

HOJA

User's Manual

Video Controller NovaPro HD

Rev1.4.4

Statement

Welcome to use the product from Xi'an NovaStar Tech Co., Ltd. (hereinafter referred to as "NovaStar"). It is our great pleasure to offer this manual to help you understand and use the product. We strive for precision and reliability during the compilation of this manual, and the content of this manual are subject to change without notice. If you have any problem in use or you have any suggestion, please feel free to contact us according to the contact information provided in this manual. We will do our utmost to satisfy your needs. We would like to express our sincere thanks to your suggestions and make assessment for adoption as soon as possible.

Copyright

All the intellectual property rights involved in this document are reserved to NovaStar. Unauthorized duplication is a violation of applicable laws.

Trademark

NOVASTAR is the trademark of NovaStar.

Contents

1	Safe	ety Statement	1
2	Ove	erview	1
3	Арр	earance	2
	3.1	Front Panel	2
	3.2	Rear Panel	3
4	Sign	nal Connection	5
5	Des	cription of Operation Modes	6
6	Mac	chine Operation	7
	6.1	Description of operation action	7
	6.2	Main Interface	7
	6.3	Step 1: Input Settings	9
	6.4	Step 2: Screen Settings	10
	6.5	Step 3: Brightness Control	12
	6.6	Step 4: Output Settings	12
	6.7	Display Control	15
	6.8	Advanced Settings	16
		6.8.1 Picture in Picture (PIP)	17
		6.8.2 Advanced Configuration	18
		6.8.3 Montage	20

	6.8.4 Load Cabinet File	21
	6.8.5 Alarm Threshold Settings	24
	6.8.6 Advanced Property	24
	6.8.7 Save parameters to hardware	25
	6.8.8 Redundancy	• 25
	6.8.9 DMX512 Channel Settings	26
	6.8.10 Factory Reset	27
	6.8.11 Hardware version	27
	6.9 Communication Settings	27
	6.10 Language Settings	28
7	Web Interface Operation	28
	7.1 Network Establishment	28
	7.2 Operating Motion Description	29
	7.3 My Device	30
8	LCT Client Operation	31
9	Firmware Upgrade	32
10	Troubleshooting and Precautions	35
11	Technical Specifications	37
12	Installation Dimensions	39

1 Safety Statement

To avoid potential hazards, please use this equipment according to the regulations. In case of damages, non-professionals are not allowed to disassemble it for maintenance without permission. Please contact the after-sales department of the company.

4	High voltage danger: The operating voltage of this product is 100-250V AC.
	Grounding: This product is grounded through grounding cord of power supply. Please keep the grounding conductor is well grounded.
	Electromagnetic interference: Keep this product far away from magnets, motors and transformers.
A	Moisture proof: Keep the equipment in a dry and clean environment. In case of liquid immersion, please pull the power plug immediately.
	Keep away from flammable and explosive hazardous substance.
	Prevent liquids or metal fragments from being immersed into the product in order to avoid safety accidents.
4	

2 Overview

NovaPro HD is a professional LED display controller. Besides the function of display control, it also features in powerful front-end processing. It has integrated various professional interfaces. With excellent image quality and free image control, NovaPro HD has greatly satisfied the requirements of display industry.

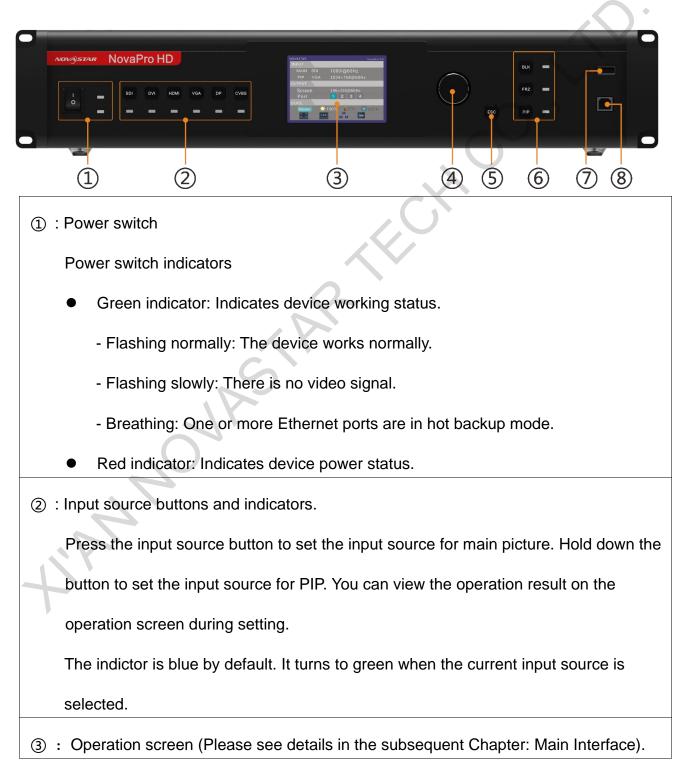
Product features:

- NovaPro HD has complete input interfaces including CVBS, VGA, SDI, DVI, HDMI and DP. These interfaces support input resolution up to 1080p@60Hz, highest pixel clock up to 165 MHz and output bandwidth up to 4 Gbit.
- 2) NovaPro HD has adopted 12 Bit digital processing internally. With advanced deinterlacing motion self-adaptive processing technology adopted, images are clear and fine. Each input can be fully configured with contrast, saturation, hue, color temperature. It allows for switching between point-to-point display and point-by-point scaling of input image according to display resolution.
- 3) NovaPro HD doesn't need computer software for system configuration. System configuration can be completed only through one knob and one button. All operations can be done only by several steps. That's what we called "Touch Track".
- 4) NovaPro HD supports multiple units splicing.
- 5) NovaPro HD has integrated DMX512 and Genlock input and loop interfaces. Professional control and synchronization have been provided. With the design of dual power redundancy backup, the system is stable and reliable. Optical fiber output has guaranteed the stability of long-distance data transmission.
- 6) In addition to the operations of the controller and LCT client, you can also configure the system with browsers on your PC or PAD, namely, Web interface operation which is able to preview and assist with system settings in real time and confirm current working status of the system.
- 7) NovaPro HD is the flagship product of NovaStar new generation controllers. Being

powerful in image processing, professional in image control and friendly in user-interface, NovaPro HD has brought unprecedented ease and pleasure in LED display control.

