



SPECIAL NOTICE

Ownership of this product has been transferred to Cobham Aerospace Communication from Anodyne Electronics Manufacturing (AEM) and Northern Airborne Technology (NAT). Cobham is responsible for all matters related to this product, including sales, support and repair services.

Please note the transition to convert product manuals and supporting documentation is an ongoing process and is being addressed on an 'as needed' basis.

All references to AEM and NAT product part numbers (and associated images) are equivalent to Cobham product part numbers.

Contact info:

Cobham Aerospace Communication,
6400 Wilkinson Drive, Prescott, Arizona, 86301.

Telephone: (928) 756-1615 or refer to the following website:
www.wulfsberg.com for more information.

PROPRIETARY NOTICE

PROPRIETARY STATEMENT

This document contains confidential and proprietary information and is the property of Chelton Avionics, Inc., a subsidiary of Cobham plc. It is to be provided in confidence on the condition that by receipt it is not reproduced or copied in whole or in part, or used to furnish such information to others, or to make use of it for purposes other than specified by the Usage Statement. The previous statement shall not apply to the extent that such statement violates any federal or state laws requiring such information to be made available to the public. Non-current versions of this document must be returned to Chelton Avionics, Inc. or destroyed or shredded in a manner that renders the document completely and totally unusable and illegible.

EXPORT CONTROLS STATEMENT

The technical data within this document is controlled for export under the export administration regulations (EAR), 15 CFR PARTS 730-774, violations of these laws may be subject to fines and penalties under the export administration act.

FCC STATEMENT

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Before operating the products covered by this document, read the operating instructions for safe usage. Regarding Part 15.21, changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

USAGE STATEMENT

The data in this document was developed only to maintain systems and/or parts manufactured by, manufactured for, or approved by Cobham. The data may not be applicable to any other systems and/or parts, regardless of their apparent similarity to systems and/or parts manufactured by, manufactured for, or approved by Cobham. Do not rely, in any way, on data in this document to maintain or otherwise support systems and/or parts that were not manufactured by, manufactured for, or approved by Cobham, without evidence that the Federal Aviation Administration or other regulatory agency has determined that the data in this document is valid for such use. This document shall not be used for the development, manufacture, service, support, modify, overhaul or obtain FAA or any other regulatory approval of any other products than are specified within.

Cobham assumes no liability whatsoever, whether contractual, warranty, tort or otherwise, for unauthorized work not performed in accordance with Chelton Avionics, Inc. approved procedures.

DOCUMENT COPYRIGHTS

Recipients agree to hold the contents of this document in confidence and agree to use only for the recipients internal purposes to maintain the referenced equipment. This document and its contents shall not be used, reproduced, transmitted, or distributed for any other purpose. The recipient also agrees to not disclose, share, or copy for distribution any of the contents of this document to any third party except as provided by written permission from Chelton Avionics, Inc. Copy or disclosure of the contents of this document by anyone without the written approval of Chelton Avionics, Inc. may result in criminal or civil liability.

DISCLAIMER

The content of this document has been reviewed for accuracy and is believed to be reliable, however no responsibility is assumed for typographical errors and inaccuracies. Chelton Avionics, Inc. reserves the rights to revise the contents within to improve accuracy and apply updated information related to design and serviceability without prior notice to users. The latest published revision is the only version authorized for use.

PROPERTY AND COPYRIGHT STATEMENT

The copyright and ownership of all manuals, drawings, specifications and data as may be provided by Chelton Avionics, Inc. within this document shall remain the property of Chelton Avionics, Inc.

All other brand and product names are trademarks or registered trademarks of their respective holders.

Copyright® Chelton Avionics, Inc.

All Rights Reserved

Cobham Aerospace

Communications

6400 Wilkinson Drive

Prescott, AZ USA 86301

T: (928) 708-1550

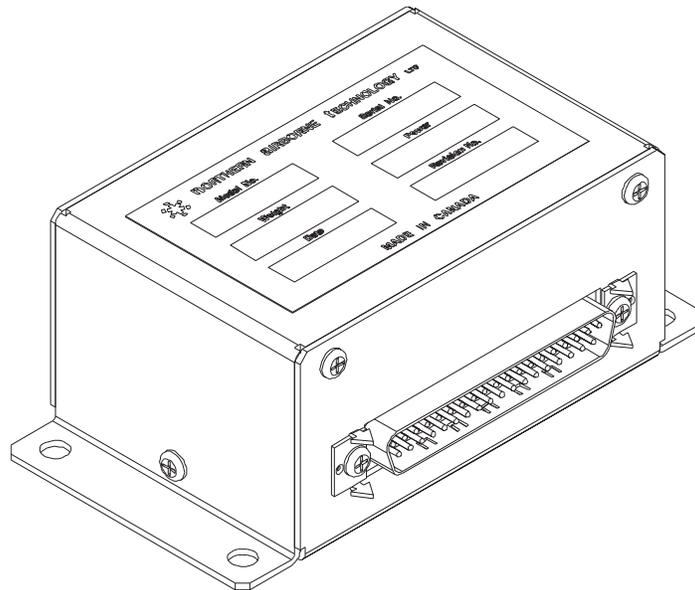
F: (928) 541-7627

Proprietary Information: Use or disclosure of this data is subject to the restrictions specified in the introductory section of this document



SM43

**AA39 Series
Headset Adapters**



INSTALLATION AND OPERATION MANUAL

REV 2.00 May 17, 2012

**Anodyne Electronics Manufacturing Corp.
15-1925 Kirschner Road
Kelowna, BC, Canada.
V1Y 4N7**

**Telephone (250) 763-1088
Facsimile (250) 763-1089**

Website: www.aem-corp.com

**© 2012 Anodyne Electronics Manufacturing Corp. (AEM),
All Rights Reserved**



**AA39 Series Headset Adapter
SM43 Installation and Operation Manual**

COPYRIGHT STATEMENT

© 2012 Anodyne Electronics Manufacturing Corp. (AEM), All Rights Reserved

This publication is the property of AEM and is protected by Canadian copyright laws. No part of this document may be reproduced or transmitted in any form or by any means including electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of AEM.



AA39 Series Headset Adapter SM43 Installation and Operation Manual

Table of Contents

Section	Title	Page
1.0	Description	
1.1	Introduction	1-1
1.2	Product Description	1-1
1.3	Design Features	1-1
1.4	Specifications	1-2
1.4.1	Electrical Specifications	1-2
1.4.2	Physical Specifications	1-4
1.4.3	Environmental Specifications - AA39-187 and AA39-287 only	1-4
1.5	Unit Nomenclature	1-5
2.0	Installation	
2.1	Introduction	2-1
2.2	Unpacking and Inspection	2-1
2.2.1	Warranty	2-1
2.3	Continued Airworthiness	2-1
2.4	Installation Procedures	2-1
2.4.1	Warnings	2-1
2.4.2	Cautions	2-2
2.4.3	Cabling and Wiring	2-2
2.4.4	Post-Installation Checks	2-3
2.5	Adjustments and Connections	2-3
2.6	Accessories Required But Not Supplied	2-4
2.6.1	Install Kit for AA39-075 and AA39-087	2-4
2.6.2	Install Kit for AA39-187 and AA39-287	2-4
2.7	Installation Drawings	2-4
3.0	Operation	
3.1	Introduction	3-1
3.2	General Information	3-1



AA39 Series Headset Adapter SM43 Installation and Operation Manual

Section 1.0 Description

1.1 Introduction

Information in this section consists of product description, design features and specifications for the AA39 Series of Dynamic Headset Adapters.

The descriptions given are for the AA39-187, and are identical to those for other models unless otherwise noted. All derivative product information shall be contained in the applicable manual supplement, which may be obtained from AEM as required.

1.2 Product Description

The AA39-187 is a single military headset adapter, consisting of a 5 Ω dynamic mic to civil aviation 150 Ω mic adapter, with an 8 Ω to 600 Ω transformer for phones matching.

The AA39-287 operation is identical to the AA38-187, but is designed for two headsets.

The AA39-087 is used to adapt 5 Ω dynamic M-87 military mics to general aviation 150 Ω audio systems.

The AA39-075 is used to adapt 75 Ω dynamic military mics (i.e. ELNO) to general aviation 150 Ω audio systems.

