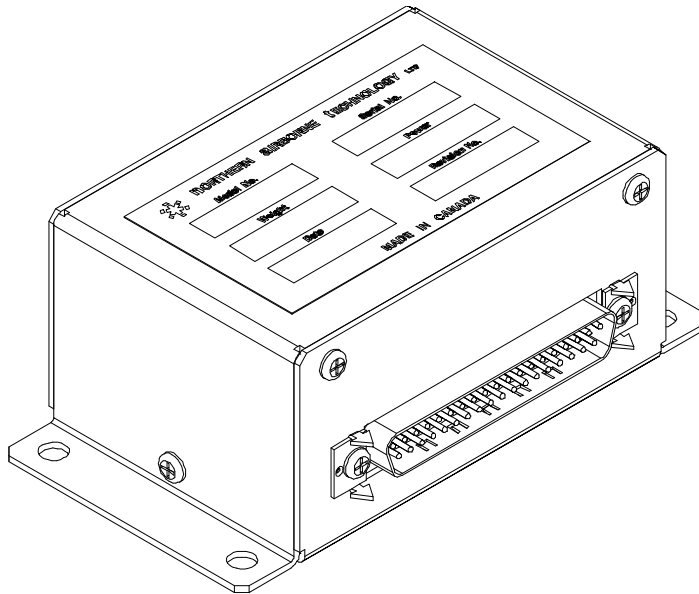




Installation and Operation Manual

AA39 Series Headset Adapters



SM43

ISSUE 4.01

Northern Airborne Technology Ltd.
1925 Kirschner Road
Kelowna, BC, Canada.
V1Y 4N7
Telephone (250) 763-2232
Facsimile (250) 762-3374

Issued on the authority of Northern Airborne Technology Ltd.

Copyright 2000



AA39 Series Headset Adapters
SM43 Installation and Operation Manual

Table of Contents

| Section | Title | Page |
|----------------|-----------------------------------------------------------|-------------|
| 1. | Description | |
| 1.1 | Introduction | 1-1 |
| 1.2 | Product Description | 1-1 |
| 1.3 | Design Features | 1-1 |
| 1.4 | Specifications | 1-1 |
| 1.4.1 | Electrical Specifications | 1-1 |
| 1.4.2 | Physical Specifications | 1-3 |
| 1.4.3 | Environmental Specifications - AA39-187 and AA39-287 only | 1-3 |
| 1.5 | Unit Nomenclature | 1-3 |
| 2. | 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. | Operation | |
| 3.1 | Introduction | 3-1 |
| 3.2 | General Information | 3-1 |



AA39 Series Headset Adapter SM43 Installation and Operation Manual

Section 1 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 NAT as required.

Review all notes, warnings and cautions.

1.2 Product Description

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.

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.

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



AA39 Series Headset Adapter SM43 Installation and Operation Manual

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

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**

- AA39-187** Military Lo-Z to general aviation Hi-Z headset adaptor
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 bias.
1 phones input - 7.7 Vrms into 600 Ω
- AA39-287** Dual military Lo-Z to general aviation Hi-Z headset adaptor
2 mic inputs - 250 μ Vrms into 5 Ω
2 phones outputs - 0.8 Vrms into 8 Ω

2 mic outputs - 250 mVrms into 150 Ω
Powered by mic bias.
2 phones inputs - 7.7 Vrms into 600 Ω

Section 1 ends



AA39 Series Headset Adapter SM43 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 AA39 Series Headset Adapter.

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 NAT 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 NAT or its designated warranty repair center, or any labour to remove or re-install the defective unit in the aircraft. Contact NAT for any questions regarding this warranty, its applicability to your units and/or for return authorization. NAT 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 NAT DEALER.** Product for which a warranty card is not returned shall be warranted from date of manufacture.

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

| |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p style="text-align: center;">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.</p> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



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.

2.3.4.1 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.).



AA39 Series Headset Adapter SM43 Installation and Operation Manual

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 (NAT Part No. D09SL-IKC)

| Quantity | Description | NAT 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 (NAT Part No. D37SV-IKC)

| Quantity | Description | NAT 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

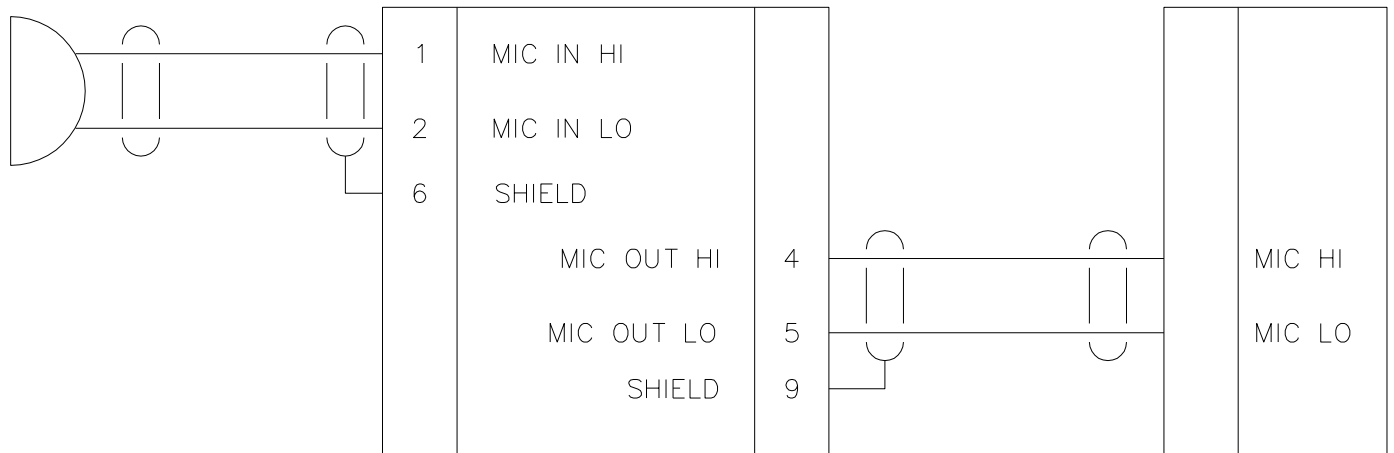
| DRAWING | REV. | DESCRIPTION | TYPE | SERIAL NO. |
|-----------------|------|------------------------------|--------------------|------------|
| AA39-075 | | | | |
| AA39\075\403-0 | - | Mid Impedance Mic Interface | Interconnect | All |
| AA39\075\405-0 | - | Mid Impedance Mic Interface | Connector Map | All |
| AA39\075\922-0 | 1.00 | Mid Impedance Mic Interface | Mech. Installation | All |
| AA39-087 | | | | |
| AA39\087\403-0 | - | Low Impedance Mic Interface | Interconnect | All |
| AA39\087\405-0 | - | Low Impedance Mic Interface | Connector Map | All |
| AA39\087\922-0 | 1.00 | Low Impedance Mic Interface | Mech. Installation | All |
| AA39-187 | | | | |
| AA39\187\403-0 | 1.00 | Dynamic Headset Adapter | Interconnect | All |
| AA39\187\405-0 | 1.00 | Dynamic Headset Adapter | Connector Map | All |
| AA39\187\922-0 | 1.00 | Dynamic Headset Adapter | Mech. Installation | All |
| AA39-287 | | | | |
| AA39\287\403-0 | 1.00 | Dual Dynamic Headset Adapter | Interconnect | All |
| AA39\287\405-0 | 1.00 | Dual Dynamic Headset Adapter | Connector Map | All |
| AA39\287\922-0 | 1.00 | Dual Dynamic Headset Adapter | Mech. Installation | All |