3 Appearance

3.1 Front Panel



④ : **Knob**: Enter by pressing the knob and select or adjust by turning the knob.

(5) : ESC: Exit current operation or option.

6 : BLK: LED Display is blank screen. Indicator light is blue by default after power on

and it turns green when BLK is enabled;

FRZ: Images on LED Display are frozen. Indicator light is blue by default after power on

and it turns green when enabled;

PIP: Display PIP. Indicator light is blue by default after power on and it turns green when

enabled;

⑦ : Type A female interface is a reserved interface.

⑧ : Type B female interface is USB control interface to connect PC for communication.

3.2 Rear Panel



Note: In order to improve user's experience, layout of the interfaces may be adjusted a little. The picture is only for reference.

Inputs	
Audio	Audio Input
DP	DP Input
HDMI	HDMI Input

DVI	DVI Input		
VGA	VGA Input		
CVBS	PAL/NTSC TV Composite Video Inputs		
3G-SDI IN	3G-SDI Input		
Genlock IN	Synchronizing signal to guarantee the images on display is synchronous with external Genlock source.		
Outputs			
3G-SDI LOOP	3G-SDI loop output		
GenLock LOOP	Genlock loop output		
DVI LOOP	DVI loop output		
Monitor -DVI	Monitoring connector		
Monitor -HDMI			
LED Out 1, 2, 3, 4	4 Ethernet port outputs Only Ethernet port 1 supports audio output. When the multifunction card is connected for audio decoding, the multifunction card must be connected to the Ethernet port 1.		
OPT Output 1, 2, 3, 4	4 optical fiber outputs		
Control Interface			
4	Ethernet Control (connecting PC for communication or		
EŢHERNET	accessing Network)		
	IN: connecting PC for communication or cascade input;		
USB Control	connecting USB OUT of last NovaPro HD		
	OUT: cascade output, Cascading USB IN of next NovaPro		

	HD
	IN: connecting all consoles that support DMX512 interface
DMX Control	protocol.
	LOOP: DMX512 signal Loop output

4 Signal Connection

Signal Connection

Connect the required hardware devices referring to the interface descriptions in previous chapters.

Note: Please turn OFF POWER before signal connection.

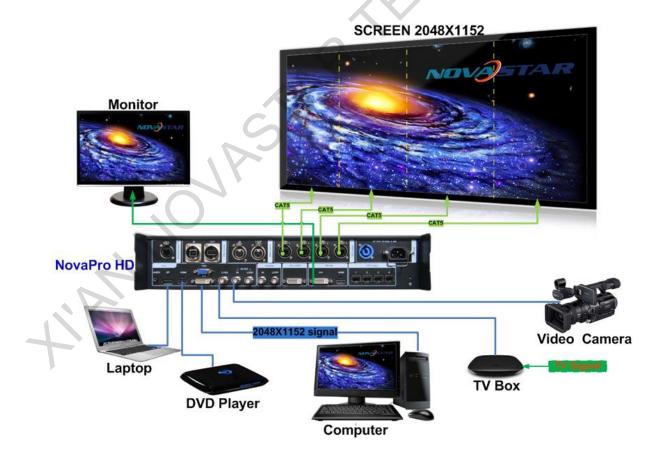


Fig. 4-1 Signal Connection

Multiple Units Connection Sketch

Video Source Connection

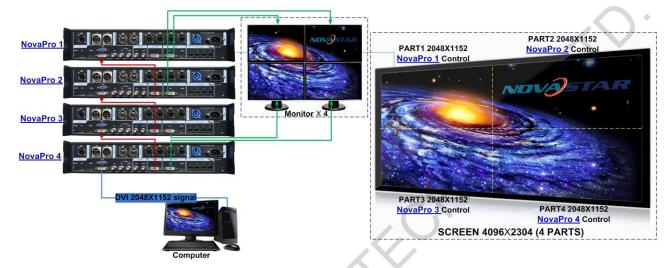
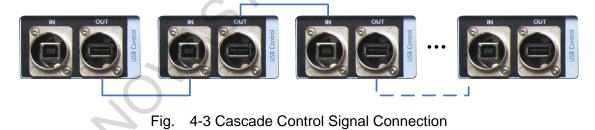


Fig. 4-2 Oversized Video Source Loading Scheme (4K)

Cascade Control Signal Connection



5 Description of Operation Modes

NovaPro HD is not only powerful in functions but also easy to use. It supports three operating modes for users to choose in different occasions.

Mode 1: Machine operation. All operations can be completed by a knob and a button on NovaPro HD without PC.

Mode 2: Web operation. Suitable for the situation when NovaPro HD and control computer are in the same LAN. Open up a browser on control computer and enter the IP of NovaPro

HD to log in control page.

Mode 3: NovaLCT client operation. Connect NovaPro HD to control computer and all configurations can be completed on NovaLCT-Mars client. Then send to NovaPro HD.

Note: Interlace operation of machine, LCT and Web is not allowed.

Please refer to the following chapter for detailed operation steps.

6 Machine Operation

LED display can be started with moderate brightness and used normally through five simple steps.

Menus of Display Control, Advanced Settings, Communication Settings and Language can help users to better control LED display.

6.1 Description of operation action

Knob: Press the knob to enter into menu and turn it to adjust values or select submenus. At this time, enter into the submenus or confirm adjusted values by pressing the knob.

[ESC] : Return key, exit from current menu or operation.

Option buttons of six input sources: Short press a button to set it as the input source of main screen while long press to set as the source of PIP.

Lock: simultaneously press the knob and ESC button for more than three seconds to lock the controller.

Unlock: simultaneously press the knob and ESC button for more than three seconds to unlock the controller.

6.2 Main Interface

After starting the controller, the main interface of LCD display is as follows:

NOVAPro		192.168.6.10
INPUT	$\langle \rangle$	
MAIN	DVI	1080P@60Hz
PIP	VGA	1024×768@60Hz
OUTPUT	• /	
Scree	en	1080P@60Hz
Port		1 2 3 4
STATUS	\sum	
Primar	y O	80% 🔋 37°C 🚺 5.0V
8 8 8 9	GEN	2 💻 📾

First row: product model, local IP/ device name (custom)

INPUT:

Main screen, signal source, input source signal format.

