

# **User's Manual**

# **Controller MCTRL660**

Rev1.3.1 NS110100125

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#### Statement

#### Dear users,

Welcome to use the product from Xi' an NovaStar Tech Co., Ltd. (hereinafter referred to as "Novastar"). We are pleased to offer this manual to help you understand and use the product. In the preparation of the manual, we try to make it accurate and reliable. NovaStar may revise and alter the contents of the manual at any time without notice. If you have any problems in the use, or you have any suggestions, please inform us in accordance with the contact provided in this manual. For the problems you encounter in the use, we will do our best to provide support. For your suggestions, we would like to express our thanks and make assessment as soon as possible for adoption.

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### 1 Safety statement

Please use this equipment according to the stipulations to avoid possible dangers. In the case of any damage, non-professionals shall not disassemble and repair it without authorization and you shall timely contact after-sales department of this company.

#### High voltage

Processor has high voltage and non-professional maintenance personnel shall not open the rear cover to avoid danger.

#### Warnings

- 1) Water is strictly prohibited to drop or splash on this equipment and any object containing liquid is strictly prohibited to be placed on this equipment;
- 2) Keep this equipment away from fire sources to prevent fires;
- 3) When this equipment has abnormal sound, smoke or abnormal smell, power plug shall be immediately pulled out.

#### Notice

- 1) Please carefully read this instruction before using and properly keepping it for use later;
- 2) If there is lightning or it is not used for a long time, please pull out the power plug;
- This equipment is not suitable for operation and debugging by non-professionals and users must accept guidance from professionals;
- Do not inset any object from vent hole of this equipment to avoid equipment damage or electric shock;
- 5) This equipment shall not be placed in the places near water or other wet places for use;
- 6) This equipment shall not be placed on cooling fins or in other places with high temperature

for use;

- 7) Please properly tidy and place power lines to avoid damage;
- 8) In the case of occurrence of the following circumstance, power plug of this equipment shall

be pulled out and repairing shall be entrusted:

- a) When liquid splashes into this equipment;
- b) When this equipment falls or the case is damaged;
- c) When this equipment obviously has abnormal function or change of performance.

Please carefully read the above precautions. If personal safety problem or product damage is caused due to misoperation because you do not follow this instruction, this company will assume no liability!

### 2 Overview

MCTRL660 is the latest independent master controller of NovaStar, which is mainly applied for display rental service. It supports screen configuration at any time without a computer.

It has the following characteristics:

- 1) It has adopted an innovative design to implement smart configuration and the screen configuration can be completed within 30 seconds;
- 2) It has adopted Nova G4 engine, which makes the screen stable and flicker free without scanning lines. The images become exquisite and bring a good sense of depth;
- It supports Nova's new-generation pixel-by-pixel calibration technology which is fast and efficient;
- It can implement white balance calibration and color gamut mapping based on different features of LEDs used by displays to ensure restoration of true colors;

- 5) It is the only control system supporting the input of 12-bit high-definition multimedia interface (HDMI) and high-bandwidth digital content protection (HDCP) in China;
- 6) It supports screen configuration at any time without a computer;
- 7) It supports manual adjustment of screen brightness, which is convenient and efficient. These features have satisfied the special needs of display rental service to the maximum extent;
- 8) HDMI/DVI Input;
- 9) HDMI/DVI Output;
- 10) HDMI/external audio input;
- 11) 12bit/10bit/8bit HD video source;
- 12) Resolution supported: 2048×1152, 1920×1200, 2560×960;
- 13) Resolution supported: 1440×900, (12 bit/10 bit);
- 14) Cascading supported;
- 15) 18 bit gray scale processing and presentation;
- 16) Video format: RGB, YCrCb4:2:2, YCrCb4:4:4.

# 3 Hardware connection

# 3.1 Front panel

ON MCTRL660 Run LED Display Controller STA		MENU					
1 2	3	4 5					
① Power indicator ;							
② LED Indicator		CO					
<b>PWR</b> : Power indicator.							
RUN: Equipment running indicator	1.						
It blinks slowly when no video	It blinks slowly when no video source is available. (The light keeps on for 2 seconds and						
then off for 2 seconds.).	then off for 2 seconds.).						
It blinks normally when the video source is available. (It blinks about twice per second.).							
It blinks quickly when start-up	It blinks quickly when start-up screen is displayed.						
When the redundancy works,	the indicator blinks at a fre	quency of breathing.					
<b>STA</b> : Equipment running indicator 2	2. It is steady on when the e	quipment runs normally.					
③: Operation screen.							
④: Knob: Press the knob to enter th	ne option and rotate the k	knob to conduct selection or					
adjustment.							
<b>⑤: ESC</b> : Exit from the current operation	or option.						

# 3.2 Rear panel



Notes: The arrangement of interfaces can be slightly adjusted to enhance user experience. Please in kind

prevail.

·	
INPUTS	
AUDIO	Audio INPUT
HDMI IN	HDMI INPUT
DVI IN	DVI INPUT
OUTPUTS	
DVI OUT	DVI OUTPUT
HDMI OUT	HDMI OUTPUT
OUT1~4	4 LED OUTPUTS
CONTROL	
ТО РС	Connected to PC, USB Control interface
UART IN、OUT	Cascaded INPUT 、 OUTPUT
POWER	
AC-100-240V-50/60HZ	AC Power interface

# 4 Signal Connection



Fig. 4-1 MCTRL660 Signal connection

Connect as follows if it is necessary to control multiple MCTRL660 controllers simultaneously.



Fig. 4-2 Multi-controller cascade

# 5 Operation Instructions

All the operations of MCTRL660 can be achieved by one knob, one return key, two toggle keys of video

source, 3D/2D toggle key and user-defined shortcut key.

### Knob:

- ♦ Press the knob under main interface to enter the operation interface of menu;
- ♦ Rotate the knob to select menu or press the knob under the operation interface of menu to select

current menu or enter submenu;

♦ Rotate the knob to adjust the parameter after selecting the menu with parameter; press the knob

again for confirmation after adjustment.

**ESC:** Return key to exit from current menu or operation.

### 6 Main Interface

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

DVI IN	
HDMI IN	
Master	1 2 3 4
EDID RES: 1	1920×1080@60Hz

DVI IN	Indicate access of a video source on the HDMI. It blinks in the case of	
HDMI IN	no video source input	
Master	Indicate that the machine is in the master mode	
1 2 3 4	LED Output (it is Port 2 output )	
	The current brightness is 50%	
	Sign of press key lock. When this icon appears at the main interface, it	

		is in key and knob function locking state.		
	EDID Res: 1920×1080@60HZ		Indicate that the resolution is 1920 x 1080 pixels	
EDID Res:			and that the frame frequency is 60 Hz.	

### 7 Procedures

MCTRL660 is powerful and the operation is very simple. In general, the display can be started and normally used after the user complete the first three steps. Other options in advanced setting can be selectively set so as to achieve a better display. Please refer to <u>7.4 Advanced Setting</u>.

### 7.1 Setp1 EDID Resolution Setting

The function can be used to set the output resolution of video card. In general, the content shown in screen cannot exceed the output resolution of video card.

Enter the menu "Advanced Setting" to set the resolution of video source. It can be achieved in two modes: preset resolution selection and user-defined resolution.



### Mode 1: Preset resolution setting

Select proper resolution and refresh rate among the standard resolutions preset in controller. If there is no

proper preset value, mode 2 user-defined resolution can be selected.

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Mode2: User-defined resolution

Rotate the knob to set user-defined width (gradually increase in even number), height and refresh rate,

select "Application" and then press the knob for confirmation. The user-defined resolution cannot work

if it is not applied.



### 7.2 Step 2 Screen Setting

1) Power on the screen. If the cabinet is in normal display, enter into step 2). If the cabinet is in abnormal display, load the cabinet file first and fix it to the receiving card. See detailed operation

in 7.4 Advanced Setting.

2) Return to "Screen Setting" submenu. Rotate the knob to switch to submenus of other options

respectively to perform configurations, as shown in the following figures:

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- a) Set Cabinet Row QTY and Cabinet Col QTY according to the actual situation of the screen;
- b) Set Cabinet Out1 Num. The device has some limitations on the cabinet quantity of network interfaces. For details, see precautions for screen setting i);
- c) Set the alignment of the screen. Pay attention to precautions for screen setting iii), iv) and v) below;
- d) Set the EDID resolution of the video source.

Prec	autions for screen setting:	
i.	If the number of network interfaces with	Example:
	loads is n (n $\leq$ 4), the first n-1 network	For example, if network interface 1, network interface
	interfaces must have the same number of	2, network interface 3 have loads, network interface
	cabinets, which must also be an integral	1 and network interface 2 must have the same
	multiple of the number of cabinet rows or	number of cabinets, which must also be an integral
	columns and be greater than or equal to	multiple of the number of cabinet rows or columns.
	the number of cabinets for the nth	Therefore, you need only to set cabinet out1 QTY

	network interface.	according to the actual situation when setting the		
		screen. The number of receiving cards for network		
		interface 3 must be smaller than or equal to <b>cabinet</b>		
		out1 QTY.		
ii.	In the case of special-shaped cabinets, d	ifferent cabinet size and special-shaped screen, the		
	NovaLCT-Mars software is required to be co	nnected to configure the screen.		
iii.	During connection setting, you can rotate the knob to see the effects of different connections on			
	the screen in real time. If you are satisfied wi	th the connection, you must press the knob to save the		
	setting. You can press the return key to exit	from the current operation.		
iv.	During connection setting, you must ensu	ire that the connection of each network interface is		
	downward in the same direction.	2		
v.	During connection setting, you must ensur	e that network interface 1 is the start position of the		
	whole connection.			

# 7.3 Step 3 Adjusting the Brightness of the Screen

Return to the main menu interface. Press the knob to select the corresponding value. You can rotate the

knob to adjust the brightness at this time.



### 7.4 Advanced Setting

Enter the submenu of advanced setting, rotate the knob, and then the user can see the following eight setting options contained in advanced setting. The user can set the parameters by taking the following

#### items.



### 7.4.1 Offset Position

Adjust the starting point coordinates. Here the upper limit of offset is regulated, that is, the total of offset

and screen size cannot exceed the output resolution of video card.

Offset Position Image Quality EDID Resolution Master/Redundancy	<b>•</b>	Horizontal Offset X Vertical Offset Y	0 0

### 7.4.2 Image Quality

Set Gamma, contrast, saturation, Hue value of image as required. Save these parameters to receiving card

by applying "Save RV Card Parameters" after proper adjustment.



### 7.4.3 Master/Redundancy

Set this controller to the master mode or Redundancy mode when the system has multiple controllers.

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### 7.4.4 Loading Cabinet Files

After the screen is powered on, you must load cabinet files first if the cabinet fails to display normally. The

cabinet files must be sent to the MCTRL660 through the NovaLCT-Mars beforehand. The following

figures show the procedure:

- 1) Save the configuration file of cabinet
- Click Save File to save the configuration file of cabinet (.rcfg) to the local file of PC after the

configuration of receiving card has been completed.

System(S)	Tools(C)	Plug-in To	ol(P) User	(U) Lai	nguage(Lang)	(L) Help(ł	H)			
Brightness	Display (	Control Mo	onitor Funct	ion Card	R					
-Local System	n Info									
Control S	vstem:	1	Other D	evice:	0	Viev	v Detail			
-Monitor Info										
<b>₩₩</b>	<b>.</b> -		63		8	×		<b>***</b>	••	
	0	0								
	•	0		$\bigcirc$		$\bigcirc$	$\bigcirc$		$\bigcirc$	
		0		•						
Server Status	: Server Vers	sion:2.0								

