

harman/kardon

GLA-55

GLA-55/230

Two-Piece 2.0 Multimedia Speaker System

SERVICE MANUAL



harman/kardon, Inc.

8500 Balboa Blvd.

Northridge, CA. 91329

Released 2009

Discontinued XXXX

Rev0 4/2010

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GLA-55 SPECIFICATIONS

Power Output	56 Watts RMS per channel
Frequency Response (–10dB)	35Hz – 20kHz (- 10dB)
Dimensions (W x D x H)	5 x 10.5" (127mm x 267mm)
Weight per Speaker	2.5lb (1.2kg)
Input Impedance	5k ohms
Signal-to-Noise Ratio	85dB A-weighted
Input Requirement	Main connection – 1/8" (3.5mm) mini stereo jack
Input Sensitivity	250mV for rated power
Maximum Power Consumption	60 Watts
Driver Complement	Atlas™ AL Woofer; CMMD® Lite Tweeter
Voltage Input	120V AC (US), 100V AC (Japanese), 230V AC (Europe)

harman/kardon, Inc. continually strives to update and improve existing products, as well as create new ones. The specifications and construction details in this and related publications are therefore subject to change without notice.

/ GLA-55

Two-piece speaker system

Features

Compatibility

- The GLA-55 speaker system is compatible with virtually any audio device with an analog output. A stereo mini jack connection allows you to enjoy high-quality audio from a variety of devices such as MP3 and CD players, desktop computers (all platforms), satellite radio and laptops.

Easy-to-use music controls

- Just a touch increases or decrease the volume. Touch both volume controls simultaneously to mute the audio output. Touch again to unmute. An LED on the front of both satellites lets you know whether the system is on, on standby, or muted.

Beauty and sound

- The GLA-55 is a stylized multimedia focal point. Not just an exceptionally high-quality audio system, it's also – from its chrome base to its fully visible audio engine and port – a piece of art. No detail is left unrefined. The faceted cut-glass enclosures are a first in desktop audio systems, and will integrate beautifully with home and office décor.

Digital power and DSP

- The GLA-55 system delivers with a powerfully tuned digital audio path. The clean and compact digital amplification, coupled with DSP (digital signal processing) equalization, efficiently provides GLA-55 transducers with cool-running power.

Subwoofer output

- The GLA-55 systems packs a powerful punch on its own but, for added bass response, the subwoofer output allows connection to most stand-alone subwoofer systems.

Advanced technology

- GLA-55 speakers feature many proprietary technologies to provide the highest quality sound, including astonishing bass and clear, accurate sound in any location.
 - **Atlas™ AL and CMMD® Transducers** – The CMMD drivers provide accurate high frequencies but are also capable of low-frequency extension to four octaves; the Atlas AL drivers are capable of nearly 1" peak-to-peak travel for tight, accurate bass reproduction. Their pairing provides a full, rich frequency response from the lowest bass to the highest highs.
 - **Slipstream Port Design** – The GLA-55 port minimizes boundary layer separation, providing high-output bass with low distortion.
 - **COE (Computer-Optimized Equalization)** – The GLA-55 system equalization is computer-optimized to provide a rich, complete sound-stage over a wide range of listening positions.
 - **OCT (Optimized Compression Topology)** – GLA-55 speakers utilize a proprietary compression technology, which ensures clean, accurate sound at high output levels.
-

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NOTES: UNLESS OTHERWISE SPECIFIED

Part Number	Description
900-0478-001	GIFT BOX, HK CRYSTAL
950-0084-002	WARRANTY CARD; GENERIC HARMAN MULTIMEDIA
905-0032-001	FOAM, CUSHION, TOP, EPE, HK CRYSTAL
905-0033-001	FOAM, CUSHION, BOTTOM, EPE, HK CRYSTAL
500-0368-001	CABLE, STEREO, 3.5MM, STRAIGHT ON ONE SIDE, RT ANGLE
700-0072-001	POWER SUPPLY, HK CRYSTAL, US

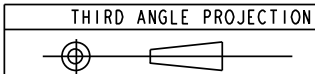
REVISION HISTORY			
REV.	ECO.	CHECKED	DATE
A	ECO 04403	FT	9/21/09

AC SUPPLY CORD NEEDED WITH 700-0072-001	
AC PWR CORD US	500-0130-001
AC PWR CORD EU	500-0130-002
AC PWR CORD, UK	500-0130-003
AC PWR CORD AUSTRALIA	500-0130-004
AC PWR CORD 100V JAPAN	500-0130-005
AC PWR CORD, KOREA	500-0130-006
AC PWR CORD, CHINA	500-0130-007

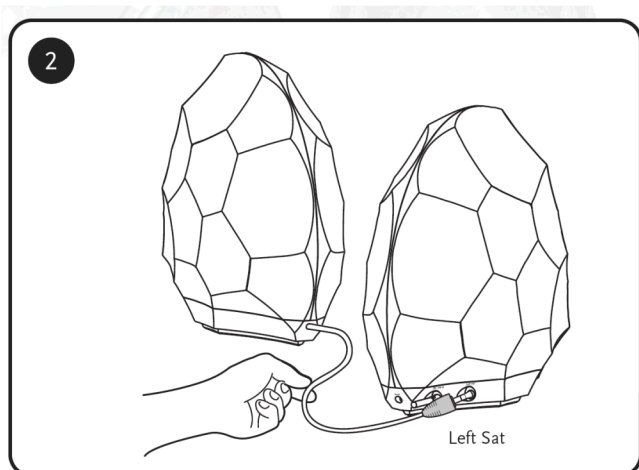
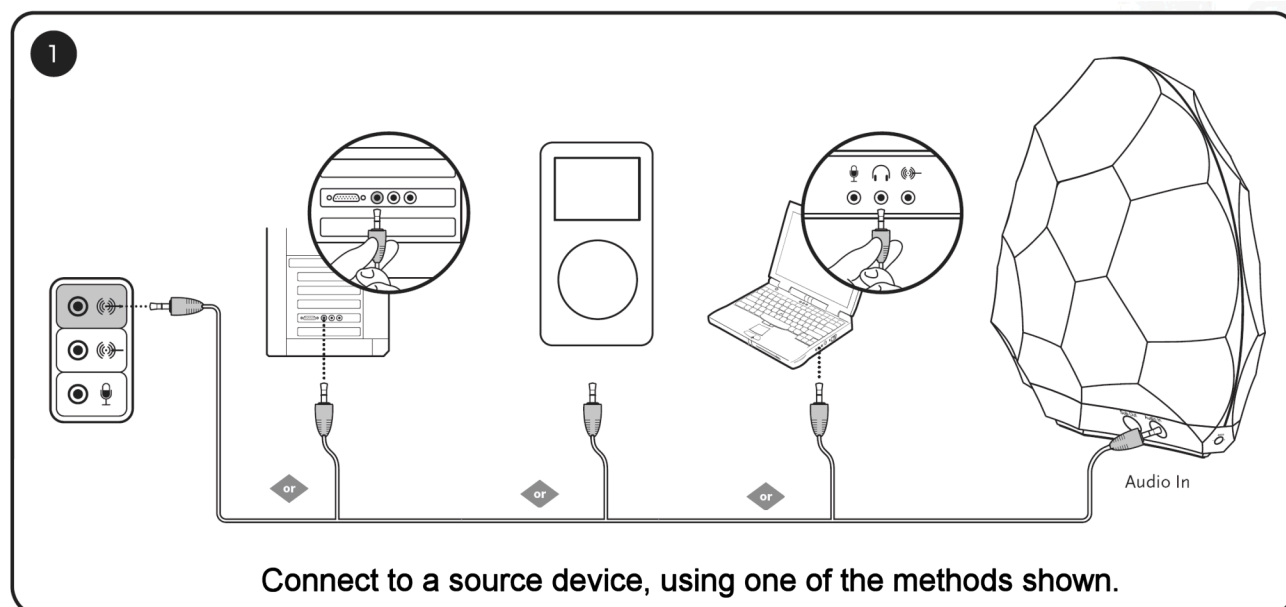