PIP, signal source, input source signal format.

OUTPUT:

Output signal format of LED display.

LED Output, Currently it is Port2 output.

STATE:

Status bar, meanings of each icon are described as below:

Primary	It denotes that the controller is in primary control mode.	
Backup It denotes that the controller is in backup mode.		
<u>;</u> 80%	Current brightness is 80%.	
<mark>∛</mark> 37℃	When the temperature of NovaPro HD exceeds threshold value (able to be	
	changed by users), the temperature value will turn red and blinks.	
V 5.0V	When the voltage of NovaPro HD exceeds threshold value (able to be	
	changed by users), the voltage value will turn red and blinks.	
	Current effect is point-to-point display.	
9 K 3 K	Scaling down mode	

K 3	
	Scaling up mode
GEN	It denotes that there is Genlock synchronous signal input.
DMX	It denotes that DMX channel signal is enabled.
•	It is USB control currently.
д ^щ д	It is Ethernet Port control currently.
	Image Mosaic enabled
	Button lock icon, functions of the buttons and knob are locked when this
	icon appears on the main interface.
	It denotes that the controller is not locked
6.3 Stop 1	Input Settings

6.3 Step 1: Input Settings

Set the resolution of input source signal. Resolution can be directly set and changed through NovaPro HD for digital input modes: DVI, HDMI and DP. For other input modes, resolution can only be changed on input devices.

Input resolution can be set through two ways:

I: Preset Resolution

Choose a suitable resolution from the standard resolutions preset in the controller. If there is no suitable resolution, please go to II: Custom Resolution



II: Custom Resolution

Set custom width, height, refresh rate. Then turn the knob to select "Apply" and press the

knob to confirm and apply. If not confirmed, the custom resolution settings will be unavailable.

Input Settings	Custom ••••• Width(H)	1900	-
📙 Custom 🕨	Height(V)	960	-
	🔊 Refresh Rate	60Hz	-
	Apply	구 Return	-

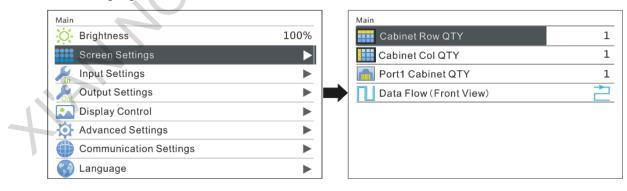
6.4 Step 2: Screen Settings

Preconditions of screen settings:

- Each Ethernet port must load the same number of cabinets (If the number of cabinets is not integer multiples of the Ethernet ports, the remaining cabinets will be loaded by the last Ethernet port);
- 2) Regular screen, regular cabinets, each cabinet with the same size.

Operating steps of screen settings:

- Step 1 Turn on the power of LED display. If the cabinets display normally, go to step 2. If the cabinets display abnormally, it is required to load the cabinet file first and save it to receiving card. Please see detailed operations in <u>Advanced Settings</u>.
- Step 2 Enter into the submenu of **"Screen Settings"** submenu. The options are shown in the following figure:



Step 3 Set Cabinet Row QTY and Cabinet Column QTY according to the actual situation of the screen.

Step 4 Set Port1 Cabinet QTY. The device has some limitations on the cabinet quantity of

network interfaces. For details, see precautions for screen setting a). The controller has certain limitations to the quantity of cabinet loaded by an Ethernet port. Please see details in Notes a) of Screen Settings.

Step 5 Set data flow of the screen and please see the Notes c), d), e) of screen settings.

Main	
Cabinet Row QTY	1
Cabinet Col QTY	1
Port1 Cabinet QTY	1
Data Flow (Front View)	
1 日 日 日 日 日 日 日 日 日 日 日 日 日 日 日 日 日 日 日	
L	

Notes for screen settings:

a) If the number of ports with loads is n Example: If Port 1, Port 2, Port 3 have loads, cabinet (n≤4), the quantities of cabinets loaded by each of the first n-1 ports must be quantity of Port 1 and Port 2 must be equal equal (If the quantity of cabinet loaded by and also be an integral multiple of the each port are different, please choose quantity of cabinet row or column. As a result, Advanced Config and view details in set Port 1 Cabinet Qty only according to Advanced Configuration) and also be actual situation during screen settings. The an integral multiple of the quantities of quantity of receiving card loaded by Port 3 \leq cabinet rows or columns and, the quantity of cabinet loaded by Port 1. meanwhile, be greater than or equal to the quantities of cabinets loaded by the nth port.

b) In case of special-shaped cabinets, cabinets with different size and special-shaped

screen, the software NovaLCT-Mars is required to be connected to configure the screen.

c) During Data Flow setting, turn the knob to see the results of different types of data flow

on the screen in real time. If satisfied with the current data flow, you must press the knob

to save the setting. Press return key to exit from current operation.

d) During Data Flow setting, make sure that the data flow of each port is connected along

the same direction.

e) During Data Flow setting, make sure that the start position of Port 1 is the start position

of whole data flow connection.

6.5 Step 3: Brightness Control

Return to main menu interface. Press the knob and select the corresponding value. At this time, the knob can be turned to adjust brightness value.

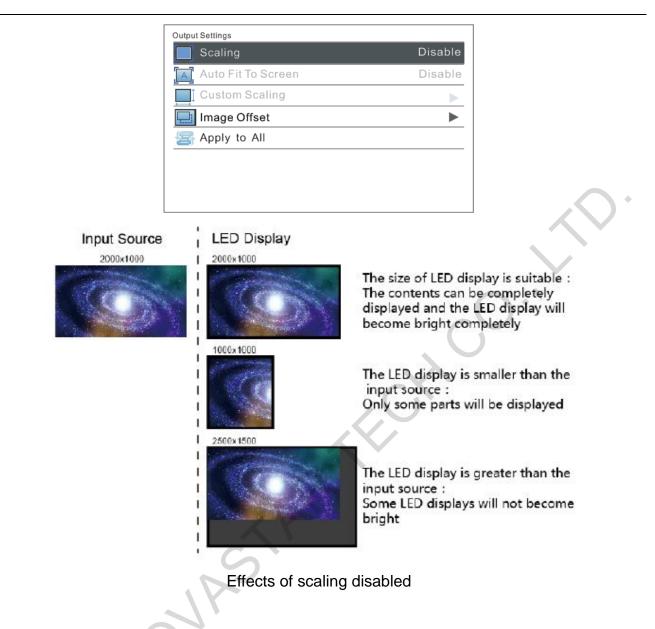
Brightness	100%
Screen Settings	
Input Settings	
Output Settings	
Display Control	
Advanced Settings	
Communication Settings	
Language	
	Screen Settings Input Settings Output Settings Display Control Advanced Settings Communication Settings

6.6 Step 4: Output Settings

Output settings can be divided into three cases:

I: Point-to-point display, namely, scaling disabled. Size of output image is the same as input image and the output is based on original proportion.

