RS-232, slave connector, 9600 8-N-1

Command	Terminal Sends	Action	Terminal Receives
Common Operator Commands:			
Set frequency	*A02{CR}	Set laser seed to 500MHz (divide 1GHz by 2)	$A02{CR} If command valid and accepted
Set frequency	*A04{CR}	Set laser seed to 250MHz (divide by 4)	$A04{CR} If command valid and accepted
Set frequency	*A08{CR}	Set laser seed to 125MHz (divide by 8)	$A08{CR} If command valid and accepted
Set frequency	*A16{CR}	Set laser seed to 62.5MHz (divide by 16)	$A16{CR} If command valid and accepted
Set frequency	*A32{CR}	Set laser seed to 31MHz (divide by 32)	$A32{CR} If command valid and accepted
Ask frequency	*AFQ{CR}	Asks seed its present frequency setting	$AFQXX{CR} where xx may be 02,04,08,16,or 32
Ask Seed power	*ASP{CR}	Reports seed power	$ASPXXXX{CR} where xxxx is 0 to 1024 counts (AU)
Ask PreAmp power	*APA{CR}	Reports pre-amp power	$APAXXXX{CR} where xxxx is 0 to 1024 counts (AU)
Ask Seed temperature	*AST{CR}	Reports seed temperature	$ASTXXXX{CR} where xxxx is 0 to 1024 counts (AU)
Ask remote photodiode power	*APD{CR}	Reports reading from remote photodiode	$APDXXXX{CR} where xxxx is 0 to 1024 counts (AU)
Not common commands used by system experts			
Set DAC value for memory	*ADP02XXXX{CR}	Dac Program chan 02 -See table below	&{CR}
Read DAC value from memory	*ADR02{CR}	Dac Readback chan 02 -See table below	$AYYXXXX{CR} where YY is the channel address and xxxx is 0 to 4095 counts

There are 5 possible frequency selections that will automatically change up to 4 analog outputs for each selection, so we have 40 DAC settings in memory of each laser.
NOTE: When using the command to Set DAC value for memory, the system will instantly issue an update for the present operating frequency
It is assumed that one would only write new DAC values for the presently selected frequency, so this should not be a problem. It is a "feature".
DAC memory bank overview (for information on EPICS screen)

Memory location	"used during" frequency	Function Driven	Default values	Hall A	Hall B	Hall C	Hall D
02	**500 MHz**	**DAC1 (Laser Seed Bias) 0-4095 gives 0-20mA**	**2000**	**1750**	**1830**	**1830**	**0804**
04	**500 MHz**	**DAC2 (Pre-Amp pump current) 0-4095 gives 0-280mA**	**4000**	**0690**	**0700**	**0650**	**0796**
06	500 MHz	DAC3 (Seed temperaure program) not implemented yet	1000				
08	500 MHz	DAC4 (Spare) 0-4095 gives 0-2.048V	1000				
10	**250 MHz**	**DAC1 (Laser Seed Bias) 0-4095 gives 0-20mA**	**2000**	**1400**	**1200**	**1100**	**0600**
12	**250 MHz**	**DAC2 (Pre-Amp pump current) 0-4095 gives 0-280mA**	**4000**	**1500**	**0745**	**0700**	**0816**
14	250 MHz	DAC3 (Seed temperaure program) not implemented yet	1000				
16	250 MHz	DAC4 (Spare) 0-4095 gives 0-2.048V	1000				
18	**DC MODE**	**DAC1 (Laser Seed Bias) 0-4095 gives 0-20mA**	**2000**	**4095**	**4095**	**4095**	**4095**
20	**DC MODE**	**DAC2 (Pre-Amp pump current) 0-4095 gives 0-280mA**	**4000**	**0700**	**1200**	**1000**	**0700**
22	DC MODE	DAC3 (Seed temperaure program) not implemented yet	1000				
24	DC MODE	DAC4 (Spare) 0-4095 gives 0-2.048V	1000				
26	62.5 MHz	DAC1 (Laser Seed Bias) 0-4095 gives 0-20mA	2000				
28	62.5 MHz	DAC2 (Pre-Amp pump current) 0-4095 gives 0-280mA	4000				
30	62.5 MHz	DAC3 (Seed temperaure program) not implemented yet	1000				
32	62.5 MHz	DAC4 (Spare) 0-4095 gives 0-2.048V	1000				
34	31.25 MHz	DAC1 (Laser Seed Bias) 0-4095 gives 0-20mA	2000				
36	31.25 MHz	DAC2 (Pre-Amp pump current) 0-4095 gives 0-280mA	4000				
38	31.25 MHz	DAC3 (Seed temperaure program) not implemented yet	1000				
40	31.25 MHz	DAC4 (Spare) 0-4095 gives 0-2.048V	1000				

In DC mode, the RF is turned off and the "125MHz" setting is selected

Requirements for Archived signal data and screen update

The "Ask" items from the common operator commands should be read every 10 seconds and archived with a bit change value greater than 1%

Ask frequency	*AF{CR}	Asks seed its present frequency setting	$AFXX{CR} where xx may be 02,04,08,16,or 32
Ask Seed power	*ASP{CR}	Reports seed power	$ASPXXXX{CR} where xxxx is 0 to 1024 counts (AU)
Ask PreAmp power	*APA{CR}	Reports pre-amp power	$APAXXXX{CR} where xxxx is 0 to 1024 counts (AU)
Ask Seed temperature	*AST{CR}	Reports seed temperature	$ASTXXXX{CR} where xxxx is 0 to 1024 counts (AU)
Ask PreAmp temperature	*APST{CR}	Reports Pre-amp temperature	$APTXXXX{CR} where xxxx is 0 to 1024 counts (AU)
Ask remote photodiode power	*APD{CR}	Reports pre-amp power	$APAXXXX{CR} where xxxx is 0 to 1024 counts (AU)

The DAC memory bank settings should be downloadable as a text spreadsheet, but if that is difficult, then we can just take a screen shot if they are all displayed on an EPICS expert screen.