1.3 Design Features

The AA39-075, AA39-087, AA39-187 and AA39-287 are small, remote mounted metal units with D-sub connectors. The units are designed to operate from standard mic bias, supplied by the aircraft radio and intercom system.



AA39 Series Headset Adapter SM43 Installation and Operation Manual

1.4 Specifications

1.4.1 Electrical Specifications

1.4.1.1 AA39-075 and AA39-087

Input Power Not Applicable

Input Signals

Mic Bias: Nominal Bias Voltage: +12 Vdc
Maximum Bias Voltage: +16 Vdc
Minimum Bias Voltage: +9 Vdc

Other: Input current: 10 mA max @ Min Bias Voltage

Quantity: 1 Mic channel,

Audio level: AA39-075 850 μ Vrms for mic input
AA39-087 250 μ Vrms for mic input

Impedance: AA39-075 75 $\Omega \pm 1 \Omega$ for mic input
AA39-087 5 $\Omega \pm 1 \Omega$ for mic input

Circuitry Type: Balanced

Output Signals

Quantity: 1 mic output

Rated level: 250 mVrms into 150 Ω for mic output

Gain: Min. 1000 or 60 dB for mic amplifier (adjustable)

Circuitry Type: Single ended



AA39 Series Headset Adapter SM43 Installation and Operation Manual

1.4.1.2 AA39-187 and AA39-287

Input Power Not Applicable

Input Signals

Mic Bias: Nominal Bias Voltage: +12 Vdc
Maximum Bias Voltage: +16 Vdc
Minimum Bias Voltage: +9 Vdc

Other: Input current: 10 mA Max. @ Min Bias Voltage

Quantity: (AA39-187) 1 Mic input, 1 Phones input
(AA39-287) 2 Mic inputs, 2 Phones inputs

Audio level: 250 μ Vrms for mic input
7.7 Vrms for phones input

Impedance: 5 $\Omega \pm 1 \Omega$ for mic input
300 $\Omega \pm 10 \%$ for phones input
(dependent on load impedance)

Circuitry Type: Balanced input for mic
Balanced transformer input for phones

Output Signals

Quantity: (AA39-187) 1 mic output, 1 phones output
(AA39-287) 2 mic outputs, 2 phones outputs

Rated level: 250 mVrms into 150 Ω for mic output
0.8 Vrms into 8 Ω for phones output

Gain: Min. 1000 or 60 dB for mic amplifier
Min. 8.5:1 ratio for phones transformer

Circuitry Type: Single ended output for mic
Balanced transformer output for phones

Freq. Resp. < 3 dB from 350 Hz to 6000 Hz. for mic channel
< 3 dB from 350 Hz to 6000 Hz. for phones channel

Distortion: < 10% THD @ Rated power output
< 3% THD @ 10% Continuous output

Audio Noise Level: Without Signal: < -50 dB from rated output

Coupling (AA39-287) Input to Input: \leq -40 dB from rated output



AA39 Series Headset Adapter SM43 Installation and Operation Manual

1.4.2 Physical Specifications

	AA39-075	AA39-087	AA39-187	AA39-287
Height	1.25" (32 mm)	1.25" (32 mm)	1.75" (45 mm)	1.75" (45 mm)
Depth	2.66" (67 mm)	2.66" (67 mm)	2.60" (66 mm) max	2.60" (66 mm) max
Width	4.50" (114 mm)	4.50" (114 mm)	4.50" (114 mm)	4.50" (114 mm)
Weight	0.25 lbs. (115 g)	0.25 lbs. (115 g)	0.44 lbs. (200 g)	0.61 lbs. (277 g)

Mounting	Four 10-32 Screws
Material/Finish	Chassis & cover are 5052-H32 brushed aluminum with conversion coating finish
Connectors	(-075, -087) One male 9 pin D-subminiature connector with screw jacks. (-187, -287) One filtered male 37 pin D-subminiature connector with V5 locking tabs.

1.4.3 Environmental Specifications – AA39-187 and AA39-287 only

DO-160C Env. Cat. [C4D1]-BA[MN]XXXXXXAXXXBTXXXX	
Operating Temperatures	-40° C. to +70° C
Survival Temperatures	-55° C. to + 85° C
Altitude	50,000 feet max
Humidity	95% @ ≥ RH for 48 hrs
Vibration/Shock	DO-160C Cat. M/N
Temperature Variation	±5° C/min
Operational Shock and Crash Safety	Operational: 6 g for 11 mS in all axes Crash Safety (Impulse) 15 g for 11 mS in all axes Crash Safety (Sustained) 12 g for 3 S in all axes



AA39 Series Headset Adapter SM43 Installation and Operation Manual

1.5 Unit Nomenclature

AA39-075	Military to civil mic adapter 75 Ω Mid-Z mic interface (ELNO) 1 mic input -850 μ Vrms into 75 Ω 1 mic output – 250 mVrms into 150 Ω Powered by mic connection.
AA39-087	Military to civil mic adapter 5 Ω Mid-Z mic interface (M87/101) 1 mic input -250 μ Vrms into 5 Ω 1 mic output – 250 mVrms into 150 Ω Powered by mic connection.
AA39-187	Military Lo-Z to civil Hi-Z headset adapter 1 mic input -250 μ Vrms into 5 Ω 1 phones output – 0.8 Vrms into 8 Ω 1 mic output – 250 mVrms into 150 Ω Powered by mic connection. 1 phones input – 7.7 Vrms into 600 Ω
AA39-287	Dual military Lo-Z to civil Hi-Z headset adapter 2 mic input -250 μ Vrms into 5 Ω 2 phones output – 0.8 Vrms into 8 Ω 2 mic output – 250 mVrms into 150 Ω Powered by mic connection. 2 phones input – 7.7 Vrms into 600 Ω

End of Section 1.0



AA39 Series Headset Adapter SM43 Installation and Operation Manual

Section 2.0 Installation

2.1 Introduction

Information in this section consists of unpacking and inspection procedures, installation procedures, post-installation checks and installation drawings for the AA39 Series Headset Adapter.

Review all notes, warnings and cautions.

2.2 Unpacking and Inspection

Unpack the equipment carefully. Inspect the unit visually for damage due to shipping and report all such claims immediately to the carrier involved. Note that each unit should have the following:

- AA39 Series Headset Adapter
- Product Information Card
- Certificate of Conformity or Release certification

Verify that all items are present before proceeding and report any shortage immediately to your supplier.

2.2.1 Warranty

All Anodyne Electronics Manufacturing Corp. (AEM) products are warranted for 2 years. See the website www.aem-corp.com/warranty for complete details.

2.3 Continued Airworthiness

Maintenance of the AA39 Series Headset Adapter is 'on condition' only. Periodic maintenance of this product is not required.

2.4 Installation Procedures

2.4.1 Warnings

WARNING:
High volume settings can cause hearing damage.
Set the headset volume control to the minimum volume setting prior to conducting tests, and slowly increase the headset volume to a comfortable listening level.



AA39 Series Headset Adapter SM43 Installation and Operation Manual

2.4.2 Cautions

CAUTION:

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

All audio installations can be seriously degraded by incorrect wiring and shielding, and may result in abnormal crosstalk, hum and ground-loop noise. Be especially careful with all microphone wiring and tie line wiring, as these lines carry the lowest level signals in the aircraft.

CAUTION:

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

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 connector map 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. Reference 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. Aircraft harnessing shall permit the unit to be lowered from the panel for easy access to all side adjustments. Do NOT mount the unit until all adjustments have been performed.

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 24 AWG, except power and ground lines, which shall be a minimum of 22 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.



AA39 Series Headset Adapter SM43 Installation and Operation Manual

2.4.3.1 Microphone Wiring

In all installations that use Dynamic microphones, **extreme care** must be taken with the shielding and routing of the microphone wiring. This is especially true of the 5-ohm Dynamic mic input, where typical signals are in the range of 100-250 μ Vrms. Special wire with Mumetal shielding should be considered if there are any concerns about installation-related noise. **Do not** bundle the microphone wiring with high-level lines (headphone, radio audio, coaxial cables, etc.).

