of mic output. Designed to meet the requirements of TSO C50c.

Section 1 ends



AA34 Series Universal Radio Interface SM36 Installation and Operation Manual

Section 2 Installation

2.1 Introduction

Information in this section consists of unpacking and inspection procedures, installation procedures, post-installation checks and installation drawings for the AA34 Series Universal Radio Interface.

Review all notes, warnings and cautions.

2.2 Unpacking and Inspection

Unpack the equipment carefully and locate the warranty card. Inspect the unit visually for damage due to shipping and report all such claims immediately to the carrier involved. Check that all items listed below are present before proceeding and report any shortage immediately to your supplier:

- Warranty Card
- Certificate of Conformity or Release Certification

2.2.1 Warranty

All Northern Airborne Technology Ltd. products are warranted for 2 years from date of installation by an authorized Northern Airborne Technology Ltd. dealer, to be free of defects in workmanship or performance. This warranty covers all materials and labour, but is exclusive of any transport to deliver the defective unit to and from Northern Airborne Technology Ltd. or its designated warranty repair center, or any labour to remove or re-install the defective unit in the aircraft. Contact Northern Airborne Technology Ltd. for any questions regarding this warranty, its applicability to your units and/or for return authorization. Northern Airborne Technology Ltd. is the final arbitrator concerning warranty administration. Units which have been physically damaged, burned, immersed in water or otherwise abused beyond the scope of normal use will not be considered for warranty. **WARRANTY IS VOID UNLESS THE PRODUCT IS INSTALLED BY AN AUTHORIZED NORTHERN AIRBORNE TECHNOLOGY LTD. DEALER.** Product for which a warranty card is not returned shall be warranted from date of manufacture.

2.3 Continued Airworthiness

Maintenance of the AA34 Series Universal Radio Interface is 'on condition' only. Periodic maintenance of this product is not required.

2.4 Installation Procedures

Installation Notice

This product must be installed in accordance with the installation instructions provided in the latest issue of this Installation and Operation Manual. Check the Publication Index at www.northernairborne.com for the issue status of the manual. The latest issue of the manual may be downloaded from the same website. All risk associated with installation of this product contrary to these instructions shall be the responsibility of the installing agency.



AA34 Series Universal Radio Interface SM36 Installation and Operation Manual

2.4.1 Warnings

N/A

2.4.2 Cautions

CAUTION:

Do not bundle **any lines from this unit** with transmitter coax lines. Do not bundle any logic, audio, or DC power lines from this unit with 400 Hz synchro wiring or AC power lines. Do not position this unit next to any device with a strong alternating magnetic field such as an inverter, motor or blower, or significant audio interference will result.

In all installations, use shielded cable exactly as shown, and **ground as indicated**. Significant problems may result from not following these guidelines.

Incorrect wiring and shielding, can seriously degrade audio installations and result in abnormal cross-talk, hum and ground-loop noise. Be especially careful with all microphone wiring, as these lines can carry the lowest level signals in the aircraft.

2.4.3 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 solder sleeves (for shield terminations) to make the most compact and easily terminated interconnect. Follow the interconnect drawing in Section 2.7 as required.

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 Section 2.7 for shield termination details. Note that the hood is a "clamshell" hood, and is installed after the wiring is complete.

Maintain wire segregation and route wiring in accordance with the original aircraft manufacturers Maintenance Instructions.

Unless otherwise noted, all wiring shall be a minimum of 22 AWG, except power and ground lines, which shall be a minimum of 20 AWG. Reference 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. Power to this unit must be supplied from a separate circuit breaker or fuse (fast blow), and not attached to any other circuit breaker without additional protection. Verify that the selected circuit breaker size and wire gauge are adequate for the installation using the techniques specified in AC43.13-1B Change 1, Paragraphs 11-47 through 11-51 and 11-66 through 11-69.



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2.4.4 Post-Installation Checks

2.4.4.1 Voltage/Resistance Checks

Do not attach the AA34 until the following conditions are met.

Check the following:

- a) (AA34-200, AA34-300 and AA34-301) P101 pin <1> for +28 Vdc relative to ground or P101 pin <2> for +14 Vdc relative to ground.
- b) (AA34-200) P101 pins <14> <15> and <23> for continuity to ground (below 0.5 Ω).
- c) (AA34-300\301) P101 pins <8> <14> <15> <20> <21> and <23> for continuity to ground (below 0.5 Ω).

2.4.4.2 Power On Checks

Power up the aircraft's systems and confirm normal operation of all functions of the AA34. Verify normal operation of all radio functions. Refer to the manual supplied with the mobile radio for specific operation details.

- a) To verify proper operation, all functions and levels shall be checked in-flight.
- b) Check preset adjustments are completed before aircraft departure.

Upon satisfactory completion of all performance checks, make all required log book entries, electrical load, weight and balance amendments and other documentation as required by your local regulatory agency before releasing the aircraft for service.

2.5 Adjustments and Connections

The AA34 permits many possible interfaces. To prevent loss of communications, ensure that any replacement unit is configured exactly the same as the one it is replacing.

2.5.1 External Adjustments

The unit is shipped from the factory with all external adjustments set to the normal test levels. Once installed in the aircraft, it may be desirable to change some of these settings to best suit the local operating environment. The external adjustments are accessible through the left side and rear of the unit.



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2.5.1.1 Rear Adjustments

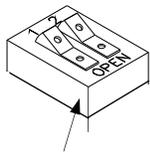
The rear adjustments are potentiometers, accessed through holes in the cover. Rotating a potentiometer clockwise (cw) will increase the level, and rotating it counterclockwise (ccw) will reduce the level.



- RX LEVEL** Adjusts the signal level of the incoming radio audio.
- MIC LEVEL** Adjusts the signal level of the mic output.
- S/T LEVEL** Adjusts the signal level of the sidetone.

2.5.1.2 Left side Adjustments

Switches S1 and S2



S1 and S2 shown in OPEN position

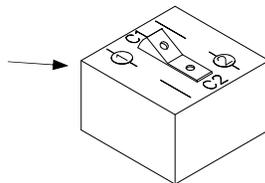
- S1** Provides mic bias to the MIC IN line when closed (default). Open if an external mic bias is present.
- S2** Bypass switch for blocking capacitor in mic out circuit. 'Closed' when bias from the connected radio will be used for mic excitation. 'Open' (default setting) when internal bias is used or if there are any concerns about DC interaction between the AA34 and the connected radio.

Switch C1/C2

This switch determines whether the mic input is amplified. The C1 position provides a direct mic path from input to output. The C2 (default) position switches in the amplifier.

AA34-200 only

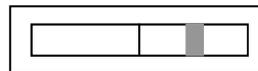
Switch shown with C2 Selected



The C1/C2 switch on the AA34-200 units is a rocker switch with the C1 position to the rear of the access hole, and the C2 position at the front.

AA34-300 and -301 only

Switch shown with C2 Selected



The C1/C2 switch on the AA34-300 and -301 units is a slide switch with the C1 position to the left of the access hole and the C2 position to the right.

Note: If S1 is CLOSED (mic excited by the AA34), and the transformer isolation is NOT used (C1), the blocking capacitor should be used (S2 OPEN) if the radio's input circuitry is unknown. This will prevent any unwanted interaction with DC present at the radio. The DC blocking capacitor is connected right at the mic output from the AA34, and is used whenever there may be a problem with DC present at the radio. This capacitor can be used with or without microphone transformer isolation, which is used to float the microphone from ground.

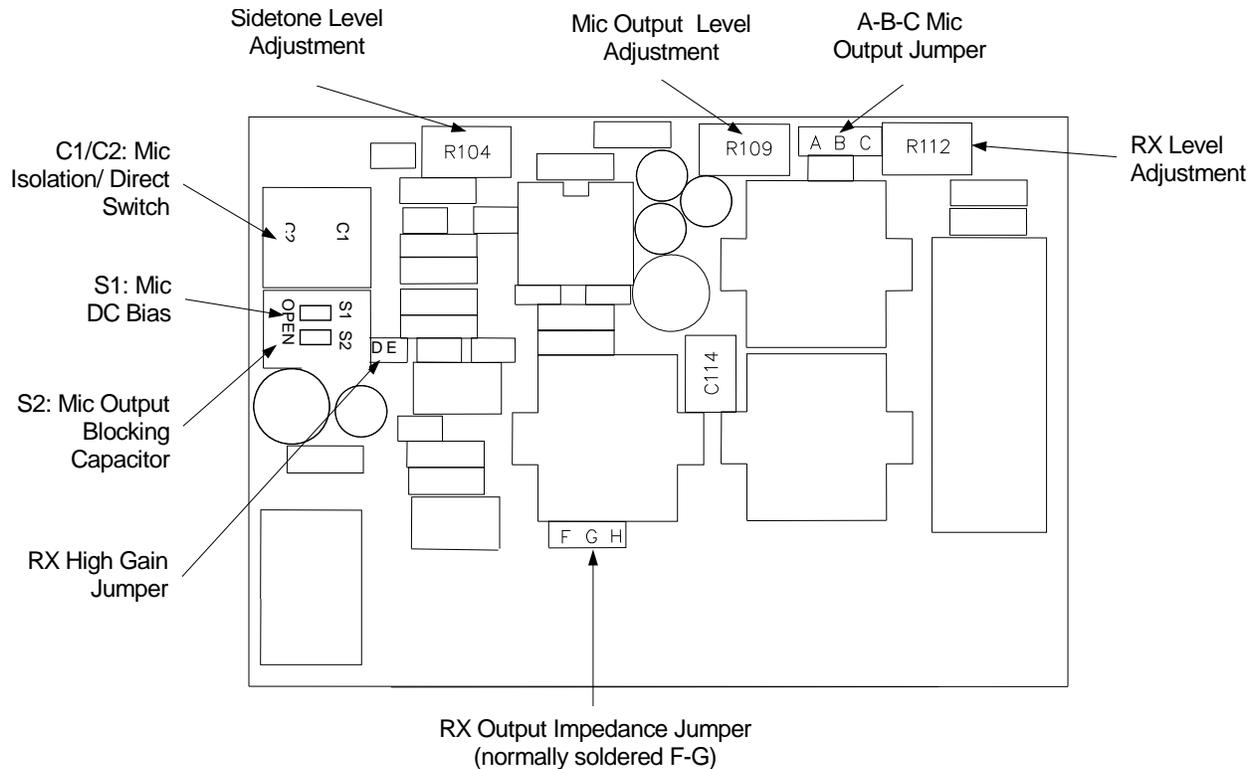


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2.5.2 Internal Adjustments (AA34-200 only)

CAUTION:

The AA34 Series Universal Radio Interface contains static sensitive devices. Proper ESD handling procedures must be followed to prevent damage to the unit.



