




## LSA300-001 Loudspeaker Amplifier ASM-LSA400 Installation and Operation Manual Supplement

This supplement contains installation and operation information that is unique to the LSA300-001 Loudspeaker Amplifier. Installation and operation information common to the LSA400-001 base unit can be found in the ASM-LSA400 Installation and Operation Manual.

<b>Prepared By:</b>  Tony Pearson Designer July 16, 2018	<b>Checked By:</b>  Steve Kempf Designer Jul 26/18	<b>Approved By:</b>  Tom Betzelt Product Support Manager July 23, 2018
---	---	--

### Section 1.0 Description

The LSA300-001 Loudspeaker Amplifier is identical to the LSA400-001 with the following exceptions:

- a) The speaker output driver is intended to drive 220 Wrms into 5.5 Ohms.

### Section 2.0 Installation

For installation information and drawings, see ASM-LSA400 Section 2.0. Select the appropriate revision of the drawing for the serial number of the unit. The drawings specific to this derivative are listed below and can be found at the end of this supplement.

#### 2.1 Installation Drawings

DOCUMENT	REV.	DESCRIPTION	TYPE	SERIAL NO.
<b>Part No.</b>				
LSA300-001-403-0	1.01	Loudspeaker Amplifier	Interconnect	074610 and up
LSA300-001-403-1	1.00	Loudspeaker Amplifier	Interconnect	074610 and up
LSA300-001-403-2	1.00	Loudspeaker Amplifier	Interconnect	074610 and up
LSA300-001-405-0	1.00	Loudspeaker Amplifier	Connector Map	074610 and up
LSA300-001-521-0	1.00	Loudspeaker Amplifier	Environmental Qualification Form	074610 and up
LSA300-001-922-0	1.00	Loudspeaker Amplifier	Mechanical Installation	074610 and up

### Section 3.0 Operation

For operation information, see ASM-LSA400 Section 3.0.

End of Supplement

REVISIONS

REV	DESCRIPTION	DATE	BY
1.01	RAS#788 - INTERCONNECT CORRECTIONS.	12-JUL-18	LAC




LSA300-001 INSTALLATION NOTES

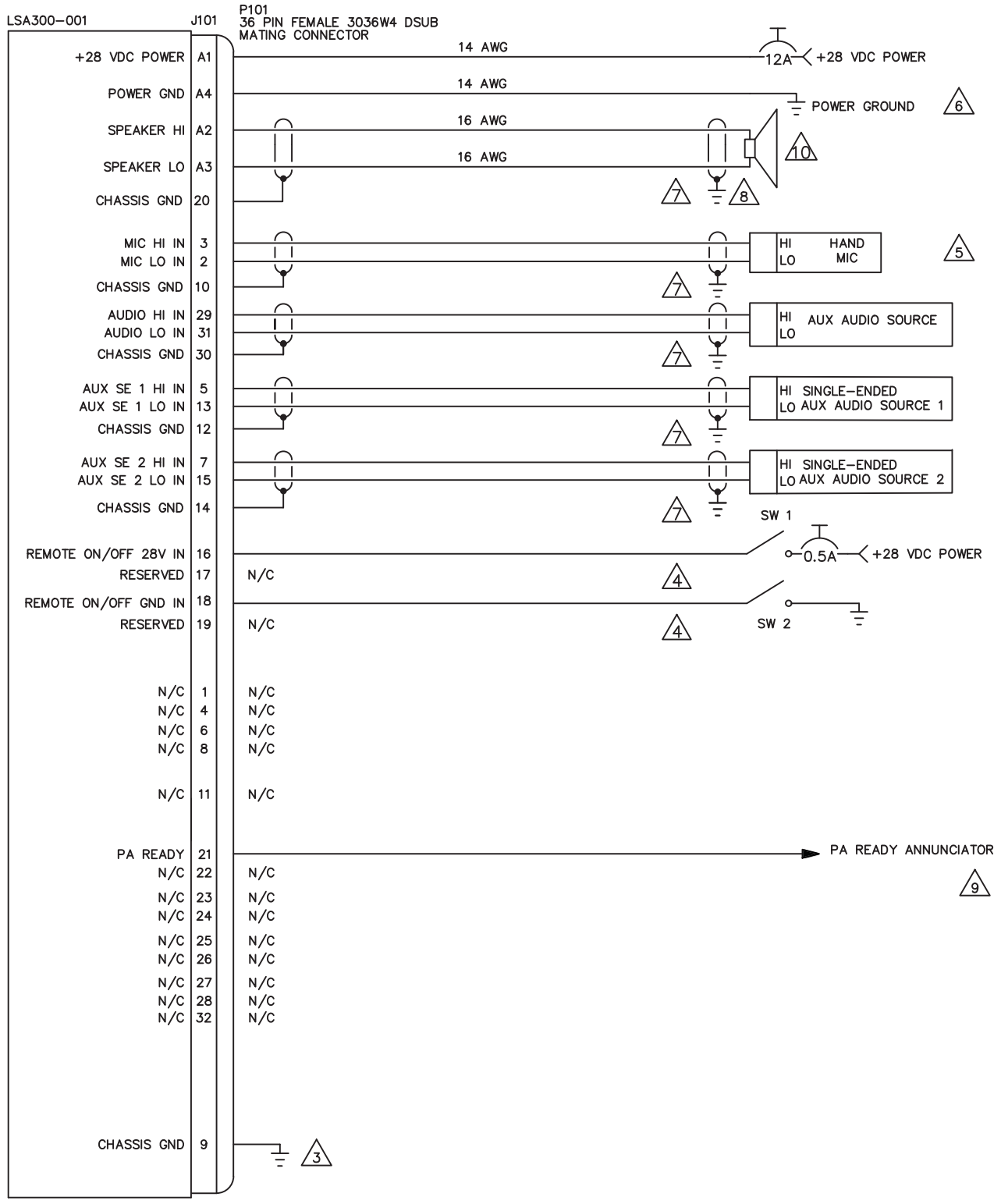
NOTES:




1. ALL WIRES SHOULD BE 22 AWG UNLESS OTHERWISE SPECIFIED. ALL UNSHIELDED WIRE SHALL BE SELECTED IN ACCORDANCE WITH AC43.13-1B CHANGE 1, PARAGRAPHS 11-76 THROUGH 11-78. WIRE TYPES SHOULD BE TO MIL-W-22759 AS SPECIFIED IN AC43.13-1B CHANGE 1, PARAGRAPHS 11-85, 11-86 AND LISTED IN TABLE 11-11. ALL SHIELDED WIRE/CABLE SHOULD BE IN ACCORDANCE WITH MIL-C-27500.
2. CABLE LENGTH NOT TO EXCEED 30 FT [9.14 M] UNLESS OTHERWISE SPECIFIED.
3. CABLE LENGTH NOT TO EXCEED 1 FT [0.3 M].
4. USE ONLY ONE OF THE REMOTE ON/OFF OPTIONS.
5. SYSTEM CROSSTALK MAY BE EFFECTED BY STYLE OF HEADSET AND JACK. CHECK SPECIFICATIONS AND SYSTEM REQUIREMENTS BEFORE SELECTING AND INSTALLING SAME.
6. CABLE LENGTH NOT TO EXCEED 3.3 FT [1.0 M].
7. SHIELDS SHOULD BE GROUNDED TO LOCAL AIR FRAME GROUND, UNLESS OTHERWISE SPECIFIED.
8. SHIELD LENGTH NOT TO EXCEED 1 FT [0.3 M].
9. SWITCHED TO POWER GROUND WHEN ACTIVE. CURRENT (SINK) 0.4A MAX.
10. REFERENCE SHEET 3 FOR SPEAKER WIRING CONFIGURATIONS.