Horizontal and vertical offset of image are set as required and operation steps are shown in the figure below.



II: Output image is adjusted to the size of display screen, namely it is self-adaptive to the size of display screen.

Operation: Enable scaling and auto fit to screen.

Auto Fit To Screen	Enab
Custom Scaling	
Image Offset	
Apply to All	

III: Custom Scaling

Operation: Enable Scaling and disable Auto Fit To Screen to customize scaling.

Output Settings	
🔲 Scaling	Enable
[🗚 Auto Fit To Screen	Disable
Custom Scaling	•
Image Offset	•
Apply to All	

Operating steps of custom scaling:

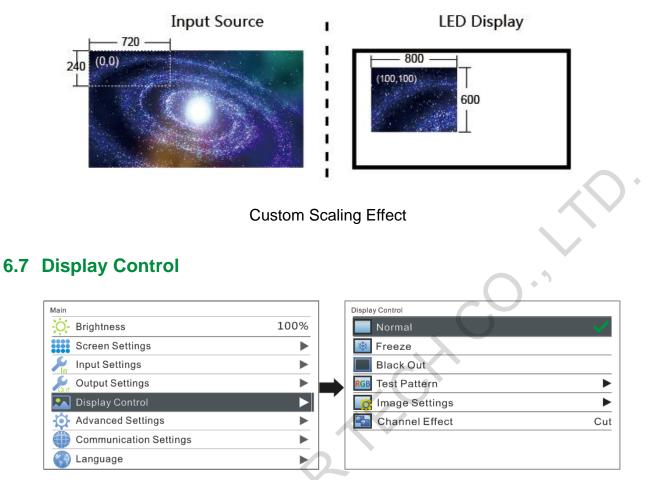
a) Input Capture setting, i.e., to capture the part of the image from one start position of the input image and display it on the LED screen. It is needed to set horizontal width (≤horizontal resolution of input source) and vertical height (≤vertical resolution of input source) as well as start X (horizontal start) and start Y (vertical start).

Custom Scaling	4	ſ	Input Capture	
📑 Input Capture			낦 Input Source	DVI
Cutput Window			+w+ Width (H)	720
			Height(V)	240
			🗖 Start X	0
			🗖 Start Y	0

b) Output Window setting, size of the window is smaller than or equal to the size of LED display. After window is set, images can only be displayed within the range of the window and be self-adapted to the size of the window.

Custom Scaling	Input Capture	
Input Capture	₩ Width (H)	800
Cutput Window	Height(V)	600
	🗖 Start X	100
P	Start Y	100

After setting according to the above two steps, the captured content will be only displayed on the set area of the LED display, as shown below:



Normal

- > **Freeze**: same as the function of FRZ button.
- **Black Out**: same as the function of BLK button.
- > Test Pattern

Display Control		Test Pattern
Normal	✓	🕂 Pure Color
🗱 Freeze		Gradient
Black Out		Grid
RGB Test Pattern		- Orientation
image Settings		Brightness 2
Channel Effect	Cut	E Space 4
		Speed 2

Picture quality adjustment

Set contrast, saturation, hue, sharpness, color temperature, red brightness, green brightness, blue brightness and Gamma as required. Save these parameters to hardware after adjusting to satisfaction

Display Control		Image Settings	
Normal	✓	Contrast	50%
* Freeze		Saturation	50%
Black Out		Hue	50
RGB Test Pattern		A Sharpness	12
📑 Image Settings		Color Temperature	Custom
📴 Channel Effect	Cut	🚯 Red	255
		G Green	255
		Blue	255
		Image Settings Gama Gamma Gams Save to Hardware	2.8
) * '
annal Effact			

Channel Effect

The software supports three effects: cut, fade and pop-up. Select Off to if off to switch off Channel Effect.

Normal		~
🗱 Freeze	Off	
Black Out	Cut	
RGB Test Pattern	Fade	
[Image Settings	Pop-up	
Channel Effect		Cut

6.8 Advanced Settings

Several options of major function setting are included in advanced settings, as shown in the figure below, including PIP, Advanced Configuration, Montage, etc. Operation of each function will be detailed for users in the following chapter.

Main		Advanced Settings	
- Brightness	100%	PIP	
Screen Settings		Advanced Config	
Input Settings			
Output Settings		🔎 Load Cabinet Files	
🚬 Display Control			
Advanced Settings		Advanced Property	
Communication Settings		😑 Save to Hardware	
🌍 Language	•	🔁 Redundancy	
		DMX Address State Factory Reset Image: Image	2
			-
8.1 Picture in Picture	e (PIP)		

To switch on or off PIP and set the input source of main screen as well as the size, position and transparency of PIP and PIP crop settings.

Advanced Settings		PIP Settings	ſ
PIP		PIP	On
Advanced Config		Main Source	DVI
Montage	►	PIP Source	VGA
🔎 Load Cabinet Files	▶ 🗪	www Width(H)	1920
-Ve Alarm Threshold	->	Height(V)	1024
Advanced Property	•	🛄 Start X	0
Save to Hardware	•	🛄 Start Y	0
Redundancy		Transparency	0
41k		PIP Settings	•

PIP: Switching on/off PIP is the same as the function of PIP button on front panel and synchronous with it.

Main source/PIP source: Input source switching of main screen and PIP is the same as the function of input source switching button on front panel.