2.5.2.1 30/200 mV Mic Output Level Adjustment

Remove the cover from the AA34-200 and locate the Mic Output jumper. When the jumper is connected across pins A and B, the unit level is set at 200 mV. When connected across B and C, the unit level is set to 30 mV. (The default setting is A – B).

2.5.2.2 RX Gain Adjustment

Remove the cover from the AA34-200 and locate the RX Gain jumper. When the jumper is connected across pins D and E, the unit is set to operate at high gain. When not connected, the unit is set to operate at low gain (default setting).

2.5.2.3 RX Output Impedance Adjustment

Remove the cover from the AA34-200 and locate the RX Output Impedance jumper. The factory default is 600 Ω (jumper soldered across F and G). If connected across G and H, the unit is set to 150 Ω .

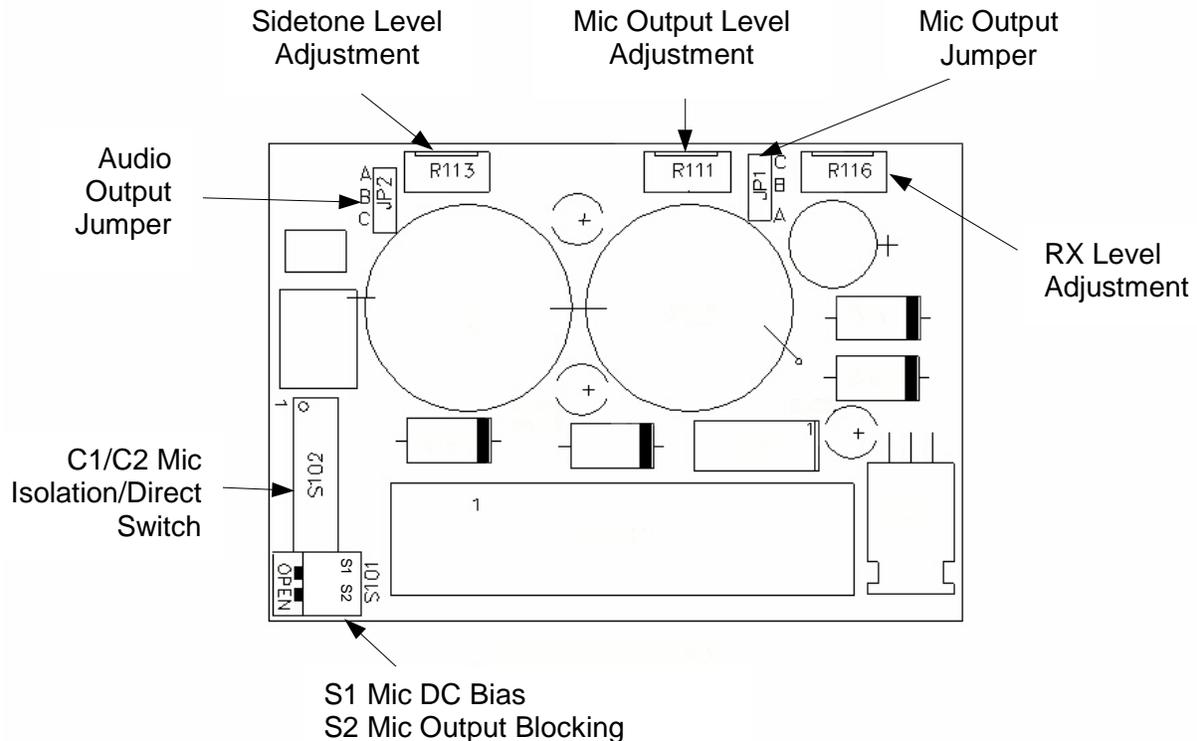


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2.5.3 Internal Adjustments (AA34-300 and AA34-301 only)

CAUTION:

The AA34 Series Universal Radio Interface contains static sensitive devices. Proper ESD handling procedures must be followed to prevent damage to the unit.



2.5.3.1 8/600 Ω Audio Output Impedance Adjustment

Remove the cover from the AA34 and locate the 8/600 Ω adjustment jumper JP2. When the jumper is connected across pins A and B, the unit is set to operate with an 8 Ω load connected. When connected across B and C, the unit is set to operate with a 600 Ω load connected. (The default setting is B – C).

2.5.3.2 8/150 Ω Mic Output Impedance Adjustment

Remove the cover from the AA34 and locate the 8/150 Ω adjustment jumper JP1. When the jumper is connected across pins A and B, the unit is set to operate with an 8 Ω load connected. When connected across B and C, the unit is set to operate with a 150 Ω load connected (The default setting is B – C).



**AA34 Series Universal Radio Interface
SM36 Installation and Operation Manual**

2.6 Accessories Required But Not Supplied

Installation kit p/n AA34-IKC (crimp) is required to complete the installation. The kit consists of the following:

AA34-IKC 25 Pin D-min Female Crimp Kit (NAT Part No D25SL-IKC)

Quantity	Description	NAT Part No.
1	D-min 25 Socket Housing	20-21-025
25	MS Crimp Socket	20-26-901
1*	Jack Screw Set	20-27-002
1*	Lock Clip Set	20-27-004
1	25 Pin Connector Hood	20-29-026
* Use as required.		

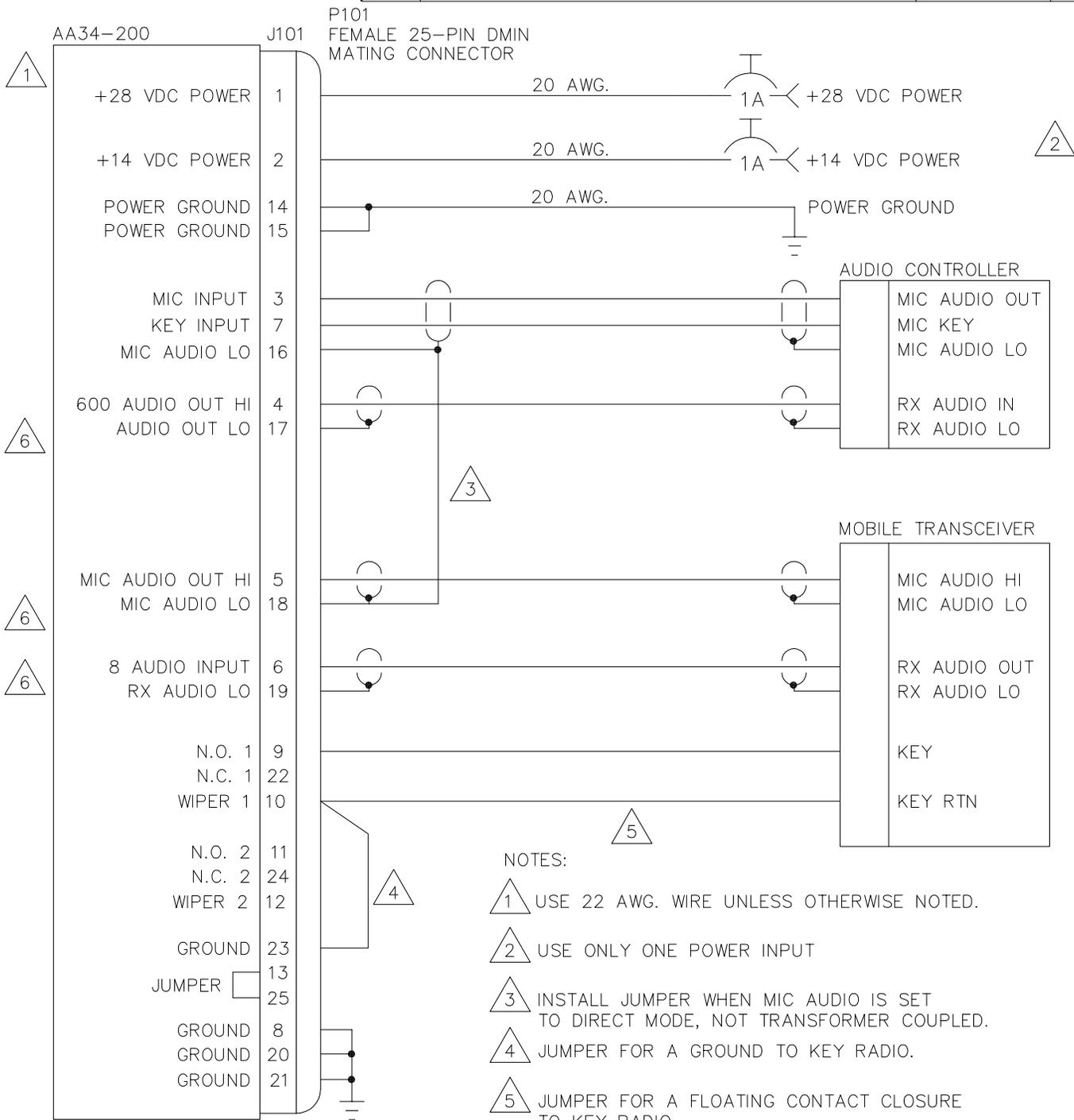
2.7 Installation Drawings

Use of the "#" symbol in the REV. column indicates that the document is listed elsewhere in the manual. Refer to the applicable NAT Part No. to locate the referenced document.