NOTE: GLA-55 ASSEMBLIES ARE SHOWN FOR REFERENCE ONLY

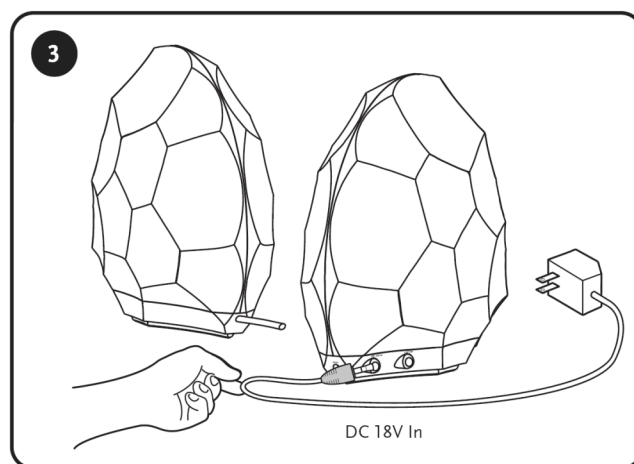
UNLESS OTHERWISE SPECIFIED ALL DIMENSION ARE IN MM TOLERANCES ARE:		Harman Multimedia		HARMAN INTERNATIONAL COMPANY NORTHBRIDGE, CA 91329 USA	
0-30 ± 0.10 MM	ANGLES ± 1°	ENG	DATE	TITLE	
30-120 ± 0.15 MM		FT	9-21-09	ASY, PACKAGING UNIT PACK, GLA-55	
120-400 ± 0.20 MM		CHECKED		SIZE	DRAWING NO.
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DO NOT SCALE DRAWING				FILE:	



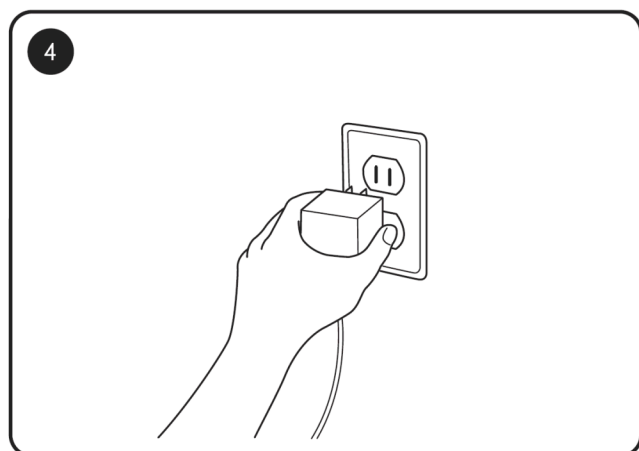
Quick Setup for Connecting



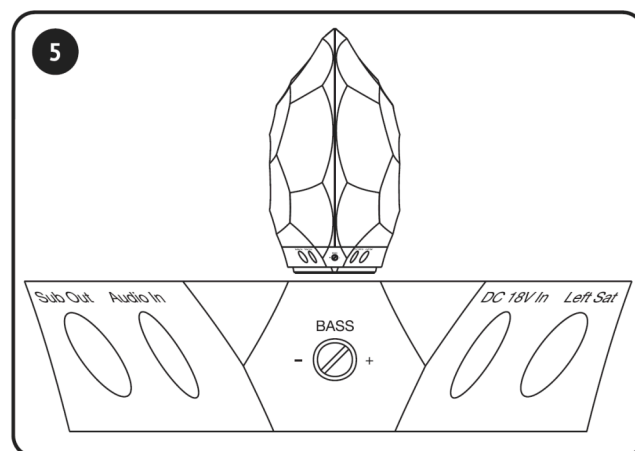
Plug the left satellite into the right satellite.



Attach the power supply to the right satellite.



Plug the power supply adapter into the appropriate wall socket.



Adjust bass gain to preference, using a small flat screwdriver.

Adjust volume with "+" and "-" buttons. Press both at the same time for mute.

harman/kardon GLA-55

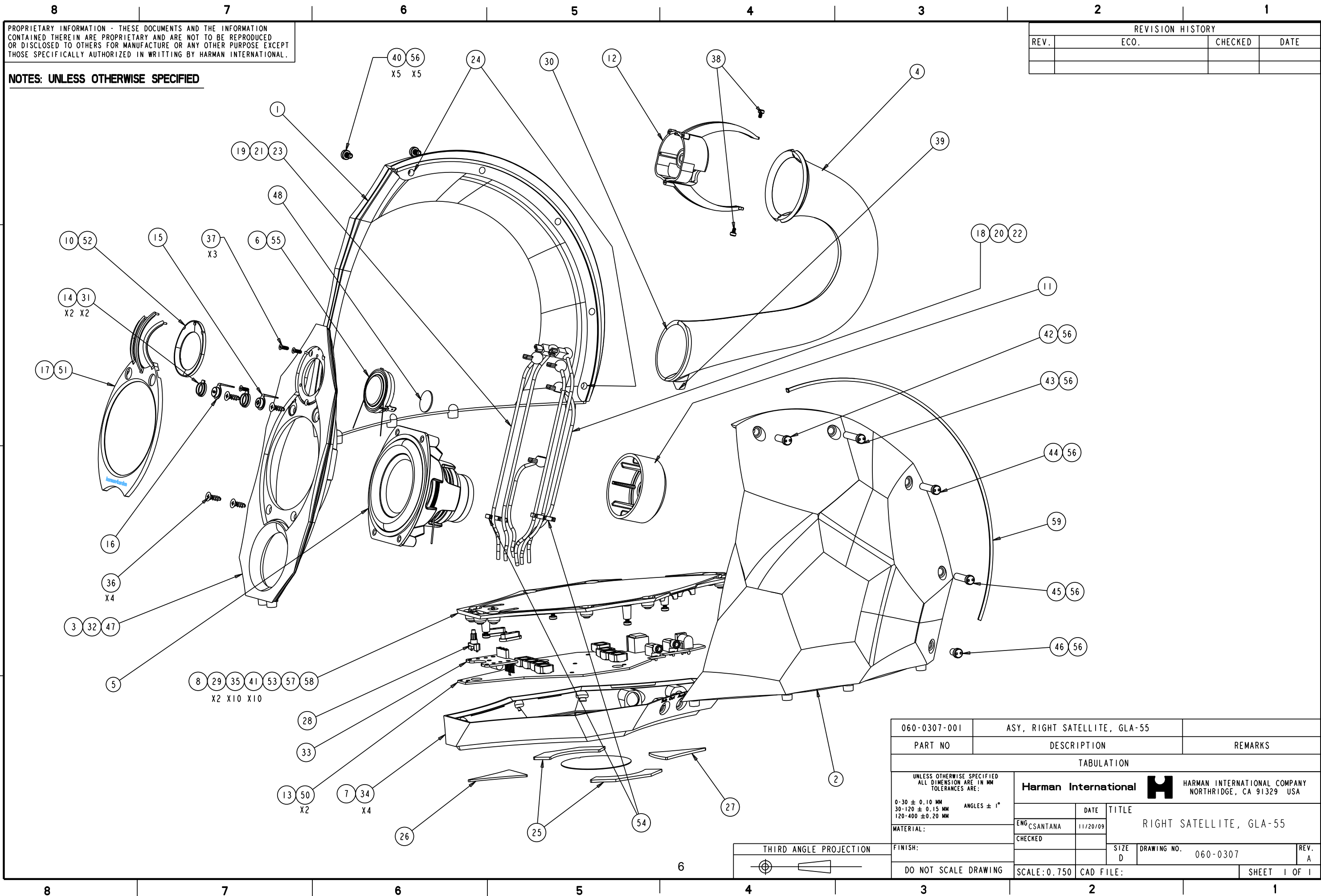
- LED's and Auto-ON feature:

