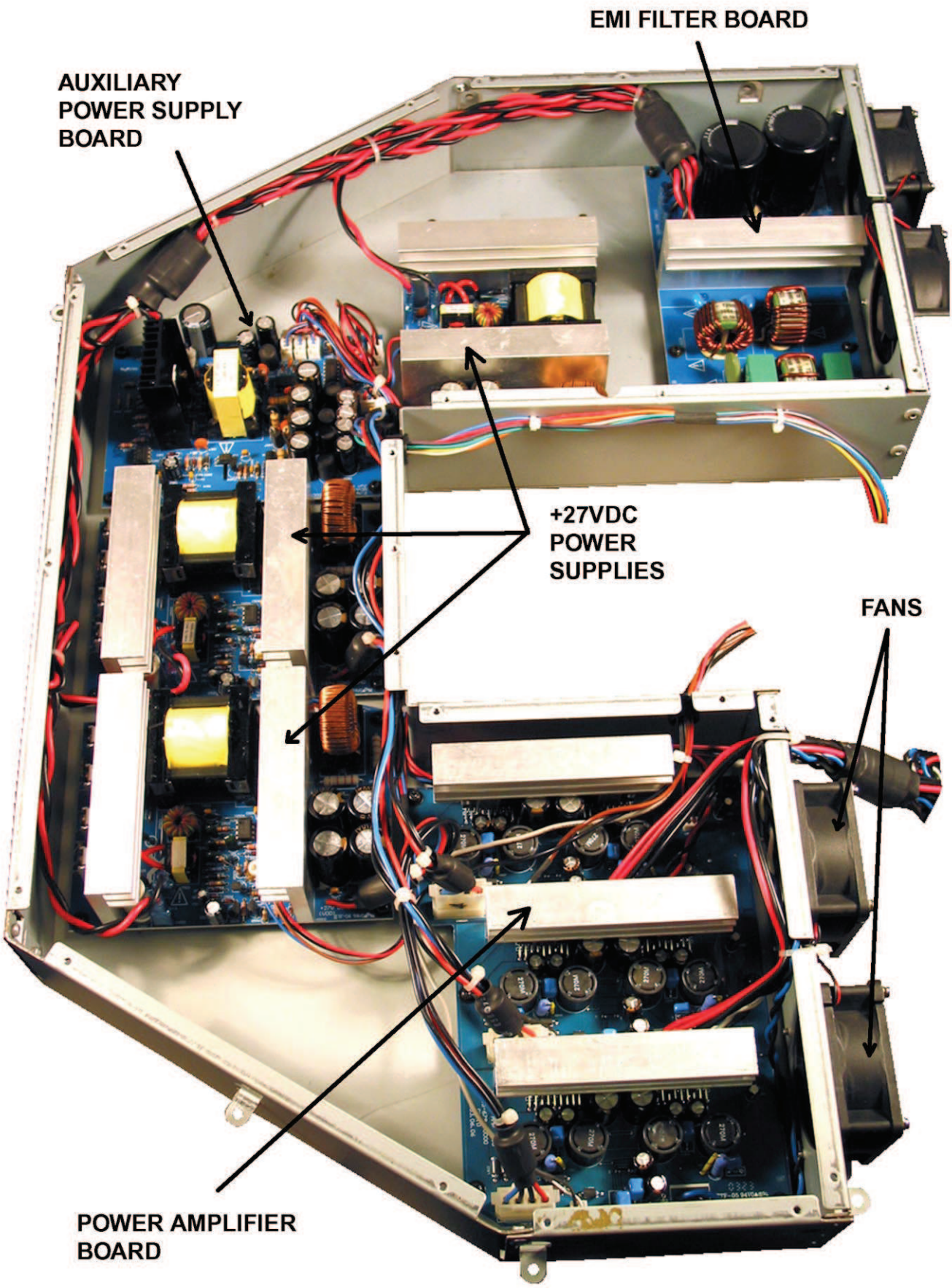


Figure 9. PS1 Power Stand Electronics Module with Top Cover Removed

Disassembly Procedures

Power Stand Procedures

Note: Refer to Figure 9 for the following procedures.

1. Lower Housing Removal

1.1 Place the power stand on a soft surface so that the line array opening faces down.

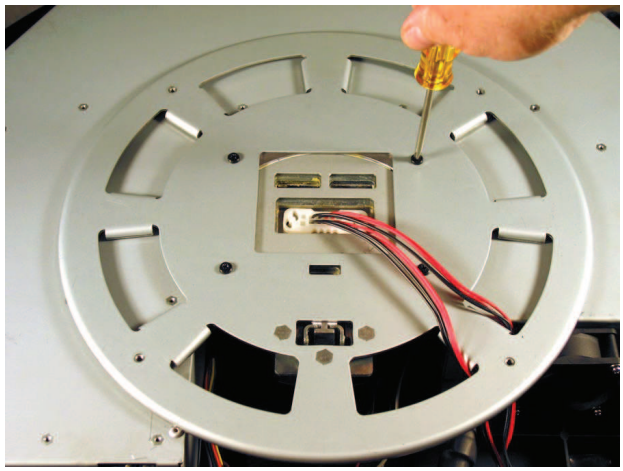
1.2 Using a Phillips-head screwdriver, remove the 19 screws that secure the lower housing to the upper housing. Lift off the lower housing.

2. Amplifier Housing Removal

2.1 Perform procedure 1.

2.2 Make a note of the wiring, and disconnect the wiring harnesses and connectors that run to the amplifier housing. The amplifier housing is the large metal box with the four fans.

2.3 Using a Phillips-head screwdriver, remove the four screws that secure the power stand base plate to the bottom of the line array cavity. Lift it off of the cavity. Be careful not to damage any wires.

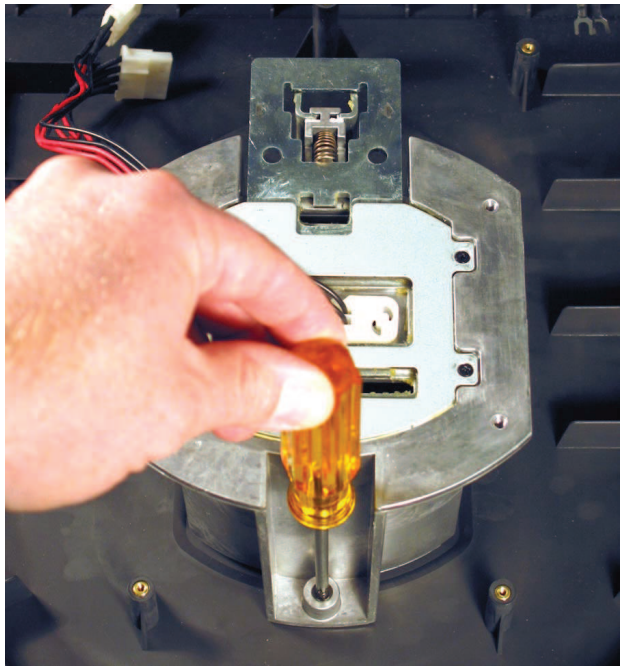


2.4 Once all of the wiring is disconnected, use a Phillips-head screwdriver to remove the 16 screws that secure the amplifier housing to the power stand upper housing. Carefully lift the amplifier housing out of the power stand upper housing.

3. Line Array Cavity Removal

3.1 Perform procedure 2.

3.2 Using a Phillips-head screwdriver, remove the three screws that secure the line array cavity to the upper housing. Lift the line array cavity off of the upper housing. The power stand foot pedal will disengage from the shaft.



Disassembly Procedures

4. Amplifier PCB Removal

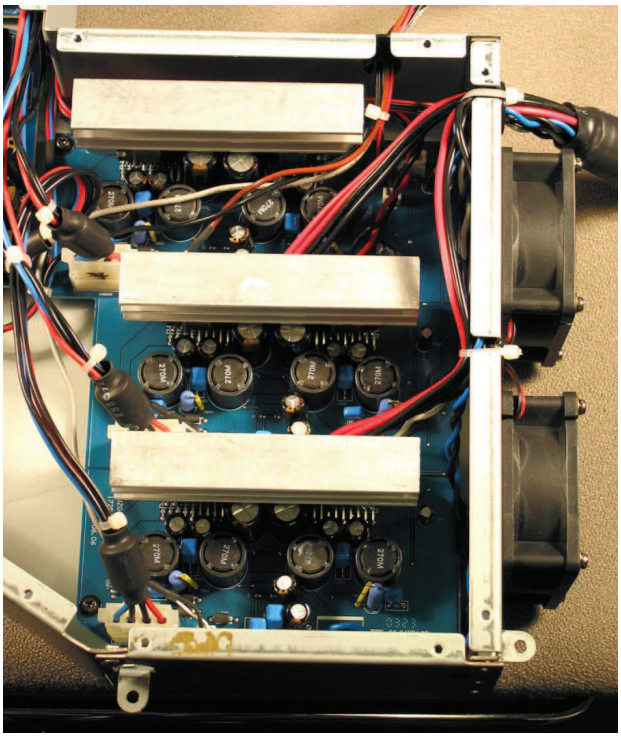
4.1 Perform procedure 2.

4.2 Make a note of the wiring and disconnect all of the wiring harnesses that connect the power supply box to the DSP PCB and to the microprocessor PCB.

4.3 Using a Phillips-head screwdriver, remove the 24 screws that secure the power supply box top cover in place. Lift off the top cover.

4.4 Once you have the top cover off, make a note of the wiring configuration and unplug the wiring harnesses that connect to the amplifier PCB.

4.5 Using a Phillips-head screwdriver, remove the 6 screws that secure amplifier PCB in place. Lift the amplifier PCB out of the chassis.



5. Switching DC Power Supply Removal

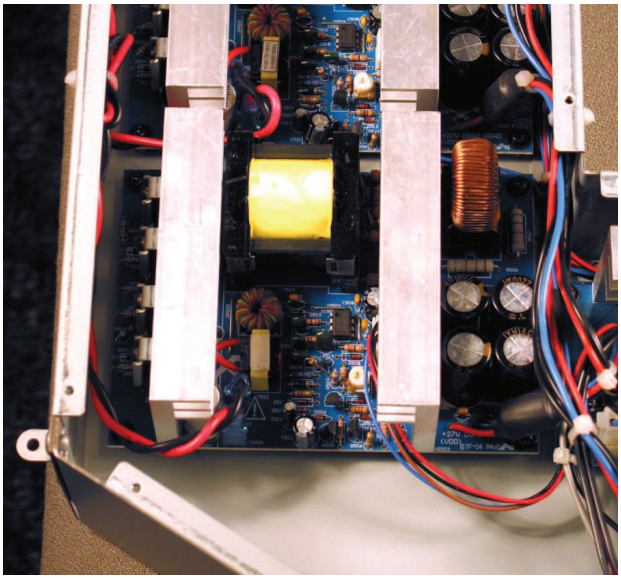
5.1 Perform procedure 2.

5.2 Make a note of the wiring and disconnect all of the wiring harnesses that connect the power supply box to the DSP PCB and to the microprocessor PCB.

5.3 Using a Phillips-head screwdriver, remove the 24 screws that secure the power supply box top cover in place. Lift off the top cover.

5.4 Once you have the top cover off, make a note of the wiring configuration and unplug the wiring harnesses that connect to the switching DC power supply PCB you wish to remove.

5.5 Using a Phillips-head screwdriver, remove the 4 screws that secure power supply PCB in place. Lift the power supply PCB out of the chassis.



Disassembly Procedures

6. Auxiliary Power Supply Removal

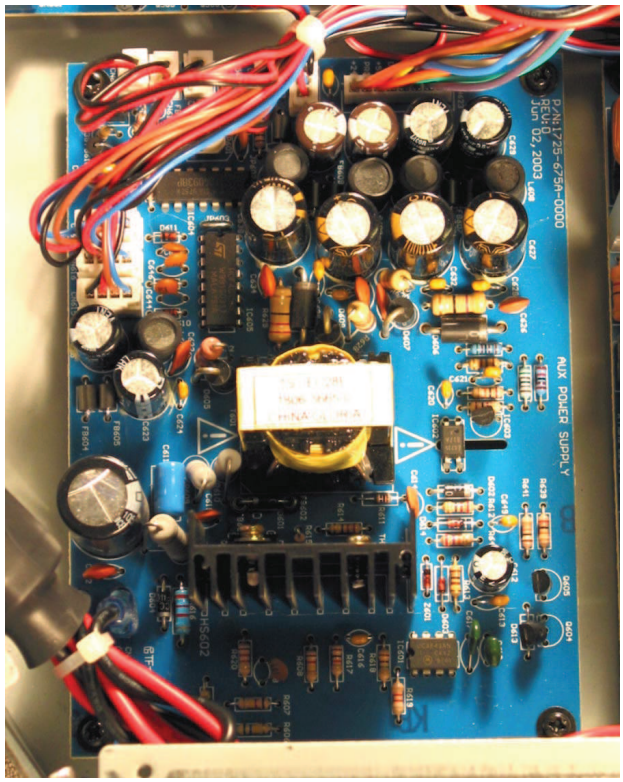
6.1 Perform procedure 2.

6.2 Make a note of the wiring and disconnect all of the wiring harnesses that connect the power supply box to the DSP PCB and to the microprocessor PCB.

6.3 Using a Phillips-head screwdriver, remove the 24 screws that secure the power supply box top cover in place. Lift off the top cover.

6.4 Once you have the top cover off, make a note of the wiring configuration and unplug the wiring harnesses that connect to the switching DC power supply PCB you wish to remove.

6.5 Using a Phillips-head screwdriver, remove the 4 screws that secure power supply PCB in place. Lift the power supply PCB out of the chassis.



7. EMI Filter PCB Removal

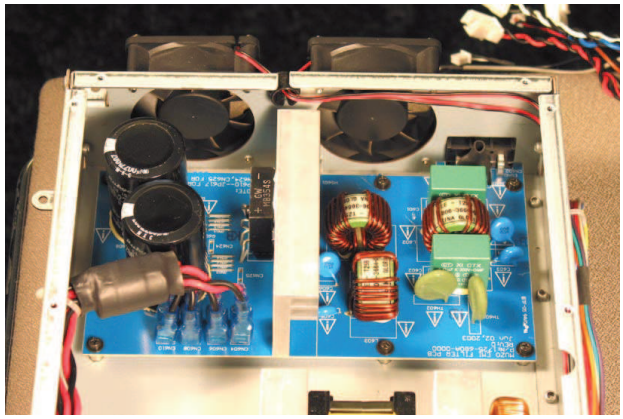
7.1 Perform procedure 2.

7.2 Make a note of the wiring and disconnect all of the wiring harnesses that connect the power supply box to the DSP PCB and to the microprocessor PCB.

7.3 Using a Phillips-head screwdriver, remove the 24 screws that secure the power supply box top cover in place. Lift off the top cover.

7.4 Once you have the top cover off, make a note of the wiring configuration and unplug the wiring harnesses that connect to the EMI Filter PCB.

7.5 Using a Phillips-head screwdriver, remove the 4 screws that secure the EMI Filter PCB in place. Lift the EMI Filter PCB out of the chassis.



Disassembly Procedures

8. Chassis Fan Removal

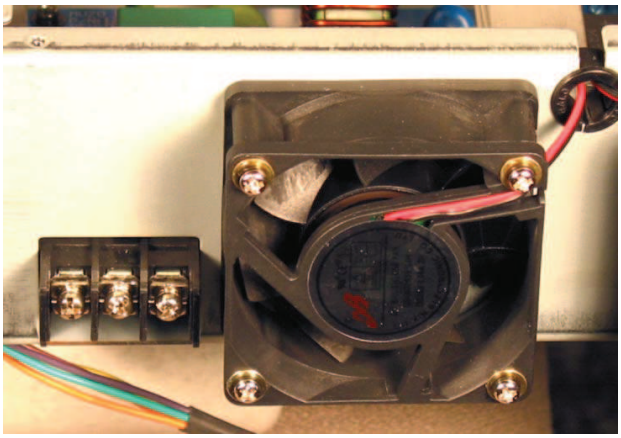
8.1 Perform procedure 2.

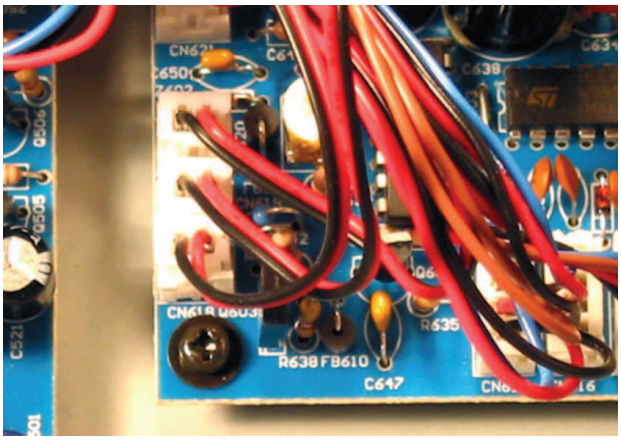
8.2 Using a Phillips-head screwdriver, remove the 24 screws that secure the power supply box top cover in place. Lift off the top cover.

8.3 Using a Phillips-head screwdriver, remove the 4 screws that secure the fan to the chassis.

8.4 Follow the wire harness for the fan you are removing to the auxiliary power supply PCB and unplug it. Lift the fan out of the chassis.

Re-assembly note: When installing the new fan, be sure to match the orientation of the fan next to it so that it will move air in the proper direction when in use.





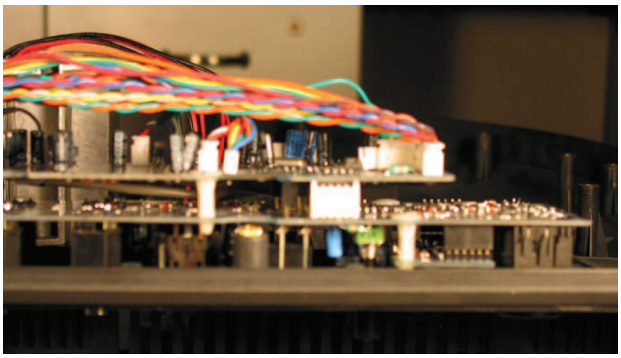
9. Microprocessor PCB Removal

9.1 Perform procedure 1.

9.2 Make a note of the wiring configuration and unplug the six wire harnesses from the connectors on the board.

9.3 Lift the microprocessor PCB off of the connectors that engage it on the bottom of the board and the pins that connect to the preset switches.

Re-assembly note: When re-installing this PCB, be sure that all of the pins from the preset switches are straight and properly engage the connectors on the bottom of the microprocessor PCB.



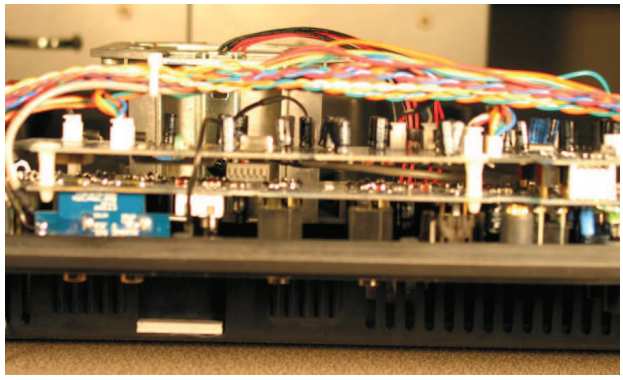
Disassembly Procedures

10. DSP PCB Removal

10.1 Perform procedure 1.

10.2 Make a note of the wiring configuration and unplug the six wire harnesses from the connectors on the board.

10.3 Using a pair of needle-nose pliers, compress the bottoms of the plastic standoff posts used to attach the DSP PCB to the Input/Output PCB. Lift the DSP PCB off of the I/O PCB.



11. Input/Output PCB Removal

11.1 Perform procedures 9 and 10.

11.2 On the front panel of the power stand, remove the four knobs for the mic trim and level controls.

11.3 Using a nut driver, remove the nine nuts and washers for the 1/4 inch phono jacks.

11.4 Using a Phillips-head screwdriver, remove the 16 screws that secure the XLR, Data in/out and Neutrik connectors to the front panel.

11.5 Lift the I/O PCB off of the input panel.

Disassembly Procedures

Line Array Procedures

Note: The line arrays are divided into a lower line array, which plugs directly into the power stand, and an upper line array, which uses a bayonet arrangement to align the upper array to the lower array for connection. All electrical connections are automatically made when the arrays are mounted into the power stand and the upper array is mounted to the lower array.

Note: Refer to Figure 7 for the following procedures.

1. Grille Removal

1.1 Using a Phillips-head screwdriver, remove the six screws that secure the end cap to the line array enclosure. Lift off the end cap. Unplug the molex connector from the speaker harness.

1.2 Grasp the edge of the grille and gently lift it away from the enclosure.

2. Nameplate Removal

2.1 Perform procedure 1.

2.2 On the back of the grille, unbend the legs of the logo. Lift off the nameplate.

3. Driver Removal

3.1 Perform procedure 1.

3.2 Using a Phillips-head screwdriver, remove the four screws that secure the driver to the enclosure.

3.3 Lift the driver out of the enclosure. Note the wiring configuration and cut the wires as close to the driver terminals as possible.

4. Upper Line Array Top End Cap Removal

4.1 Using a Phillips-head screwdriver, remove the seven screws that secure the end cap to the line array enclosure. Lift off the end cap.

Re-assembly note: Make sure that the end cap gasket is properly aligned to achieve an airtight seal.

5. Upper Line Array Bottom End Cap Removal

5.1 Using a Phillips-head screwdriver, remove the seven screws that secure the end cap to the line array enclosure. Lift the end cap away from the enclosure. Unplug the molex connector from the speaker harness.

Re-assembly note: Make sure that the end cap gasket is properly aligned to achieve an airtight seal.

6. Lower Line Array Top End Cap Removal

6.1 Using a Phillips-head screwdriver, remove the six screws that secure the end cap to the line array enclosure. Lift off the end cap. Unplug the molex connector from the speaker harness.

Re-assembly note: Make sure that the end cap gasket is properly aligned to achieve an airtight seal.

7. Lower Line Array Bottom End Cap Removal

7.1 Using a Phillips-head screwdriver, remove the seven screws that secure the end cap to the line array enclosure. Lift the end cap away from the enclosure. Unplug the molex connector from the speaker harness.

Re-assembly note: Make sure that the end cap gasket is properly aligned to achieve an airtight seal.

Disassembly Procedures

8. Front Cap Removal

8.1 Using a Phillips-head screwdriver, remove the four screws that secure the front cap to the bottom front of the line array enclosure. Lift the end cap away from the enclosure.

Bass Module Procedures

Note: Refer to Figure 8 for the following procedures.

1. Grille Removal

1.1 Using an allen wrench, remove the four screws that secure the grille to the upper and lower speaker end caps.

1.2 Lift off the grille.

2. Nameplate Removal

2.1 Perform procedure 1.

2.2 On the back of the grille, remove the retaining nut and spring from the post of the nameplate. Lift the nameplate off of the grille.

3. Driver Removal

3.1 Perform procedure 1.

3.2 Using a Phillips-head screwdriver, remove the four screws that secure the driver to the bass module enclosure.

3.3 Lift the driver out of the enclosure. Note the wiring configuration and cut the wires as close to the driver terminals as possible.

Re-assembly notes:
- When soldering the speaker harness wires to the new driver, be sure to observe polarity of the driver harness wires.
- Be sure to properly align the gasket behind the new driver to ensure an airtight fit.

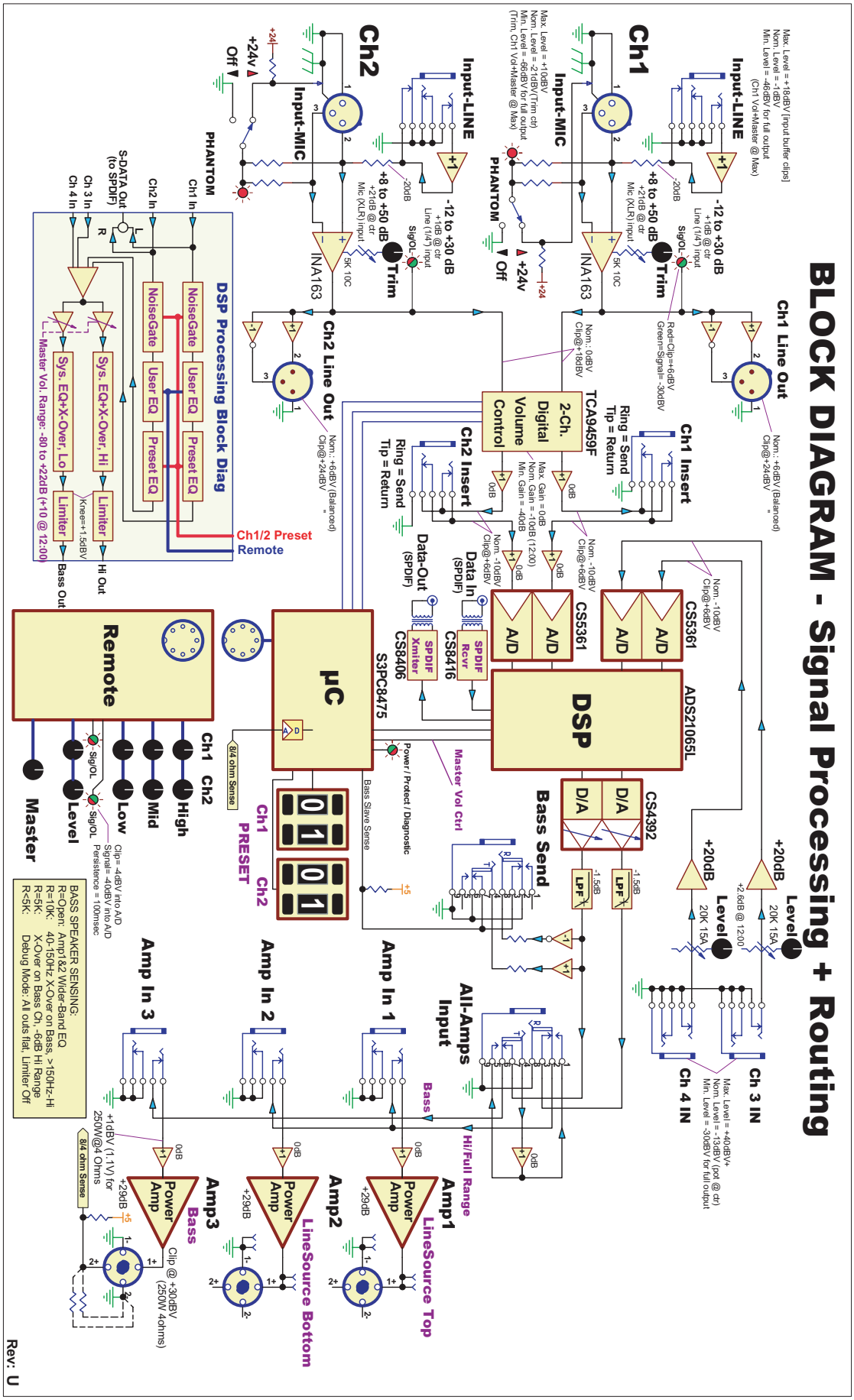
4. Input Panel Removal

4.1 Using a Phillips-head screwdriver, remove the four screws that secure the input panel to the bass module enclosure.

4.2 Lift the input panel away from the bass module enclosure.

4.3 Make a note of the wiring configuration and un-solder the speaker harness wires from the input panel.

Figure 10. PS1 Power Stand Block Diagram



Test Procedures

PS1 Power Stand Tests

Equipment Required

- dB Meter
- Digital Multi-meter
- Audio Signal Generator
- Distortion Meter
- 3 - 4 Ohm, 250 Watt Load Resistors
- Test cables, see Appendix

Overall PS1 System Tests

Notes:

1. Do not connect the R1 remote control for the following tests, unless specified. Powering up the PS1 power stand without the remote has the same effect as setting all of the controls on the remote to the midpoint.

2. On the front panel of the PS1, set the Channel 1 and Channel 2 Preset Select switches to 00. Short out the 2+ and 2- connections on the Amp 3 out connector using the test cable described in section 1 of the appendix of this manual. This will put the PS1 into debug mode for the following tests. In this mode the crossover, the compressor and the EQ are disabled. The DSP will pass a flat response. The level controls and the clip indicators still operate in this mode.

3. Refer to Figure 10, PS1 Block Diagram, for the following procedures.

1. Channel 1 and 2 Mic Input Gain Tests

1.1 Place a 1/4” mono shorting plug into the Amp 2 IN and Amp 3 IN jacks on the right hand side of the input/output panel. This will disable the channel 2 and 3 amplifiers while testing the channel 1 amplifier.

1.2 On the left hand side of the input/output panel, set the channel 1 Mic Trim control to the 6 setting. Ensure that the Phantom Power push button is not pushed in.

1.3 Using a balanced XLR male input cable, apply a 1 kHz, -30dBV signal to the channel 1 input.

1.4 Reference a dB meter to the input level. Measure the gain output at the Amp 1 OUT jack. It should be +48.5 dB + 3 dB.

1.5 Move the shorting plug from the Amp 2 IN jack to the Amp 1 IN jack and repeat steps 1.1 to 1.4 for the channel 2 Mic input.

2. Channel 1 and 2 Mic Input Frequency Reponse and Distortion Tests

2.1 Place a 1/4” mono shorting plug into the Amp 2 IN and Amp 3 IN jacks on the right hand side of the input/output panel. This will disable the channel 2 and 3 amplifiers while testing the channel 1 amplifier.

2.2 On the left hand side of the input/output panel, set the channel 1 Mic Trim control to the 6 setting. Ensure that the Phantom Power push button is not pushed in.

2.3 Using a balanced XLR male input cable, apply a 1 kHz, -30 dBV signal to the channel 1 input.

2.4 Use an 80kHz low-pass filter on your measuring equipment. Reference a dB meter to the input level. Measure the frequency response at the Amp 1 OUT jack. It should be 0 dB + 3 dB from 30 Hz to 15 kHz.

2.5 Measure the Total Harmonic Distortion (THD) level at the Amp 1 OUT jack.
It should be 0.25% max at 1 kHz and 1.5% max at 15 kHz.

2.6 Move the shorting plug from the Amp 2 IN jack to the Amp 1 IN jack and repeat steps 2.1 to 2.5 for the channel 2 Mic input.

Test Procedures

3. Channel 1 and 2 Mic Input Signal to Noise Ratio (Dynamic Range) Tests

3.1 Place a 1/4” mono shorting plug into the Amp 2 IN and Amp 3 IN jacks on the right hand side of the input/output panel. This will disable the channel 2 and 3 amplifiers while testing the channel 1 amplifier.

3.2 On the left hand side of the input/output panel, set the channel 1 Mic Trim control to the 6 setting. Ensure that the Phantom Power push button is not pushed in.

3.3 Using a balanced XLR male input cable, apply a 1 kHz, -30 dBV signal to the channel 1 input.

3.4 Reference a dB meter to the output level at the Amp 1 OUT jack. Remove the input signal and measure the A-Weighted output level. It should be -80 dB minimum.

3.5 Move the shorting plug from the Amp 2 IN jack to the Amp 1 IN jack and repeat steps 3.1 to 3.4 for the channel 2 Mic input.

4. Channel 1 and 2 Mic Input Phantom Power Test

4.1 Plug an XLR connector into the channel 1 Mic input. Do not connect any cables to the channel 1 or channel 2 Mic inputs. Power on the unit.

4.2 Press the channel 1 phantom power switch. Verify that the LED lights. Using a DMM, measure the DC voltage level across pins 1 and 2 of the XLR connector. Verify that the DC level is +24Vdc + 1Vdc relative to pin 1.

4.3 Measure the DC voltage level across pins 1 and 3 of the XLR connector. Verify that the DC level is +24Vdc + 1Vdc relative to pin 1.

4.4 Repeat steps 4.1 to 4.3 for channel 2.

5. Channel 1 and 2 Line Input Gain Tests

5.1 Place a 1/4” mono shorting plug into the Amp 2 IN and Amp 3 IN jacks on the right hand side of the input/output panel. This will disable the channel 2 and 3 amplifiers while testing the channel 1 amplifier.

5.2 On the left hand side of the input/output panel, set the channel 1 Mic Trim control to the 6 setting. Ensure that the Phantom Power push button is not pushed in.

5.3 Using an unbalanced 1/4” phono jack input cable, apply a 1 kHz, -10 dBV signal to the channel 1 input.

5.4 Reference a dB meter to the input level. Measure the gain output at the Amp 1 OUT jack. It should be +28.5 dB + 4 dB.

5.5 On the signal generator, turn the input level all the way down. Verify that the channel 1 Signal/OL LED is off. Increase the signal generator level. Verify that the LED lights green. Increase the signal level again and verify that the LED lights red.
Note: You may have to increase the Mic Trim level on the PS1 channel 1 input as well to get the LED to light red.

5.5 Move the shorting plug from the Amp 2 IN jack to the Amp 1 IN jack and repeat steps 5.1 to 5.5 for the channel 2 Line input.

6. Channel 1 and 2 Line Input Frequency Reponse and Distortion Tests

6.1 Place a 1/4” mono shorting plug into the Amp 2 IN and Amp 3 IN jacks on the right hand side of the input/output panel. This will disable the channel 2 and 3 amplifiers while testing the channel 1 amplifier.

6.2 On the left hand side of the input/output panel, set the channel 1 Mic Trim control to the 6 setting. Ensure that the Phantom Power push button is not pushed in.

Test Procedures

6.3 Using an unbalanced 1/4” phono jack input cable, apply a 1 kHz, -10 dBV signal to the channel 1 input.

6.4 Use an 80 kHz low-pass filter on your measuring equipment. Reference a dB meter to the input level. Measure the frequency response at the Amp 1 OUT jack. It should be 0 dB + 3 dB from 30 Hz to 15 kHz.

6.5 Measure the Total Harmonic Distortion (THD) level at the Amp 1 OUT jack. It should be 0.25% max at 1 kHz and 1.5% max at 15 kHz.

6.6 Move the shorting plug from the Amp 2 IN jack to the Amp 1 IN jack and repeat steps 6.1 to 6.5 for the channel 2 Line input.

7. Channel 1 and 2 Line Input Signal to Noise Ratio (Dynamic Range) Tests

7.1 Place a 1/4” mono shorting plug into the Amp 2 IN and Amp 3 IN jacks on the right hand side of the input/output panel. This will disable the channel 2 and 3 amplifiers while testing the channel 1 amplifier.

7.2 On the left hand side of the input/output panel, set the channel 1 Mic Trim control to the 6 setting. Ensure that the Phantom Power push button is not pushed in.

7.3 Using an unbalanced 1/4” phono jack input cable, apply a 1 kHz, -10 dBV signal to the channel 1 input.

7.4 Reference a dB meter to the output level at the Amp 1 OUT jack. Remove the input signal and measure the A-Weighted output level. It should be -80 dB minimum.

7.5 Move the shorting plug from the Amp 2 IN jack to the Amp 1 IN jack and repeat steps 7.1 to 7.4 for the channel 2 Line input.

8. Channel 3 and 4 Line Input Gain Tests

8.1 Place a 1/4” mono shorting plug into the Amp 1 IN and Amp 2 IN jacks on the right hand side of the input/output panel. This will disable the channel 1 and 2 amplifiers while testing the channel 3 amplifier.

8.2 On the left hand side of the input/output panel, set the channel 3 Level control to the 6 setting.

8.3 Using an unbalanced 1/4” phono jack input cable, apply a 1 kHz, -20 dBV signal to the channel 1 input.

8.4 Reference a dB meter to the input level. Measure the gain output at the Bass/Amp 3 OUT jack. It should be +40.1 dB + 3 dB.

8.5 Repeat steps 8.1 to 8.4 for the channel 4 Line input.

9. Channel 3 and 4 Line Input Frequency Reponse and Distortion Tests

9.1 Place a 1/4” mono shorting plug into the Amp 1 IN and Amp 2 IN jacks on the right hand side of the input/output panel. This will disable the channel 1 and 2 amplifiers while testing the channel 3 amplifier.

9.2 On the left hand side of the input/output panel, set the channel 4 Mic Trim control to the 6 setting.

9.3 Using an unbalanced 1/4” phono jack input cable, apply a 1 kHz, -20 dBV signal to the channel 1 input.

9.4 Use an 80 kHz low-pass filter on your measuring equipment. Reference a dB meter to the input level. Measure the frequency response at the Amp 1 OUT jack. It should be 0 dB + 3 dB from 30 Hz to 15 kHz.

9.5 Measure the Total Harmonic Distortion (THD) level at the Amp 1 OUT jack. It should be 0.25% max at 1 kHz and 1.5% max at 15 kHz.

Test Procedures

9.6 Repeat steps 9.1 to 9.5 for the channel 4 Line input.

10. Channel 3 and 4 Line Input Signal to Noise Ratio (Dynamic Range) Tests

10.1 Place a 1/4" mono shorting plug into the Amp 1 IN and Amp 2 IN jacks on the right hand side of the input/output panel. This will disable the channel 1 and 2 amplifiers while testing the channel 3 amplifier.

10.2 On the left hand side of the input/output panel, set the channel 3 Level control to the 6 setting.

10.3 Using an unbalanced 1/4" phono jack input cable, apply a 1 kHz, -10 dBV signal to the channel 1 input.

10.4 Reference a dB meter to the output level at the Bass/Amp 3 OUT jack. Remove the input signal and measure the A-Weighted output level. It should be -80 dB minimum.

10.5 Repeat steps 10.1 to 10.4 for the channel 4 Line input.

11. Channel 1 and 2 Remote Control, Preset Switch and Insert Function Tests

11.1 Connect the PS1 power stand to a known good L1 line array. Set the channel 1 preset switch to 00. Connect the remote control to the unit using the remote control MIDI cable supplied with the PS1.

11.2 Connect an analog audio source to the Channel 1 line input 1/4 inch jack. This source can be a CD player with a music disc.

11.3 Adjust the trim level so that the LED is lit mostly green. The audio should sound normal.

11.4 With the audio playing, change the channel 1 preset to 97 and back to 00. The channel should mute gracefully when the preset switch is operated. The audio should fade back in again about a second after the switch has stopped operating.
Note: Preset 97 is a 1 kHz band pass (telephone-type sound). Preset 00 should sound normal.

11.5 Operate all channel 1 controls on the remote (high, mid, low, volume and master volume). All tone controls should have a clearly audible effect and operate smoothly. Channel volume may display a little "zipper" noise, which is normal.

Note: Channel volume all the way down does not mute the channel, but the output level should be very low. There is a small, but noticeable time delay between operating the control and the audible effect. This is normal. The master volume control should operate smoothly without any artifacts.

11.6 Insert a 1/4 inch phono jack all the way into the channel 1 Insert jack. The audio should sound normal.

11.7 Insert a 1/4 inch phono jack into the channel 3 Line IN jack and operate the volume control on the power stand. The audio should sound normal.

11.8 Repeat steps 11.1 to 11.7 for the channel 2 input.

12. Channel 1 Send, Line Output and Digital Output Tests

Note: For these tests you will need an external device that can accept both 1/4 inch and XLR inputs. A small mixer, such as a Mackie or Behringer with headphones connected works well for this. The master volume control on the PS1's remote control should be set all the way down to mute all sound coming from the unit under test.

Test Procedures

12.1 Connect the PS1 power stand to a known good L1 line array. Set the channel 1 preset switch to 00. Connect the remote control to the unit using the remote control MIDI cable supplied with the PS1.

12.2 Connect an analog audio source to the Channel 1 Line IN 1/4 inch jack. This source can be a CD player with a music disc.

12.3 Adjust the trim level so that the LED is lit mostly green. The audio should sound normal.

12.4 Insert a 1/4 inch plug halfway into the channel 1 Insert jack. The audio should sound normal.

12.5 Connect the PS1 channel 1 XLR Line OUT jack to the XLR input of the mixer. The audio should sound normal.

Note: The PS1 puts out a “professional” +4dBu level. You may have to turn the the input trim control on the mixer all the way down to prevent overloading the signal and distorting it.

12.6 Connect the Data Out jack of the PS1 to a device that accepts a 48 kHz S/PDIF data stream. The audio should sound normal.

13. Power Amplifier Tests

13.1 Connect the PS1 power stand to a known good L1 line array. Set the channel 1 preset switch to 00. Connect the remote control to the unit using the remote control MIDI cable supplied with the PS1.

13.2 Connect an analog audio source to the Amp 1 IN 1/4 inch phono jack. This source can be a CD player with a music disc.

13.3 Verify that the audio comes from the upper section of the L1 line array. The audio should sound clean and undistorted.

13.4 Connect the audio source to the Amp 2 IN 1/4 inch phono jack. Verify that the audio comes from the lower section of the L1 line array. The audio should sound clean and undistorted.

13.5 Connect a B1 bass module to the PS1 power stand at the Bass/Amp 3 OUT jack. Connect the audio source to the Amp 3 IN 1/4 inch phono jack. Sound should come from the bass module only and be clean and undistorted.

13.6 Connect the audio source to the All Amps IN 1/4 inch phono jack. Sound should come from both of the L1 line array sections and the bass module simultaneously. The audio should be clear and undistorted.

14. High SPL System Sweep Test

CAUTION: This test will be extremely loud. Hearing protection is advised.

14.1 Connect a R1 remote control to the PS1 power stand under test. Set the channel 1 controls to mid-level. Set the master volume control on the remote to the 1 o’clock position. Set the channel 1 Mic Trim control on the PS1 to 6. Connect a L1 line array to the PS1. Connect a B1 bass module to the PS1.

14.2 Connect a signal generator to the channel 1 input on the PS1. Adjust the signal generator and/or trim control so that the Signal/OL LED is just below red.

14.3 Sweep the input frequency from 40 Hz to 14 kHz. Listen for any unusual noises and excessive distortion or drop-outs.

15. Bass Module Auto-EQ Test

15.1 Connect a L1 line array to the PS1 power stand. Connect an R1 remote control to the power stand. Connect a B1 bass module to the Bass/Amp 3 OUT jack on the power stand. Connect an audio source to the channel 1 and 2 inputs of the power stand.

Test Procedures

15.2 Set the channel 1 and 2 level controls to identical settings so that both LEDs are mainly green.

15.3 While the audio is playing, disconnect the B1 bass module from the power stand. The system should mute and un-mute and audio should resume. The audio should sound normal, but not punchy (no deep bass).

15.4 Plug a dummy 1/4 inch phono jack into the Bass Line Out jack. The system should mute and un-mute again, but the audio should sound thinner than before.

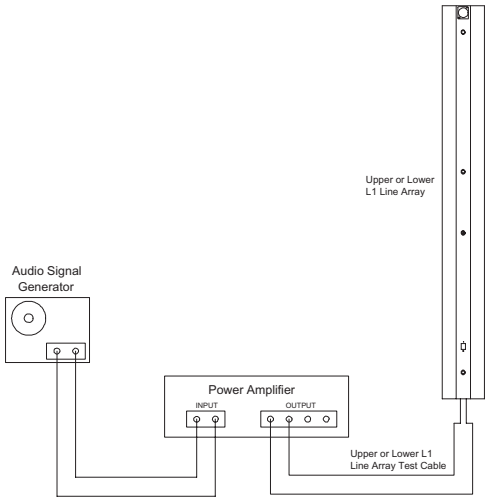
15.5 Remove the dummy plug. The system should mute and un-mute and the audio should sound normal again.

15.6 Re-connect the B1 bass module to the power stand. The audio should mute and un-mute again and sound normal.

15.7 Connect a second B1 bass module to the first one. The audio should mute and un-mute. The audio will sound very similar to having only one bass module attached. Disconnect the second bass module. The system should mute and un-mute and the audio should sound normal again.

L1 Line Array Tests

Set up the unit under test as shown below.



1. Air Leak Test

1.1 Apply a 100 Hz, 10 Vrms sine wave to the unit under test.

1.2 Listen carefully for air leaks from around the end cap, the transducers and the grille. Air leaks will be heard as a hissing or sputtering sound. All repairs must be hidden. Test duration should be 5 seconds minimum.

2. Transducer Rub and Tick Test

2.1 Remove the transducer you wish to test using the disassembly procedures in this manual. Do not unplug the wires at the transducer assembly terminals.

2.2 Connect a signal generator directly to the terminals of the transducer assembly under test.

2.3 Apply a 20 Hz, 5 Vrms signal to the transducer assembly.

2.4 Listen carefully for any extraneous noises such as rubbing, scraping or ticking.

Note: To distinguish between normal suspension noise and rubs or ticks, displace the cone slightly with your fingers. If the noise stays the same, it is normal suspension noise and the driver is good. Suspension noise will not be heard with program material.

3. Transducer Phase Test

3.1 Apply a DC voltage of 10V, positive applied to the positive tab of the dual banana jack on the line array test cable and negative applied to negative (gnd) tab.

3.2 All of the driver cones should move outward when the DC voltage is applied.

3.3 Rewire any incorrectly connected transducers.

Test Procedures

4. L1 Line Array Sweep Test

4.1 Set up the upper or lower line array section as shown in the figure on the previous page.

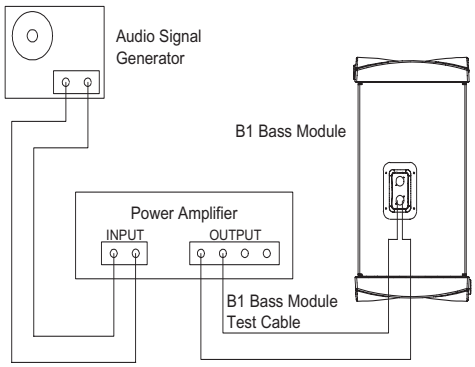
4.2 Apply a 100 Hz, 10 Vrms sine wave to the input.

4.3 While listening to the output of the system, sweep the input frequency slowly from 100 Hz to 15 kHz.

4.4 Listen carefully for any extraneous noises such as buzzing and ticking.

B1 Bass Module Tests

Set up the unit under test as shown below.



1. Air Leak Test

1.1 Apply a 100 Hz, 20 Vrms sine wave to the unit under test.

1.2 Listen carefully for air leaks from around the end cap, the transducers and the grille. Air leaks will be heard as a hissing or sputtering sound. All repairs must be hidden. Test duration should be 5 seconds minimum.

2. Transducer Rub and Tick Test

2.1 Remove the transducer you wish to test using the disassembly procedures in this manual. Do not unplug the wires at the transducer assembly terminals.

2.2 Connect a signal generator directly to the terminals of the transducer assembly under test.

2.3 Apply a 10 Hz, 10 Vrms signal to the transducer assembly.

2.4 Listen carefully for any extraneous noises such as rubbing, scraping or ticking.

Note: To distinguish between normal suspension noise and rubs or ticks, displace the cone slightly with your fingers. If the noise stays the same, it is normal suspension noise and the driver is good. Suspension noise will not be heard with program material.

3. Transducer Phase Test

3.1 Apply a DC voltage of 20V, positive applied to the positive tab of the dual banana jack on the bass module test cable and negative applied to negative (gnd) tab.

3.2 Notice carefully that all driver cones should move outward when the DC voltage is applied.

3.3 Rewire any incorrectly connected transducers.

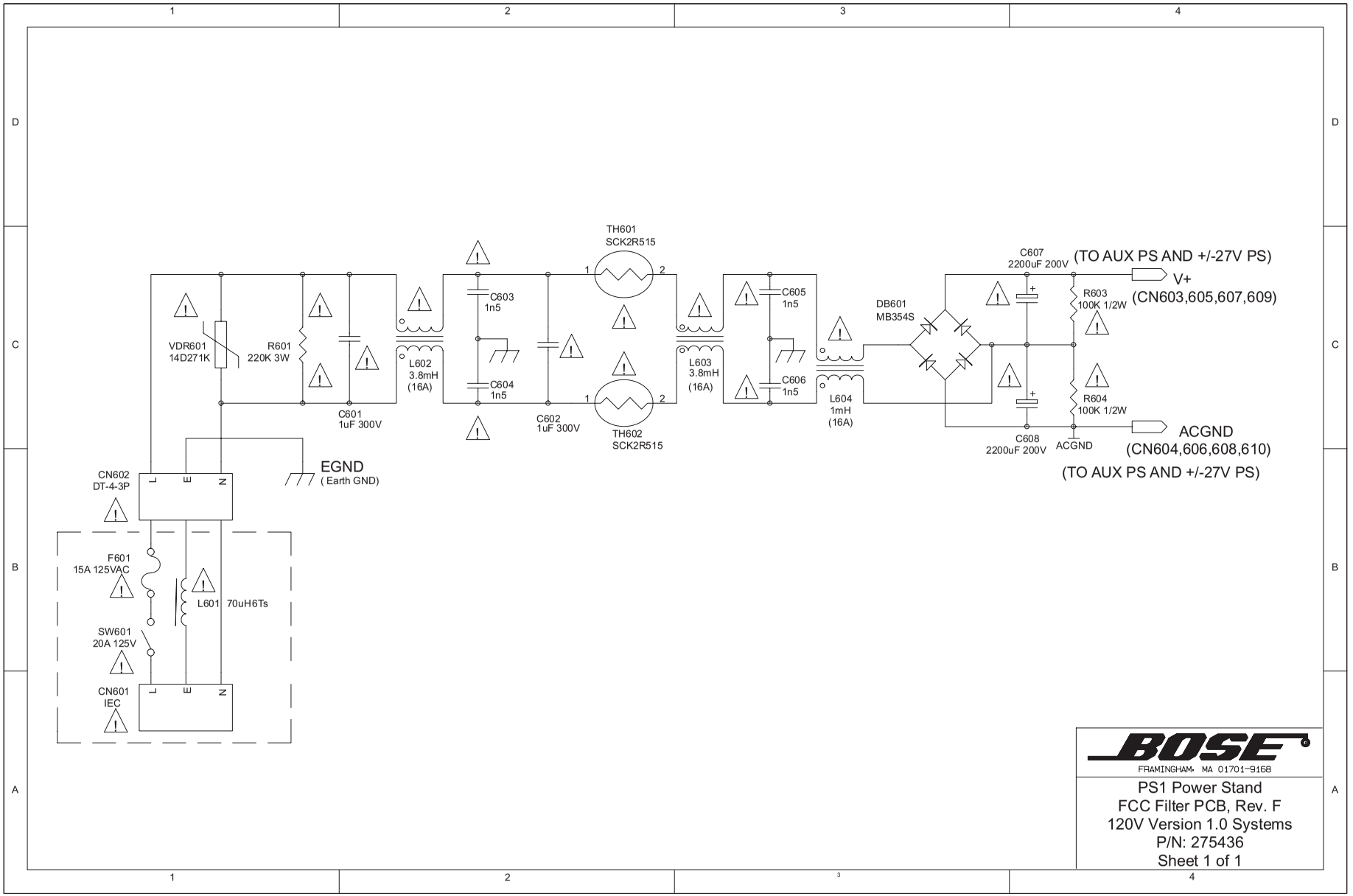
4. System Sweep Test

4.1 Set up the system as shown in the figure at left.

4.2 Apply a 10 Hz, 20 Vrms sine wave to the input.

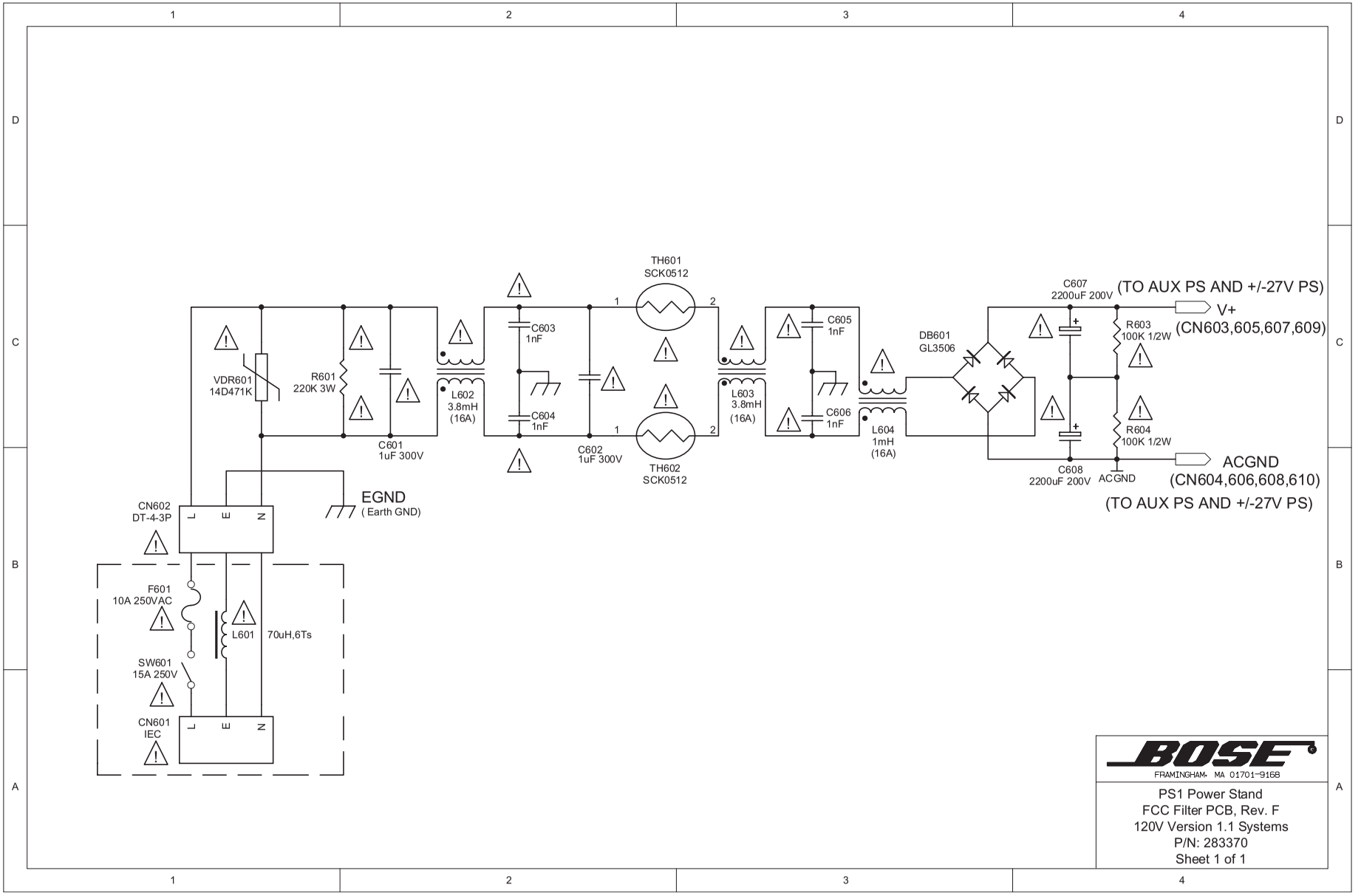
4.3 While listening to the output of the system, sweep the input frequency slowly from 10 Hz to 400 Hz.

