### Wired LAN Terminal functionalites

Remote control and monitoring of a projector from a PC (or Laptop) via wired LAN is also possible. Compatibility with Crestron / AMX (Device Discovery) / Extron control boxes enables not only collective projector management on a network but also management from a control panel on a PC (or Laptop) browser screen.

- Crestron is a registered trademark of Crestron Electronics, Inc. of the United States.
- Extron is a registered trademark of Extron Electronics, Inc. of the United States.
- AMX is a registered trademark of AMX LLC of the United States.
- PJLink applied for trademark and logo registration in Japan, the United States of America, and other countries by JBMIA.

### **Supported External Devices**

This projector is supported by the specified commands of the Crestron Electronics controller and related software (ex, RoomView ®).

http://www.crestron.com/

This projector is supported by AMX (Device Discovery).

http://www.amx.com/

This projector is compliant to support Extron device(s) for reference.

http://www.extron.com/

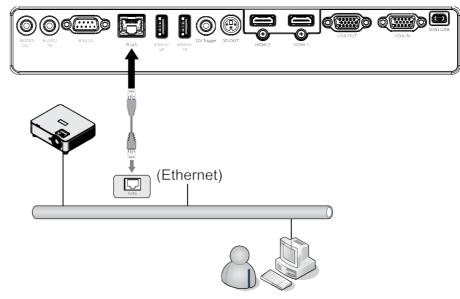
This projector supports all commands of PJLink Class1 (Version 1.00).

http://pjlink.jbmia.or.jp/english/

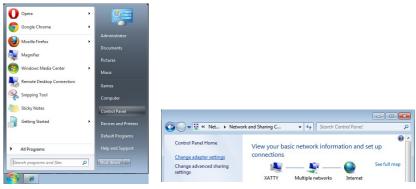
For more detail of information about the diverse types of external devices which can be connected to the LAN/RJ45 port and remote/control the projector, as well as the related control commands supporting for each external device, kindly please get contact with the Support-Service team directly.

#### Connecting with LAN

1. Connect an RJ45 cable to RJ45 ports on the projector and the PC (Laptop).



**2.** On the PC (Laptop), select Start  $\rightarrow$  Control Panel  $\rightarrow$ Network and Internet.



- 3. Right-click on Local Area Connection, and select Properties.
- 4. In the Properties window, select the Networking tab, and select Internet Protocol (TCP/IP).
- 5. Click Properties.
- 6. Click Use the following IP address and fill in the IP address and Subnet mask, then click OK.

Image: Second state of the se	Local Area Connection Properties  Networking Sharing  Connect using:  VIA Phine II Compatible Fast Ethemet Adapter  VIA Phine II Compatible Fast Ethemet Adapter  This connection uses the following terms:	Internet Protocol Version 4 (TCP/IP+4) Properties
Image: Status       Local Area Connection       Image: Status       Image	Image: Control for Microsoft Networks       Image: Control for Microsoft Networks <td>By the following IP address:           IP address:           IP address:           ID . 10 . 10 . 99           Syber tenak:           255 . 255 . 255 . 0           Default pateway:           .           Objain DNS server addresses:</td>	By the following IP address:           IP address:           IP address:           ID . 10 . 10 . 99           Syber tenak:           255 . 255 . 255 . 0           Default pateway:           .           Objain DNS server addresses:
Create Shortcut Delete Rename Properties	Ipstal         Poperies           Description         Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.           OK         Cancel	Prefered DKS server: Alternate DKS server: Vajdate settings upon exit Adganced Cancel

- 7. Press the Menu button on the projector.
- 8. Select Settings2 $\rightarrow$  Advanced1  $\rightarrow$  Network
- **9.** After getting into Network, input the following:
  - DHCP: Off
  - IP Address: 10.10.10.10
  - Subnet Mask: 255.255.255.0
  - Gateway: 0.0.0.0
  - DNS Server: 0.0.0.0
- **10.** Press (Enter) /  $\blacktriangleright$  to confirm settings.

Open a web browser

(for example, Microsoft Internet Explorer).