DOCUMENT	REV.	DESCRIPTION	TYPE	SERIAL/ MOD NO
AA34-200				
AA34\200\403-0	1.03	Universal Radio Interface	Interconnect	All
AA34\200\405-0	1.02	Universal Radio Interface	Connector Map	All
AA34\200\922-0	1.02	Universal Radio Interface	Mechanical Installation	All
AA34-300				
AA34\300\403-0	1.00	Universal Radio Interface	Interconnect	All
AA34\300\405-0	1.00	Universal Radio Interface	Connector Map	All
AA34\300\521-0	1.01	Universal Radio Interface	Environmental Qual. Form	20001 and up
AA34\300\922-0	1.00	Universal Radio Interface	Mechanical Installation	Up to 20000
AA34\300\922-0	1.10	Universal Radio Interface	Mechanical Installation	20001 - 30859
AA34\300\922-0	1.20	Universal Radio Interface	Mechanical Installation	MOD 4
AA34\300\922-0	1.30	Universal Radio Interface	Mechanical Installation	MOD 5
AA34-301				
AA34\301\403-0	1.00	Universal Radio Interface	Interconnect	All
AA34\301\405-0	1.00	Universal Radio Interface	Connector Map	All
AA34\300\922-0	#			

Section 2 ends following the above documents

REVISIONS			
REV	DESCRIPTION	DATE	BY
1.01	ECR #590 FORMAT CHANGES	FEB 12/97	MWS
1.02	ECR #552 DRAWING CORRECTIONS	MAR 20/97	PGL
1.03	ECR #1600 - PINS 8, 20 & 21 WERE N/C, FORMAT CHANGES.	FEB 7/00	TAT



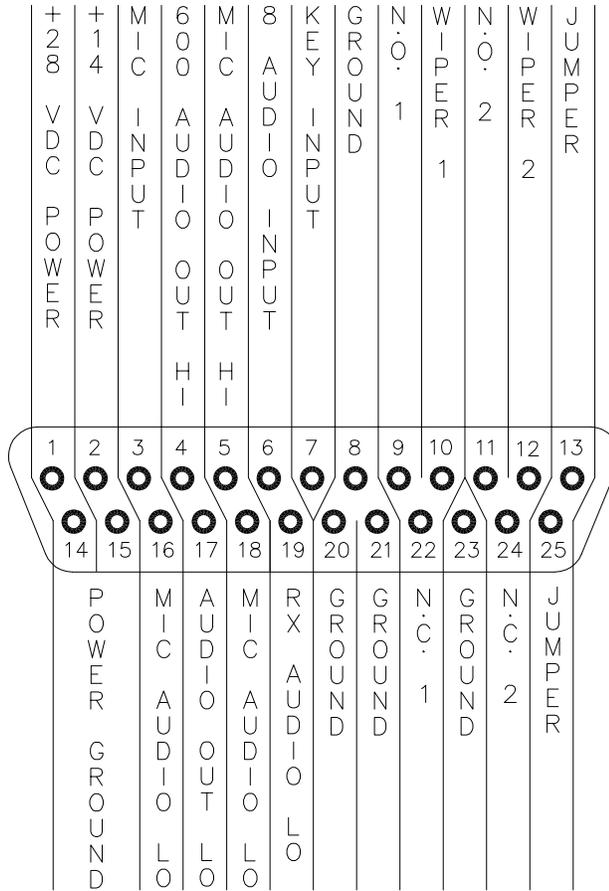
- NOTES:
- 1 USE 22 AWG. WIRE UNLESS OTHERWISE NOTED.
 - 2 USE ONLY ONE POWER INPUT
 - 3 INSTALL JUMPER WHEN MIC AUDIO IS SET TO DIRECT MODE, NOT TRANSFORMER COUPLED.
 - 4 JUMPER FOR A GROUND TO KEY RADIO.
 - 5 JUMPER FOR A FLOATING CONTACT CLOSURE TO KEY RADIO.
 - 6 INPUT/OUTPUTS ARE TRANSFORMER COUPLED (BALANCED), 'LO' WIRES REQUIRE TERMINATION.

PROPRIETARY AND CONFIDENTIAL TO NAT LTD.

DESIGNED	KV	NAT NORTHERN AIRBORNE TECHNOLOGY LTD.				
DRAWN	SRM					
DATE	JUL 26/90	TITLE UNIVERSAL RADIO INTERFACE				
CHECKED	NAT PROD. 190					
APPROVED		SIZE	CAGE CODE	PART NO.	REV.	SHEET
FILE	403-0103.DWG	A	3AB01	AA34-200	1.03	1/1
DWG. TYPE		INTERCONNECT		DWG. NO. AA34\200\403-0		

REVISIONS			
REV	DESCRIPTION	DATE	BY
1.01	ECR #590 FORMAT, NOMENCLATURE CHANGES	FEB 12/97	MWS
1.02	ECR #1600 - PINS 8, 20 & 21 WERE N/C, FORMAT CHANGES.	FEB 7/00	TAT

P101
 25 PIN FEMALE DMIN
 MATING CONNECTOR



VIEW IS FROM REAR OF AIRFRAME CONNECTOR

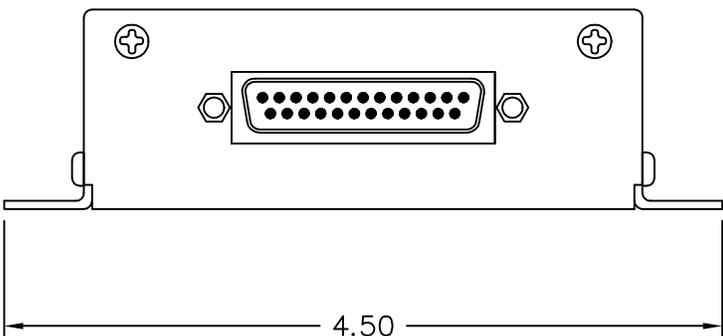
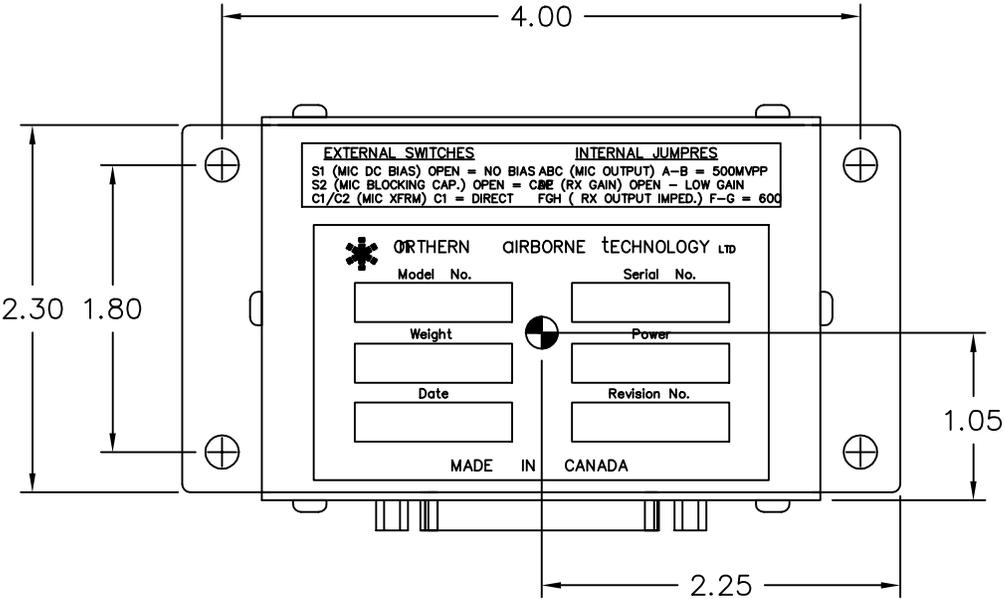
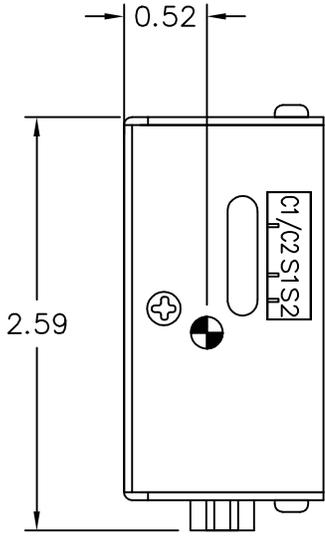
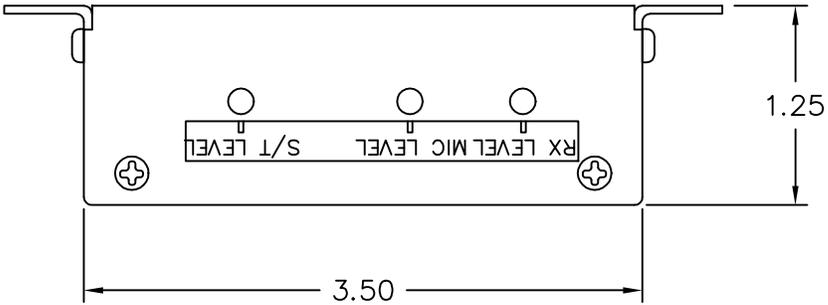
ABBREVIATIONS:

- N.O. - NORMALLY OPEN (RELAY CONTACT)
- N.C. - NORMALLY CLOSED (RELAY CONTACT)

PROPRIETARY AND CONFIDENTIAL TO NAT LTD.

