MODEL 735 INTENSIFIER POWER SUPPLY

The Model 735 power supply provides variable 1kV and 5kV high voltage for operation of open, single-stage microchannel plate (MCP) intensifiers. It provides 5kV to the phosphor and 1kV to bias the MCP. It has a low voltage source too, for use when suppression is necessary.

Operation of a microchannel plate requires a vacuum of at least mid 10E-6 torr. The best vacuum systems, however, are still subject to power failures or human error. The Model 735 features a vacuum interlock circuit that when connected to a suitable vacuum gauge adds a safety factor not available with other power supplies.

Additional features include an arc protection circuit, preset voltage limit capability, and the option to change channel output voltage and/or polarity. Negative channel mode is available but not recommended for use with MCP intensifiers that McPherson provides.

Ramping high voltage at start up extends MCP life by eliminating 'instant' charge that may cause arcing and damage the MCP or phosphor layer.

Screen Supply
- Screen Voltage: +5000V, variable
- Max. Current: 500 µA
- Ripple: < 10 mV (peak to peak at max. output)
- Stability: 0.005%/Hr, 0.02%/8Hr
- Readout: Back lit LCD display

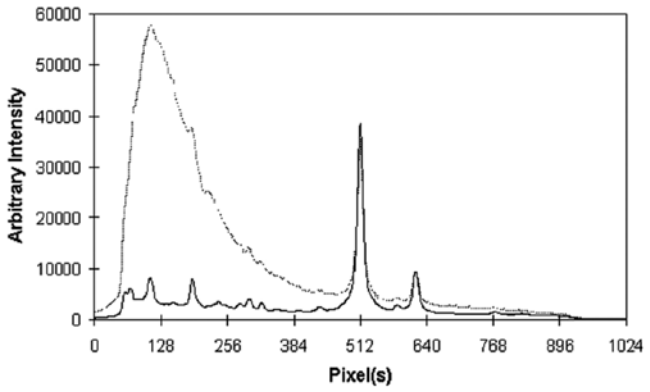
Channel Supply
- Channel Voltage: +1000V, variable (±2kV avail.)
- Max. Current: 2.5 mA (at +1000V)
- Ripple: 1 mV (peak to peak at max. output)
- Stability: 15ppm/15min, 50ppm/8hr
- Readout: Back lit LCD display

Suppression (Offset) Supply
- Voltage: ±10 VDC, variable
- Max. Current: 1 mA
- Ripple: < 10 mV (peak to peak at max. output)
- Stability: 0.05% per hour; 0.10% per 8 hours
- Readout: Back lit LCD display

Addition of a high voltage pulser module allows the end user to gate channel voltage if the application requires. We currently offer a variable HV pulser (sold separately) capable of operation from ~60nanoseconds to DC, intended for use with the Model 735 power supply.

Model 735 General Features
- Remote Operation: TTL, analog, contact closure
- HV, Arc & Vacuum Status LED indicators
- Vacuum Failure: audible alarm with adjustable volume
- Supply: 100 to 240 VAC Universal Input

On grazing incidence spectrometers sometimes "noise" caused by stray electrons and ions overwhelms the signal of interest. Use of the suppression voltage eliminates this unwanted contribution. The graph below shows electron noise as a gray line eliminated from the spectra (black) by applying a low negative voltage to the microchannel plates face. The suppression feature is standard in the Model 735 power supply.



Physical Dimensions
Width: 16.75 In (42.6 cm)
Height: 5.22 In (13.3 cm)
Depth: 14.38 In (36.5 cm)