

Contents


| | |
|---|------------|
| Safety Information | 2 |
| Electrostatic Discharge Sensitive (ESDS) Device Handling | 3 |
| Supplement Description | 3 |
| Test Procedures | 4 |
| Part List Notes | 5 |
| Electrical Part List | 6-7 |
| PCB Layout | 8 |
| Figure 1. PCB SMD Bottom View | 8 |
| Figure 2. PCB Component Top View | 8 |
| Figure 3. Model 8 and Model 25/32 Schematic Diagram | 9 |

CAUTION: THE EQ PCB ASSEMBLIES CONTAIN NO USER-SERVICEABLE PARTS. TO PREVENT WARRANTY INFRACTIONS, REFER SERVICING TO WARRANTY SERVICE STATIONS OR FACTORY SERVICE.

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 on the parts list. 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, then in the 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, screwheads, 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 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 Megohms. 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 re-checked before it is returned to the customer.

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.

SUPPLEMENT DESCRIPTION

This supplement should be used along with the 1800V EQ PCB service manual part number 181812-S2. The disassembly/assembly procedures, and packing part list should be used along with the information in this manual. The test procedures were included in this manual for your convenience.

TEST PROCEDURES

1. Model 8 EQ PCB Response Test

1.1 Apply a signal of 1kHz at an input level of 100mVrms.

1.2 Adjust the amplifier volume controls to maximum. No EQ card installed.

1.3 Reference a dB meter to the output of the amplifier.

1.4 Shut off the amplifier and insert the EQ card according to the assembly procedure.

1.5 Turn on the amplifier and measure the gain. There should be a **-3.5dB** change in gain at the output.

1.6 Reference a dB meter and measure the response of the EQ card according to the Model 8 Full Range Response chart below.

Model 8 Full Range Response Chart

| Frequency | Output | Tolerance |
|-----------|------------------|-----------|
| 95Hz | +11.3dB | ±1.5dB |
| 250Hz | +4.5dB | ±1.5dB |
| 1kHz | 0dB Reference | - |
| 2kHz | +3.0dB | ±1.5dB |
| 4kHz | +7.0dB | ±1.5dB |
| 8kHz | +10.5dB | ±1.5dB |
| 12.5kHz | +11.75dB | ±2.5dB |

1.7 Shut off the amplifier. Open the input panel and switch the high frequency/full range switch to the high frequency position.

1.8 Measure the response according to the Model 25/32 High Frequency Response chart below.

Model 8 High Freq. Response Chart

| Frequency | Output | Tolerance |
|-----------|------------------|-----------|
| 95Hz | +11.3dB | ±1.5dB |
| 250Hz | +4.5dB | ±1.5dB |
| 1kHz | 0dB Reference | - |
| 2kHz | +3.0dB | ±1.5dB |
| 4kHz | +7.0dB | ±1.5dB |
| 8kHz | +10.5dB | ±1.5dB |
| 12.5kHz | +11.75dB | ±2.5dB |

2. Model 25/32 EQ PCB Response Test

2.1 Apply a signal of 1kHz at an input level of 100mVrms.

2.2 Adjust the amplifier volume controls to maximum. No EQ card installed.

2.3 Reference a dB meter to the output of the amplifier.

2.4 Shut off the amplifier and insert the EQ card according to the assembly procedure.

2.5 Turn on the amplifier and measure the gain. There should be a **-4.8dB** change in gain at the output.

2.6 Reference a dB meter and measure the response of the EQ card according to the Model 25/32 Full Range Response chart below.

Model 25/32 Full Range Response Chart

| Frequency | Output | Tolerance |
|-----------|------------------|-----------|
| 95Hz | +12.3dB | ±1.5dB |
| 250Hz | +4.4dB | ±1.5dB |
| 1kHz | 0dB Reference | - |
| 2kHz | +1.7dB | ±1.5dB |
| 4kHz | +7.6dB | ±1.5dB |
| 8kHz | +12.0dB | ±1.5dB |
| 12.5kHz | +15.0dB | ±2.5dB |


2.7 Shut off the amplifier. Open the input panel and switch the high frequency/full range switch to the high frequency position.

