

# **Acoustimass® Professional Powered Speaker System**


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## PROPRIETARY INFORMATION

THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION OF BOSE® CORPORATION WHICH IS BEING FURNISHED ONLY FOR THE PURPOSE OF SERVICING THE IDENTIFIED BOSE PRODUCT BY AN AUTHORIZED BOSE SERVICE CENTER OR OWNER OF THE BOSE PRODUCT, AND SHALL NOT BE REPRODUCED OR USED FOR ANY OTHER PURPOSE.

# SAFETY INFORMATION

1. Parts that have special safety characteristics are identified by the  symbol on schematics or by special notes in the part lists. Use only replacement parts that have critical characteristics recommended by the manufacturer.
2. Make leakage current or resistance measurements to determine that exposed parts are acceptably insulated from the supply circuit before returning the unit to the customer. Use the following checks to perform these measurements:

**A. Leakage Current Hot Check**-With the unit completely reassembled, plug the AC line cord directly into a 120V AC outlet. (Do not use an isolation transformer during this test.) Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI) C101.1 "Leakage Current for Appliances" and Underwriters Laboratories (UL) 1492 (71). With the unit AC switch first in the ON position and then in OFF position, measure from a known earth ground (metal water pipe, conduit, etc.) to all exposed metal parts of the unit (antennas, handle bracket, metal cabinet, screw-heads, metallic overlays, control shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 0.5 milliamp. Reverse the unit's power cord plug in the outlet and repeat test. ANY MEASUREMENTS NOT WITHIN THE LIMITS SPECIFIED HEREIN INDICATE A POTENTIAL SHOCK HAZARD THAT MUST BE ELIMINATED BEFORE RETURNING THE UNIT TO THE CUSTOMER.

**B. Insulation Resistance Test Cold Check**-(1) Unplug the power supply and connect a jumper wire between the two prongs of the plug. (2) Turn on the power switch of the unit. (3) Measure the resistance with an ohmmeter between the jumpered AC plug and each exposed metallic cabinet part on the unit. When the exposed metallic part has a return path to the chassis, the reading should be between 1 and 5.2 Meg ohms. When there is no return path to the chassis, the reading must be "infinite". If it is not within the limits specified, there is the possibility of a shock hazard, and the unit must be repaired and rechecked before it is returned to the customer.

**CAUTION: THE BOSE® ACOUSTIMASS® PROFESSIONAL POWERED SPEAKER SYSTEM CONTAINS NO USER SERVICEABLE PARTS. TO PREVENT WARRANTY INFRAC-TIONS, REFER SERVICING TO WARRANTY SERVICE STATIONS OR FACTORY SER-VICE.**

## Electrostatic Discharge Sensitive (ESDS) Device Handling

This unit contains ESDS devices. We recommend the following precautions when repairing, replacing or transporting ESDS devices:

- Perform work at an electrically grounded work station.
- Wear wrist straps that connect to the station or heel straps that connect to conductive floor mats.
- Avoid touching the leads or contacts of ESDS devices or PC boards even if properly grounded. Handle boards by the edges only.
- Transport or store ESDS devices in ESD protective bags, bins, or totes. Do not insert unprotected devices into materials such as plastic, polystyrene foam, clear plastic bags, bubble wrap or plastic trays.

## SPECIFICATIONS

### General

<b>Weight:</b>	75 lb. (34 kg)
<b>Dimensions:</b>	16"H x 22 1/4" W x 23 1/4" D (40.6 x 56.5 x 59.1 cm)
<b>Driver Complement:</b>	Six 4 1/2" helical voice coil drivers, One 12" magnetically braked woofer

### Electrical

<b>Inputs:</b>	Line-level balanced XLR and unbalanced 1/4" phono
<b>Input Impedance:</b>	10k unbalanced, 2.4k balanced
<b>Pin Assignment:</b>	See schematic
<b>Maximum Amperage:</b>	6.5 amps
<b>Power Input Requirements:</b>	120V, North America 230V, Europe and Australia 100V, Japan
<b>Power Output:</b>	100VAC line input: 350W 115VAC line input: 450W 230VAC line input: 450W
<b>Common Mode Rejection Ratio:</b>	40 dB

# SPECIFICATIONS

## Acoustics

<b>Frequency Response:</b>	50-18k $\pm$ 3dB
<b>Maximum Output (free field)</b>	
<b>Speech Only:</b>	122 dB SPL, 1m
<b>Music:</b>	120 dB SPL, 1m
<b>Crossover Frequency:</b>	200Hz
<b>Dispersion Angles (-6 dB down points)</b>	
<b>Horizontal:</b>	100° at -6 dB averaged by octave, 1kHz-8kHz
<b>Vertical:</b>	60° at -6 dB averaged by octave, 1kHz-8kHz
<b>Horizontal, Stacked Pair:</b>	100° at -6 dB averaged by octave, 1kHz-8kHz
<b>Vertical, Stacked Pair:</b>	30° at -6 dB averaged by octave, 1kHz-8kHz

## Environmental

<b>Temperature</b>	
<b>Operating Range:</b>	-20°F to 122°F (-29°C to 50°C)
<b>Storage Range:</b>	-40°F to 180°F (-40°C to 82°C)
<b>Humidity:</b>	20-95% relative humidity (Note: Do not operate this speaker system in the rain or when wet.)