DEFINITIONS:

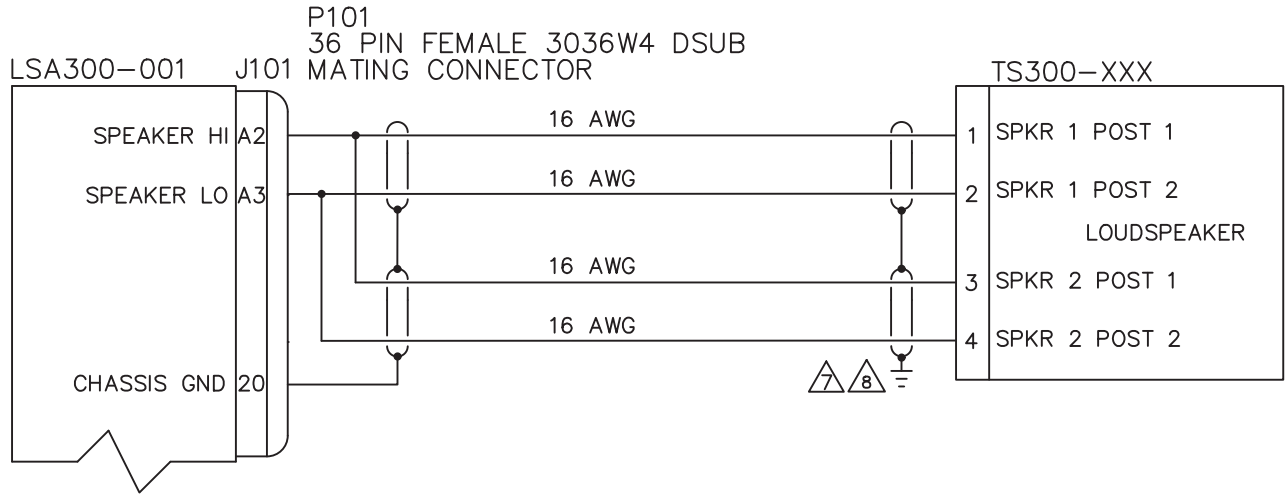
- N/C: NO CONNECTION. THE PIN IS NOT CONNECTED TO ANYTHING INTERNALLY, AND THEREFORE SHALL HAVE NO CONNECTION EXTERNALLY.
- N/C SPARE: NO CONNECTION INTERNALLY, BUT A SPARE WIRE SHALL BE INSTALLED IN THE WIRE HARNESS.
- RESERVED: MAY BE CONNECTED AND USED IN THE FUTURE. THE CIRCUITRY MAY BE PRESENT OR ADDED TO ACTIVATE THE FUNCTION. THE PIN MAY BE USED FOR TEST PURPOSES. THERE IS NO EXTERNAL CONNECTION.
- RESERVED SPARE: RESERVED, BUT INSTRUCTIONS SHALL BE FOLLOWED TO ACTIVATE THE CIRCUITRY. A SPARE WIRE SHALL BE INSTALLED IN THE WIRE HARNESS.

NAME		DATE	UNLESS OTHERWISE SPECIFIED:		 <b>ANODYNE ELECTRONICS MANUFACTURING CORP.</b>	KELOWNA BC CANADA (250)-763-1088 WWW.AEM-CORP.COM		
DRAWN	SK	MAR 1/18	DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 0.5 Deg ANGULAR: MACH ± BEND ± TWO PLACE DECIMAL ± 0.01 THREE PLACE DECIMAL ± 0.005			TITLE: LOUDSPEAKER AMPLIFIER INTERCONNECT		
CHECKED		July 16, 2018	INTERPRET GEOMETRIC TOLERANCING PER:		SIZE	CAGE CODE	PART No.	REV
APPROVED		Jul 16/18	MATERIAL		A	L9015	LSA300-001	1.01
PROPRIETARY AND CONFIDENTIAL			FINISH		SCALE: 1:1		DRAWING No.: 403-0	
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ANODYNE ELECTRONICS MANUFACTURING. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ANODYNE ELECTRONICS MANUFACTURING IS PROHIBITED.			DO NOT SCALE DRAWING		SHEET 1 of 3			

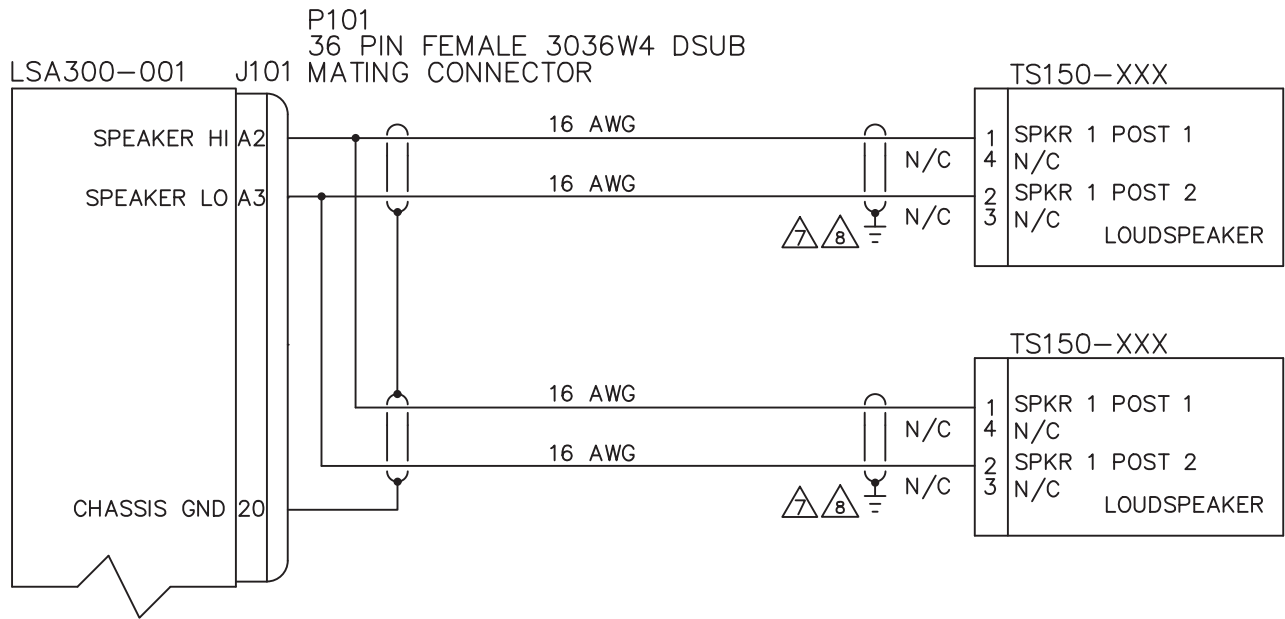


NAME		DATE	UNLESS OTHERWISE SPECIFIED:	 <b>ANODYNE ELECTRONICS MANUFACTURING CORP.</b>		KELOWNA BC CANADA (250)-763-1088 WWW.AEM-CORP.COM	
DRAWN	SK	MAR 1/18	DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 0.5 Deg ANGULAR: MACH ± BEND ± TWO PLACE DECIMAL ± 0.01 THREE PLACE DECIMAL ± 0.005			TITLE:	
CHECKED		July 16, 2018	INTERPRET GEOMETRIC TOLERANCING PER:	SIZE	CAGE CODE	PART No.	REV
APPROVED		Jul 16/18	MATERIAL	<b>A</b>	L9015	LSA300-001	1.01
PROPRIETARY AND CONFIDENTIAL			FINISH	SCALE: 1:1		DRAWING No.: 403-0	
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ANODYNE ELECTRONICS MANUFACTURING. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ANODYNE ELECTRONICS MANUFACTURING IS PROHIBITED.			DO NOT SCALE DRAWING	SHEET 2 of 3			