4.4 Listen carefully for any extraneous noises such as buzzing and ticking.



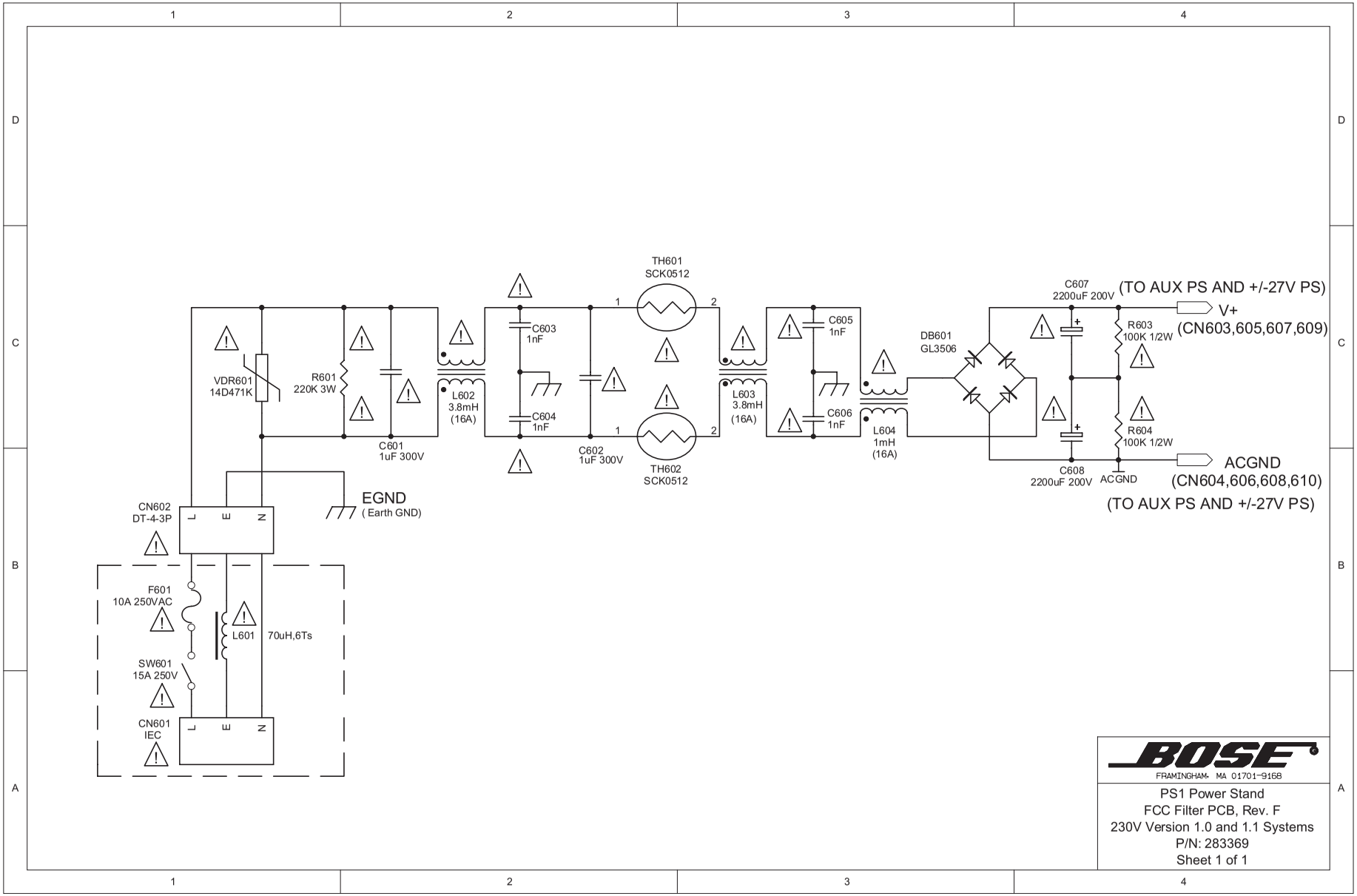
BOSE
FRAMINGHAM, MA 01701-9168

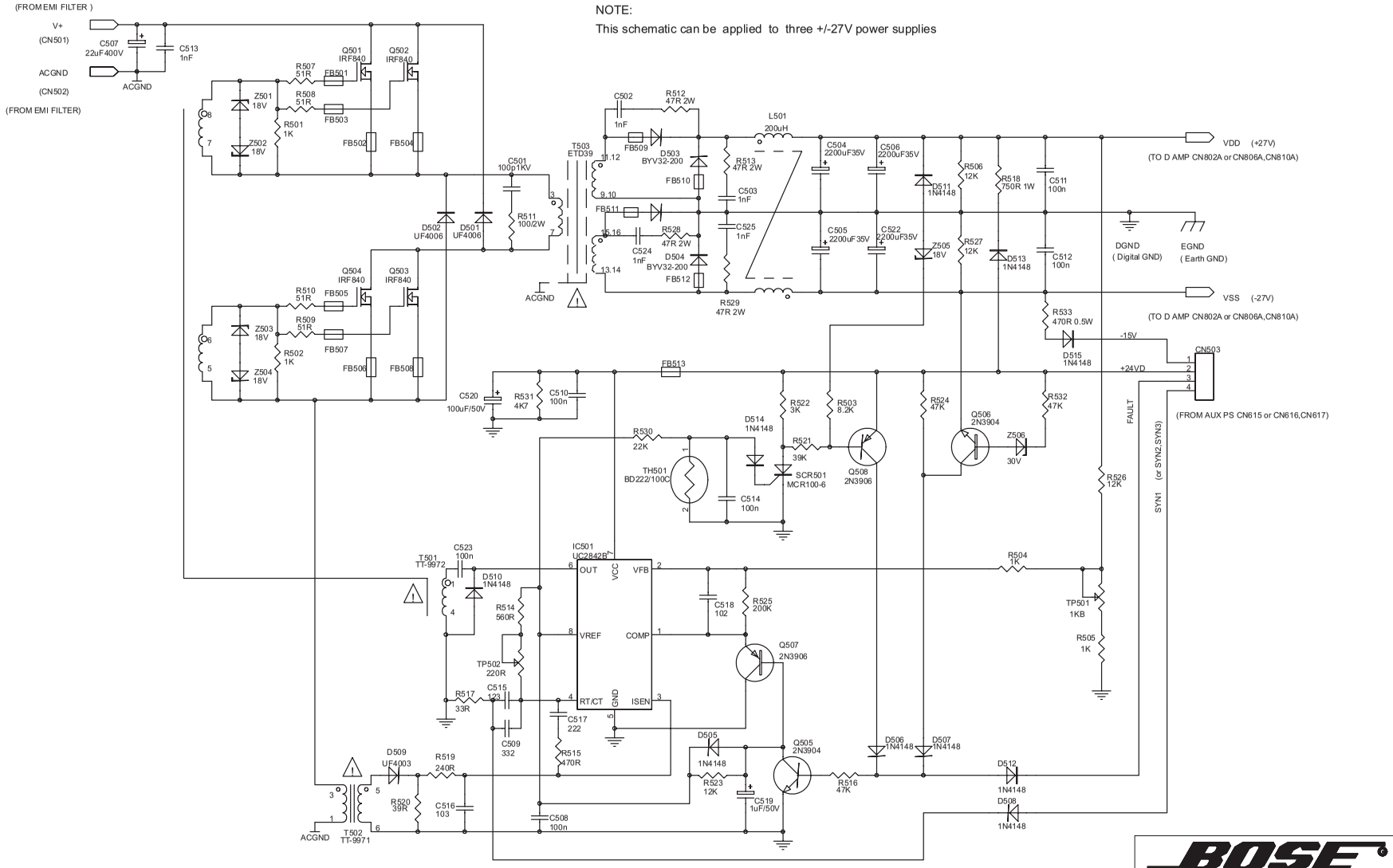
PS1 Power Stand
FCC Filter PCB, Rev. F
120V Version 1.0 Systems
P/N: 275436
Sheet 1 of 1



BOSE
FRAMINGHAM, MA 01701-9168

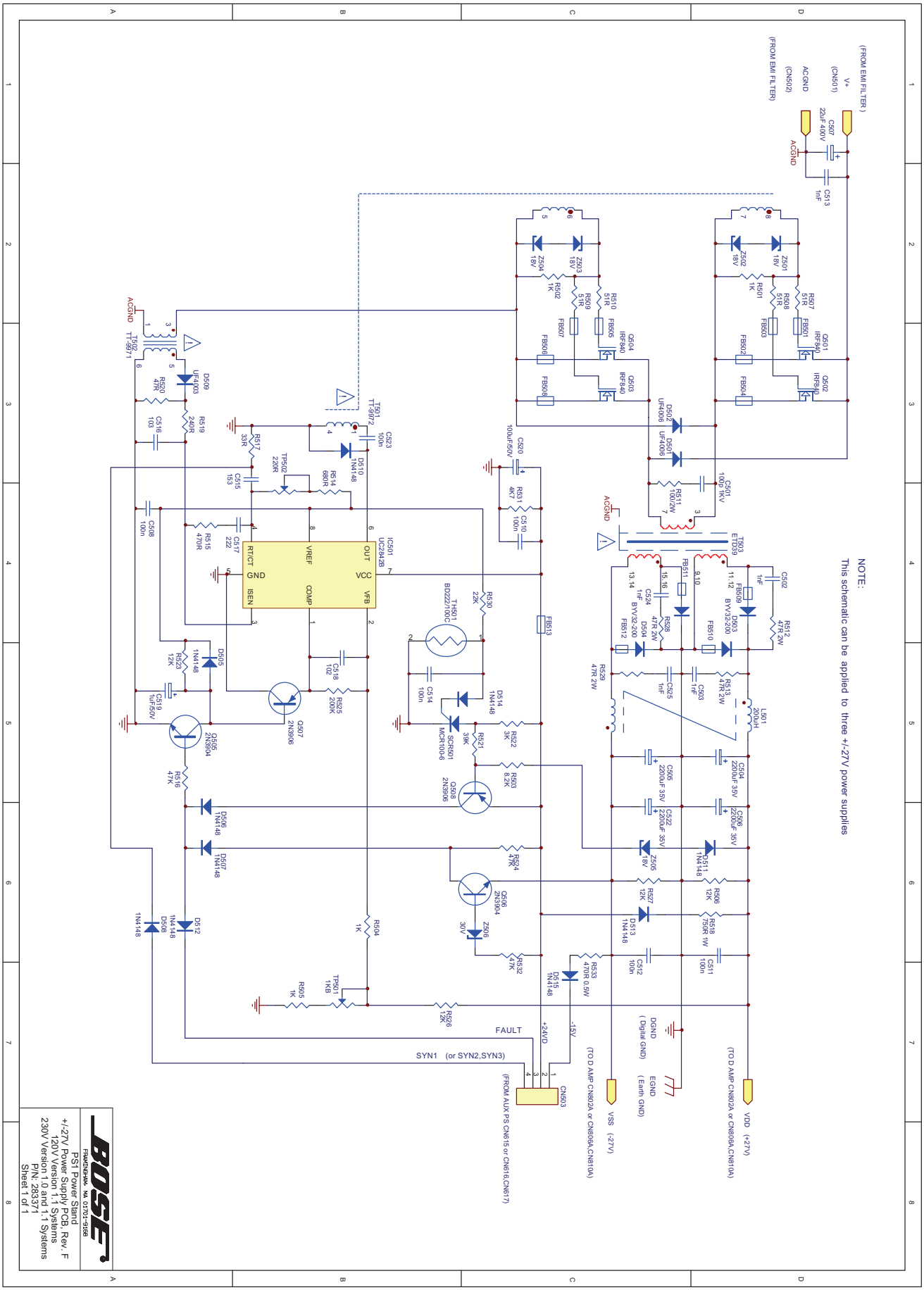
PS1 Power Stand
FCC Filter PCB, Rev. F
120V Version 1.1 Systems
P/N: 283370
Sheet 1 of 1

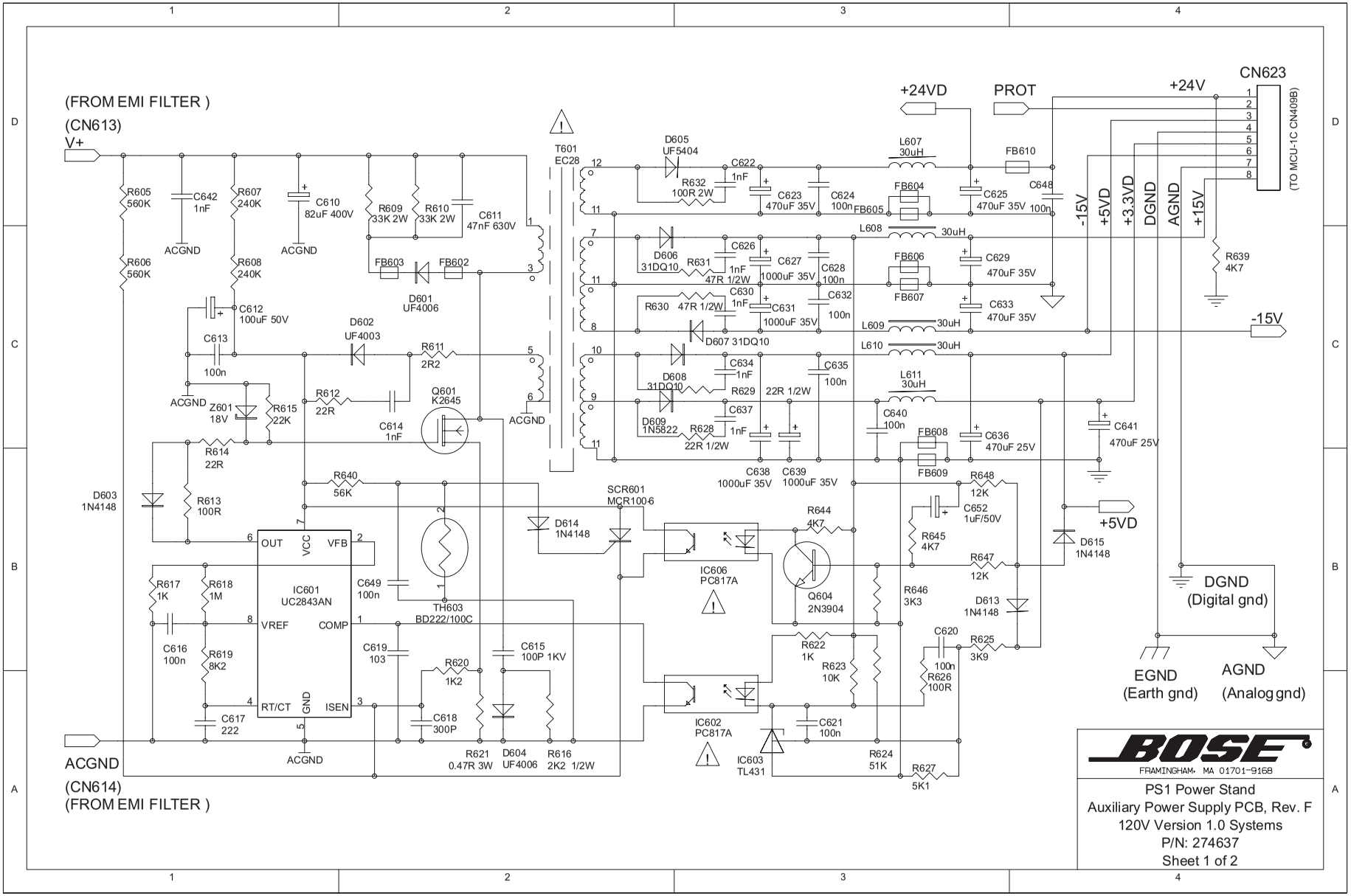

1
2
3
4
D
C
B
A
TH601
SCK0512
C607
2200uF 200V
(TO AUX PS AND +/-27V PS)
V+
(CN603,605,607,609)
DB601
GL3506
R603
100K 1/2W
VDR601
14D471K
R601
220K 3W
C601
1uF 300V
L602
3.8mH
(16A)
C603
1nF
C604
1nF
C602
1uF 300V
TH602
SCK0512
L603
3.8mH
(16A)
C605
1nF
C606
1nF
L604
1mH
(16A)
R604
100K 1/2W
C608
2200uF 200V
ACGND
ACGND
(CN604,606,608,610)
(TO AUX PS AND +/-27V PS)
EGND
(Earth GND)
CN602
DT-4-3P
L
E
N
F601
10A 250VAC
L601
70uH,6Ts
SW601
15A 250V
CN601
IEC
L
E
N
BOSE
FRAMINGHAM, MA 01701-9168
PS1 Power Stand
FCC Filter PCB, Rev. F
230V Version 1.0 and 1.1 Systems
P/N: 283369
Sheet 1 of 1

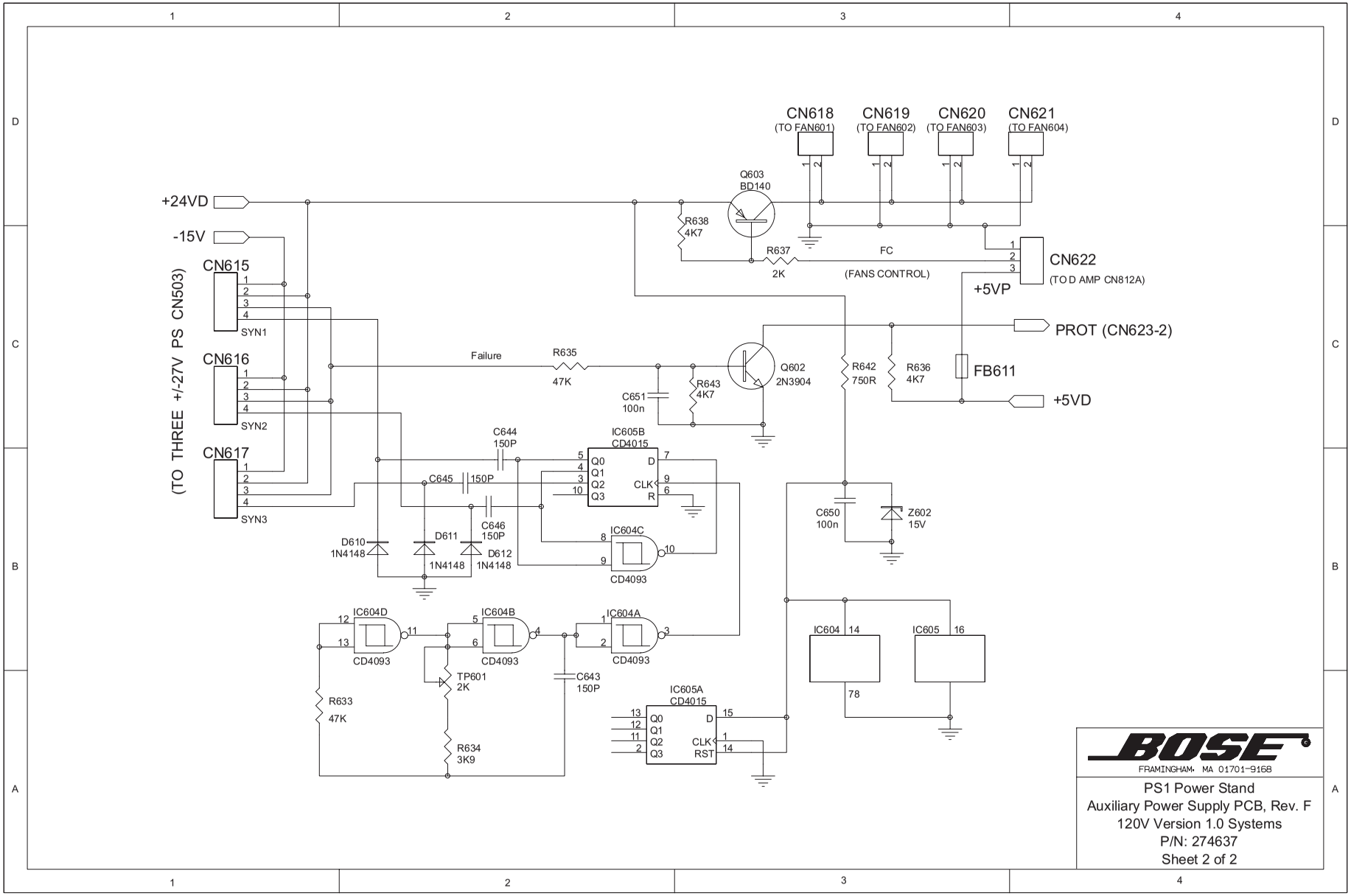


BOSE
FRAMINGHAM, MA 01701-9168

PS1 Power Stand
+/-27V Power Supply PCB, Rev. F
120V Version 1.0 Systems
P/N: 273734
Sheet 1 of 1

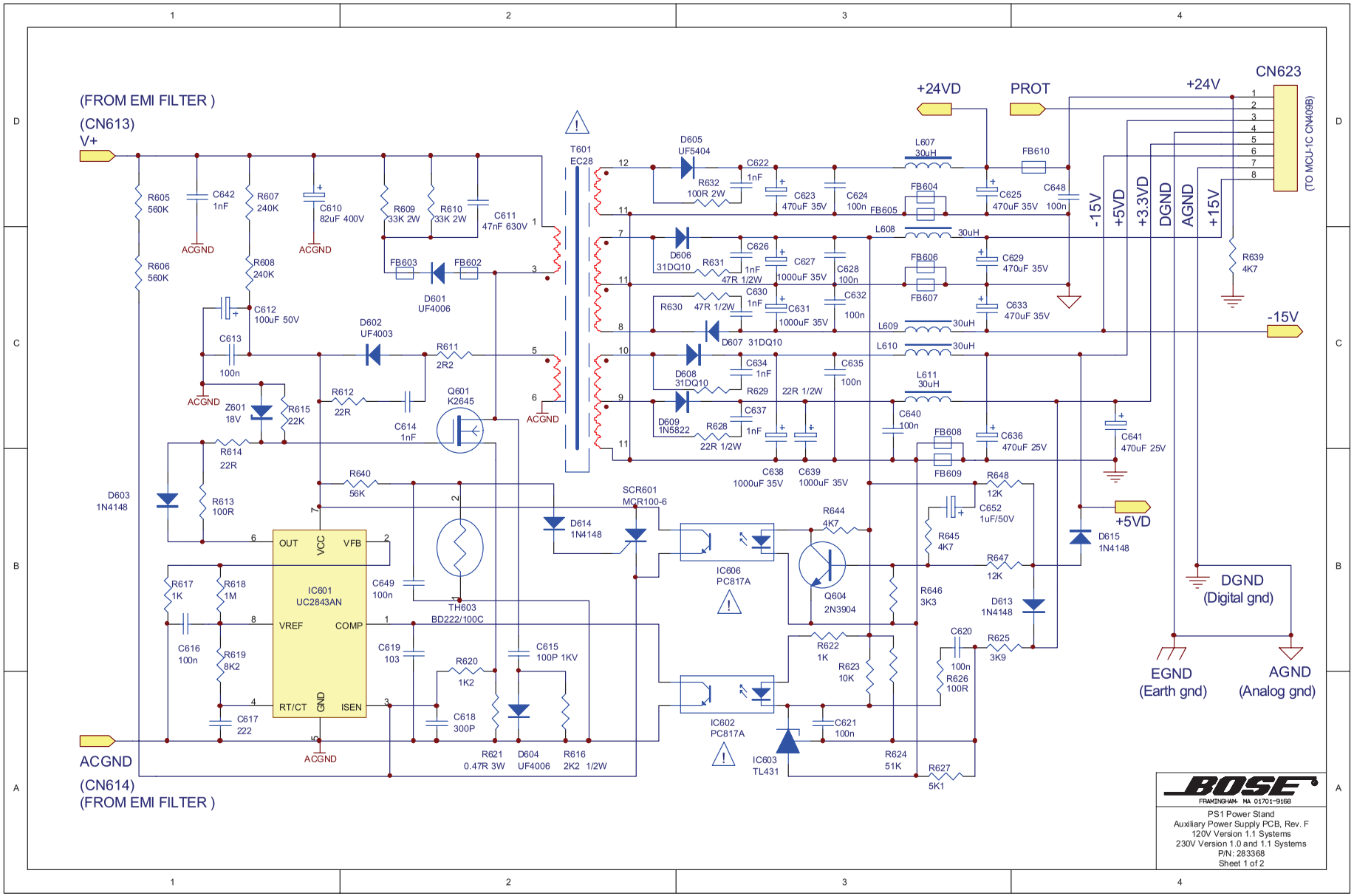

NOTE:
This schematic can be applied to three +/-27V power supplies
(FROM EMI FILTER)
V+ (CN501)
ACGND (CN502)
(FROM EMI FILTER)
C507 22uF 400V
C513 1nF
ACGND
Z501 18V
Z502 18V
Z503 18V
Z504 18V
R501 1K
R502 1K
R507 51R
R508 51R
R509 51R
R510 51R
Q501 IRF840
Q502 IRF840
Q503 IRF840
Q504 IRF840
FB501
FB502
FB503
FB504
FB505
FB506
FB507
FB508
D501 UF4006
D502 UF4006
C501 100nF 1KV
R511 100/2W
C520 100uF/50V
R531 4K7
C510 100n
T503 ETD39
FB511
C502 1nF
FB509
R512 47K 2W
C524 1nF
D503 BYV32-200
D504 BYV32-200
FB510
FB512
R528 47R 2W
R539 47K 2W
C525 1nF
C503 1nF
R513 47K 2W
L501 200uH
C505 2200uF 35V
C504 2200uF 35V
C522 2200uF 35V
C506 2200uF 35V
Z505 18V
D511 1N4148
R527 12K
R506 12K
D513 1N4148
R518 750R 1W
C512 100n
C511 100n
R533 470R 0.5W
D515 1N4148
R532 47K
Z506 30V
Q506 2N3904
R524 47K
R504 1K
R505 1K
TP501 1KB
R526 12K
FAULT
SYN1 (or SYN2,SYN3)
+24VD
-15V
DGND (Digital GND)
EGND (Earth GND)
VSS (-27V)
VDD (+27V)
(TO D AMP CN802A or CN806A,CN810A)
(TO D AMP CN802A or CN806A,CN810A)
CN503
(FROM AUX PS CN615 or CN616,CN617)
T502 TT-9971
D509 UF4003
R520 47R
R519 240R
C516 103
R517 33R
C515 153
TP502 220R
T501 TT-9972
C523 100n
D510 1N4148
R514 680R
C508 100n
R515 470R
C517 222
IC501 UC2842B
RT/CT
GND
VREF
OUT
VCC
ISEN
COMP
VFB
R530 22K
TH501 BD222/100C
C514 100n
D514 1N4148
SCR501 MCR100-6
R521 39K
R522 3K
R503 8.2K
Q508 2N3906
C518 102
R525 200K
Q507 2N3906
D505 1N4148
R523 12K
C519 1uF/50V
Q505 2N3904
R516 47K
D506 1N4148
D507 1N4148
D512 1N4148
D508 1N4148
1N4148
FB513

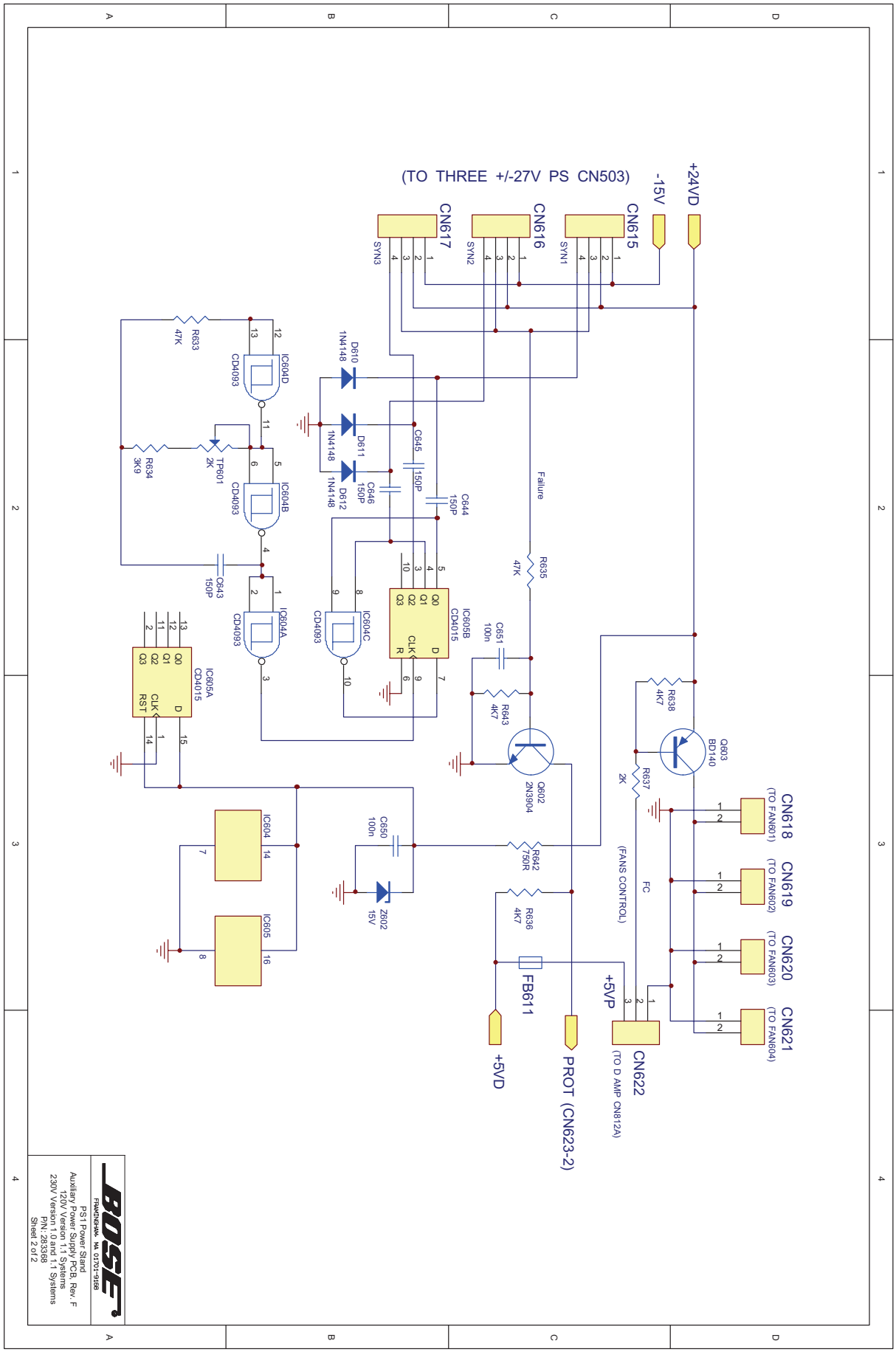

(FROM EMI FILTER)
(CN613)
V+
ACGND
(CN614)
(FROM EMI FILTER)
T601
EC28
IC601
UC2843AN
IC606
PC817A
IC602
PC817A
IC603
TL431
Q601
K2645
Q604
2N3904
SCR601
MCR100-6
TH603
BD222/100C
+24VD
PROT
+24V
CN623
(TO MCU-1C CN409B)
-15V
+5VD
+3.3VD
DGND
AGND
+15V
DGND
(Digital gnd)
EGND
(Earth gnd)
AGND
(Analog gnd)
BOSE
FRAMINGHAM, MA 01701-9168
PS1 Power Stand
Auxiliary Power Supply PCB, Rev. F
120V Version 1.0 Systems
P/N: 274637
Sheet 1 of 2

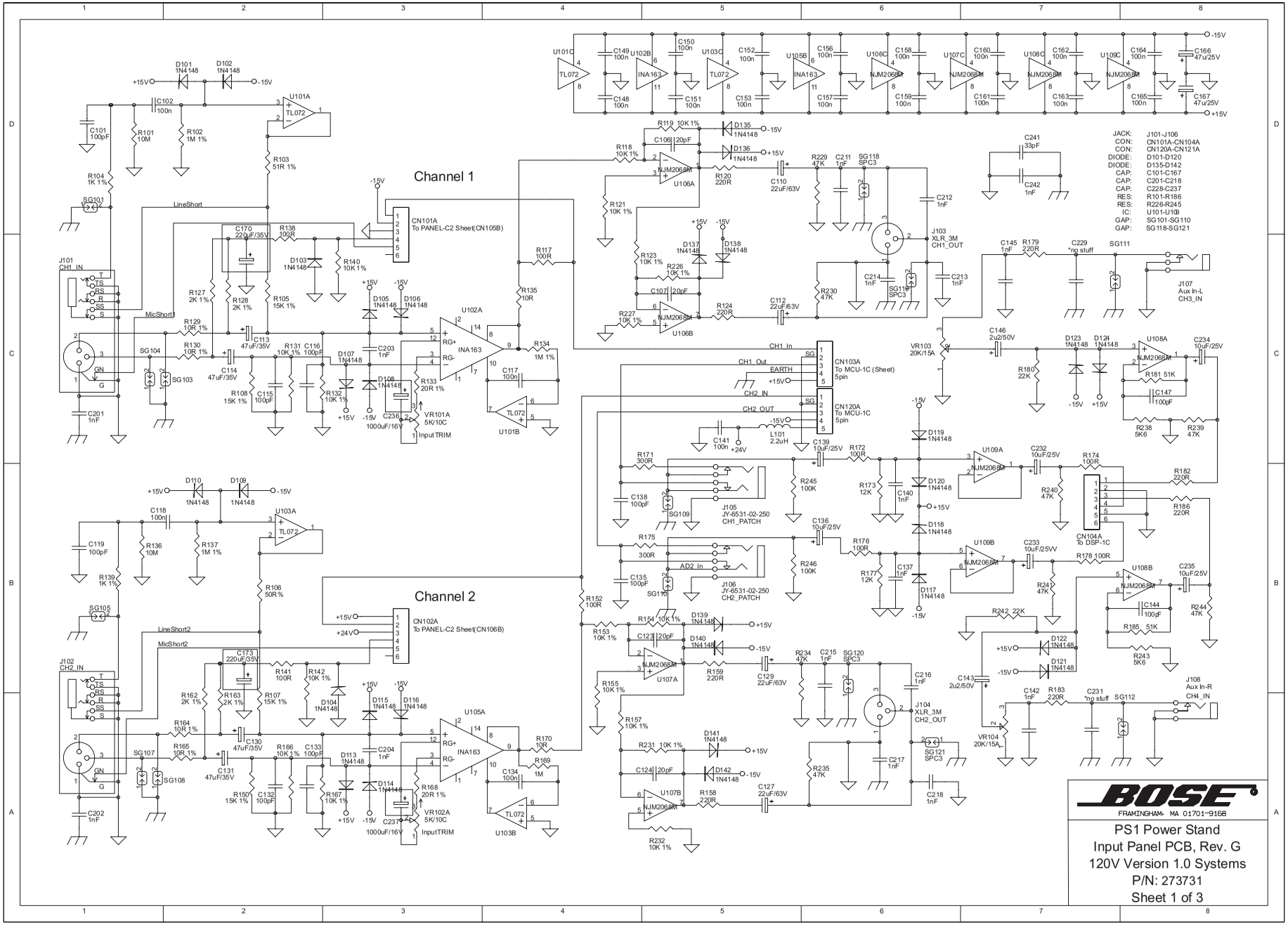


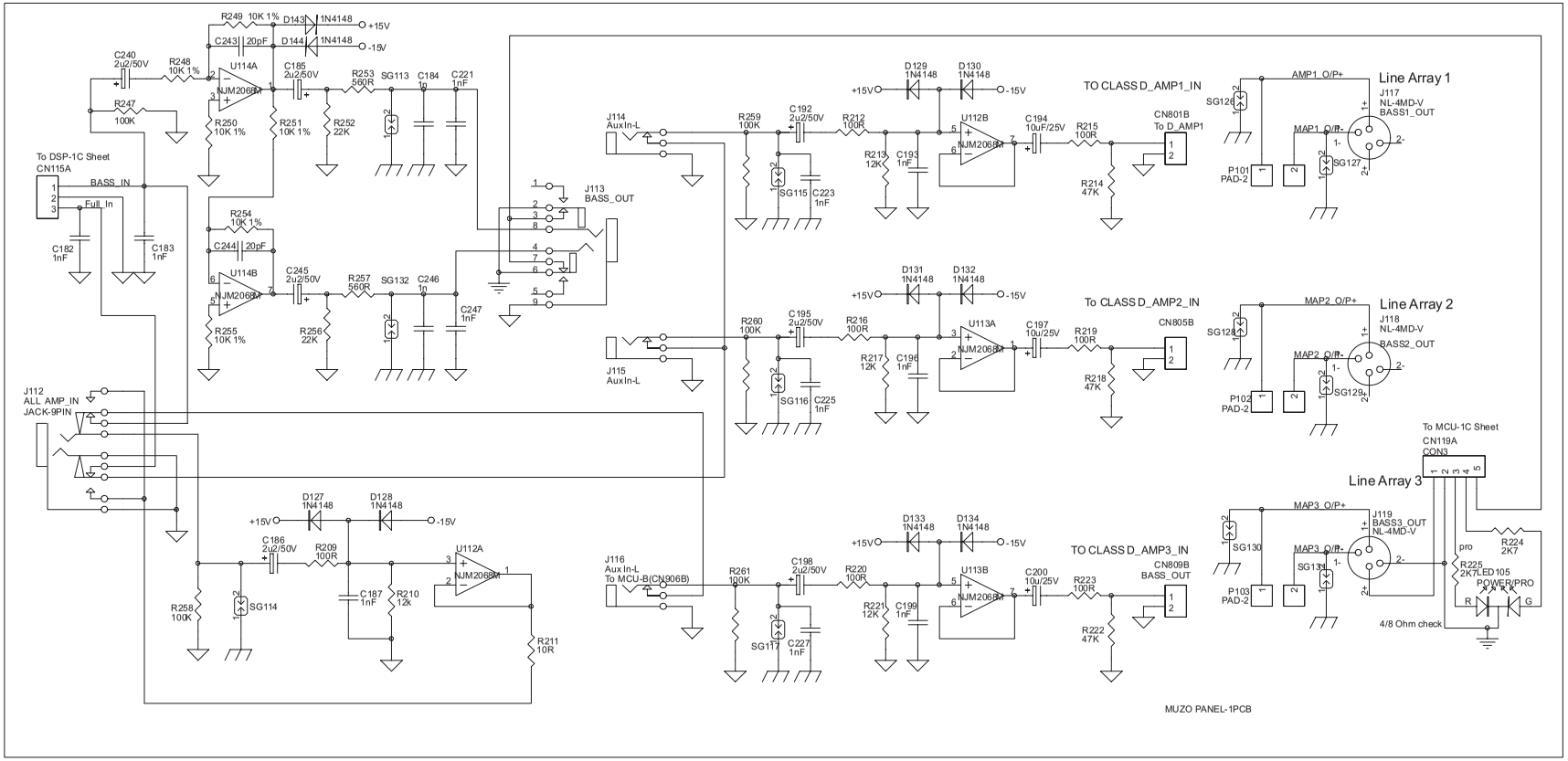
BOSE
FRAMINGHAM, MA 01701-9168

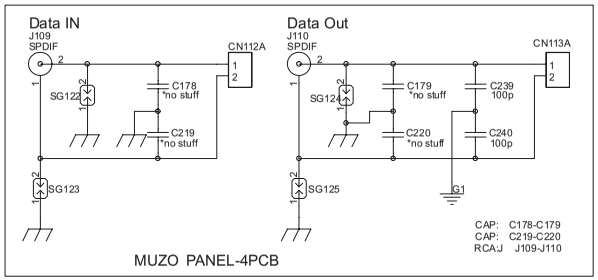
PS1 Power Stand
Auxiliary Power Supply PCB, Rev. F
120V Version 1.0 Systems
P/N: 274637
Sheet 2 of 2


(FROM EMI FILTER)
(CN613)
V+
ACGND
(CN614)
(FROM EMI FILTER)
+24VD
PROT
+24V
CN623
(TO MCU-1C CN409B)
-15V
+5VD
+3.3VD
DGND
AGND
+15V
DGND
(Digital gnd)
EGND
(Earth gnd)
AGND
(Analog gnd)
T601
EC28
IC601
UC2843AN
IC606
PC817A
IC602
PC817A
IC603
TL431
Q601
K2645
Q604
2N3904
TH603
BD222/100C
SCR601
MCR100-6
D601
UF4006
D602
UF4003
D603
1N4148
D604
UF4006
D605
UF5404
D606
31DQ10
D607
31DQ10
D608
31DQ10
D609
1N5822
D613
1N4148
D614
1N4148
D615
1N4148
Z601
18V
R605
560K
R606
560K
R607
240K
R608
240K
R609
33K 2W
R610
33K 2W
R611
2R2
R612
22R
R613
100R
R614
22R
R615
22K
R616
2K2 1/2W
R617
1K
R618
1M
R619
8K2
R620
1K2
R621
0.47R 3W
R622
1K
R623
10K
R624
51K
R625
3K9
R626
100R
R627
5K1
R628
22R 1/2W
R629
22R 1/2W
R630
47R 1/2W
R631
47R 1/2W
R632
100R 2W
R639
4K7
R640
56K
R644
4K7
R645
4K7
R646
3K3
R647
12K
R648
12K
C610
82uF 400V
C611
47nF 630V
C612
100uF 50V
C613
100n
C614
1nF
C615
100P 1KV
C616
100n
C617
222
C618
300P
C619
103
C620
100n
C621
100n
C622
1nF
C623
470uF 35V
C624
100n
C625
470uF 35V
C626
1nF
C627
1000uF 35V
C628
100n
C629
470uF 35V
C630
1nF
C631
1000uF 35V
C632
100n
C633
470uF 35V
C634
1nF
C635
100n
C636
470uF 25V
C637
1nF
C638
1000uF 35V
C639
1000uF 35V
C640
100n
C641
470uF 25V
C642
1nF
C648
100n
C649
100n
C652
1uF/50V
L607
30uH
L608
30uH
L609
30uH
L610
30uH
L611
30uH
FB602
FB603
FB604
FB605
FB606
FB607
FB608
FB609
FB610
OUT
VCC
VFB
VREF
COMP
RT/CT
GND
ISEN
BOSE
FRAMINGHAM, MA 01701-9168
PS1 Power Stand
Auxiliary Power Supply PCB, Rev. F
120V Version 1.1 Systems
230V Version 1.0 and 1.1 Systems
P/N: 283368
Sheet 1 of 2

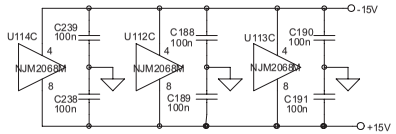

(TO THREE +/-27V PS CN503)
+24VD
-15V
CN615
CN616
CN617
SYN1
SYN2
SYN3
D610
1N4148
D611
1N4148
D612
1N4148
C645
150P
C646
150P
C644
150P
C643
150P
C651
100n
C650
100n
Failure
R635
47K
R633
47K
R634
3K9
TP601
2K
R638
4K7
R637
2K
R643
4K7
R642
750R
R636
4K7
FB611
Q603
BD140
Q602
2N3904
Z602
15V
IC604A
IC604B
IC604C
IC604D
CD4093
IC605A
IC605B
CD4015
IC604
IC605
CN618
CN619
CN620
CN621
(TO FAN601)
(TO FAN602)
(TO FAN603)
(TO FAN604)
FC
(FANS CONTROL)
+5VP
CN622
(TO D AMP CN812A)
PROT (CN623-2)
+5VD
BOSE
FRAMINGHAM, MA 01701-9168
PS1 Power Stand
Auxiliary Power Supply PCB, Rev. F
120V Version 1.1 Systems
230V Version 1.0 and 1.1 Systems
P/N: 283368
Sheet 2 of 2


Channel 1
Channel 2
JACK: J101-J106
CON: CN101A-CN104A
CON: CN120A-CN121A
DIODE: D101-D120
DIODE: D135-D142
CAP: C101-C167
CAP: C201-C218
CAP: C228-C237
RES: R101-R186
RES: R226-R245
IC: U101-U109
GAP: SG101-SG110
GAP: SG118-SG121
BOSE
FRAMINGHAM, MA 01701-9168
PS1 Power Stand
Input Panel PCB, Rev. G
120V Version 1.0 Systems
P/N: 273731
Sheet 1 of 3



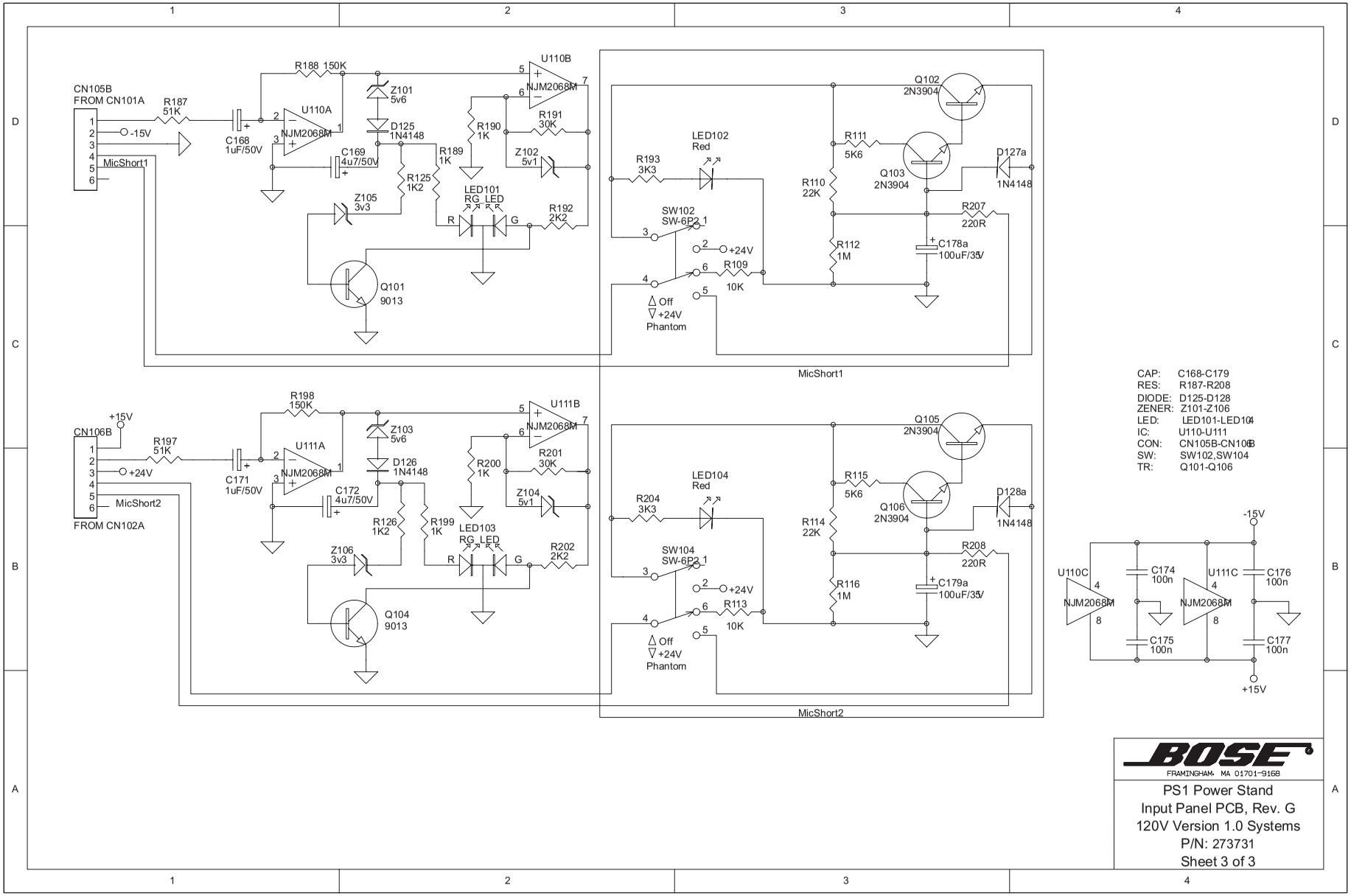


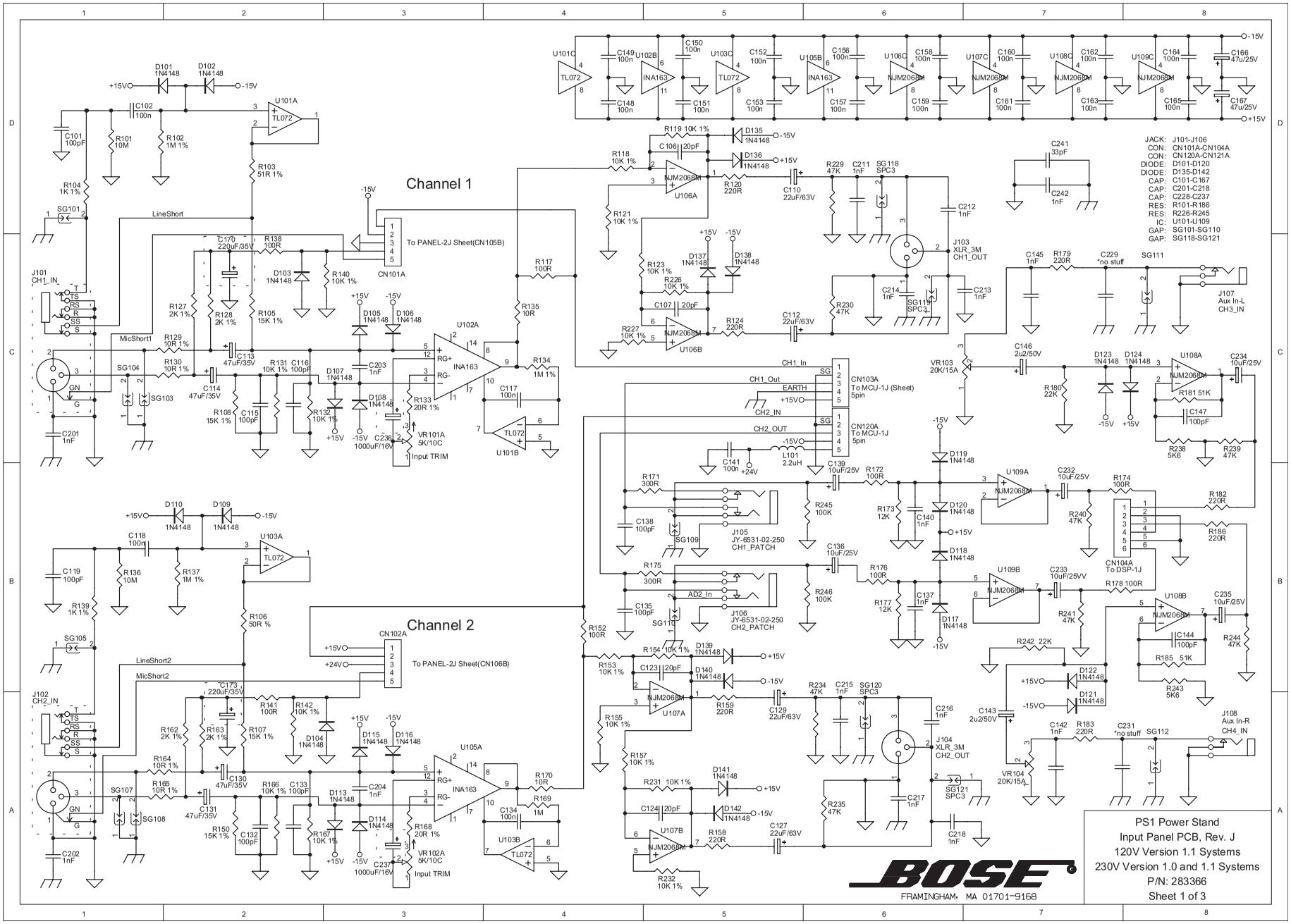
CAP:	C178-C200
CAP:	C219-C227
CAP:	C236-C240
RES:	R207-R225
RES:	R245-R246
IC:	U112-U114
LED:	LED105
PAD:	P101-P103
JACK:	J112-J119
JACK:	J107-J108
CON:	CN112A-CN119A
CON:	CN801B-CN809B
DIODE:	D127-D134
GAP:	SG113-SG117
GAP:	SG122-SG131

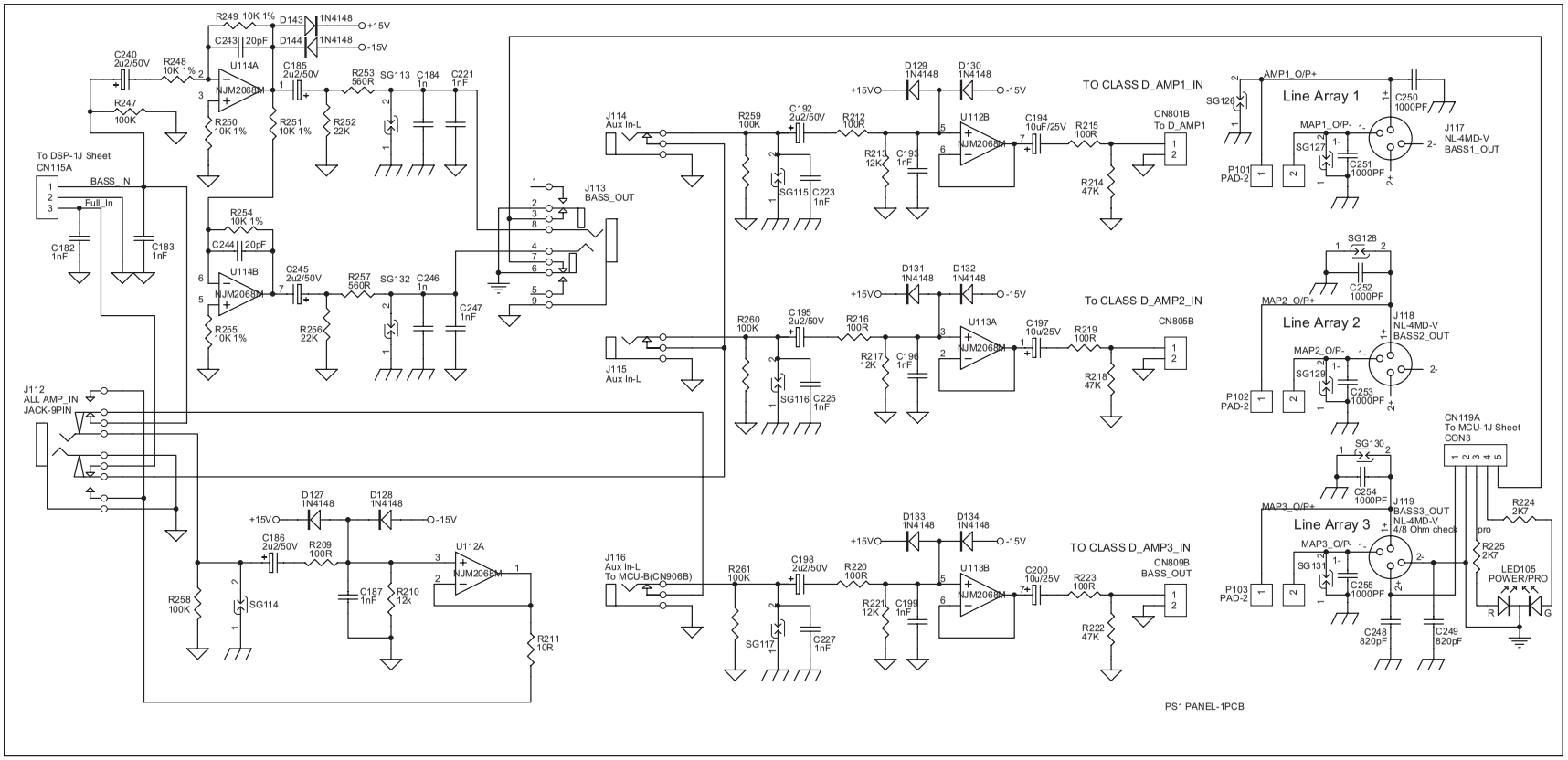


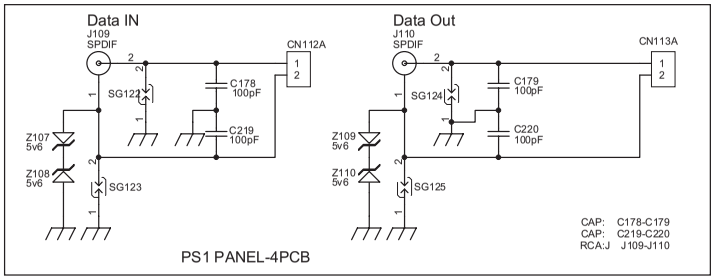
BOSE
FRAMINGHAM, MA 01701-9168

PS1 Power Stand
Input Panel PCB, Rev. G
120V Version 1.0 Systems
P/N: 273731
Sheet 2 of 3

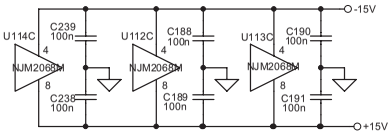

CN105B
FROM CN101A
MicShort1
R187 51K
-15V
C168 1uF/50V
U110A
NJM2068M
R188 150K
Z101 5v6
D125 1N4148
C169 4u7/50V
R125 1K2
Z105 3v3
Q101 9013
R189 1K
LED101 RG_LED
R192 2K2
R190 1K
U110B
NJM2068M
R191 30K
Z102 5v1
LED102 Red
R193 3K3
SW102 SW-6P2
+24V
R109 10K
Off
+24V
Phantom
Q102 2N3904
R111 5K6
Q103 2N3904
D127a 1N4148
R110 22K
R207 220R
R112 1M
C178a 100uF/35V
MicShort1
CN106B
FROM CN102A
MicShort2
+15V
R197 51K
+24V
C171 1uF/50V
U111A
NJM2068M
R198 150K
Z103 5v6
D126 1N4148
C172 4u7/50V
R126 1K2
Z106 3v3
Q104 9013
R199 1K
LED103 RG_LED
R202 2K2
R200 1K
U111B
NJM2068M
R201 30K
Z104 5v1
LED104 Red
R204 3K3
SW104 SW-6P2
+24V
R113 10K
Off
+24V
Phantom
Q105 2N3904
R115 5K6
Q106 2N3904
D128a 1N4148
R114 22K
R208 220R
R116 1M
C179a 100uF/35V
MicShort2
CAP: C168-C179
RES: R187-R208
DIODE: D125-D128
ZENER: Z101-Z106
LED: LED101-LED104
IC: U110-U111
CON: CN105B-CN106B
SW: SW102,SW104
TR: Q101-Q106
U110C
NJM2068M
C174 100n
C175 100n
U111C
NJM2068M
C176 100n
C177 100n
-15V
+15V
BOSE
FRAMINGHAM, MA 01701-9168
PS1 Power Stand
Input Panel PCB, Rev. G
120V Version 1.0 Systems
P/N: 273731
Sheet 3 of 3


Channel 1
Channel 2
JACK: J101-J106
CON: CN101A-CN104A
CON: CN120A-CN121A
DIODE: D101-D120
DIODE: D135-D142
CAP: C101-C167
CAP: C201-C218
CAP: C228-C237
RES: R101-R186
RES: R226-R245
IC: U101-U109
GAP: SG101-SG110
GAP: SG118-SG121
PS1 Power Stand
Input Panel PCB, Rev. J
120V Version 1.1 Systems
230V Version 1.0 and 1.1 Systems
P/N: 283366
Sheet 1 of 3
BOSE
FRAMINGHAM, MA 01701-9168