C This page can't be displayed - Windows	we Internet Explorer	
G 🕞 🗢 🔯 http://10.10.10.10/	P 🖃 🤧 🎯 This page can't be displayed 🗙	
This n	page can't be displayed	
rins p	Jage can the displayed	
	e web address http://10.10.10.10 is correct.	
<ul> <li>Look for the pay</li> </ul>	page with your search engine.	
<ul> <li>Refresh the pag</li> </ul>	age in a few minutes.	
Fix connection proble	oblems	

- **11.** In the Address bar, input the IP address: 10.10.10.10.
- 12. Press (Enter) / ►.

The projector is setup for remote management. The LAN/RJ45 function displays as follows.

Projector Info	Model Name	
		System
Projector Control	System Status	Power On
Network Setup	Display Source	HDMI 2
Alert Mail Settings	Lamp Hours	2
Alert Mail Settings	Display Mode	Presentation
	Projection Mode	Front
	Light Mode	ECO
	Error Status	No Error
		LAN Status
	IP address	10.10.10.10
	Subnet mask	255.255.255.0
	Default gateway	0.0.0.0
	DNS Server	0.0.0.0
	MAC address	00:18:23:00:00:00
		Version
	LAN Version	
	F/W Version	

### vivitek

Projector Info	
Projector Control	Power
Network Setup	On Off
Alert Mail Settings	
	Input Selection
	HDMI 1 HDMI 2 Computer

### vivitek

Projector Info	
Projector Control	Projector Name: 000000 Apply
Network Setup	
Alert Mail Settings	Crestron Control
	IP Address: 0.0.0.0
	IP ID: 0
	Control Port: 0
	Apply
	CAUTION: Incorrect settings will break the Crestron

CATEGORY	ITEM	INPUT-LENGTH
Crestron Control	IP Address	15
	IP ID	3
	Port	5
Projector	Projector Name	10
	Location	10
	Assigned To	10
Network Configuration	DHCP (Enabled)	(N/A)
	IP Address	15
	Subnet Mask	15
	Default Gateway	15
	DNS Server	15
User Password	Enabled	(N/A)
	New Password	10
	Confirm	10
Admin Password	Enabled	(N/A)
	New Password	10
	Confirm	10

For more information, please visit <u>http://www.crestron.com</u>.

### **Preparing Email Alerts**

- 1. Make sure that user can access the homepage of LAN RJ45 function by web browser (for ex-ample, Microsoft Internet Explorer).
- 2. From the Homepage of LAN/RJ45, click Alert Mail Settings.
- 3. By default, these input boxes in Alert Mail Settings are blank.

### . .

### vivitek

vivitek					
Vivid Color Vivid Life			Projector Info	Send E-Mail	
			Projector Control	Enter the appropriate settings in	the fields below:
rojector Info	Model Name		Network Setup	(Your SMTP server may not requ	uire a user name or password.)
		System	Alert Mail Settings		
ojector Control	System Status	Power On		SMTP Server:	Port: 25
twork Setup	Display Source	HDMI 2		User Name:	
	Lamp Hours	2		Password:	
ert Mail Settings	Display Mode	Presentation			Mail Server App
	Projection Mode	Front		From:	
	Light Mode	ECO		To:	
	Error Status	No Error		CC:	Mail Address App
	Lifer blacks	LAN Status		E-mail Alert Options	
	IP address	10.10.10.10		Fan lock :	. 🗹 Over_Heat: 🗹
	Subnet mask	255.255.255.0		Case Open:	🗹 Lamp Fail: 🗹
	Default gateway	0.0.0.0		Lamp Hours Over:	Filter Hours Over:
	DNS Server	0.0.0.0		Other Error:	Weekly Report: Alert Option App
	MAC address	00:18:23:00:00:00			Alent Option App
		Version			Send Test Mail
	LAN Version				
	F/W Version			1	

- 4. For Sending alert mail, input thefollowing:
  - The SMTP field is the mail server for sending out email (SMTP protocol). This is a required field.
  - The To field is the recipient's email address (for example, the projector administrator). This is a required field.
  - The Cc field sends a carbon copy of the alert to the specified email address. This is an optional field (for example, the projector administrator's assistant).
  - The From field is the sender's email address (for example, the projector administrator). This is a required field.
  - Select the alert conditions by checking the desired boxes.