The unit has an Auto-ON/Standby feature (like many of our other home subwoofers)

The indicator is a white LED at the front of each loudspeaker

LED operation:

- Steady ON when the unit is powered up and receiving a signal (playing).
- LED's slowly blink: STANDBY mode. (After approx.10 minutes of no signal)
- Mute function (press both volume buttons same time) the LED will be OFF. In this state the speaker will not respond to an incoming signal (will not play again unless it's unmuted).
- Volume buttons/mute function (touch switch + and – buttons) in the MASTER speaker above the woofer.
- The optional sub out jack is a 3.5mm stereo plug; this is a full range signal (not low freq only, but intended only to be connected to powered subwoofers.)
- There is no main AC power switch



GLA-55 PARTS LIST (RIGHT, ACTIVE) LOUDSPEAKER				
Item #	Part Number	Description	Qty	
1	100-0092-001	HOUSING, LEFT SIDE,	1	EA
2	100-0093-001	HOUSING, RIGHT SIDE,	1	EA
3	120-0091-001	BAFFLE, RIGHT, HK GLA-55	1	EA
4	060-0308-001	ASY, PORT,	1	EA
5	050-0168-003B	WOOFER, HERCULES ALUMINUM, 4 OHM, COSMETIC,	1	EA
6	050-0132-003B	TWEETER, CMMD LITE, 4 OHM, COSMETIC,	1	EA
7	250-0155-001	BASE ENCLOSURE RIGHT, HK GLA-55	1	EA
8	250-0154-001	COVER, BASE ENCLOSURE RIGHT, HK GLA-55	1	EA
10	190-0376-001	TRIM, TWEETER,	1	EA
11	190-0528-001	COVER, HERCULES,	1	EA
12	250-0143-001	COVER, CMMD TWEETER, ZINC,	1	EA
13	400-0190-001	PCBA, MAIN, RIGHT SATELLITE,	1	EA
14	190-0377-001	TRIM, VOLUME BUTTON, HK CRYSTAL	1	EA
15	190-0378-002	VOLUME BUTTON, PLUS, CHROME, HK CRYSTAL	1	EA
16	190-0379-002	VOLUME BUTTON, MINUS, CHROME, HK CRYSTAL	1	EA
17	250-0227-001	BEZEL, HERCULES, RIGHT,ZINC, HK GLA-55	1	EA
18	500-0312-001	ASY, CABLE, VOLUME, PLUS, RIGHT, CHROME,	1	EA
19	500-0313-001	ASY, CABLE, VOLUME, MINUS, RIGHT, CHROME,	1	EA
20	500-0314-001	ASY, CABLE, TWEETER, PLUS, RIGHT, CHROME	1	EA
21	500-0315-001	ASY, CABLE, TWEETER, MINUS, RIGHT, CHROME	1	EA
22	500-0316-001	ASY, CABLE, HERCULES, TOP, CHROME	1	EA
23	500-0317-001	ASY, CABLE, HERCULES, BOTTOM, CHROME	1	EA
24	830-0030-001	WASHER, RUBBER, 1.2MMTHICK	2	EA
25	180-0068-001	FOOT, SIDE, 2.0MM THICK, PMS COOL GRAY 11,	2	EA
26	180-0069-001	FOOT, FRONT, 1.5MM THICK, COLOR: PMS COOL GRAY 11,	1	EA
27	180-0070-001	FOOT, REAR, 2.0MM THICK, COLOR: PMS COOL GRAY 11,	1	EA
28	190-0380-001	LIGHT PIPE, RIGHT SPEAKER, HK GLA-55	1	EA
29	190-0533-001	GROMMET,3HOLES,RIGHT SPEAKER,HK GLA-55!	2	EA
30	190-0554-001	SEAL, PORT TO BAFFLE,	1	EA
31	190-0558-001	SEAL, RUBBER, VOLUME BUTTON TO BAFFLE, RIGHT	2	EA
32	190-0558-001	SEAL, RUBBER PAD, BAFFLE TO HOUSING,	1	EA
33	400-0263-001	PCB, DAUGHTER, HK GLA-55, RIGHT SAT	1	EA
34	800-0048-001	SCREW, MACHINE, M3 X 10MM, PAN HEAD PHILLIPS, ZINC	4	EA
35	800-0048-009	SCREW, MACHINE, M3 X 5MM, PAN HEAD PHILLIPS, ZINC	3	EA
36	800-0149-001	SCREW, FLAT HEAD, SELF TAPPING, BRIGHT ZINC PLATE, 4MMX12MM	4	EA
37	800-0150-001	SCREW, MACHINE, M2.5 X 7.5MM, FLAT HEAD, PHILLIPS DRIVE, ZINC	3	EA
38	800-0151-003	SCREW, MACHINE, M2.5 X 4.0 MM LONG, SOCKET HEAD CAP, STEEL, BRIGHT NICKEL PLATE	2	EA
39	800-0152-003	SCREW, LG PAN HEAD, SELF TAPPING, BRIGHT ZINC PLATE, TORX DRIVE,TWO START, 3MM DIA. X 8MM LONG	1	EA
40	800-0155-003	SCREW, MACHINE, M4 X 7MM, CAP HEAD SPANNER, STEEL, BRIGHT CHROME PLATE	4	EA
41	800-0156-001	SCREW, MACHINE, M3X6MM LONG, PAN HEAD, PHILLIPS, SPRING LOCK WASHER, ZINC	10	EA
42	820-0016-001	BOLT, MACHINE, M4 X 10.00 INTERNAL THREAD, CAP HEAD SPANNER, STEEL, BRIGHT CHROME PLATE	1	EA
43	820-0016-002	BOLT, MACHINE, M4 X 22.70 INTERNAL THREAD, CAP HEAD SPANNER, STEEL, BRIGHT CHROME PLATE	1	EA
44	820-0016-003	BOLT, MACHINE, M4 X 21.00 INTERNAL THREAD, CAP HEAD SPANNER, STEEL, BRIGHT CHROME PLATE	1	EA
45	820-0016-004	BOLT, MACHINE, M4 X 20.30 INTERNAL THREAD, CAP HEAD SPANNER, STEEL, BRIGHT CHROME PLATE	1	EA
46	820-0016-005	BOLT, MACHINE, M4 X 7.00 INTERNAL THREAD, CAP HEAD SPANNER, STEEL, BRIGHT CHROME PLATE	1	EA

48	850-0075-002	PAD, FOAM, PORON, 18 (D) X 1 (T)	1	EA
50	850-0348-001	PAD, GAP FILLER, HEATSKINK, 11MMX11MMX1MM THICK	2	EA
51	850-0350-001	PAD, BEZEL,	1	EA
52	850-0351-001	PAD, ADHESIVE, TWEETER COVER,	1	EA
53	850-0352-001	GASKET, COVER BASE,	1	EA
54	850-0353-001	SPACER, CABLE SUPPORT, CLEAR SILICONE, 3 HOLES, RIGHT	2	EA
55	850-0357-001	GASKET, CMMD TWEETER,	1	EA
56	850-0367-001	RUBBER SEAL, SCREW BOSS,	10	EA
57	850-0394-001	PAD	1	EA
58	930-0066-001	INSULATION FILM, PCBA, GLA-55	1	EA
59	850-0377-001	RUBBER SEAL, GASKET, BTWN HOUSING LEFT,RIGHT,HOUSING	1	EA

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NOTES: UNLESS OTHERWISE SPECIFIED

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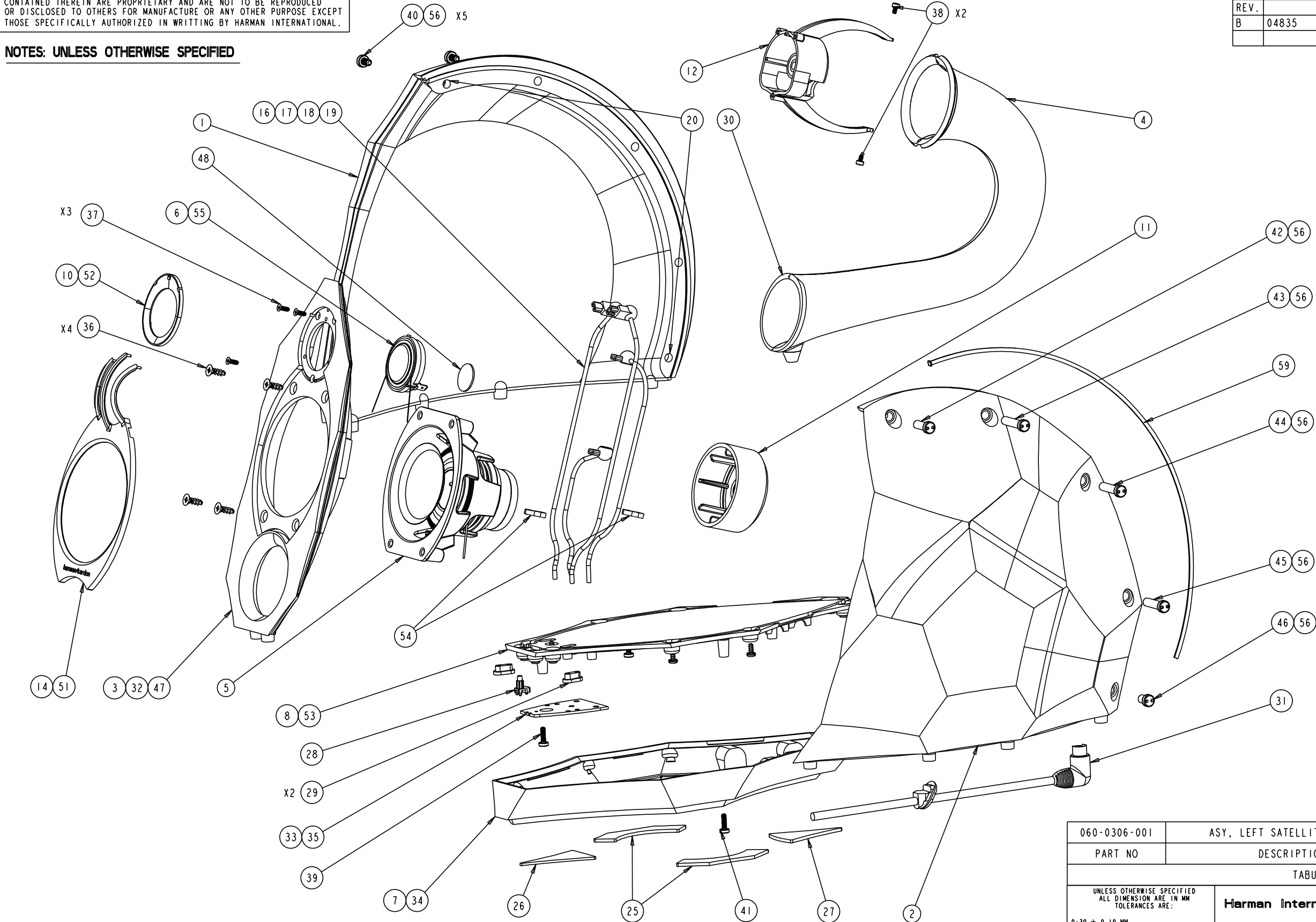
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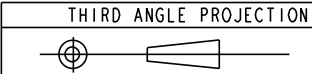
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A

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060-0306-001		ASY, LEFT SATELLITE, GLA-55			
PART NO		DESCRIPTION		REMARKS	
TABULATION					
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MATERIAL:		ENG	FT	DATE	TITLE ASY, LEFT SATELLITE, GLA-55
		CHECKED		11/25/09	
FINISH:				SIZE	DRAWING NO. 060-0306
				D	
DO NOT SCALE DRAWING		SCALE:0.800 CAD FILE:			SHEET 1 OF 1



GLA-55 PARTS LIST (LEFT, PASSIVE) LOUDSPEAKER				
Item #	Part Number	Description	Qty	
1	100-0092-001	HOUSING, LEFT SIDE,	1	EA
2	100-0093-001	HOUSING, RIGHT SIDE,	1	EA
3	120-0089-001	BAFFLE, LEFT, HK GLA-55	1	EA
4	060-0308-001	ASY, PORT,	1	EA
5	050-0168-003B	WOOFER, HERCULES ALUMINUM, 4 OHM, COSMETIC,	1	EA
6	050-0132-003B	TWEETER, CMMD LITE, 4 OHM, COSMETIC,	1	EA
7	250-0140-001	BASE, ENCLOSURE, LEFT, ZINC,	1	EA
8	250-0153-001	COVER, BASE ENCLOSURE, LEFT,	1	EA
10	190-0376-001	TRIM, TWEETER,	1	EA
11	190-0528-001	COVER, HERCULES,	1	EA
12	250-0143-001	COVER, CMMD TWEETER, ZINC,	1	EA
14	250-0145-001	BEZEL, HERCULES, LEFT, ZINC,	1	EA
16	500-0357-001	ASY, CABLE, TWEETER, PLUS, LEFT, CHROME,	1	EA
17	500-0358-001	ASY, CABLE, TWEETER, MINUS, LEFT, CHROME,	1	EA
18	500-0359-001	ASY, CABLE, HERCULES, TOP/LEFT, CHROME,	1	EA
19	500-0360-001	ASY, CABLE, HERCULES, BOTTOM LEFT, CHROME,	1	EA
20	830-0030-001	WASHER, RUBBER, 1.2MMTHICK	2	EA
25	180-0068-001	FOOT, SIDE, 2.0MM THICK, PMS COOL GRAY 11,	2	EA
26	180-0069-001	FOOT, FRONT, 1.5MM THICK, COLOR: PMS COOL GRAY 11,	1	EA
27	180-0070-001	FOOT, REAR, 2.0MM THICK, COLOR: PMS COOL GRAY 11,	1	EA
28	190-0529-001	LIGHT PIPE, LEFT SPEAKER,	1	EA
29	190-0532-001	GROMMET, CABLE ISOLATION, 2HOLES, LEFT SPEAKER,	2	EA
30	190-0554-001	SEAL, PORT TO BAFFLE,	1	EA
31	500-0369-001	ASY, CABLE, INPUT, LEFT, SATELLITE, CLEAR PVC W/METAL BRAID,	1	EA
32	190-0558-001	SEAL, RUBBER PAD, BAFFLE TO HOUSING,	1	EA
33	400-0264-001	PCBA, LEFT SATELLITE,	1	EA
34	800-0048-001	SCREW, MACHINE, M3 X 10MM, PAN HEAD PHILLIPS, ZINC	4	EA
35	800-0048-009	SCREW, MACHINE, M3 X 5MM, PAN HEAD PHILLIPS, ZINC	3	EA
36	800-0149-001	SCREW, FLAT HEAD, SELF TAPPING, BRIGHT ZINC PLATE, 4MMX12MM	4	EA
37	800-0150-001	SCREW, MACHINE, M2.5 X 7.5MM, FLAT HEAD, PHILLIPS DRIVE, ZINC	3	EA
38	800-0151-003	SCREW, MACHINE, M2.5 X 4.0 MM LONG, SOCKET HEAD CAP, STEEL, BRIGHT NICKEL PLATE	2	EA
39	800-0152-003	SCREW, LG PAN HEAD, SELF TAPPING, BRIGHT ZINC PLATE, TORX DRIVE,TWO START, 3MM DIA. X 8MM LONG	1	EA
40	800-0155-003	SCREW, MACHINE, M4 X 7MM, CAP HEAD SPANNER, STEEL, BRIGHT CHROME PLATE	4	EA
41	800-0156-001	SCREW, MACHINE, M3X6MM LONG, PAN HEAD, PHILLIPS, SPRING LOCK WASHER, ZINC	10	EA
42	820-0016-001	BOLT, MACHINE, M4 X 10.00 INTERNAL THREAD, CAP HEAD SPANNER, STEEL, BRIGHT CHROME PLATE	1	EA
43	820-0016-002	BOLT, MACHINE, M4 X 22.70 INTERNAL THREAD, CAP HEAD SPANNER, STEEL, BRIGHT CHROME PLATE	1	EA
44	820-0016-003	BOLT, MACHINE, M4 X 21.00 INTERNAL THREAD, CAP HEAD SPANNER, STEEL, BRIGHT CHROME PLATE	1	EA
45	820-0016-004	BOLT, MACHINE, M4 X 20.30 INTERNAL THREAD, CAP HEAD SPANNER, STEEL, BRIGHT CHROME PLATE	1	EA
46	820-0016-005	BOLT, MACHINE, M4 X 7.00 INTERNAL THREAD, CAP HEAD SPANNER, STEEL, BRIGHT CHROME PLATE	1	EA
48	850-0075-002	PAD, FOAM, PORON, 18 (D) X 1 (T)	1	EA
51	850-0350-001	PAD, BEZEL,	1	EA
52	850-0351-001	PAD, ADHESIVE, TWEETER COVER,	1	EA
53	850-0352-001	GASKET, COVER BASE,	1	EA
54	850-0354-001	SPACER, CABLE SUPPORT, CLEAR SILICONE, 2 HOLES, LEFT	2	EA
55	850-0357-001	GASKET, CMMD TWEETER,	1	EA
56	850-0367-001	RUBBER SEAL, SCREW BOSS,	10	EA
59	850-0377-001	RUBBER SEAL, GASKET, BTWN HOUSING LEFT,RIGHT,HOUSING	1	EA

