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RS232 Protocol & Commands

The projector can be controlled by using an external control system or a PC via an RS232 or LAN interface, using a terminal-emulation program.

Network setup

1. Connect the projector to a LAN network.
2. Open the Setup > Networkmenu and edit network settings. The default IP address is 192.168.0.100 and the TCP port number is 7000.

Serial Port setup

- Baud rate 9600 bps
- Data length 8 bits
- Stop bits one
- Parity none
- Flow control none

Note:
The terminal software does not return every command input character
The transmission performance varies with the length of RS-232 cable

Operation command syntax

An operation command is prefixed by character "op", followed by control commands and settings separated by space blank [SP], and ended by a carriage return [CR] (i.e. ASCII hex 0D).Syntax of serial control commands:

op[SP]<operation command>[SP]<Setting Value>[CR]

op	:	A constant indicating this is an operation command.
[SP]	:	Indicate one blank space.
[CR]	:	Indicate the command ending by a carriage return [CR] (i.e. ASCII hex 0D)..
Setting value	:	Settings of operation command

Types of setup strings	Characters of settings	Description
Query current setup	?	Question mark "?" indicates querying current setup
Setup	= <settings>	Syntax: Symbol "=" suffixed with setup values
Increase setup order of adjustment items	+	Some settings are changed in steps. Symbol "+" indicates changing one step up
Decrease setup order of adjustment items	-	Some settings are changed in steps. Symbol "-" indicates changing one step down
Execute operation command	None	Certain operation commands execute after input without further setting or regulators.

Examples:

Control items	Input command	Projector return message
Query current brightness	op bright ? [CR]	OP BRIGHT = 101
Set up brightness	op bright = 127 [CR]	OP BRIGHT = 127
Set up input signal source to HDMI	op input.sel = 0 [CR]	OP INPUT.SEL = 0
Reset projection lens to center position	op lens.center[CR]	OP LENS.CENTER

INPUT MENU

Command	Operand	Parameters	Setting State	Setting Condition	Remark
input.sel	= ?	0 = HDMI 1 1 = HDMI 2 2 = DisplayPort 1 3 = DisplayPort 2 4 = HDBaseT 5 = SDI 6 = DVI	Imaging State	No limit	
resync	(execute)		Imaging State	Source Locked	
hdmi.eq	= ?	0 = Auto 1~7	Imaging State	No Limit	
color.space	= ?	0 = Auto 1 = YPbPr 2 = YCbCr 3 = RGB PC 4 = RGB Video	Imaging State	Source Locked	Note: YPbPr equal original REC709. YCbCr equal original REC601.
backup.mode	= ?	0 = Off 1 = On	Imaging State	No Limit	OSD is "Auto Switching".
edid.mode.hdmi	= ?	0 = 4K/60 HDR 1 = 4K/30 2 = 1920x1200p60 3 = 1920x1080p60 4 = 1280x800p60 5 = 3840x1600p60	Imaging State	No Limit	The EDID used for HDMI 1 source input.
edid.mode.hdmi2	= ?	0 = 4K/60 HDR 1 = 4K/30 2 = 1920x1200p60 3 = 1920x1080p60 4 = 1280x800p60 5 = 3840x1600p60	Imaging State	No Limit	The EDID used for HDMI 2 source input.
edid.mode.dp	= ?	0 = 4K/60 HDR 1 = 4K/30 2 = 1920x1200p60 3 = 1920x1080p60 4 = 1280x800p60 5 = 3840x1600p60	Imaging State	No Limit	The EDID used for DisplayPort1 source input.
edid.mode.dp2	= ?	0 = 4K/60 HDR 1 = 4K/30 2 = 1920x1200p60 3 = 1920x1080p60 4 = 1280x800p60 5 = 3840x1600p60	Imaging State	No Limit	The EDID used for DisplayPort2 source input.
edid.mode.hdbt	= ?	0 = 4K/60 HDR 1 = 4K/30 2 = 1920x1200p60 3 = 1920x1080p60 4 = 1280x800p60 5 = 3840x1600p60	Imaging State	No Limit	The EDID used for HDBaseT source input.
nr	= ?	0 = Off 1 = On	Imaging State	Source Locked	
output.framerate	= ?	0 = Auto 1 = 48Hz 2 = 50Hz 3 = 60Hz	Imaging State	No Limit	
3d.dlplink	= ?	0 = Off 1 = On	Imaging State	3D, 3d.darktime = 2 (1.95 ms)	
3d.format	= ?	0 = Off 1 = Auto 2 = Side by Side (Half) 3 = Top and Bottom 4 = Dual Channel 5 = Frame Sequential 6 = Frame Packing	Imaging State		
3d.dominance	= ?	0 = Normal 1 = Reverse	Imaging State	3D is displaying	OSD is "Eye Swap".
3d.darktime	= ?	0 = 0.65 ms 1 = 1.3 ms 2 = 1.95 ms	Imaging State	3D is displaying	
3d.syncdelay	= ?	0~200	Imaging State	3D is displaying	
3d.syncref	?	0 = External 1 = Internal	Imaging State	3D is displaying	

Command	Operand	Parameters	Setting State	Setting Condition	Remark
auto.source	= ?	0 = Off 1 = On	Imaging State	No Limit	
test.pattern	= ?	0 = Off 1 = White 2 = Black 3 = Red 4 = Green 5 = Blue 6 = Checkerboard 7 = CrossHatch 8 = ColorBar 9 = Aspect Ratio (Pluge)	Imaging State	not 3D	Notes: the pattern generated by the scaler chip.

