



HIGH VOLTAGE POWER SUPPLY REPLACEMENT

P/N 6100-0107-03

Tools Required:

1. Screwdriver, straight slot
2. Screwdriver, Phillips #2
3. Nut driver, 1/4"
4. Insulated lead wire 12-15 inches long (No. 18-20) with alligator clips on both ends.

Replacing the High Voltage Power Supply involves contact with dangerous high voltage elements. Follow instructions carefully and observe all safety precautions!

All efforts should be made to isolate the fault to the High Voltage Power Supply (HVPS) before beginning replacement.

Before replacing the HVPS consider the following:

1. All BNC signal input connections on the rear panel have been checked for proper connection and the signal source is operating properly.
2. Front panel controls have not been inadvertently set to produce a no raster condition.
3. HV disable and sync lights have been properly interpreted.
4. Low Voltage Power Supply (LVPS) has been replaced (the LVPS develops the input voltage for the HVPS).
5. When the monitor is turned on there is normally a high voltage "crackle" sound as the high voltage builds up to 27 KV. If there is an audible "crackle" at turn on, the 27 KV is present.
6. If the monitor is functioning but out of focus, the HVPS focus control may need a simple adjustment. Refer to the High Voltage Power Supply Alignment Procedure.
7. The CRT filaments are visibly lighted through the top rear of the cabinet.

REPLACEMENT PROCEDURE

1. Turn a/c. power OFF at the front panel.
2. Disconnect the monitor a/c. power cord and all five coaxial cables on the rear panel.
3. Wait twenty minutes for voltages to discharge.
4. Remove the enclosure by removing 22 screws and sliding the enclosure to the rear.

CAUTION! High lethal voltages could be present at the CRT anode - follow procedure carefully.

5. Connect chassis to earth ground.
6. Attach one end of a 12-15 inch clip lead to the metal shaft of a screwdriver which has a well insulated handle. (Do not use wooden handle screwdrivers.)
7. Connect the other end of the clip lead to the metal chassis of the monitor such that the tip of the screwdriver can reach the HV anode lead on the CRT.
8. While holding only the insulated handle of the grounded screwdriver, carefully slide the tip of the metal blade under the rubber cover of the CRT anode lead and make contact with the metal electrode for at least five seconds. Repeat if necessary until arcing no longer occurs.
9. Remove the anode connection from the CRT.
10. Disconnect the focus leads.
11. Disconnect the HVPS power input connector at the HVPS.
12. Remove the four 6-32 nuts and washers on the mounting studs of the HVPS and remove the supply.
13. Install the new supply using the four washers and 6-32 nuts and tighten securely.
14. Connect the power input lead, focus lead, and the CRT anode connector. Make sure the anode lead rubber boot is securely in place and not damaged.
15. Check that all wiring and leads are properly dressed and that there is not conflict with screws, covers, etc.
16. Replace the enclosure with the screws provided.
17. Connect all BNC signal cables and the a/c. power cable to the monitor.
18. Apply a/c. input power and input signals and check display for proper operation.

HIGH VOLTAGE POWER SUPPLY ALIGNMENT PROCEDURE

The Model 6100-0107-03 High Voltage Power Supply has five output voltages of which four are adjustable.

- 27,000 Volts (Anode Voltage)
- 7,000 Volts (Focus 1 Voltage)
- 7,000 Volts (Focus 2 Voltage)
- 600 Volts (Grid 2 Voltage)

The anode and G2 Voltages should be factory preset to their respective values. However, the focus voltage must always be adjusted when either the CRT or the High Voltage Power Supply are replaced.

EQUIPMENT REQUIRED:

1. Klien VPG-250 test pattern generator or equivalent and cables.
2. FLUKE Model 27 Multimeter with FLUKE 80K-40/1000 MegOhm High Voltage Probe or equivalent equipment.
3. 1/8 inch insulated flat point adjustment tool.

ANODE AND G2 VOLTAGE ADJUSTMENT PROCEDURE

1. This procedure requires removal of unit enclosure.
2. Connect three equal length BNC cables from the video generator or test source RGB analog outputs to the Model 5127 RGB video inputs respectively.
3. Display a color bar or gray scale pattern if possible.
4. Connect the voltmeter negative lead to the monitor chassis. CAREFULLY slip the High Voltage Probe tip under the rubber insulator cap at the CRT anode connector shown in figure 1-1.
5. If necessary, insert the adjustment tool in the small hole on the top of the High Voltage Power Supply near the power connector and adjust for a reading of 27 Volts (27,000 Volts Actual) on the multimeter.
6. To adjust the grid 2 voltage CAREFULLY insert the tip of the High Voltage Probe into pin 9 of the High Voltage Power Supply power connector. **Caution:** Ordinary voltmeter probes will result in inaccurate readings due to their loading.
7. If necessary adjust the G2 potentiometer for a reading of +0.60 Volts (600 Volts Actual) on the multimeter.
8. After adjusting anode voltage it will be necessary to adjust focus voltage.

EQUIPMENT REQUIRED:

1. Klien VPG-250 test pattern generator or any high performance video source that provides single pixel line or character widths.
2. Insulated 1/4" straight screwdriver or adjustment tool.
3. BNC cables as required.

FOCUS VOLTAGE ADJUSTMENT PROCEDURE

1. This procedure requires removal of unit enclosure.
2. Connect three equal length BNC cables from the video generator test source RGB analog outputs to the Model 5127 RGB video inputs respectively.
3. Display a pattern such as dots or characters.
4. Observe "sharpness" of image at several locations on the screen.
5. With the insulated tool, adjust the "focus 1" pot on the top of the High Voltage Power Supply for the best sharpness of vertical lines at the right and left edges. Next, adjust the "focus 2" pot for best focus of horizontal lines near the center of the screen. Keep changing the two adjustments until uniform focus across the screen is achieved.
6. Should it be necessary to verify or adjust the anode voltage and/or the G2 voltage the High Voltage Power Supply Procedure in this manual applies: