External TCP/UDP Control Specifications

UDP/TCP Default Port

Unless overridden, PHOTON's default TCP and UDP control port is: 55503

Once commands are received, TCP servers will reply back to each connected client for acknowledgement. UDP commands will be replied to as a broadcast on the main network interface using the same UDP port as configured for reception.

UDP/TCP Network Syntax

[OpCode] [parameters] [layer_id] [OpCode] [parameter]

Spaces above are mandatory, each <tag> must be followed by a space character and each </tag> must be preceded by a space character.

Network Control

Command	Opcode	Parameters	Types	Ranges
Select layer	SET_LAYER	layer_id	[unsigned int32]	[0 ; N]
TimeLine Speed	SET_TIME_SPEED	Speed	[float32]	[-5 ; 5]
TimeLine Seek	SET_TIME_SEEK	Frame #	[unsigned int32]	[0 ; N]
TimeLine FreeRun	SET_TIME_FR	FreeRun on/off	[unsigned int32]	[0 ; 1]
TimeLine LTC	SET_TIME_LTC	Time-Code on/off	[unsigned int32]	[0 ; 1]
Media Opacity	MEDIA_BLEND	Opacity	[float32]	[0 ; 1]
Media Mix mode	MEDIA_MIX_MODE	Mix mode	[unsigned int32]	[0 ; 6]
Media Frame Blending	MEDIA_FB	Frame Blending on/off	[unsigned int32]	[0 ; 1]
Media Position	MEDIA_POS	Position X Y	[float32] [float32]	[-2 ; 2]
Media Size	MEDIA_SIZE	Size X Y	[float32] [float32]	[-1 ; 3]
Media Audio Volume	MEDIA_VOL	Volume	[float32]	[0 ; 1]
Select Media Type	SEL_MEDIA_TYPE	Media type	[unsigned int32]	[0 ; 10]
Select Media ID	SEL_MEDIA_ID	Media #	[unsigned int32]	[0 ; N]
Video Speed	VIDEO_SPEED	Speed	[float32]	[-5 ; 5]
Video FreeRun	VIDEO_FR	FreeRun on/off	[unsigned int32]	[0 ; 1]
Video-in-time	VIDEO_IN_TIME	Frame #	[unsigned int32]	[0 ; N]
Video-out-time	VIDEO_OUT_TIME	Frame #	[unsigned int32]	[0 ; N]
Execute Cue	CUE_EXEC	Cue # by Index	[unsigned int32]	[0 ; N]
Execute Cue ID	CUE_EXEC_ID	Cue # by ID	[unsigned int32]	[0 ; N]
Special Codes	90BC9E48_6D84_4F8C_AA23_72E3379AC71C	special_code	[unsigned int]	[0 ; N]
Query system state	GET_SYSTEM_STATE	No parameters		

Media Types

Media Type	Function	ID
No Media	Nothing in the keyframe	0
Media File	Video file or Picture.	1
Media Input	DirectShow compatible media input device	2
Light FX	Photon FX.	3
Graphic FX	Unused	4
Cue Control	Predefined Macro in Cue List	5
VNC input	Remote VNC server screen.	6
PGR Flea	PointGrey Research Flea camera device.	7
Media Sequence	Predefined sequence from Sequence list	8
Media Input Manager	Input device configured in Media_input_manager.	9

Media Mix Modes

Mix Modes	Function	ID
Mix	C1 x a + C2 (1 – a)	0
Add	C1 x a + C2	1
Sub	C1 x a - C2	2
Sub reverse	C2 - C1 x a	3
Minimum	Minimum (C1 x a , C2)	4
Maximum	Maximum (C1 x a , C2)	5

Special Codes

Code Control	ID
Normal Mode	0
Sleep Mode	1
Fire Alarm	2
Fire Alarm 2	3
Reboot Photon	4
Reboot Server	5

Syntax Rules

- Capitalization must be respected.
- Spaces between each word are mandatory.

Examples

Set Media Layer 3 opacity to 50%

<photon_layer> 3 MEDIA_BLEND 0.5 </photon_layer>

Set Photon in Sleep Mode

<photon> 90BC9E48_6D84_4F8C_AA23_72E3379AC71C 1 </photon>

Querying System State

<photon_layer>GET_SYSTEM_STATE </photon>

When querying system state using the above command, Photon will reply using its internal XML-like syntax. Below is an example of the system-state syntax:

<computer_data> <host_name> Photon-1 </host_name> <cpu_usage> 9.30233 </cpu_usage> <memory_usage> 23 </memory_usage> <vram_usage> 19.7842 </vram_usage> <disk_usage> 0.950111 </disk_usage> <opengl_transfer> 110.063 </opengl_transfer> <gpu_temperature> 77 </gpu_temperature> <fps> 60.0375 </fps> <raid> N/A </raid> <version> 6.1.4798 </version> </computer_data>

Hostname	Name of the server
Cpu usage	Total percentage of CPU being used
Memory usage	Total percentage of the system memory currently in use
VRAM usage	Total percentage of GPU memory currently in use
Disk usage	Total ratio of HDD usage currently in use (1 means 100%)
OpenGL transfer	Bandwidth of data transferred between System Memory (RAM) & GPU Memory (VRAM) expressed in Mbps.
GPU Temperature	Current temperature of the GPU expressed in Celcius.
FPS	System's Current frame-rate.
RAID	RAID system current state (only supported for ARECA controllers at the time of this writing.
Version	Current running system version.