

Installation of HT2000 Firmware for Improved 100 Amp Oxygen Cutting

Kit: 128056



WARNING



SHOCK HAZARD: Always turn off all power to HT2000 power supply before removing front covers. Set line voltage disconnect box to OFF. Lock out and tag out switch.

1. Disconnect power from HT2000 system - see warning above.
2. Remove front panel of power supply.
3. Unscrew control panel and rotate it to sit on top of the power supply with the electrical wires still attached.

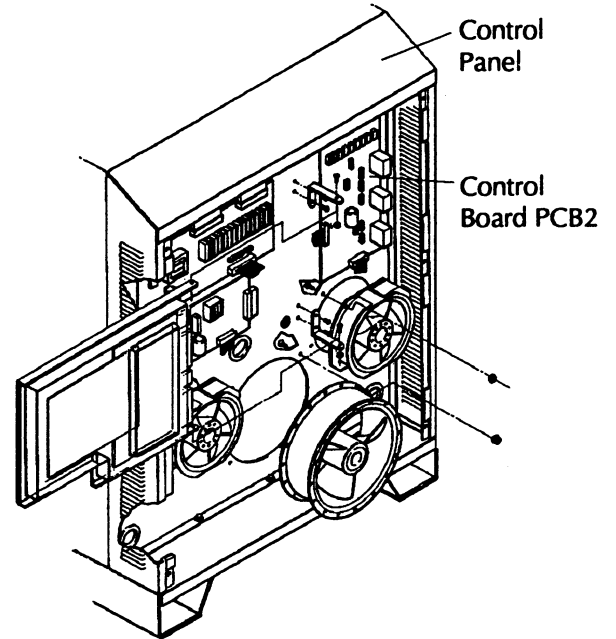


Figure 1 HT2000 Power Supply

Caution: Before replacing old firmware with new firmware, ground yourself to the power supply chassis to reduce the chance of electrical static discharge.

4. Find Control Board PCB2 and firmware IC **081004**. Firmware IC is located in socket labeled **U9** underneath high-frequency cover. See Figure 2.

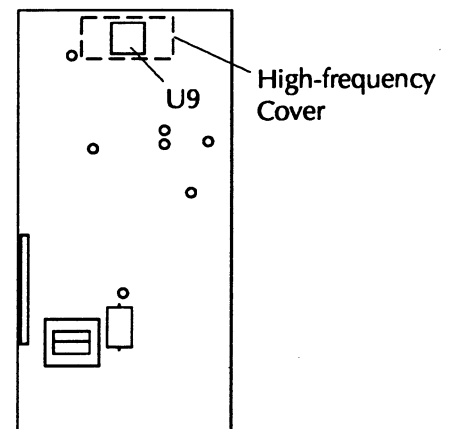


Figure 2 HT2000 Control Board PCB2

5. Remove 081004 firmware from socket by using enclosed extraction tool (027338). See Figure 3.
 - a. Insert removal tool into corner slot. Ensure bend on removal tool catches on bottom of IC.
 - b. Pull removal tool straight out until IC releases from socket.
 - c. If IC only partially releases, repeat steps a. and b. at opposite corner.
 - d. Discard IC.

6. Carefully install latest version (Rev. E) of 081004 firmware into U9 socket.
 - a. Orient firmware by aligning dot and bevel on IC (indicating pin 1) to dot on socket. (Some firmware has only a bevel indicating the side where pin 1 is located.) See Figure 4. Be careful not to bend any pins during installation.
 - b. Press IC into place. See Figure 5. When properly installed, IC will be flush with top of socket.

7. Reinstall high-frequency cover.

Caution: The high-frequency cover shields firmware IC and other control circuit components from high-frequency noise. If the cover is not reinstalled, system operation could be erratic or reduced.

8. Replace front panel on HT2000 power supply.
9. Replace control panel on HT2000.

Note: Error Codes on the control board change with this level software. Replace page 8-22 in your instruction manual with the attached error codes.

Installation complete. See instruction manual IM207 (802070) for further HT2000 operating instructions.

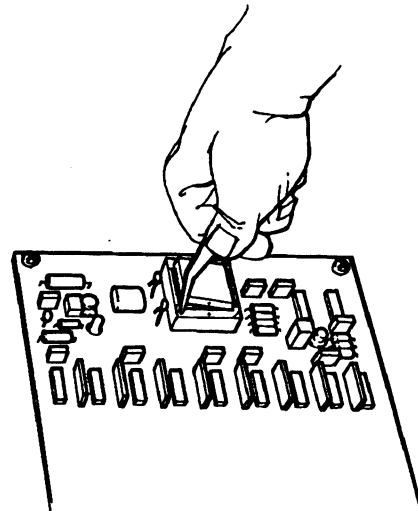


Figure 3 Firmware Removal (typical)

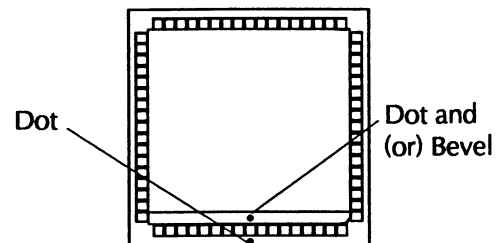


Figure 4 HT2000 Firmware 081004 (shown in socket)

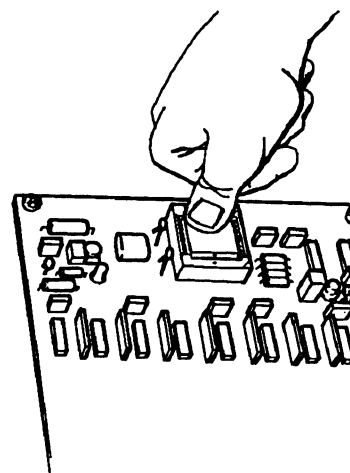


Figure 5 Press Firmware 081004 in Socket (typical)

MAINTENANCE

| Number of blinks | Explanation |
|------------------|--|
| 1 | Indicates that the IHS Complete signal has not been returned within 30 seconds after the plasma START command has been given |
| 2 | Indicates that an "interlock" error has occurred |
| 3 | Indicates that the HOLD input (for multi-torch systems) was not released within 30 seconds after the end of preflow |
| 4 | Indicates that there was no transfer within 300ms for O ₂ cutting or within 2 seconds for N ₂ cutting |
| 5 | Indicates that transferred current arc was lost during ramp up |
| 6 | Indicates that the current was lost from chopper #1 (CH1) |
| 7 | Indicates that the current was lost from chopper #2 (CH2) |
| 8 | Indicates that transferred current arc was lost during ramp down |
| 9 | Indicates that the software has an error |

Figure 8-5 Error Codes - Rev E Firmware