GLA-55 disassembly

Tools needed:



SPANNER SCREW HEAD

- (2) #8 spanner screwdrivers or #8 spanner bits
- Soldering/desoldering tools
- Phillips screwdriver
- Torx (size T10) screwdriver or T10 bit
- Exacto knife
- Optional: One half section of the packing foam

IMPORTANT NOTE:

There are a number of pads, gaskets, adhesive, and surfaces with double-sided tape on this product. Attention must be paid to these areas when the GLA-55 is disassembled. If these materials are damaged, removed, or disturbed, they must be replaced in their original location, or the air integrity of the product will be compromised and fidelity may suffer.

I Replacing the Silver-Braided Connecting Cord On The GLA-55 Slave speaker

- Follow steps 1-5 in the procedure below “GLA-55 disassembly Slave speaker (w/ cord)”

II GLA-55 disassembly Left, Slave speaker (w/ cord)

- 1) Support the loudspeaker with one half section of the packing foam with the base facing upwards. Alternately, if the packing foam is not available, the speaker must be supported so the base faces upwards in a clamp so it can be worked on easily, taking care to pad the clamp so the enclosure will not be scratched.
- 2) Peel off the four rubber pads on the base cover.
- 3) Remove the (4) Phillips screws that are now exposed
- 4) Remove the base cover from the loudspeaker and slide the cord grommet out of the notch
- 5) Unplug the six pin Molex connector from the small circuit board and set the cord aside.
- 6) Remove the (3) Torx size T10 screws from the small circuit board
- 7) There are (4) connections that need to be desoldered (they appear as blobs of solder). Desolder and remove all excess solder with braided wick or a desoldering tool.
- 8) Remove the small circuit board; detach and watch for the small, loose “light pipe” that you do not lose it.
- 9) Remove the (10) Torx size T10 or Phillips screws holding the silver main base on.
- 10) Remove the single Torx size T10 or Phillips screw (for port tube)

- 11) Remove the (2) black two-hole grommets by sliding them off the conductors; any adhesive present will need to be removed with an exacto knife.
- 12) Remove the silver base.
- 13) Remove the loudspeaker from the packing foam (or clamp); remove the (5) spanner screws holding the enclosure together. These screws consist of a spanner head threaded post and screw. **WARNING** these are all different lengths, and you should mark or keep track of each screw as they are removed.
- 14) Separate the two enclosure halves, along with the front faceplate.
- 15) To access the drivers, pull the front chrome bezel off the front baffle; grasp it by the protective bars over the tweeter dome and pull outward. The bezel is attached to the front baffle with double-sided tape.
- 16) The woofer screws are now exposed. Remove as needed.
- 17) Unplug the Faston connectors and buss wire from the woofer terminals.
- 18) For the tweeter, remove the black trim surrounding the tweeter dome. It can be pried out of the cavity using a sharp tool at the relief holes at the top of the trim. Remove the (3) screws as needed. **CAUTION** the tweeter screws also hold the port tube in place, remove as needed.
- 19) Unplug the Faston connectors and buss wire from the tweeter terminals.
- 20) When replacing the woofer, decorative cover part # 190-0528-001 should be ordered and applied to the woofer magnet with adhesive.

Re-assembly takes place in reverse order, with these tips:

- **SEE IMPORTANT NOTE PAGE 1 OF DISASSEMBLY REGARDING GASKETS**
- If you have bent the protective bars on the front chrome bezel when removing it, and they will no longer seat in the three holes, the bars may have to be straightened into the correct position again.
- (2) black two-hole grommets (#29 on the drawing/parts list) will need adhesive added to seat them, and to seal the buss wires threading through the holes; use silicon sealer or similar adherent.

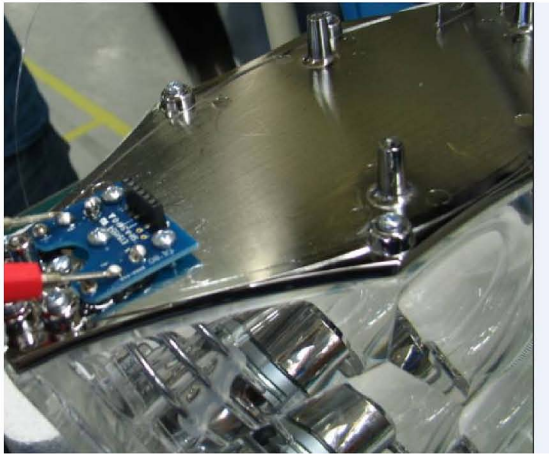
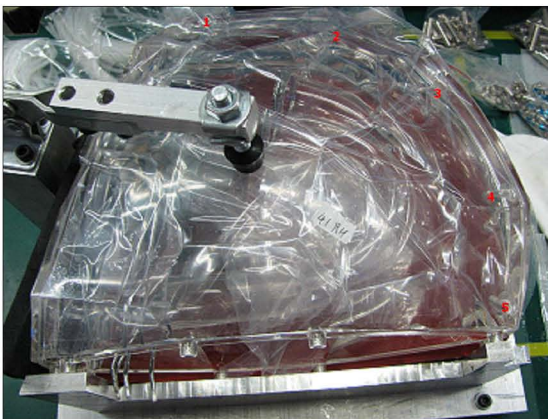
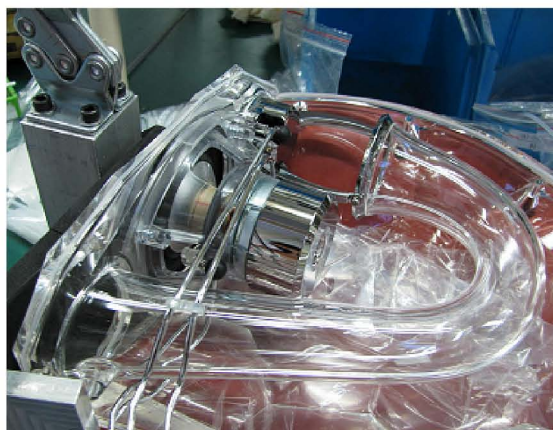
III GLA-55 disassembly Right, Master speaker (w/amplifier)