DESIGNED	KV	NAT NORTHERN AIRBORNE TECHNOLOGY LTD.				
DRAWN	KV					
DATE	APR 26/89	TITLE UNIVERSAL RADIO INTERFACE				
CHECKED	NAT 214					
APPROVED	NAT 107	SIZE	CAGE CODE	PART NO.	REV.	SHEET
FILE	405-0102.DWG	A	3AB01	AA34-200	1.02	1/1
DWG. TYPE		CONNECTOR MAP		DWG. NO. AA34\200\405-0		

REVISIONS			
REV	DESCRIPTION	DATE	BY
1.01	FORMAT CHANGES, DRAWING UPDATED	FEB 11/97	MWS
1.02	ECR #954 - WEIGHT ADDED.	SEP 3/97	TGM

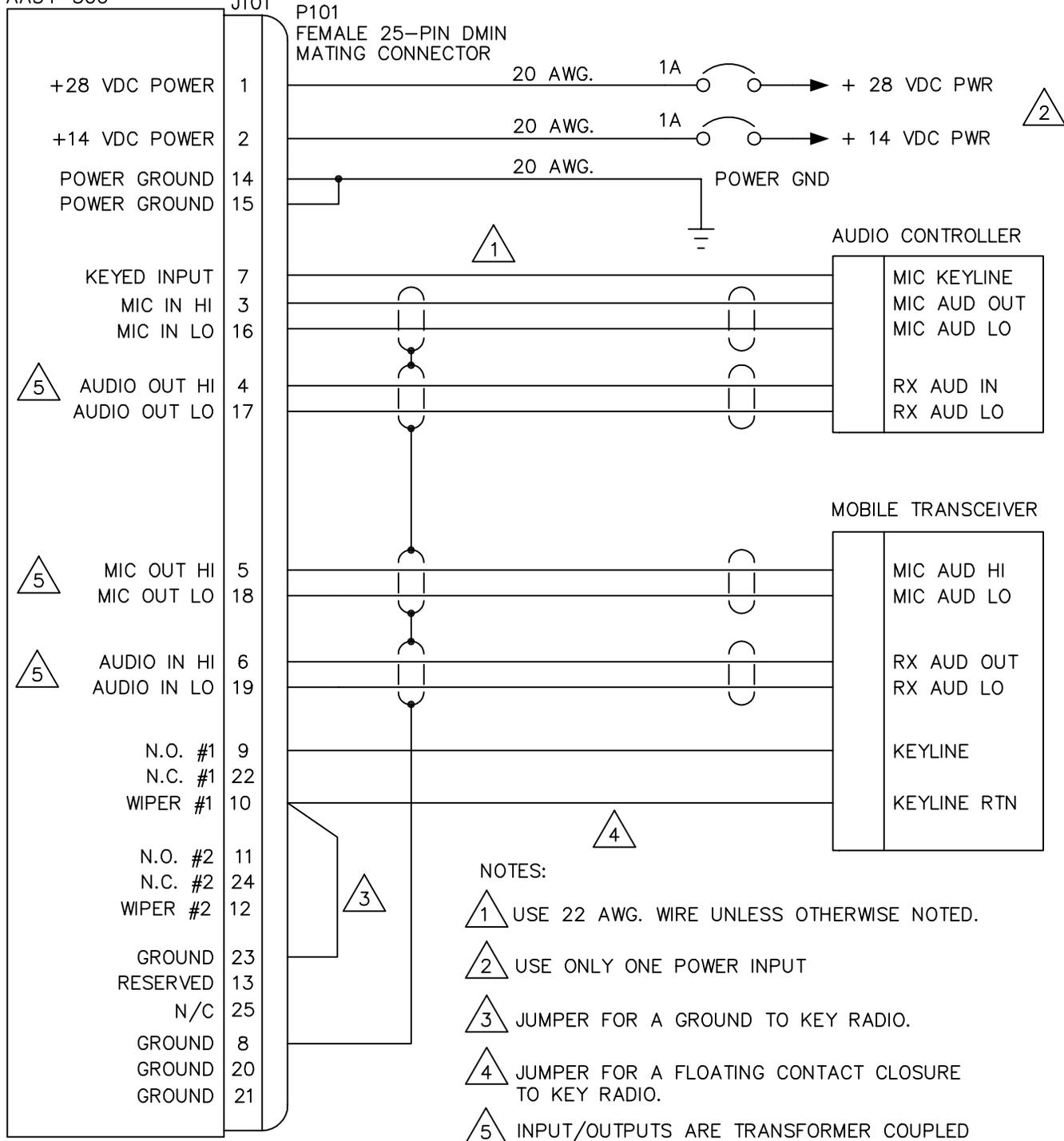


CENTER OF GRAVITY
WEIGHT 290g (0.63lb)

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TOLERANCES UNLESS STATED OTHERWISE 0.X=+/-0.030 0.XX=+/-0.010 0.XXX=+/-0.005 0.XXXX=+/-0.002 ANGLE=+/- 0.5 DEG.	DIMENSIONS IN INCHES	DESIGNED	KV	NORTHERN AIRBORNE TECHNOLOGY LTD.				
	THIRD ANGLE PROJECTION	DRAWN	TAB					
		DATE	DEC 1/93	TITLE				
		CHECKED		UNIVERSAL RADIO INTERFACE				
MATERIAL		APPROVED		SIZE	CAGE CODE	PART NO.	REV.	SHEET
FINISH		FILE	922-0102.DWG	A	3AB01	AA34-200	1.02	1/1
				DWG. TYPE	MECH. INSTALLATION	DWG. NO.	AA34\200\922-0	

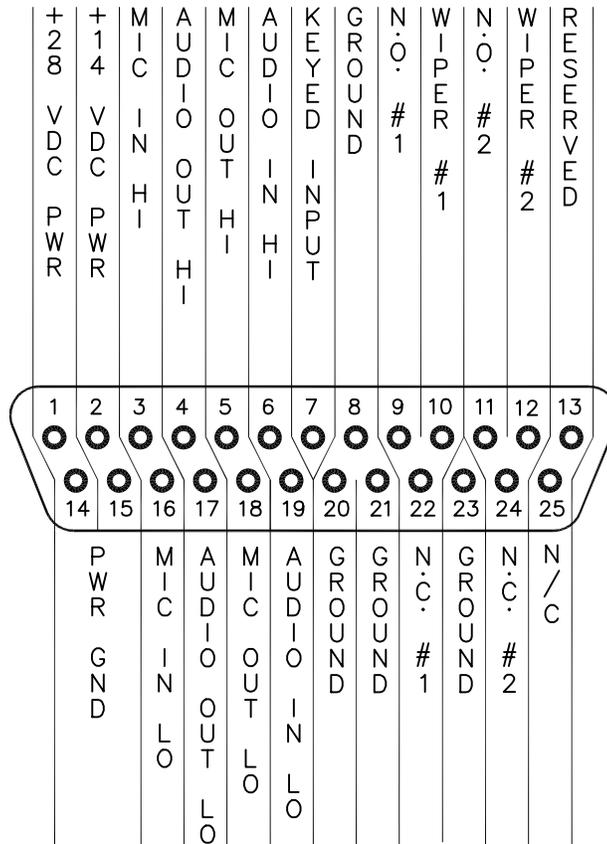
AA34-300



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DESIGNED	SWT	*nat NORTHERN AIRBORNE TECHNOLOGY LTD.				
DRAWN	SWT					
DATE	MAR 20/97	TITLE UNIVERSAL RADIO INTERFACE				
CHECKED	NAT PROD. 190					
APPROVED	(NAT 107)	SIZE A	CAGE CODE 3AB01	PART NO. AA34-300	REV. 1.00	SHEET 1/1
FILE	403-0100.DWG	DWG. TYPE	INTERCONNECT	DWG. NO.	AA34\300\403-0	

P101
 FEMALE 25 PIN D-MIN
 MATING CONNECTOR



VIEW IS FROM REAR OF AIRFRAME CONNECTOR

ABBREVIATIONS:

- N/C – NO CONNECTION
- N.O. – NORMALLY OPEN (RELAY CONTACT)
- N.C. – NORMALLY CLOSED (RELAY CONTACT)