# vivitek Send E-Mail Enter the appropriate settings in the fields below: (Your SMTP server may not require a user name or password.)

SMTP Server:	ail.comp.com Port: 25
User Name: S	enders
Password: "	
	Mail Server Appl
From: S	end@mail.comp.com
To:	cv1@mail.comp.com
CC:	cv2@mail.comp.com
	Mail Address Appl
E-mail Alert Options	:
Fan lock :	🗹 Over_Heat: 🛛 🗹
Case Open:	🖬 Lamp Fail: 🛛 🖾
Lamp Hours Over:	🖾 Filter Hours Over: 🗹
Other Error:	🖾 Weekly Report: 🗌
	Alert Option Appl

Note: Fill in all fields as specified. User can click Send Test Mail to test what setting is correct. For successful sending an e-mail alert, you must select alert conditions and enter a correct e-mail address.

### RS232 by Telnet Function

Besides projector connected to RS232 interface with "Hyper-Terminal" communication by dedicated RS232 command control, there is alternative RS232 command control way, so called "RS232 by TELNET" for LAN/RJ45 interface.

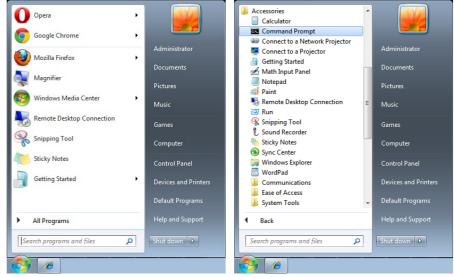
### Quick Start-Guide for "RS232 by TELNET"

Check and get the IP-Address on OSD of the projector.

Make sure that laptop/PC can access the web-page of the projector.

Make sure that "Windows Firewall" setting to be disabled in case of "TELNET" function filtering out by laptop/PC.

Start => All Programs => Accessories => Command Prompt



Input the command format like the below:

telnet ttt.xxx.yyy.zzz 7000 ("Enter" key pressed)

(ttt.xxx.yyy.zzz 7000: IP-Address of the projector)

If Telnet-Connection ready, and user can have RS232 command input, then "Enter" key pressed, the RS232 command will be workable.

### How to have TELNET enabled in Windows 7 / 8 / 10

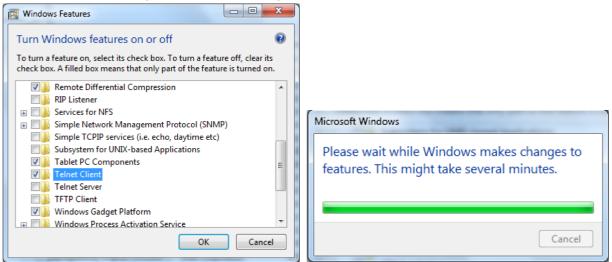
By default installation for Windows, "TELNET" function is not included. But end-user can have it by way of "Turn Windows features On or Off" to be enabled.

Open "Control Panel" in Windows

Open "Programs"