2.8 Measure the response according to the Model 25/32 High Frequency Response chart below.

Model 25/32 High Freq. Response Chart

| Frequency | Output | Tolerance |
|-----------|------------------|-----------|
| 95Hz | +12.3dB | ±1.5dB |
| 250Hz | +4.4dB | ±1.5dB |
| 1kHz | 0dB Reference | - |
| 2kHz | +1.7dB | ±1.5dB |
| 4kHz | +7.6dB | ±1.5dB |
| 8kHz | +12.0dB | ±1.5dB |
| 12.5kHz | +15.0dB | ±2.5dB |

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 Electrical Part Lists.
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.
4. The reference designators that are in bold print are used on the model 8 EQ PCB assembly.

ELECTRICAL PART LIST

Resistors

| Reference Designator | Description | Part Number | Note |
|----------------------|------------------------|-------------|------|
| R1 | 20.0KΩ, 1206, 1/8W, 1% | 124894-2002 | |
| R2, 16, 17, 19 | 10.0KΩ, 1206, 1/8W, 1% | 124894-1002 | 4 |
| R2 | 14.0KΩ, 1206, 1/8W, 1% | 124894-1402 | 4 |
| R3, 14 | 22.1KΩ, 1206, 1/8W, 1% | 124894-2212 | |
| R3, 13 | 4.12KΩ, 1206, 1/8W, 1% | 124894-4121 | 4 |
| R5, 27 | 8.25KΩ, 1206, 1/8W, 1% | 124894-8251 | |
| R5, 25 | 887Ω, 1206, 1/8W, 1% | 124894-8870 | 4 |
| R9 | 11.5KΩ, 1206, 1/8W, 1% | 124894-1152 | |
| R11 | 110KΩ, 1206, 1/8W, 1% | 124894-1103 | |
| R12 | 150KΩ, 1206, 1/8W, 1% | 124894-1503 | |
| R12 | 100KΩ, 1206, 1/8W, 1% | 124894-1003 | 4 |
| R13, 16, 20 | 4.99KΩ, 1206, 1/8W, 1% | 124894-4991 | 4 |
| R14 | 16.5KΩ, 1206, 1/8W, 1% | 124894-1652 | 4 |
| R17, 22 | 7.15KΩ, 1206, 1/8W, 1% | 124894-7151 | 4 |
| R18, 19 | 4.75KΩ, 1206, 1/8W, 1% | 124894-4751 | |
| R22 | 3.92KΩ, 1206, 1/8W, 1% | 124894-3921 | |
| R25, 35, 36, 40-45 | JUMPER, CHIP | 124896 | |
| R26 | 6.19KΩ, 1206, 1/8W, 1% | 124894-6191 | |
| R27 | 15.0KΩ, 1206, 1/8W, 1% | 124894-1502 | 4 |
| R31 | 21.5KΩ, 1206, 1/8W, 1% | 124894-2152 | |
| R32 | 78.7KΩ, 1206, 1/8W, 1% | 124894-7872 | |
| R37, 38 | 47.0KΩ, 1206, 1/8W, 5% | 124895-4735 | |

Capacitors

| Reference Designator | Description | Part Number | Note |
|----------------------|----------------------------|-------------|------|
| C2 | .068uF, BOX, 85, 63V, 5% | 137127-683 | |
| C2, 8, 10 | .047uF, BOX, 85, 63V, 5% | 137127-473 | 4 |
| C3 | .27uF, BOX, 85, 50V, 5% | 137127-274 | |
| C3 | .33uF, BOX, 85, 50V, 5% | 137127-334 | 4 |
| C6 | .0033uF, BOX, 85, 100V, 5% | 137127-332 | 4 |
| C10 | .056uF, BOX, 85, 63V, 5% | 137127-563 | |
| C11 | .033uF, BOX, 85, 63V, 5% | 137127-333 | 4 |
| C11, 12 | .0056uF, BOX, 85, 100V, 5% | 137127-562 | |
| C20, 22 | .022uF, BOX, 85, 100V, 5% | 137127-223 | |
| C24, 26, 48-51 | 10000pF, CHIP, 5% | 124959-103 | |
| C25, 27 | .0027uF, BOX, 85, 100V, 5% | 137127-272 | |
| C27 | .0022uF, BOX, 85, 100V, 5% | 137127-222 | 4 |