PICTURE MENU

Command	Operand	Parameters	Setting State	Setting Condition	Remark
pic.mode	= ?	0 = High Bright 1 = Presentation 2 = Video	Imaging State	Source Locked	
brightness	= ?	0 - 200	Imaging State	Source Locked	
contrast	= ?	0 - 200	Imaging State	Source Locked	
hsg.hue.r	= ?	0 - 1000	Imaging State	Source Locked	
hsg.hue.g	= ?	0 - 1000	Imaging State	Source Locked	
hsg.hue.b	= ?	0 - 1000	Imaging State	Source Locked	
hsg.hue.c	= ?	0 - 1000	Imaging State	Source Locked	
hsg.hue.m	= ?	0 - 1000	Imaging State	Source Locked	
hsg.hue.y	= ?	0 - 1000	Imaging State	Source Locked	
hsg.sat.r	= ?	0 - 1000	Imaging State	Source Locked	
hsg.sat.g	= ?	0 - 1000	Imaging State	Source Locked	
hsg.sat.b	= ?	0 - 1000	Imaging State	Source Locked	
hsg.sat.c	= ?	0 - 1000	Imaging State	Source Locked	
hsg.sat.m	= ?	0 - 1000	Imaging State	Source Locked	
hsg.sat.y	= ?	0 - 1000	Imaging State	Source Locked	
hsg.gain.r	= ?	0 - 1000	Imaging State	Source Locked	
hsg.gain.g	= ?	0 - 1000	Imaging State	Source Locked	
hsg.gain.b	= ?	0 - 1000	Imaging State	Source Locked	
hsg.gain.c	= ?	0 - 1000	Imaging State	Source Locked	
hsg.gain.m	= ?	0 - 1000	Imaging State	Source Locked	
hsg.gain.y	= ?	0 - 1000	Imaging State	Source Locked	
hsg.white.r	= ?	0 - 1000	Imaging State	Source Locked	
hsg.white.g	= ?	0 - 1000	Imaging State	Source Locked	
hsg.white.b	= ?	0 - 1000	Imaging State	Source Locked	
hsg.reset	(execute)		Imaging State	Source Locked	
saturation	= ?	0 - 200	Imaging State	Source Locked	
hue	= ?	0 - 200	Imaging State	Source Locked	
sharpness	= ?	0 - 20	Imaging State	Source Locked	
gamma	= ?	0 = 1.0 1 = 1.8 2 = 2.0 3 = 2.2 4 = 2.35 5 = 2.5 6 = DICOM	Imaging State	Source Locked	
color.gamut	= ?	0 = Native 1 = REC709 2 = EBU 3 = SMPTE	Imaging State	Source Locked	
color.temp	= ?	0 = 3200K 1 = 5400K 2 = 6500K 3 = 7500K 4 = 9300K 5 = Native	Imaging State	color.mode = 2 (Color Temperature)	
red.offset	= ? + -	0 - 200	Imaging State	No limit	
green.offset	= ? + -	0 - 200	Imaging State	No limit	

Command	Operand	Parameters	Setting State	Setting Condition	Remark
blue.offset	= ? + -	0 - 200	Imaging State	No limit	
red.gain	= ? + -	0 - 200	Imaging State	No limit	
green.gain	= ? + -	0 - 200	Imaging State	No limit	
blue.gain	= ? + -	0 - 200	Imaging State	No limit	
gainoffset.reset	(execute)		Imaging State	No limit	
unif.mode	= ?	0 = Off 1 = On	Imaging State	Source Locked	
unif.location.x	= ?	0 ~ 8	Imaging State	Source Locked	
unif.location.y	= ?	0 ~ 5	Imaging State	Source Locked	
unif.red.gain	= ?	-150~150	Imaging State	Source Locked	
unif.green.gain	= ?	-150~150	Imaging State	Source Locked	
unif.blue.gain	= ?	-150~150	Imaging State	Source Locked	
unif.reset	(execute)		Imaging State	Source Locked	
hdr	= ?	0 = Off 1 = Auto 2 = PQ-400 3 = PQ-500 4 = PQ-1000 5 = HLG	Imaging State	Source Locked	

ALIGNMENT MENU

Command	Operand	Parameters	Setting State	Setting Condition	Remark
aspect	= ?	0 = 5:4 1 = 4:3 2 = 16:10 3 = 16:9 4 = 1.88 5 = 2.35 6 = LetterBox 7 = Source 8 = Native	Imaging State	Source Locked	
orientation	= ?	0 = Front Desktop 1 = Front Ceiling 2 = Rear Desktop 3 = Rear Ceiling	Imaging State	No limit	osd is "Projection Mode".
digi.zoom	= ?	0 - 100	Imaging State	Source Locked	
digi.pan	= ?	-1280 - 1280 (by input timing; use "op digi.pan.bound ?" To know)		Source Locked and digi.zoom not zero	
digi.scan	= ?	-720 - 720 (by input timing; use "op digi.scan.bound ?" To know)		Source Locked and digi.zoom not zero	
digi.zoom.rst	(execute)			Source Locked and digi.zoom not zero	
overscan	= ?	0 = Off 1 = Crop 2 = Zoom	Imaging State	Source Locked, not 3D	
blanking.top	= ?	0 ~ 360	Imaging State	No Limit	
blanking.bottom	= ?	0 ~ 360	Imaging State	No Limit	
blanking.left	= ?	0 ~ 534	Imaging State	No Limit	
blanking.right	= ?	0 ~ 534	Imaging State	No Limit	
blanking.reset	(execute)		Imaging State	No Limit	
active.warp	= ?	0 = Off 1 = Keystone 2 = 4 Coner 3 = Pincushion / Barrel 6 = Custom Warp	Imaging State	No Limit	Specify which kind of warping feature to be activated and can be operated.
h.keystone	= ?	-360 ~ 360 -60 ~ 60 (active.warp = 3 Pin/Barrel)	Imaging State	active.warp = 1 (Keystone) or 3 (Pincushion/Barrel)	
v.keystone	= ?	-360 ~ 360 -40 ~ 40 (active.warp = 3 Pin/Barrel)	Imaging State		
rotation	= ?	-250 ~ +250	Imaging State	active.warp = 1 (Keystone)	
4corner.ulx	= ?	-192 ~+192	Imaging State	active.warp = 2 (4 Corners)	
4corner.uly	= ?	-120 ~+120	Imaging State	active.warp = 2 (4 Corners)	