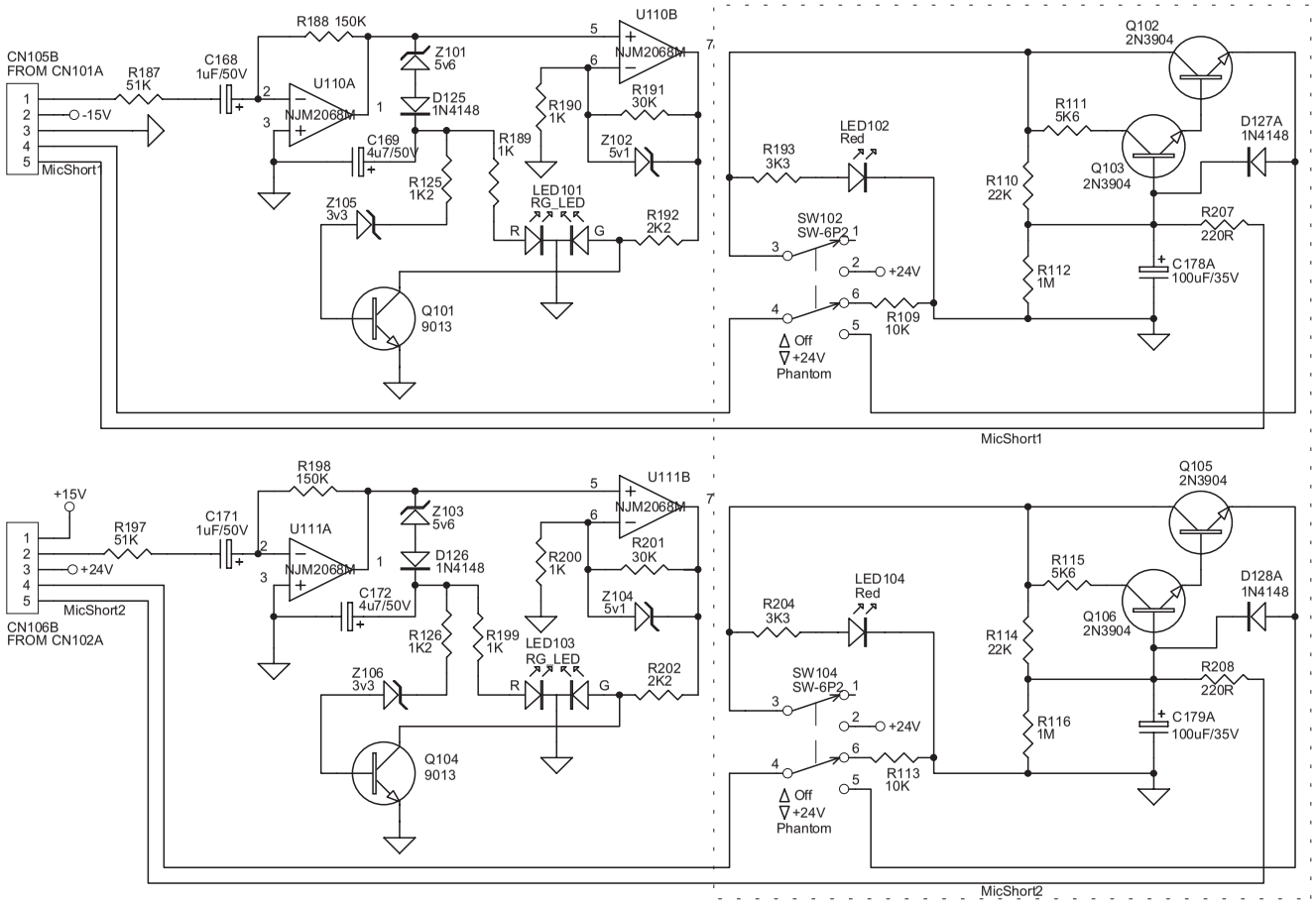


CAP:	C178-C200
CAP:	C219-C227
CAP:	C236-C240
RES:	R207-R225
RES:	R245-R246
IC:	U112-U114
LED:	LED105
PAD:	P101-P103
JACK:	J112-J119
JACK:	J107-J108
CON:	CN112A-CN119A
CON:	CN801B-CN809B
DIODE:	D127-D134
GAP:	SG113-SG117
GAP:	SG122-SG131

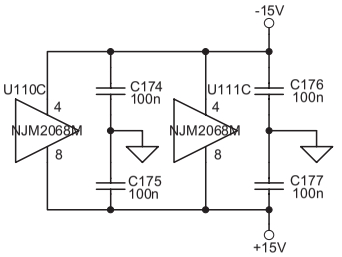


BOSE
FRAMINGHAM, MA 01701-9168

PS1 Power Stand
Input Panel PCB, Rev. J
120V Version 1.1 Systems
230V Version 1.0 and 1.1 Systems
P/N: 283366
Sheet 2 of 3

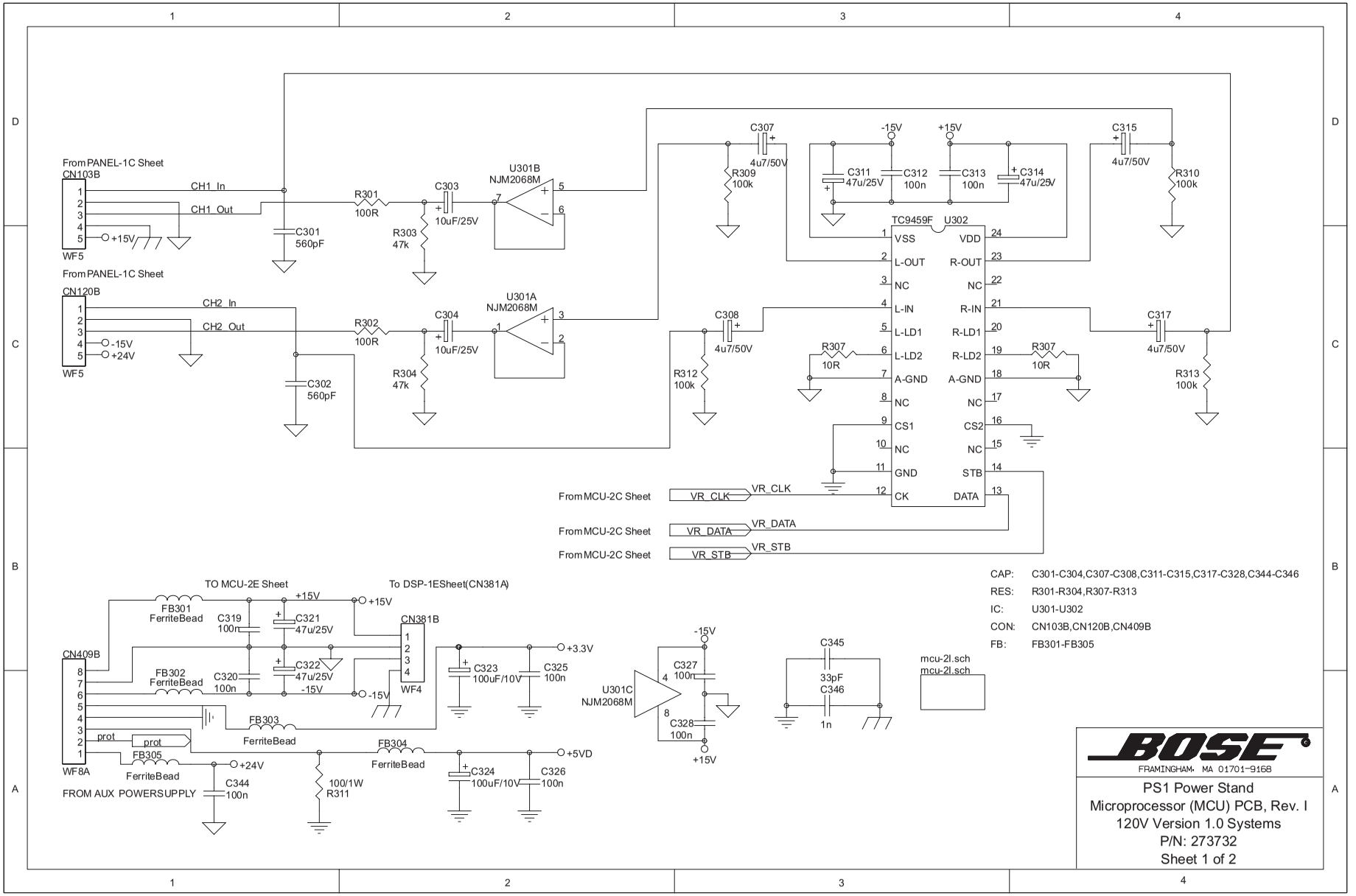


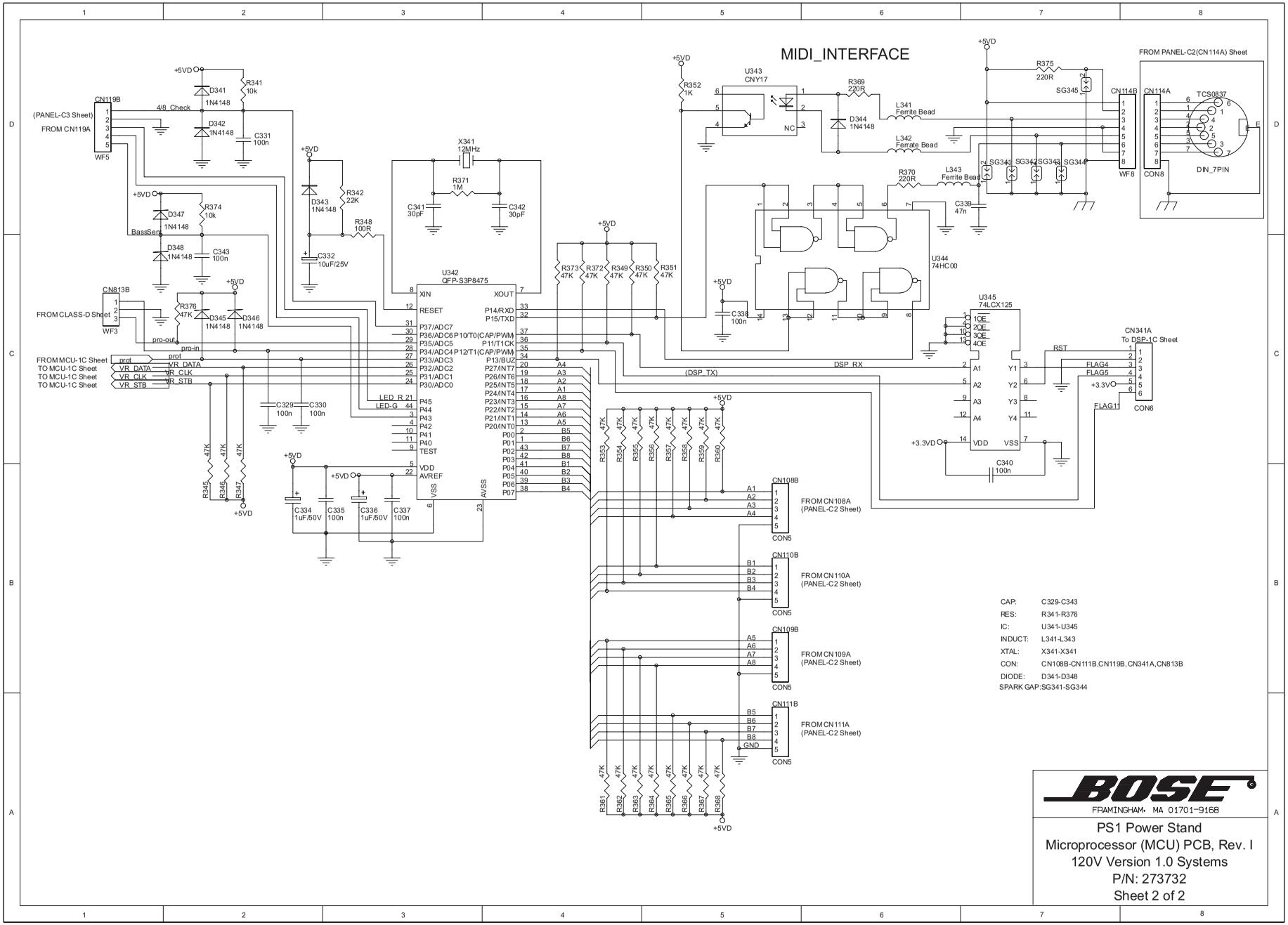
CAP: C168-C179
RES: R187-R208
DIODE: D125-D128
ZENER: Z101-Z106
LED: LED101-LED104
IC: U110-U111
CON: CN105B-CN106B
SW: SW102, SW104
TR: Q101-Q106

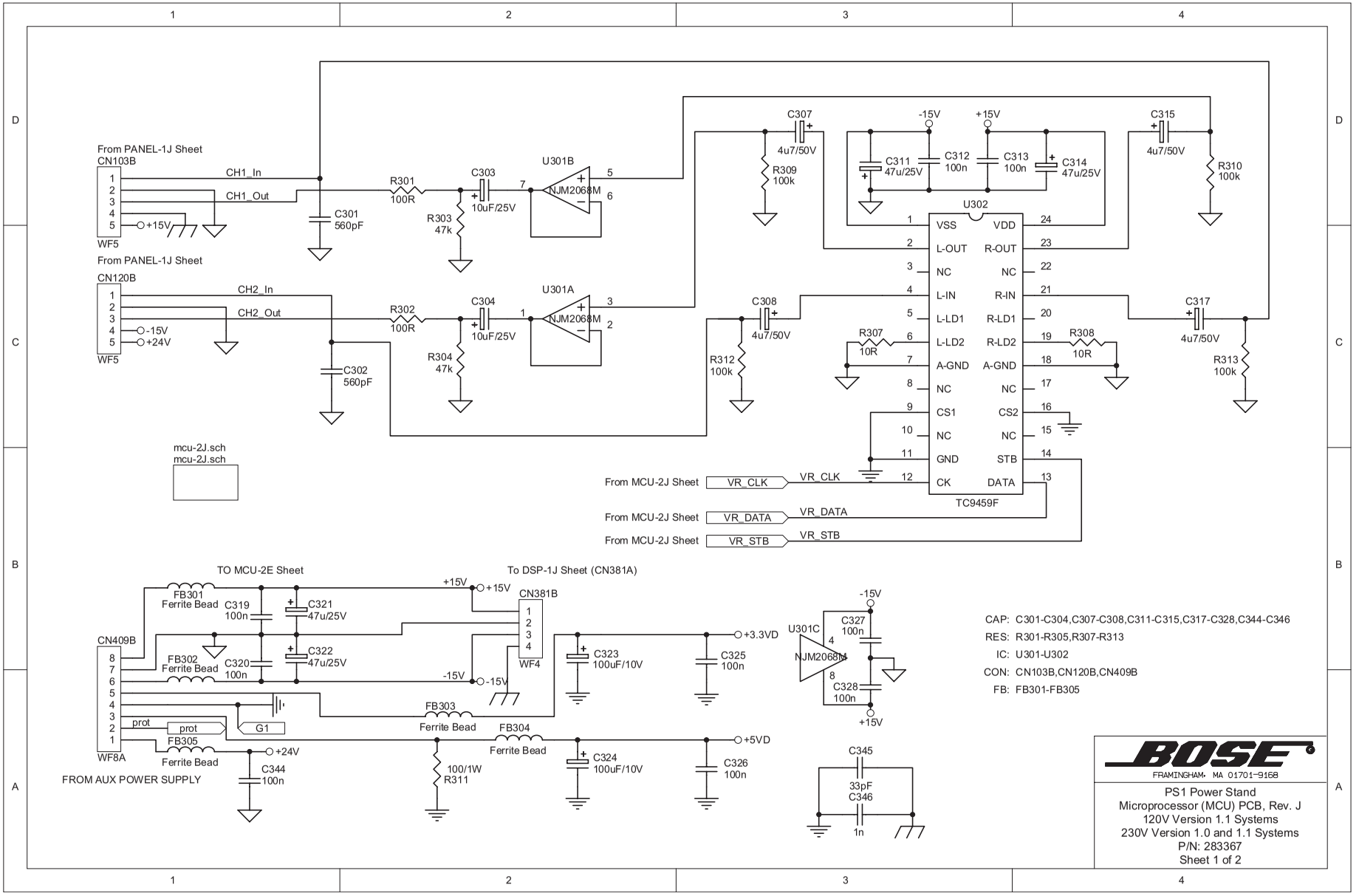


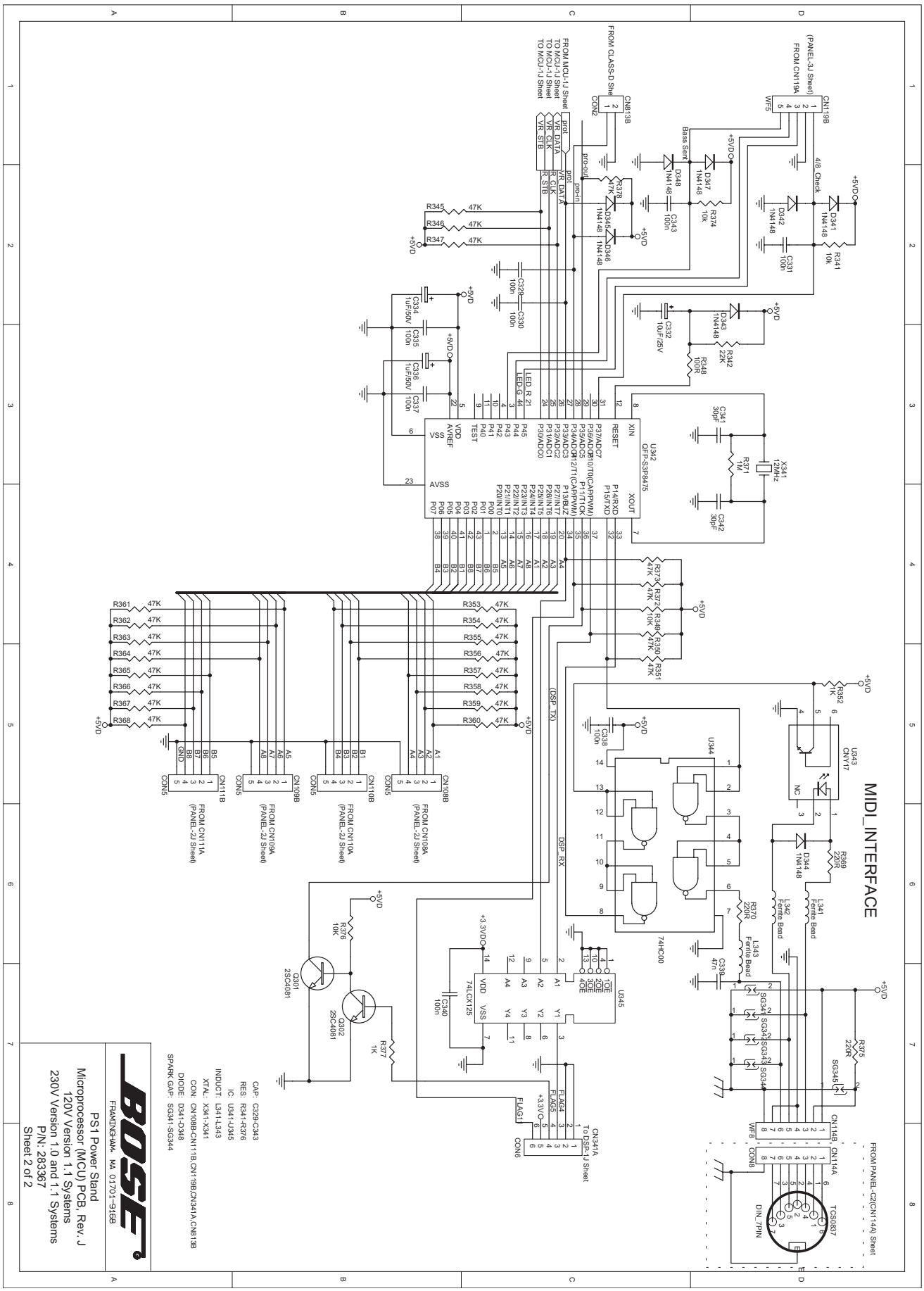
BOSE
FRAMINGHAM, MA 01701-9168

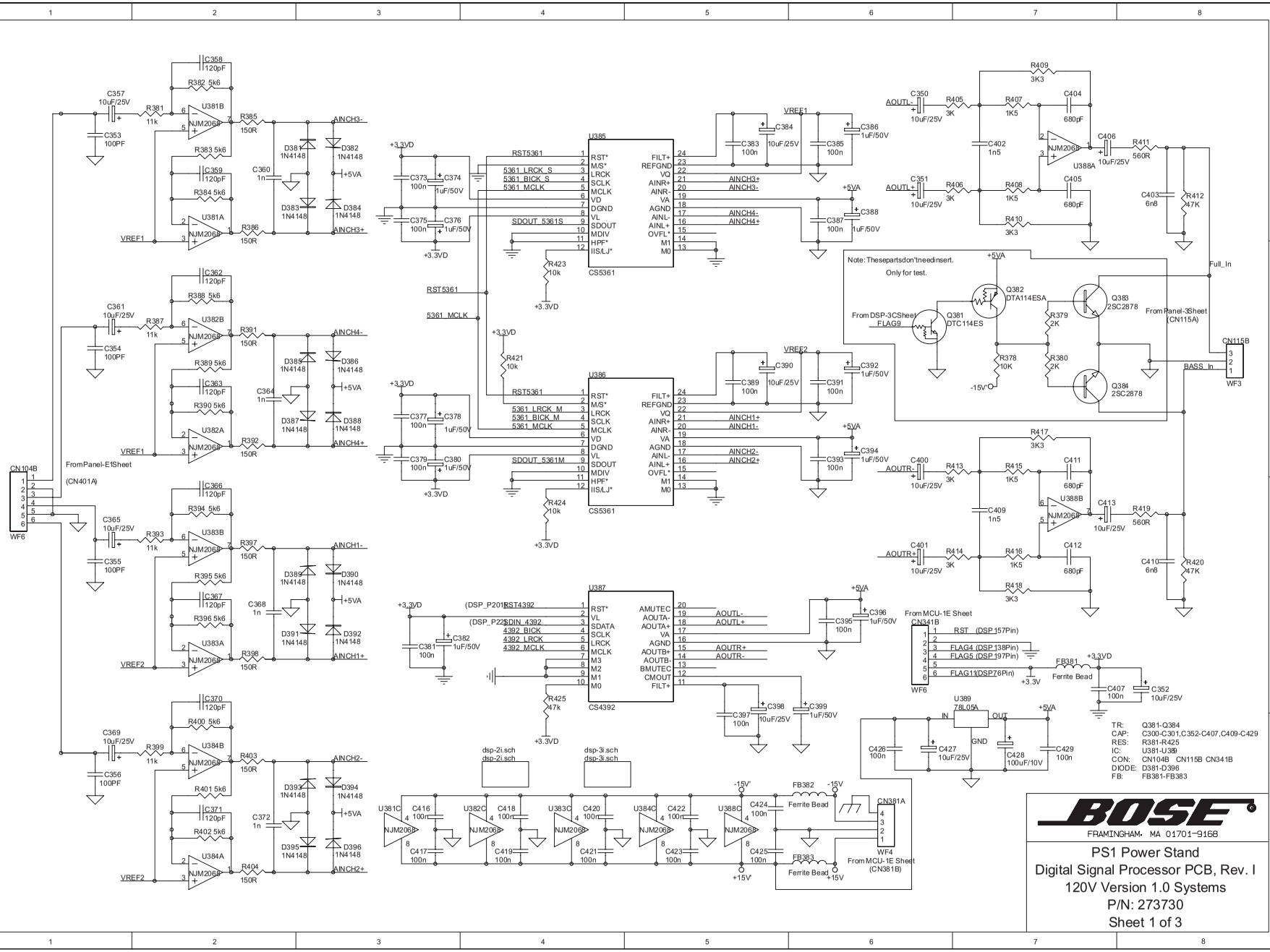
PS1 Power Stand
Input Panel PCB, Rev. J
120V Version 1.1 Systems
230V Version 1.0 and 1.1 Systems
P/N: 283366
Sheet 3 of 3

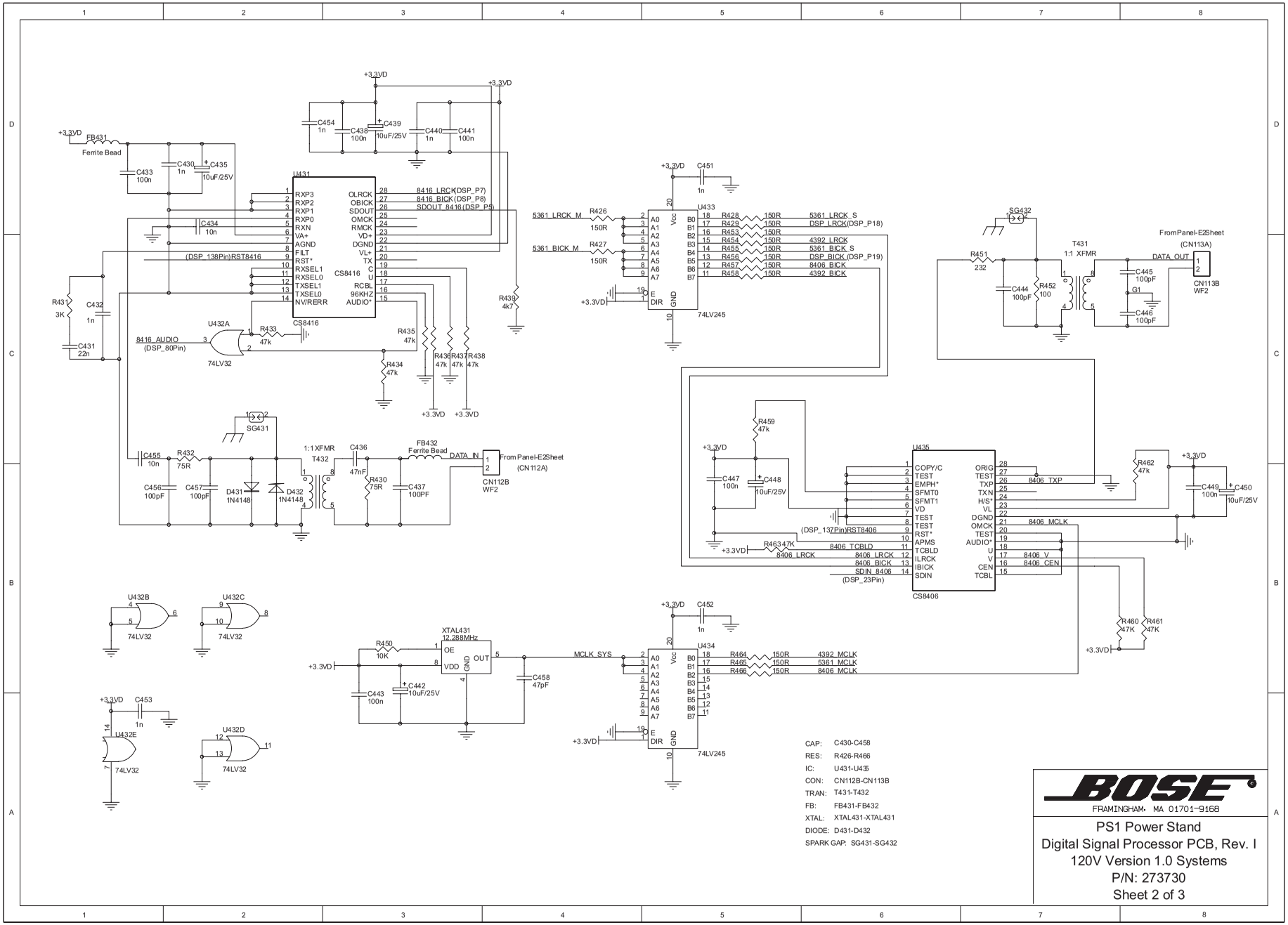

From PANEL-1C Sheet
CN103B
CH1_In
CH1_Out
+15V
WF5
C301
560pF
R301
100R
C303
10uF/25V
R303
47k
U301B
NJM2068M
From PANEL-1C Sheet
CN120B
CH2_In
CH2_Out
-15V
+24V
WF5
C302
560pF
R302
100R
C304
10uF/25V
R304
47k
U301A
NJM2068M
C307
4u7/50V
R309
100k
-15V
+15V
C311
47u/25V
C312
100n
C313
100n
C314
47u/25V
C315
4u7/50V
R310
100k
TC9459F U302
VSS
L-OUT
NC
L-IN
L-LD1
L-LD2
A-GND
NC
CS1
NC
GND
CK
VDD
R-OUT
NC
R-IN
R-LD1
R-LD2
A-GND
NC
CS2
NC
STB
DATA
C308
4u7/50V
R312
100k
R307
10R
R307
10R
C317
4u7/50V
R313
100k
From MCU-2C Sheet
VR_CLK
VR_CLK
From MCU-2C Sheet
VR_DATA
VR_DATA
From MCU-2C Sheet
VR_STB
VR_STB
TO MCU-2E Sheet
To DSP-1ESheet(CN381A)
FB301
FerriteBead
C319
100n
C321
47u/25V
+15V
+15V
CN381B
WF4
CN409B
WF8A
FB302
FerriteBead
C320
100n
C322
47u/25V
-15V
-15V
C323
100uF/10V
C325
100n
+3.3V
FB303
FerriteBead
prot
prot
FB304
FerriteBead
+5VD
FB305
FerriteBead
+24V
C344
100n
FROM AUX POWERSUPPLY
100/1W
R311
C324
100uF/10V
C326
100n
U301C
NJM2068M
-15V
C327
100n
C328
100n
+15V
C345
33pF
C346
1n
mcu-2l.sch
mcu-2l.sch
CAP: C301-C304,C307-C308,C311-C315,C317-C328,C344-C346
RES: R301-R304,R307-R313
IC: U301-U302
CON: CN103B,CN120B,CN409B
FB: FB301-FB305
BOSE
FRAMINGHAM, MA 01701-9168
PS1 Power Stand
Microprocessor (MCU) PCB, Rev. I
120V Version 1.0 Systems
P/N: 273732
Sheet 1 of 2