Section 2 ends following the above documents

ELNO (75 OHM)
MICROPHONE

AA39-075
DYNAMIC MIC AMPLIFIER

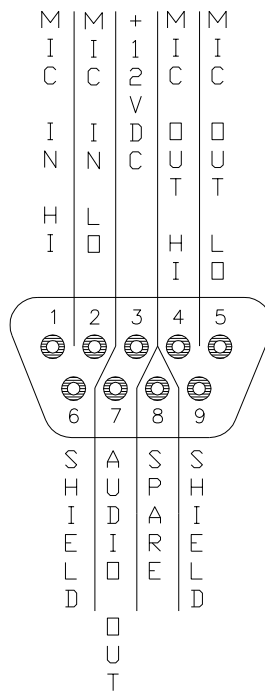
AUDIO
CONTROLLER



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

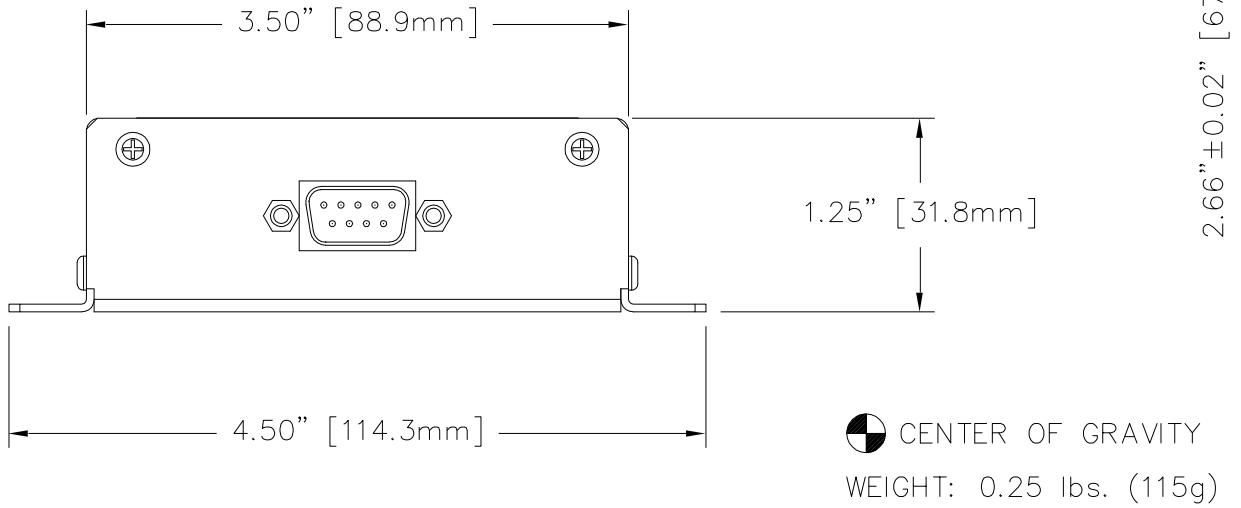
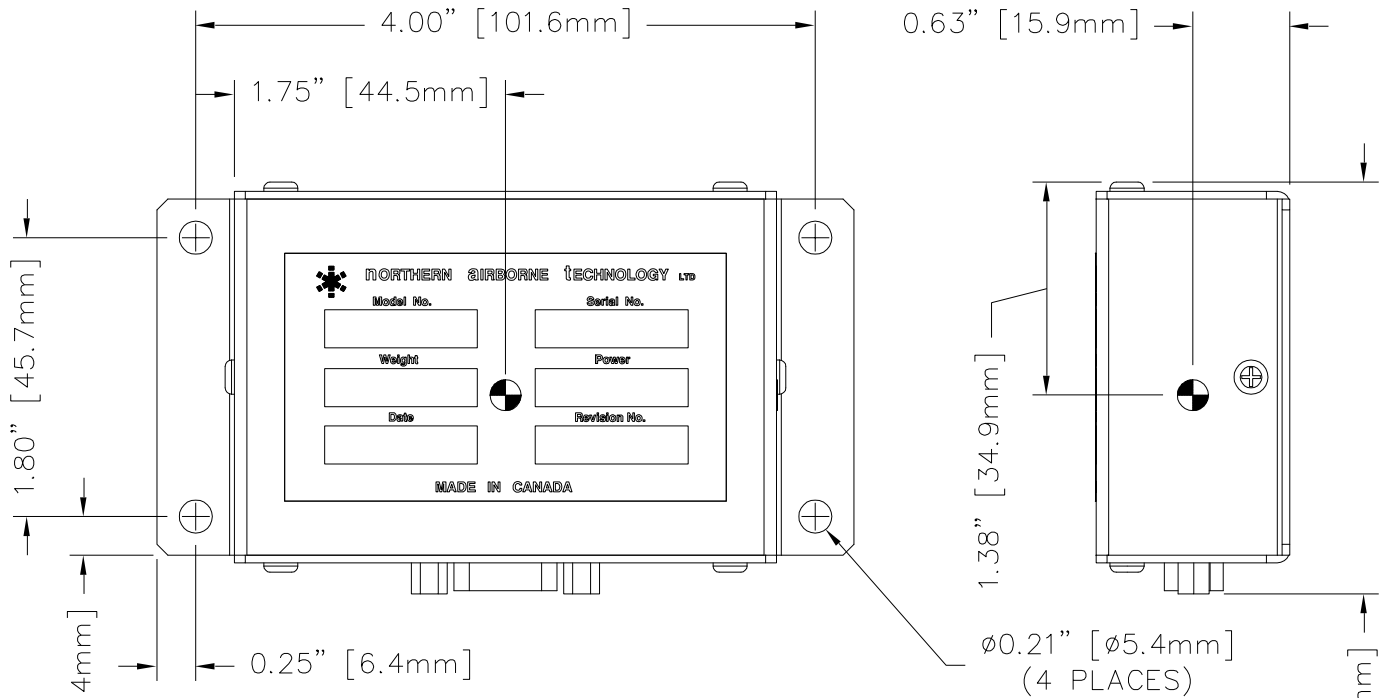
Confidential and Proprietary to NAT

