6.3 List of Commands

Command Outgoing request submitted from HyperTerminal				**Reply** Incoming positive response returned by the amplifier
P/T	**Name**	**Arguments**	**Description**	**Arguments**
P	CLREE	None or 1:[0]	Restore Default Settings in non-volatile memory	None
P	FWRESET	None	Firmware reset	None
P	GETACCCURMAX	None	Get the maximum current setpoint in ACC mode. A zero value indicates no special limit in ACC mode than the one returned by GETLDLIM	1: : Maximum Current in ACC mode, integer, mA
P	GETACTEFF (For Laser with OutPwr Efficiency Protection.)	None	Get Actual Laser Efficiency values.	1: Actual Current, float, mA 2: Actual Power, float, mW 3: Actual Efficiency, float, W/A
P	GETACTNOM (For Laser with OutPwr Efficiency Protection.)	None	Get actual Nominal Laser Current and Power used to calculate laser efficiency.	1: Current, float, mA 2: Power, float, mW
P	GETAINUM	None	Get the number of analog input signals	1: Number, integer
P	GETAISYM	1: Index, integer	Get the analog input symbol name that has the given index	1: Symbol, string
P	GETAIVAL	1: Analog input signal [0..6]	Get specified analog input value	1: Value, float
P	GETALARM	1: Alarm case [0..4]	Get specified alarm state	1: Flag [0, 1]
P	GETALR	None	Get alarms	1: SHG Temperature, flag [0, 1] 2: TEC Temperature, flag [0, 1] 3: Pump Bias, flag[0,1] 4: Loss Of Output, flag [0, 1] 5:Case Temperature, flag[0,1]
P	GETALRLOG Version 2.3.0.0 or later	1: Alarm case [0..4]	Get specified alarm accumulated elapsed time	1: # of Hours, integer [0..11930046] 2: # of seconds, integer [0..3599]
P	GETCASELIM	1: LDD Board [1-3]	Get laser diode Case Temperature limit parameters for the specified pump	1: Minimum Temperature, float °Celsius 2: Maximum Temperature, float °Celsius
P	GETCASETHR	None	Get laser diode Case Index and Case Temperature thresholds to generate alarm	1: LDD Board [1-3] 2: Low Temperature, float °Celsius 3: High Temperature, float °Celsius
P	GETCHKEFF (For Laser with OutPwr Efficiency Protection.)	1: Check Index: [0: Last Check, 1: Min Eff. Check]	Get Laser Efficiency values for the specified Check Index.	1: Current, float, mA 2: Power, float, mW 3: Efficiency, float, W/A

Command Outgoing request submitted from HyperTerminal				**Reply** Incoming positive response returned by the amplifier
P/T	**Name**	**Arguments**	**Description**	**Arguments**
P	GETCHKSTATE (For Laser with OutPwr Efficiency Protection.)	None	Get Laser Efficiency ACTUAL Check State. The State is OFF if the laser not running in APC. The State is Low if actual current is below the Nominal Current. The State is High if actual current is above the Nominal Current and laser Efficiency is being checked. The State is Fault if the laser Efficiency has been below OutPwr Fault Threshold for a significant time and laser has automatically shutdown.	1: State, integer [0:Off, 1:Low, 2: High, 3: Fault]
P	GETFAULT	1: Fault case [0..4] or [0..5] (For Laser with OutPwr Efficiency Protection.)	Get specified fault	1: Flag [0, 1]
P	GETFLT	None	Get faults	1: SHG temperature, flag [0, 1] 2: Tec temperature, flag [0, 1] 3: Laser diode current, flag [0, 1] 4: Watchdog timeout, flag [0, 1] 5: Case temperature, flag [0, 1] 6: OutPwr Efficiency, flag [0, 1] (For Laser with OutPwr Efficiency Protection.)
P	GETFLTLOG Version 2.3.0.0 or later	1: Fault case [0..4] or [0..5] (For Laser with OutPwr Efficiency Protection.)	Get specified fault accumulated latched counts	1: Fault Count, integer [0..65535]
P	GETFWREV	None	Get laser controller firmware revision	1: Version, string
P	GETINPUT	11: Input index: [0: Interlock input, 1: Hardware Bootload input, Only for Key version : 2: Key OFF input	Get specified physical input actual state	1: Flag [0:Off, 1: On]
P	GETLASERSTATE	None	Get laser actual state	1: Laser State Code, integer
P	GETLASERSTATENUM	None	Get the number of laser different states	1: Number, integer