- 1) Support the loudspeaker with one half section of the packing foam with the base facing upwards. Alternately, if this packing foam is not available, the speaker must be supported so the base faces up in a clamp so it can be worked on easily, taking care to pad any tools so the enclosure will not be scratched.
- 2) Peel off the four rubber pads on the base cover.
- 3) Remove the (4) Phillips screws that are now exposed
- 4) Lift the base cover off the enclosure – warning: lift straight up or you may damage a connector.
- 5) If needed to replace the Main PCB (amplifier) from the base cover, remove the (7) Phillips screws.
- 6) Remove the (3) Torx size T10 screws from the small circuit board

- 7) There are (6) connections that need to be desoldered (they appear as blobs of solder). Desolder and remove all excess solder with braided wick or a desoldering tool.
- 8) Remove the small circuit board; detach and watch for the small, loose "light pipe" that you do not lose it.
- 9) Remove the (10) Torx size T10 or Phillips screws holding the silver main base on.
- 10) Remove the single Torx size T10 or Phillips screw (for port tube)
- 11) Remove the (2) black three-hole grommets by sliding them off the conductors; any adhesive present will need to be removed with an exacto knife.
- 12) Remove the silver base.
- 13) Remove the loudspeaker from the packing foam (or clamp); remove the (5) spanner screws holding the enclosure together. These screws consist of a spanner head threaded post and screw. WARNING these are all different lengths, and you should mark or keep track of each screw as they are removed.
- 14) Separate the two enclosure halves, along with the front faceplate.
- 15) To access the drivers, pull the front chrome bezel off the front baffle; grasp it by the protective bars over the tweeter dome and pull outward. The bezel is attached to the front baffle with double-sided tape.
- 16) Two of the woofer screws are now exposed. Two more are underneath the volume buttons. Remove the two Faston connectors from the rear of the buttons, then push the buttons out of the front baffle. This should expose the two remaining woofer screws; remove as needed.
- 17) Unplug the Faston connectors and buss wire from the woofer terminals.
- 18) For the tweeter, remove the black trim surrounding the tweeter dome. It can be pried out of the cavity using a sharp tool at the relief holes at the top of the trim. Remove the (3) screws as needed. CAUTION the tweeter screws also hold the port tube in place, remove as needed.
- 19) Unplug the Faston connectors and buss wire from the tweeter terminals.
- 20) When replacing the woofer, decorative cover part # 190-0528-001 should be ordered and applied to the woofer magnet with adhesive.

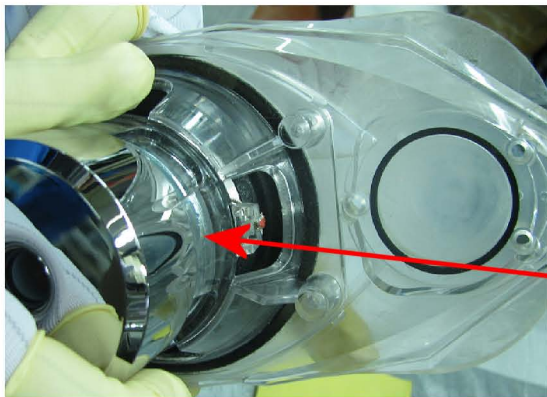
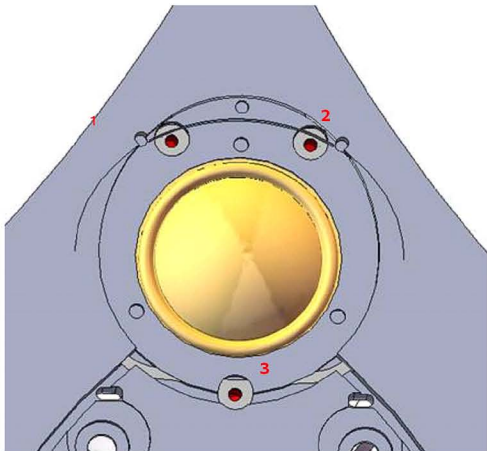
Re-assembly takes place in reverse order, with these tips:

- **SEE IMPORTANT NOTE PAGE 1 OF DISASSEMBLY REGARDING GASKETS**
- If you have bent the protective bars on the front chrome bezel when removing it, and they will no longer seat in the three holes, the bars may have to be straightened into the correct position again.
- (2) black three-hole grommets (#29 on the drawing/parts list) will need adhesive added to seat them, and to seal the buss wires threading through the holes; use silicon sealer or similar adherent.

**STEPS 2-4****STEPS 6-12****STEP 13****STEP 14**



REMOVING WOOFER, TWEETER



DECORATIVE
COVER ON WOOFER

The electronics in the GLA-55 should be replaced in its entirety with MAIN PCB part# 400-0190-001. Should this part become unavailable, the schematic and parts list are included for reference only. Individual components are not stocked. For assistance in obtaining substitutes, contact Harman/kardon

PCBA, RIGHT SATELLITE, 400-0190-001				Assy-PCB	
Part Number	Description	Reference Designator			
410-0180-001	PCB, MAIN, RIGHT SATELLITE, GLA-55			EA	
603-0001-003	RESISTOR, THICK FILM, 0603, 1/16W, 5%, 1.0K OHM	R22, R57, R60, R68, R69		EA	Resistor
603-0001-004	RESISTOR, THICK FILM, 0603, 1/16W, 5%, 1.2K OHM	R19, R20		EA	Resistor
603-0001-006	RESISTOR, THICK FILM, 0603, 1/16W, 5%, 2.0K OHM	R17		EA	Resistor
603-0001-009	RESISTOR, THICK FILM, 0603, 1/16W, 5%, 6.8K OHM	R16		EA	Resistor
603-0001-011	RESISTOR, THICK FILM, 0603, 1/16W, 5%, 10K OHM	R15, R29, R42, R43, R47, R51, R52, R58, R61, R84, R94		EA	Resistor
603-0001-018	RESISTOR, THICK FILM, 0603, 1/16W, 5%, 100K OHM	R34, R37, R44, R48, R77		EA	Resistor
603-0001-025	RESISTOR, THICK FILM, 0603, 1/16W, 5%, 4.7K OHM	R64, R76		EA	Resistor
603-0001-027	RESISTOR, THICK FILM, 0603, 1/16W, 5%, 100 OHM	R10, R25, R70, R71, R89, R90		EA	Resistor
603-0001-034	RESISTOR, THICK FILM, 0603, 1/16W, 5%, 1.0M OHM	R13, R18, R74, R75		EA	Resistor
603-0001-040	RESISTOR, THICK FILM, 0603, 1/16W, 5%, 10 OHM	R63, R67, R80, R93		EA	Resistor
603-0001-053	RESISTOR, THICK FILM, 0603, 1/16W, 5%, 20K OHM	R56, R59, R73		EA	Resistor
603-0001-054	RESISTOR, THICK FILM, 0603, 1/16W, 5%, 33 OHM	R11		EA	Resistor
603-0001-055	RESISTOR, THICK FILM, 0603, 1/16W, 5%, 130K OHM	R79		EA	Resistor
603-0001-069	RESISTOR, THICK FILM, 0603, 1/16W, 5%, 7.5K OHM	R83		EA	Resistor
603-0001-074	RESISTOR, THICK FILM, 0603, 1/16W, 5%, 10M OHM	R23		EA	Resistor