Width (H): Horizontal width of PIP

Height (V): Vertical height of PIP

- Start X: Horizontal coordinates of PIP
- Start Y: Vertical coordinates of PIP

Transparency: Transparency of PIP

PIP Crop Settings:

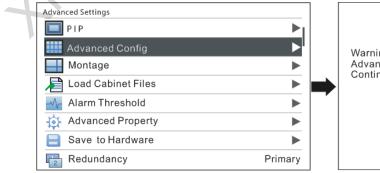
Image cropped from the set starting position will be displayed on PIP and its size is the set horizontal width and vertical height.

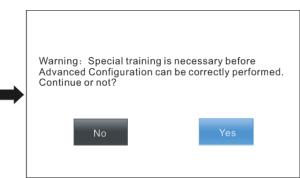
Please enable this function before setting horizontal width, vertical height, start X and start Y.

PIP Settings		PIP Crop Settings	
PIP Crop Settings	►	PIP Crop Enable	Disable
		•w• Width(H)	720
		Height(V)	240
		Start X	0
		Start Y	0
	6		

6.8.2 Advanced Configuration

If the number of cabinets loaded by each Ethernet port is different and the preconditions of screen settings are not met, advanced configuration can be used now. Operating steps of advanced configuration are shown as below:





1) Enable Advanced Config

Please enable Advanced Config first since it is disabled by default in NovaPro HD.

Advanced Config defaults to "Disabled". After the function is enabled, the rows and columns of the cabinets loaded by each port, offset, and data flow can be set respectively.

Advanced Config		
Advanced Config	Enable	
Port1 Settings	•	
Port2 Settings	•	
Port3 Settings	•	
Port4 Settings	►	
🗸 Apply	Return	
	C	
L		

2) Ethernet Port Settings

Set the rows and columns of the cabinets loaded by each port, horizontal and vertical offset as well as data flow according to the actual layout of the cabinets.

Advanced Config		T	Port1 Load	
Advanced Config	Enable		Cabinet Row QTY	1
📄 Port1 Settings	\mathbf{F}		Cabinet Col QTY	1
Port2 Settings			🗖 Start X	0
nort3 Settings			🗖 Start Y	0
nort4 Settings			Data Flow (Front View)	2
🗸 Apply	Return			

Precautions for advanced mapping screen:
a) If the cabinets are irregular shaped and the sizes are different and the LED screen is also irregular shaped, the software NovaLCT-Mars is required to be connected to configure LED display.
b) When wiring method is set, real-time effect of different wirings can be displayed on the display screen by turning the knob. If you are satisfied, you must press the knob once to save the setting and press return key to exit the current operation. During data flow

setting, turn the knob and the results can be viewed on the LED display in real time.

Press the knob to save your setting if you are satisfied with it and then press return

button to exit from current operation.

After Port Settings are completed, select "**Apply**" and press the knob to apply current settings. If you want to quit the settings, select "Return".



6.8.3Montage

For oversized LED display, two or more NovaPro HD units are needed for montage. In this case, the loading area of each NovaPro HD unit needs to be set respectively.

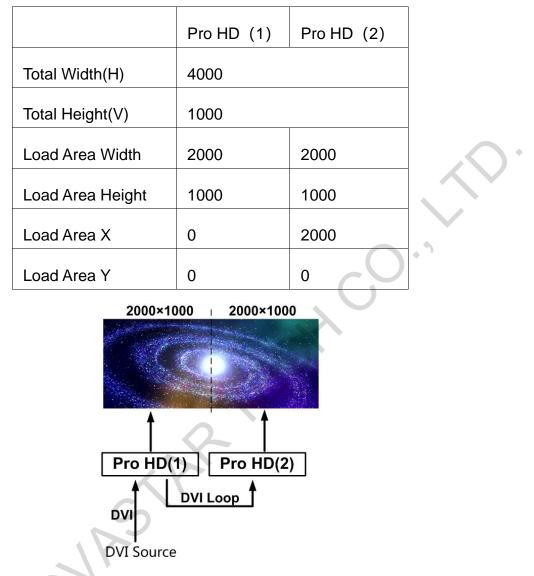
Enable Montage first and set total width and height of the LED display. Then set the size and starting position of loading area of the NovaPro HD unit.

Total sizes of loading area of all NovaPro HD units are the total sizes of LED display.

Advanced Settings		Montage	
PIP PIP		Montage	Enable
Advanced Config	Þ	(IIII) Total Width(H)	4000
Montage	Þ	Total Height(V)	1000
Load Cabinet Files		•w• Load Area With	2000
Alarm Threshold		🕂 Load Area Height	1000
Advanced Property	•	🗖 Load Area X	0
Save to Hardware		🗖 Load Area Y	0
Redundancy	Primary		

Montage Example: the total number of pixels of the LED display is 4000×1000, which has exceeded the load of a single Pro HD unit. Montage can be applied and two Pro HD units can be used for montage. See detailed parameter settings and the connections in the chart

and figure below.



Montage Connections (referring to the Chapter: Signal Connection)

Note: If montage is to be enabled, please ensure Output Settings is in the third case: Custom Scaling, namely, set Scaling as enable while Custom Scaling as disable.

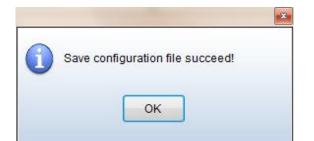
6.8.4Load Cabinet File

Connect NovaPro HD to PC and run NovaLCT-Mars on PC. Import cabinet configuration file saved before into the controller.

1) Save cabinet configuration file

After receiving card is configured, click **Save File** to save cabinet configuration file (.rcfg) to local file on PC.

