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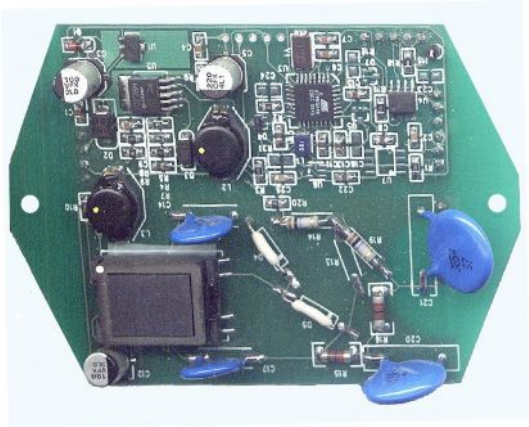
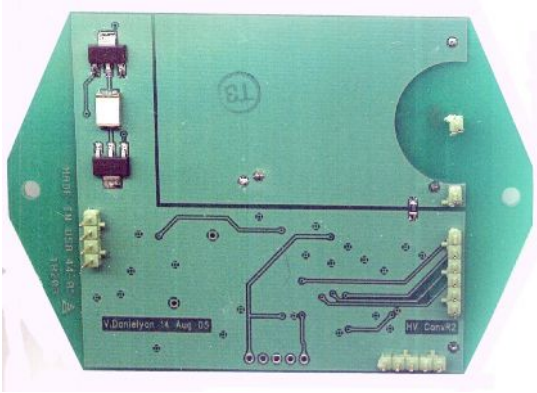
http://crdlx5.yerphi.am

Programmable Regulated High Voltage DC Power Supply (PRHVPS)

The Programmable Regulated High Voltage DC Power Supply is designed to supply high voltage to different electrodes on photomultipliers and various elementary particle detectors





The PRHVPS consists of:

- Current-driven, low-noise sine wave DC/DC converter, with up to 2 stage RC output ripple
- Pulse Width Modulated programmable DC regulator
- Local +5V linear voltage regulator
- ATtiny26 microcontroller
- RS485 interface chip
- Optional temperature sensor

The Printed Circuit Board (PCB) can be assembled with various options for different output polarity, programmable voltage range, and so on. Commercially available components are used to reduce cost and increase reliability.

Specific Features:

- Voltage programming in two hardware selectable ranges ± 900V to 2100V and ±1500 to 3000V in 2V steps
- Output voltage ripple less than 1mV
- Max. output current 1.2 mA for ± 900V to 2100V range; 0.8 mA for ±1500 to 3000V range
- Input voltage from +12V to +15V
- Absolute output voltage regulated to accuracy ±1V
- Optional temperature sensor
- RS-485 half-duplex 2-wire 9600 baud interface program and monitor the output voltage
- For simple experimental setups, where the computer usage for proframming is not necessary, the PCB can be assembled partially, without the microcontroller interface and feedback system. In this case the output voltage can be regulated by changing the input voltage.