Command Outgoing request submitted from HyperTerminal				**Reply** Incoming positive response returned by the amplifier
P/T	**Name**	**Arguments**	**Description**	**Arguments**
P	GETLASERSTATESYM	1:Index, integer	Get the laser state code and symbol name for the specified index	1; Laser State Code, integer 2: Laser State Symbol, string
P	GETLDCUR	1: LD pump [1-3]	Get specified laser diode current set point when laser in manual mode	1: Current, integer, mA
P	GETLDENABLE	None	Get laser software enable flag value	1: Flag [0: Disable, 1: Enable]
P	GETLDLIM	1: LD pump [1-3]	Get laser diode limit parameters for the specified pump	1: Minimum Current, integer, mA 2: Maximum Current, integer, mA 3: Current Protection Threshold, integer, [0…255]
P	GETLDMODE Only for VFL MOPA	1: LD pump [1: Seed, 2:PreAmp, 3:Booster]	Get laser diode control mode when laser in automatic mode	1:Mode, integer,[0: ACC, 1: APC]
P	GETLDSTATE	1: LD pump [1-3]	Get the State for the specified laser diode driver	1: State [0: Off, 1:On, 2: Turning Off, 3:Turning On, 4: Fault]
P	GETLOOLIM	None	Get the Low and High power difference relative to the output power set point (In APC mode to declare the LOS output Alarm	1: Low power, Float, dB 2: High Power Float, dB
P	GETLOOLIMPC	None	Get the Low and High power difference relative to the output power set point (In APC mode to declare the LOS output Alarm	1: Low power, Float, % 2: High Power Float, %
P	GETMINEFFPC (For Laser with OutPwr Efficiency Protection.)	None	Get Percent of Nominal Laser Efficiency Minimum Threshold to generate OutPwr Efficiency Fault.	1: Percent of Nominal Efficiency, integer, % [0..100]
P	GETMODEL	None	Get laser model number	1: Model, string
P	GETNOMCUR (For Laser with OutPwr Efficiency Protection.)	None	Get BOL Nominal Laser Current used as a target to calculate laser efficiency.	1: Current, float, mA
P	GETNOMEFF (For Laser with OutPwr Efficiency Protection.)	None	Get BOL Nominal Laser Efficiency used as a Reference value to generate OutPwr Efficiency Fault.	1: Efficiency, float, W/A
P	GETOUT	None	Get outputs	1: Fault flag [0, 1] 2: Laser ON, flag [0, 1] 3: Laser Warming up and not ready to operate. flag [0, 1] 4: Service Affected, flag [0, 1]
P	GETPOWER	1: 0	Get laser output power set point in APC mode	1: Power, float, mW

Command Outgoing request submitted from HyperTerminal				**Reply** Incoming positive response returned by the amplifier
P/T	**Name**	**Arguments**	**Description**	**Arguments**
P	GETPOWERENABLE	None	Get laser mode	1:Mode, integer,[0: ACC, 1: APC]
P	GETPOWERSETPTLIM	1: 0	Get limit parameters for the laser output power set point	1: Minimum Power, float, mW 2: Maximum Power, float, mW
P	GETSHGCMD Only for SHG Temp Tuning version	None	Get SHG actual command	1: SHG Command [0: No command executing, 1:SHG Tuning w/prerequisites initiated, 2: SHG Tuning aborting, 99: SHG Tuning w/out prerequisites initiated]
P	GETSHGTEMP	None	Get SHG sensor temperature set point	1: Float, °Celsius
P	GETSHGTUNERDY	None	Get SHG Ready for Tuning state and left time	1: State [0: SHG Tuning w/prerequisites Not Ready, 1:SHG Tuning w/prerequisites Ready] 2: # of Hours of laser operation left before next scheduled SHG Tuning, integer [0…65535] 3: # of Seconds of laser operation left before end of warm-up at actual output power, integer, [0..65535]
P	GETSHGTUNESTATE	None	Get SHG Tuning state and error status	1: State [0: Tuning OFF, 1:Tuning Completed, 2:Tuning Aborted, 3: Tuning In Progress] 2:Error Status Bitmap [0..31] where: 0: No Error, 1: Laser not running in espected state, 2: SHG Temp not set, 4: SHG Temp not stabilized, 8: Output Power not stabilized in APC mode 16: SHG Temp out of limits] 32: LD Current not stabilized in ACC mode, 64: No Power Peak detected in ACC mode
P	GETSN	None	Get laser serial number	1: Serial #, string
P	GETSTATE	None	Get laser controller state	1: State, integer [0:Init, 1: Normal, 2: ALS]
P	GETSTATUS	1: LDD Board [1-3]	Get the State for the specified laser diode driver board	1: LDD Alarms [0..511] 2: LDD Faults [0..1023] 3: LDD state [0:Init, 1:Normal, 2:ALS]