Headset and/or helmet wiring may also need to be reviewed if using Dynamic microphones. Many of the headsets and helmets on the market have minimal shielding for the wiring associated with the mic and phone circuits. Those with shielded wiring often use the Phone Lo connection for the shield ground. In the AA39, the Phone Lo connection is not ground referenced, so the shielding has no effect. This will result in substantial coupling of the Phone signal onto the Microphone wires, leading to high levels of crosstalk in the intercom system. These shielding considerations also apply to in-line PTT cordsets. If a review of the headset wiring indicates there will be a problem with the shield termination, it is acceptable to ground the Phone Lo connection to a local ground at the headset jack/connector.

2.4.4 Post-Installation Checks

2.4.4.1 Voltage/Resistance Checks

Do not attach the AA39 until the following conditions are met.

Check the following:

AA39-075 and AA39-087

Check J101, pin <9> for continuity to ground (less than 0.5 Ω).

AA39-187 and AA39-287

Check J1, pin <4> for continuity to ground (less than 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 AA39.

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 AA39-075 and AA39-087 have a MIC LEVEL adjustment trimpot, accessible through a hole in the rear of the unit. Rotating the trimpot cw will increase the mic level, and ccw will decrease it.

There are no adjustments for the AA39-187 or AA39-287.



AA39 Series Headset Adapter SM43 Installation and Operation Manual

2.6 Accessories Required But Not Supplied

2.6.1 Install Kit for AA39-075 and AA39-087

Installation kit p/n AA39-IKC (crimp) is required to complete the installation. The kit consists of the following:

AA39-IKC (AEM Part No. D09SL-IKC)

Quantity	Description	AEM Part #
1	D-min 9 Socket Housing	20-21-009
9	MS Crimp Socket	20-26-901
1*	Jack Screw Set	20-27-002
1*	Lock Clip set	20-27-004
1	9 Pin Connector Hood	20-29-009

* Use as required.

2.6.2 Install Kit for AA39-187 and AA39-287

Installation kit p/n AA35-IKC-1 (crimp) is required to complete the installation. The kit consists of the following:

AA35-IKC-1 (AEM Part No. D37SV-IKC)

Quantity	Description	AEM Part #
1	D-min 37 Socket Housing	20-21-037
37	MS Crimp Socket	20-26-901
1	37 Pin JVL Hood/Locklever	20-29-370

2.7 Installation Drawings

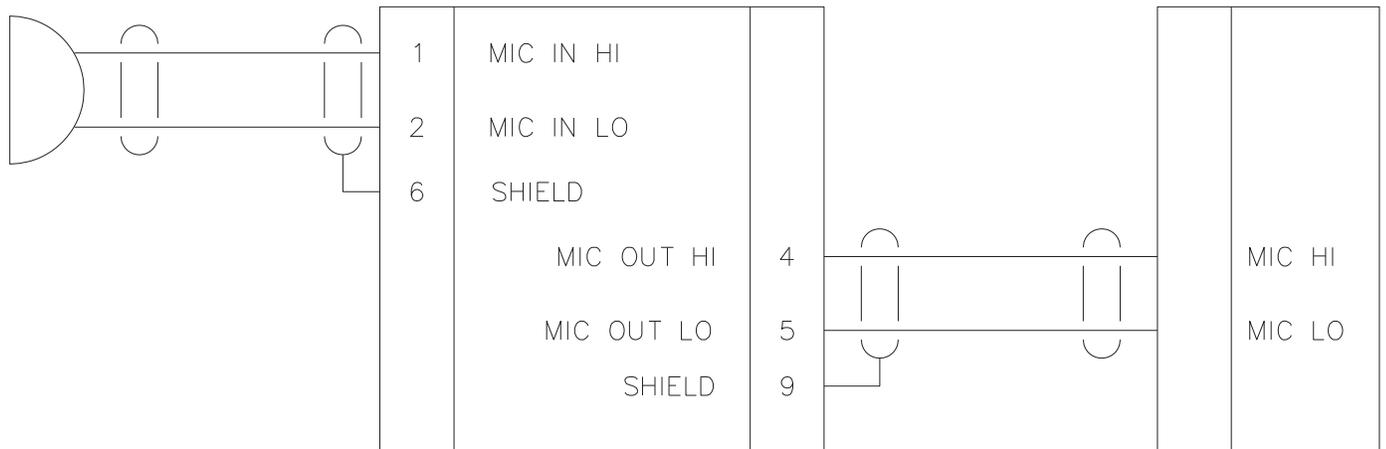
DRAWING	REV.	DESCRIPTION	TYPE
AA39-075			
AA39\075\403-0	-	Mid Impedance Mic Interface	Interconnect
AA39\075\405-0	-	Mid Impedance Mic Interface	Connector Map
AA39\075\922-0	1.00	Mid Impedance Mic Interface	Mech. Installation
AA39-087			
AA39\087\403-0	-	Low Impedance Mic Interface	Interconnect
AA39\087\405-0	-	Low Impedance Mic Interface	Connector Map
AA39\087\922-0	1.00	Low Impedance Mic Interface	Mech. Installation
AA39-187			
AA39\187\403-0	1.00	Dynamic Headset Adapter	Interconnect
AA39\187\405-0	1.00	Dynamic Headset Adapter	Connector Map
AA39\187\922-0	1.00	Dynamic Headset Adapter	Mech. Installation
AA39-287			
AA39\287\403-0	1.00	Dual Dynamic Headset Adapter	Interconnect
AA39\287\405-0	1.00	Dual Dynamic Headset Adapter	Connector Map
AA39\287\922-0	1.00	Dual Dynamic Headset Adapter	Mech. Installation