## Mechanical Structure

<b>Cabinet Material:</b>	Structural polyurethane foam
<b>Tie Rods (4):</b>	1/4" -20 UNC
<b>Baffle Material:</b>	Die-cast aluminum
<b>Grille Material:</b>	Stainless steel
<b>Threaded inserts:</b>	8 mm - 18 UNC
<b>T-Nuts:</b>	1/4" -20 UNC

# DISASSEMBLY/ASSEMBLY PROCEDURES

(Figures 1, 2, 3, 4)

**Note:** Numbers in parentheses correspond to the item call outs in Figure 1, 2, 3, 4.

## 1. Amplifier Removal

**1.1** Remove the sixteen screws (8) that secure the amplifier (3) to the cabinet.

**1.2** Lift the amplifier out of the enclosure. Disconnect the ground lug from the amplifier chassis and the two output wires from the capacitor (14) and inductor (13).

## 2. Amplifier Replacement

**2.1** Connect the ground wire (green) to the amplifier (3) chassis. Connect the red wire to the capacitor (14) and the black wire to the inductor (13).

**2.2** Replace the sixteen screws (8) that secure the amplifier to the cabinet.

## 3. Woofer Removal

**3.1** Perform procedure 1 first.

**3.2** Remove the eight screws (8) that secure the woofer (1) to the cabinet.

**3.3** Lift the woofer out and remove the two wires connected to it.

## 4. Woofer Replacement

**4.1** Connect the red wire to the positive and the black wire to the negative terminal of the woofer (1).

**4.2** Replace the eight screws (8) that secure the woofer to the cabinet.

## 5. Grille Removal

**5.1** Remove the eight screws (7) that secure the grille (4) to the cabinet.

**5.2** Pull the grille off.

**Note:** On some units the screws are secured with loctite. Use MEK solvent to remove the screws.

## 6. Grille Replacement

**6.1** Align the grille (4) with the cabinet so that the Bose® logo is in the same direction as the label on the amplifier.

**6.2** Replace the eight screws (7) that secure the grille to the cabinet.

## 7. Driver Removal

**7.1** Perform procedure 5 first.

**7.2** Remove the three screws (6) that secure the driver (2) to the cabinet.

**7.3** Lift the driver out from the cabinet and remove the two wires attached to it.

**Note:** On some units the screws are secured with loctite. Use MEK solvent to remove the screws.

## 8. Driver Replacement

**8.1** Connect the two wires to the driver (2). Refer to the wiring diagram on page 18.

**8.2** Replace the three screws (6) that secure the driver to the cabinet.

## 9. Amplifier Cover Removal

**9.1** Perform procedure 1 first.

**9.2** Remove the six screws (A) that secure the top cover to the chassis and lift the top cover off.

## 10. Amplifier Cover Replacement

**10.1** Align the top cover to the chassis and replace the six screws (A) that secure the top cover to the chassis.

## 11. Amplifier Chassis Cover Removal

**11.1** Perform procedure 1 and 9 first.

**11.2** Remove the ten screws (E) that are located on each side of the chassis and the ten screws (F) that are located on the top of the chassis.

# DISASSEMBLY/ASSEMBLY PROCEDURES

(Figures 1, 2, 3, 4)

**11.3** Lift the chassis cover up and remove the connector from the PCB.

## 12. Amplifier Chassis Cover Replacement

**12.1** Align the chassis cover to the chassis and replace the ten screws (E) that are located on each side of the chassis and the ten screws (F) that are located on the top of the chassis.

## 13. Bottom Panel Removal

**13.1** Perform procedure 1 and 9 first.

**13.2** Remove the eight screws (B) and the

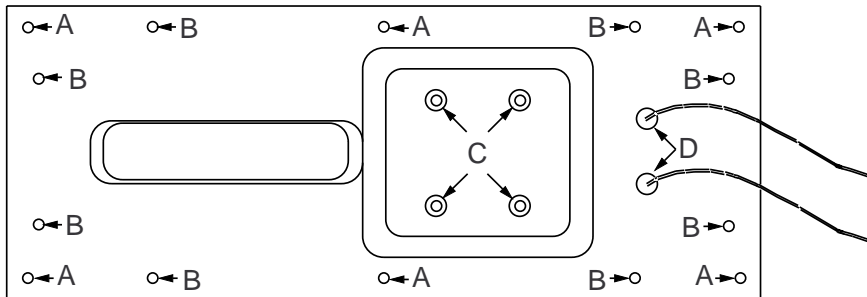
four nuts (C) that secure the bottom cover to the chassis.

**13.3** Using a strain relief tool, remove the two strain reliefs (D) that secure the two output wires. Lift the bottom cover off.

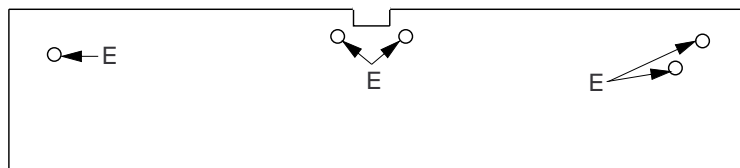
## 14. Bottom Panel Replacement

**14.1** Feed the wires through the holes in the bottom panel. Replace the eight screws (B) and the four nuts (C) that secure the bottom cover to the chassis.