Command Outgoing request submitted from HyperTerminal				**Reply** Incoming positive response returned by the amplifier
P/T	**Name**	**Arguments**	**Description**	**Arguments**
P	GETTECSETPT	1: TEC driver [1-3: TEC1-3, 4:SHG, 5:TEC5]	Get specified TEC driver temperature set point	1: Temperature, Float, °Celsius
P	GETTECSTATE	1: TEC driver [1-3: TEC1-3, 4:SHG, 5:TEC5]	Get the State for the specified TEC driver	1: State [0: Off, 1:On, 2: Turning Off, 3:Turning On, 4: Fault]
P	GETTIMEOP	None	Get Time of Operation of laser head	1: # of Hours, integer [0..11930046] 2: # of seconds, integer [0..3599] 3: # of msec, integer [0.999]
P	GETTIMEOPCTRL	None	Get Time of Operation of laser controller	1: # of Hours, integer [0..11930046] 2: # of seconds, integer [0..3599] 3: # of msec, integer [0.999]
P	LASERSTATE Only for VFL MOPA	1: Laser Stage [1: Seed, 2:PreAmp, 3:Booster]	Get specified laser stage actual state flag	1: Flag [0 : Output not OK , 1 : Output OK]
P	LDCURRENT	1: LD pump [1-3]	Get specified laser diode actual current	1: Current, integer, mA
P	LDTEMP	1: LD pump [1: LD1]	Get specified laser diode actual case temperature	1: Temperature, Float, °Celsius
P	NOOPERATION	None	Do nothing .	None
P	POWER	1: Power INDEX [0:Output, 1-3: LD1-3]	Get laser monitored powers	1: Power, float, mW
P	POWERENABLE	1:Mode, integer,[0: ACC, 1: APC]	Set laser mode	None
P	RSTEFF (For Laser with OutPwr Efficiency Protection.)	None	Reset Laser Efficiency Last and Min Eff. Check stats.	None
P	SAVEALL	None or 1:[0]	Save actual settings in non-volatile memory	None
P	SETCASETHR	1: LDD Board [1-3] 2: Low Temperature, float °Celsius 3: High Temperature, float °Celsius	Set laser diode Case Index and Case Temperature thresholds to generate alarm	None
P	SETLDCUR	1: LD pump [1-3] 2: Current, integer, mA	Set specified laser diode current set point when laser in manual mode	None
P	SETLDENABLE	1: Flag [0: Disable, 1: Enable]	Set laser software enable flag value	None
P	SETLOOLIM	1: Low power, Float, dB 2: High Power Float, dB	Set the Low and High power difference relative to the output power set point (In APC mode to declare the LOS output Alarm	None

Command Outgoing request submitted from HyperTerminal				**Reply** Incoming positive response returned by the amplifier
P/T	**Name**	**Arguments**	**Description**	**Arguments**
P	SETLOOLIMPC	1: Low power, Float, % 2: High Power Float, %	Set the Low and High power difference relative to the output power set point (In APC mode to declare the LOS output Alarm	None
P	SETPOWER	1: 0 2: Power, float, mW	Set laser output power set point in APC mode	None
P	SETSHGCMD	1: SHG Command [1:Initiate SHG Tuning w/prerequisites, 2: Abort SHG Tuning, 99: Initiate SHG Tuning w/out prerequisites]	Set SHG command	None
P	SETSHGTEMP	1: Float, °Celsius	Set SHG sensor temperature set point	None
P	SHAI	None	Show analog input signals	
P	SHALR	None	Show alarms	
P	SHFAULT	None	Show faults	
P	SHGTEMP	None	Get SHG sensor actual temperature	1: Float, °Celsius
P	SHLASER	None	Show Laser settings and measurements	
P	TECCURRENT	1: TEC driver [1-3: TEC1-3, 4:SHG, 5:TEC5]	Get specified TEC driver actual current	1: Current, integer, mA
P	TECTEMP	1: TEC driver [1-3: TEC1-3, 4:SHG, 5:TEC5]	Get specified TEC sensor actual temperature	1: Float, °Celsius
P	VCCMON	1: LD pump [1] 2:VCC index[1:12Volt VCC, 2:5Volt VCC]	Get the specified VCC voltage	1: Voltage, float, Volt

6.3.1 MCU and LDD States

Code	Symbol	Meaning
0	ST_INIT	Initialization state
1	ST_NORMAL	Operational state
2	ST_ALS	Fault state

6.3.2 Laser States

Code	Symbol	Meaning
0	OFF	Laser driver disabled by user. TEC drivers are enabled.
6	KEYLOCK	Laser driver disabled. Key must be switched OFF then ON. (Only for KEY version)
7	INTERLOCK	Laser driver disabled by interlock input signal
8	FAULT	Laser in fault conditions
20	STARTUP	Laser driver ready to start up.
31	MANUAL_TURNING_ON	Laser driver turning on in manual mode.
41	MANUAL_ON	Laser driver running in manual mode.
42	AUTO_ON	Laser driver running in automatic mode Only for not VFL MOPA