System(S) Tools(C) Plug-in Tool(P) User(U) Language(Lang)(L) Help(H)					
Advanced Login(A)					
Brightness Display Control Monitor Function Card					
Local System Info					
admin					
- Monitor Info Passw					
Login Cancel					
Server Status: Server Version:2.0					
System(2) Teolo(2) Blue is Teol(2) Lloor(1) Longuego(Long)(1) Llolp(1)					
System(S) Tools(C) Plug-In Tool(P) User(O) Language(Lang)(L) Help(H)					
Screen Contige Brightness   Calibration   Display Control   Monitor   Function Card					
Control System: 1 Other Device: 0 View Detail					
Hanitarlafa					
C I					
Server Status: Server Version:2.0					
Screen Config					
Select Serial Port					
Current Serial Port					
port of the MCTRL660.					
Config Screen					
Config Screen Browse					
Next Close					

Searching Board       Scare Board       Scare Connection         Module Info       Chip:       MBI5036       Size:       32W×16H       Scan Type:       1/2 scan         Direction:       Horizontal       Decode Type:       74HC138 Decoding       Data Group:       2         Cabinet Info       Image Surger       Image Surger       Image Surger       Image Surger       Image Surger         Width:       128       Image Surger       Image Surger       Image Surger       Image Surger       Image Surger         Pixel Width:       128       Image Surger		2M4		1 2 3	1 Martin	2 2 4	
Module Info         Chip:       MBI5036       Size:       32W×16H       Scan Type:       1/2 scan         Direction:       Horizontal       Decode Type:       74HC138 Decoding       Data Group:       2         Cabinet Info         Image: Setting       Image: Setting       Image: Setting       Image: Setting       Image: Setting       Image: Setting         Performance Setting       Image: Setting       Image: Setting       Image: Setting       Image: Setting       Image: Setting         Refresh Rate:       60       Hz       Accelerate R       Image: Setting       Image: Setting         Clock Phase:       6       Hz       Accelerate R       Image: Setting         Data Clock:       125       MHz       Data Duty:       50       (25-75) %         Clock Phase:       6       Low Gray Co       0       Image: Setting         Blanking Time:       15       (1=120us)       Ghost Contro       13       (1=14)         Line Change T       3       (0-12)       Image: Age: Age: Age: Age: Age: Age: Age: A	Sending Board Scan	Board Screen Cor	nection				
Chip:       MBI5036       Size:       32W+16H       Scan Type:       1/2 scan         Direction:       Horizontal       Decode Type:       74HC138 Decoding       Data Group:       2         Cabinet Info         Image: State info	Module Info						
Direction: Horizontal Decode Type: 74HC138 Decoding Data Group: 2     Cabinet Info	Chip:	MBI5036	Size:	32W×16H	Scan Type:	1/2 scan	>>
Cabinet Info	Direction:	Horizontal	Decode Type:	74HC138 Decod	ing Data Group:	2	
Regular    Pixel Width: 128   128 <=129	Cabinet Info						
Pixel Width: 128   Pixel Heidnt: 128   128 <=128	Regular			irre	egular		
Pixel Heicht: 128 - <=128	Pixel Width:	128 🚔 🧔	=199 Pleas	se 🔺 W	idth: ?? Heiaht:	?? Ple	ase
Module Casc       Right to Left       and height       Construct       View Cabinet       and height         Performance Setting       Group Swap       More Setting         Refresh Rate:       60       Hz       Accelerate R       1       •         Gray Scale:       Normal 8192       Gray Mode:       Gray First       •         Data Clock:       12.5       MHz       Data Duty:       50       •       (25~75) %         Clock Phase:       6       •       Low Gray Co       0       •       •         Blanking Time:       15       •       (=1.20us)       Ghost Contro       13       •       (1~14)         Line Change T       3       •       (0~12)       •       •       •         Brightness Effi       52.69%       Min OE:       496 ns       •       •       •         Smart Setting       Load File       Save File       Read From HW       Send To HW	Pixel Height:	128 🚔 🗸	=128 make s	th	ading error. Please adius	t perform make	sure vidth