Screen Config-COM4					
Sending Board Scan Board Scre	en Connection				
Module Info					
Chip: Common C	C Size: 32W	/×32H	Scan Type:	1/4 scan	>>
Direction: Horizontal	Decode Type: 74H	C138 Decoding	Data Group:	4	
Cabinet Info					
Regular		💿 Irregular			
Pixel Width: 96	<=265 Please make sure	Width:	?? Heiaht:		Please
Pixel Heiaht:	= <=128 the width		error. Please adiu		make sure the width
Module Casc Right to L	eft 🔹 and height	Const	ruct	ew Cabinet	and height 💂
Performance Setting					
Group Swap More	Setting				
Refresh Rate: 480	✓ Hz Ac	celerate R 4	•		
Gray Scale: Normal 40	196 🔻 Gr	ay Mode: Refre	sh Rate First 👻		
Data Clock: 12.5		ita Duty: 50		(25~75) %	+ '
Clock Phase: 2		w Gray Co 0			
Blanking Time: 25		Loct Contro			
	(=2.0003)	20	æ	(1~24)	
Line Change T 3	(0~19)				
Brightness Effi 69.01%	Mi	n OE: 328 r			
Engliness En 66.6176	WI	TOL. 5201	1.5		
Smart Setting	ſ	Load File	Save File Rea	d From HW	Send To HW
		Save Co	onfig File	Save	Close
		-			×
	í ►		▼ 4	健素 文档	٩
组织 ▼ 新建文件夹	G				•• • 🕡
🔶 _{收藏夹}	文档库			批別亡日	1: 文件夹 ▼
🚺 下载	包括: 2个位置			14F2 070 00	
📃 桌面 👘					<u> </u>
🗐 最近访问的位置			1		E
	Tencent 我的图片	NovaLCT	Download	收藏夹	我的视频
	Files	2012	s	-	
 ● 视频 ● 图片 					
		狸窝	NovaPluto	MC	NovaCLB-
日本日	我的音乐 Tencent	11年末	NOVAPIULO	MC-go	Screen
	111	110		111	-
文件名(N): config	file 1				-
文件名(N): config f 保存类型(T): Scan Bo	· .				• •
	· .				
	· .			保存(S)	



2) Import cabinet configuration file into NovaPro HD.

Operating steps are shown in the figure below:

MovaLCT-N	Nars V4.3.0 T2	
System(S)	Tools(C) Plug-in Tool(P) User(U) Lar	nguage(Lang)(L) Help(H)
	Screen Config(S) Bightness(B)	
Screen Conf	Calibration(C)	rol Monitor Function Card
-Local System	Display Control(P)	
	Monitor(M)	
Control Sv	Function Card(F)	0 View Detail
- Monitor Info-	Hardware Information(H)	
	Multiple Screen Management(A)	😤 🖌 🎯 📠 🕕
	Point Detect(T)	
	Prestore Picture(R)	
	Color Restore(O)	
	Light Panel Flash(U)	
Server Status:	Receive Card relay(I)	
	MultiBatch of Adgustment(M)	
	Load configuration file(E)	
Load configuration file	e	Load configuration file
Select COM port:	COM3 -	Select COM port: COM3 -
	Move Up Move Down	Config file 1 Move Up Move Down
Add File	Delete File	Add File Delete File
Rename File	Save to HW	Rename File Save to HW

3) Load Cabinet File

٥Ē



6.8.5Alarm Threshold Settings

Set the threshold values of temperature and voltage. When temperature or voltage of NovaPro HD exceeds the threshold value, temperature or voltage on the home page of the screen will turn red and blink.

Advanced Settings		Alarm Threshold	
PIP		Temperature MAX	85°C
Advanced Config		Temperature MIN	-20°C
		Voltage MAX	7.5V
🔎 Load Cabinet Files		Voltage MIN	3.5V
Advanced Property	K		
Save to Hardware			
Redundancy	Primary		
6Advanced Proper	ty		
6Advanced Proper	ty	Advanced Property	
	rty. ►	Advanced Property	
Advanced Settings			
Advanced Settings		ADJ VGA Auto Adj	Off
Advanced Settings PIP Advanced Config	► ►	ADJ VGA Auto Adj	Off Brightness
Advanced Settings PIP Advanced Config Montage		ADJ VGA Auto Adj ADC ADC Calibration ADR Settings	Brightness
Advanced Settings PIP Advanced Config Montage Load Cabinet Files		ADJ VGA Auto Adj ADC ADC Calibration DNR Settings Calibration	Brightness
Advanced Settings PIP Advanced Config Montage Load Cabinet Files Alarm Threshold		ADJ VGA Auto Adj ADC ADC Calibration DNR Settings Calibration	

Including following functions:

VGA Auto Adj: sampling parameters of VGA input signal are automatically adjusted so that VGA image is clear and complete. Select this menu and then press the knob once to perform VGA automatic adjustment once.

ADC Calibration: Images will be color cast or darker etc. when analog signal is accessed into processors without ADC calibration. NovaPro HD is able to automatically perform ADC calibration based on input analog signal (including CVBS and VGA) to solve above problems. Select this menu and then press the knob once to perform ADC calibration once.

DNR Settings: It is available when image input port is not VGA and there are five modes of noise reduction: "Off", "Auto", "Low", "Medium" and "High".

6.8.7Save parameters to hardware

Save all the configurations of NovaPro HD to hardware and the data will not be lost after power off.

Advanced Settings				
PIP	•			
Advanced Config	►			
Montage			Save parame	ters to hardware?
Eoad Cabinet Files	▶ ■	\rightarrow		
Alarm Threshold	•		No	Yes
Advanced Property				
Save to Hardware				
Redundancy	Primary			

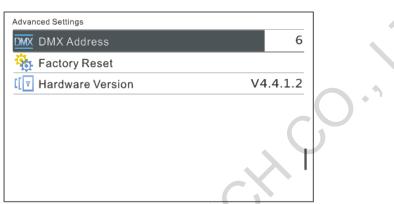
6.8.8 Redundancy

Set this controller as primary control or backup. "Primary" or "Backup" will be displayed on the main interface.

Advanced Settings	
PIP	►
Advanced Config	•
Montage	•
🔎 Load Cabinet Files	•
Alarm Threshold	•
🔅 Advanced Property	Primary
E Save to Hardware	Backup
Redundancy	Primary

6.8.9DMX512 Channel Settings

Set the starting channel of DMX512. NovaPro HD currently has extracted 16 property channels. 0~8 have been defined with properties and the rest are not defined for the moment. For example, if the starting channel is set as 1, the controller will take 16 channels from the 1st channel as available channels.



Definitions of channel properties are shown in the table below:

Channel No.	Property Definition
0	Global Brightness of LED display
1	Contrast
2	Saturation
3	Hue
4	Color temperature
5	Red component brightness
6	Green component brightness
7	Blue component brightness
8	Gamma
9	Undefined
10	Undefined

		_
11	Undefined	
12	Undefined	
13	Undefined	
14	Undefined	
15	Undefined	•

6.8.10 Factory Reset

Restore NovaPro HD to factory settings.