Command	Operand	Parameters	Setting State	Setting Condition	Remark
4corner.urx	= ?	-192 ~+192	Imaging State	active.warp = 2 (4 Corners)	
4corner.ury	= ?	-120 ~+120	Imaging State	active.warp = 2 (4 Corners)	
4corner.llx	= ?	-192 ~+192	Imaging State	active.warp = 2 (4 Corners)	
4corner.lly	= ?	-120 ~+120	Imaging State	active.warp = 2 (4 Corners)	
4corner.lrx	= ?	-192 ~+192	Imaging State	active.warp = 2 (4 Corners)	
4corner.lry	= ?	-120 ~+120	Imaging State	active.warp = 2 (4 Corners)	
4corner.h.linear	= ?	4K model: -350 - 350 WUXGA model: -170 - 170	Imaging State	active.warp = 2 (4 Corners)	
4corner.v.linear	= ?	4K model: -200 - 200 WUXGA model: -100 - 100	Imaging State	active.warp = 2 (4 Corners)	
pinbarrel.top	= ?	-250~+300	Imaging State	active.warp = 3 (Pincushion/Barrel)	
pinbarrel.bottom	= ?	-250~+300	Imaging State	active.warp = 3 (Pincushion/Barrel)	
pinbarrel.left	= ?	-250~+300	Imaging State	active.warp = 3 (Pincushion/Barrel)	
pinbarrel.right	= ?	-250~+300	Imaging State	active.warp = 3 (Pincushion/Barrel)	
warp.reset	(execute)		Imaging State	No limit	Reset the warping settings to default value for current the activated warping mode.
warp.cust	= ?	0 = Off 1 = User 1 2 = User 2	Imaging State	active.warp = 4 (Custom Warp)	
cust.wp.write	(execute)		Imaging State		Used for PC tool
cust.wp.play	(execute)		Imaging State		
cust.wp.clear	(execute)		Imaging State		
cust.wp.send	=	0 = custom warp transfer mode off 1 = custom warp transfer mode on	Imaging State		
cust.wp.ck.sum	?	XXXX(Get warp file check sum while cust.wp.send = 1)	Imaging State		
eb.mode	= ?	0 = Off 1 = Manual 2 = User Mapping	Imaging State		
eb.adl	= ?	0 = Off 1 = On	Imaging State		Notes: Align Pattern
eb.top.start	= ?	0~360	Imaging State		
eb.bottom.start	= ?	0~360	Imaging State		
eb.left.start	= ?	0~534	Imaging State		
eb.right.start	= ?	0~534	Imaging State		
eb.top	= ?	4K model: 0, 100 - 1000 WUXGA model: 0, 100 - 500	Imaging State		
eb.bottom	= ?	4K model: 0, 100 - 1000 WUXGA model: 0, 100 - 500	Imaging State		
eb.left	= ?	4K model: 0, 100 - 1600 WUXGA model: 0, 100 - 800	Imaging State		
eb.right	= ?	4K model: 0, 100 - 1600 WUXGA model: 0, 100 - 800	Imaging State		
eb.blu.ulx	= ?	4K Model: 0 <= X <= 1920, 0 <= Y <= 1080 WUXGA Model : 0 <= X <= 960, 0 <= Y <= 600	Imaging State		Black Level - Top Left - H

Command	Operand	Parameters	Setting State	Setting Condition	Remark
eb.blu.uly	= ?	4K Model: 0 <= X <= 1920, 0 <= Y <= 1080 WUXGA Model : 0 <= X <= 960, 0 <= Y <= 600	Imaging State		Black Level - Top Left - V
eb.blu.urx	= ?	4K Model: 0 <= X <= 1920, 0 <= Y <= 1080 WUXGA Model : 0 <= X <= 960, 0 <= Y <= 600	Imaging State		Black Level - Top Right - H
eb.blu.ury	= ?	4K Model: 0 <= X <= 1920, 0 <= Y <= 1080 WUXGA Model : 0 <= X <= 960, 0 <= Y <= 600	Imaging State		Black Level - Top Right - V
eb.blu.llx	= ?	4K Model: 0 <= X <= 1920, 0 <= Y <= 1080 WUXGA Model : 0 <= X <= 960, 0 <= Y <= 600	Imaging State		Black Level - Bottom Left - H
eb.blu.lly	= ?	4K Model: 0 <= X <= 1920, 0 <= Y <= 1080 WUXGA Model : 0 <= X <= 960, 0 <= Y <= 600	Imaging State		Black Level - Bottom Left - V
eb.blu.lrx	= ?	4K Model: 0 <= X <= 1920, 0 <= Y <= 1080 WUXGA Model : 0 <= X <= 960, 0 <= Y <= 600	Imaging State		Black Level - Bottom Right - H
eb.blu.lry	= ?	4K Model: 0 <= X <= 1920, 0 <= Y <= 1080 WUXGA Model : 0 <= X <= 960, 0 <= Y <= 600	Imaging State		Black Level - Bottom Right - V
eb.all	+ -	NA	Imaging State		
eb.red	= ?	0 ~ 255	Imaging State		
eb.green	= ?	0 ~ 255	Imaging State		
eb.blue	= ?	0 ~ 255	Imaging State		
eb.reset	(execute)		Imaging State		
screen.format	= ?	0 = 16:10 1 = 16:9 2 = 4:3 3 = 2.35:1	Imaging State	No Limit	
screen.position	= ?	-N ~ N (by different Screen Format) Display resolution: 4K 3840x2160 1. Screen format 16:10, -192 ~ 192 2. Screen format 16:9, 0 3. Screen format 4:3, -480 ~ 480 4. Screen format 2.35:1, -263 ~ 263 Display resolution: WUXGA 1920x1200 1. Screen format 16:10, 0 2. Screen format 16:9, -60 ~ 60 3. Screen format 4:3, -160 ~ 160 4. Screen format 2.35:1, -191 ~ 191	Imaging State	No Limit	
lens.lock	= ?	0 = Off 1 = On	Imaging State	No limit	
zoom.in	(execute)		Imaging State	lens.lock = 0	Base on lens.nudge.mode to process move Step (Continue speed is fixed.)
zoom.out	(execute)		Imaging State	lens.lock = 0	Base on lens.nudge.mode to process move Step (Continue speed is fixed.)
focus.near	(execute)		Imaging State	lens.lock = 0	Base on lens.nudge.mode to process move Step (Continue speed is fixed.)
focus.far	(execute)		Imaging State	lens.lock = 0	Base on lens.nudge.mode to process move Step (Continue speed is fixed.)
lens.up	(execute)		Imaging State	lens.lock = 0	Base on lens.nudge.mode to process move speed / Step
lens.down	(execute)		Imaging State	lens.lock = 0	Base on lens.nudge.mode to process move speed / Step
lens.left	(execute)		Imaging State	lens.lock = 0	Base on lens.nudge.mode to process move speed / Step

Command	Operand	Parameters	Setting State	Setting Condition	Remark
lens.right	(execute)		Imaging State	lens.lock = 0	Base on lens.nudge.mode to process move speed / Step
lens.type	?	0 = 0.31-0.33:1 1 = 0.55-0.75:1 2 = 0.74-1.08:1 3 = 1.05-1.41:1 4 = 1.40-2.11:1 5 = 2.10-4.00:1	Imaging State	No limit	
lens.save	=	1..10 set of lens memory (Save)	Imaging State	No limit	
lens.load	=	1..10 set of lens memory (Load)	Imaging State	lens.lock = 0 and the relevant lens memory is saved	
lens.clear	=	1..10 set of lens memory (Clear)	Imaging State	No limit	
lens.center	(execute)		Imaging State	lens.lock = 0	