| | | | | |
|----------|------|-----------------------------------------------------------------------|-------------|----------------------------------|
| 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 |



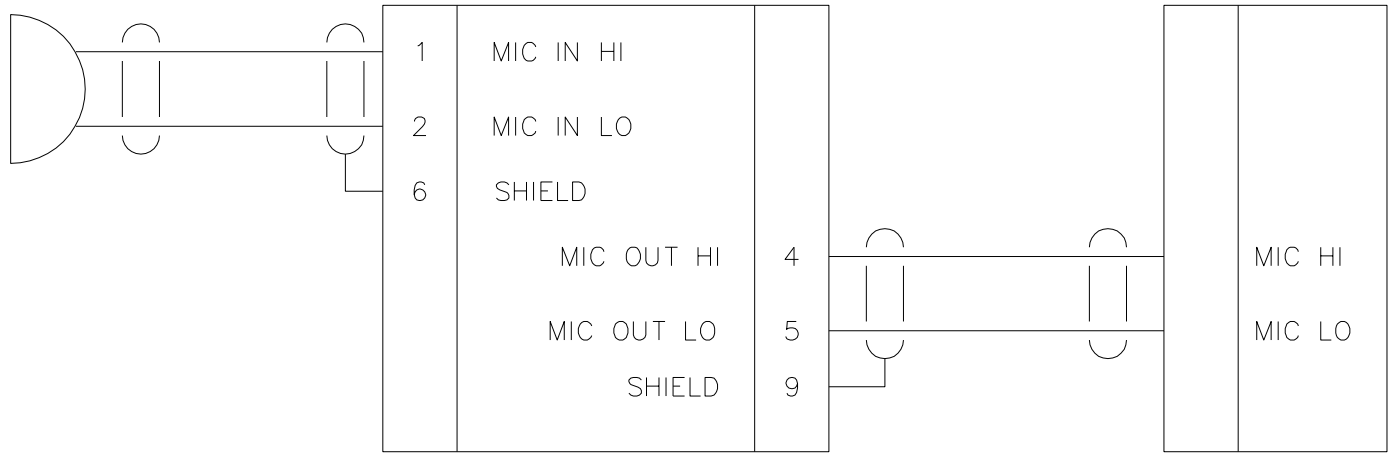
PROPRIETARY AND CONFIDENTIAL TO NAT LTD.

| | | | | | | | | | |
|--------------------------------------------------------------------------------------------------------------------------------|------------------------|----------|--------------|---------|----------------------------------------------|--------------------|----------|-------------------------|-------|
| 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 | | | | | A | 3AB01 | AA39-075 | 1.00 | 1/1 |
| | | FILE | 922-0100.DWG | | DWG. TYPE | MECH. INSTALLATION | | DWG. NO. AA39\075\922-0 | |