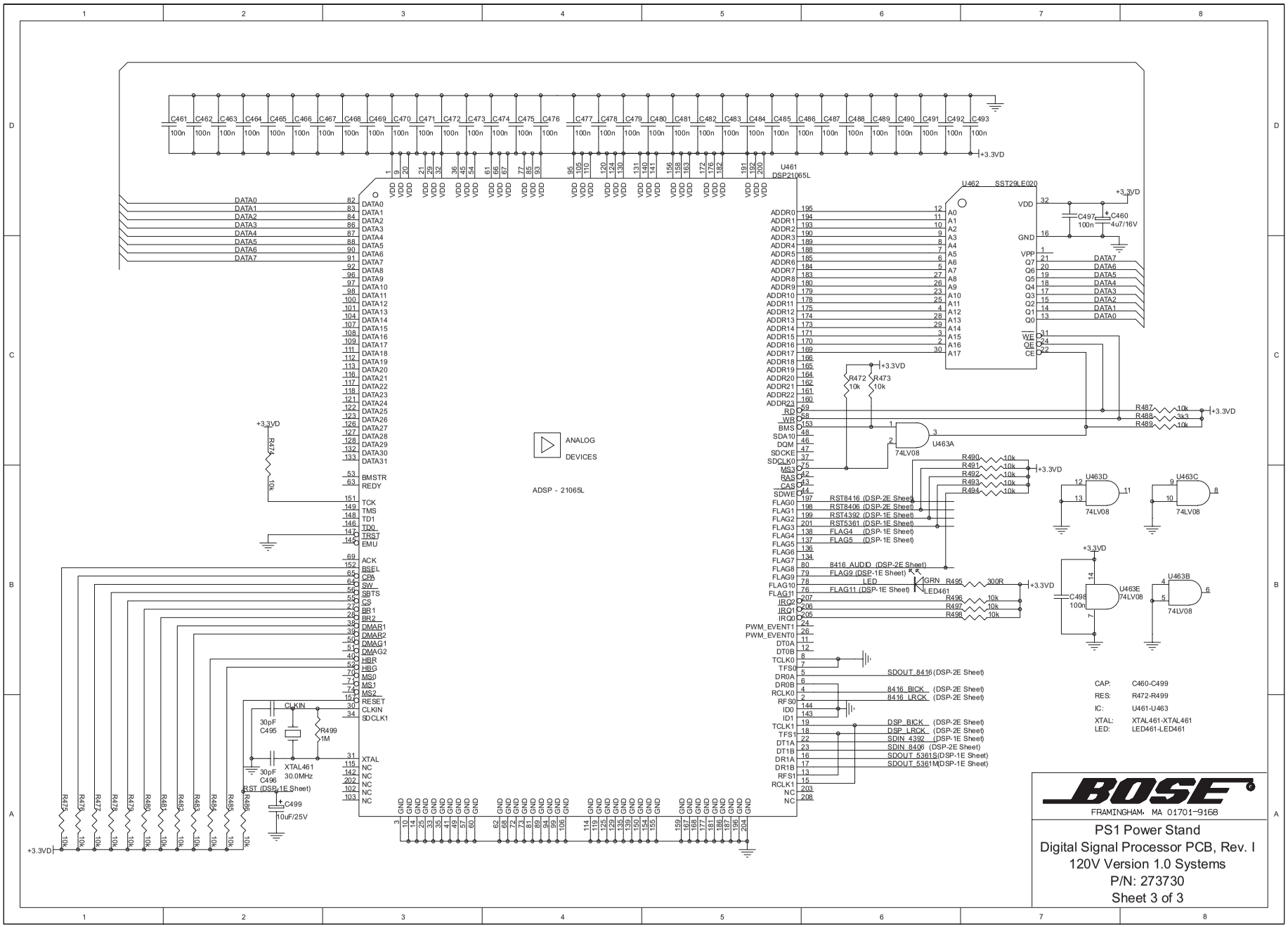

MIDI_INTERFACE
U342
QFP-S3P8475
U343
CNY17
U344
74HC00
U345
74LCX125
X341
12MHz
CN119B
(PANEL-C3 Sheet)
FROM CN119A
WF5
CN813B
FROM CLASS-D Sheet
WF3
FROM MCU-1C Sheet
TO MCU-1C Sheet
TO MCU-1C Sheet
TO MCU-1C Sheet
VR_DATA
VR_CLK
VR_STB
4/8_Check
BassSens
pro-out
pro-in
prot
LED_R
LED-G
DSP_RX
(DSP_TX)
RST
FLAG4
FLAG5
FLAG11
+3.3V
+5VD
CN108B
FROM CN108A
(PANEL-C2 Sheet)
CN110B
FROM CN110A
(PANEL-C2 Sheet)
CN109B
FROM CN109A
(PANEL-C2 Sheet)
CN111B
FROM CN111A
(PANEL-C2 Sheet)
CN114B
CN114A
FROM PANEL-C2(CN114A) Sheet
TCS0837
DIN_7PIN
CON8
WF8
CN341A
To DSP-1C Sheet
CON6
CON5
SG341
SG342
SG343
SG344
L341
Ferrate Bead
L342
Ferrate Bead
L343
Ferrite Bead
CAP: C329-C343
RES: R341-R376
IC: U341-U345
INDUCT: L341-L343
XTAL: X341-X341
CON: CN108B-CN111B,CN119B,CN341A,CN813B
DIODE: D341-D348
SPARK GAP:SG341-SG344
BOSE
FRAMINGHAM, MA 01701-9168
PS1 Power Stand
Microprocessor (MCU) PCB, Rev. I
120V Version 1.0 Systems
P/N: 273732
Sheet 2 of 2

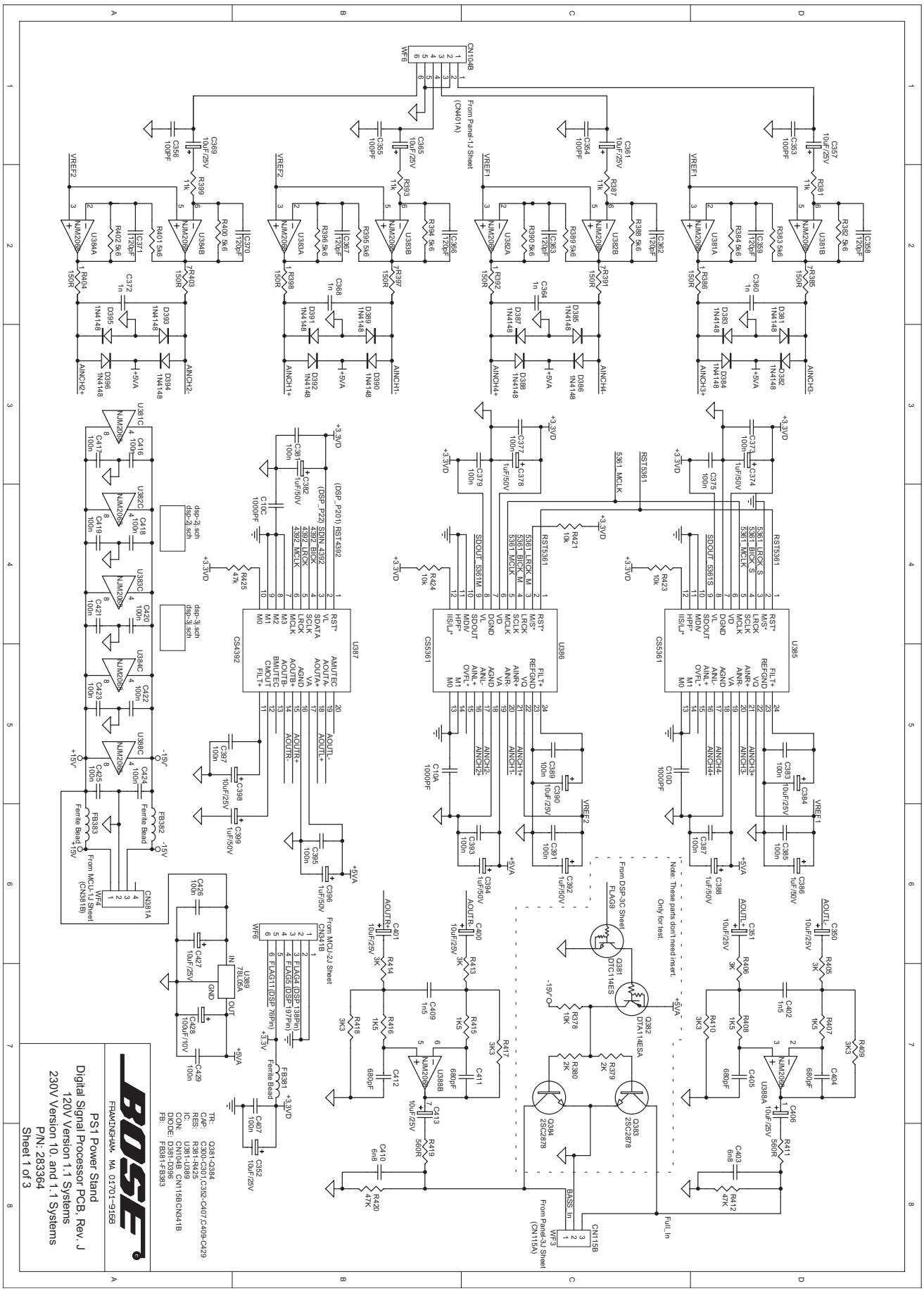

From PANEL-1J Sheet
CN103B
CH1_In
CH1_Out
+15V
WF5
From PANEL-1J Sheet
CN120B
CH2_In
CH2_Out
-15V
+24V
WF5
R301 100R
R302 100R
C301 560pF
C302 560pF
C303 10uF/25V
C304 10uF/25V
R303 47k
R304 47k
U301B
U301A
NJM2068M
C307 4u7/50V
R309 100k
C308 4u7/50V
R312 100k
-15V
+15V
C311 47u/25V
C312 100n
C313 100n
C314 47u/25V
C315 4u7/50V
R310 100k
U302
VSS
VDD
L-OUT
R-OUT
NC
L-IN
R-IN
L-LD1
R-LD1
L-LD2
R-LD2
A-GND
CS1
CS2
GND
STB
CK
DATA
TC9459F
R307 10R
R308 10R
C317 4u7/50V
R313 100k
mcu-2J.sch
mcu-2J.sch
From MCU-2J Sheet
VR_CLK
VR_DATA
VR_STB
TO MCU-2E Sheet
To DSP-1J Sheet (CN381A)
CN409B
WF8A
FROM AUX POWER SUPPLY
FB301 Ferrite Bead
FB302 Ferrite Bead
FB303 Ferrite Bead
FB304 Ferrite Bead
FB305 Ferrite Bead
C319 100n
C320 100n
C321 47u/25V
C322 47u/25V
C323 100uF/10V
C324 100uF/10V
C325 100n
C326 100n
C327 100n
C328 100n
C344 100n
C345 33pF
C346 1n
R311 100/1W
CN381B
WF4
+3.3VD
+5VD
+24V
prot
G1
U301C
NJM2068M
CAP: C301-C304,C307-C308,C311-C315,C317-C328,C344-C346
RES: R301-R305,R307-R313
IC: U301-U302
CON: CN103B,CN120B,CN409B
FB: FB301-FB305
BOSE
FRAMINGHAM, MA 01701-9168
PS1 Power Stand
Microprocessor (MCU) PCB, Rev. J
120V Version 1.1 Systems
230V Version 1.0 and 1.1 Systems
P/N: 283367
Sheet 1 of 2

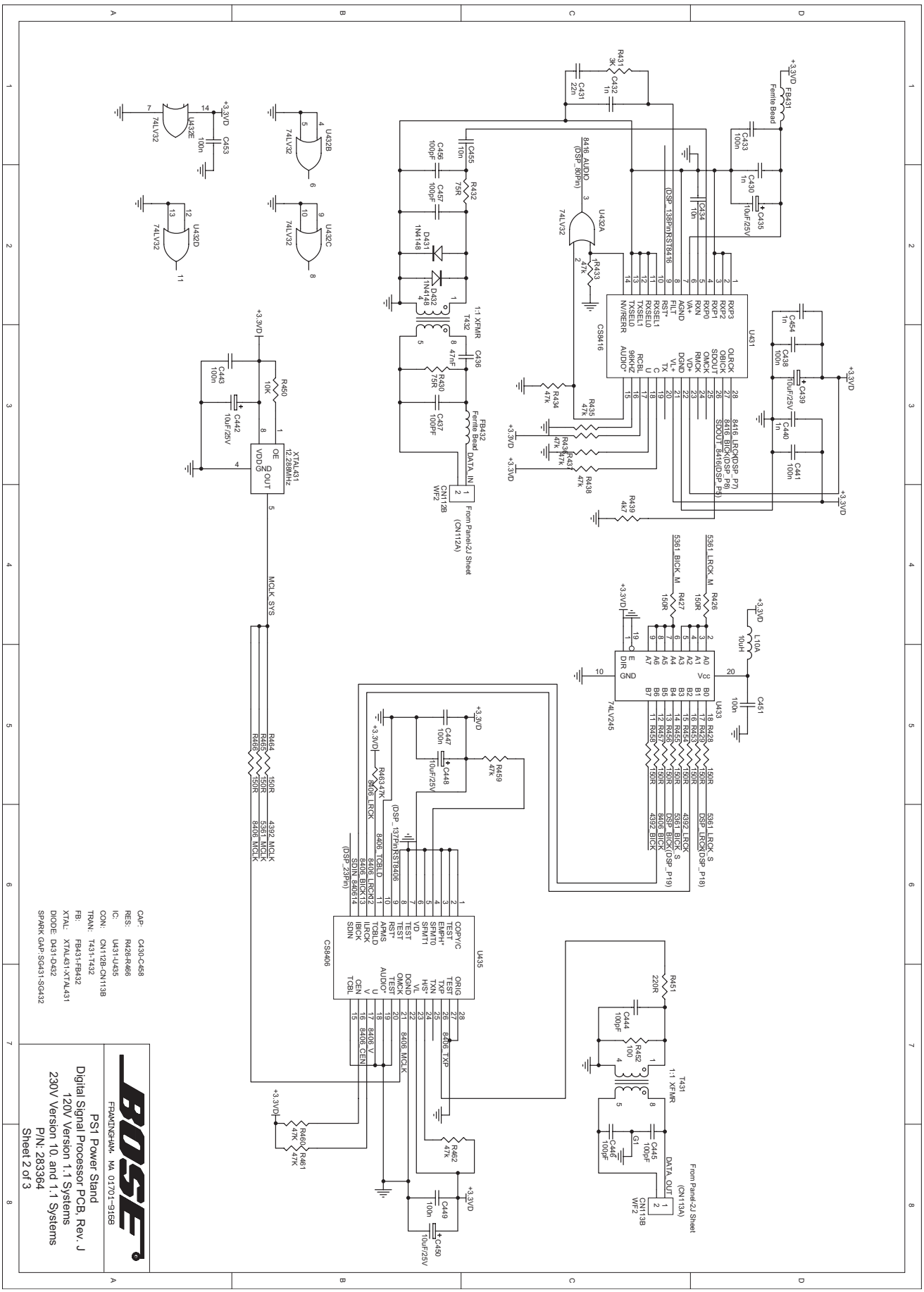

MIDI_INTERFACE
PS1 Power Stand
Microprocessor (MCU) PCB, Rev. J
120V Version 1.1 Systems
230V Version 1.0 and 1.1 Systems
P/N: 283367
Sheet 2 of 2
FRAMINGHAM, MA 01701-9168
CAP: C329-C343
RES: R341-R376
IC: U341-U345
INDUCT: L341-L343
XTAL: X341-X341
CON: CN108B-CN111B,CN119B,CN341A,CN813B
DIODE: D341-D348
SPARK GAP: SG341-SG344

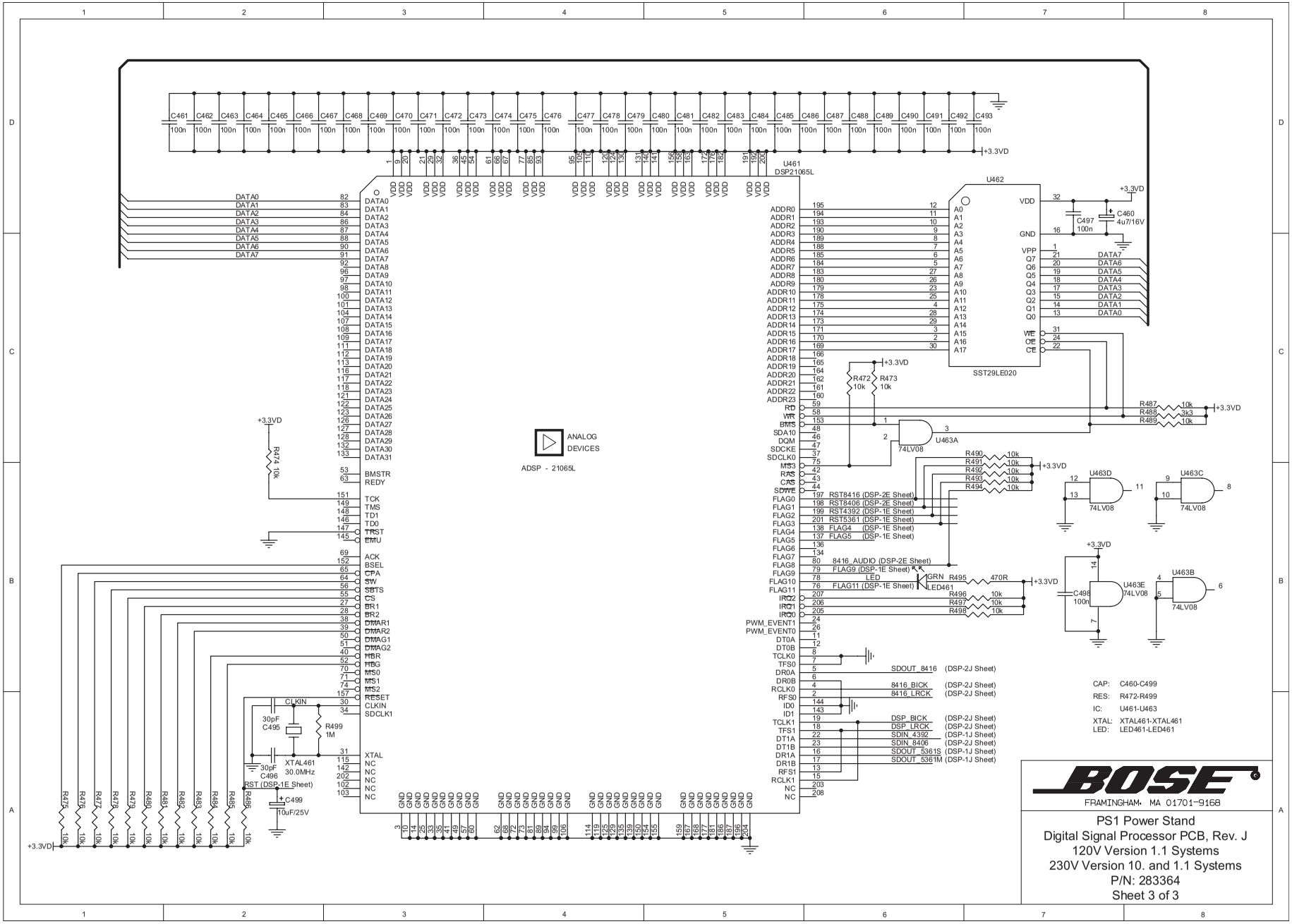

BOSE
FRAMINGHAM, MA 01701-9168
PS1 Power Stand
Digital Signal Processor PCB, Rev. I
120V Version 1.0 Systems
P/N: 273730
Sheet 1 of 3
TR: Q381-Q384
CAP: C300-C301,C352-C407,C409-C429
RES: R381-R425
IC: U381-U389
CON: CN104B CN115B CN341B
DIODE: D381-D396
FB: FB381-FB383
Note: Thesepartsdon'tneedinsert.
Only for test.
CS5361
CS4392
NJM2068
WF6
WF3
WF4

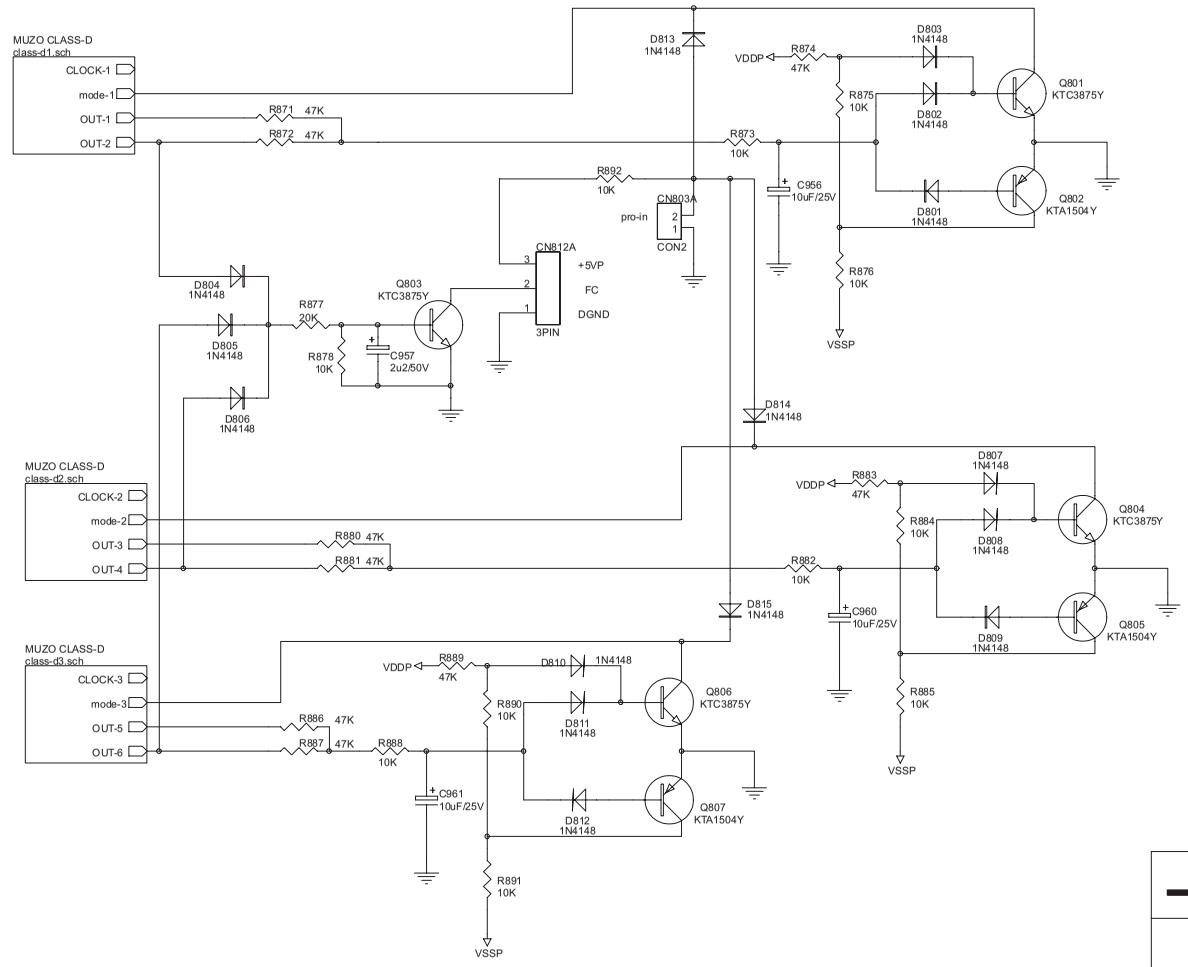

+3.3VD
FB431
Ferrite Bead
C433 100n
C430 1n
C435 10uF/25V
C454 1n
C438 100n
C439 10uF/25V
C440 1n
C441 100n
U431
CS8416
8416_LRCK (DSP_P7)
8416_BICK (DSP_P8)
SDOUT_8416 (DSP_P5)
(DSP_138Pin)RST8416
C434 10n
R431 3K
C432 1n
C431 22n
R439 4k7
8416_AUDIO (DSP_80Pin)
U432A
74LV32
R433 47k
R435 47k
R436 47k
R437 47k
R438 47k
R434 47k
SG431
C455 10n
R432 75R
C456 100pF
C457 100pF
D431 1N4148
D432 1N4148
1:1 XFMR
T432
C436 47nF
R430 75R
C437 100PF
FB432
Ferrite Bead
DATA_IN
From Panel-E2Sheet (CN112A)
CN112B WF2
5361_LRCK_M
5361_BICK_M
R426 150R
R427 150R
U433
74LV245
C451 1n
R428 150R
R429 150R
R453 150R
R454 150R
R455 150R
R456 150R
R457 150R
R458 150R
5361_LRCK_S
DSP_LRCK (DSP_P18)
4392_LRCK
5361_BICK_S
DSP_BICK (DSP_P19)
8406_BICK
4392_BICK
SG432
R451 232
C444 100pF
R452 100
T431
1:1 XFMR
C445 100pF
C446 100pF
G1
DATA_OUT
From Panel-E2Sheet (CN113A)
CN113B WF2
R459 47k
C447 100n
C448 10uF/25V
U435
CS8406
(DSP_137Pin)RST8406
R463 47K
8406_TCBLD
8406_LRCK
8406_BICK
SDIN_8406
(DSP_23Pin)
8406_TXP
8406_MCLK
8406_V
8406_CEN
R462 47k
C449 100n
C450 10uF/25V
R460 47K
R461 47K
U432B
U432C
U432D
U432E
74LV32
XTAL431
12.288MHz
R450 10K
C443 100n
C442 10uF/25V
C458 47pF
MCLK_SYS
C452 1n
U434
74LV245
R464 150R
R465 150R
R466 150R
4392_MCLK
5361_MCLK
8406_MCLK
C453 1n
CAP: C430-C458
RES: R426-R466
IC: U431-U435
CON: CN112B-CN113B
TRAN: T431-T432
FB: FB431-FB432
XTAL: XTAL431-XTAL431
DIODE: D431-D432
SPARK GAP: SG431-SG432
BOSE
FRAMINGHAM, MA 01701-9168
PS1 Power Stand
Digital Signal Processor PCB, Rev. I
120V Version 1.0 Systems
P/N: 273730
Sheet 2 of 3


U461
DSP21065L
ANALOG
DEVICES
ADSP - 21065L
U462 SST29LE020
U463A
U463B
U463C
U463D
U463E
74LV08
XTAL461
30.0MHz
CLKIN
RESET
BMSTR
REDY
TCK
TMS
TD1
TDO
TRST
EMU
ACK
BSEL
CPA
SW
SBTS
CS
BR1
BR2
DMAR1
DMAR2
DMAG1
DMAG2
HBR
HBG
MS0
MS1
MS2
SDCLK1
XTAL
NC
SDOUT_8416 (DSP-2E Sheet)
8416_BICK (DSP-2E Sheet)
8416_LRCK (DSP-2E Sheet)
DSP_BICK (DSP-2E Sheet)
DSP_LRCK (DSP-2E Sheet)
SDIN_4392 (DSP-1E Sheet)
SDIN_8406 (DSP-2E Sheet)
SDOUT_5361S (DSP-1E Sheet)
SDOUT_5361M (DSP-1E Sheet)
RST8416 (DSP-2E Sheet)
RST8406 (DSP-2E Sheet)
RST4392 (DSP-1E Sheet)
RST5361 (DSP-1E Sheet)
FLAG4 (DSP-1E Sheet)
FLAG5 (DSP-1E Sheet)
8416_AUDD (DSP-2E Sheet)
FLAG9 (DSP-1E Sheet)
FLAG11 (DSP-1E Sheet)
RST (DSP-1E Sheet)
+3.3VD
CAP: C460-C499
RES: R472-R499
IC: U461-U463
XTAL: XTAL461-XTAL461
LED: LED461-LED461
BOSE
FRAMINGHAM, MA 01701-9168
PS1 Power Stand
Digital Signal Processor PCB, Rev. I
120V Version 1.0 Systems
P/N: 273730
Sheet 3 of 3


PS1 Power Stand
Digital Signal Processor PCB, Rev. J
120V Version 1.1 Systems
230V Version 10. and 1.1 Systems
P/N: 283364
Sheet 1 of 3
FRAMINGHAM, MA 01701-9168
TR: Q381-Q384
CAP: C300-C301,C352-C407,C409-C429
RES: R381-R425
IC: U381-U389
CON: CN104B,CN115B,CN115A,CN116B,CN391A,CN391B
DIODE: D381-D396
FB: FB381-FB383
U387 CS4392
U386 CS5361
U385 CS5361
U381A U381B U382A U382B U383A U383B U384A U384B NJM2068
U388A U388B NJM2068
U382C U383C U384C U388C NJM2068
U389 78L05A
Q381 DTC114ES
Q382 DTA114ESA
Q383 2SC2878
Q384 2SC2878
From Panel-1J Sheet (CN401A)
From DSP-3C Sheet
From MCU-2J Sheet
From Panel-4J Sheet (CN115A)
From MCU-1J Sheet (CN391B)
Note: These parts don't need insert. Only for test.
dsp-2.sch
dsp-3.sch


PS1 Power Stand
Digital Signal Processor PCB, Rev. J
120V Version 1.1 Systems
230V Version 10, and 1.1 Systems
P/N: 283364
Sheet 2 of 3
FRAMINGHAM, MA 01701-9168
CAP: C430-C468
RES: R426-R466
IC: U431-U435
CON: CN112B-CN113B
TRAN: T431-T432
FB: FB431-FB432
XTAL: XTAL431-XTAL431
DIODE: D431-D432
SPARK GAP: SG431-SG432


U461
DSP21065L
U462
SST29LE020
ADSP - 21065L
ANALOG DEVICES
U463A
U463B
U463C
U463D
U463E
74LV08
+3.3VD
CLKIN
30pF C495
30pF C496
XTAL461 30.0MHz
R499 1M
RST (DSP-1E Sheet)
C499 10uF/25V
C497 100n
C460 4u7/16V
R472 10k
R473 10k
R474 10k
R487 10k
R488 3k3
R489 10k
R490 10k
R491 10k
R492 10k
R493 10k
R494 10k
R495 470R
R496 10k
R497 10k
R498 10k
LED461
C498 100n
8416_AUDIO (DSP-2E Sheet)
FLAG9 (DSP-1E Sheet)
LED
FLAG11 (DSP-1E Sheet)
RST8416 (DSP-2E Sheet)
RST8406 (DSP-2E Sheet)
RST4392 (DSP-1E Sheet)
RST5361 (DSP-1E Sheet)
FLAG4 (DSP-1E Sheet)
FLAG5 (DSP-1E Sheet)
SDOUT_8416 (DSP-2J Sheet)
8416_BICK (DSP-2J Sheet)
8416_LRCK (DSP-2J Sheet)
DSP_BICK (DSP-2J Sheet)
DSP_LRCK (DSP-2J Sheet)
SDIN_4392 (DSP-1J Sheet)
SDIN_8406 (DSP-2J Sheet)
SDOUT_5361S (DSP-1J Sheet)
SDOUT_5361M (DSP-1J Sheet)
CAP: C460-C499
RES: R472-R499
IC: U461-U463
XTAL: XTAL461-XTAL461
LED: LED461-LED461
BOSE
FRAMINGHAM, MA 01701-9168
PS1 Power Stand
Digital Signal Processor PCB, Rev. J
120V Version 1.1 Systems
230V Version 10. and 1.1 Systems
P/N: 283364
Sheet 3 of 3


MUZO CLASS-D
class-d1.sch
CLOCK-1
mode-1
OUT-1
OUT-2
R871 47K
R872 47K
D813
1N4148
VDDP
R874
47K
D803
1N4148
R875
10K
D802
1N4148
Q801
KTC3875Y
R873
10K
R892
10K
CN803A
pro-in
2
1
CON2
C956
10uF/25V
D801
1N4148
Q802
KTA1504Y
CN812A
3
2
1
3PIN
+5VP
FC
DGND
D804
1N4148
R877
20K
Q803
KTC3875Y
D805
1N4148
R878
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C957
2u2/50V
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R876
10K
VSSP
D814
1N4148
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CLOCK-2
mode-2
OUT-3
OUT-4
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R881 47K
VDDP
R883
47K
D807
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R884
10K
D808
1N4148
Q804
KTC3875Y
R882
10K
C960
10uF/25V
D809
1N4148
Q805
KTA1504Y
R885
10K
VSSP
D815
1N4148
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mode-3
OUT-5
OUT-6
VDDP
R889
47K
D810
1N4148
R890
10K
D811
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Q806
KTC3875Y
R886 47K
R887 47K
R888
10K
C961
10uF/25V
D812
1N4148
Q807
KTA1504Y
R891
10K
VSSP
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PS1 Power Stand
Digital Amplifier PCB, Rev. G
120V Version 1.0 Systems
P/N: 273729
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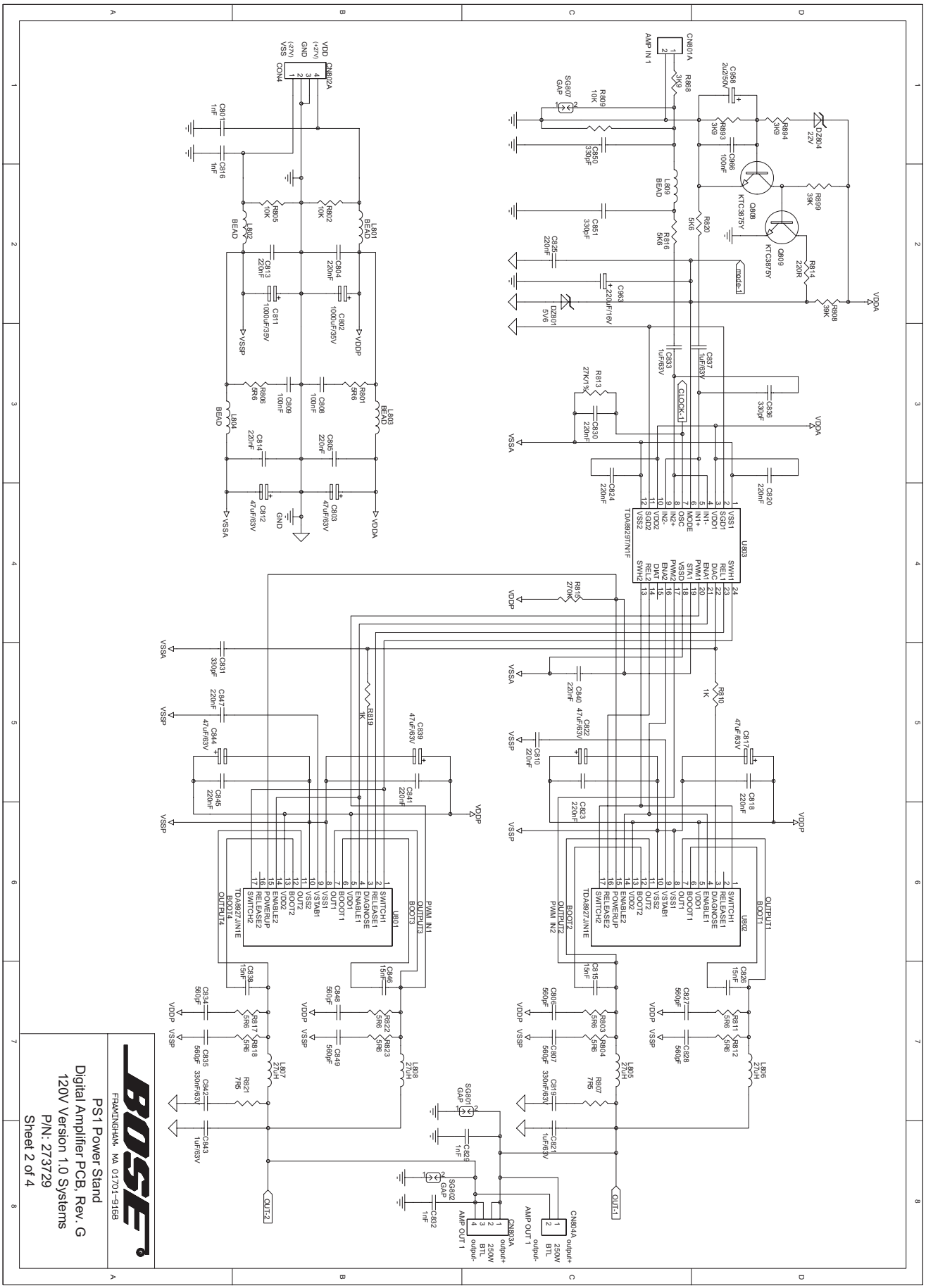
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PS1 Power Stand
Digital Amplifier PCB, Rev. G
120V Version 1.0 Systems
P/N: 273729
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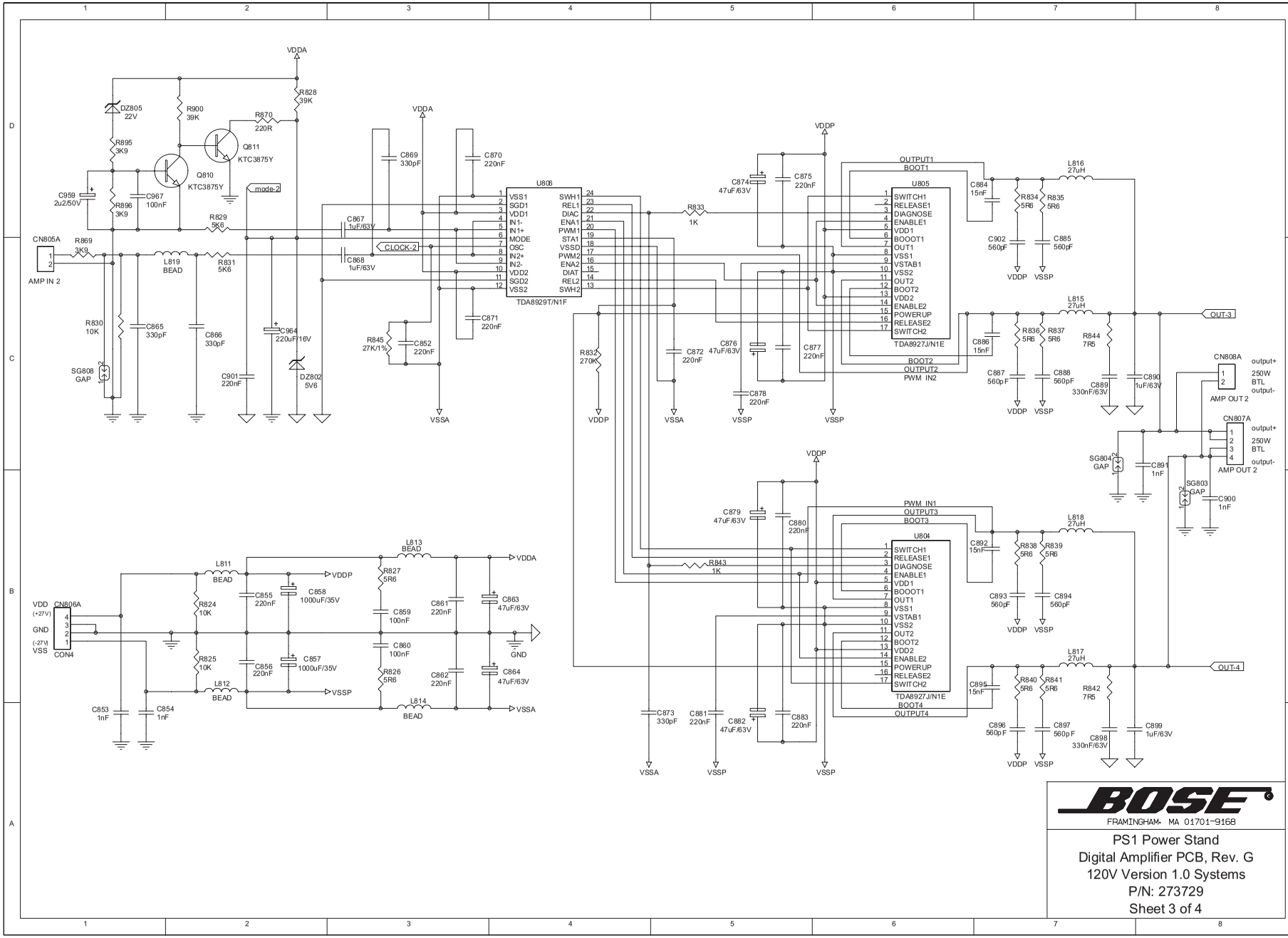

BOSE
FRAMINGHAM, MA 01701-9168

PS1 Power Stand
Digital Amplifier PCB, Rev. G
120V Version 1.0 Systems
P/N: 273729
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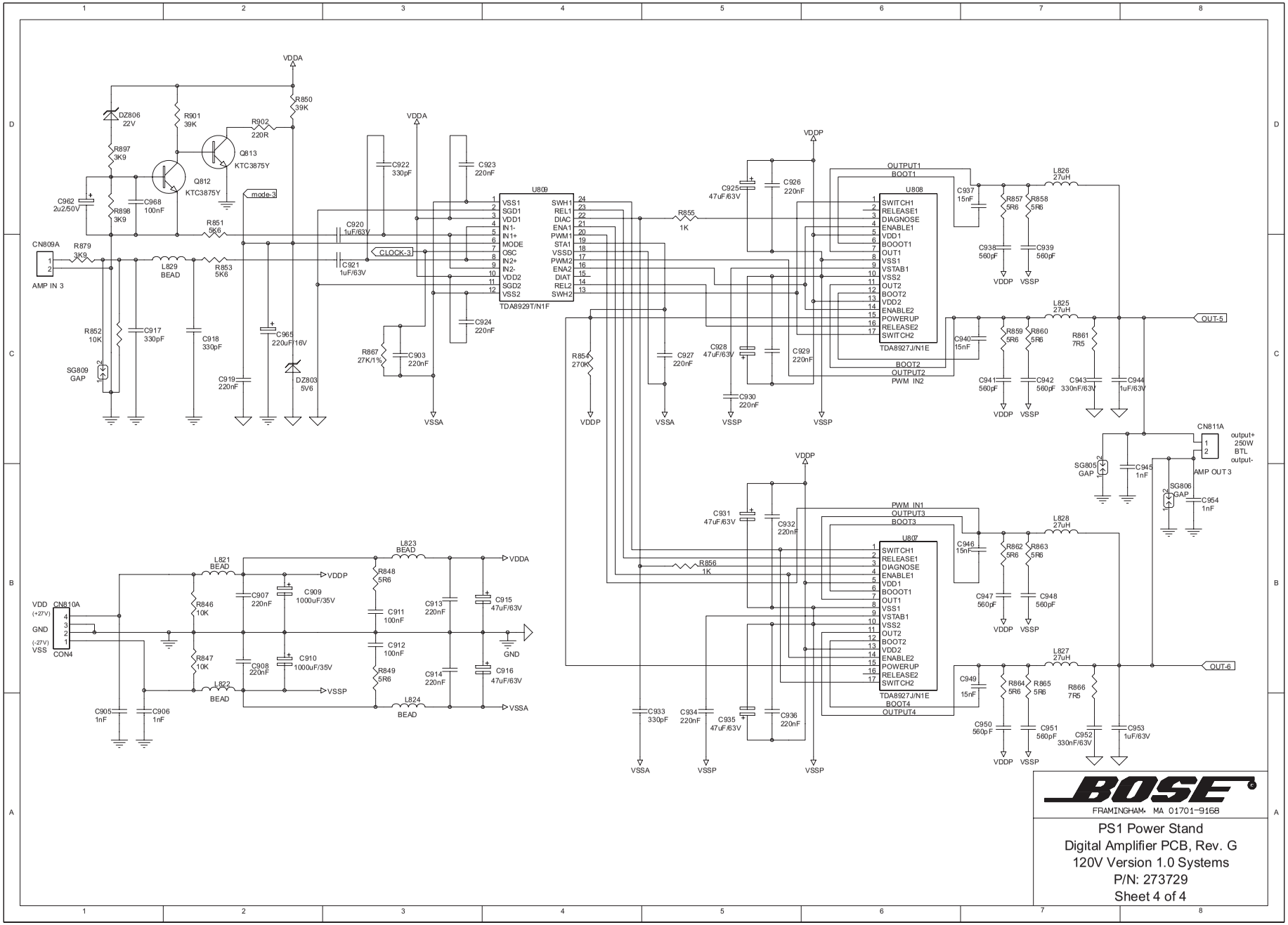
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R902 220R
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Q812 KTC3875Y
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R898 3K9
C962 2u2/50V
C968 100nF
mode-3
R851 5K6
CN809A
AMP IN 3
R879 3K9
L829 BEAD
R853 5K6
R852 10K
C917 330pF
C918 330pF
SG809 GAP
C919 220nF
C965 220uF/16V
DZ803 5V6
C920 1uF/63V
CLOCK-3
C921 1uF/63V
C922 330pF
C923 220nF
C924 220nF
R867 27K/1%
C903 220nF
VSSA
U809
VSS1
SGD1
VDD1
IN1-
IN1+
MODE
OSC
IN2+
IN2-
VDD2
SGD2
VSS2
SWH1
REL1
DIAC
ENA1
PWM1
STA1
VSSD
PWM2
ENA2
DIAT
REL2
SWH2
TDA8929T/N1F
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R854 270K
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C928 47uF/63V
C929 220nF
C930 220nF
VDDP
VSSP
C925 47uF/63V
C926 220nF
U808
SWITCH1
RELEASE1
DIAGNOSE
ENABLE1
VDD1
BOOOT1
OUT1
VSS1
VSTAB1
VSS2
OUT2
BOOT2
VDD2
ENABLE2
POWERUP
RELEASE2
SWITCH2
TDA8927J/N1E
OUTPUT1
BOOT1
BOOT2
OUTPUT2
PWM IN2
C937 15nF
C938 560pF
C939 560pF
L826 27uH
R857 5R6
R858 5R6
C940 15nF
C941 560pF
C942 560pF
L825 27uH
R859 5R6
R860 5R6
R861 7R5
C943 330nF/63V
C944 1uF/63V
OUT-5
CN811A
output+ 250W BTL output-
AMP OUT 3
SG805 GAP
C945 1nF
SG806 GAP
C954 1nF
L821 BEAD
L823 BEAD
L822 BEAD
L824 BEAD
VDD CN810A (+27V)
GND
(-27V) VSS
CON4
R846 10K
R847 10K
C907 220nF
C908 220nF
C909 1000uF/35V
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R848 5R6
R849 5R6
C911 100nF
C912 100nF
C913 220nF
C914 220nF
C915 47uF/63V
C916 47uF/63V
C905 1nF
C906 1nF
R856 1K
C931 47uF/63V
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OUTPUT3
BOOT3
BOOT4
OUTPUT4
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R863 5R6
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C950 560pF
C951 560pF
L827 27uH
R864 5R6
R865 5R6
R866 7R5
C952 330nF/63V
C953 1uF/63V
OUT-6
BOSE
FRAMINGHAM, MA 01701-9168
PS1 Power Stand
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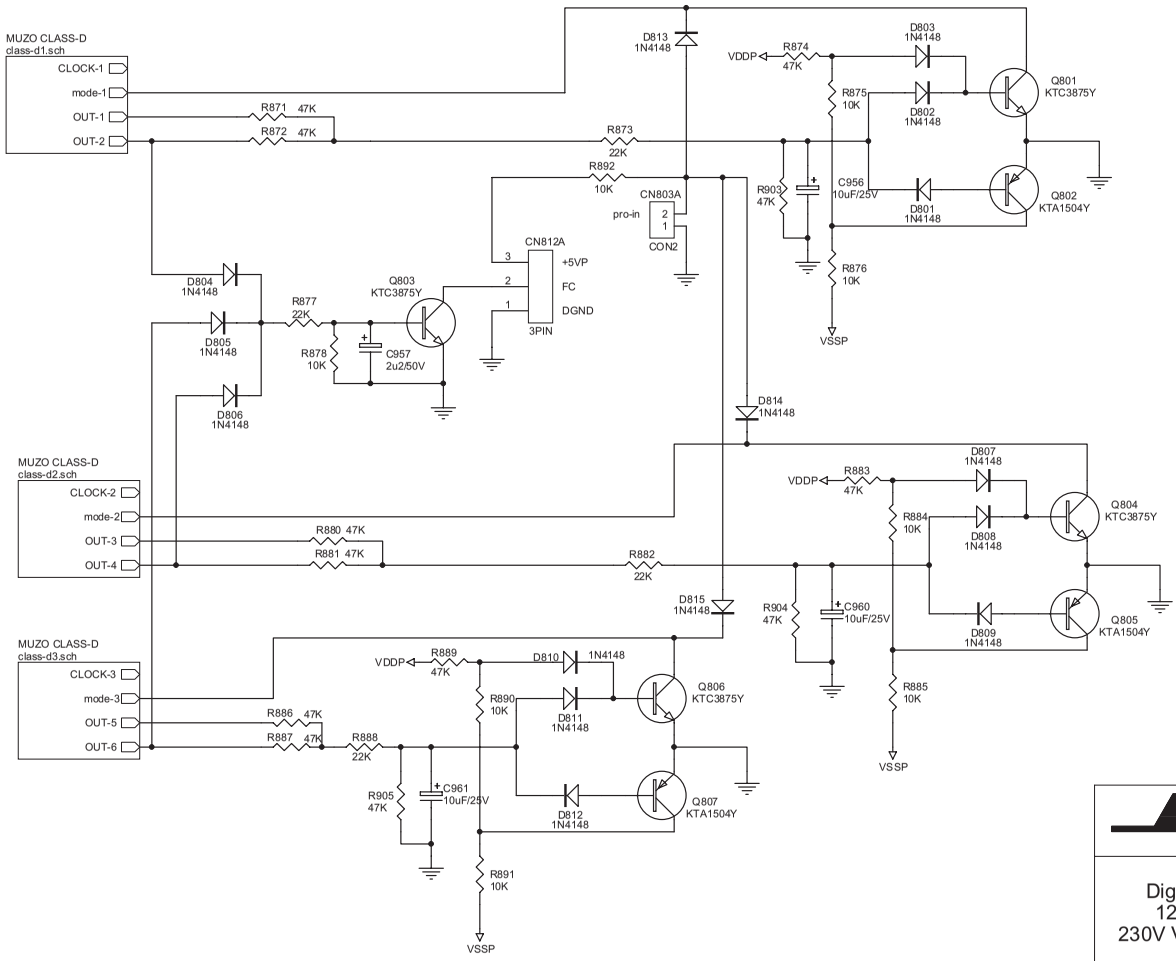
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mode-1
OUT-1
OUT-2
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VDDP
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R875 10K
D802 1N4148
Q801 KTC3875Y
Q802 KTA1504Y
C956 10uF/25V
D801 1N4148
R903 47K
CN803A
pro-in
CON2
R876 10K
VSSP
CN812A
+5VP
FC
DGND
3PIN
D804 1N4148
D805 1N4148
D806 1N4148
R877 22K
R878 10K
C957 2u2/50V
Q803 KTC3875Y
D814 1N4148
MUZO CLASS-D
class-d2.sch
CLOCK-2
mode-2
OUT-3
OUT-4
R880 47K
R881 47K
R882 22K
D807 1N4148
R883 47K
R884 10K
D808 1N4148
Q804 KTC3875Y
Q805 KTA1504Y
D809 1N4148
C960 10uF/25V
R904 47K
D815 1N4148
R885 10K
MUZO CLASS-D
class-d3.sch
CLOCK-3
mode-3
OUT-5
OUT-6
R886 47K
R887 47K
R888 22K
R889 47K
D810 1N4148
R890 10K
D811 1N4148
Q806 KTC3875Y
Q807 KTA1504Y
D812 1N4148
C961 10uF/25V
R905 47K
R891 10K
BOSE
FRAMINGHAM, MA 01701-9168
PS1 Power Stand
Digital Amplifier PCB, Rev. J
120V Version 1.1 Systems
230V Version 1.0 and 1.1 Systems
P/N: 283363
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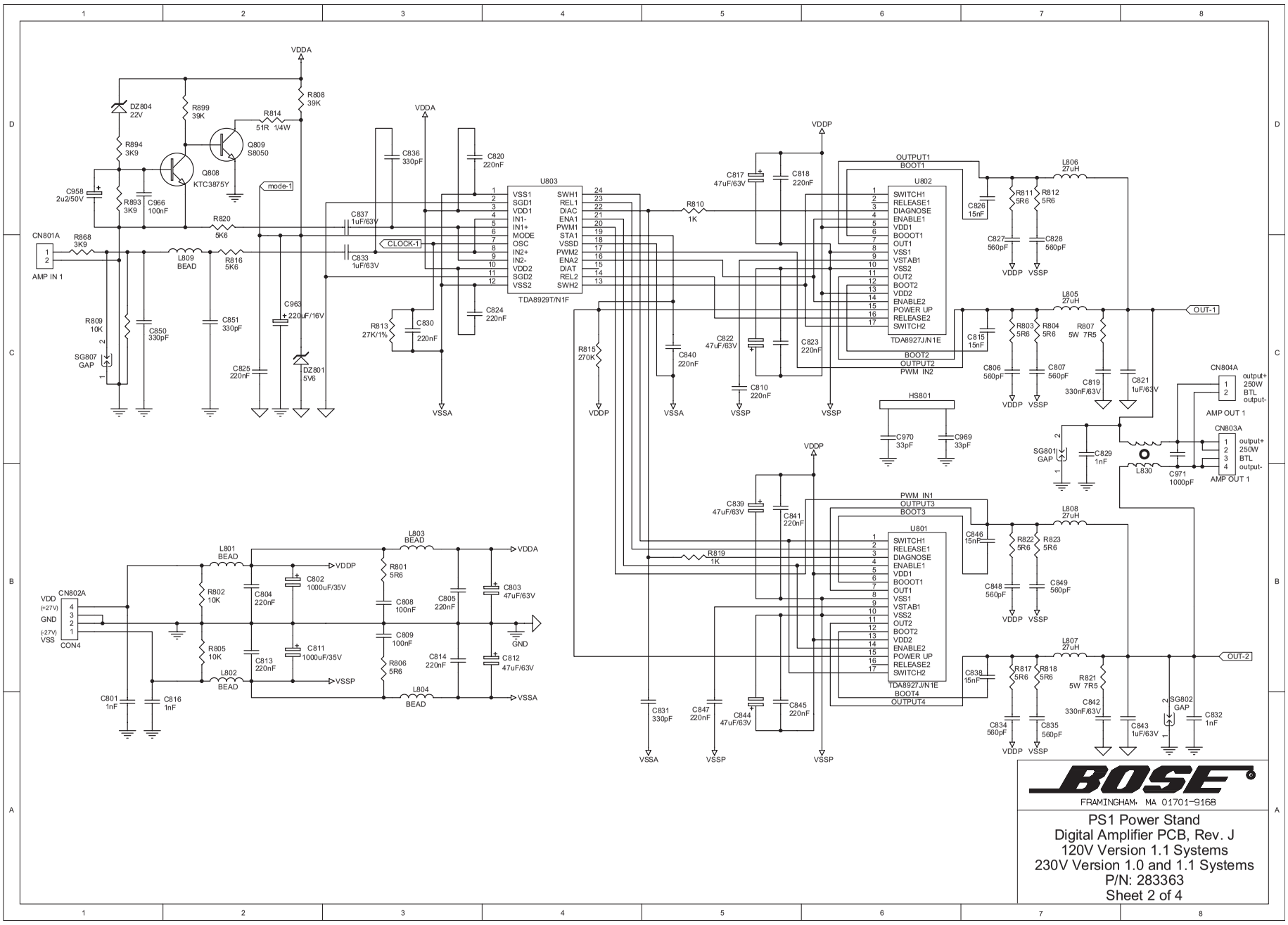
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R893 3K9
C966 100nF
mode-1
C836 330pF
C820 220nF
U803
VSS1
SGD1
VDD1
IN1-
IN1+
MODE
OSC
IN2+
IN2-
VDD2
SGD2
VSS2
SWH1
REL1
DIAC
ENA1
PWM1
STA1
VSSD
PWM2
ENA2
DIAT
REL2
SWH2
TDA8929T/N1F
R820 5K6
C837 1uF/63V
CLOCK-1
C833 1uF/63V
CN801A
AMP IN 1
R868 3K9
L809 BEAD
R816 5K6
R809 10K
C850 330pF
SG807 GAP
C851 330pF
C825 220nF
C963 220uF/16V
DZ801 5V6
R813 27K/1%
C830 220nF
C824 220nF
VSSA
VDDP
R810 1K
C817 47uF/63V
C818 220nF
OUTPUT1
BOOT1
U802
SWITCH1
RELEASE1
DIAGNOSE
ENABLE1
VDD1
BOOST1
OUT1
VSS1
VSTAB1
VSS2
OUT2
BOOT2
VDD2
ENABLE2
POWER UP
RELEASE2
SWITCH2
TDA8927J/N1E
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VSSP
R815 270K
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C822 47uF/63V
C823 220nF
C810 220nF
BOOT2
OUTPUT2
PWM IN2
L805 27uH
OUT-1
C815 15nF
R803 5R6
R804 5R6
R807 5W 7R5
C806 560pF
C807 560pF
C819 330nF/63V
C821 1uF/63V
CN804A
output+ 250W BTL output-
AMP OUT 1
HS801
C970 33pF
C969 33pF
SG801 GAP
C829 1nF
L830
C971 1000pF
CN803A
output+ 250W BTL output-
AMP OUT 1
PWM IN1
OUTPUT3
BOOT3
U801
R819 1K
C839 47uF/63V
C841 220nF
C846 15nF
R822 5R6
R823 5R6
L808 27uH
C848 560pF
C849 560pF
C838 15nF
R817 5R6
R818 5R6
L807 27uH
OUT-2
R821 5W 7R5
C842 330nF/63V
C843 1uF/63V
SG802 GAP
C832 1nF
C834 560pF
C835 560pF
BOOT4
OUTPUT4
C831 330pF
C847 220nF
C844 47uF/63V
C845 220nF
CN802A
VDD (+27V)
GND
(-27V) VSS
CON4
L801 BEAD
L803 BEAD
L802 BEAD
L804 BEAD
R802 10K
R805 10K
C804 220nF
C802 1000uF/35V
C813 220nF
C811 1000uF/35V
R801 5R6
R806 5R6
C808 100nF
C809 100nF
C805 220nF
C814 220nF
C803 47uF/63V
C812 47uF/63V
C801 1nF
C816 1nF
GND
VSSP
VSSA
BOSE
FRAMINGHAM, MA 01701-9168
PS1 Power Stand
Digital Amplifier PCB, Rev. J
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230V Version 1.0 and 1.1 Systems
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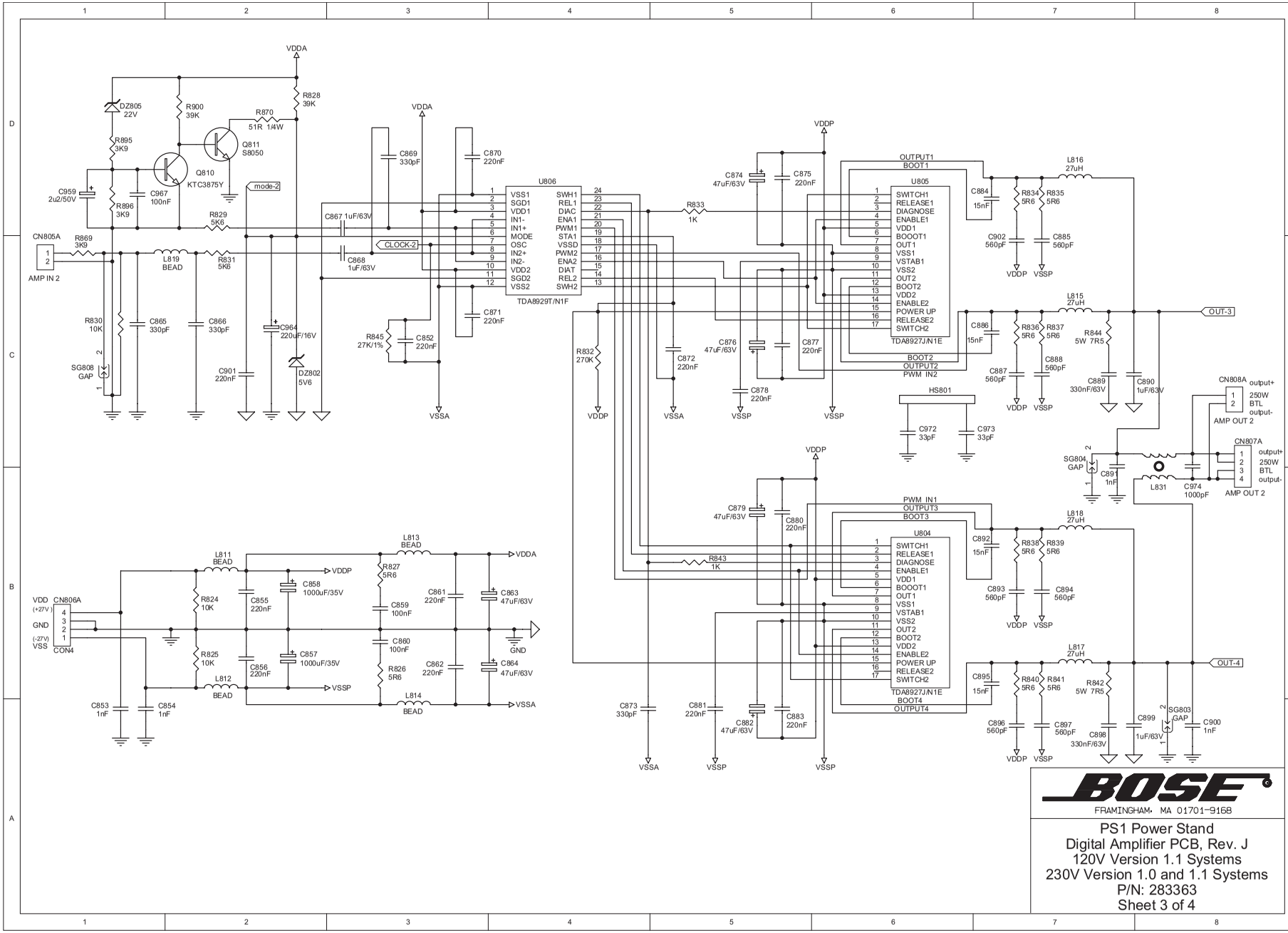
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Q810 KTC3875Y
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R896 3K9
C959 2u2/50V
C967 100nF
mode-2
R829 5K6
CN805A
AMP IN 2
R869 3K9
L819 BEAD
R831 5K6
R830 10K
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C866 330pF
C964 220uF/16V
DZ802 5V6
SG808 GAP
C901 220nF
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CLOCK-2
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C870 220nF
C871 220nF
R845 27K/1%
C852 220nF
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U806
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SGD1
VDD1
IN1-
IN1+
MODE
OSC
IN2+
IN2-
VDD2
SGD2
VSS2
SWH1
REL1
DIAC
ENA1
PWM1
STA1
VSSD
PWM2
ENA2
DIAT
REL2
SWH2
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C875 220nF
OUTPUT1
BOOT1
U805
SWITCH1
RELEASE1
DIAGNOSE
ENABLE1
VDD1
BOOT1
OUT1
VSS1
VSTAB1
VSS2
OUT2
BOOT2
VDD2
ENABLE2
POWER UP
RELEASE2
SWITCH2
TDA8927J/N1E
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L816 27uH
R834 5R6
R835 5R6
C902 560pF
C885 560pF
VDDP
VSSP
L815 27uH
OUT-3
C886 15nF
R836 5R6
R837 5R6
R844 5W 7R5
C887 560pF
C888 560pF
C889 330nF/63V
C890 1uF/63V
R832 270K
C872 220nF
C876 47uF/63V
C877 220nF
C878 220nF
BOOT2
OUTPUT2
PWM IN2
HS801
C972 33pF
C973 33pF
CN808A
output+
250W BTL
output-
AMP OUT 2
SG804 GAP
C891 1nF
L831
C974 1000pF
CN807A
AMP OUT 2
PWM IN1
OUTPUT3
BOOT3
U804
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C879 47uF/63V
C880 220nF
L818 27uH
R838 5R6
R839 5R6
C892 15nF
C893 560pF
C894 560pF
L817 27uH
OUT-4
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R840 5R6
R841 5R6
R842 5W 7R5
C896 560pF
C897 560pF
C898 330nF/63V
C899 1uF/63V
SG803 GAP
C900 1nF
C873 330pF
C881 220nF
C882 47uF/63V
C883 220nF
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OUTPUT4
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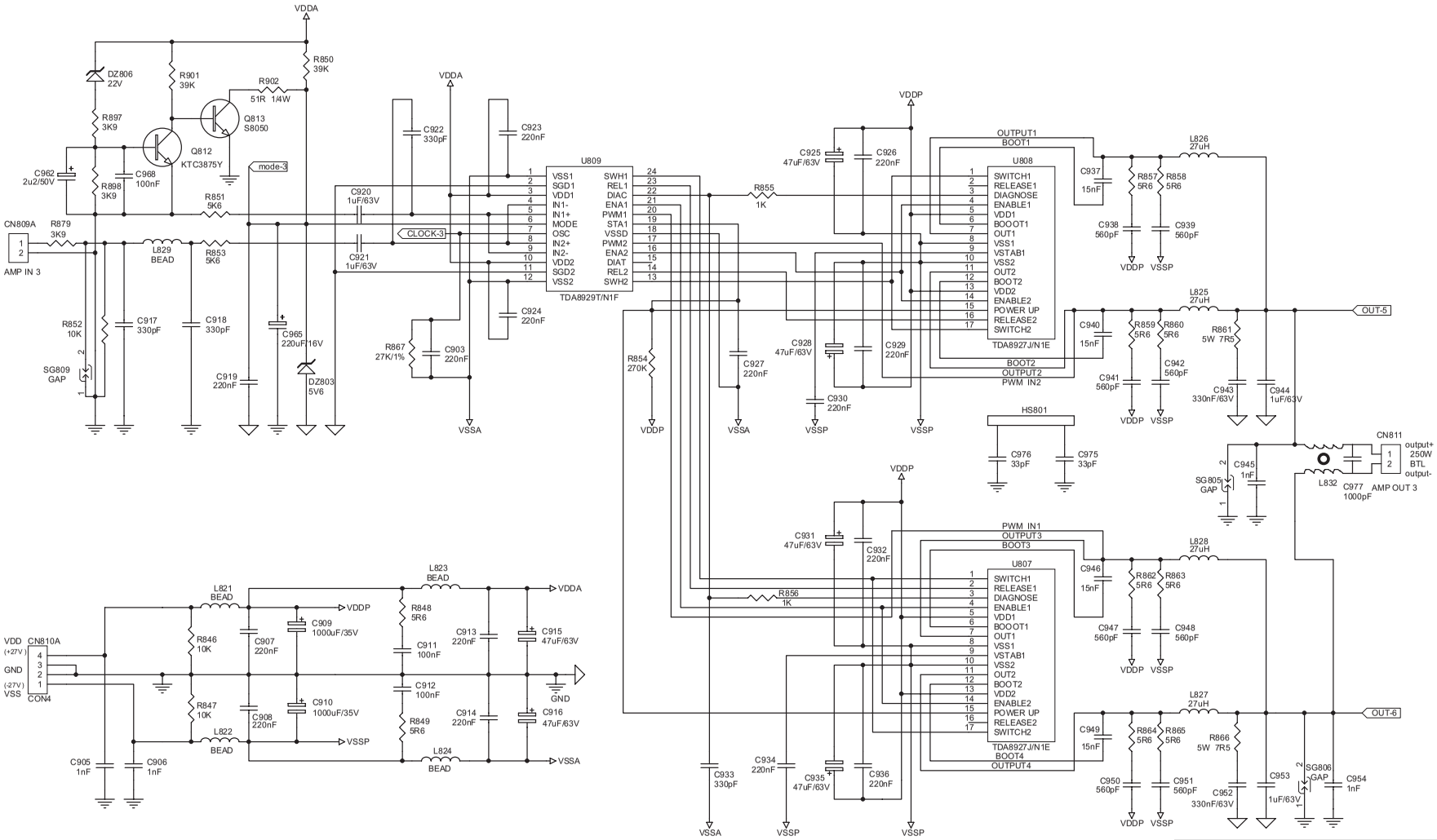
L811 BEAD
L812 BEAD
L814 BEAD
R827 5R6
R824 10K
R825 10K
R826 5R6
C855 220nF
C856 220nF
C857 1000uF/35V
C858 1000uF/35V
C859 100nF
C860 100nF
C861 220nF
C862 220nF
C863 47uF/63V
C864 47uF/63V
GND
VDD (+27V)
GND
(-27V) VSS
CN806A
CON4
C853 1nF
C854 1nF
BOSE
FRAMINGHAM, MA 01701-9168
PS1 Power Stand
Digital Amplifier PCB, Rev. J
120V Version 1.1 Systems
230V Version 1.0 and 1.1 Systems
P/N: 283363
Sheet 3 of 4