### TS300 SPKR CONFIGURATION



### TS150 SPKR CONFIGURATION



	NAME	DATE	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 0.5 Deg ANGULAR: MACH ± BEND ± TWO PLACE DECIMAL ± 0.01 THREE PLACE DECIMAL ± 0.005	<b>AEM</b> <b>ANODYNE ELECTRONICS MANUFACTURING CORP.</b>	KELOWNA BC CANADA (250)-763-1088 WWW.AEM-CORP.COM								
DRAWN	SK	MAR 1/18		<b>TITLE:</b> LOUDSPEAKER AMPLIFIER INTERCONNECT, SPEAKER CONFIGS									
CHECKED		July 16, 2018											
APPROVED		Jul 16/18											
PROPRIETARY AND CONFIDENTIAL			INTERPRET GEOMETRIC TOLERANCING PER:	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">SIZE</td> <td style="width: 20%;">CAGE CODE</td> <td style="width: 30%;">PART No.</td> <td style="width: 40%;">REV</td> </tr> <tr> <td style="text-align: center; font-size: 2em;">A</td> <td style="text-align: center;">L9015</td> <td style="text-align: center;">LSA300-001</td> <td style="text-align: center;">1.01</td> </tr> </table>		SIZE	CAGE CODE	PART No.	REV	A	L9015	LSA300-001	1.01
SIZE	CAGE CODE	PART No.	REV										
A	L9015	LSA300-001	1.01										
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ANODYNE ELECTRONICS MANUFACTURING. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ANODYNE ELECTRONICS MANUFACTURING IS PROHIBITED.			MATERIAL			SCALE: 1:1      DRAWING No.: 403-0      SHEET 3 of 3							
			FINISH										
			DO NOT SCALE DRAWING										




LSA300-001 INSTALLATION NOTES

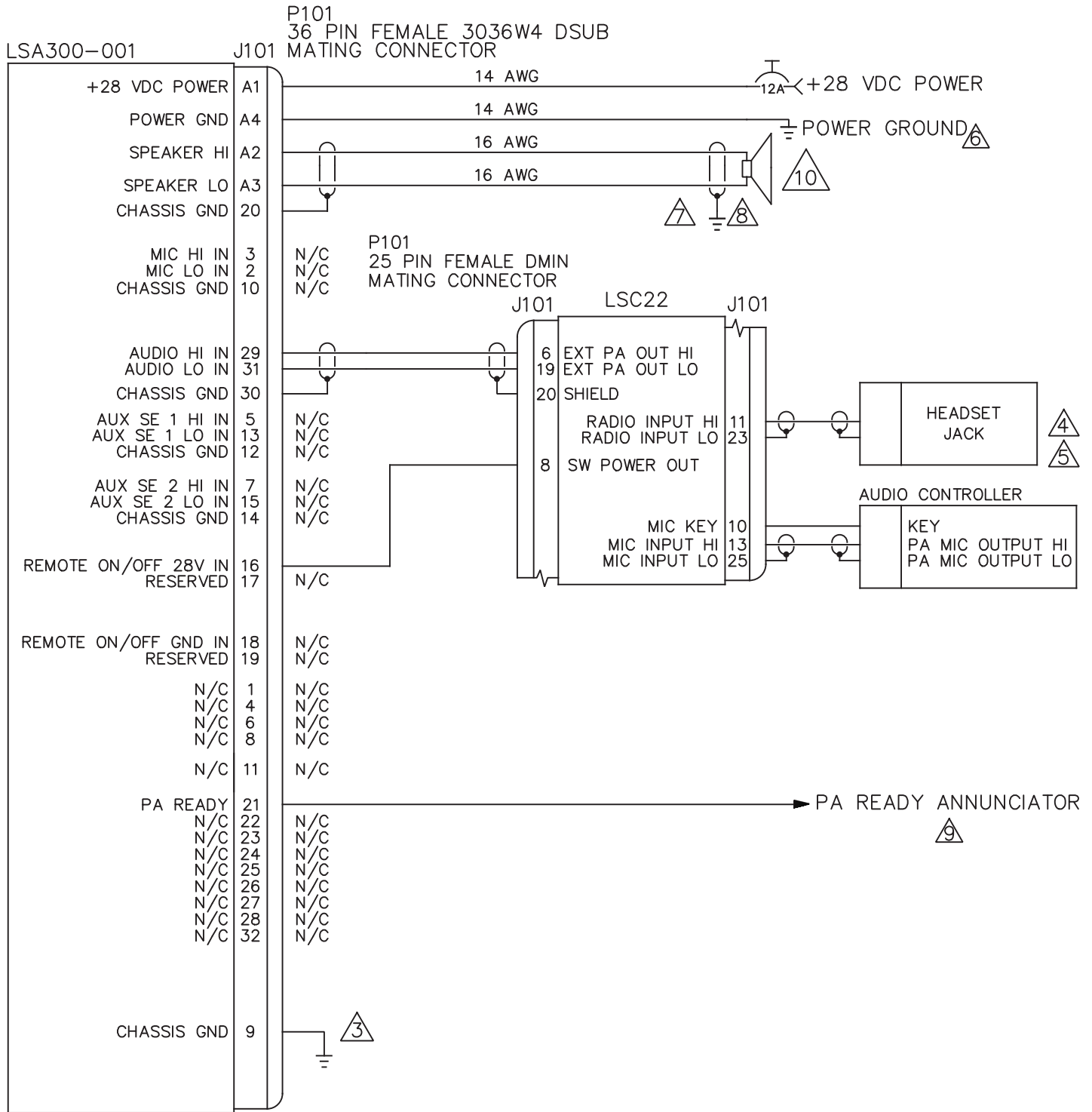
NOTES:


1. ALL WIRES SHOULD BE 22 AWG UNLESS OTHERWISE SPECIFIED. ALL UNSHIELDED WIRE SHALL BE SELECTED IN ACCORDANCE WITH AC43.13-1B CHANGE 1, PARAGRAPHS 11-76 THROUGH 11-78. WIRE TYPES SHOULD BE TO MIL-W-22759 AS SPECIFIED IN AC43.13-1B CHANGE 1, PARAGRAPHS 11-85, 11-86 AND LISTED IN TABLE 11-11. ALL SHIELDED WIRE/CABLE SHOULD BE IN ACCORDANCE WITH MIL-C-27500.
2. CABLE LENGTH NOT TO EXCEED 30 FT [9.14 M], UNLESS OTHERWISE SPECIFIED.
3. CABLE LENGTH NOT TO EXCEED 1 FT [0.3 M].
4. SYSTEM CROSSTALK MAY BE EFFECTED BY STYLE OF HEADSET AND JACK. CHECK SPECIFICATIONS AND SYSTEM REQUIREMENTS BEFORE SELECTING AND INSTALLING SAME.
5. OPTIONAL. PARALLEL TO HEADPHONE (1 ONLY) CONNECTION FOR MONITORING RADIOS VIA EXTERNAL P.A. SPEAKER.
6. CABLE LENGTH NOT TO EXCEED 3.3 FT [1.0 M].
7. SHIELDS SHOULD BE GROUNDED TO LOCAL AIRFRAME GROUND, UNLESS OTHERWISE SPECIFIED.
8. SHIELD LENGTH NOT TO EXCEED 1 FT [0.3 M].
9. SWITCHED TO POWER GROUND WHEN ACTIVE. CURRENT (SINK) 0.4A MAX.
10. REFERENCE SHEET 3 FOR SPEAKER WIRING CONFIGURATIONS.