Section 2.0 ends following above documents

ELNO (75 OHM)
MICROPHONE

AA39-075
DYNAMIC MIC AMPLIFIER

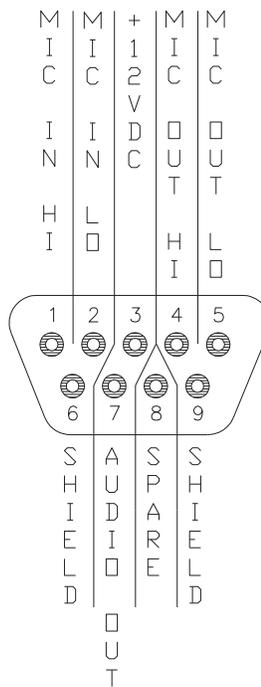
AUDIO
CONTROLLER



AA39 REQUIRES NO EXTERNAL POWER
D.C. SUPPLIED BY MIC EXCITATION

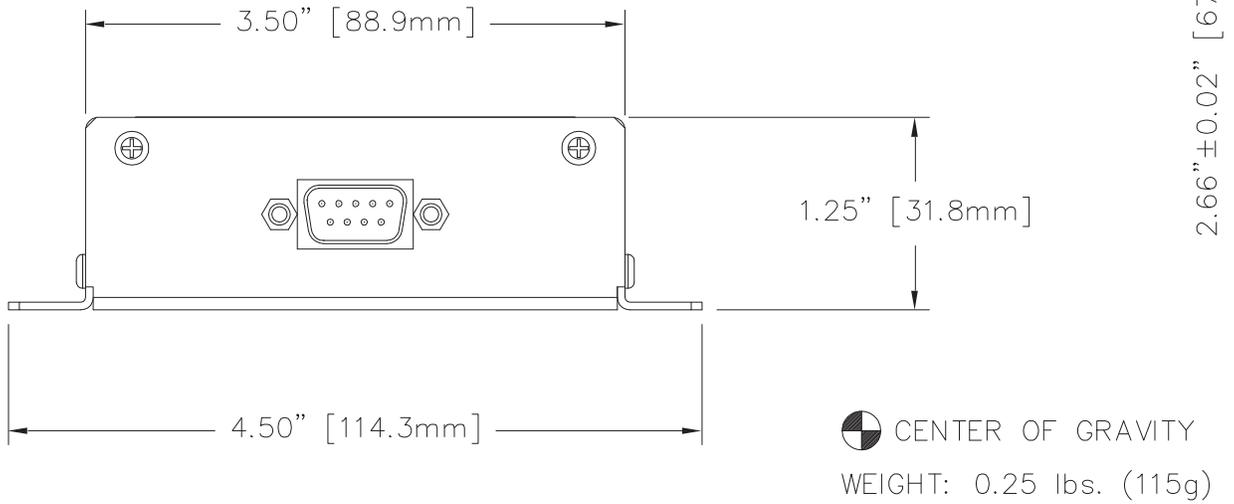
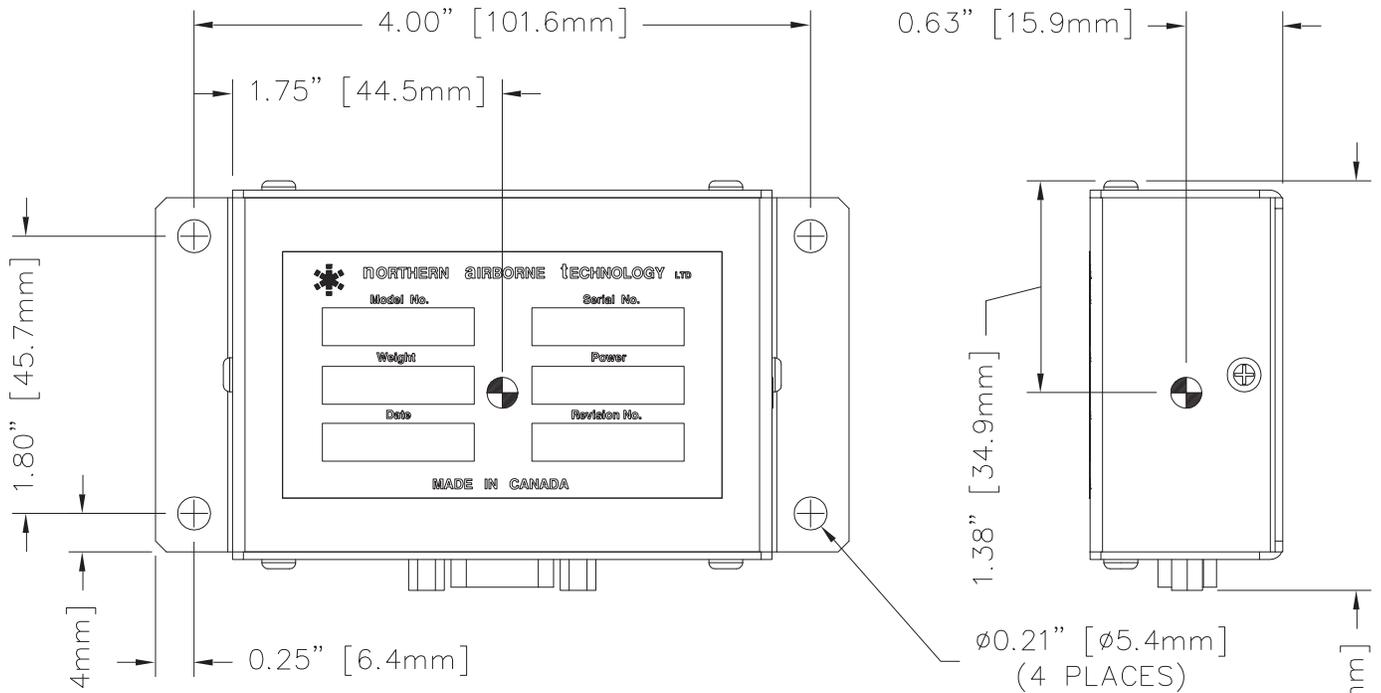
Confidential and Proprietary to NAT

REVISION	DATE	NORTHERN AIRBORNE TECHNOLOGY LTD. 1925 KIRSCHNER RD. KELOWNA, B.C.		
		DESCRIPTION	PART NUMBER	DRAWING NUMBER
		INTERCONNECT	AA39-075	AA39075\403
		DATE	DRAWN BY	APPROVED BY
		19 JULY 91	KEN VEITCH	NAT R&D 101



Confidential and Proprietary to NAT

REVISION	DATE	NORTHERN AIRBORNE TECHNOLOGY LTD. 1697 POWICK RD. KELOWNA, B.C. V1X-4L1		
		DESCRIPTION	PART NUMBER	DRAWING NUMBER
		CONNECTOR MAP	AA39-075	AA39075\405
		DATE	DRAWN BY	APPROVED BY
		19 JULY 91	KEN VEITCH	NAT R&D 101



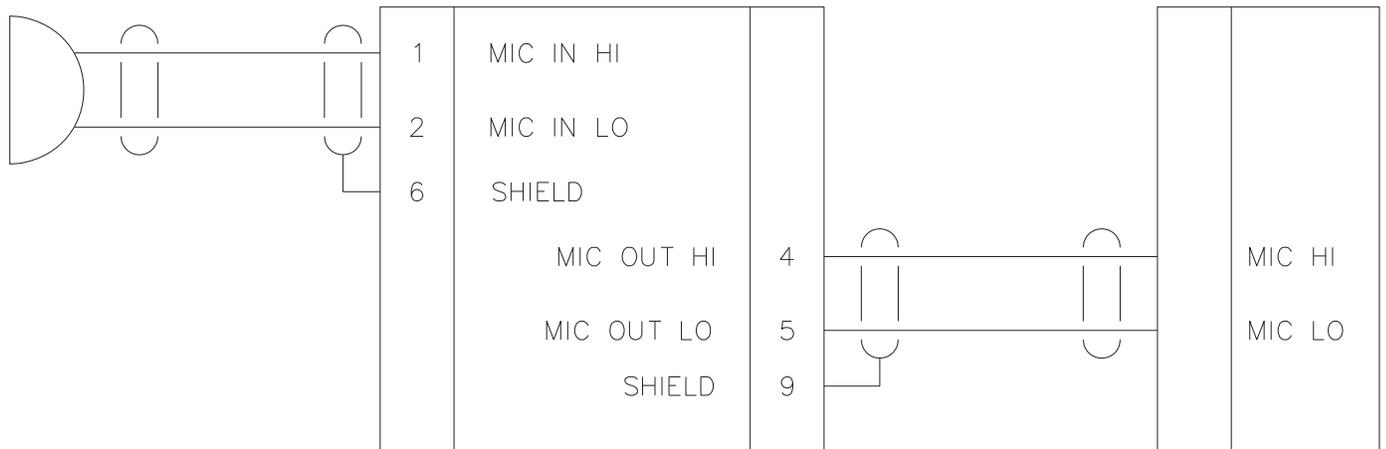
PROPRIETARY AND CONFIDENTIAL TO NAT LTD.

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	-		NAT NORTHERN AIRBORNE TECHNOLOGY LTD.				
	THIRD ANGLE PROJECTION	DRAWN	MWS						
		DATE	FEB 19/99		TITLE MID IMPEDANCE MIC INTERFACE				
		CHECKED	NAT 200	NAT 214					
MATERIAL	APPROVED			SIZE	CAGE CODE	PART NO.	REV.	SHEET	
FINISH	FILE	922-0100.DWG	DWG. TYPE	MECH. INSTALLATION	DWG. NO.	AA39\075\922-0	1.00	1/1	