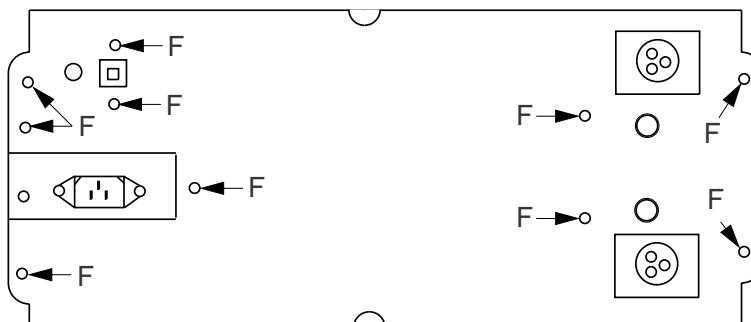
**14.2** Using a strain relief tool, replace the two strain reliefs (D) that secure the two output wires.



**Figure 1. Bottom Panel**



**Figure 2. Side View of Chassis**



**Figure 3. Amplifier Chassis Cover**

# TEST PROCEDURES

## General Test Setup

**Caution!** There is no mains isolation transformer in this amplifier! This amplifier must be isolated from the AC line by a 1.0 kVa or larger isolation transformer during all testing!

A stancore GIS-1000 or equivalent isolation transformer should be used for 100VAC and 120VAC units.

A Siemens 4AX24-16-2BK or equivalent isolation transformer should be used for 230VAC units.

A variac rated 1.0kVA or larger should be used to vary the line voltage.

**Output Loading:** Unless otherwise specified, perform all tests with a series connected 16 $\Omega$ , 1%, 500 watt resistor and a 1.0mH, 10%, 5 amp rated inductor as the load.

**Input:** Unless otherwise specified, apply a 1kHz, 1.0Vrms signal to the amplifiers unbalanced input.

All output measurements should be made with a 30kHz, 4 pole low pass filter in series with the input of the measurement equipment to reject the switching ripple.

### 1. Switching Frequency

**1.1** With out an applied signal, measure the switching frequency at the amplifier's output. It should be 110kHz to 130kHz. Do not use the 30kHz low pass filter when performing this test.

### 2. Output Ripple

**2.1** The level of the switching frequency should be less than 20Vpp. Do not use the 30kHz low pass filter when performing this test.

### 3. Voltage Limiting

**3.1** Apply a 1.0Vrms, 100Hz signal to the amplifier's input. Measure the output according to the following table.

Variation	Output Voltage Limit
100V	104.5Vp to 115.5Vp
120V	125.4Vp to 138.6Vp
240V	125.4Vp to 138.6Vp

### 4. Current Limiting

**4.1** Apply a 1.0Vrms, 100Hz signal to the amplifier's input and connect an 8 $\Omega$  resistive load to the output.

**4.2** The output voltage should be 80.0Vp  $\pm$  8.0Vp (corresponding to 10A  $\pm$  1A).

### 5. Reference Gain

**5.1** Apply a 50mV, 1kHz signal to the amplifier's input. Reference a dB meter to the applied signal.

**5.2** Measure the output of the amplifier. It should be 32.0dB  $\pm$  1.5dB.

### 6. Frequency Response

**6.1** Apply a 50mV, 1kHz signal to the amplifier's input. Reference a dB meter to the amplifiers output. Measure the output according to the following table.

**Note:** Use the last six digits of the serial number to determine which table to use. The serial number is located on the side of the amplifier as MK01xxx\_\_\_\_\_ or MZ01xxx\_\_\_\_\_.



# TEST PROCEDURES

Use for serial numbers 050121 and above  
(later EQ)

Frequency	Output	Tolerance
30Hz	0.2dB	±2.5dB
50Hz	17.1dB	±1.5dB
90Hz	12.6dB	±1.5dB
150Hz	11.2dB	±1.5dB
350Hz	4.9dB	±1.5dB
1kHz	Reference	-
4kHz	14.7dB	±2.7dB
7kHz	13.0dB	±2.7dB
13kHz	22.0dB	±5.0dB
20kHz	14.8dB	±3.0dB

Use for serial numbers 050120 below  
(earlier EQ)

Frequency	Output	Tolerance
30Hz	-4.6dB	±4.0dB
50Hz	13.5dB	±1.8dB
90Hz	10.0dB	±1.8dB
150Hz	11.2dB	±1.8dB
350Hz	4.7dB	±2.0dB
1kHz	Reference	-
4kHz	14.8db	±3.0dB
7kHz	14.7dB	±3.0dB
13kHz	25.4dB	±5.5dB
20kHz	16.5dB	±4.0dB

## 7. Amplifier Distortion

**7.1** Apply a 50Hz, 1kHz and 10kHz signal to the input of the amplifier at a level to obtain an output according to the following table. The distortion measured at the output should be less than 0.4% at 50Hz and 1kHz and less than 1.0% at 10kHz.