				Control Panel Home	Search Control Panel	• •	ontrol Panel 🕨	
Repair.	hange, or		Uninstall or change a program To uninstall a program, select it from the	View installed updates	View by: Category 🔻		your computer's settings	Adjust y
888			Organize 👻	off	User Accounts and	8-	System and Security	
d Size	Installed	Publisher	Name	Install a program from the network	Family Safety	84 <b>2</b>	Review your computer's status	
15 3.40	10/5/201	Igor Pavlov	1 7-Zip 15.08 beta		Readed or remove user accounts		Back up your computer	9
16 215	1/14/201	Adobe Systems Incorpor	Adobe Acrobat Reader DC - Chinese Tra		Set up parental controls for		Find and fix problems	
15 6.00	10/5/201	Adobe Systems Incorpor	Adobe Flash Player 16 ActiveX	8	any user			
15	10/5/201	Adobe Systems, Inc.	Adobe SVG Viewer 3.0		any user		Network and Internet	0
15 5.85	10/5/201	Cisco Systems, Inc.	Sisco AnyConnect Secure Mobility Client		Appearance and	1000	View network status and tasks	
15	10/5/201	Delta Electronics, Inc	📌 DeltaBox		Personalization		Choose homegroup and sharing	
15	10/5/201	Delta Electronics, Inc.	• Desktop Streamer 1.1.14726				options	
15 12.8	9/30/201	Dolby Laboratories Inc	Dolby Advanced Audio v2		Change the theme			
15	10/6/201	FastStone Soft	FastStone Image Viewer 5.3		Change desktop background		Hardware and Sound	1
15 1.87	10/5/201	Microsoft Corporation	Forefront TMG Client		Adjust screen resolution		View devices and printers	201
15	10/5/201		E Fuji Xerox Network Scanner Utility2		Clash Language and	-17h	Add a device	
15	10/5/201	Google Inc.	💿 Google Chrome		Clock, Language, and			
D	12/15/20		IBM Installation Manager		Region	(1)	Programs	-1
16	1/12/201		IBM Rational Team Concert Client		Change keyboards or other input		Uninstall a program	0
15 11.7	9/30/201	Realtek Semiconductor	🔛 Integrated Camera		methods		oninstali a program	
15 54.9	9/30/201	Intel Corporation	Intel(R) Manageability Engine Firmware			-		
15 21.2	9/30/201	Intel	Intel(R) Network Connections 20.0.10.0		Ease of Access			
-			< m		Let Windows suggest settings Optimize visual display			

Select "Turn Windows features on or off" to open Have "Telnet Client" option checked, then press "OK" button.



### Specsheet for "RS232 by TELNET" :

- 1. Telnet: TCP
- 2. Telnet port: 7000 (for more detail, kindly please get contact with the service agent or team)
- 3. Telnet utility: Windows "TELNET.exe" (console mode)
- 4. Disconnection for RS232-by-Telnet control normally: Close Windows Telnet utility directly after TELNET connection ready
- 5. Limitation 1 for Telnet-Control: there is less than 50 bytes for successive network payload for Telnet-Control application.

Limitation 2 for Telnet-Control: there is less than 26 bytes for one complete RS232 command for Telnet-Control.

Limitation 3 for Telnet-Control: Minimum delay for next RS232 command must be more than 200 (ms).

(\*, In Windows built-in "TELNET.exe" utility, "Enter" key pressed will have "Carriage-Return" and "New-Line" code.)

## 7. RS-232 Communication

### Communication parameter setup

You can use the serial control command to input commands for projector control or retrieve its operational data through Windows client terminal software

ltemltem	Parameter:
Bit per Second	9600 bps
Data Bit	8-bit
Parity	None
Stop Bit	1
Flow Control	None

Operation commands

### 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 carriage return pair "CR" and "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 carriage return pair "CR" and "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></settings>	Syntax: Symbol "=" suffixed with setup values
Increase setup order of ad- justment items	+	Some settings are changed in steps. Symbol "+" indicates changing one step up
Decrease setup order of ad- justment 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 row	Projector return message
Query current brightness	op bright ?[CR]	OP BRIGHT = 50
Set up brightness	op bright = 100[CR]	OP BRIGHT = 100
Out of range or not support	op bright = 200[CR]	OP BRIGHT = NA
Illegal command	op abright = 100[CR]	*Illegal format#