M87A/A1
MICROPHONE

AA39-087
DYNAMIC MIC AMPLIFIER

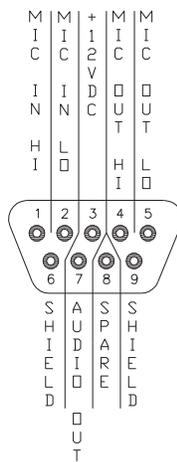
AUDIO
CONTROLLER



AA39 REQUIRES NO EXTERNAL POWER
D.C. SUPPLIED BY MIC EXCITATION

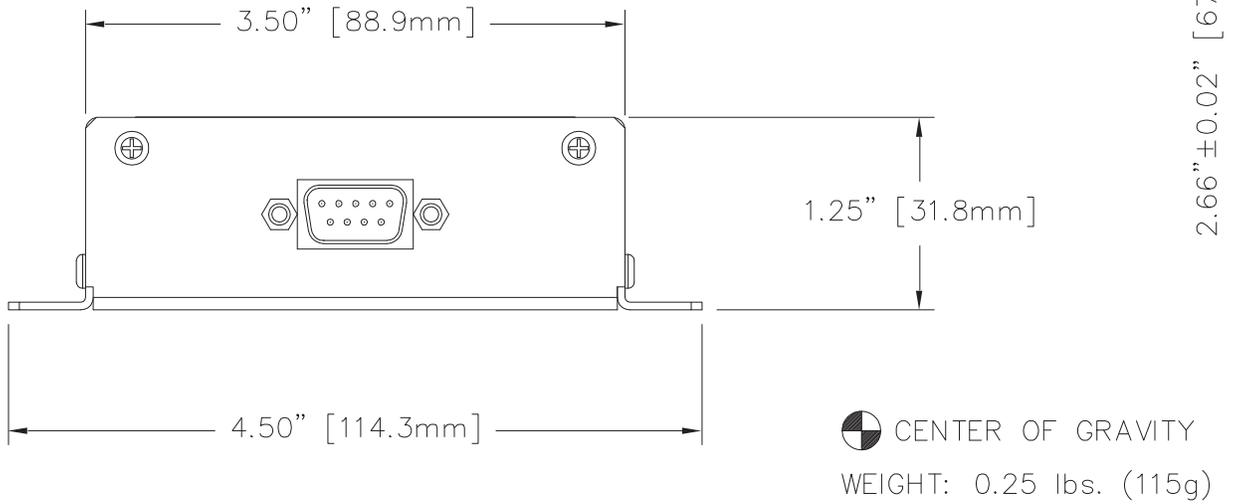
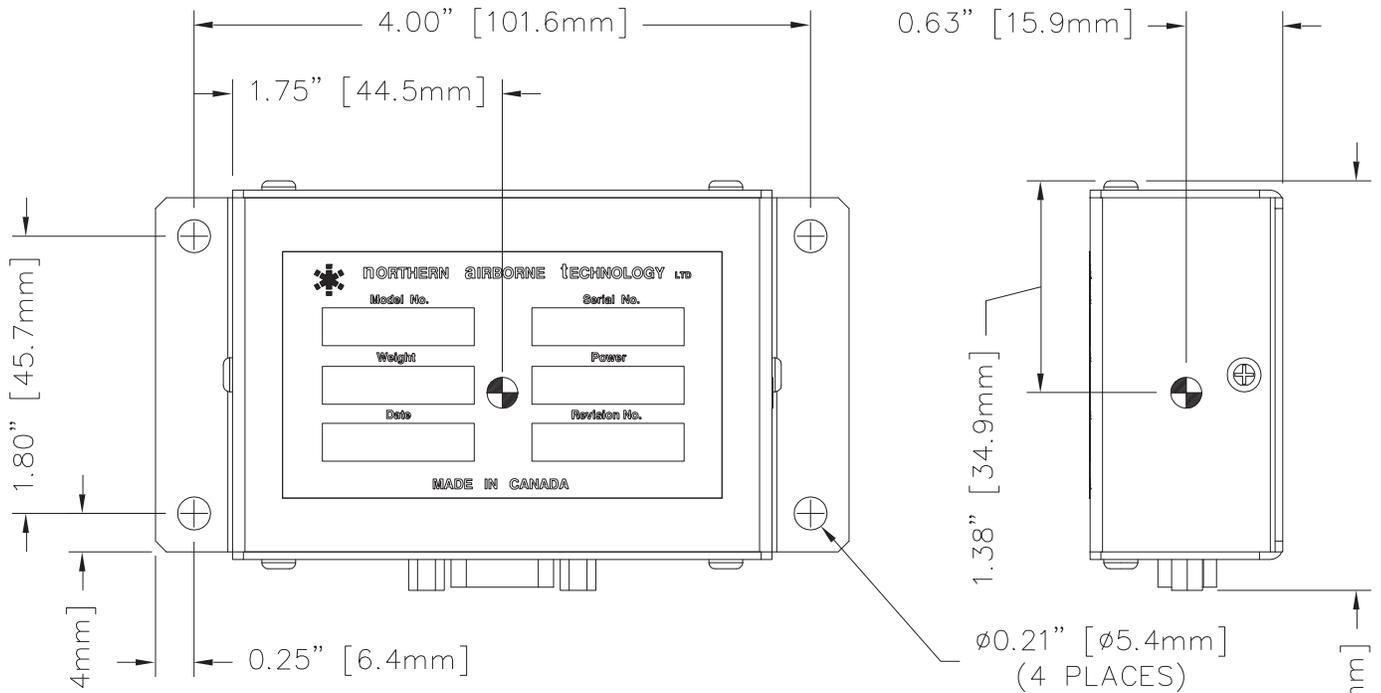
Confidential and Proprietary to NAT

REVISION	DATE	NORTHERN AIRBORNE TECHNOLOGY LTD. 1697 POWICK RD. KELOWNA, B.C. V1X-4L1		
		DESCRIPTION	PART NUMBER	DRAWING NUMBER
		INTERCONNECT	AA39-087	403-39-087
		DATE	DRAWN BY	APPROVED BY
		MAY 3/88	KEN VEITCH	NAT R&D 101



Confidential and Proprietary to NAT

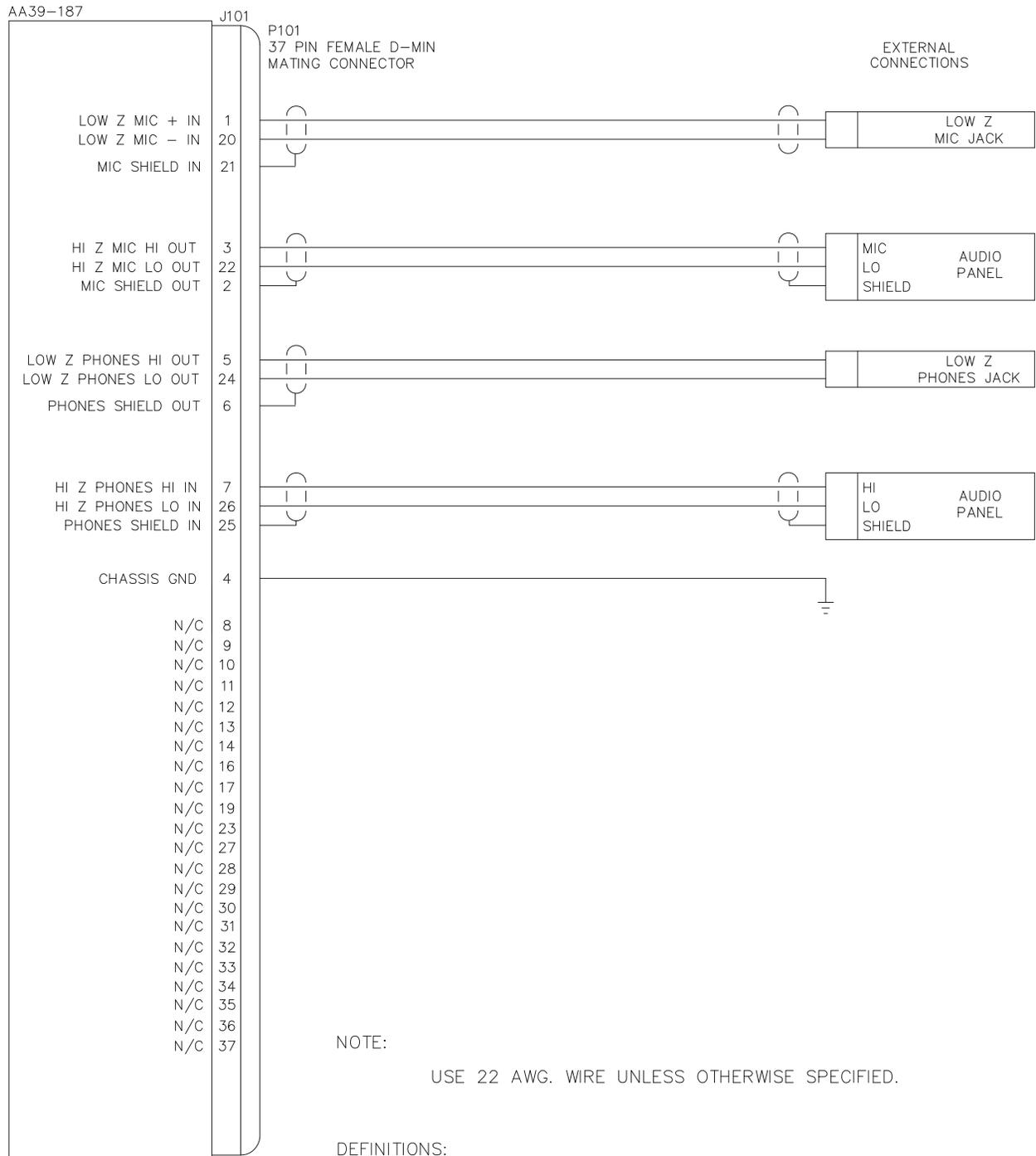
REVISION	DATE	NORTHERN AIRBORNE TECHNOLOGY LTD. 1697 POWICK RD. KELOWNA, B.C. V1X-4L1		
		DESCRIPTION	PART NUMBER	DRAWING NUMBER
		CONNECTOR MAP	AA39-087	405-39-087
		DATE	DRAWN BY	APPROVED BY
		MAY 3/88	KEN VEITCH	NAT R&D 101



PROPRIETARY AND CONFIDENTIAL TO NAT LTD.

