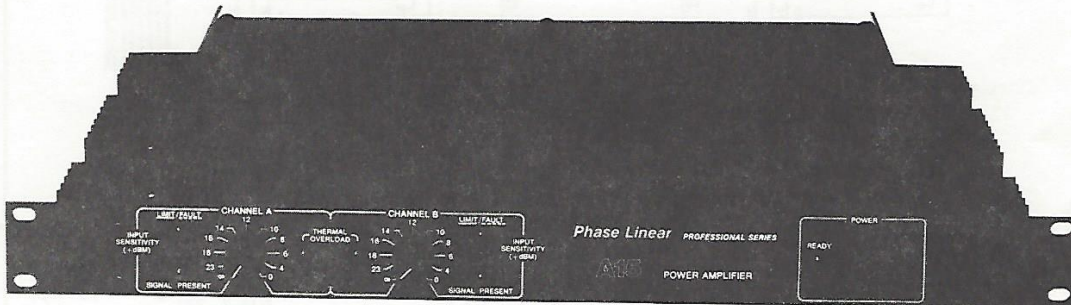
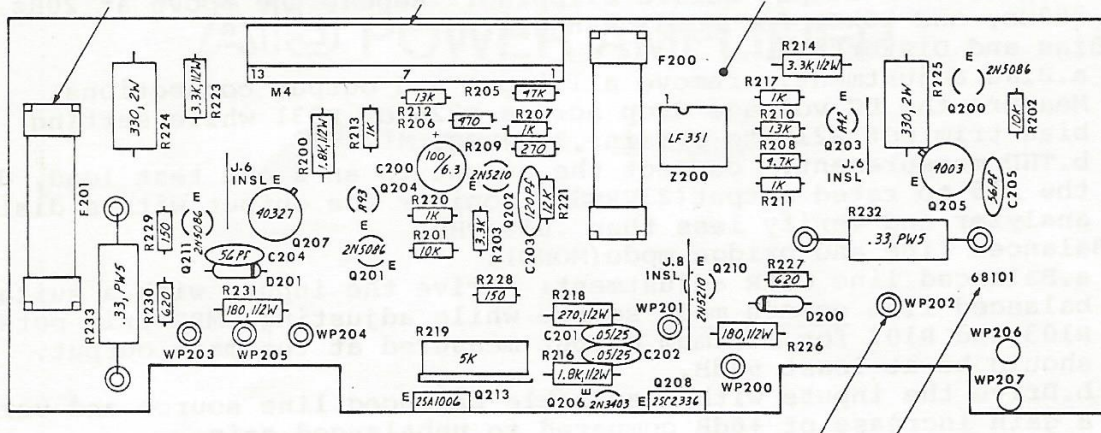


# A15 POWER AMPLIFIER

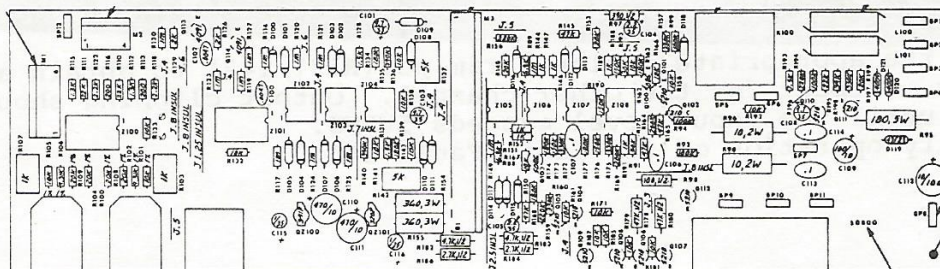
PRELIMINARY SERVICE MANUAL







Assembly diagram - power module, A15



Assembly diagram - control PCB, A15

Model A15 - abbreviated test and alignment procedure.

1. Output signal with 8 ohm test load.
  - a. Disable the limiters by turning R137 fully CCW and R142 fully CW.
  - b. Monitor the output with a scope, AC voltmeter, and 8 ohm test load while driving the input with a 2kHz sine wave and verify at least 23VRMS output before clipping. Repeat the above at 20Hz, 200Hz, and 20kHz for both channels.
2. Bias and Distortion.
  - a. Bias adjustment: remove all input and output connections. Measure the DC voltage drop across R226 or R231 while setting bias trim pot R219 to obtain .3-.4VDC.
  - b. THD measurement: connect the output to an 8 ohm test load, drive the A15 to rated output (23VRMS), monitor the output with a distortion analyzer and verify less than .05% THD.
3. Balanced line and bridge mode (MONO).
  - a. Balanced line CMRR adjustment: Drive the inputs with a suitable balanced line common mode source while adjusting CMRR trim pots R103 and R107 for minimum output measured at the main output. CMRR should be at least 60dB.
  - b. Drive the inputs with a suitable balanced line source and verify a gain increase of +6dB compared to unbalanced gain.  
Note: Phase Linear uses the sleeve-ground, ring-minus(-), and tip-plus(+) standard connection for balanced line operation.
  - c. Bridge mode (MONO): Monitor the MONO output terminals (red & white) with a scope, AC voltmeter and 8 ohm test load while driving the MONO input with a 2kHz sine wave and verify at least 38VRMS output before clipping.  
Note: Be sure to lift all test equipment chassis grounds to prevent the output from being shorted to chassis ground and to prevent damage to test equipment. Do not connect any load to the MONO output terminals less than 8 ohms to prevent damage to the output stage.
4. Limiter alignment and test.
  - a. With limiters still disabled per section 1-a drive one channel with a 2kHz 3VRMS input while monitoring the output with a scope, AC voltmeter and 8 ohm test load. The output should be severely clipped.
  - b. Set the appropriate limiter trim pot (R137/142) to obtain a 19VRMS output. Repeat for the other channel. Output clipping should not occur until the input level exceeds 5VRMS.
  - c. Verify operation of the Limit/Fault LED.