6.8.11 Hardware version

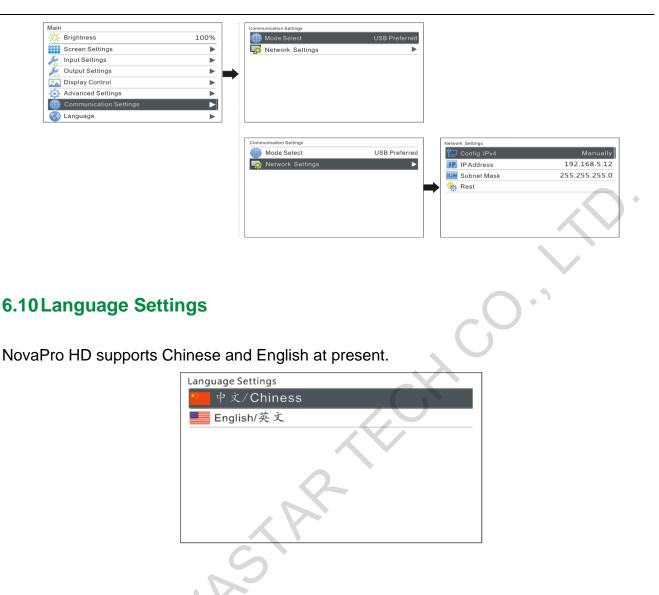
View hardware version of NovaPro HD.

6.9 Communication Settings

Set communication mode and network parameters of NovaPro HD.

There are two communication modes, one is USB Preferred and the other is LAN Preferred. If both USB and LAN port are connected to control computer and LAN Preferred is selected, system will use LAN to control. If only USB port is connected, the setting will be unavailable and system will use USB to control.

Network modes include "Manually" and "Automatically". It is obtained through DHCP while in "Automatically" mode.



7 Web Interface Operation

Access Web control interface of Pro HD through browser. Main operating steps, functions and corresponding parameter configuration requirements are the same as the operation of the controller. This chapter only covers network establishment, motion description and features of Web interface operations. Please refer to the relevant chapters of controller operation for specific parameter configurations and configuration requirements.

7.1 Network Establishment

- 1) Connect Pro HD to the same LAN and network segment as the control computer.
- 2) Turn on the power of Pro HD and set communication settings on the controller

referring to <u>7.9 Communication Setting</u>. Local IP can be obtained automatically or manually if you know the IP address.

 Open up the browser on control computer. Enter the local IP of Pro HD and open up the web configuration interface.

7.2 Operating Motion Description

The Web interface of Pro HD is shown as the picture below. Compared with controller operation, the operation with Web interface is more intuitional and clearer.



Toolbar: The toolbar will be highlighted when you move the mouse over it. By clicking the toolbar, you can get into the configuration pages of sub menus. The functions are the same as the menus in the bottom left of the page.

Menu bar: click the mouse and enter the parameter configuration interface in the main menu. If there are sub menus, sub menu bar will pop out.

Six input source switching buttons: the input source of the main screen can be switched with mouse clicking. The switching of the input source of PIP needs to enter "Advanced

SDI DVI HDMI	VGA DP CVBS	INPUT MAIN DVI No Signal PIP DVI No Signal OUTPUT Screen 128*512 @60Hz Port 128*512 @60Hz STATUS Frimssy 2587% § 34*C () 4.8V	BLK • FRZ • PIP •
:妏: Brightness 태태 Screen Settings ᢞin Input Settings	PIP Source SDI	O DVI HDMI VGA	DP CVBS
Cutput Settings	PIP Crop Settings PIP	Window Settings ttings	
Advanced Settings	Width(H) Height(V)	0	726 (64~1920) 98 (48~1080) 0 (0~1856)
Canguage Settings	Start Y 😪		0 (0~1032)

Settings" \rightarrow "PIP" sub menu interface settings, as shown in the figure below.

Three display control buttons: the indicator lights default to blue and turn green when enabled.

7.3 My Device

The name of the device can be modified, which is a unique function of Web interface operation.

NOVASTAR NovaPro H	D		
		INPUT MAIN DVI No Signal PIP DVI No Signal	BLK =
SDI DVI HDM	AI VGA DP CVBS	OUTPUT Screen 128*512 @60Hz Port 1 2 3 4	FRZ =
		STATUS Primary 於 87% 🌡 35℃ 🔍 4.8V 도 문 📾	PIP
:ပုံ: Brightness			
Screen Settings	Device Name MyPro	(0~32,letters,numbers)	
🎉 Input Settings	Apply		
Sout Output Settings			
Display Control			
🔅 Advanced Settings			
Metwork Settings			
🚥 My Device			
🚱 Language Settings			

8 LCT Client Operation

Communication between control computer and Pro HD is via USB control cable. Compared with the operation through controller and Web, LCT client can provide users with the most comprehensive functions and configuration parameters.

The main functions include screen configuration, brightness adjustment, monitoring, calibration, etc. Please refer to *Nova M3 Control System User Manual* for specific operations of these functions.

Operation interface of LCT client is shown as the figure below:

System(S) Settings	(C) Tools(T) Plug-in (P)	User(U) L	.anguage(L)	Help(H)	
creen Configuration	Brightness	Calibration	Screen Control	Monitoring	Multi-function Card	My NovaiCare
ocal System Informatio	on					
Control System	1	Other Dev	ice Un	known V	iew Details of Device	
onitor Information						
100		ALC: N				
		•				(Monitoring Card
-						
rvice Status: Service	/ersion:3.0					

9 Firmware Upgrade

You can upgrade the firmware of Pro HD by the NovaLCT client.

Connect Pro HD to PC and run NovaLCT-Mars on PC. Log in advanced user and the password is "admin". Then click "admin" on your keyboard after logging in and the program loading page will pop up.