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	-		NAT NORTHERN AIRBORNE TECHNOLOGY LTD.				
	THIRD ANGLE PROJECTION	DRAWN	MWS						
		DATE	FEB 18/99		TITLE LOW IMPEDANCE MIC INTERFACE				
		CHECKED	NAT 200	NAT 214					
MATERIAL		APPROVED			SIZE	CAGE CODE	PART NO.	REV.	SHEET
FINISH					A	3AB01	AA39-087	1.00	1/1
		FILE	922-0100.DWG		DWG. TYPE	MECH. INSTALLATION		DWG. NO. AA39\087\922-0	

AA39-187



NOTE:
USE 22 AWG. WIRE UNLESS OTHERWISE SPECIFIED.

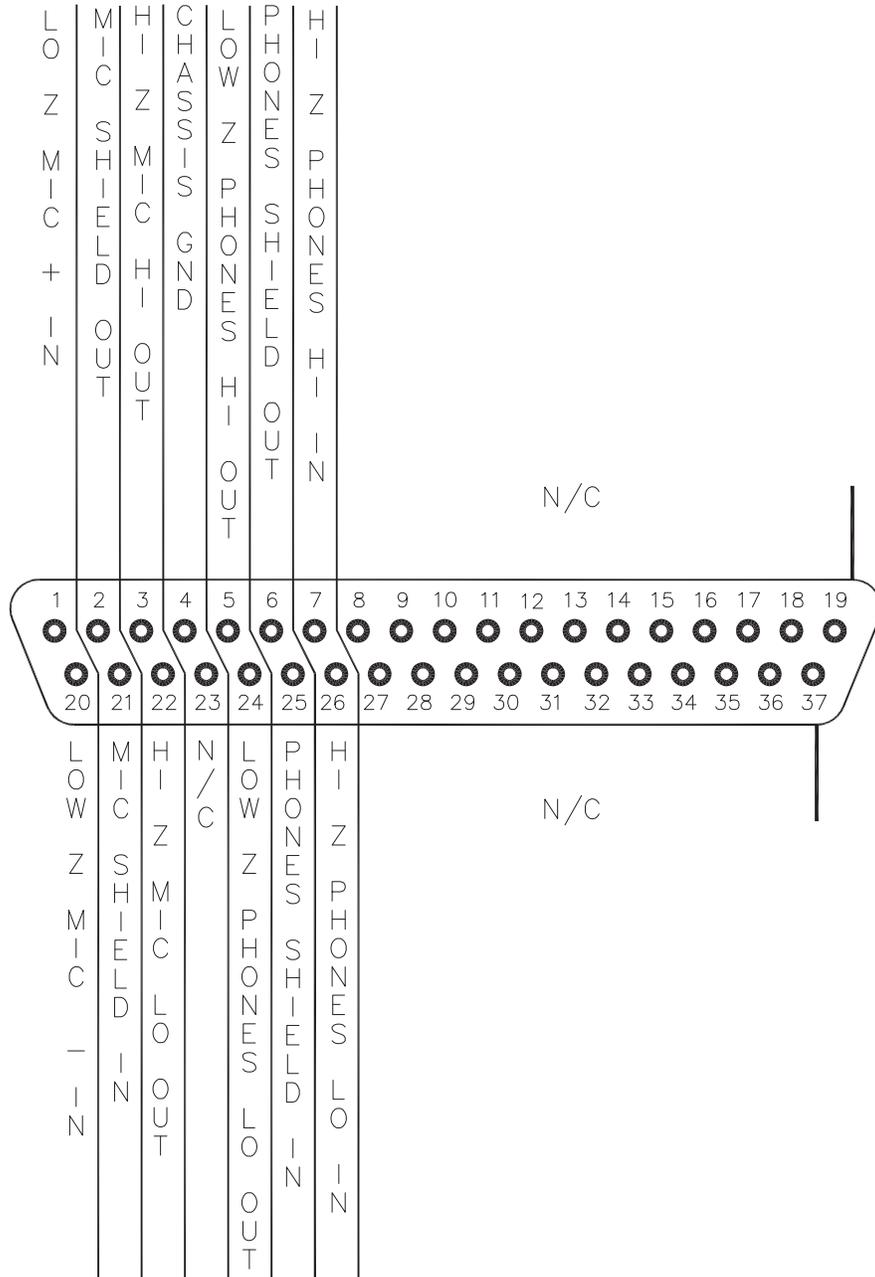
DEFINITIONS:

N/C: NO CONNECTION. THE PIN IS NOT CONNECTED TO ANYTHING INTERNALLY, AND THEREFORE SHALL HAVE NO CONNECTION EXTERNALLY.

Confidential and Proprietary to NAT

DESIGNED	KV	 NAT NORTHERN AIRBORNE TECHNOLOGY LTD.				
DRAWN	MWS					
DATE	NOV 24/97	TITLE DYNAMIC HEADSET ADAPTER				
CHECKED						
APPROVED		SIZE A	CAGE CODE 3AB01	PART NO. AA39-187	REV. 1.00	SHEET 1/1
FILE	403-0100.DWG	DWG. TYPE	INTERCONNECT	DWG. NO.	AA39\187\403-0	

P101
37 PIN FEMALE D-MIN
MATING CONNECTOR

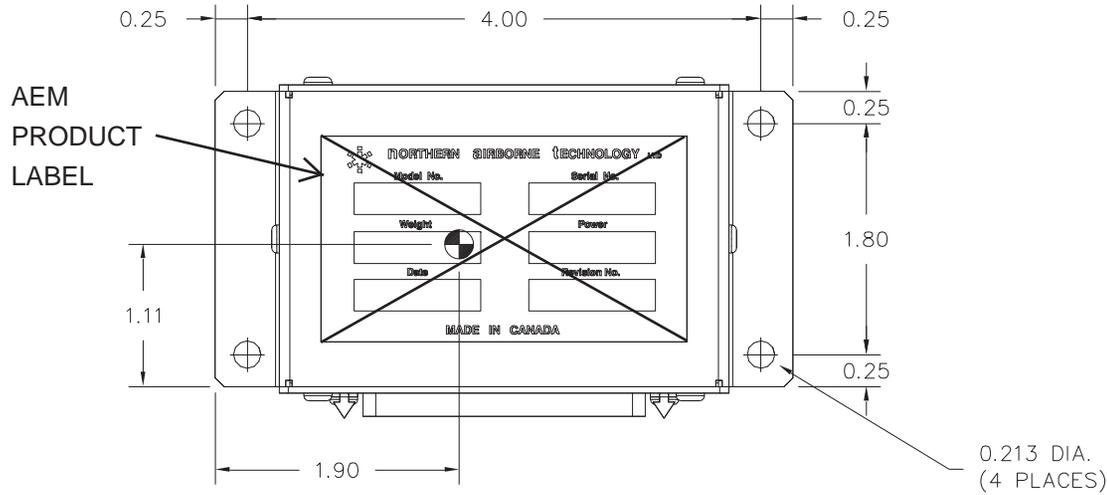


VIEW IS FROM REAR OF AIRFRAME CONNECTOR

Confidential and Proprietary to NAT

DESIGNED	KV	 NAT NORTHERN AIRBORNE TECHNOLOGY LTD.				
DRAWN	KV					
DATE	NOV 6/97	TITLE DYNAMIC HEADSET ADAPTER				
CHECKED	NAT 205					
APPROVED	NAT 107	SIZE A	CAGE CODE 3AB01	PART NO. AA39-187	REV. 1.00	SHEET 1/1
FILE	405-0100.DWG	DWG. TYPE	CONNECTOR MAP	DWG. NO.	AA39\187\405-0	