CONTROL MENU

Command	Operand	Parameters	Setting State	Setting Condition	Remark
laser.mode	= ?	0 = ECO 1 = Normal 2 = Custom	Imaging State	No limit	When AC 220V, the Eco option will setup the initial power of light source at 80% and the Normal option will setup the initial power of light source at 100%.
laser.power	= ?	30-100 (30%-100% power level; only available when laser.mode=2)	Imaging State	laser.mode = 2 (Custom)	
laser.cbc.enable	= ?	0 = Off 1 = On	Imaging State	laser.mode = 2 (Custom)	
dblack	= ?	0 - 1	Imaging State	not 3D, not edge blending on, not CBC on, not test pattern on	
light.off.timer	= ?	0 = Disable 1 = 0.5 Seconds 2 = 1.0. Seconds 3 = 1.5 Seconds 4 = 2.0. Seconds 5 = 3.0. Seconds 6 = 4.0. Seconds	Imaging State	not 3D, not edge blending on, and DB on	
altitude	= ?	0 = Off 1 = On	Imaging State	Imaging state: no limit	
ir.enable	= ?	0 = Off (Disable) 1 = On (Enable)	Imaging State	Imaging state: no limit	
ir.code	= ?	00~99	Imaging State	Imaging state: no limit	
ir.code.rst	(execute)		Imaging State	Imaging state: no limit	
freeze	= ?	0 = Off 1 = On	Imaging State	Source Locked, not 3D	
trig.1	= ?	0 = Off 1 = Screen 2 = 5:4 3 = 4:3 4 = 16:10 5 = 16:9 6 = 1.88 7 = 2.35 8 = LetterBox 9 = Source 10 = Native 11 = RS232	Imaging State	No limit	12,13 will not be activated if Trig.1 = 11 is not set.
instant.startup	= ?	0 = Off 1 = On	Imaging State	No Limit	
standby.period	= ?	0 = 30mins 1 = 60mins 2 = 90mins	Imaging State	No Limit	

Command	Operand	Parameters	Setting State	Setting Condition	Remark
lan.dhcp	= ?	0 = Off 1 = On	Imaging State Standby State and network available	Imaging state: no limit Standby state: standby.mode=1/2 and command can go through Network	
lan.ip	= ?	<string>	Imaging State Standby State and network available	Imaging state: no limit Standby state: standby.mode=1/2 and command can go through Network	
lan.subnet	= ?	<string>	Imaging State Standby State and network available	Imaging state: no limit Standby state: standby.mode=1/2 and command can go through Network	
lan.gateway	= ?	<string>	Imaging State Standby State and network available	Imaging state: no limit Standby state: standby.mode=1/2 and command can go through Network	
lan.dns	= ?	<string>	Imaging State Standby State and network available	Imaging state: no limit Standby state: standby.mode=1/2 and command can go through Network	
lan.mac	?	<string>	Imaging State Standby State and network available	Imaging state: no limit Standby state: standby.mode=1/2 and command can go through Network	
artnet.enable	= ?	0 = Off 1 = On (2.X.X.X) 2 = On (10.X.X.X) 3 = On (Manual)	Imaging State Standby State and network available	Imaging state: no limit Standby state: standby.mode=1/2 and command can go through Network	
artnet.net	= ?	0 ~ 127	Imaging State Standby State and network available	Imaging state: no limit Standby state: standby.mode=1/2 and command can go through Network	
artnet.subnet	= ?	0 ~ 15	Imaging State Standby State and network available	Imaging state: no limit Standby state: standby.mode=1/2 and command can go through Network	
artnet.universe	= ?	0 ~ 15	Imaging State Standby State and network available	Imaging state: no limit Standby state: standby.mode=1/2 and command can go through Network	
artnet.start.addr	= ?	1 ~ 508	Imaging State Standby State and network available	Imaging state: no limit Standby state: standby.mode=1/2 and command can go through Network	

Command	Operand	Parameters	Setting State	Setting Condition	Remark
artnet.ch1.func	= ?	0 = None 1 = Power 2 = PIC-MUTE 3 = Power Level 4 = Input 5 = Channel Control	Imaging State Standby State and network available	Imaging state: no limit Standby state: standby.mode=1/2 and command can go through Network	
artnet.ch2.func	= ?	0 = None 1 = Power 2 = PIC-MUTE 3 = Power Level 4 = Input 5 = Channel Control	Imaging State Standby State and network available	Imaging state: no limit Standby state: standby.mode=1/2 and command can go through Network	
artnet.ch3.func	= ?	0 = None 1 = Power 2 = PIC-MUTE 3 = Power Level 4 = Input 5 = Channel Control	Imaging State Standby State and network available	Imaging state: no limit Standby state: standby.mode=1/2 and command can go through Network	
artnet.ch4.func	= ?	0 = None 1 = Power 2 = PIC-MUTE 3 = Power Level 4 = Input 5 = Channel Control	Imaging State Standby State and network available	Imaging state: no limit Standby state: standby.mode=1/2 and command can go through Network	
artnet.ch5.func	= ?	0 = None 1 = Power 2 = PIC-MUTE 3 = Power Level 4 = Input 5 = Channel Control	Imaging State Standby State and network available	Imaging state: no limit Standby state: standby.mode=1/2 and command can go through Network	
artnet.ch1.val	?	0 ~ 255	Imaging State Standby State and network available	Imaging state: no limit Standby state: standby.mode=1/2 and command can go through Network	
artnet.ch2.val	?	0 ~ 255	Imaging State Standby State and network available	Imaging state: no limit Standby state: standby.mode=1/2 and command can go through Network	
artnet.ch3.val	?	0 ~ 255	Imaging State Standby State and network available	Imaging state: no limit Standby state: standby.mode=1/2 and command can go through Network	
artnet.ch4.val	?	0 ~ 255	Imaging State Standby State and network available	Imaging state: no limit Standby state: standby.mode=1/2 and command can go through Network	
artnet.ch5.val	?	0 ~ 255	Imaging State Standby State and network available	Imaging state: no limit Standby state: standby.mode=1/2 and command can go through Network	
artnet.apply	(execute)		Imaging State Standby State and network available	Imaging state: no limit Standby state: standby.mode=1/2 and command can go through Network	
lan.amx	= ?	0 = Off 1 = On	Imaging State Standby State and network available	Imaging state: no limit Standby state: standby.mode=1/2 and command can go through Network	