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PS1 Power Stand
Digital Amplifier PCB, Rev. J
120V Version 1.1 Systems
230V Version 1.0 and 1.1 Systems
P/N: 283363
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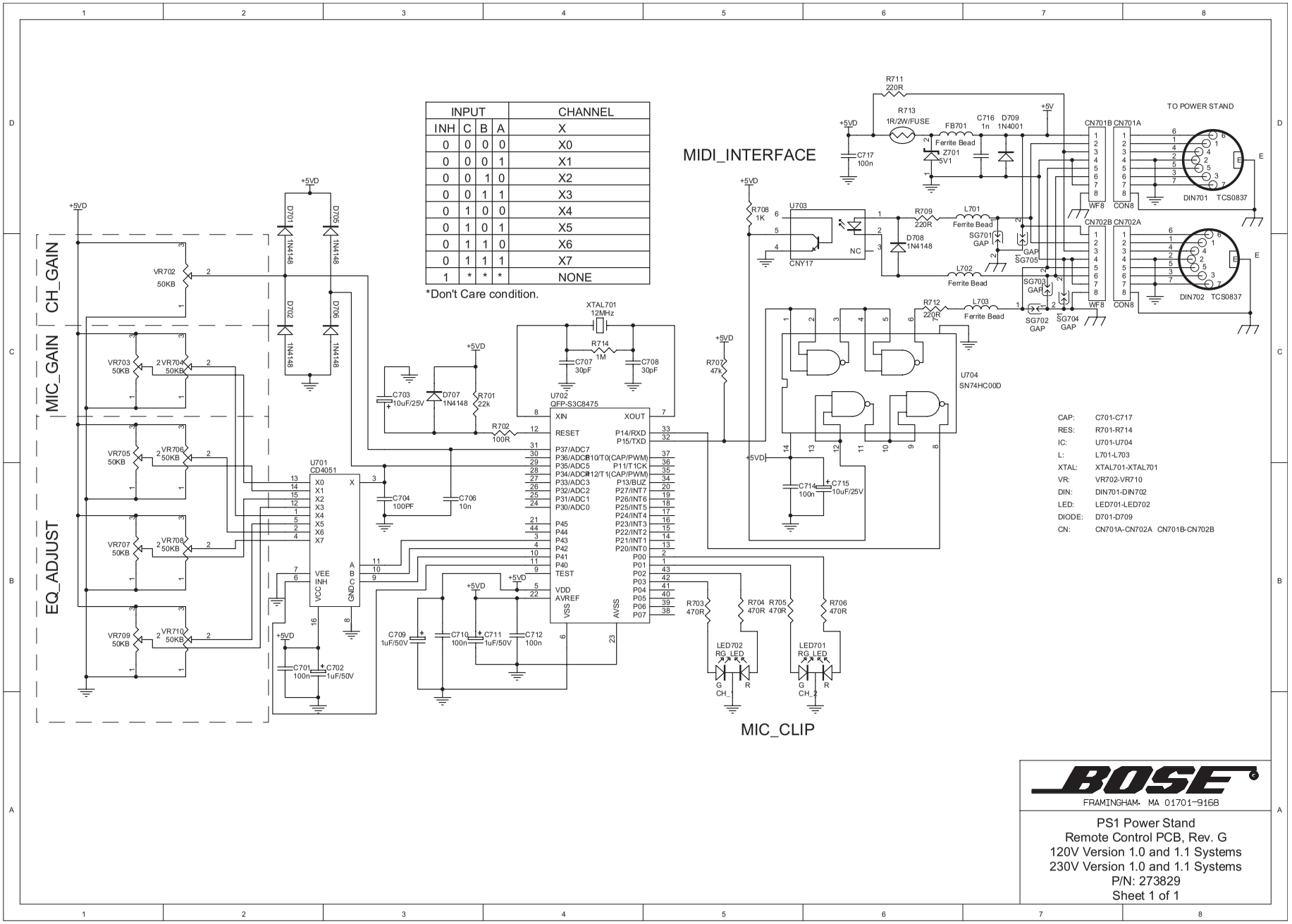

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PS1 Power Stand
Remote Control PCB, Rev. G
120V Version 1.0 and 1.1 Systems
230V Version 1.0 and 1.1 Systems
P/N: 273829
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Appendix

PS1 Power Stand Test Cables

Note: In order to be able to properly test the PS1 Power Stand, you will need to make up a few test cables.

1. Amplifier Output Test Cable:

Parts needed:
1- Neutrik NL4FX Speakon X-Line/4 Pole connector.
4 - Dual banana jacks
2 - 10k ohm, 1/4 Watt resistors
16 or 18 AWG twisted pair wire, 6 feet
18 AWG twisted pair wire, 2 feet

This cable is used to connect the Amp 1 OUT, Amp 2 OUT or Bass/Amp3 OUT jacks to the load resistors used in the test procedures. The connector used is a Neutrik NL4FX Speakon X-Line / 4 Pole type. This connector has 4 terminals labeled 1+, 1-, 2+ and 2-. Terminals 1+ and 1- are used to connect to the load resistors. Use 18 or 16 AWG wire for these terminals. Use twisted pair wires to avoid inducing noise into the cable during use.

The 2+ and 2- terminals will be used to sense the loads connected to the Speakon connector when used with the Bass/Amp3 OUT jack. This jack automatically senses the load on this jack to properly tailor the EQ and output level for the connection of one or two bass modules. It does this by sensing the resistive value across terminals 2+ and 2-. The bass modules have a 10k ohm resistor across these terminals. When only one bass module is connected, the PS1 sees the 10k resistance and sets the EQ and output level accordingly. When two bass modules are connected, it sees 5k and sets the EQ and output level accordingly. For the test cable, you will use 18 AWG twisted pair wire to a dual banana jack.

It is also useful to have 3 spare banana jacks, one with a short across it and 2 with a 10k Ohm, 1/4 Watt resistor each to simulate a bass module connected to the terminals. The Amp 1 OUT and Amp 2 OUT jacks to not sense this load.

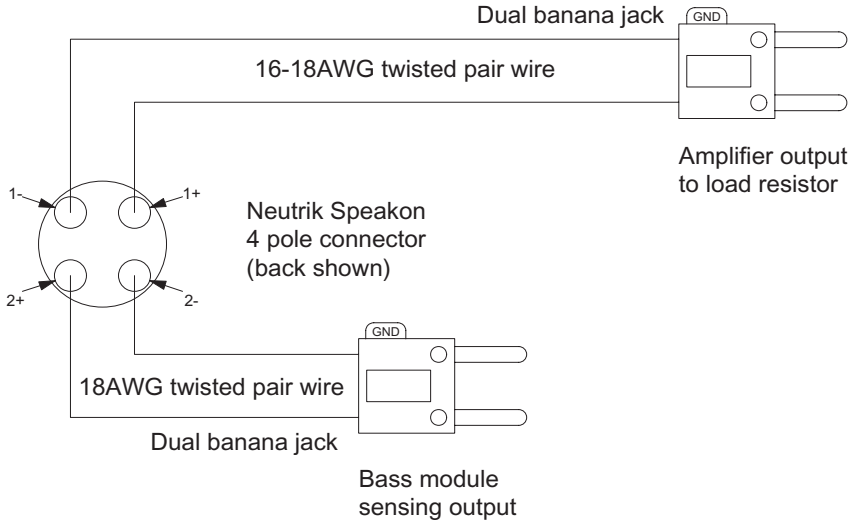


Figure 11. Amplifier Output Test Cable Wiring Diagram

Appendix

PS1 Power Stand Test Cables (continued)

2. XLR Microphone Input Test Cable

Parts needed:
1 - XLR male connector
1 - Dual banana jack
18 AWG shielded twisted pair wire, 6 feet

This cable is used to test the channel 1 and 2 microphone inputs on the PS1 Power Stand. These input jacks are dual purpose jacks that will accept either XLR or 1/4” TRS phono jack balanced inputs.

Connect the dual banana jack’s positive (+) connection to pin 2 of the XLR jack. Connect the dual banana jack negative (-) connection to pin 3 of the XLR jack. Connect the cable shield to pin 1 of the XLR jack.

3. Line Input 1/4” Phono Jack Test Cable

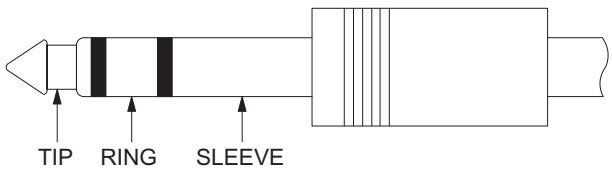
Parts needed:
1 - Mono 1/4” phono jack
1 - Dual banana jack
18 AWG shielded twisted pair wire, 6 feet
This cable is used to test the channel 1 and 2 line inputs on the PS1 Power Stand.

Connect the dual banana jack’s positive (+) connection to the tip connection of the 1/4” phono jack. Connect the dual banana jack negative (-) connection to the ring connection of the 1/4” phono jack.

4. Insert Jack Test Cable

This cable is used to test the channel 1 and 2 insert jacks on the PS1 Power Stand. When you plug it into the channel 1 or channel 2 insert jack, you will be able to separate the sections of the electronics. Refer to the PS1 Power Stand block diagram on page 78. The RETURN dual banana jack will give you the output of the circuitry up to the output of the 2 channel digital volume control. The SEND dual banana jack will allow you to input a signal to test the circuitry after the insert jack, which is the input to the
A/D converter and DSP.

Parts needed:
1 - Tip/Ring/Sleeve (stereo) 1/4” phono jack
2 - Dual banana jacks
Shielded stereo cable, 6 feet



For each of the shielded stereo pairs of wires, connect the dual banana jack’s positive (+) connection to the center conductor. Connect the dual banana jack’s negative (-) connection to the shield wires. Use an Ohmmeter to determine which of the center conductors is connected to the ring of the 1/4 inch TRS phono jack. Using a permanent black magic marker, label this dual banana connector SEND. Determine which of the center conductors is connected to the tip of the 1/4 inch TRS phono jack. Label this dual banana connector RETURN. The sleeve portion of the jack is the common ground where the shields are connected.

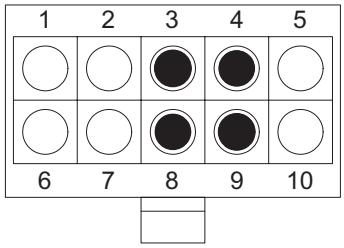
Appendix

5. L1 Line Array Test Cables

These two cables will allow you to test the upper and lower line array sections without a PS1 power stand. Use these cables for the line array test procedures in this service manual.

Lower Line Array Section Test Cable

Parts needed:
1 - 10 pin Molex male connector, Molex part number 39-00-0039 (F)
4 - Molex crimp-on pins for above connector, Molex part number 39-00-0039
1 - dual banana jack
12 feet of 16 or 18AWG twisted pair wire

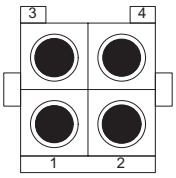


Molex Connector Rear View

Cut the 12 foot length of twisted pair wire in half. Strip all of the wires back about 1/4 inch. Crimp the molex pins onto the wires. The positive (+) side of the twisted pair wires will go into pins 3 and 8 of the Molex connector. The negative (-) side of the twisted pair wires will go into pins 4 and 9 of the Molex connector. Connect the wires that go to pins 3 and 8 of the Molex connector to the positive (+) side of the dual banana jack. Connect the wires that go to pins 4 and 9 of the Molex connector to the negative (-) side of the dual banana jack.

Upper Line Array Section Test Cable

Parts needed:
1 - 4 pin Molex male connector, Molex part number 39-01-2041
4 - Molex crimp-on pins for above connector, Molex part number 39-00-0041 (M)
1 - dual banana jack
12 feet of 16 or 18AWG twisted pair wire



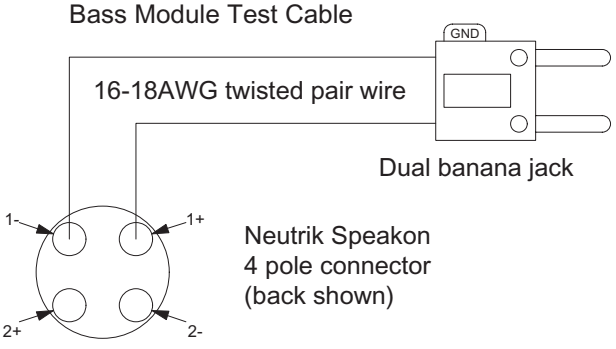
Molex Connector Rear View

Cut the 12 foot length of twisted pair wire in half. Strip all of the wires back about 1/4 inch. Crimp the molex pins onto the wires. The positive (+) side of the twisted pair wires will go into pins 2 and 4 of the Molex connector. The negative (-) side of the twisted pair wires will go into pins 1 and 3 of the Molex connector. Connect the wires that go to pins 2 and 4 of the Molex connector to the positive (+) side of the dual banana jack. Connect the wires that go to pins 1 and 3 of the Molex connector to the negative (-) side of the dual banana jack.

6. Bass Module Test Cable

Parts needed:
1 - Neutrik Speakon NL4FX connector
1 - dual banana jack
6 feet of 16 or 18AWG twisted pair wire

Strip all of the wires back about 1/4 inch. Connect the dual banana jack's positive (+) connection to the 1+ connection of the Speakon connector. Connect the dual banana jack negative (-) connection to the 1- connection of the Speakon connector.



Appendix

PS1 Power Stand Software Update Procedure

Required Equipment:

1- CD player with a S/PDIF digital output (do not use a Bose® Lifestyle® media center)
1- PS1 Power Stand update CD (see the instructions for creating this disc below)
1- S/PDIF video cable, part number 183200, or an audio cable with RCA connectors
1- PS1 Power Stand AC line cord, part number 273790

PS1 Power Stand Update CD Procedure:

- Go to the Bose Technical Service web page at http://intranet.bose.com/tsg (Bose internal repair centers) or http:serviceops.bose.com (external Bose affiliated repair centers).
- Navigate to the Personal Amplification System web page. The link to it is located on the Pro Products web page.
- Scroll down the page until you see the table that the link to the PS1 Power Stand software update is located in. Download the file to your computer's desktop.
- Using a CD burner and your CD burner software, burn the file onto a blank CD-R or CD-RW disc. Once this disc is successfully created, label the disc with the revision of the software.

Update Procedure:

- Plug the CD player into an AC mains outlet.
- Connect the S/PDIF cable to the Audio Outputs/Digital jack on the back of the CD player.
- Connect the other end of the S/PDIF cable to the DATA IN jack on the PS1 Power Stand's input panel. This jack is located in the middle of the panel. It's an RCA jack with a white center.
- Connect the PS1 Power Stand's AC line cord to the AC mains jack on the PS1 input panel. This jack is located on the right side next to the power switch.
- Connect the other end of the AC line cord to an AC mains outlet.
- Power up the PS1 Power Stand by moving the power switch to the ON position. Wait for the power LED to light steady green.
- Load the update CD into the CD player. Press the PLAY CD/DVD button on the remote control. The update process should begin.
- Wait about 5 seconds while the disc is playing. The green power LED on the PS1 Power Stand should blink rapidly, about 10 times per second. After about 10 seconds, the LED should begin to blink slower, about twice a second.
- The update process is complete. Power down the PS1 Power Stand. Disconnect the S/PDIF cable from the DATA IN jack.
- Verify proper operation of the PS1 Power Stand using the test procedures in this service manual before returning the unit to the customer.

Troubleshooting:

Problems with this update procedure are indicated by the PS1 Power Stand's power LED. Typical indicators are:

- LED stays a steady green.
- LED blinks slowly red

In either case, simply repeat the process above. Make sure you wait 5 seconds after power up of the PS1 Power Stand before playing the update disc. Ensure all of the cables are properly connected.

Service Manual Revision History

Date	Revision Level	Description of Change	Change Driven By	Pages Affected
2/04	00	Document released at revision 00.	Service manual release	All
4/05	01	Added information for non-US versions	Non-US product release	Various

BOSE®
Better sound through research®

Personalized Amplification System™

PS1 Power Stand, R1 Remote Control, L1 Line Array and B1 Bass Module

US/Canada, European, UK and Australian Versions 1.0 and 1.1

Service Manual

Reference Number 264018-SM Rev. 01
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SPECIFICATIONS AND FEATURES SUBJECT TO CHANGE WITHOUT NOTICE

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Bose Corporation
The Mountain
Framingham Massachusetts USA 01701

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