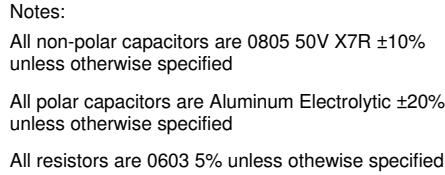
603-0001-077	RESISTOR, THICK FILM, 0603, 1/16W, 5%, 1.5M OHM	R24		EA	Resistor
603-0001-085	RESISTOR, THICK FILM, 0603, 1/16W, 5%, 3.0K OHM	R91, R92		EA	Resistor
603-0001-086	RESISTOR, THICK FILM, 0603, 1/16W, 5%, 330 OHM	R33		EA	Resistor
603-0001-094	RESISTOR, THICK FILM, 0603, 1/16W, 5%, 43K OHM	R27		EA	Resistor
603-0001-098	RESISTOR, THICK FILM, 0603, 1/16W, 5%, 13K OHM	R72		EA	Resistor
603-0005-011	RESISTOR, THICK FILM, 0603, 1/16W, 1%, 10.0K OHM	R41, R53		EA	Resistor
603-0005-039	RESISTOR, THICK FILM, 0603, 1/16W, 1%, 24.9K OHM	R82		EA	Resistor
603-0005-041	RESISTOR, THICK FILM, 0603, 1/16W, 1%, 27.4K OHM	R14, R28		EA	Resistor
603-0005-050	RESISTOR, THICK FILM, 0603, 1/16W, 1%, 3.01K OHM	R38, R39, R49, R50		EA	Resistor
603-0005-093	RESISTOR, THICK FILM, 0603, 1/16W, 1%, 12.4K OHM	R40, R54		EA	Resistor
603-0005-107	RESISTOR, THICK FILM, 0603, 1/16W, 1%, 21.5K OHM	R85		EA	Resistor
603-0005-111	RESISTOR, THICK FILM, 0603, 1/16W, 1%, 3.40K OHM	R12		EA	Resistor
603-0005-131	RESISTOR, THICK FILM, 0603, 1/16W, 1%, 8.06K OHM	R81		EA	Resistor
603-0005-194	RESISTOR, THICK FILM, 0603, 1/16W, 1%, 1.54K OHM	R35, R36, R45, R46		EA	Resistor
603-0005-269	RESISTOR, THICK FILM, 0603, 1/16W, 1%, 4.64K OHM	R86		EA	Resistor
603-0015-002	RESISTOR, THICK FILM, 1210, 1/4W, 1%, 6.2 OHM	R3, R5-R7, R21, R26, R87, R88		EA	Resistor
603-0015-004	RESISTOR, THICK FILM, 1210, 1/4W, 1%, 20 OHM	R1, R2, R8, R9		EA	Resistor
603-0015-016	RESISTOR, THICK FILM, 1210, 1/4W, 1%, 390 OHM	R30, R62		EA	Resistor

603-0015-017	RESISTOR, THICK FILM, 1210, 1/4W, 1%, 100 OHM	R78		EA	Resistor
603-0015-018	RESISTOR, THICK FILM, 1210, 1/4W, 1%, 330 OHM	R65, R66		EA	Resistor
603-0015-019	RESISTOR, THICK FILM, 1210, 1/4W, 1%, 750 OHM	R4		EA	Resistor
603-0015-023	RESISTOR, THICK FILM, 1210, 1/4W, 1%, 2.7K OHM	R55	603-0018-023	EA	Resistor
611-0220-001	CAPACITOR, METALLIZED POLYESTER FILM, 63V, 5%, 1.0UF	C4, C7, C18, C25, C98, C105		EA	Capacitor
612-0004-009	CAPACITOR, CERAMIC, X7R, 0805, 50V, ±10%, 1200PF	C29		EA	Capacitor
612-0004-013	CAPACITOR, CERAMIC, X7R, 0805, 50V, ±10%, 2700PF	C49, C56, C63, C77		EA	Capacitor
612-0004-015	CAPACITOR, CERAMIC, X7R, 0805, 50V, ±10%, 3900PF	C40, C47		EA	Capacitor
612-0004-016	CAPACITOR, CERAMIC, X7R, 0805, 50V, ±10%, 4700PF	C48, C62		EA	Capacitor
612-0004-017	CAPACITOR, CERAMIC, X7R, 0805, 50V, ±10%, 5600PF	C53, C74		EA	Capacitor
612-0004-020	CAPACITOR, CERAMIC, X7R, 0805, 50V, ±10%, 0.01UF	C85, C96, C131		EA	Capacitor
612-0004-030	CAPACITOR, CERAMIC, X7R, 0805, 50V, ±10%, 0.1UF	C9, C13, C19, C22, C24, C27, C30, C34, C36, C39, C42, C44, C45, C58-C61, C65-C67, C70-C72, C78-C80, C83, C84, C86, C87, C90, C91, C93, C94, C97, C102-C104, C106, C112, C114, C115, C118-C130		EA	Capacitor
612-0004-039	CAPACITOR, CERAMIC, X7R, 0805, 50V, ±10%, 0.039UF	C89, C92		EA	Capacitor
612-0005-004	CAPACITOR, CERAMIC, NPO, 0805, 50V, ±5%, 82 PF	C33, C38		EA	Capacitor
612-0005-006	CAPACITOR, CERAMIC, NPO, 0805, 50V, ±5%, 220 PF	C35		EA	Capacitor

612-0005-007	CAPACITOR, CERAMIC, NPO, 0805, 50V, $\pm 5\%$, 330 PF	C2, C3, C21, C26		EA	Capacitor
612-0005-035	CAPACITOR, CERAMIC, NPO, 0805, 50V, $\pm 5\%$, 1000PF	C8, C12, C16, C23, C28, C32, C52, C54, C55, C68, C75, C76, C81, C88, C109		EA	Capacitor
612-0017-001	CAPACITOR, CERAMIC, X5R, 1206, 16V, $\pm 10\%$, 10 UF	C51, C57, C69, C73		EA	Capacitor
612-0018-007	CAPACITOR, CERAMIC, X7R, 0805, 25V, $\pm 10\%$, .33 UF	C111, C113		EA	Capacitor
612-0022-001	CAPACITOR, AL ELECTROLYTIC, SMT, CAN, $\pm 20\%$, 16V, 10UF, SIZE B	C1, C31, C46		EA	Capacitor
612-0022-002	CAPACITOR, AL ELECTROLYTIC, SMT, CAN, $\pm 20\%$, 16V, 22UF, SIZE B	C117		EA	Capacitor
612-0023-009	CAP, AL ELECTROLYTIC, SMT, CAN, $\pm 20\%$, 25V, 470UF, SIZE G	C5, C6, C14, C15, C37, C43		EA	Capacitor
612-0024-004	CAPACITOR, AL ELECTROLYTIC, SMT, CAN, $\pm 20\%$, 35V, 100UF, SIZE F	C108		EA	Capacitor
612-0041-002	CAPACITOR, CERAMIC, X5R, 0805, 25V, $\pm 20\%$ 2.2 UF	C95, C99		EA	Capacitor
612-0041-003	CAPACITOR, CERAMIC, X5R, 0805, 25V, $\pm 20\%$ 0.47 UF	C50, C64		EA	Capacitor
612-0046-001	CAPACITOR, CERAMIC, X7R, 0805, 16V, $\pm 10\%$, 1 UF	C41, C82, C100, C101, C107, C110, C116		EA	Capacitor
620-0012-002	FERRITE BEAD 1206, 600 OHM AT 100MHZ, 0.3 OHM DCR, 500MA DC	FB1, FB2		EA	Inductors
620-0049-001	INDUCTOR, POWER, MAGNETIC SHIELDED, SMT LOW PROFILE, 10UH, MSS1260-103ML	L1-L8		EA	Inductors
620-0049	INDUCTOR, POWER, MAGNETIC SHIELDED, SMT, COILCRAFT, MSS1260 SERIES				Vend Item Ctrl Dwg
630-0011-002	DIODE, 1N4148WS, SOD323	D2, D3, D6		EA	Diodes