SETTINGS MENU

Command	Operand	Parameters	Setting State	Setting Condition	Remark
standby.mode	= ?	0 = ECO 1 = On by Lan 2 = On by HDBaseT	Imaging State	No limit	Note: ECO (No Network) On by Lan (Network Support) On by HDBaseT (Network+HDBaseT Network Support)
auto.poweroff		0 = Off 1 = 5 Min 2 = 10 Min 3 = 15 Min 4 = 20 Min	Imaging State	No limit	
auto.poweron		0 = Off 1 = On	Imaging State	No limit	
latency	= ?	0 = Fast 1 = Normal	Imaging State	No limit	
blank.screen	= ?	0 = Logo 1 = Black 2 = Blue	Imaging State	No limit	
startup.logo	= ?	0 = Off 1 = Original 2 = User	Imaging State	Imaging state: no limit	
osd.menupos	= ?	0 = Top Left 1 = Top Right 2 = Bottom Left 3 = Bottom Right 4 = Center	Imaging State	No limit	
osd.trans	= ?	0 = 0% 1 = 25% 2 = 50% 3 = 75%	Imaging State	No limit	
osd.timer	= ?	0 = Always On 1 = 10 Seconds 2 = 30 Seconds 3 = 60 Seconds	Imaging State	No limit	
osd.msgbox	= ?	0 = Off 1 = On	Imaging State	No limit	
osd.rotation	= ?	0 = Off 1 = Clockwaise 2 = Counterclockwaise	Imaging State	No limit	
osd.lang	= ?	0 = English 1 = French 2 = Spanish 3 = German 4 = Portugues 5 = Simplified Chinese 6 = Traditional Chinese 7 = Japanese 8 = Korean	Imaging State	No limit	
fact.reset	(execute)		Imaging State	No limit	

INFO MENU

Command	Operand	Parameters	Setting State	Setting Condition	Remark
model.name	?	<string>	Imaging State Standby State	Imaging state: no limit Standby state: standby.mode=1/2 and command can go through Network	
serial	?	<string>	Imaging State Standby State	Imaging state: no limit Standby state: standby.mode=1/2 and command can go through Network	
sw.version	?	<string>	Imaging State Standby State	Imaging state: no limit Standby state: standby.mode=1/2 and command can go through Network	
laser.hours	?	<number>	Imaging State	No limit	
act.source	?	<string>	Imaging State	No limit	
signal	?	<string>	Imaging State	No limit	
h.refresh	?	<number>	Imaging State	Source Locked	KHz
v.refresh	?	<number>	Imaging State	Source Locked	Hz
pixel.clock	?	<number>	Imaging State	Source Locked	MHz
fans	?	(Information only) Fan1/Fan2/.....FanN			All fan speed

MISCELLANEOUS COMMANDS

Command	Operand	Parameters	Setting State	Setting Condition	Remark
power.on	(execute)		Standby State	No limit	
power.off	(execute)		Imaging State	No limit	
pic.mute	= ?	0 = Open 1 = Close	Imaging State	No limit	Closes or opens shutter
status	?	0 = Standby 1 = Warm Up 2 = Imaging 3 = Cooling 4 = Error	Imaging State Standby State	No limit	
errcode	?		Error State	No limit	Only return ErrorCode when occurred error (when query the status = 4)
prerr	(execute)	<string>	Imaging State Error State	No limit	print out error log

Simulated IR remote controller commands

This control command simulates the IR remote controller and its control keys. It shares the same syntax of operation command. It begins with characters "ky", followed by control commands and settings separated by space blank [SP], and ended by carriage return pair "CR" and "ASCII hex 0D".Control command syntax:

ky[SP]<operation command>[CR]

Examples:

Power On	ky power.on [CR]
Power Off	ky power.off [CR]

List of simulated IR remote controller commands

Item	Function	Operation command	Description
1	Power On	power.on	Power On
2	Power Off	power.off	Power Off
3	Menu	menu	Display OSD menu
4	Exit	exit	Exit
5	Enter	enter	ENTER key
6	Up	up	Move cursor upward or change upward
7	Down	down	Move cursor downward or change downward
8	Left	left	Move cursor to the left or change to the left
9	Right	right	Move cursor to the right or change to the right

Control the Projector Through a Network

This machine supports the following methods in remotely controlling the projector through a network:

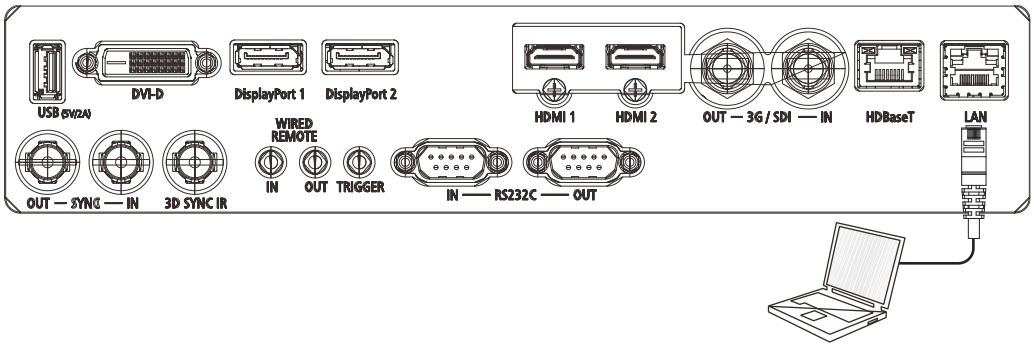
- Control projector through web browser.
- Control projector with RS-232 control or simulated IR commands via TCP/IP communication protocol.

Cable connection

You may connect the projector to a PC or to an external integrated video and control signal transmission box through LAN for remote control.