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DESIGNED	SWT	NORTHERN AIRBORNE TECHNOLOGY LTD.				
DRAWN	SWT					
DATE	MAR 14/97	TITLE UNIVERSAL RADIO INTERFACE				
CHECKED	NAT PROD. 130					
APPROVED		SIZE A	CAGE CODE 3AB01	PART NO. AA34-300	REV. 1.00	SHEET 1/1
FILE	405-0100.DWG	DWG. TYPE	CONNECTOR MAP	DWG. NO.	AA34\300\405-0	



ENVIRONMENTAL QUALIFICATION FORM

Description: Universal Radio Interface Document No.: AA34\300\521-0

NAT Part No.: AA34-300 TSO Authorization: TSO-C50c

Manufacturer's Specification and/or Other Applicable Specification: RTCA/DO-160C

Manufacturer: Wulfsberg Electronics Division

Address: 6400 Wilkinson Drive, Prescott, AZ 86301-6164, USA

Prepared By:

NAT
281

Checked By:

NAT
231

Approved By:

NAT
149

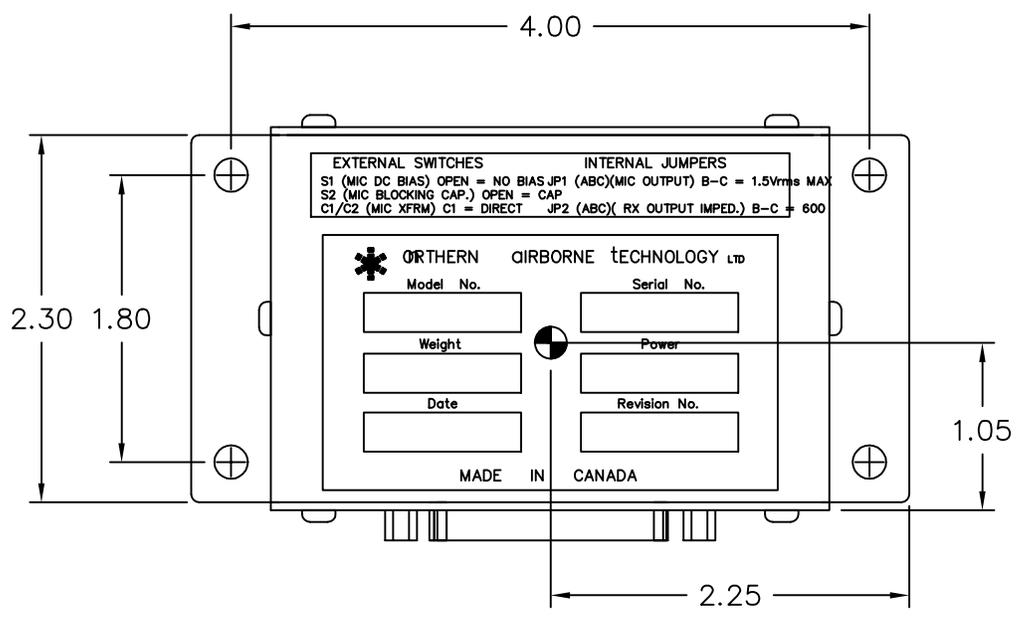
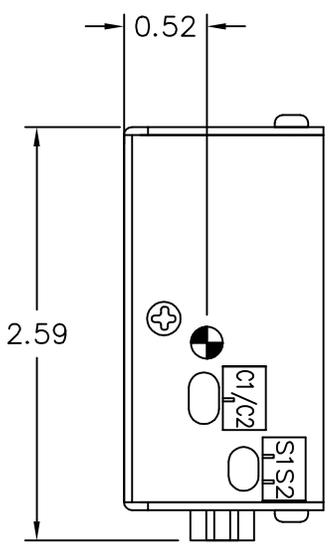
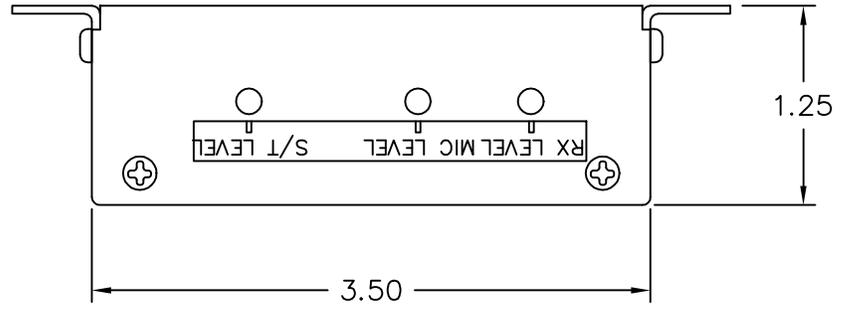
Conditions	DO-160C Section	Description of Conducted Tests
Temperature and Altitude	4.0	Category C1
Ground Survival Low Temperature	4.5.1	-55° C
Operating Low Temperature	4.5.1	-20° C
Ground Survival High Temperature	4.5.2	+85° C
Short-Time Operating High Temp.	4.5.2	+70° C
Operating High Temperature	4.5.3	+55° C
In-flight Loss of Cooling	4.5.4	N/A. No forced air cooling
Altitude	4.6.1	+35,000 ft (+10,668 m)
Temperature Variation	5.0	Category B
Humidity	6.0	Category A
Operational Shocks and Crash Safety	7.0	Equipment tested to performance requirements subsequent to Operational Shock test.
Operational Shocks	7.2.2	Alternate Test Procedure
Crash Safety	7.3.1.1	Test Procedure 1, Alternate Test Procedure (Impulse)
	7.3.2.2	Test Procedure 2 (Sustained), Unknown or Random orientation in aircraft.
Vibration	8.0	Categories B, M, and N (without shock mounts)
Explosion Proofness	9.0	Category X, no test performed
Waterproofness	10.0	Category X, no test performed

Conditions	DO-160C Section	Description of Conducted Tests
Fluids Susceptibility	11.0	Category X, no test performed
Sand and Dust	12.0	Category X, no test performed
Fungus Resistance	13.0	Category X, no test performed
Salt Spray	14.0	Category X, no test performed
Magnetic Effect	15.0	Class A
Power input	16.0	Category B Equipment met requirements for Emergency Electrical System Operation per DO-160C subparagraph 16.5.2.1 b (3)
Voltage Spike	17.0	Category A
Audio Frequency Susceptibility	18.0	Category B
Induced Signal Susceptibility	19.0	Category A
Radio Frequency Susceptibility	20.0 Change No. 3	Category T
Radio Frequency Emission	21.0	Category A
Lightning Induced Transient Susceptibility	22.0	Category X, no test performed
Lightning Direct Effects test	23.0	Category X, no test performed
Icing	24.0	Category X, no test performed

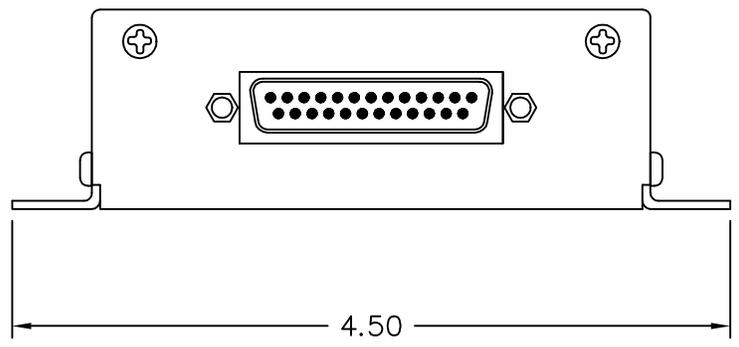
REMARKS

- DO-160C, Sections 4 to 8, and 15 to 21 tests were conducted at Northern Airborne Technology Ltd. (NAT) in Kelowna, BC on AA34-300.
- DO-160C, Sections 16, 17, and 18 Power Input tests were conducted using the +28Vdc and +14Vdc Power Inputs.

