SCPI Programming Examples for GPIB-M

Example 1 - Using User Settings

Set up the power supply to power on in remote state, with voltage set to 15V and current limit set to maximum.
Also set the voltage soft limits to 7.5V to prevent the voltage from being set outside of these limits.

Command	Comment
SYST:REM:STAT REM	Enter remote mode
*RST	Clear settings SYST:RESet can be used for CAN
OUTP ON	Turn output on
SOUR:VOLT 10	Set the voltage setpoint to 10V
SOUR:CURR MAX	Set the current setpoint to maximum
SOUR:VOLT:LIM:LOW 7.5	Set the low voltage soft limit
SOUR:VOLT:LIM:HIGH 16	Set the high voltage soft limit
*SAV 1	Save the settings to User Setting 1 SYST:SAVE can be used for CAN
OUTP:PON:REC USER1	Configure power supply to power on with User Setting 1
SYST:REM:PON:STAT 1	Configure power supply to power on in remote mode. This is configurable for XFR and XHR only.
OUTP:PON:STAT ON	Configure the power supply to power on with output on (default). This is configurable for XFR, XHR and XPD only.

User setting 1 can also be recalled at any time with the command:
"*RCL 1" or "SYST:REC 1"

Example 2 - Using Triggered Setpoints

Set the power supply to go to 10V when a trigger is applied via the GPIB.

Command	Comment
:VOLT:TRIG 10	Set the triggered voltage setpoint to 10V.
TRIG:SOUR BUS	Set the power supply to wait for a trigger from the GPIB
*TRG	Sending this command will cause the setpoint to change to 10V. Alternatively, the IEEE 488.1 Group Execute Trigger (GET) can be used. GET is a bus-level command.

Example 3 - Using Fold Protection

Set the power supply to shut down if constant current mode is entered.

Command	Comment
OUTP:FOLD:PROT:MODE CC	Set fold protection mode to CC.
OUTP:FOLD:PROT:DEL 1	Set the delay, so that transients causing the unit to enter CC mode for less than 1 second do not trip the power supply.

Example 4 - Using Status Bits

Configure the SCPI status registers to assert SRQ if a constant current condition occurs.

Command	Comment
*SRE 128	Set the OSR (Operation Status Register summary) bit in the Service Request Enable register (bit 7) STAT:SREQ:ENAB 123 can be used for CAN
STAT:OPER:ENAB 256	Set the Regulation sub-register summary enable bit in the Operation status register (bit 8)
STAT:OPER:REG:ENAB 2	Set the CC bit in the Regulation enable register (bit 1)

Example 5 - Using Slew Rate

Set voltage to ramp at a rate of 5V/second for the HPD 30-10.

The minimum voltage step is 30mV. The minimum interval is 150uS. (Query using SOUR:VOLT:SLEW:STEP? MIN and SOUR:VOLT:SLEW:INT? MIN.)

An equivalent of 5V/second is 50mV/10mS.

Command	**Comment**
SOUR:VOLT:SLEW:STEP 50mV	Set voltage step for slew to 50mV
SOUR:VOLT:SLEW:INT 10mS	Set voltage

Note, using the smallest step allowed will result in a smoother curve.

Example 6 - Auxiliary lines

Set auxiliary status line A to notify you if the power supply exceeds 5A. Do not set the over current protection to shut down the unit if tripped.

Command	**Comment**
SOUR:CURR:PROT:OVER 5	Set the over current limit to 5A
SOUR:CURR:PROT:STAT OFF	Set the over current protection to not shut down the power supply.
OUTP:AUXA:SOUR OCUR	Set auxiliary status line A to set if an over current condition occurs.