Variation	Output Power	Reference Voltage	Load
100V	300W	70Vrms	16Ω
120V	450W	85Vrms	16Ω
240V	450W	85Vrms	16Ω

## 8. Hum

**8.1** Short all inputs to input ground. The hum measured at the output should be less than 4mVrms, "C" weighted.

## 9. Noise


**9.1** Short all inputs to input ground. The noise measured at the output should be less than 3mVrms, "A" weighted.

## 10. Common Mode Rejection Ratio (CMRR)

**10.1** Connect the positive side of a signal generator to the positive and negative side of the XLR amplifier input. Apply a 3.0Vrms 60Hz and then a 1kHz signal. Reference a dB meter to the applied signal.

**10.2** The output should be less than -40dB.

## PART LIST NOTES

1. This part is not normally available from customer service. Approval from the Field Service Manager is required before ordering.
2. The individual parts located on the PCB are listed in the part list.
3.  This part is critical for safety purposes. Failure to use a substitute replacement with the same safety characteristics as the recommended replacement part might create shock, fire and/or other hazards.

# MAIN ASSEMBLY PART LIST

Item Number	Part Number	Description	QTY	Notes
1	131306	WOOFER ASSY, 12"	1	
2	131321-5	DRIVER ASSY, 4.5"	6	
3	129028-1	AMP ASSY, PROTON, 120V	1	1, 2
4	142941-AA	GRILLE ASSY, PROTON, BLACK	1	
5	131075-B1	GASKET, LRG, W/ADH	1	
6	135983-08	SCREW, MACH, 8-32x.5, CAP, SOCK	18	
7	135984-06	SCREW, MACH, 10-32x.375, BTN, SOC	8	
8	135152-16	SCREW, TAPP, 10-10x1, FILL, XRC/SQ	24	
9	137923-10	WASHER, FLAT, .219", #10	16	
10	131380-B	GASKET, PROTON	1	
11	172672-12	SCREW, TAPP, 8-11x.75, PAN, XRC/SQ	2	
12	133504-10	SCREW, MACH, .25-20x.625, CAP, HEX	1	
13	131779	INDUCTOR, 14mH	1	⚠ 3
14	131948	CAP, DUAL LUG, 240VAC, 10%, 25uF	1	⚠ 3
15	135339-10	SCREW, MACH, 6-32x.625, PAN, XREC	1	
16	121112	CONN, FUSE CLIP, 1 POS, FEM	2	
17	111620	CLIP, CORD, ADH BACKED	1	
18	137050	SCREW, THUMB, M8 x 1.25x25mm	2	
19	134907	WASHER, BEVELED, .255"	1	
20	134908	WASHER, FLAT, .260"	2	