M87A/A1
MICROPHONE

AA39-087
DYNAMIC MIC AMPLIFIER

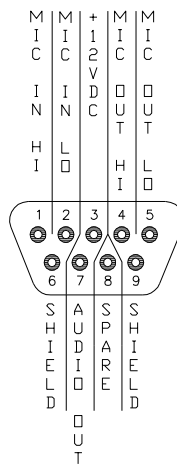
AUDIO
CONTROLLER



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

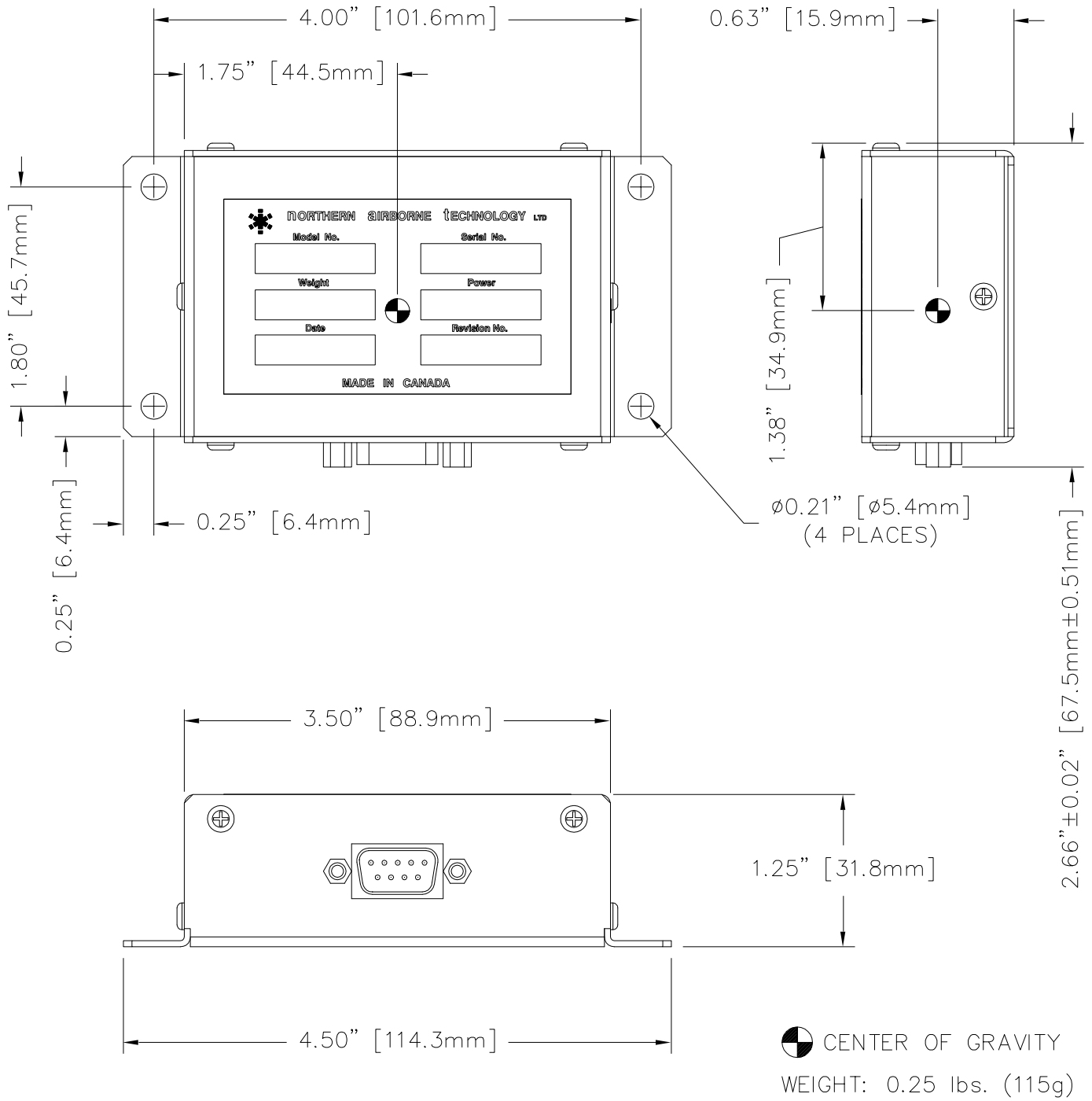
Confidential and Proprietary to NAT

| | | | | |
|----------|------|----------------------------------------------------------------------------|-------------|----------------------------------|
| 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

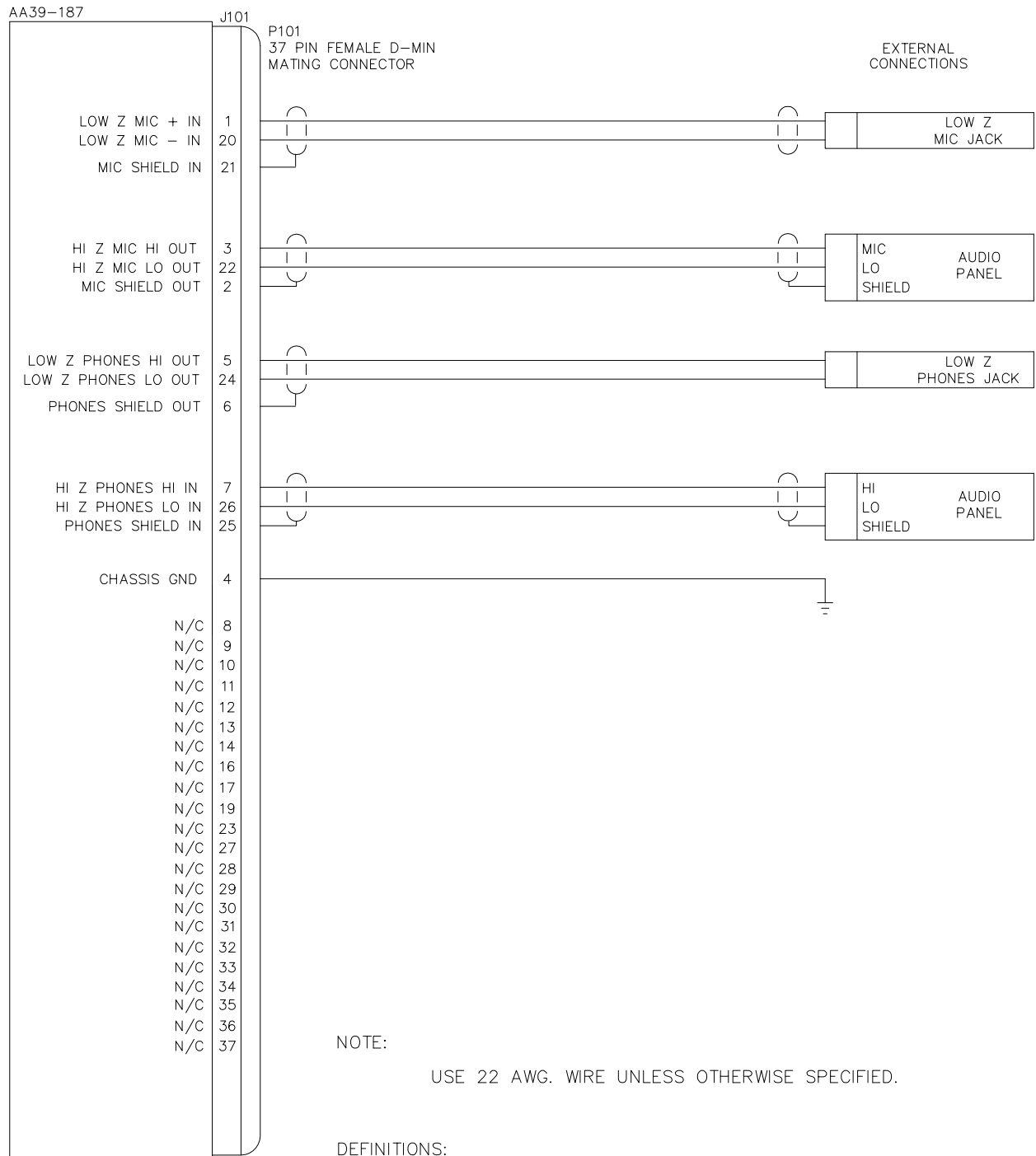
| | | | | |
|----------|------|----------------------------------------------------------------------------|-------------|----------------------------------|
| REVISION | DATE | NORTHERN AIRBORNE TECHNOLOGY LTD. 1697 POWICK RD. KELOWNA, B.C. V1X-4L1 | | |
| | | DESCRIPTION | PART NUMBER | DRAWING NUMBER |
| | | 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 | - | | 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