End of Environmental Qualification Form



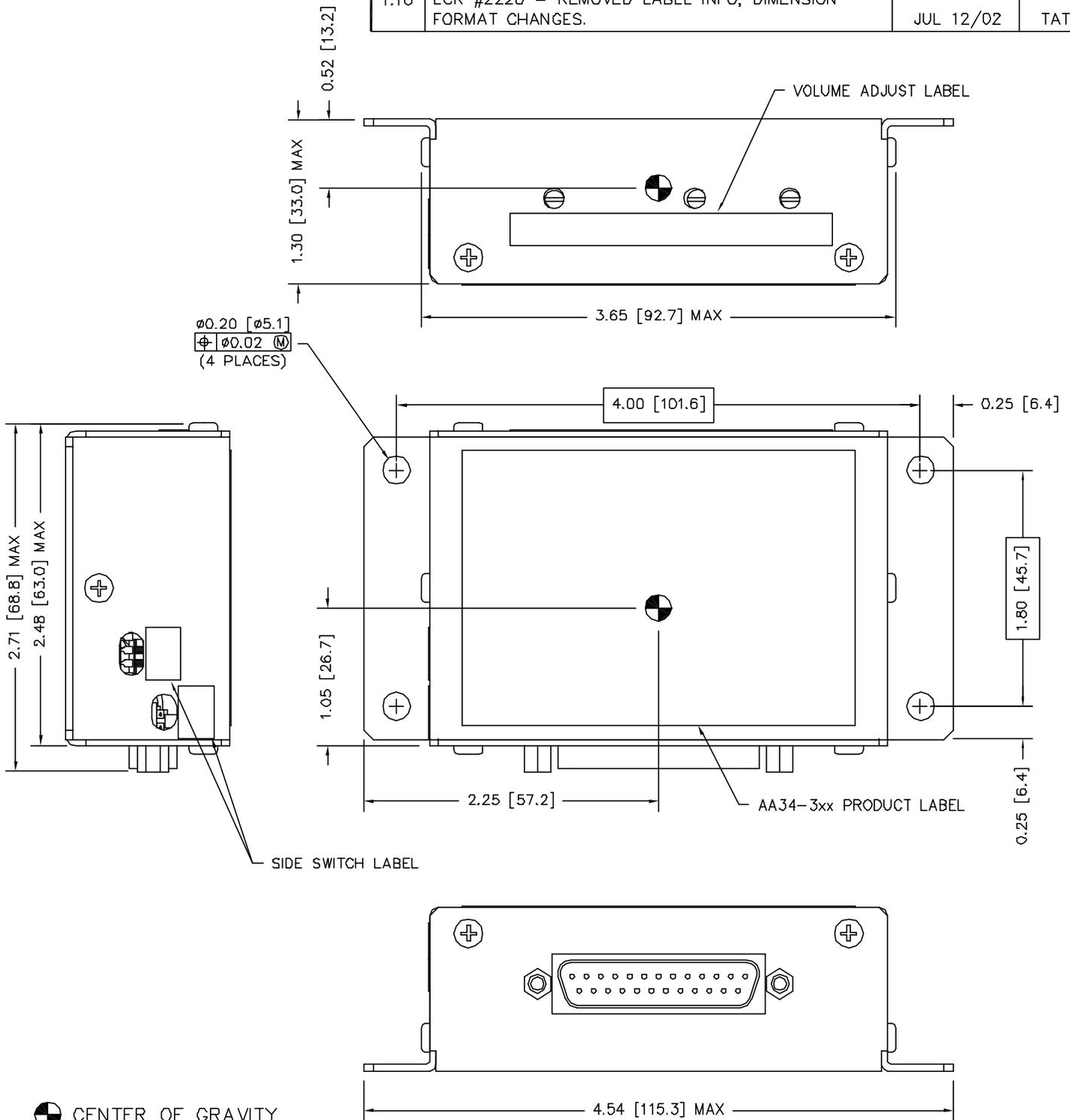
● CENTER OF GRAVITY
 WEIGHT 0.4 lbs. (180g)



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TOLERANCES UNLESS STATED OTHERWISE 0.X=+/-0.030 0.XX=+/-0.010 0.XXX=+/-0.005 0.XXXX=+/-0.002 ANGLE=+/- 0.5 DEG.	DIMENSIONS IN INCHES	DESIGNED	KV	*nat NORTHERN AIRBORNE TECHNOLOGY LTD.					
	THIRD ANGLE PROJECTION	DRAWN	MWS						
		DATE	MAR 13/97	TITLE					
		CHECKED	NAT PROD. 130		UNIVERSAL RADIO INTERFACE				
		APPROVED	NAT 107		SIZE	CAGE CODE	PART NO.	REV.	SHEET
MATERIAL		FILE	922-0100.DWG	DWG. TYPE	MECH. INSTALLATION	DWG. NO.	AA34\300\922-0		
FINISH									

REVISIONS			
REV	DESCRIPTION	DATE	BY
1.10	ECR #2220 - REMOVED LABEL INFO, DIMENSION FORMAT CHANGES.	JUL 12/02	TAT

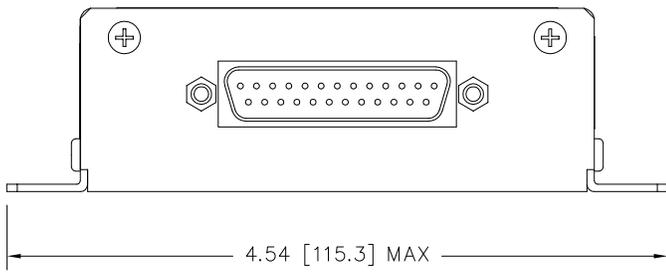
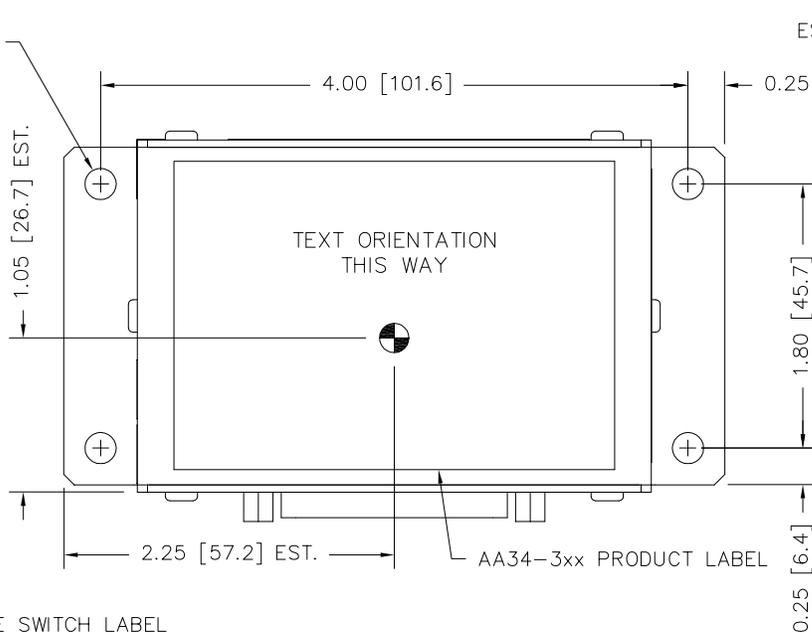
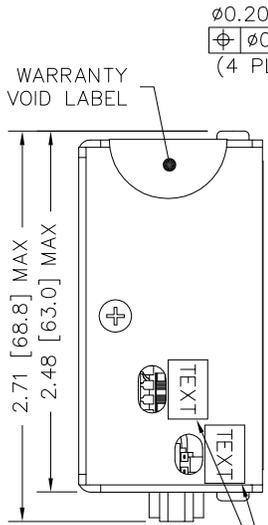
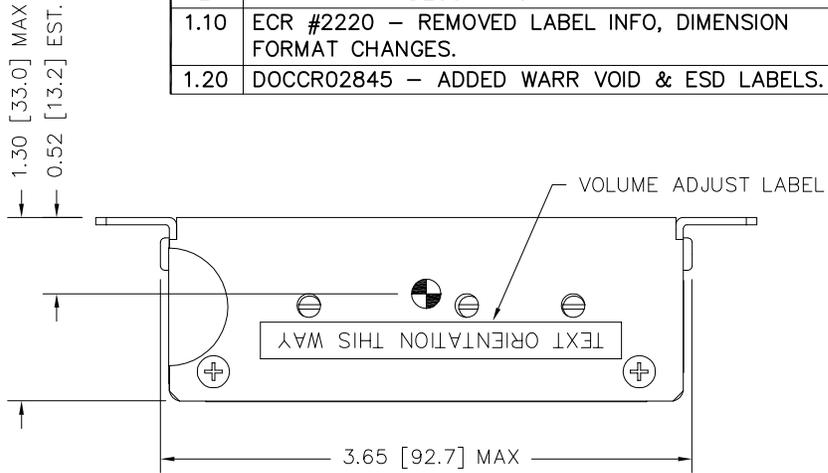


NOTES:
 1. DIMENSIONING AND TOLERANCING
 IN ACCORDANCE WITH ASME Y14.5M-1994

CONFIDENTIAL AND PROPRIETARY TO NAT LTD.

DIMENSIONS ARE INCHES [mm]	DESIGNED	KV	*nat NORTHERN AIRBORNE TECHNOLOGY LTD.				
	DRAWN	MWS					
THIRD ANGLE PROJECTION	DATE	MAR 13/97	TITLE UNIVERSAL RADIO INTERFACE				
MASS: 0.40 lbs. (0.18 Kg) MAX	CHECKED	NAT 241					
MATERIAL:	APPROVED	NAT 113	SIZE A	CAGE CODE 3AB01	PART NO. AA34-300	REV. 1.10	SHEET 1/1
FINISH: CHROMATE CONVERSION	FILE	922-0110.DWG	DWG. TYPE	MECH. INSTALLATION	DWG. NO.	AA34\300\922-0	

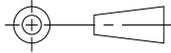
REVISIONS			
REV	DESCRIPTION	DATE	BY
1.10	ECR #2220 - REMOVED LABEL INFO, DIMENSION FORMAT CHANGES.	JUL 12/02	TAT
1.20	DOCCR02845 - ADDED WARR VOID & ESD LABELS.	JUN 15/09	MWS



