

PS2194  
DETAILED CHARACTERIZATION  
REV. A

**1200W**  
**SYNCHRONOUS, HIGH EFFICIENCY**  
**11 OUTPUT POWER SUPPLY**  
WITH  
**TOTAL POWER FACTOR CORRECTION**  
AND  
**MEDICAL ISOLATION**

18 AUGUST 1994

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## 0. INTRODUCTION

### PS 2194 POWER SUPPLY FEATURES

**INPUT POWER:** 85 - 264 Vac all range, 47 - 63 Hz, 1 phase, 20A maximum service.

**INPUT CONNECTOR:** Hubbell H320B IEC-320 20A 250 Vac appliance inlet.

**INPUT PROTECTION:** 20A Airpax IPGH11-1-64-203-00 double pole breaker.

**OUTPUT POWER:** 1200W DC nominal; +5.0V @ 180A, +3.3V @ 50A, +12V PER @ 6.5A/9A surge, +24V FAN @ 8A/9A surge, +5.5V @ 30A, -5.7V @ 25A, +12.0V @ 6A, -12.0V @ 6A, +106V @ 64mA, -106V @ 64mA, +300V @ 0.8A. (Listed currents are maximum - total continuous power not to exceed 1200W.) 550VA accessory ac power.

**OUTPUT CONNECTORS:** 5/16" high current studs, 8 pos. AMP Mate-N-Lok 640584-1, 2 pos. AMP Mate-N-Lok 1-350942-0, 15 pos. DIN 41612 type H, 15 pos. D-sub receptacle, 9 pos. D-sub receptacle, 3 pos. AMP Mate-N-Lok 350767-1.

**LINE-TO-CHASSIS LEAKAGE CURRENT:** < 65uA @ 115Vac, 60Hz

**LINE CONDUCTED EMI:** Complies with FCC "A" and VDE "A".

**VOLT-AMP EFFICIENCY:** > 74%

**LINE CURRENT HARMONICS:** Complies with IEC 555

**NOMINAL SIZE:** 5.25" X 9.13" X 16.00" (excluding mounting brackets, handle, and output stud block)  
See power supply outline dimensions, page 3.

**WEIGHT:** 26 lbs.

**OPERATING AMBIENT:** 0-50 C

**COOLING:** Self-contained fan, speed controlled externally.

**CONSTRUCTION:** Fully enclosed, zinc plated steel chassis.

**SIGNALS:** Power fail warning; standby voltage (5V @ 20mA).

**INDICATORS:** Five back panel LEDs indicate overvoltage/overcurrent condition.

**CONTROLS:** 50kHz synchronization; +24V FAN voltage control; +5.0V margining; remote power on/off; AC fail adjustment pot; remote sensing on +5.0V, +5.0V return, +3.3V, +5.5V, +5.5V return, -5.7V, +12.0V, -12.0V. Output voltages (with the exception of the +24V FAN output) are factory set and non adjustable.