DEFINITIONS:

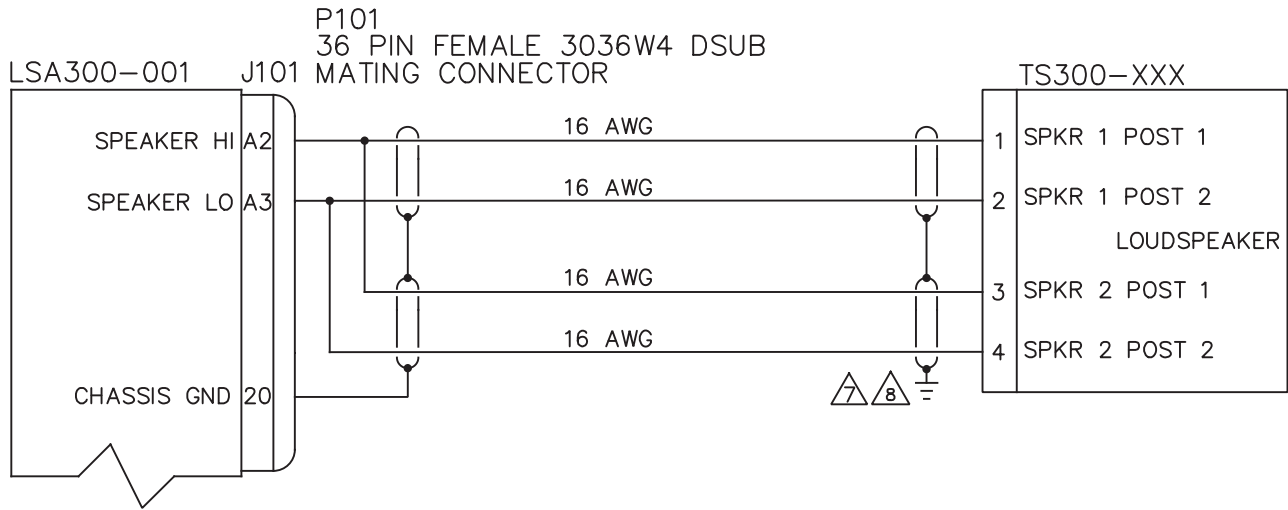
- N/C: NO CONNECTION. THE PIN IS NOT CONNECTED TO ANYTHING INTERNALLY, AND THEREFORE SHALL HAVE NO CONNECTION EXTERNALLY.
- N/C SPARE: NO CONNECTION INTERNALLY, BUT A SPARE WIRE SHALL BE INSTALLED IN THE WIRE HARNESS.
- RESERVED: MAY BE CONNECTED AND USED IN THE FUTURE. THE CIRCUITRY MAY BE PRESENT OR ADDED TO ACTIVATE THE FUNCTION. THE PIN MAY BE USED FOR TEST PURPOSES. THERE IS NO EXTERNAL CONNECTION.
- RESERVED SPARE: (RSV SP) RESERVED, BUT INSTRUCTIONS SHALL BE FOLLOWED TO ACTIVATE THE CIRCUITRY. A SPARE WIRE SHALL BE INSTALLED IN THE WIRE HARNESS.

DRAWN		NAME	DATE	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 0.5 Deg ANGULAR: MACH ± BEND ± TWO PLACE DECIMAL ± 0.01 THREE PLACE DECIMAL ± 0.005	 <b>ANODYNE ELECTRONICS MANUFACTURING CORP.</b>		KELOWNA BC CANADA (250)-763-1088 WWW.AEM-CORP.COM	
CHECKED		 SK	JUN 7/18				<b>TITLE:</b> LOUDSPEAKER AMPLIFIER INTERCONNECT	
APPROVED		 RS	June 11, 2018		SIZE    CAGE CODE    PART No.			
PROPRIETARY AND CONFIDENTIAL  THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ANODYNE ELECTRONICS MANUFACTURING. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ANODYNE ELECTRONICS MANUFACTURING IS PROHIBITED.				INTERPRET GEOMETRIC TOLERANCING PER:	MATERIAL N/A		SCALE: 1:1    DRAWING No.: 403-1    SHEET 1 of 3	
				FINISH N/A	DO NOT SCALE DRAWING			



NAME	DATE	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 0.5 Deg ANGULAR: MACH ± BEND ± TWO PLACE DECIMAL ± 0.01 THREE PLACE DECIMAL ± 0.005			KELOWNA BC CANADA (250)-763-1088 WWW.AEM-CORP.COM	
DRAWN					TITLE: LOUDSPEAKER AMPLIFIER INTERCONNECT	
CHECKED	June 11, 2018		SIZE	CAGE CODE	PART No.	REV
APPROVED	Jun 11/18		A	L9015	LSA300-001	1.00
PROPRIETARY AND CONFIDENTIAL		INTERPRET GEOMETRIC TOLERANCING PER:	SCALE: 1:1		DRAWING No.: 403-1	
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ANODYNE ELECTRONICS MANUFACTURING. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ANODYNE ELECTRONICS MANUFACTURING IS PROHIBITED.		MATERIAL N/A	SHEET 2 of 3			
		FINISH N/A				
		DO NOT SCALE DRAWING				

## TS300 SPKR CONFIGURATION



	NAME	DATE	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 0.5 Deg ANGULAR: MACH ± BEND ± TWO PLACE DECIMAL ± 0.01 THREE PLACE DECIMAL ± 0.005	<b>AEM</b> <b>ANODYNE ELECTRONICS MANUFACTURING CORP.</b>		KELOWNA BC CANADA (250)-763-1088 WWW.AEM-CORP.COM
DRAWN	SK	JUN 7/18		TITLE: <b>LOUDSPEAKER AMPLIFIER INTERCONNECT, SPEAKER CONFIGS</b>		
CHECKED		June 11, 2018				
APPROVED		Jun 11/18		SIZE: <b>A</b> CAGE CODE: <b>L9015</b> PART No.: <b>LSA300-001</b> REV: <b>1.00</b>		
PROPRIETARY AND CONFIDENTIAL			INTERPRET GEOMETRIC TOLERANCING PER:			
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ANODYNE ELECTRONICS MANUFACTURING. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ANODYNE ELECTRONICS MANUFACTURING IS PROHIBITED.			MATERIAL: N/A	DO NOT SCALE DRAWING		
			FINISH: N/A			


LSA300-001 INSTALLATION NOTES

NOTES:

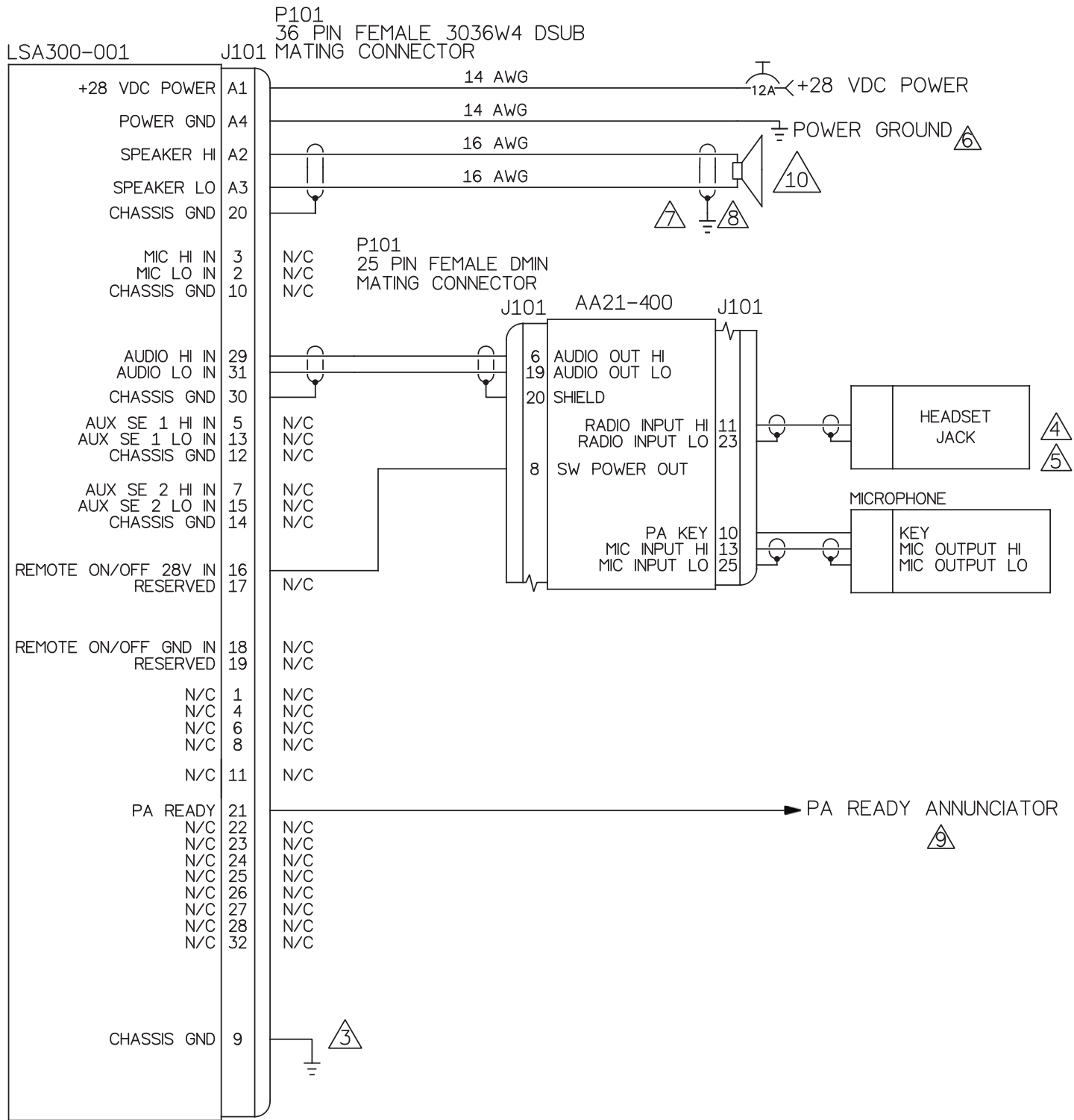
1. ALL WIRES SHOULD BE 22 AWG UNLESS OTHERWISE SPECIFIED. ALL UNSHIELDED WIRE SHALL BE SELECTED IN ACCORDANCE WITH AC43.13-1B CHANGE 1, PARAGRAPHS 11-76 THROUGH 11-78. WIRE TYPES SHOULD BE TO MIL-W-22759 AS SPECIFIED IN AC43.13-1B CHANGE 1, PARAGRAPHS 11-85, 11-86 AND LISTED IN TABLE 11-11. ALL SHIELDED WIRE/CABLE SHOULD BE IN ACCORDANCE WITH MIL-C-27500.
2. CABLE LENGTH NOT TO EXCEED 30 FT [9.14 M], UNLESS OTHERWISE SPECIFIED.
3. CABLE LENGTH NOT TO EXCEED 1 FT [0.3 M].
4. SYSTEM CROSSTALK MAY BE EFFECTED BY STYLE OF HEADSET AND JACK. CHECK SPECIFICATIONS AND SYSTEM REQUIREMENTS BEFORE SELECTING AND INSTALLING SAME.
5. OPTIONAL. PARALLEL TO HEADPHONE (1 ONLY) CONNECTION FOR MONITORING RADIOS VIA EXTERNAL P.A. SPEAKER.
6. CABLE LENGTH NOT TO EXCEED 3.3 FT [1.0 M].
7. SHIELDS SHOULD BE GROUNDED TO LOCAL AIRFRAME GROUND, UNLESS OTHERWISE SPECIFIED.
8. SHIELD LENGTH NOT TO EXCEED 1 FT [0.3 M].
9. SWITCHED TO POWER GROUND WHEN ACTIVE. CURRENT (SINK) 0.4A MAX.
10. REFERENCE SHEET 3 FOR SPEAKER WIRING CONFIGURATIONS.




DEFINITIONS:

- N/C: NO CONNECTION. THE PIN IS NOT CONNECTED TO ANYTHING INTERNALLY, AND THEREFORE SHALL HAVE NO CONNECTION EXTERNALLY.
- N/C SPARE: NO CONNECTION INTERNALLY, BUT A SPARE WIRE SHALL BE INSTALLED IN THE WIRE HARNESS.
- RESERVED: MAY BE CONNECTED AND USED IN THE FUTURE. THE CIRCUITRY MAY BE PRESENT OR ADDED TO ACTIVATE THE FUNCTION. THE PIN MAY BE USED FOR TEST PURPOSES. THERE IS NO EXTERNAL CONNECTION.
- RESERVED SPARE: RESERVED, BUT INSTRUCTIONS SHALL BE FOLLOWED TO ACTIVATE THE CIRCUITRY. A SPARE WIRE SHALL BE INSTALLED IN THE WIRE HARNESS.

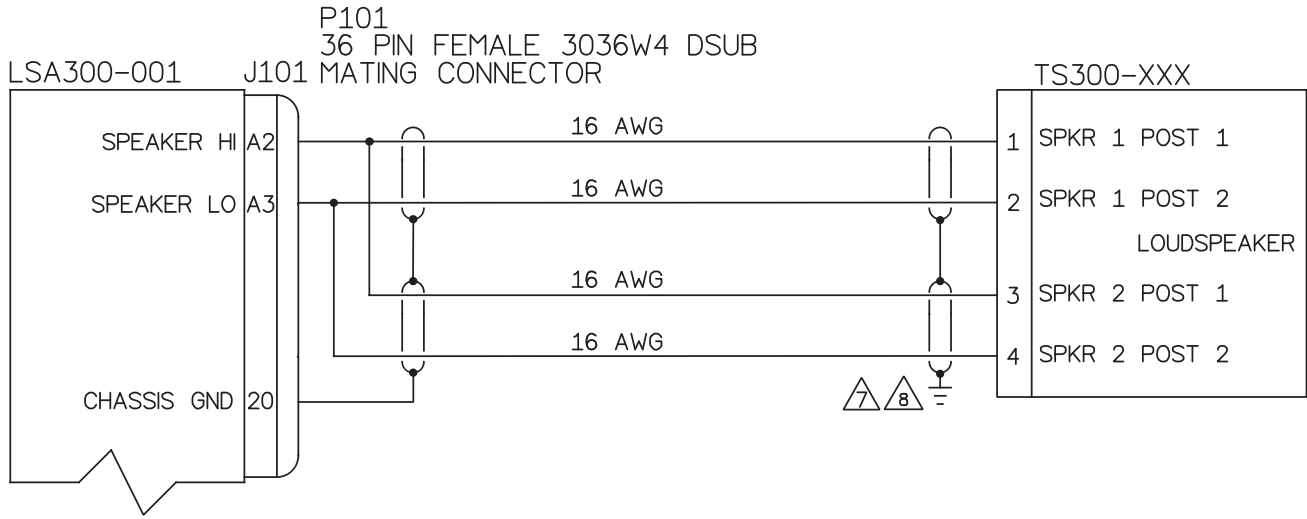
NAME		DATE		UNLESS OTHERWISE SPECIFIED:		 <b>ANODYNE ELECTRONICS MANUFACTURING CORP.</b>		KELOWNA BC CANADA	
DRAWN SK		MAR 1/18		DIMENSIONS ARE IN INCHES				(250)-763-1088	
CHECKED		May 11, 2018		TOLERANCES:		TITLE: <b>LOUDSPEAKER AMPLIFIER INTERCONNECT</b>		WWW.AEM-CORP.COM	
APPROVED		Jun 07/18		FRACTIONAL ± 0.5 Deg				REV	
PROPRIETARY AND CONFIDENTIAL		INTERPRET GEOMETRIC TOLERANCING PER:		ANGULAR: MACH ± BEND ±				1.00	
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ANODYNE ELECTRONICS MANUFACTURING. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ANODYNE ELECTRONICS MANUFACTURING IS PROHIBITED.		MATERIAL		TWO PLACE DECIMAL ± 0.01		SIZE		CAGE CODE	
		FINISH		THREE PLACE DECIMAL ± 0.005		A		L9015	
		DO NOT SCALE DRAWING				PART No.		REV	
						LSA300-001		1.00	
				SCALE: 1:1		DRAWING No.: 403-2		SHEET 1 of 3	






NAME	DATE	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 0.5 Deg ANGULAR: MACH ± BEND ± TWO PLACE DECIMAL ± 0.01 THREE PLACE DECIMAL ± 0.005	 <b>ANODYNE ELECTRONICS MANUFACTURING CORP.</b>	KELOWNA BC CANADA (250)-763-1088 WWW.AEM-CORP.COM		
DRAWN	SK MAR 1/18	INTERPRET GEOMETRIC TOLERANCING PER:		TITLE: <b>LOUDSPEAKER AMPLIFIER INTERCONNECT</b>		
CHECKED	 May 11, 2018	MATERIAL	SIZE	CAGE CODE	PART No.	REV
APPROVED	 Jun 07/18	FINISH	<b>A</b>	<b>L9015</b>	<b>LSA300-001</b>	<b>1.00</b>
PROPRIETARY AND CONFIDENTIAL		DO NOT SCALE DRAWING	SCALE: 1:1		DRAWING No.: 403-2	SHEET 2 of 3
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ANODYNE ELECTRONICS MANUFACTURING. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ANODYNE ELECTRONICS MANUFACTURING IS PROHIBITED.						

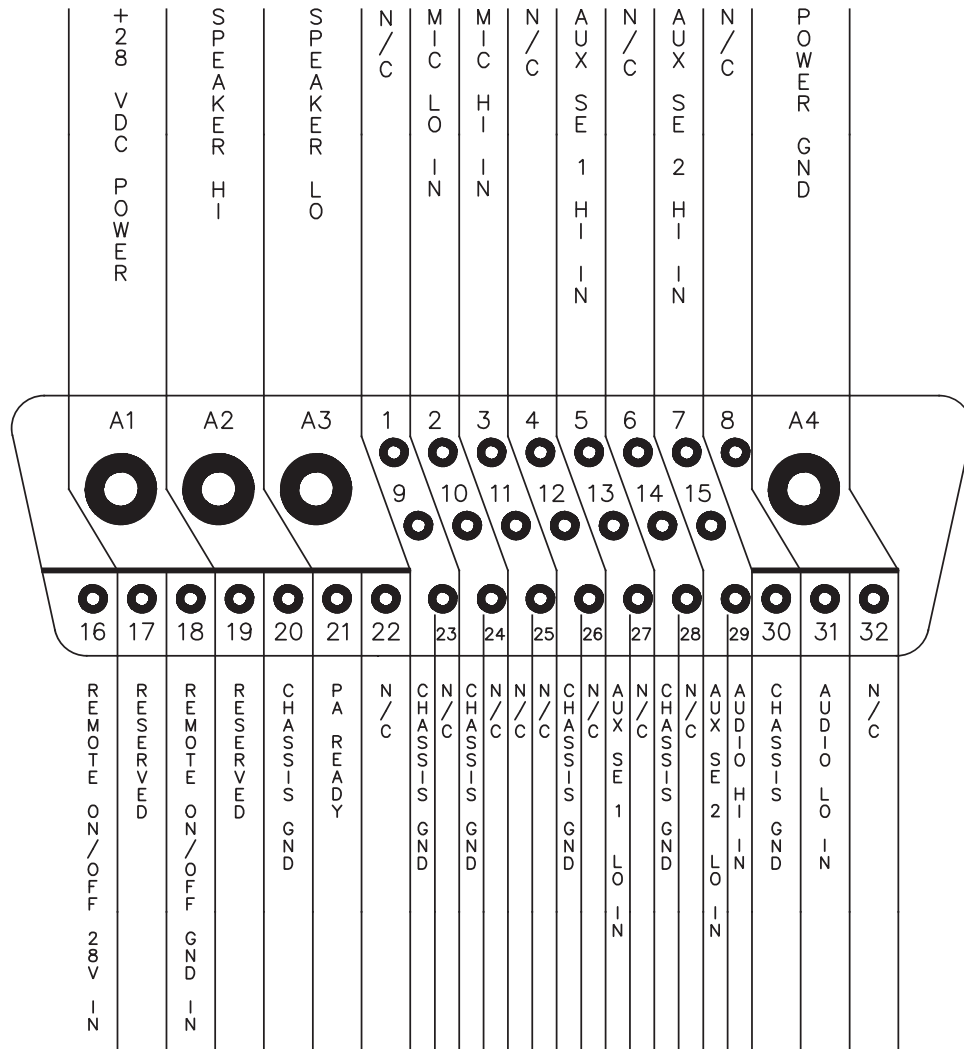
TS300 SPKR CONFIGURATION






NAME		DATE		UNLESS OTHERWISE SPECIFIED:		 <b>ANODYNE ELECTRONICS MANUFACTURING CORP.</b>		KELOWNA BC CANADA			
DRAWN SK		MAR 1/18		DIMENSIONS ARE IN INCHES				(250)-763-1088			
CHECKED		May 11, 2018		TOLERANCES:				WWW.AEM-CORP.COM			
APPROVED		Jun 07/18		FRACTIONAL ± 0.5 Deg							
PROPRIETARY AND CONFIDENTIAL				ANGULAR: MACH ± BEND ±							
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ANODYNE ELECTRONICS MANUFACTURING. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ANODYNE ELECTRONICS MANUFACTURING IS PROHIBITED.				TWO PLACE DECIMAL ± 0.01		TITLE:		LOUDSPEAKER AMPLIFIER			
				THREE PLACE DECIMAL ± 0.005		INTERPRET GEOMETRIC TOLERANCING PER:		INTERCONNECT, SPEAKER CONFIGS			
		MATERIAL		N/A		SIZE		CAGE CODE		PART No.	
		FINISH		N/A		A		L9015		LSA300-001	
DO NOT SCALE DRAWING				SCALE: 1:1		DRAWING No.: 403-2		REV 1.00			
								SHEET 3 of 3			

P101

36 PIN D-MIN SOCKET  
MATING CONNECTOR



VIEW IS FROM REAR OF AIRFRAME CONNECTOR.

DRAWN	NAME	DATE	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 0.5 Deg ANGULAR: MACH ± BEND ± TWO PLACE DECIMAL ± 0.01 THREE PLACE DECIMAL ± 0.005	 <b>ANODYNE ELECTRONICS MANUFACTURING CORP.</b>	KELOWNA BC CANADA (250)-763-1088 WWW.AEM-CORP.COM		
	CHECKED						
APPROVED		Jun 07/18	INTERPRET GEOMETRIC TOLERANCING PER:	TITLE: <b>LOUDSPEAKER AMPLIFIER CONNECTOR MAP</b>			
PROPRIETARY AND CONFIDENTIAL  THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ANODYNE ELECTRONICS MANUFACTURING. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ANODYNE ELECTRONICS MANUFACTURING IS PROHIBITED.			MATERIAL				
			FINISH	<b>A</b>	<b>L9015</b>	<b>LSA300-001</b>	<b>1.00</b>
DO NOT SCALE DRAWING			SCALE: 1:1	DRAWING No.: 405-0		SHEET 1 of 1	



# ENVIRONMENTAL QUALIFICATION FORM

Description: Loudspeaker Amplifier Document: LSA300-001-521-0100


Part #: LSA300-001 TSO #: N/A

Manufacturer's Specification and/or Other Applicable Specification: \_\_\_\_\_


Manufacturer: Anodyne Electronics Manufacturing Corp.