ELECTRICAL PART LIST

Diodes

| Reference Designator | Description | Part Number | Note |
|-----------------------------|------------------------------|--------------------|-------------|
| D1, 2, 3, 5 | 1N4148, 52MM, AXIAL | 121501 | |
| D4, 6 | ZEN, 18V, 1W, 5%, 1N4746A | 116995-4746A | |

Integrated Circuits

| Reference Designator | Description | Part Number | Note |
|-----------------------------|---------------------------------------|--------------------|-------------|
| U1, 2 | IC, OP AMP, QUAD | 144008 | |
| U3 | IC, SWITCH, ACTIVE, SIP-8, BA3128N | 177292 | |

PCB LAYOUT

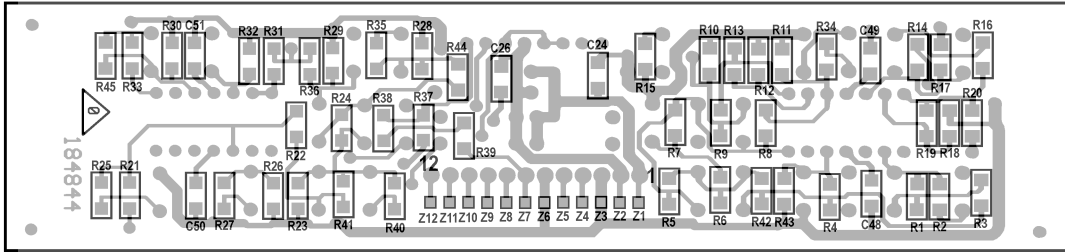


