HV-8

Multichannel high voltage supply

- 8 Channels (0-1250 V)
- Serial Digital Control (RS-232)
- Low Temperature Coefficient
- Excellent Temperature Tracking
- Mix and Match Polarities
- Mix and Match Alternate voltages
- Single width NIM

HV-8

The HV-8 multichannel HV supply is designed for applications where precise control of up to 8 PMTs is required. The HV-8 is ideal in applications where precise gain-matching and high stability are necessary.

The HV-8 contains no knobs or multiturn trimmers and, after initial setup of limit values, does not require physical access to set or adjust any or all the output voltages. The design includes precision temperature-compensated references and carefully matched temperature coefficients to minimize differential drift between supplies.

Each of the outputs is individually remotely programmable via a simple serial digital (RS-232) interface, either through a Windows application or via direct serial commands. Output voltages can be programmed from 0 to 1250 V and supply 1 mA max. The HV-8 uses a 12 bit DAC to provide a voltage resolution of approximately 0.3 volts for each channel.

Remote Commands

The HV-8 is designed for simple and flexible control of eight HV channels. The command set allows programming of individual channels or grouping of channels together to provide simultaneous control of two to eight channels.

Increment and decrement commands allow fine adjustment of individual channels or groups of channels.

Commanded voltages are retained in non-volatile memory in case of power loss. Voltages are restored immediately on power up or at 100 V/s ramp-up (option -R).

Commands which change any parameter are password-protected. Set points and monitor voltages can be read out at any time but cannot be changed without logging in with the proper password. A special hardware-protected setup mode provides setup of limit values and change of password.

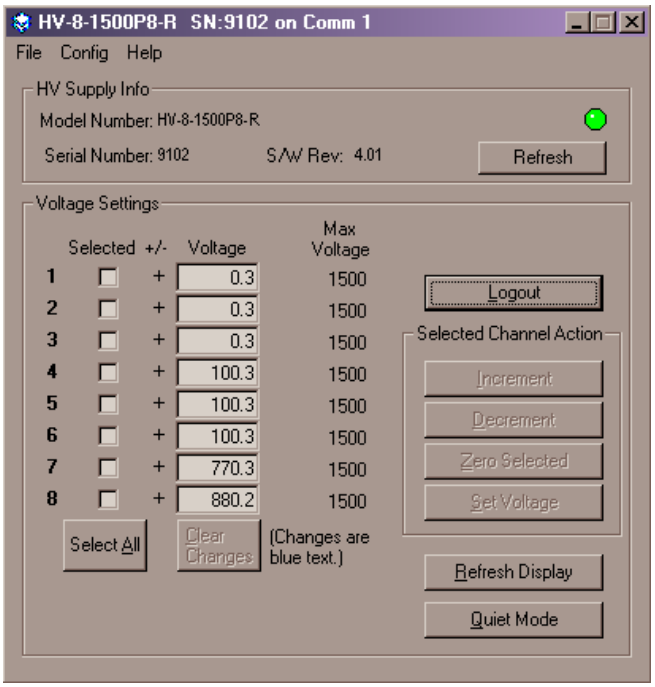
Noise and Ripple Control

The HV-8 features low noise and ripple. Microprocessor and communication sections shut down on command or when idle, eliminating microprocessor-induced noise. The HV sections utilize a quasi-sine wave oscillator for minimum harmonic noise. High-quality filtering components prevent any line-conducted interference or cross-talk from coupling to any HV sections or output.

Limit Settings
Limit values can be specified and assigned to each channel assuring that no command can raise the voltage above the specified maximum. These limit values can only be changed by entering a special hardware-protected mode - requiring physical access to the unit.

Input Protection
Each HV module is individually protected by resettable overcurrent protection device. Serial interface lines are also ESD protected and current limited.

Command Interface
The HV-8 is commanded through a simple serial interface with either a standard command-line dialogue or a Windows™-based user interface (see next column). An application to control the HV-8 through a Palm-compatible device is also available. Protected commands are available only when logged in. Special mode commands are available only in the hardware-protected mode.



Specifications:

Input 11.5 to 16 VDC 3.1A max.
Switchcraft EN3P6M connector (mate provided)

Outputs 0 to +1250 V, 1.0 mA max.
(other voltages or polarities available)

Connector Options

LEMO ERN.0S.2.250.CTL	standard
SHV AMP 51494-2	option -S

Ripple <.004% Full Load (50 mV)

Temperature Coefficient < 100 ppm/°C maximum any one channel (< 60 ppm/°C typical)

Differential Temperature Coefficient
< 30 ppm/°C

Serial Command Interface
RS-232 19.2 kbaud, 8 bits, no parity, 2 stop bits, no handshake (other rates available by option)

Input Connector Pinout

1	Power Return
2	RS-232 OUT (To DTE)
3	RS-232 IN (From DTE)
4	+12 VDC
5	Serial ground
6	Case Ground

Ordering:

An example unit specification is HV-08-1250P4N4
Where :
08 = # of HV outputs,
1250 is the maximum voltage per output,
P4 is 4 positive outputs (1-4), and
N4 is 4 negative outputs (5-8).

-Options:

-B Alternate baud rate (-B09600 for 9600 baud)

-E Ethernet Connectivity (coming soon!)

-M HV Monitor option

-R ramp-up feature - voltages ramp at 100 V/s maximum, including powerup restore

-S SHV connectors

-V Alternate voltages

Vmax (V)	Imax (mA)	Ripple(mV full load)
600	1.67	<25
1000	1.0	<30
1500	0.67	<30
2000	0.5	<40

Example: A unit with four -1250 supplies in channels 1-4 and four +1500 supplies in channels 5-8, the ramp-up and monitoring options would be specified as:
HV-08-1250N4-1500P4-MR