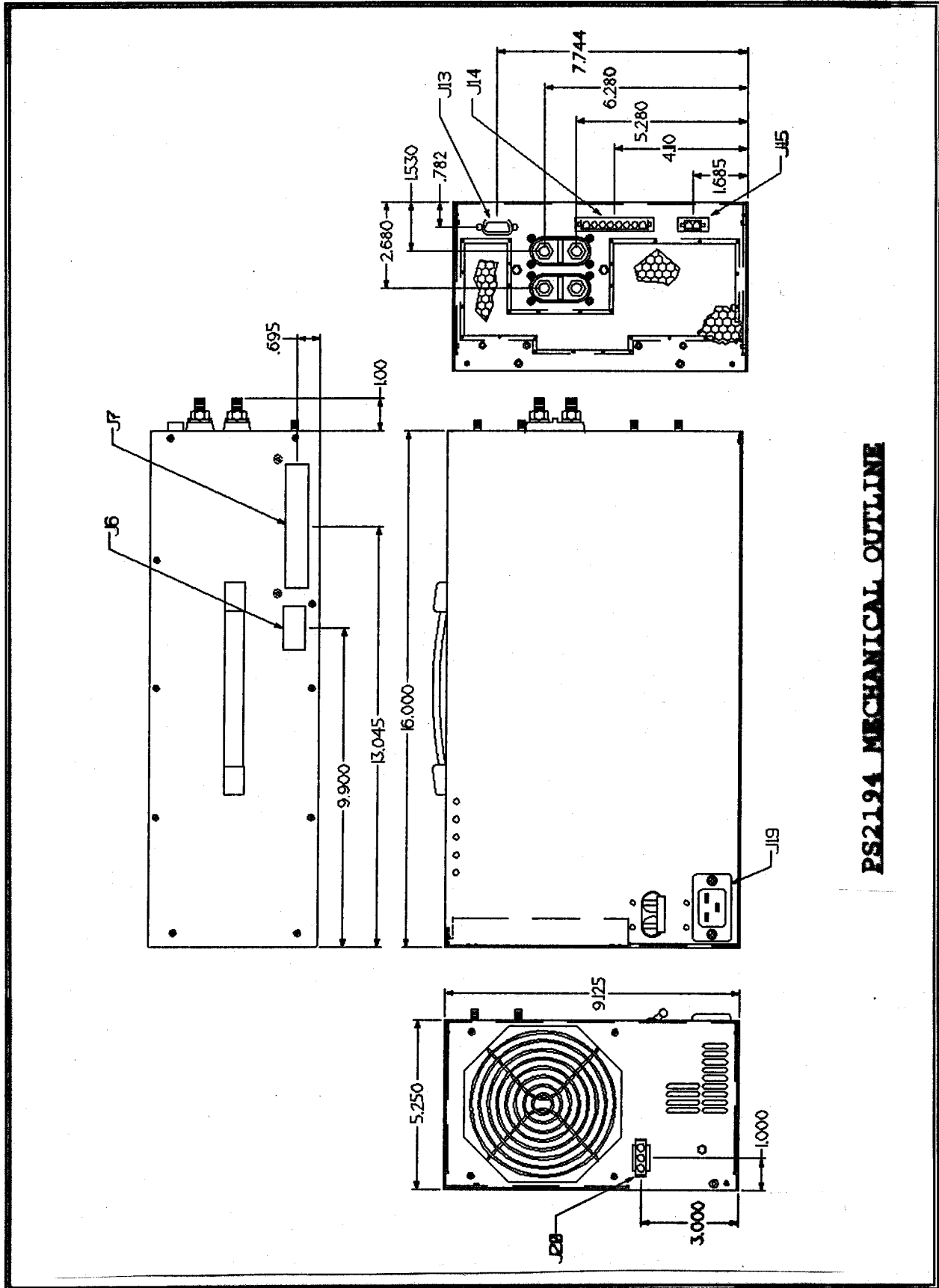
PS 2194 POWER SUPPLY FEATURES (CONT.)

**PROTECTION:**

Overvoltage limiting on input bus. Overvoltage lockout on all outputs (except +12V PER) - reset by cycling ac input power off for 25 seconds. Overcurrent limiting on ac input power. Overcurrent limiting on input bus. Overcurrent lockout on all outputs (except +300V) - reset by cycling ac input power off for 25 seconds. Overcurrent limiting and undervoltage lockout on +300V---lockout after 5 seconds. Overpower limiting on primary circuit. Primary and secondary overtemperature protection--self resetting with hysteresis. Input transient voltage protection.

**POWER CIRCUIT:**

Power factor correcting synchronous dual boost converter input stages--correct for power supply and for accessory load. Three current mode controlled forward isolating down converters with magnetic amplifier and linear post regulators. Current mode controlled flyback down converter provides internal primary and secondary biases. All converters synchronized to 50kHz clock.



**PS2194 MECHANICAL OUTLINE**