Address: #15 - 1925 Kirschner Rd., Kelowna, BC, Canada. V1Y 4N7

DO-160 Rev: G

Prepared By:  Steve Kempf  
Designer  
Jun 20/18

Checked By:  Ron Briggs  
Designer  
Jun 20/18

Approved By:  Todd Blackstock  
R&D Manager  
Jun 20/18

Conditions	Section	Description of Conducted Tests
<b>Temperature and Altitude</b>	<b>4.0</b>	<b>Equipment tested to Categories B4</b>
Ground Survival Low Temp.	4.5.1	-55° C
Short-Time Operating Low Temp.	4.5.1	-30° C
Operating Low Temp.	4.5.2	-30° C
Ground Survival High Temp.	4.5.3	+85° C
Short-Time Operating High Temp.	4.5.3	+70° C
Operating High Temp.	4.5.4	+60° C
In-flight Loss of Cooling	4.5.5	N/A
Altitude	4.6.1	+25,000 ft (+7,620 m)
Decompression	4.6.2	N/A
Overpressure	4.6.3	N/A
<b>Temperature Variation</b>	<b>5.0</b>	<b>Equipment tested to Category B</b> ± 5° C/min.
<b>Humidity</b>	<b>6.0</b>	<b>Equipment tested to Category A</b> 95% RH for 48 hrs.
<b>Operational Shocks and Crash Safety</b>	<b>7.0</b>	<b>Equipment tested to Category B</b>
Operational Shocks	7.2.2	6 g for 11 ms in all axes
Crash Safety Impulse	7.3.2	20 g for 11 ms in all axes
Crash Safety Sustained	7.3.3	20 g for 3 s in all axes



Conditions	Section	Description of Conducted Tests
<b>Vibration</b>	<b>8.0</b>	<b>Equipment tested to Category S</b> Profiles B and M. <b>Equipment tested to Category U2</b> Profiles F and F1.
Explosive Atmosphere	9.0	Category X, no test performed.
Waterproofness	10.0	Category X, no test performed.
Fluids Susceptibility	11.0	Category X, no test performed.
Sand and Dust	12.0	Category X, no test performed.
Fungus	13.0	Category X, no test performed.
Salt Fog Test	14.0	Category X, no test performed.
<b>Magnetic Effect</b>	<b>15.0</b>	<b>Equipment tested to Category A</b> Defection of 1°: $0.3 \leq D \leq 1.0$ m
<b>Power Input</b>	<b>16.0</b>	<b>Equipment tested to Categories BXX</b>
Voltage (Average Value DC)	16.6.1.1	Maximum Operating Voltage: +30.3 Vdc Nominal Operating Voltage: +28.0 Vdc Minimum Operating Voltage: +22.0 Vdc Emergency Operating Voltage: N/A
Momentary Power Interruptions (DC)	16.6.1.3	50ms Max
Normal Surge Voltage (DC)	16.6.1.4	As per DO-160G
Engine Starting Undervoltage (DC)	16.6.1.5	As per DO-160G
Voltage Steady State (DC)	16.6.2.1	N/A
Low Voltage Conditions (DC)	16.6.2.2	N/A
Momentary Undervoltage Operation (DC)	16.6.2.3	N/A
Abnormal Surge Voltage (DC)	16.6.2.4	N/A
<b>Voltage Spike</b>	<b>17.0</b>	<b>Equipment tested to Category A</b> 600 Vpp for 10 $\mu$ s Positive and negative spikes