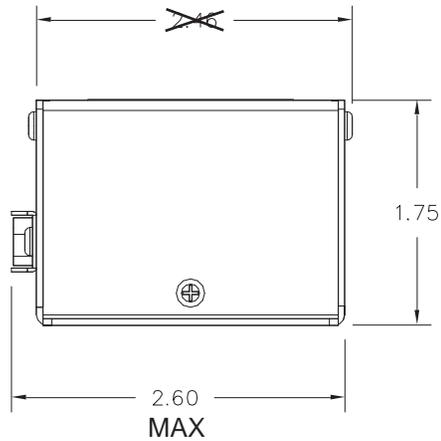
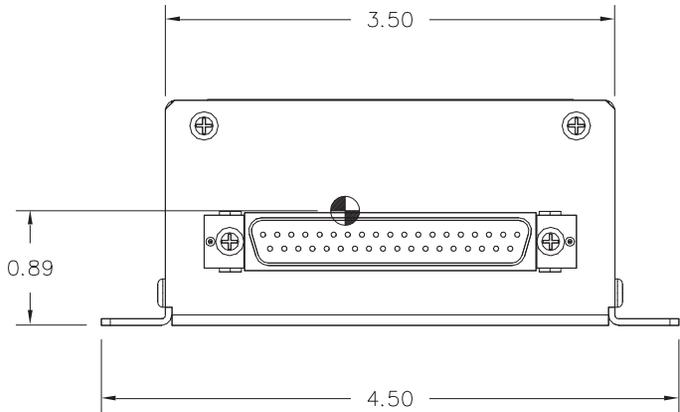
Confidential and Proprietary to NAT



CENTER OF GRAVITY
 WEIGHT: 200g (0.44lbs.)

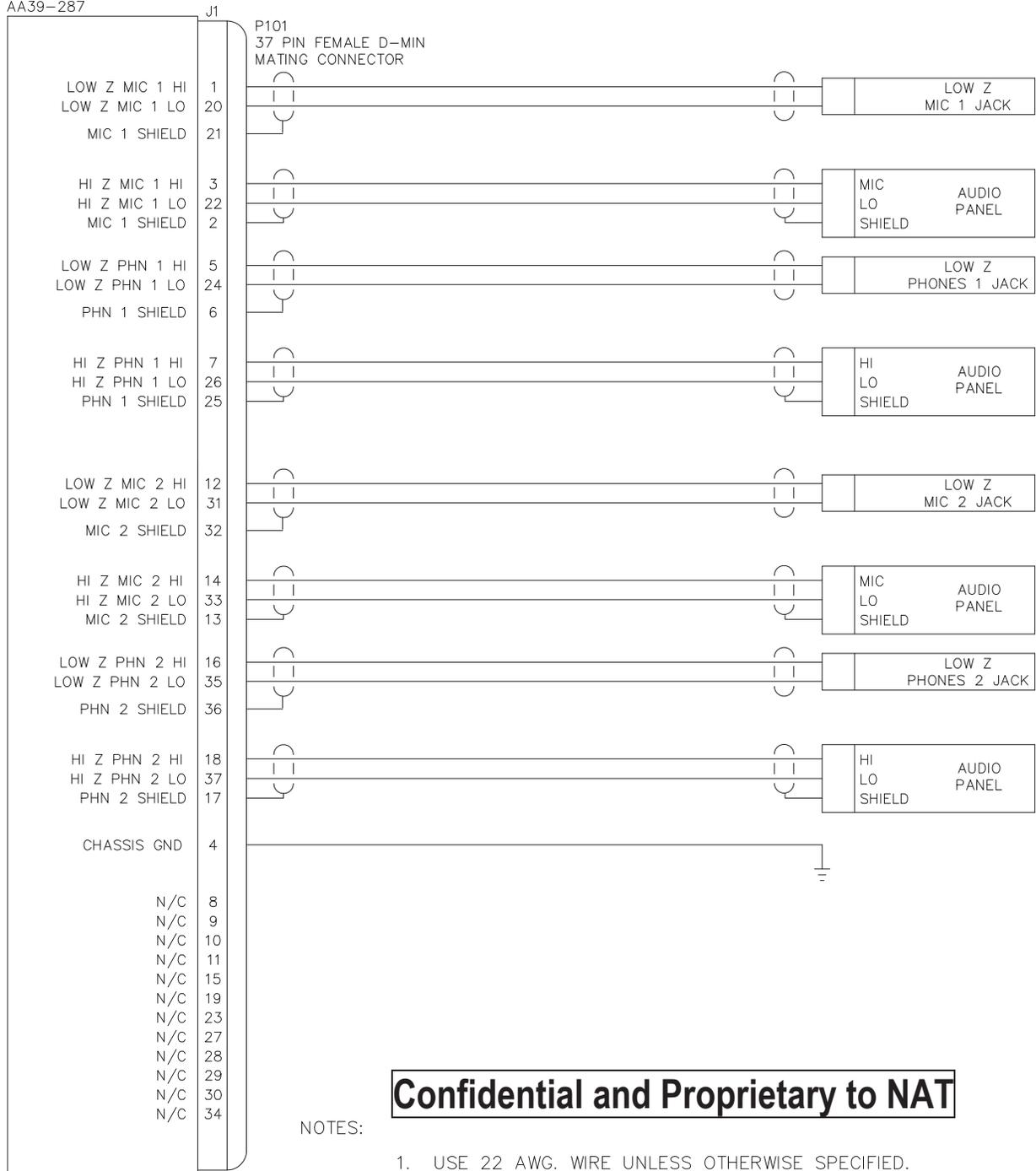
Reviewed/Approved

 Tony Pearson
 Designer
 Apr 19, 2012
 RAS# 70



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	MWS						
MATERIAL		DATE	DEC 5/97		TITLE				
		CHECKED			DYNAMIC HEADSET ADAPTER				
FINISH		APPROVED			SIZE	CAGE CODE	PART NO.	REV.	SHEET
		FILE	922-0100.DWG		A	3AB01	AA39-187	1.00	1/1
		FILE	922-0100.DWG		DWG. TYPE	MECH. INSTALLATION		DWG. NO. AA39\187\922-0	

AA39-287



Confidential and Proprietary to NAT

NOTES:

1. USE 22 AWG. WIRE UNLESS OTHERWISE SPECIFIED.
2. ISOLATE JACKS FROM AIRFRAME GROUND USING INSULATED WASHERS.

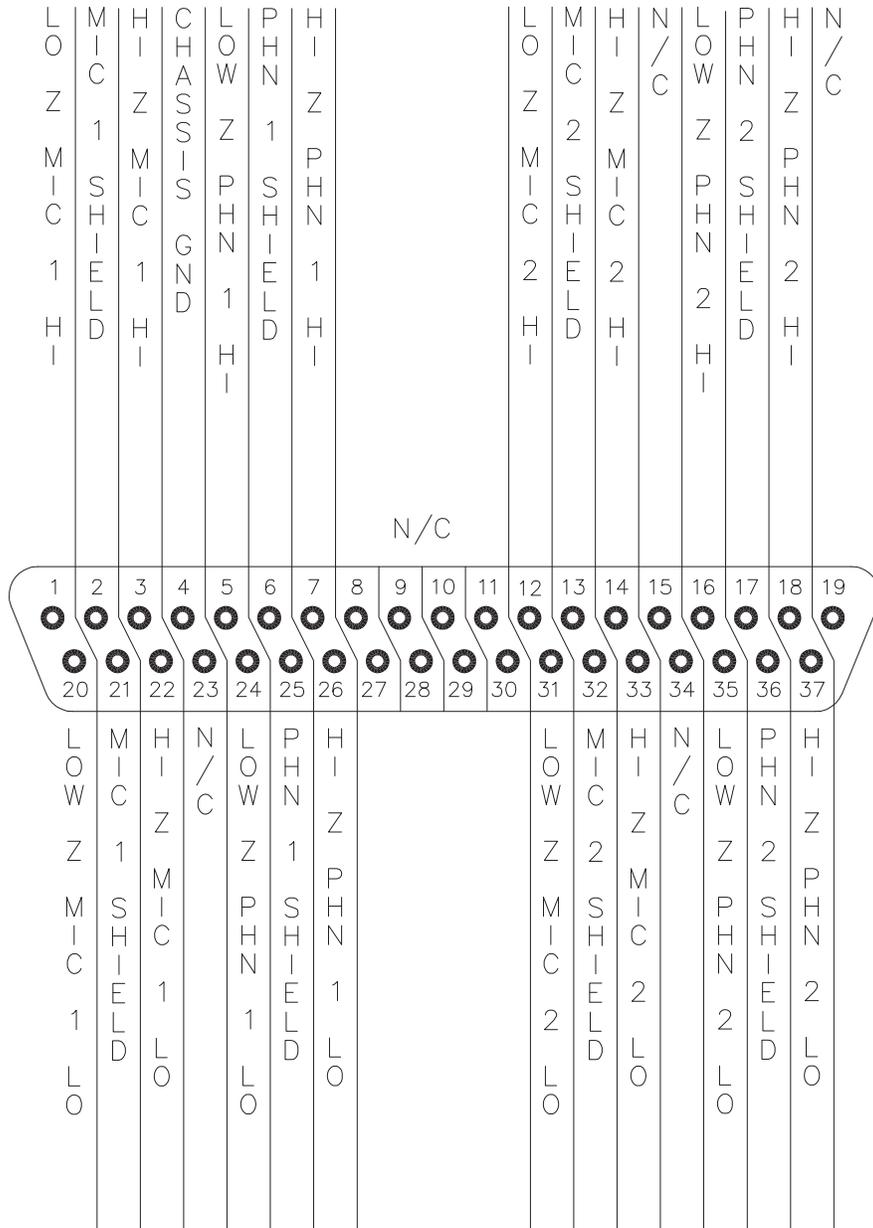
DEFINITIONS:

N/C: NO CONNECTION. THE PIN IS NOT CONNECTED TO ANYTHING INTERNALLY, AND THEREFORE SHALL HAVE NO CONNECTION EXTERNALLY.

DESIGNED	KV	 NAT NORTHERN AIRBORNE TECHNOLOGY LTD.				
DRAWN	MWS/SRK					
DATE	MAR 18/98	TITLE	DUAL DYNAMIC HEADSET ADAPTER			
CHECKED	NAT PROD. 214 130					
APPROVED		SIZE	CAGE CODE	PART NO.	REV.	SHEET
		A	3AB01	AA39-287	1.00	1/1
FILE	403-0100.DWG	DWG. TYPE	INTERCONNECT	DWG. NO.	AA39\287\403-0	

P101

37 PIN FEMALE DMIN
MATING CONNECTOR

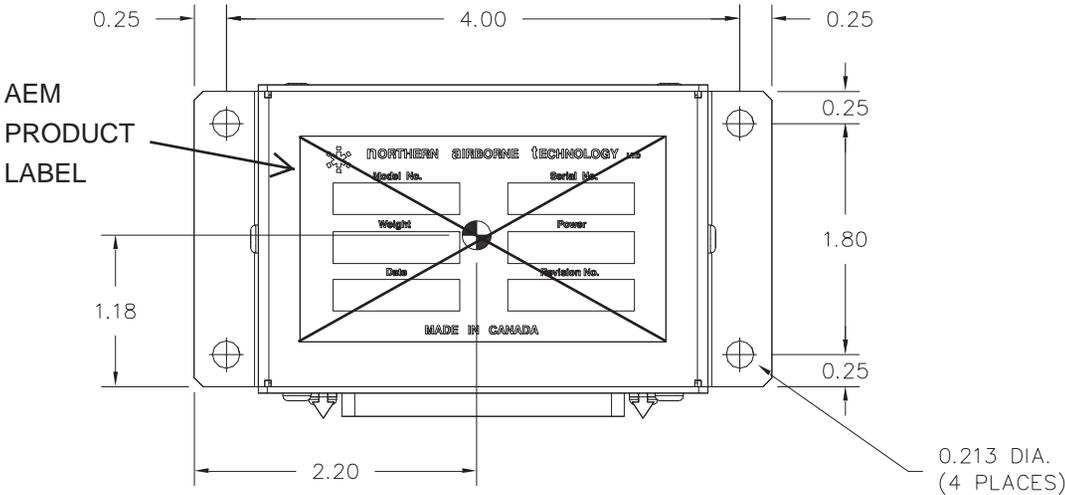


VIEW IS FROM REAR OF AIRFRAME CONNECTOR

Confidential and Proprietary to NAT

DESIGNED	KV		 NAT NORTHERN AIRBORNE TECHNOLOGY LTD.				
DRAWN	MWS/SRK						
DATE	FEB 24/98		TITLE				
CHECKED	NAT PROD. 214 130		DUAL DYNAMIC HEADSET ADAPTER				
APPROVED			SIZE	CAGE CODE	PART NO.	REV.	SHEET
FILE	405-0100.DWG		A	3AB01	AA39-287	1.00	1/1
DWG. TYPE			CONNECTOR MAP		DWG. NO. AA39\287\405-0		

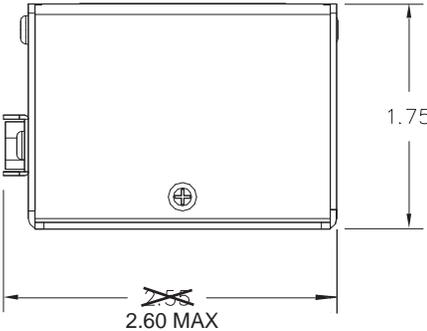
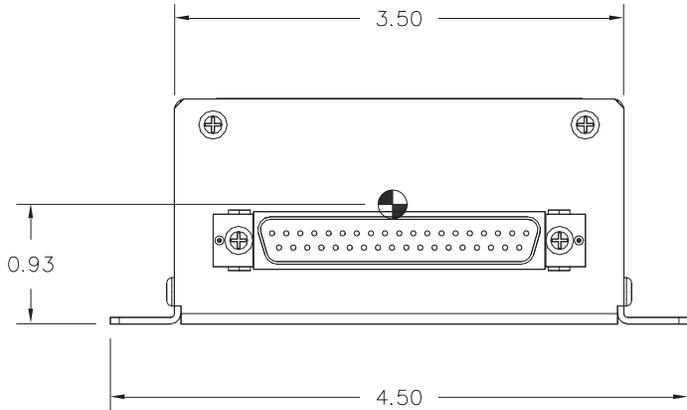
Confidential and Proprietary to NAT

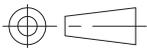


 CENTER OF GRAVITY
 WEIGHT: 0.61lbs. (277g)

Reviewed/Approved

 Tony Pearson
 Designer
 Apr 19, 2012
 RAS# 70



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 THIRD ANGLE PROJECTION	DESIGNED KV DRAWN MWS DATE MAR 18/98 CHECKED NAT PROD. 214 130	 NAT NORTHERN AIRBORNE TECHNOLOGY LTD.			
	MATERIAL FINISH		APPROVED NAT 107	TITLE DUAL DYNAMIC HEADSET ADAPTOR	SIZE A CAGE CODE 3AB01 PART NO. AA39-287	REV. 1.00 SHEET 1/1
		FILE 922-0100.DWG	DWG. TYPE MECH. INSTALLATION	DWG. NO. AA39\287\922-0		



AA39 Series Headset Adapter SM43 Installation and Operation Manual

Section 3.0 Operation

3.1 Introduction

Information in this section consists of the functional and operational procedures for the AA39 Series Headset Adapter.

3.2 General Information

The AA39-187 is a single military headset adapter, consisting of a 5 Ω dynamic military mic to general aviation 150 Ω amplified dynamic mic adaptor, with an 8 Ω to 600 Ω transformer for phones matching.

The AA39-287 operation is identical to the AA38-187, but is designed for two headsets.

The AA39-087 is used to adapt 5 Ω dynamic military mics (i.e. M-87) to general aviation 150 Ω audio systems.

The AA39-075 is used to adapt 75 Ω dynamic military mics (i.e. ELNO) to general aviation 150 Ω audio systems.

The AA39 Series Headset Adapters have no operator accessible controls. During installation, it may be determined that internal level adjustments are required. Qualified personnel only shall complete internal level adjustments.

End of Section 3.0