Figure 1. PCB SMD Bottom View

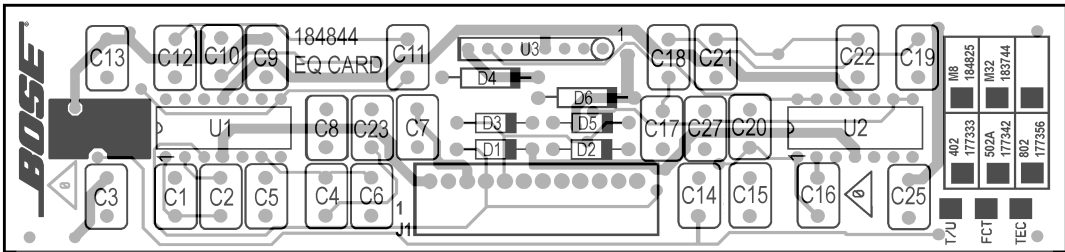
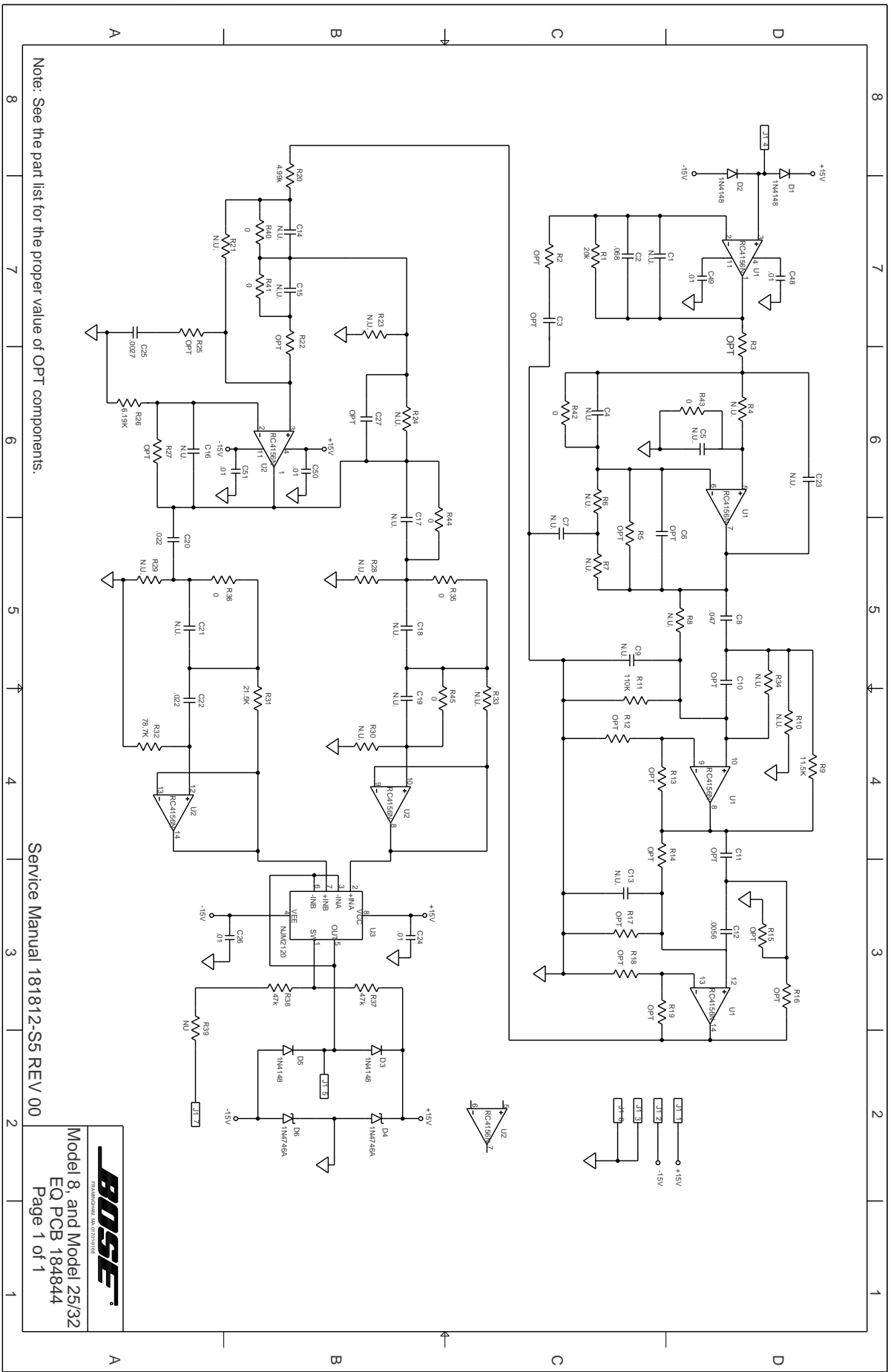


Figure 2. PCB Component Top View



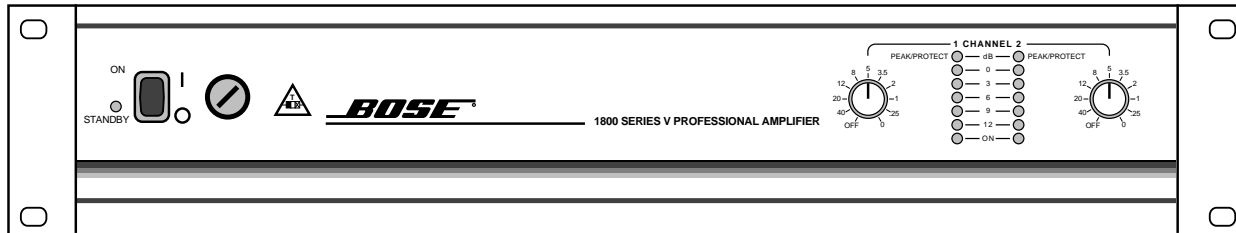
Note: See the part list for the proper value of OPT components.

Service Manual 181812-S5 REV 00

BOSE
 PROFESSIONAL AUDIO SYSTEMS
 Model 8, and Model 25/32
 EQ PCB 184844
 Page 1 of 1

Figure 3. Model 8 and Model 25/32 Schematic Diagram

Model 1800-V Professional Stereo Power Amplifier EQ PCB Assemblies



Supplement

SPECIFICATIONS AND FEATURES SUBJECT TO CHANGE WITHOUT NOTICE

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