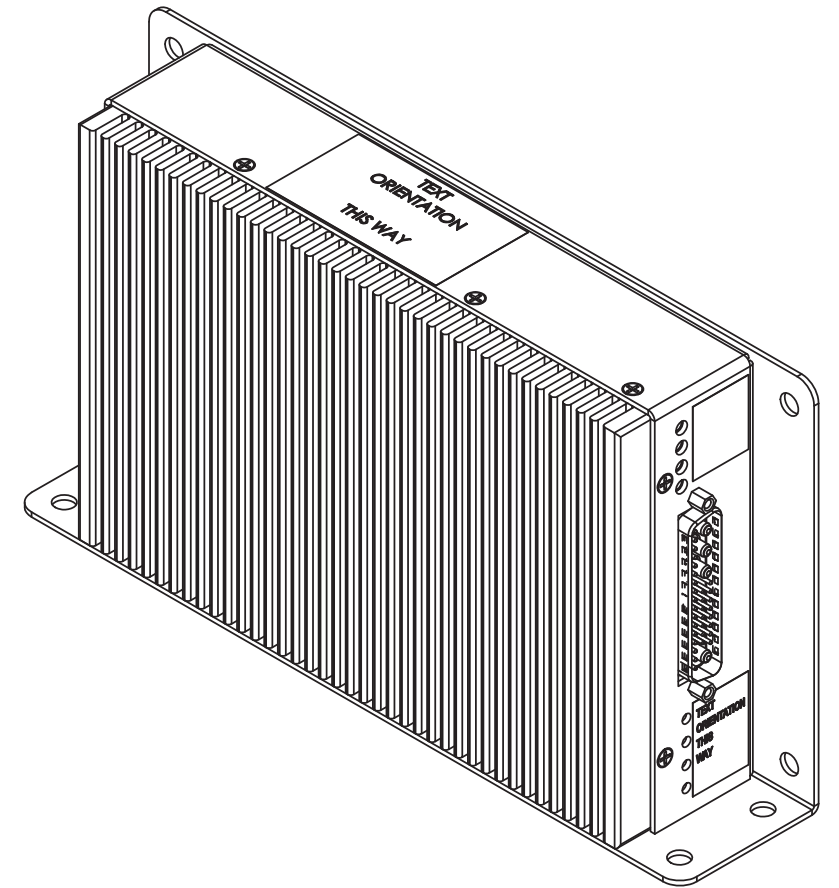
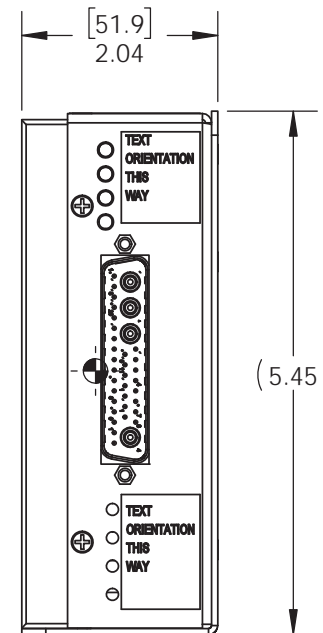
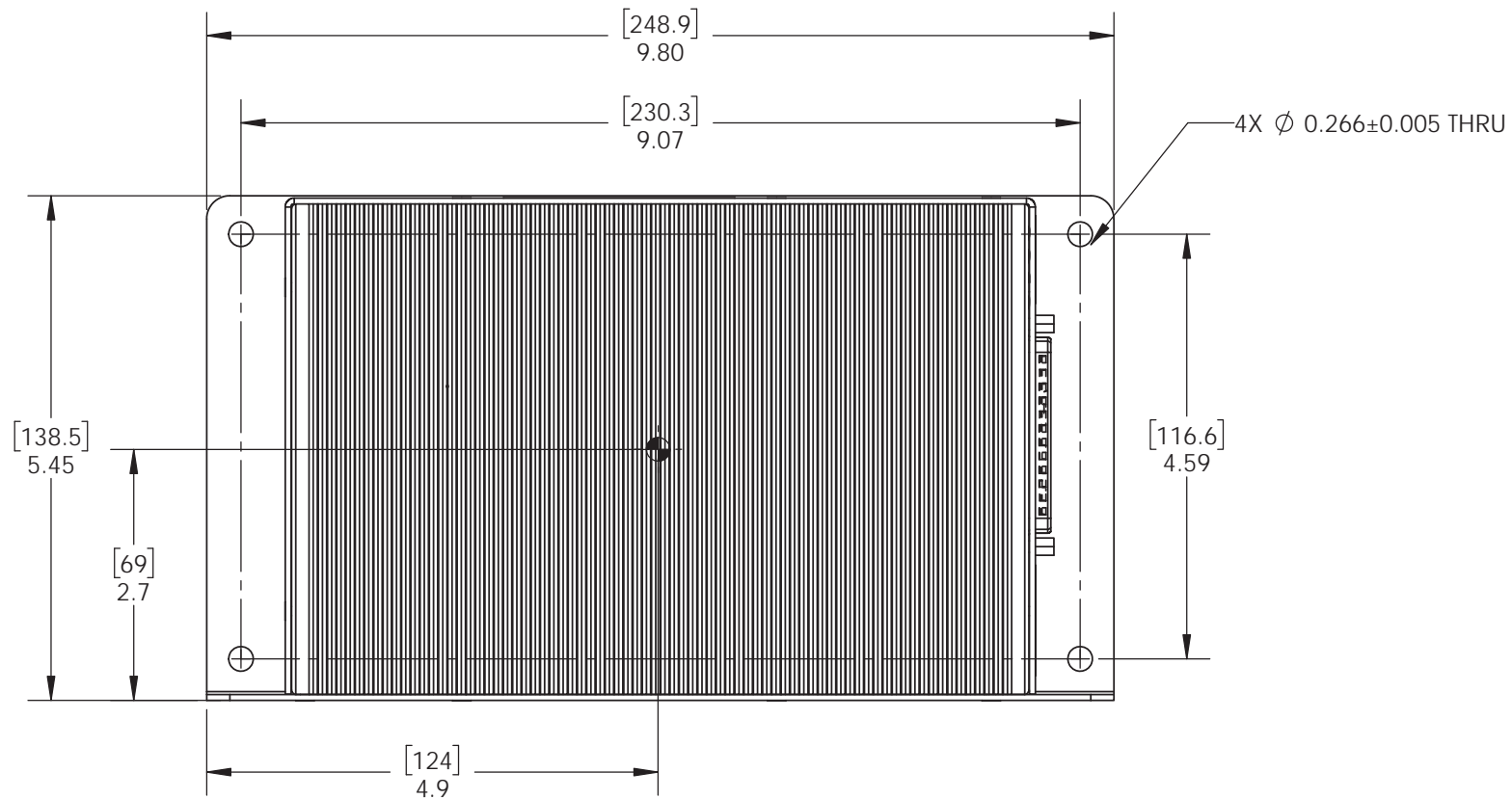
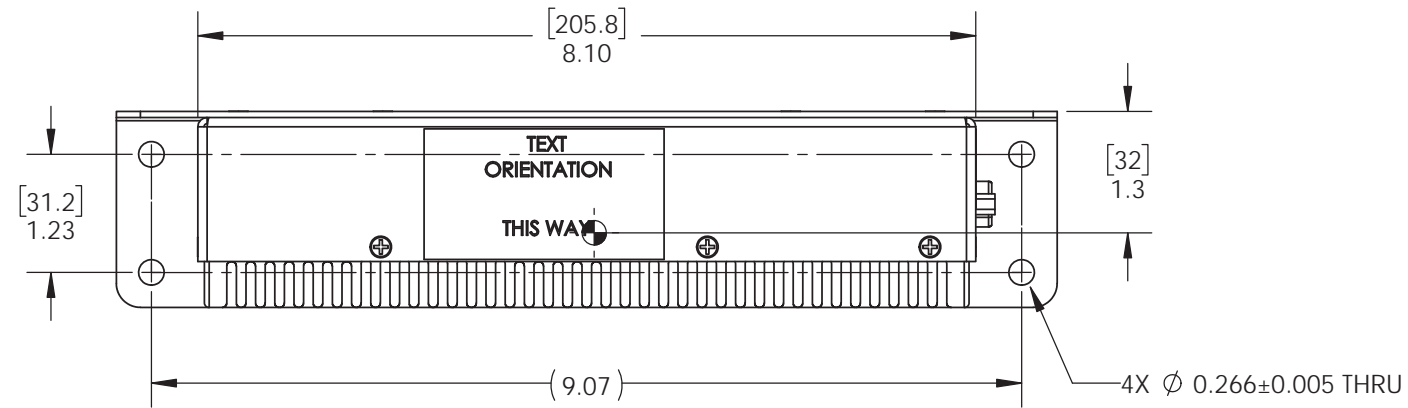
Conditions	Section	Description of Conducted Tests
<b>Audio Frequency Susceptibility</b>	<b>18.0</b>	<b>Equipment tested to Category B</b> 1.6 Vpp 0.2 to 1 kHz 4.0 Vpp 1 to 15 kHz
<b>Induced Signal Susceptibility</b>  Magnetic Fields Into Equipment Electric Fields Into Equipment Magnetic Fields Into Cables Electric Fields Into Cables Spikes Induced Into Cables	<b>19.0</b>  19.3.1 19.3.2 19.3.3 19.3.4 19.3.5	<b>Equipment tested to Category AC</b>  20 Arms @ 400 Hz 170 Vrms @ 400 Hz 18 A•m @ 380 to 420 Hz 360 V•m from 380 to 420 Hz Positive and negative spikes as per DO-160G
<b>Radio Frequency Susceptibility</b>  Conducted Susceptibility  Radiated Susceptibility	<b>20.0</b>  20.4  20.5	<b>Equipment tested to Category RR</b>  0.01 to 400 MHz  SW/CW: 20 V/m from 100 to 400 MHz PM: 150 V/m from 0.4 to 8 GHz
<b>Radio Frequency Emission</b>  Conducted RF Emission  Radiated RF Emission	<b>21.0</b>  21.4  21.5	<b>Equipment tested to Category L</b>  Power lines: 150 kHz to 152 MHz Interconnecting Cables: 150 kHz to 152 MHz  100 MHz to 6 GHz
Lightning Induced Transient Susceptibility	22.0	Category X, no test performed.
Lightning Direct Effects	23.0	Category X, no test performed.
Icing	24.0	Category X, no test performed.
<b>Electrostatic Discharge</b>	<b>25.0</b>	<b>Equipment tested to Category A</b> 15,000 Vp, 10 positive and negative spikes.
<b>Fire, Flammability</b>	<b>26.0</b>	<b>Category C</b> The enclosure is constructed of metal (metal finish that is non flammable), on all sides, and has no vent holes



**REMARKS**

- All sections with the exception of 21.4 were qualified by analysis to the LSA400-001.
- Section 21.4 testing was conducted at Anodyne Electronics Manufacturing Corp. (AEM) in Kelowna BC.
- Section 16.6.1.1 Emergency Operating Voltage and Section 16.6.2 Abnormal Operating Conditions were not tested.
- Section 20 full threat testing is complete. Alleviated levels specified in DO-214, Sec 2.5.11.2 were completed for radiated susceptibility and partially completed for conducted susceptibility. Alleviated conducted susceptibility was completed on +28 Vdc Power wire (CW & SW) as well as main interconnecting bundle (SW only).

End of Environmental Qualification Form



- NOTES:
1. MASS 3.7 lb [1.7kg] MAX.
  2. DENOTES CENTER OF GRAVITY (est.)

	NAME	DATE	UNLESS OTHERWISE SPECIFIED:
DRAWN	DMF	06-Mar-18	DIMENSIONS ARE IN INCHES [MM]
CHECKED		Mar 29/18	TOLERANCES:
APPROVED		May 03/18	ANGULAR: ±0.5°
			FRACTIONAL: ±0.0625"
			ONE DECIMAL PLACE: ±0.050"
			TWO DECIMAL PLACE: ±0.030"
			THREE DECIMAL PLACE: ±0.010"
CONFIDENTIAL AND PROPRIETARY			MATERIAL:
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ANODYNE ELECTRONICS MANUFACTURING. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ANODYNE ELECTRONICS MANUFACTURING IS PROHIBITED.			N/A
			FINISH:
			N/A

		ANODYNE ELECTRONICS MANUFACTURING CORP.		15-1925 KIRSCHNER RD. KELOWNA BC V1Y 4N7 (250)-763-1088 WWW.AEM-CORP.COM	
TITLE: LOUD SPEAKER AMPLIFIER MECHANICAL INSTALLATION					
PAPER SIZE: B	CAGE CODE: L9015	PART No. : LSA300-001	REVISION: 1.00		
SCALE: 1:2		DO NOT SCALE DRAWING		DRAWING No. : 922-0 SHEET: 1 OF 1	