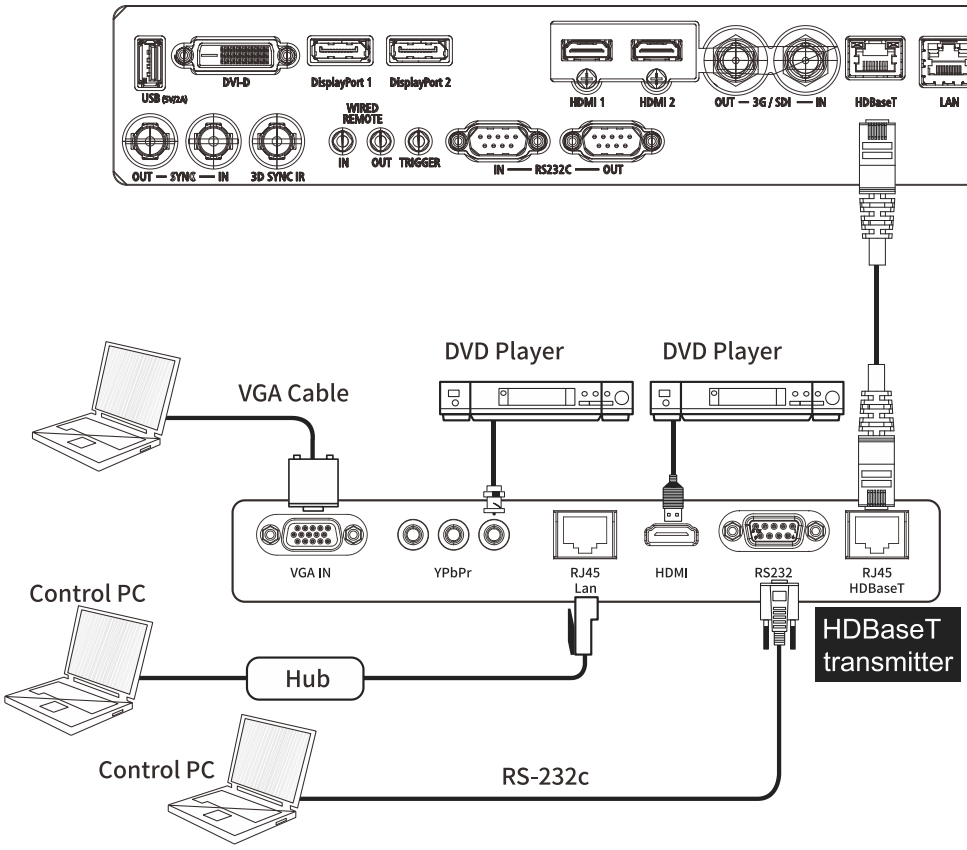
Connect the projector to a PC

See figure below for connecting the projector to a PC in RJ-45 cable for control. For connection through LAN, connect the hub through to the projector's HDBaseT/LAN port.



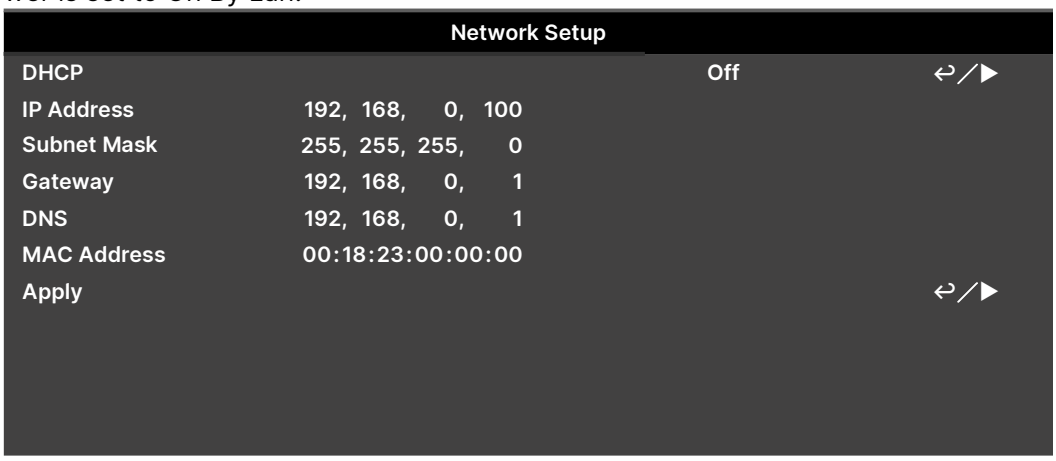
Connect with an external integrated video and control signal transmission box

You may connect the projector to an external integrated video and control signal transmission box with RJ-45 cable for concurrent video and networking control signal transmission. Please connect the PC to the transmission box with one RJ-45 cable or RS-232 cable, then connect the transmission box to the HDBaseT/LAN terminal of the projector by one RJ-45 cable, please refer to below illustration.



Set up the projector for networking

Before performing projector control by network, please configurate the network setting and make sure Standby Power is set to On By Lan.



Caution:
Network control are disabled if Standby Power is set to ECO for reducing the standby power consumption (less 0.5W). Please make sure Standby Power is set to On By Lan before controlling the projector via LAN.

DHCP: Enable or disable the DHCP service. When DHCP is set to ON, the DHCP server of the domain will assign an IP address to the projector. The IP address will appear in the IP address window and you don't need to set the IP address. Otherwise, the domain does not or cannot assign any IP address, and 0. 0. 0. 0 is shown on the IP address window.

IP Address: Set DHCP "OFF" and specify an IP address manually. Use the ◀▶ button to select the number in the address to change. Use the ▲▼ button to increase or decrease the number in the IP address.

Subnet Mask: Set the sub mask. The input method is the same as the setting for IP address.

Gateway: Set the gateway. The input method is the same as the setting for IP address.

DNS: Set the DNS. The input method is the same as the setting for IP address.

MAC Address: Show projector's MAC Address.

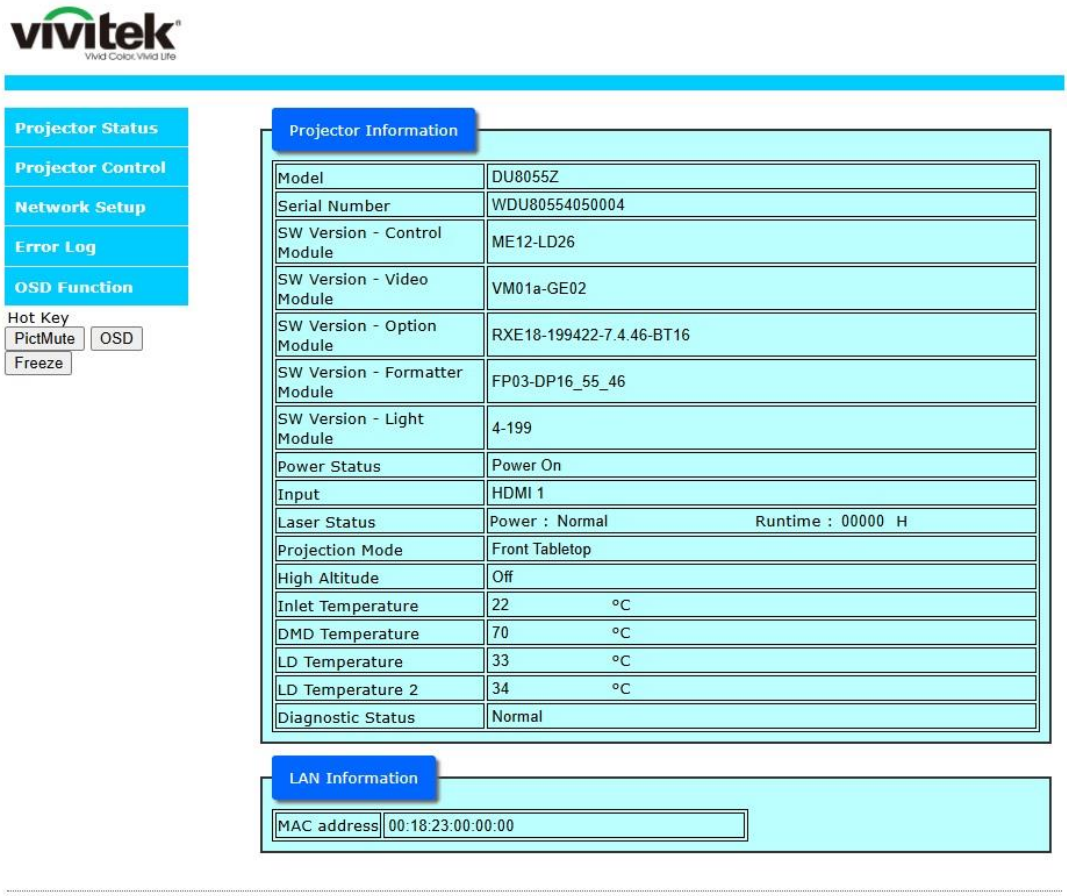
Caution:
Search DHCP or IP address, it will take the projector several seconds to apply network configuration.