Function	Operation	Set	Get	Inc	Dec	EXE	Values
Auto Source	auto.src	V	V				0 = Off
HDMI Color Space	color opeco	V	V				1 = On 0 : Auto
HDIMI Color Space	color.space	v	v				1 : RGB
							2 : YUV
HDMI Range	hdmi.range	V	V				0 : Auto
i i bini i tange	nannango	v	v				1 : Full
							2 : Limited
Instant Motion	instant.motion	V	V				0 : Off
							1 : On
H Position	h.pos	V	V	V	V		-5 ~ +5
							-100 ~ +100(Auto Sync
							Off)
V Position	v.pos	V	V	V	V		-5 ~ +5
							-100 ~ +100(Auto Sync
							Off)
Phase	phase	V	V	V	V		0~31
clock	clock	V	V	V	V		-5 ~ +5
Auto Sync	auto.sync	V	V				0:Off
		V	V				1:On
3D	threed	V	V				0:Off
							1 : DLP-Link 2 : IR
2D Syna Invert	thread averainvart	V	V				
3D Sync Invert	threed.syncinvert	v	v				0 = Off 1 = On
3D Format	threed.format	V	V				0 : Frame Sequential
ob i offici	theed.lonnat	v	v				1 : Top / Bottom
							2 : Side by side
							3 : Frame Packing
Signal Power On	signal.poweron	V	V				0 : Off
	0						1 : On
Picture Mode	pic.mode	V	V				0 : Presentation
							1 : Bright
							2:Movie
							3 : Game
							4 : sRGB
							5 : DICOM
							6 : User 7 : HDR (for query only)
Brightness	bright	V	V	V	V		
Contrast	contrast	V	V	V	V		0~100
Projector Light	projector.light	V	V	v	v		0 : Off
Frojector Light	projector.light	v	v				1:On
HSG/Red Gain	hsg.r.gain	V	V	V	V		0 ~ 100
HSG/Green Gain	hsg.g.gain	V	V	V	V		0 ~ 100
HSG/Blue Gain	hsg.b.gain	V	V	V	V		0~100
HSG/Cyan Gain	hsg.c.gain	V	V	V	V		0 ~ 100
HSG/Magenta Gain	hsg.m.gain	V	V	V	V		0 ~ 100
HSG/Yellow Gain	hsg.y.gain	V	V	V	V		0 ~ 100
HSG/Red/Saturation	hsg.r.sat	V	V	V	V		0 ~ 100
HSG/Green/Saturation	hsg.g.sat	V	V	V	V		0 ~ 100
HSG/Blue/Saturation	hsg.b.sat	V	V	V	V		0 ~ 100
HSG/Cyan/Saturation	hsg.c.sat	V	V	V	V		0 ~ 100
HSG/Magenta/Saturation	hsg.m.sat	V	V	V	V		0 ~ 100
HSG/Yellow/Saturation	hsg.y.sat	V	V V	V V	V		0 ~ 100
HSG/Red/Hue	hsg.r.hue	V	V	V	V	I	0 ~ 100

Function	Operation	Set	Get	Inc	Dec	EXE	Values
HSG/Green/Hue	hsg.g.hue	V	V	V	V		0 ~ 100
HSG/Blue/Hue	hsg.b. hue	V	V	V	V		0 ~ 100
HSG/Cyan/Hue	hsg.c. hue	V	V	V	V		0 ~ 100
HSG/Magenta/Hue	hsg.m. hue	V	V	V	V		0 ~ 100
HSG/Yellow/Hue	hsg.y. hue	V	V	V	V		0 ~ 100
HSG/White/Red Gain	hsg.wr.gain	V	V	V	V		0 ~ 100
HSG/White/Green Gain	hsg.wg.gain	V	V	V	V		0 ~ 100
HSG/White/Blue Gain	hsg.wb.gain	V	V	V	V		0 ~ 100
Brilliant Color	bri.color	V	V	V	V		0~10
Sharpness	sharp	V	V	V	V		0~31
Gamma	gamma	V	V				0 = 1.8
Califina	gamma	ľ	•				1 = 2.0
							2 = 2.2
							3 = 2.4
							4 = B&W
							5 = Linear
Color Temperature	color.temp	V	V				0 = Warm
							1 = Normal
							2 = Cold
White Balance /Red Offset	red.offset	V	V	V	V		-100 ~ +100
White Balance /Green	green.offset	V	V	V	V		-100 ~ +100
Offset							
White Balance /Blue Offset	blue.offset	V	V	V	V		-100 ~ +100
White Balance /Red Gain	red.gain	V	V	V	V		0 ~ 200
White Balance /Green Gain	green.gain	V	V	V	V		0 ~ 200
White Balance /Blue Gain	blue.gain	V	V	V	V		0 ~ 200
Picture Mode Reset	pic.mode.reset					V	
Aspect Ratio	aspect	V	V				O = Fill
							1 = 4:3
							2 = 16:9(16:10)
							3 = LetterBox
							4 = 2.35:1
Digital Zoom	zoom	V	V	V	V		-10 ~ +10
V Keystone	v.keystone	V	V	V	V		-30 ~ +30
H Image Shift	img.hshift	V	V	V	V		-50 ~ +50
V Image Shift	img.vshift	V	V		V		-50 ~ +50
Projection	projection	V	V	-	-		0 = Front
rojection	projection	v	v				1 = Rear
							2 = Front+Ceiling
<b>T</b> (D (							3=Rear+Ceiling
Test Pattern	test.pattern	V	V				0 = Off
Dire et Deuren On	dine et a success	V					1 = Grid
Direct Power On	direct.poweron	V	V				0:Off
	Back as a du		V				1:On
Light Mode	light.mode	V	V				0 : Normal (100%)
							1 : ECO(80%)
							2 : Custom Light
							(25~100)
Custom Light	custom.light	V	V	V	V		25 ~ 100
Fan Speed	fanspeed	V	V				0 = Normal
							1 = High