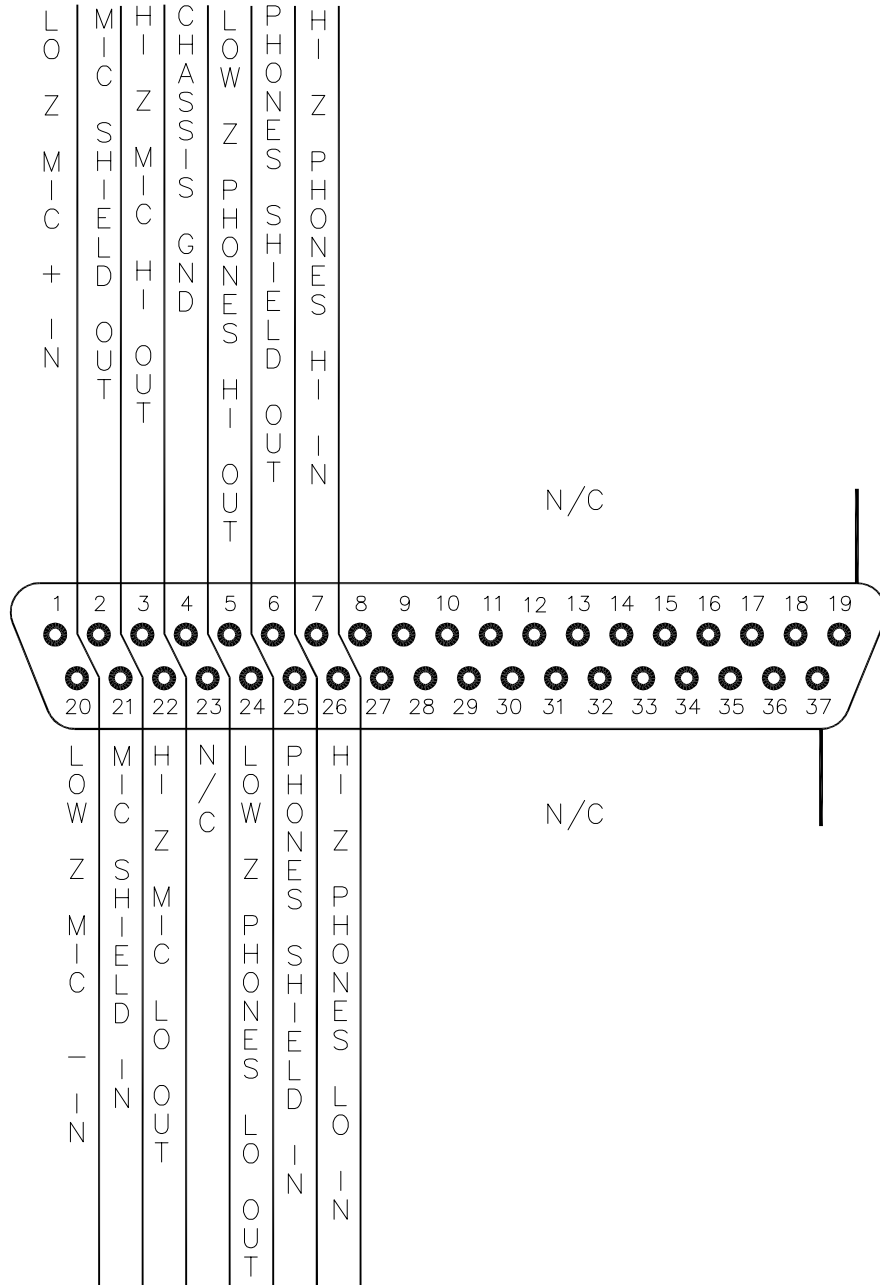
NOTE:
USE 22 AWG. WIRE UNLESS OTHERWISE SPECIFIED.