System(S)	Settings (C)	Tools(T) Plug-in (P)	User(U) Language(L)	Help(H)	
Brightness Local System Control Sys		Monitoring Multi-fu	unction Card My NovaiCan	e View Details of Device	
Monitor Inform	ation				
1					
(•		
Service Status:	Service version	3.0			

NovaPro HD User's Manual

System(S)	Settings (C)	Tools(T)	Plug-in (P)	User(U)	.anguage(L)	Help(H)	
1.1.1					ed User Login (A)	
		\sim	<u>~</u>	Enter D	emonstration N	lode(E)	
Brightness	Screen Contr	ol Monito	ring Multi-fu	inction Card	My NovaiCare		
Local System	Information		ser Login		-	×	
Control Sys	stem 1						
Control Sys	stern			ad	min		ē
Monitor Inform	nation		Pass	word	1		
8	2						
•				Login	Can	cel	
		<u> </u>			<u> </u>		
Service Status:	Service versio	n:3.0					
Service Glatas.	Cernee versio	11.0.0					
						(
System(S)	Settings (C)	Tools(T)	Plug-in (P)	User(U)	Language(L)	Help(H)	
		-				1.17 or	
		-				2 ° 1 000,	
Screen Confi	iguration Brig	htness C	alibration	Screen Contro	I Monitoring	Multi-function	Card My NovaiCare
Local System	Information)	
O and the LO of						Datalla of D	
Control Sys	stem 1		Other Devic	e Ui	nknown V	iew Details of D	Jevice
Monitor Inform	nation			0			
A			ALC: N	C-	- 00		
	62		CANNE				REEL
							(Monitoring Card
			5				
Service Status:	Service versio	n:3.0					
			X				
	Service versio						

	supjection Dart		
Select Operation Comm	Iunication Pon		
Current Operation Communication Port	USB@Port_#0001.Hub_#0001 Device Count 1		
Communication For			
Select Program			
Program Name			
Program Version	V1.0.0.0		
Program Path			
The Selected Items to Lo	oad		
Sending Card	Receiving Card FPGA	inne	
ardware Version Info			
Refre	et Po Send 1 🔄 Port 1 🔄 Rece 1 🚖 Ref	res	
		res	
	et Po Send 1 Port 1 Rece Ref	res	
		ires	
		res	
		res	
		ires	
	narks 2015.11.04 V1.0.0.0 VX4S Debug	ires	
	narks 2015.11.04 V1.0.0.0 VX4S Debug	ires	
	narks 2015.11.04 V1.0.0.0 VX4S Debug	res	
Sending Card Receiving	Card FPGA	res	
Sending Card Receiving	Card FPGA	ires	
Sending Card Receiving	Card FPGA	res	

Current operation communication port: Choose the serial port, the hardware program of which is to be upgraded.

Program path: Select the hardware program to be upgrade currently.

Sending card: Check to update all the programs of sending card.

FPGA of receiving card: Check to update FPGA program of receiving card.

Update: Change hardware program into hardware device.

Refresh all: Check this option and click "Refresh" to refresh and display the program versions

of all sending card and receiving card of current serial port.

•

Set refresh: Click "Refresh" to set refresh and display the version information of one receiving card.

Refresh: Refresh and display the version information of hardware in order to make sure the hardware program is updated.

10 Troubleshooting and Precautions

Problem	Solution
	Check whether the power is correctly connected and the switch is
	on.
	Use test pattern to check whether the LED is correctly connected
Blank screen of	and is working properly.
LED display	Check whether Pro HD has signal input and the output is set as
	black out.
	Check whether the display configuration mode and parameters are
	correct.
	Check whether the input channel has image input and it is
	displayed normally.
	Check whether PIP is enabled and channel 2 has signal input and
Monitoring port	the image is displayed normally.
output is abnormal	Check whether monitor output is connected correctly and the
ouput is abnormal	connection is not loose.
	If connecting Pro to display, please confirm whether the display
	supports the output resolution of Pro.
	Try to cut the power and restart the device. Then reset Pro and do

	the operations again.
VGA input phase offset	Perform VGA auto fit
PIP displays abnormally	Check whether channel 2 has signal input and it is displayed normally. Check whether the parameter settings of PIP are correct.
Channel effect is abnormal	Check whether channel is switched on.
Montage is abnormal	Check whether montage is enabled and the parameter settings are correct. Check whether input signal is normal.
Precautions	 This product only supports rectangular screen composed of cabinets with same size and specifications for machine configuration. Irregular cabinets and screens need to be configured on LCT client. It is not recommended to alternately operate one LED display via machine operation, Web operation and LCT client operation.

Please troubleshoot the devices according to above steps. If problems cannot be solved, please contact our local dealers or customer service department. Since there are components with high voltage inside the controller, please DO NOT maintain it by yourself for the sake of your safety.

11 Technical Specifications

Inputs		
Port	Qty	Description
CVBS	1	PAL/NTSC
VGA	1	VESA standard (supporting 1080p input)
DVI	1	VESA standard (supporting 1080i input)
		supporting HDCP
HDMI	1	EIA/CEA-861 standard, in accordance with HDMI-
		1.3standard, supporting HDCP
DP	1	VESA standard
3G-SDI	1	480i、576i、720p、1080i/p(3G SDI)

Outputs		
Port	Qty	Description
DVI LOOP	0	DVI loop output, consistent with DVI input connector
SDI LOOP	1	SDI loop output, consistent with SDI input connector
LED Output	4	4 Gigabit Ethernet outputs. Only Ethernet port 1 supports
1		audio output. When the multifunction card is connected for
		audio decoding, the multifunction card must be connected
		to the Ethernet port 1.
		Maximum horizontal resolution is 3840 pixels.
		Maximum vertical resolution is 1920 pixels.

OPT Output	4	4 optical fiber connectors for long-distance transmission
Monitor	2	DVI and HDMI connectors for output image monitoring DVI
		and HDMI connectors output the same image.

Control Interface			
Port	Qty	Description	
USB	2	Upper computer control interface	
RJ45	1	Multi-units communication interface	
DMX	1	Connected to all kinds of control interfaces that support DMX512 interface protocol.	

Overall Specifications	2
Input power	AC 100-250V~, 50/60Hz, 0.65A
Overall power consumption	30 W
Operating temperature	-20°C~+60°C
Dimensions (L x W x H)	483 mm × 389 mm × 88.2 mm
Weight	6 kg
+IP +IP	

12 Installation Dimensions