Function	Operation	Set	Get	Inc	Dec	EXE	Values
Remote ID	remote.id	V	V				0 : Default(ID0)
			-				1 : ID1
							2 : ID2
							3 : ID3
							4 : ID4
							5 : ID5
							6 : ID6
							7 : ID7
NetWork Status	net.status		V				0 : Disconnect 1 : Connect
NetWork / DHCP	net.dhcp	V	V				0 = Off 1 = On
NetWork / IP Address	net.ipaddr	V	V				<string></string>
NetWork / Subnet	net.subnet	v	V				<string></string>
NetWork / Gateway	net.gateway	V	V				<string></string>
NetWork / DNS	net.dns	V	V				<string></string>
			v				5
NetWork Apply	net.apply	V					0 : Cancel 1 : OK
Standby Power	standby.power	V	V				0 : Normal
							1 : ECO
							2 : On By Lan
No Signal Power Off	nosignal.poweroff	V	V				0 ~ 36
Sleep Timer	sleep.timer	V	V				0 ~ 120
Volume	volume	V	V	V	V		0~10
Blank Screen Color	blankscreen.color	V	V				0 = Black
							1 = Red
							2 = Green
							3 = Blue
1		\ <u>/</u>	\ <i>\</i>				4 = White
Logo	logo	V	V				0 = Off
							1 = On
Message	message	V	V				0:Off
			. /				1:On
MENU Position	menu.position	V	V				0 : Center
							1:Up
							2 : Down
							3 : Left
							4 : Right
MENU Timer	menu.timer	V	V				0 : Off
							1:20
							2:40
							3:60
MENU Translucent	menu.trans	V	V				0 : Off
		1					1:50%
							2:100%
Keypad Lock	keypad.lock	V	V	1			0 : Off
	Noypau.iook	ľ	v				1 : On
Security Lock	security.lock	V	V				1:Up
Look	Sooding.iook	1	ľ				2 : Down
							3 : Left
							4 : Right
Security Unlock	security.unlock	V			-		-
	Security.unlock	v					1:Up
							2 : Down
							3:Left
							4 : Right

Function	Operation	Set	Get	Inc	Dec	EXE	Values
Language	lang	V	V				0 = English
							1 = French
							2 = German
							3 = Spanish
							4 = Portugues
							5 = Simplified Chinese 6
							= Traditional Chinese 7
							= Italian
							8 = Norwegian
							9 = Swedish
							10 = Dutch
							11 = Russian
							12 = Polish
							13 = Finnish
							14 = Greek
							15 = Korean
							16 = Hungarian
							17 =Czech
							18 = Arabic
							19 = Turkish
							20 = Vietnamese
							21 = Japanese
							22 = Thai
							23 = Farsi
							23 = Hebrew
Reset All	reset.all					V	25 = Danish
Source Info	source.info		V			v	

Function	Operation	Set	Get	Inc	Dec	EXE	Values
Input Select	input.sel	V	V				1 : RGB
							6 : HDMI 1
							9 : HDMI 2
							11 : Multi Media(Optional
							for NOVO Board)
							15 : HDBaseT(Optional)