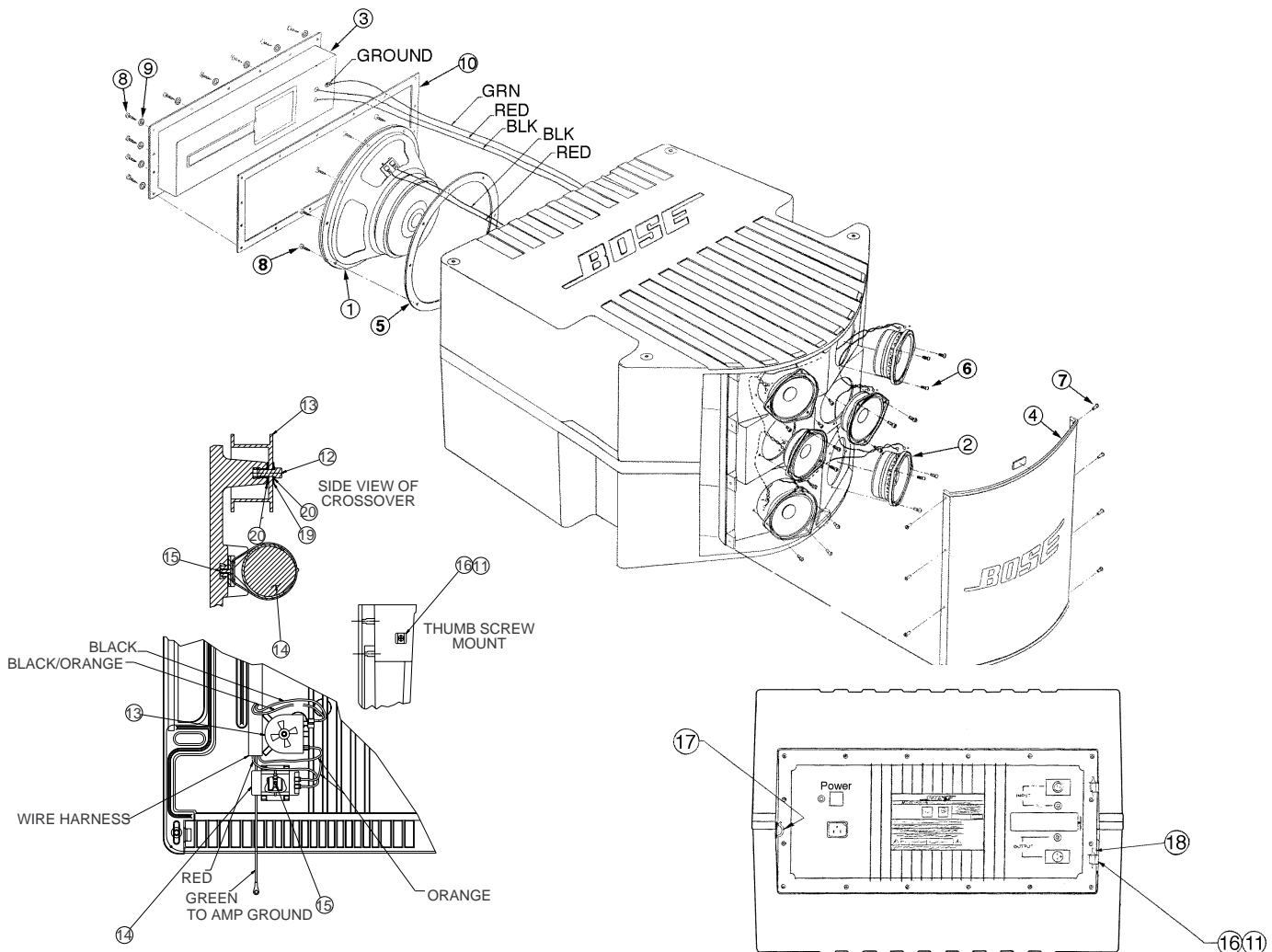


Figure 4. Exploded View

# ELECTRICAL PART LIST

## Resistors

Reference Designator	Description	Part Number	Note
R701, 702, 777, 790, 711, 712, 714, 722, 729, 734, 773, 774, 775, 776, 789, 808, 812	1.0 k, 5%, 1/6 W	139168	
R703	270 $\Omega$ , 5%, 1/6 W	139389	
R704, 733, E35, N11, N12, 715, 806, E20	56 $\Omega$ , 5%, 1/6 W	139342	
R705, 737, 738, 813, E33	2.2 k, 5%, 1/6 W	139178	
R706	2.2 k, 5%, 1/6 W	139178	
R707	330 k, 5%, 1/6 W	139390	
R708, E36, N01, N02	10 $\Omega$ , 5%, 1/6 W	139374	
<b>R709, 710</b>	348 k, 2%, 1/4 W	139391	$\triangle$ 3
R713, 788, 814	10.0 k, 5%, 1/6 W	139169	
R716, 780	22.0 k, 5%, 1/6 W	139185	
R717, 830, E32, E34, N09, N10	220 $\Omega$ , 5%, 1/6W	139163	
R718	15.0 k, 5%, 1/6 W	139393	
<b>R719, 720</b>	470 k, 5%, 1/6 W	139394	$\triangle$ 3
R721, 778, 791	1.0 k, 5%, 1/6 W	139168	
R723	332 k, 1%, 1/6W	139170	
<b>R724</b>	Varistor	138998	$\triangle$ 3
R725, 726, 796	4.99 k, 1%, 1/6W	139172	
R727, 728, 807, E07	10.0 k, 1%, 1/6W	139176	
R730	21.0 k, 1%, 1/6W	139173	
R731, E12	200 k, 1%, 1/6W	139174	
R732	6.65 k, 1%, 1/6W	139175	
R735, 736, 743, 799	4.7 k, 5%, 1/6W	139177	
R739, 740, 741, 742	680 $\Omega$ , 5%, 1/4W	139179	
<b>R765, 766</b>	22 $\Omega$ , 5%, 3W, Power	136357	$\triangle$ 3 100V/120V
<b>R765, 766</b>	15 $\Omega$ , 5%, 5W, Power	139181	$\triangle$ 3 230V
<b>R767</b>	0.1 $\Omega$ , 5%, 5W, Power	139160	$\triangle$ 3
R768	27.0 k, 5%, 2W, Power	136359	
R771, 772	10 $\Omega$ , 5%, 1/4W	139183	
R779	61.9 k, 1%, 1/6W	139184	
R781, 782	390 $\Omega$ , 5%, 1/4W	139186	
R783, 784, 820	100 $\Omega$ , 5%, 1/6W	139187	
R785, E37	100 k, 5%, 1/6W	139188	
R786	3.3 k, 5%, 1/6W	141451	
R787	43.2 k, 1%, 1/6W	139189	
R792, 811	47.0 k, 5%, 1/6 W	139190	
R793, 794, E29	20.0 k, 1%, 1/6 W	139191	
R795	4.99 k, 1 %, 1/6 W	139172	
R797, 798	18.2k, 1 %, 1/6 W	139192	
R801, 802, E40, E41	237 $\Omega$ , 1%, 1/6W	139161	
R803, 804, E38, E39	1.21 k, 1%, 1/6W	139162	