Control the projector through a network

Control the projector through a web browser

Open the web browser of your control PC, type the projector's IP address. The left of the web page shows below four options:

Projector Status: Display current projector settings.
Projector Control: This page provides power buttons, input options and Lens control button for the control.
Network Setup: Setting for projector link.
Error Log: Display error log of the projector.
OSD Function : OSD Function : This page provide you to adjust Input / Picture / Alignment / Control / Settings and Info.



Projector Status

This page shows the current status of the projector.

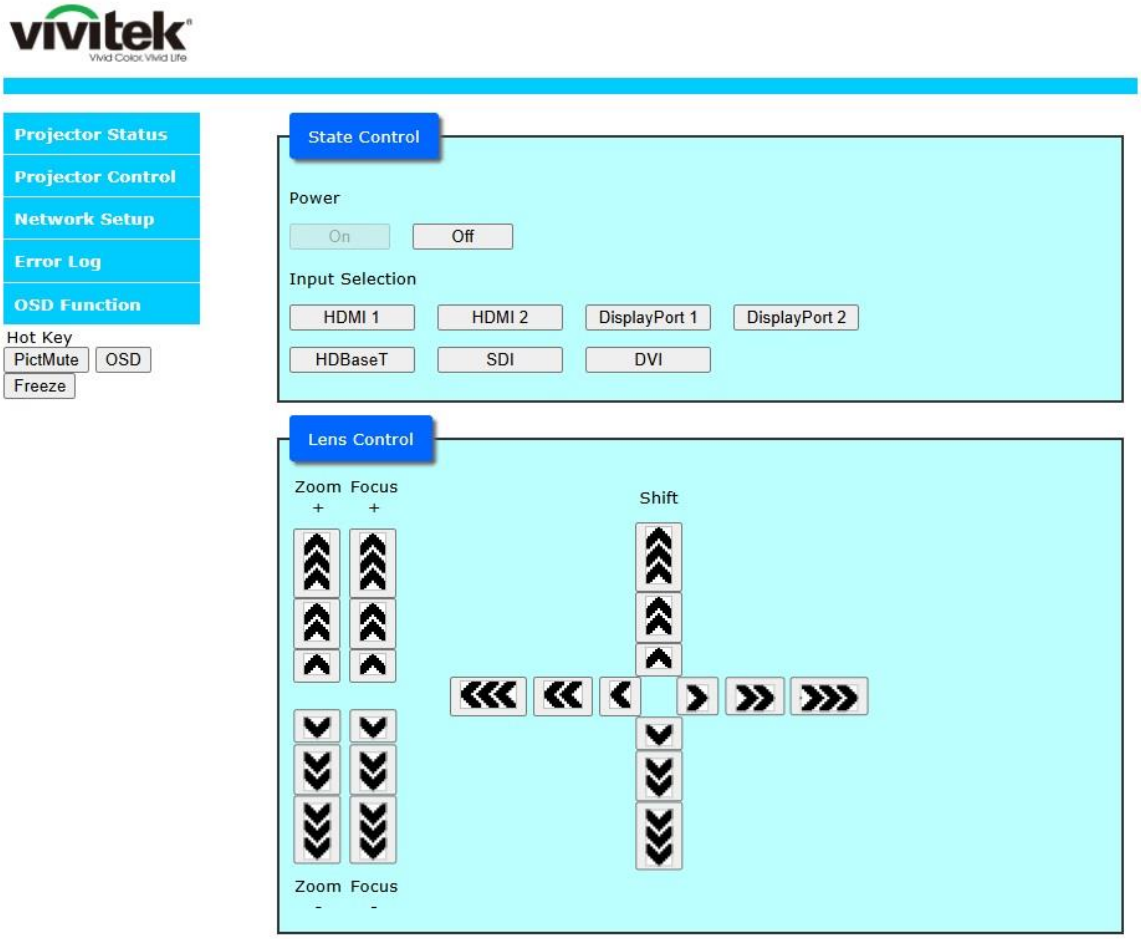
Model	: Projector model name
Serial Number	: Serial number of projector
SW Version	: The version of the software installed in the projector
Power Status	: Current projector startup status
Input	: Display the current input source.
Laser status	: Display current light source status and the usage.
Projection Mode	: Display current projection mode
High Altitude	: Display current High Altitude setting.
Inlet Temperature	: Display detected temperature of inlet air.
DMD Temperature	: Display detected temperature by the sensor near DMD chip.
LD Temperature	: Display detected temperature by the sensor on laser module.
Diagnostic Status	: Indicate self-diagnosis message by the projector.

