

IFR Forward Endcap Low Voltage Supplies

The Forward Endcap Low Voltage supplies are mounted in a small rack at the base of the minicrate racks on each door. The rack contains 2 power supplies, a heat exchanger, two fan trays, and a distribution network. AC power on the East door is supplied by circuits 37,39 (Top supply); 28,30(Bottom supply); and 38(fans) from Breaker panel 2PB620D-01 which is on top of the east barrel. On the West door the circuits are 39,41(top); 15,17(bottom); and 37(fans) from circuit breaker panel 2PB620D-02 on the west barrel.



Fig. 1, Picture of West LV rack Front and Back

The + 7 Volt power(top) is supplied by a Sorensen DCR 7-300B rated at 7 Volts and 300 Amps. The -5.2 power(bottom) is supplied by a HP6260B rated at 10 volts and 100 Amps. Both output voltages can be turned off remotely by switches in the Electronics House (B620B-37). The switch to the Sorensen supply crate shorts terminals 1 and 11 on the supply enabling the remote shutdown.. In the case of the HP supply, a solid state contactor is mounted inline with the power cord to turn of AC power. The front panel switches for both supplies must be ON for the remote control to work.

The LV is cable to bus bars at the back of the crate. Resettable fuses on the east(west) door connect the bus bar to 5(4) lines which run to Minicrates racks. The fuses are 3 Raychem ## in parallel for +& voltages and 2 in parallel for -5.2 voltages.

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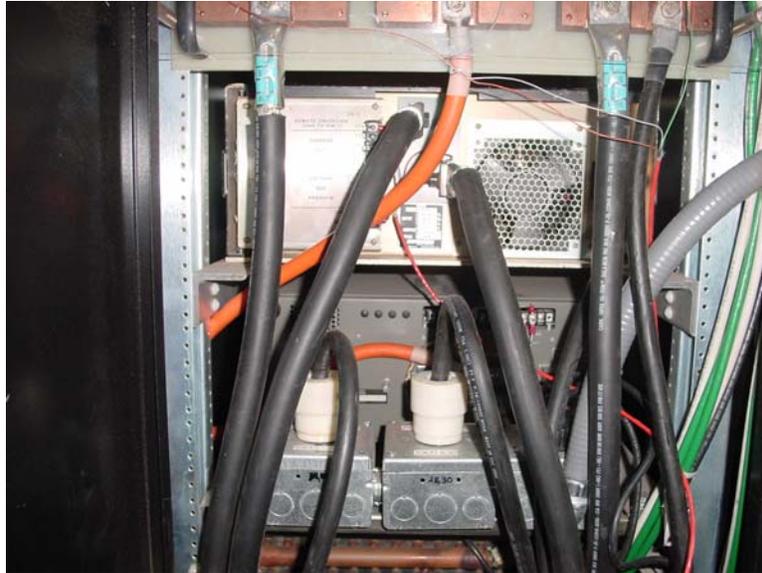


Fig. 2, View of AC plugs

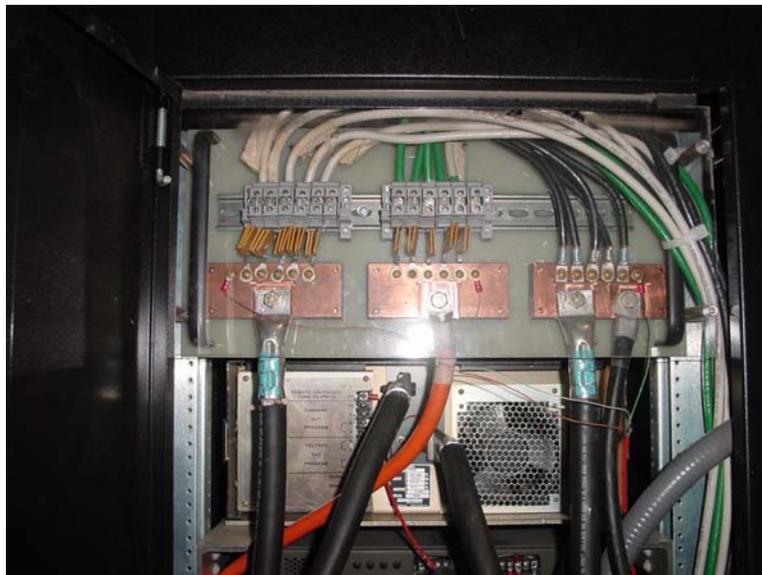


Fig. 3 View of bus bars and resettable fuses.

Procedure to replace a power supply:

- 1) Turn off both supplies with the front panel switches.
- 2) Verify zero current.
- 3) Open back door and unplug both supplies.
- 4) Disconnect AC cord to supply.
- 5) Replace supply . Spare LV supplies are stored under the stairs on the south side of the IR hall. A rolling floor jack with a custom plywood base and top are used to position the LV suppliers for insertion or removal. The supplies weigh 70-110 lbs and should never be moved alone. The jack may be raised to the level of the

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supply being replaced. The supply can then be slide out of the rack onto the jack. The jack can then be lowered and brought to the edge of the door skidplate where 2 technicians can move the supply to the floor. Typically the supply is craned out when convenient. Installation of the spare supply reverses the above sequence.

- 6) Reconnect AC cord and plug in.
- 7) Close rear door and turn on supply from front panel.
- 8) Adjust Voltage to the desired value.
- 9) Turn off supply.
- 10) Open back door and unplug supply.
- 11) Connect cable across the supply outputs.
- 12) Reconnect AC cord and plug in.
- 13) Close rear door and turn on supply from front panel.
- 14) Adjust current limits if applicable.
- 15) Turn off supply.
- 16) Open back door and unplug supply.
- 17) Connect LV outputs to bus bars.
- 18) Reconnect AC cord and plug in.
- 19) Close rear door and turn on supply from front panel.
- 20) Verify appropriate voltages and currents.