# ELECTRICAL PART LIST

## Resistors

Reference Designator	Description	Part Number	Note
R815	2.7 $\Omega$ , 5%, 1/2W	139344	
RE01, E02	1.0 M, 1 %, 1/6W	139345	
RE03, E04	9.09 k, 1%, 1/6W	139346	
RE05, E06	1.0 k, 1 %, 1/6W	139347	
RE08	10.0 k, 1 %, 1/6W	139176	
RE13	23.2 k, 1%, 1/6W	141458	
RE14£, E19	7.5 k, 1%, 1/6W	141469	£Used in later EQ
RE14†	475 $\Omega$ , 1%, 1/6W	141462	†Used in earlier EQ
RE15	165 k, 1%, 1/6W	139351	
RE16	24.3 k, 1%, 1/6W	139352	
RE17	2.67 k, 1%, 1/6W	141459	
RE18£, E24	59.0 k, 1%, 1/6W	139365	£Used in later EQ
RE18†	56.2 k, 1%, 1/6W	141465	†Used in earlier EQ
RE20†	12.1 k, 1 %, 1/6W	141453	†Used in earlier EQ
RE20£	11.0k, 1%, 1/6W	139343	£Used in later EQ
RE21	100 k, 1%, 1/6W	141452	
RE22†	52.3 k, 1%, 1/6W	141464	†Used in earlier EQ
RE22£	64.9 k, 1%, 1/6W	141466	£Used in later EQ
RE23£	4.75 k, 1%, 1/6W	141463	£Used in later EQ
RE23†	4.42 k, 1%, 1/6W	141461	†Used in earlier EQ
RE25£	6.65 k, 1%, 1/6W	139175	£Used in later EQ
RE25†	13.3 k, 1%, 1/6W	141455	†Used in earlier EQ
RE26	1.74 k, 1%, 1/6W	141456	
RE27	3.09 k, 1%, 1/6W	141460	
RE28	60.4 k, 1%, 1/6W	139369	
RE30£	1.33 k, 1%, 1/6W	141454	£Used in later EQ
RE30†	2.0 k, 5%, 1/6W	141457	†Used in earlier EQ
RE31£	681 $\Omega$ , 1%, 1/6W	141468	£Used in later EQ
RE31†	665 $\Omega$ , 1%, 1/6W	141467	†Used in earlier EQ
RE42	100 $\Omega$ , 5%, 2W	139361	
RE43	470 $\Omega$ , 5%, 1/2W	141439	230V
RE43	1.0 k, 5%, 1/2W	139164	100V/120V
RE51	2.7 k, 5%, 1/2W	136356	
RN03, N04, N05, N06	470 $\Omega$ , 5%, 1/6W	139376	
RN07, N08	2.7 k, 5%, 1/6W	139377	
RN13, N14	39.0 k, Rotor, 5%, 3W	136362	
RW51	220 k, Hi-Volt, 10%, 1/4W	141450	△ 3

## Capacitors

Reference Designator	Description	Part Number	Note
C001, 002	0.22 uF, Film, 400 V	139381	3 △ 100V/120V
C010, 011	2200 pF, Ceram, 125V/250V	139382	3 △ 100V/120V

# ELECTRICAL PART LIST

## Capacitor

Reference Designator	Description	Part Number	Note
<b>C770†, 771†, 781‡, 782‡, 784, W51‡, W52‡, W53‡, W54‡, W55‡</b>	1000 pF, Ceram, 10%, 250 V	139156	△ 3 ¥230V ‡100V/120V †Used in earlier EQ
<b>C701, 754, 755, E11£</b>	F 1500 pF, Film, 5%	139395	£Used in later EQ
<b>C702</b>	100 uF, Elect, 10V	136350	
<b>C703, 704, 766, E98, E99</b>	100 pF, Ceram, 10%	139397	
<b>C705, E07, E08, E25</b>	0.47 uF, Film, 5%	139398	
<b>C706</b>	47 uF, Elect, 25 V	136351	
<b>C707, 713, E10£, 708</b>	1000 pF, Film, 5%	139400	£Used in later EQ
<b>C709, E24</b>	270 pF, Ceram, 10%	139402	
<b>C710</b>	820 pF, Film, 5%	139403	
<b>C712, 714</b>	22 pF, Ceram, 5%	139404	
<b>C715, 716</b>	330 pF, Ceram, 10%	139405	
<b>C717, 718, 753</b>	680 pF, Ceram, 10%	139406	
<b>C719, 720, 721, 722</b>	2200 pF, Ceram, 10%	139407	
<b>C731, 732</b>	390 pF, Ceram, 10%	139408	△ 3 100V/120V
<b>C731, 732</b>	1000pF, Ceram, 10%	139409	△ 3 230V
<b>C733, 734, 735, 736</b>	1000uF, Elect, 200V	136352	
<b>C739, 740</b>	0.1uF, Film, 10%, 400V	139411	
<b>C741, 742</b>	470 pF, Ceram, 10%	139413	
<b>C743, N01, N02, N07, N08</b>	0.1 uF, Film, 5%	139412	
<b>C744, 752, E23</b>	220 pF, Ceram, 10%	139417	
<b>C746, 747, E27, E28</b>	1000 uF, Elect, 25V	136355	
<b>C748, 749, 760, E29, E30</b>	220 uF, Elect, 25V	136353	
<b>C750, 762, 763, 764, 767, 768, E41</b>	22uF, Elect, 25V	136354	
<b>C751</b>	2200 pF, Ceram, 10%	139419	
<b>C756</b>	0.68 uF, Film, 20%, 250V	139420	
<b>C781, 782</b>	470 pF, Ceram, 10%, 250V	139157	△ 3 230V
<b>C783</b>	0.01 uF, Ceram, 80%, 20%	139158	
<b>CE01†, E02†</b>	4.7uF, Elect, 5%, 100V	141448	†Used in earlier EQ
<b>CE01£, E02†</b>	0.27uF, 5%	139422	£Used in later EQ