LAN Information

MAC address	: Projector MAC address setup

Projector Control

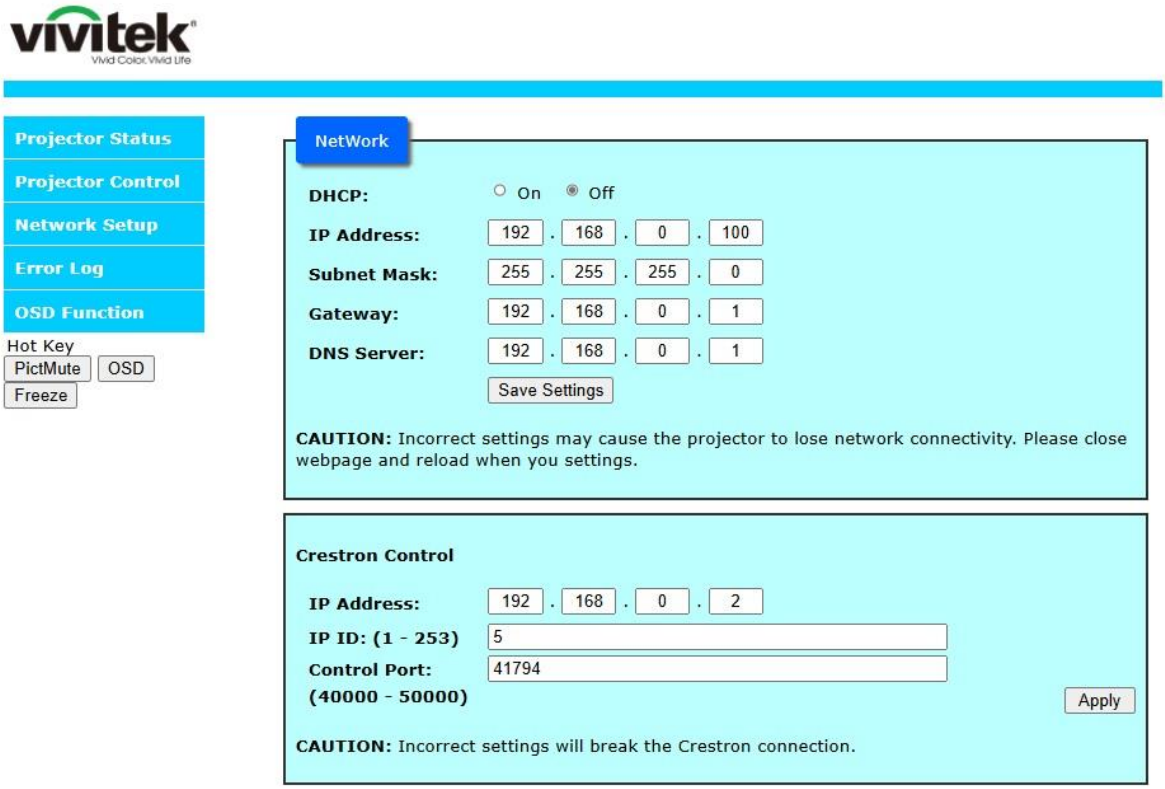
This page provides the control buttons for power, blank, Input Selection and Lens control.



Power	: Projector power on/off control.
Input Selection	: Select the input source by pressing the buttons.
Lens Control	: Select the button to adjust Zoom, Focus or Lens position.

Network Setup

This page allows you to configure network setting of the projector.

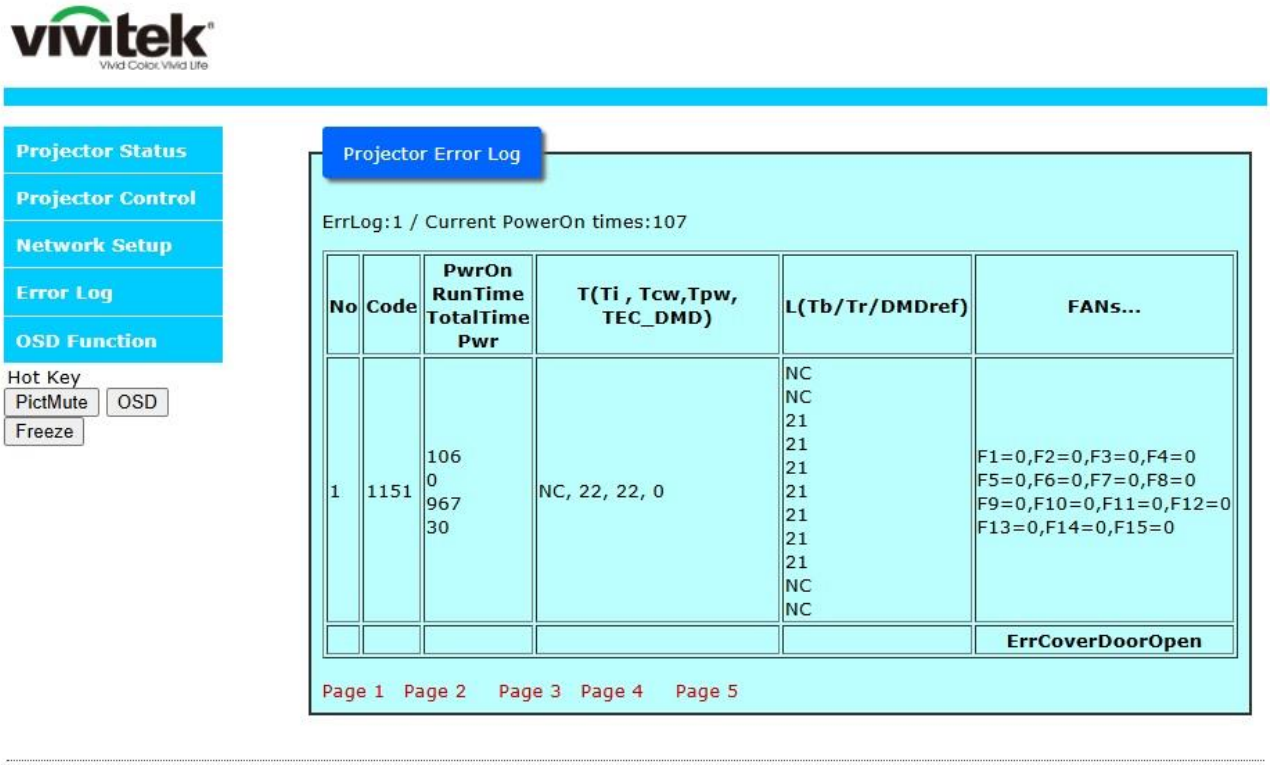


DHCP	:	The DHCP server of the domain will assign an IP address to the projector automatically if DHCP is set to On, otherwise network configuration need to be set manually.
IP Address	:	Input the IP address of the projector.
Subnet Mask	:	Configure the subnet mask.
Gateway	:	Configure the gateway
DNS Server		Set the address of DNS server
Save Setting	:	Click the button to confirm the change if any change is made. Note that current connection is interrupted after change the network settings, please connect the projector again by new network setting.

Crestron Control	:	Control projector with Crestron device or related software.
IP Address	:	Setup Crestron IP address
IP ID	:	Setup Crestron IP ID
Control port	:	Setup Crestron Control port

Error Log

This page displays the error log of the projector. This information is helpful to service staff to diagnose the projector.
Please capture this page and send It the service staff if you have any questions during the usage of this projector.



OSD Function:

This page lists most OSD functions as sub-tabs according to the projector's OSD structure and options. Contains INPUT / PICTURE / ALIGNMENT / CONTROL / SETTINGS and INFO.

Control projector with TCP/IP communication protocol

This projector supports TCP/IP communication protocol which enables you to send RS-232 operation commands or simulated IR commands to control projectors connected with RJ45 cable via terminal connection application software, e.g. Tera Term. Please set up IP address and port number with the terminal connection application software before controlling your projector with TCP/IP communication protocol:

IP Address: IP address of projector
Port: Please set transmission port number to 7000

See the section on serial interface RS-232 control commands for details on RS-232 operation commands or simulated IR commands.

About Vivitek Support

If you cannot find solutions from this user guideline, please contact us using the contact information below:

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