630-0027-001	DIODE, LM385M3-2.5 ZENER SOT-23	D5		EA	Diodes
630-0034-001	VARISTOR, ESD PROTECTION, SMD 0603, COOPER INDUSTRIES, ULTRA LOW IMPEDANCE	SX1-SX16, SX18		EA	Diodes
630-0042-001	DIODE, ZENER, 350MW, SOT23, 5.1V	D4		EA	Diodes
630-0049-001	DIODE, SCHOTTKY RECTIFIER, 40V, 5 AMPS, SB540, DO- 201AD	D1		EA	Diodes
640-0023-001	TRIM POT, 3/8 IN, 10K, 3386H-1-103	VR1		EA	Pots/Encdr
660-0001-000	TRANSISTOR NPN, 2SC2712GR, SMD TO236MOD	Q2, Q3, Q5-Q8, Q11, Q12		EA	Transistor
660-0002-000	TRANSISTOR PNP, 2SA1162GR, TO236MOD	Q1, Q4, Q10		EA	Transistor
660-0006-002	GENERAL TRANSISTOR, PNP- 2N4403, TO-92	Q9		EA	Transistor
660-0041-001	MOSFET, P-CH 30V 10A, IRF7416, SO8	M3		EA	Transistor
662-0002-004	COMPARATORS, LM393, DUAL, SOIC-8	U1		EA	AnalogDevice
662-0030-001	VOLTAGE REGULATOR TI, UA78M33CDCY, 3.3V, 500MA, SOT223	U8		EA	AnalogDevice
662-0047-001	POWER AMPLIFIER, QUAD HALF BRIDGE 40V 3.5A, ST518, PSSO36 (SLUG UP)	U5, U6		EA	AnalogDevice
670-0016-001	AMPLIFIER, DUAL OPERATIONAL, BA4560, SMT	U3, U4		EA	Op-Amps
675-0050-001	PROGRAM, CPU, 8 BIT, FREESCALE MC9SO8GQ8CDTE, TSSOP16, GLA-55	U2		EA	Microprocessor
675-0016-001	CPU, 8 BIT, MC9S08QG8, FREESCALE, TSSOP16			EA	Microprocessor
680-0010-001	ADC 24BIT 96KHZ, AKM AK5358 TSSOP16	U9		EA	DSP
680-0012-001	DSP, MULTICHANNEL DIGITAL AUDIO PROCESSOR, STA308A, TQFP64	U7		EA	DSP

685-0030-001	LED, SMD, 0603, WHITE, BRIGHTTEK S1A1608W1CA-2A-91	LED1		EA	LEDs
690-0015-001	CRYSTAL, OSC, 12.288MHZ, ABRACON ASV- 12.288MHZ-E-J-S-T, SMD	Y1		EA	Crystals
730-0023-000	AUDIO JACK, STEREO, 3.5MM, MK MINIJACK/LGY6502- 0600, BAI CHUAN HE/PJ314, BLACK	J4, J5		EA	Connector
730-0151-002	CONNECTOR, DIN 6 PIN RIGHT ANGLE	J1		EA	Connector
730-0160-002	HEADER, NO SHROUD, 0.1" PITCH, 3 PIN	J6		EA	Connector
730-0206-001	DC POWER JACK, 50V, 3A, ESTD-008	J3		EA	Connector
730-0215-001	HEADER, NO SHROUD, 0.1" PITCH DUAL ROW 6 PIN	J7		EA	Connector
730-0228-001	TEST POINT, THROUGH HOLE MINIATURE, 0.040" HOLE 0.1" GRID	TP1-TP6		EA	Connector
730-0243-001	CONNECTOR, SAMTEC TSW, 0.1 GRID, .025 PIN, 0.1 TAIL, .320 LONG, 6 PIN, TSW-106-14-F-S	J2		EA	Connector



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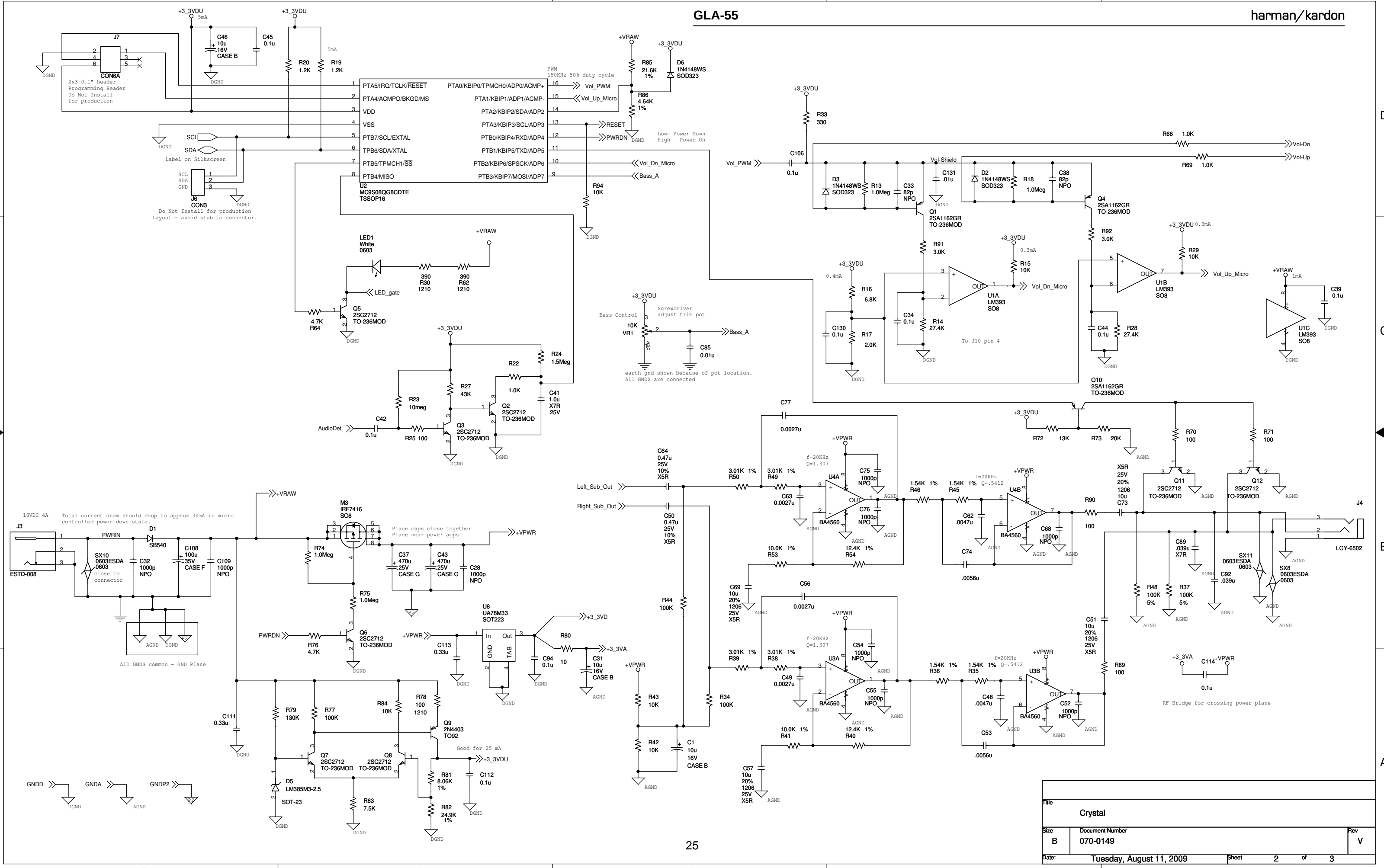
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