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



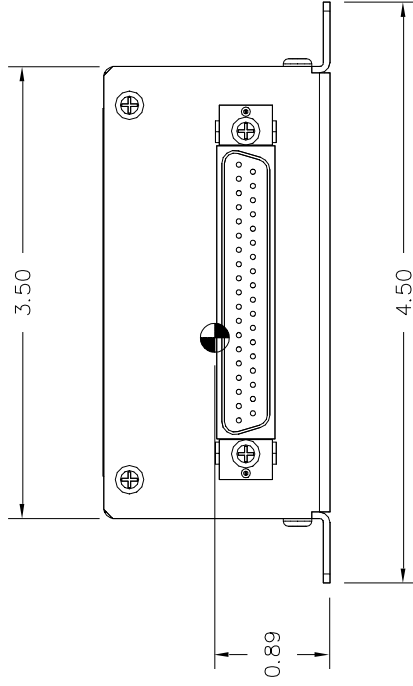
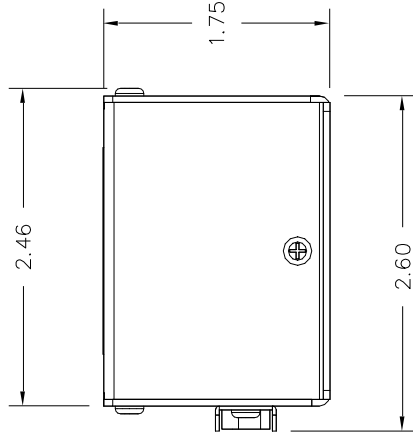
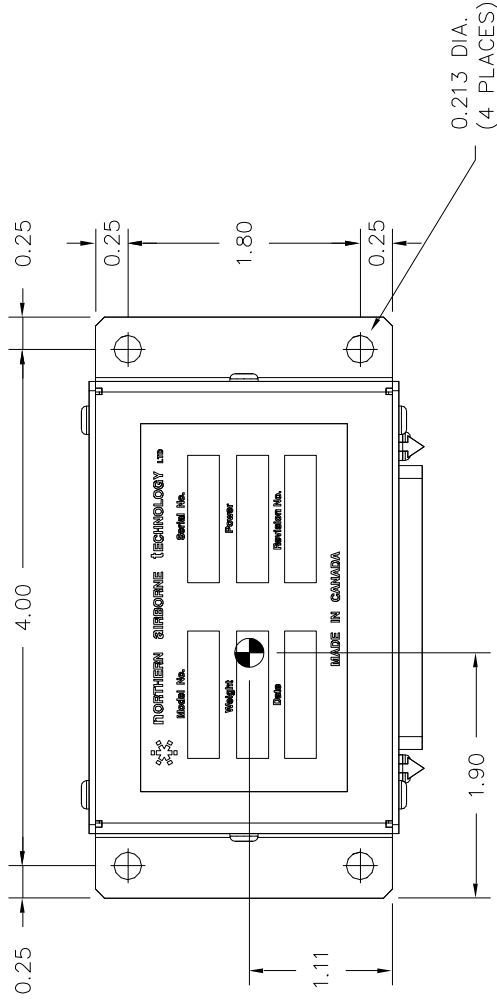
VIEW IS FROM REAR OF AIRFRAME CONNECTOR


Confidential and Proprietary to NAT

| | | | | | | | |
|----------|---------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------|--------------------|----------------------|-------------------------|--------------|
| DESIGNED | KV | | NAT NORTHERN AIRBORNE TECHNOLOGY LTD. | | | | |
| DRAWN | KV | | | | | | |
| DATE | NOV 6/97 | | TITLE DYNAMIC HEADSET ADAPTER | | | | |
| CHECKED | <div style="border: 1px solid black; padding: 2px; display: inline-block;"> NAT 205 </div> | | | | | | |
| APPROVED | <div style="border: 1px solid black; border-radius: 50%; padding: 5px; display: inline-block;"> NAT 107 </div> | | 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

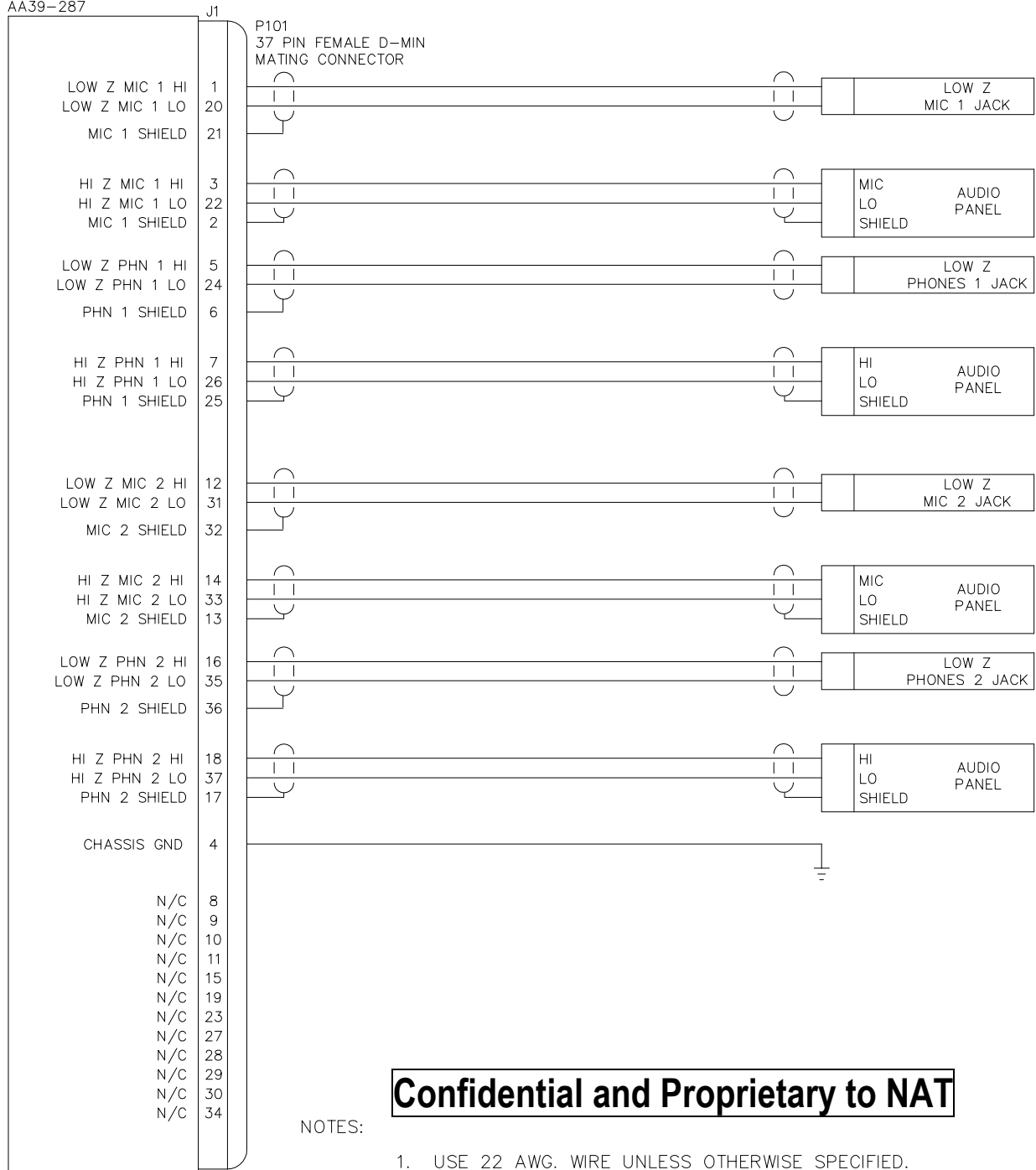
 CENTER OF GRAVITY
 WEIGHT: 200g (0.44lbs.)