# ELECTRICAL PART LIST

## Capacitor

Reference Designator	Description	Part Number	Note
CE03, E04	1000 pF, Ceram, 10%	139421	
CE05, E06	470 pF, Film, 5%	139423	
<del>CE09£</del> , <del>E17£</del>	5600 pF, Film, 5%	141446	£Used in later EQ
<del>CE09†</del> , <del>E17†</del>	4700 pF, 5%	141445	†Used in earlier EQ
<del>CE10£</del> , <del>E16†</del> , E22	47 pF, Ceram, 5%	139428	£Used in later EQ †Used in earlier EQ
<del>CE11†</del>	2200 pF, Film, 5%	141441	†Used in earlier EQ
<del>CE12£</del>	0.039 uF, Film, 5%	141444	£Used in later EQ
<del>CE12†</del>	0.033 uF, Film, 5%	139429	†Used in earlier EQ
<del>CE13£</del> , E15, <del>E18†</del>	0.022 uF, Film, 5%	141442	£Used in later EQ †Used in earlier EQ
<del>CE13†</del> , <del>E18£</del>	0.027 uF, Film, 5%	141443	†Used in earlier EQ £Used in later EQ
<del>CE14£</del> , <del>E19†</del> , E26	0.01 uF, Film, 5%	139427	£Used in later EQ †Used in earlier EQ
<del>CE14†</del> , <del>E19£</del>	8200 pF, Film, 5%	141447	†Used in earlier EQ £Used in later EQ
<del>CE16£</del>	82 pF, Ceram, 5%	141440	£Used in later EQ
CE20	0.015 uF, Film, 5%	139430	
CE21	0.012 uF, Film, 5%	139431	
CN03, N04	100 pF, Ceram, 10%, 500V	139432	
CN05, N06	4700 pF, Ceram, 10%	139433	

## Diodes

Reference Designator	Description	Part Number	Note
<b>D010</b>	S10V860	136332	⚠ 3
D702, 703, 704, 705, 706, 707, 727, 728, 729, 730, 731, 732, 733, 744, E01, E02, E03, E04, N01, N02, N03, N04, N05, N06, N07, N08, N09, N10, N11, N12, N13, N14, N15, N16, N17, N18	1SS136	136310	
D720, 721, 722, 723	BYV29-400	136311	
<b>D724, 725</b>	M.O.V., 150V, V150LA20A	138055	3 ⚠ 120V/230V
<b>D724, 725</b>	M.O.V., 130V, V130LA20A	138054	3 ⚠ 100V
D735	Zener Diode, 7.5V	136308	
D736, 737, 738, 739, E05, E06, E07, E08, E09	DSF10C	132660	
<b>DE10</b>	L.E. D. Green	136330	3 ⚠ 230V

# ELECTRICAL PART LIST

## Diodes

Reference Designator	Description	Part Number	Note
DE10	L.E.D. Red	136330	3 △ 100V/120V

## Transistor

Reference Designator	Description	Part Number	Note
Q701, E02	IC, IR91308	136312	
Q702, 705, 713, N03, N04	Transistor, NPN, 2SC536SP (F,G)	136313	
Q703, 704	Transistor, PNP, 2SA608SP (F,G)	136314	
Q709	IC, CA3280E	136315	
Q710	Transistor, PNP, 2SA1246 (S,T,U)	136316	
Q711	Transistor, NPN, 2SC3114 (S,T,U)	136317	
Q712	IC, IR9319	136318	
Q714	IC, 4041	136319	
Q715, 716	IC, 4066	136320	
Q717	IC, uPC4074	136321	
Q718	IC, 4093	136322	
Q719, 720, 721	Transistor, NPN, 2SC3328 (O,Y)	136323	
Q732, 733	FET2SK694or2SK693	136324	△ 3 1/2002
Q734, E05	IC, +Regulator, uPC317H	136331	
Q735, E06	IC, -Regulator, IIPC337H	138231	
QE01	IC, uPC4574C	136325	
QN01, 02	Transistor, PNP, 2SA1315 (O,Y)	136328	
QN05, 06	F.E.T., 2SK246 (GR)	136327	
QN07, 08	Transistor, NPN, 2SC2236 (O,Y)	136329	

## Inductors

Reference Designator	Description	Part Number	Note
L701, 702, 703, 704, 705	Transformer, Pulse	136339	3 △
L706, 708	Transformer (Coil)	136341	3 △ 100V/120V
L708, W51	Transformer (Coil) SC-4-200JV	136342	3 △ 230V
L709	Transformer, Power, 110V	136343	3 △ 120V
L709	Transformer, Power, 230V	136344	3 △ 230V