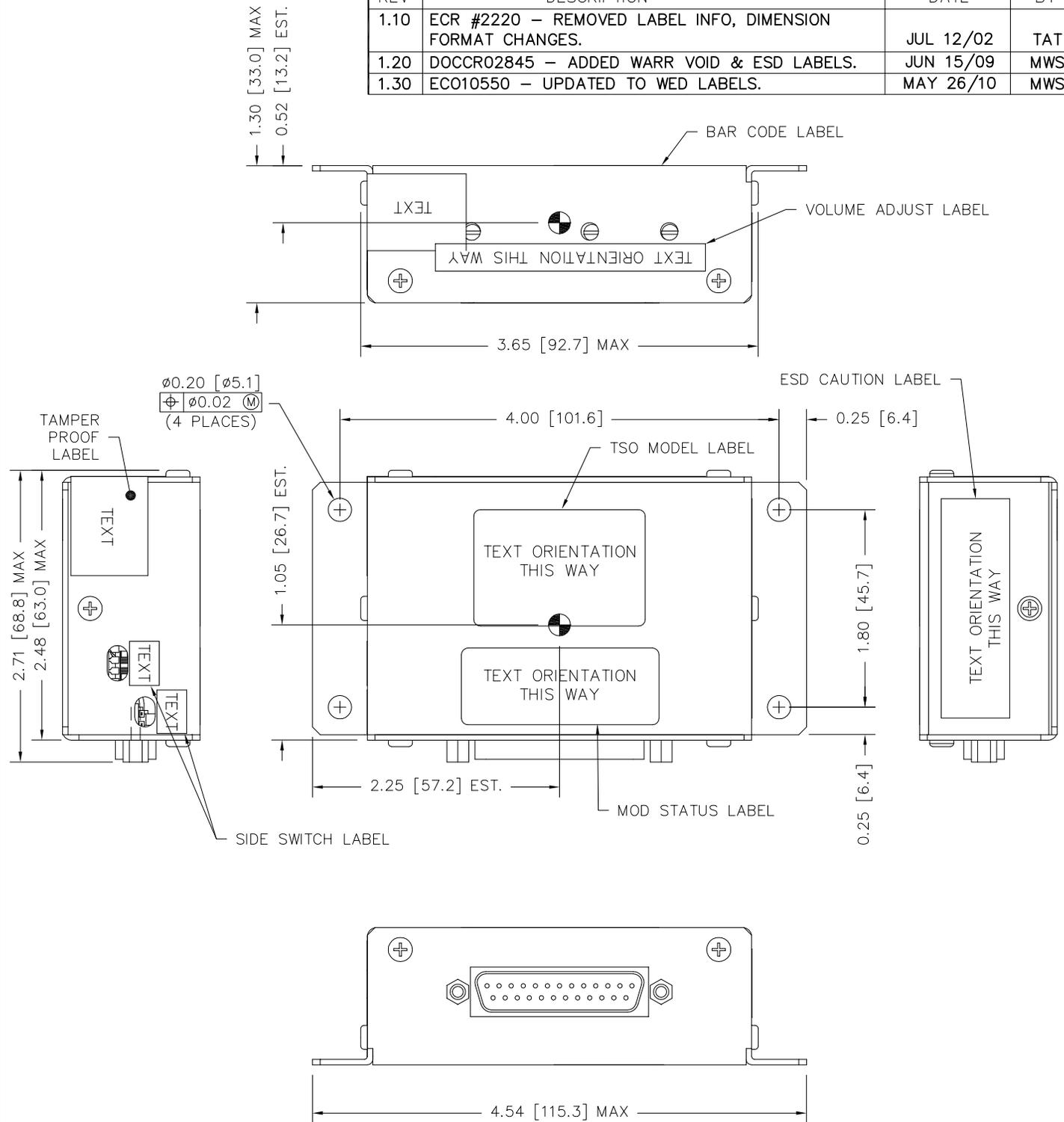
 CENTER OF GRAVITY

NOTES:
1. DIMENSIONING AND TOLERANCING
IN ACCORDANCE WITH ASME Y14.5M-1994

CONFIDENTIAL AND PROPRIETARY TO NAT LTD.

DIMENSIONS ARE INCHES [mm]	DESIGNED	KV	 NAT NORTHERN AIRBORNE TECHNOLOGY LTD.				
	DRAWN	MWS					
THIRD ANGLE PROJECTION 	DATE	MAR 13/97	TITLE UNIVERSAL RADIO INTERFACE				
MASS: 0.40 lbs. (0.18 Kg) MAX	CHECKED	NAT 231	NAT 255				
MATERIAL:	APPROVED		SIZE A	CAGE CODE 3AB01	PART NO. AA34-300	REV. 1.20	SHEET 1/1
FINISH: CHROMATE CONVERSION	FILE	922-0.DWG	DWG. TYPE	MECH. INSTALLATION	DWG. NO.	AA34\300\922-0	

REVISIONS			
REV	DESCRIPTION	DATE	BY
1.10	ECR #2220 - REMOVED LABEL INFO, DIMENSION FORMAT CHANGES.	JUL 12/02	TAT
1.20	DOCCR02845 - ADDED WARR VOID & ESD LABELS.	JUN 15/09	MWS
1.30	ECO10550 - UPDATED TO WED LABELS.	MAY 26/10	MWS



CENTER OF GRAVITY

NOTES:
 1. DIMENSIONING AND TOLERANCING
 IN ACCORDANCE WITH ASME Y14.5M-1994

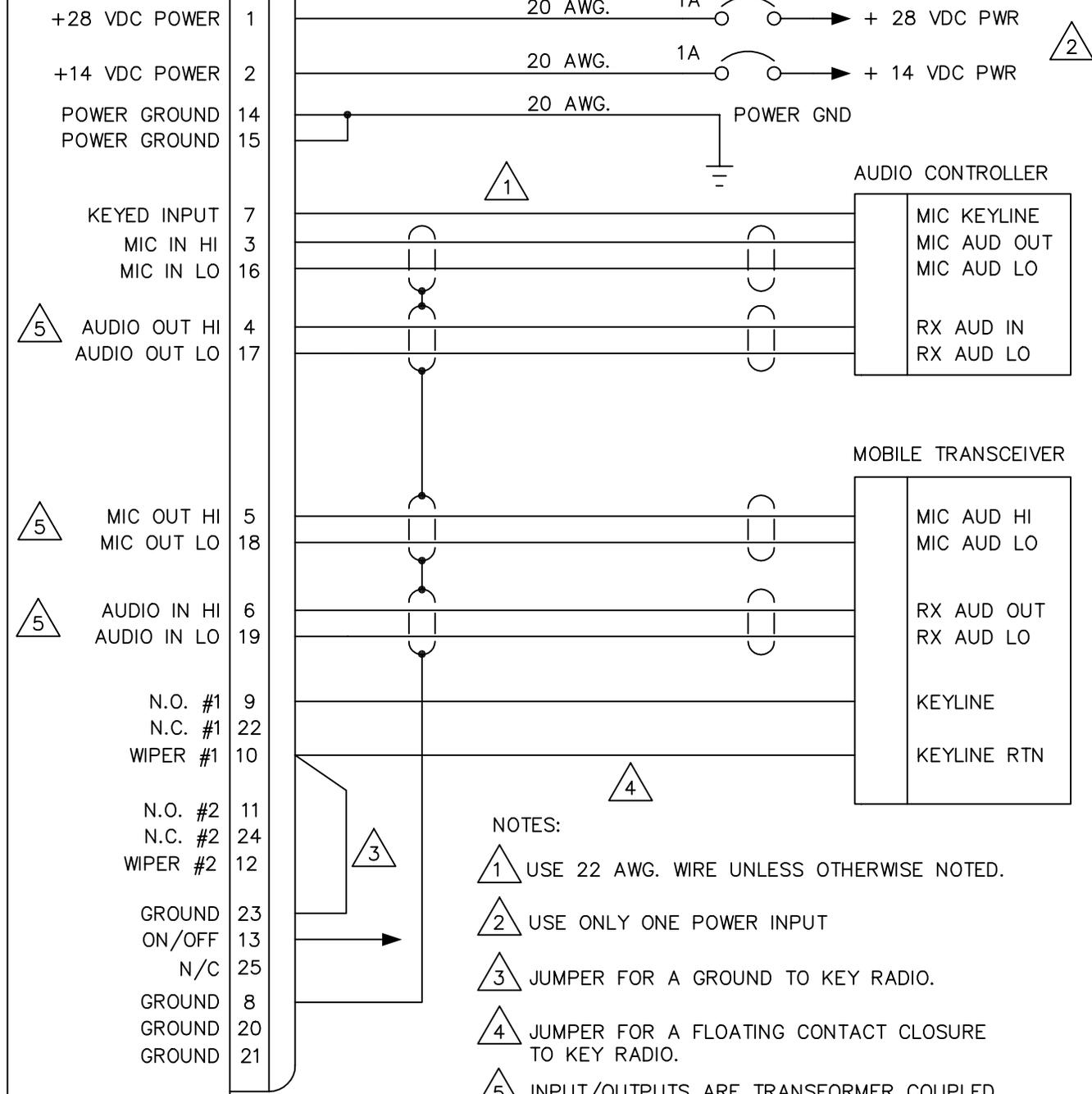
CONFIDENTIAL AND PROPRIETARY TO NAT LTD.