| | | | | | |
|------------------------------------|-------------------|---------------------------------------------------------------------------------------|--------------------|-------------------------|-------|
| TOLERANCES UNLESS STATED OTHERWISE | | DIMENSIONS IN INCHES | | DESIGNED | KV |
| 0.X= +/- 0.030 | 0.XX= +/- 0.010 | THIRD ANGLE PROJECTION | DRAWN | MWS | |
| 0.XXX= +/- 0.005 | 0.XXXX= +/- 0.002 |  | DATE | DEC 5/97 | |
| ANGLE= +/- 0.5 DEG. | | | CHECKED | NAT 200 | |
| MATERIAL | | | APPROVED | NAT 107 | |
| FINISH | | | FILE | 922-0100.DWG | |
| | | | | TITLE | |
| | | | | DYNAMIC HEADSET ADAPTER | |
| | | SIZE | CAGE CODE | PART NO. | REV. |
| | | A | 3AB01 | AA39-187 | 1.00 |
| | | DWG. TYPE | MECH. INSTALLATION | DWG. NO. | SHEET |
| | | | | AA39\187\922-0 | 1/1 |

 **NAT** NORTHERN AIRBORNE TECHNOLOGY LTD.

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.

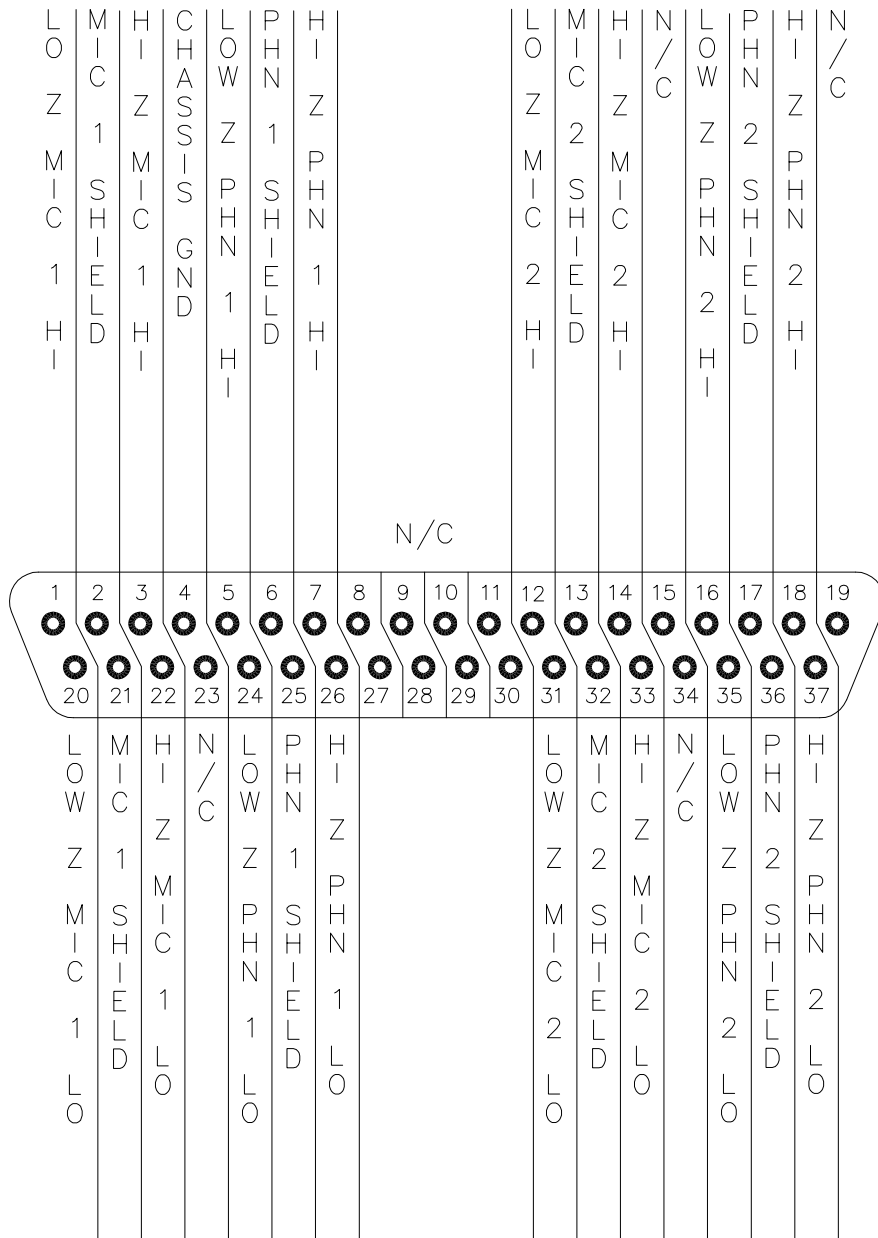
DEFINITIONS:

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

| | | | | | | |
|----------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|------------------------------|----------|----------------|-------|
| DESIGNED | KV |  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

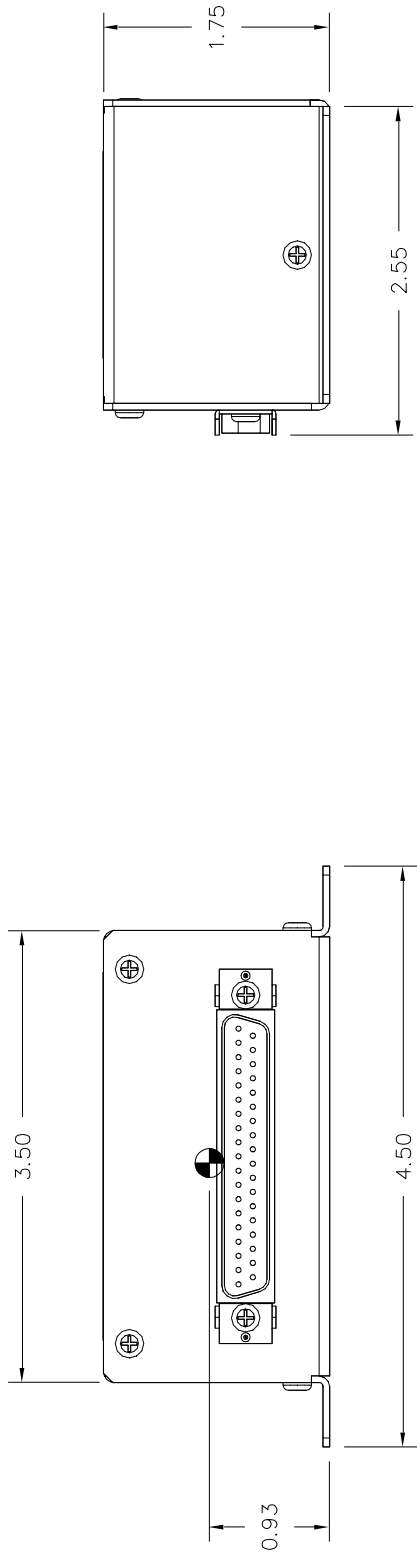
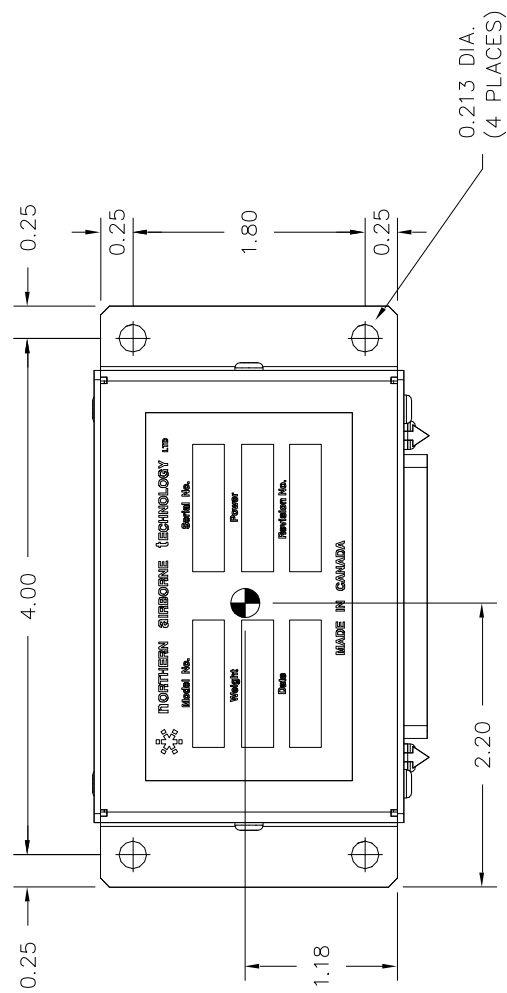
Confidential and Proprietary to NAT


| | | | | | | | |
|-----------|-------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------|-----------|-------------------------|------|-------|
| 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)



| | | | | | |
|------------------------------------|-----------------|---------------------------------------------------------------------------------------|----------|------------------|------------------------------|
| TOLERANCES UNLESS STATED OTHERWISE | | DIMENSIONS IN INCHES | | DESIGNED | KV |
| 0.X=+/-0.030 | 0.XX=+/-0.010 | THIRD ANGLE PROJECTION | DRAWN | MWS | |
| 0.XXX=+/-0.005 | 0.XXXX=+/-0.002 |  | DATE | MAR 18/98 | |
| ANGLE=+/-0.5 DEG. | | | CHECKED | NAT PROD. | TITLE |
| MATERIAL | | | APPROVED | 214 | DUAL DYNAMIC HEADSET ADAPTOR |
| FINISH | | | | 130 | |
| | | | | NAT 107 | |
| | | | | | SIZE |
| | | | | | A |
| | | | | | CAGE CODE |
| | | | | | 3AB01 |
| | | | | | PART NO. |
| | | | | | AA39-287 |
| | | | | | REV. |
| | | | | | 1.00 |
| | | | | | SHEET |
| | | | | | 1/1 |
| | | | | | DWG. NO. |
| | | | | | AA39\287\922-0 |
| | | | | | MECH. INSTALLATION |
| | | | | | DWG. NO. |
| | | | | | AA39\287\922-0 |

 **nat** NORTHERN AIRBORNE TECHNOLOGY LTD.



AA39 Series Headset Adapter SM43 Installation and Operation Manual

Section 3 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.

Section 3 ends