# ELECTRICAL PART LIST

## Inductors

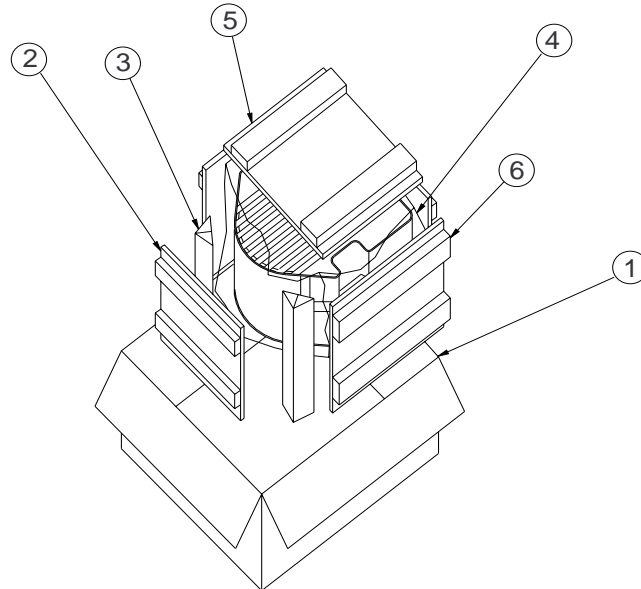
Reference Designator	Description	Part Number	Note
L709	Transformer, Power, 100V	136345	⚠ 3 100V
LE01	Transformer, Input	136340	⚠ 3
LE02	Transformer, Power, 110V	136346	⚠ 3 120V
LE02	Transformer, Power, 230V	136347	⚠ 3 230V
LE02	Transformer, Power, 230V	136348	⚠ 3 100V

## Miscellaneous

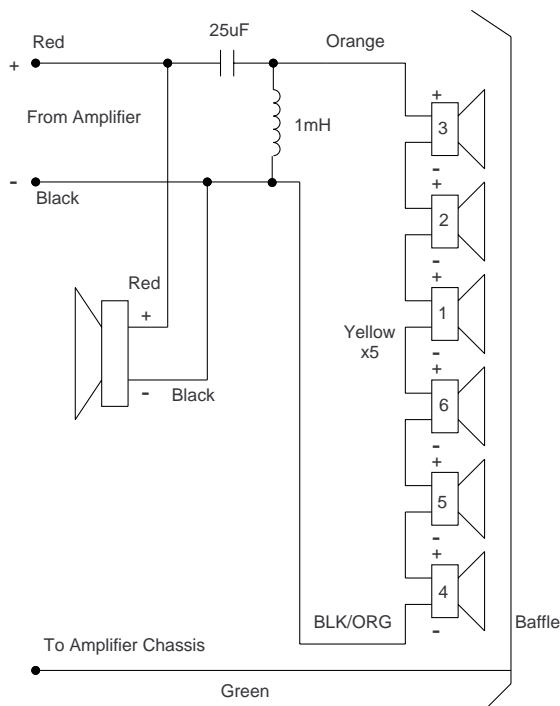
Reference Designator	Description	Part Number	Note
F781, E01, E02	Ferrite Core	139146	
F701, 702	Fuse, 10A, 250V, 0.25" x 1.25"	138992	⚠ 3 120V
F701, 702	Fuse, 5A, 250V, 5mm x 20 mm	138991	⚠ 3 230V
F701, 702	Fuse 10A	141449	⚠ 3 100V
S001	Push Switch, Power	136338	⚠ 3
W001	A.C. Power Cord, 120VAC Version	138993	⚠ 3 120V
W001	A.C. Power Cord, 230VAC Version	138994	⚠ 3 230V
W001	A.C. Power Cord, 100VAC Version	138995	⚠ 3 100V
JE52	Jack, Output, 1/4"	135336	
JO41	Jack, Input, XLR	136333	
JO42	Jack, Output, XLR	136334	
JO92	Plug, AC Inlet	136337	⚠ 3
—	Button, Power Switch	139436	
—	Lens, Power Led	139438	
—	Strain Relief	139440	

# PACKAGING

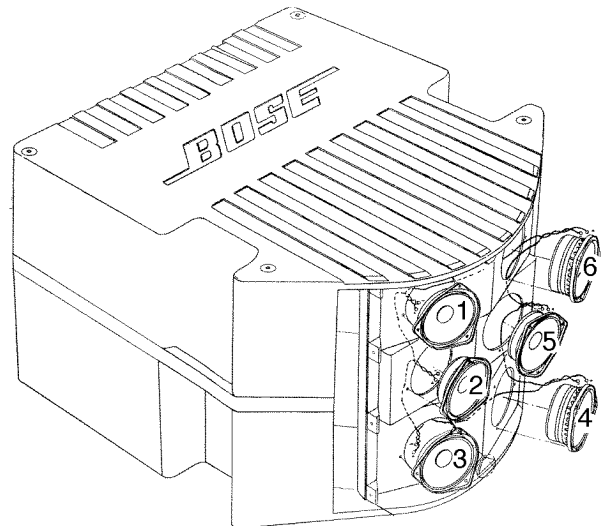
Item Number	Description	Part Number	Qty
1	Carton	140022	1
2	Front and Rear	140024	2
3	Creased Sheet	140025	2
4	Polybag	133174	1
5	Top and Bottom	140026	2
6	Sides	140023	2



**Figure 6. Packaging View**



**Figure 7. Wiring Schematic**



**Figure 8. Driver Location**

SPECIFICATIONS AND FEATURES SUBJECT TO CHANGE WITHOUT NOTICE

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