DIMENSIONS ARE INCHES [mm]	DESIGNED	KV	NAT NORTHERN AIRBORNE TECHNOLOGY LTD.				
	DRAWN	MWS					
THIRD ANGLE PROJECTION	DATE	MAR 13/97	TITLE UNIVERSAL RADIO INTERFACE				
WEIGHT: 0.44 lbs. (0.20 Kg) MAX 0.36 lbs. (0.16 Kg) MIN	CHECKED	NAT 231	NAT 255				
MATERIAL:	APPROVED	NAT 131	SIZE A	CAGE CODE 3AB01	PART NO. AA34-300	REV. 1.30	SHEET 1/1
FINISH: CONVERSION COATING	FILE	922-0.DWG	DWG. TYPE MECH. INSTALLATION	DWG. NO.	AA34\300\922-0		

AA34-301

J101

P101
FEMALE 25-PIN DMIN
MATING CONNECTOR



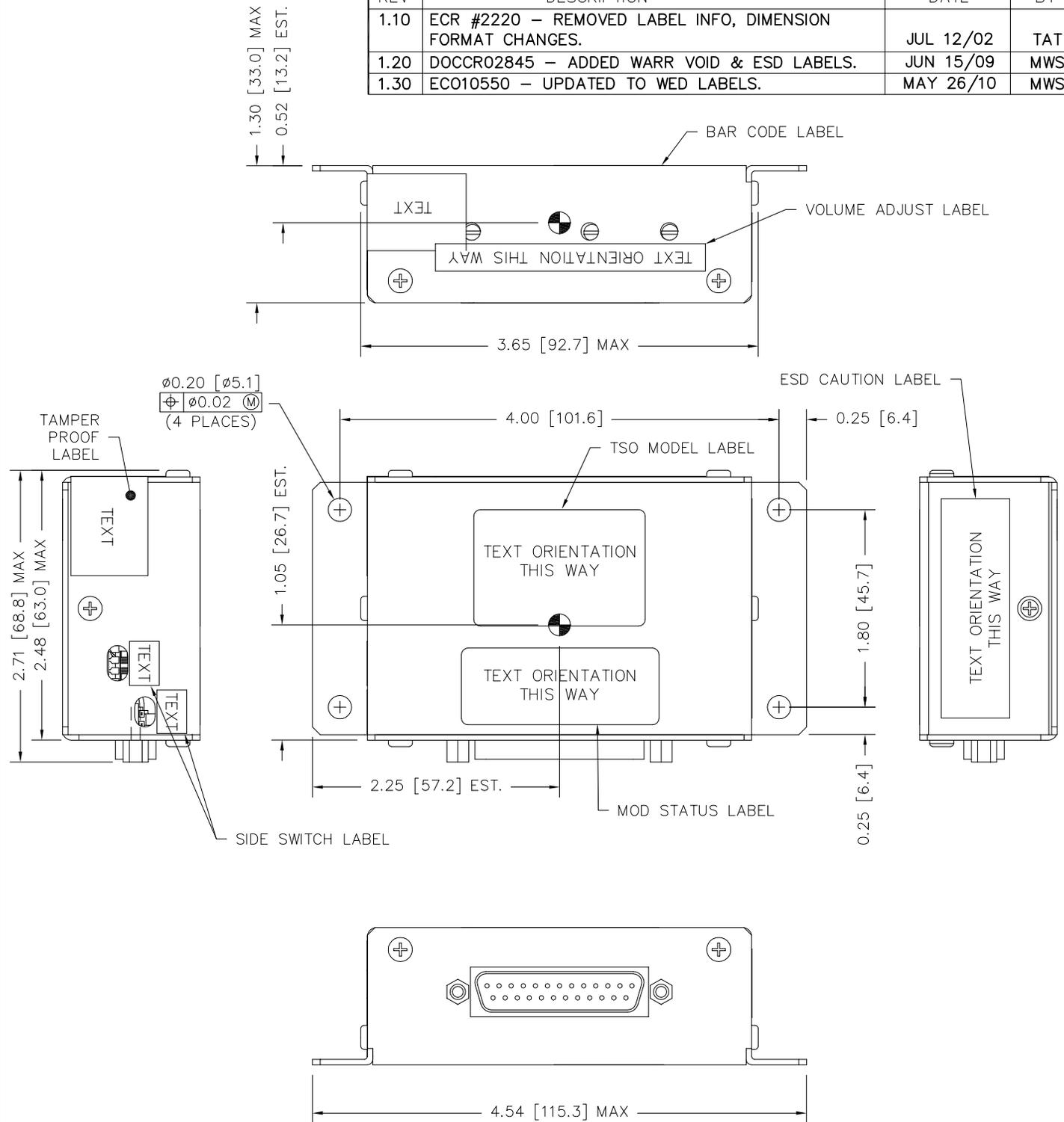
NOTES:

- 1 USE 22 AWG. WIRE UNLESS OTHERWISE NOTED.
- 2 USE ONLY ONE POWER INPUT
- 3 JUMPER FOR A GROUND TO KEY RADIO.
- 4 JUMPER FOR A FLOATING CONTACT CLOSURE TO KEY RADIO.
- 5 INPUT/OUTPUTS ARE TRANSFORMER COUPLED (BALANCED), 'LO' WIRES REQUIRE TERMINATION.

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DESIGNED	SWT	NAT NORTHERN AIRBORNE TECHNOLOGY LTD.				
DRAWN	SWT					
DATE	MAR 20/97	TITLE UNIVERSAL RADIO INTERFACE				
CHECKED	NAT PROD. 190					
APPROVED		SIZE	CAGE CODE	PART NO.	REV.	SHEET
FILE	403-0100.DWG	A	3AB01	AA34-301	1.00	1/1
DWG. TYPE		INTERCONNECT		DWG. NO. AA34\301\403-0		

REVISIONS			
REV	DESCRIPTION	DATE	BY
1.10	ECR #2220 - REMOVED LABEL INFO, DIMENSION FORMAT CHANGES.	JUL 12/02	TAT
1.20	DOCCR02845 - ADDED WARR VOID & ESD LABELS.	JUN 15/09	MWS
1.30	ECO10550 - UPDATED TO WED LABELS.	MAY 26/10	MWS

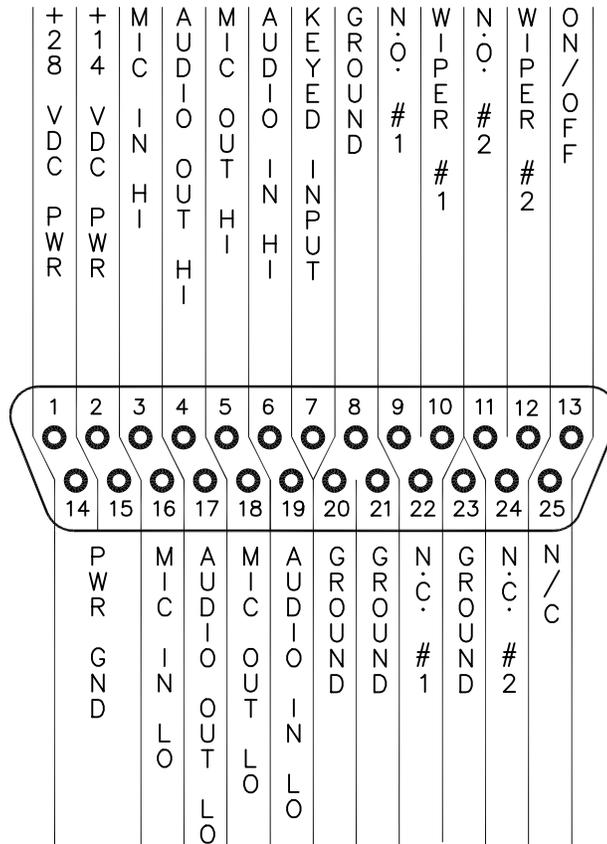


NOTES:
 1. DIMENSIONING AND TOLERANCING
 IN ACCORDANCE WITH ASME Y14.5M-1994

CONFIDENTIAL AND PROPRIETARY TO NAT LTD.

DIMENSIONS ARE INCHES [mm]	DESIGNED	KV	NAT NORTHERN AIRBORNE TECHNOLOGY LTD.
	DRAWN	MWS	
THIRD ANGLE PROJECTION	DATE	MAR 13/97	TITLE
WEIGHT: 0.44 lbs. (0.20 Kg) MAX 0.36 lbs. (0.16 Kg) MIN	CHECKED	NAT 231	NAT 255
MATERIAL:	APPROVED	NAT 131	SIZE A
FINISH: CONVERSION COATING	FILE	922-0.DWG	CAGE CODE 3AB01
			PART NO. AA34-300
			REV. 1.30
			SHEET 1/1
			DWG. NO. AA34\300\922-0

P101
 FEMALE 25 PIN D-MIN
 MATING CONNECTOR



VIEW IS FROM REAR OF AIRFRAME CONNECTOR

ABBREVIATIONS:

- N/C – NO CONNECTION
- N.O. – NORMALLY OPEN (RELAY CONTACT)
- N.C. – NORMALLY CLOSED (RELAY CONTACT)

Confidential and Proprietary to NAT

DESIGNED	SWT	NAT NORTHERN AIRBORNE TECHNOLOGY LTD.				
DRAWN	SWT					
DATE	MAR 14/97	TITLE				UNIVERSAL RADIO INTERFACE
CHECKED	NAT PROD. 130					
APPROVED	NAT 107	SIZE A	CAGE CODE 3AB01	PART NO. AA34-301	REV. 1.00	SHEET 1/1
FILE	405-0100.DWG	DWG. TYPE	CONNECTOR MAP	DWG. NO.	AA34\301\405-0	



AA34 Series Universal Radio Interface SM36 Installation and Operation Manual

Section 3 Operation

3.1 Introduction

Information in this section consists of functional and operational procedures for the AA34 Universal Radio Interface.

3.2 General Information

The AA34 Universal Radio Interface will handle the interface and switching requirements of mobile or CB radio systems when integrated into an aircraft audio system.

The AA34 Universal Radio Interface has no operator accessible controls. During installation, it may be determined that internal level adjustments are required. Qualified personnel only shall complete internal level adjustments.

Section 3 ends