Performance Setting         Group Swap       More Setting         Refresh Rate:       60       Hz       Accelerate R         Gray Scale:       Normal 8192       Gray Mode:       Gray First         Data Clock:       12.5       MHz       Data Duty:       50       (25~75) %         Clock Phase:       6        Low Gray Co       0       Image: Clock (1~14)         Blanking Time:       15       (1~12)       Ghost Contro       13       (1~14)         Line Change T       3       (0~12)       Min OE:       496 ns         Smart Setting       Load File       Save File Read From HW       Send To HW	Module Casc	Right to Left	<ul> <li>and he</li> </ul>	ight 🚽	Construct View	w Cabinet and I	neight 💂
Group Swap       More Setting         Refresh Rate:       60       +       Hz       Accelerate R       1         Gray Scale:       Normal 8192       Gray Mode:       Gray First       •         Data Clock:       12.5       MHz       Data Duty:       50       •       (25~75) %         Clock Phase:       6       •       Low Gray Co       0       •       •         Blanking Time:       15       •       (=1.20us)       Ghost Contro       13       •       (1~14)         Line Change T       3       •       (0~12)       Win OE:       496 ns         Smart Setting       Load File       Save File       Read From HW       Send To HW	- Borformonoo Sottir						
Refresh Rate: 60 Hz Accelerate R   Gray Scale: Normal 8192 Gray Mode: Gray First   Data Clock: 12.5 MHz Data Duty: 50   Data Clock: 12.5 MHz Data Duty: 50   Clock Phase: 6 - Low Gray Co 0   Blanking Time: 15 © (=1.20us) Ghost Contro   Ine Change T 3 © (0~12)   Brightness Effi 52.69% Min OE: 496 ns Load File Read From HW Send To HW	Crown Swan	Ig More Setting					
Refresh Rate: 60 Hz Accelerate R 1   Gray Scale: Normal 8192 Gray Mode: Gray First   Data Clock: 12.5 MHz Data Duty: 50   Data Clock: 6 Low Gray Co 0   Blanking Time: 15 (=1.20us) Ghost Contro 13   Line Change T 3 (0~12)   Brightness Effi 52.69% Min OE: 496 ns     Smart Setting Load File Read From HW Send To HW	Group Swap	more Setting					
Refresh Rate: 60 Hz Accelerate R   Gray Scale: Normal 8192 Gray Mode: Gray First   Data Clock: 12.5 MHz Data Duty: 50   Clock Phase: 6  Low Gray Co 0   Blanking Time: 15 (=1.20us) Ghost Contro 13   Line Change T 3 (0~12)   Brightness Effi 52.69% Min OE: 496 ns Load File Read From HW Send To HW			_	Accelerate R			
Gray Scale: Normal 8192   Data Clock: 12.5   MHz Data Duty:   50 (25~75)%   Clock Phase: 6   6 Clock Ghase:   6 Clock Control   Blanking Time: 15   15 (=1.20us)   Ghost Control 13   13 (1~14)   Brightness Effi 52.69% Min OE: 496 ns Smart Setting Load File Read From HW Send To HW	Refresh Rate:	60	✓ Hz	Accelerate N	1 🔻		
Data Clock: 12.5 MHz Data Duty: 50 (25~75) %   Clock Phase: 6  Low Gray Co 0    Blanking Time: 15 (=1.20us) Ghost Contro 13 (1~14)   Line Change T 3 (0~12) Min OE: 496 ns   Brightness Effi 52.69% Min OE: 496 ns	Gray Scale:	Normal 8192	•	Gray Mode:	Gray First 👻		
Clock Phase: 6   Blanking Time: 15   15 (=1.20us)   Ghost Contro 13   13 (1~14)   Brightness Eff 52.69% Min OE: 496 ns Smart Setting Load File Save File Read From HW Send To HW	Data Clock:	12.5	MHz	Data Duty:	50 👻	(25~75) %	
Blanking Time:       15       (=1.20us)       Ghost Contro       13       (1~14)         Line Change T       3       (0~12)       Image: Control of the state of the stat	Clock Phase:	6		Low Gray Co	0		
Line Change T     3     (1~12)       Brightness Effi     52.69%     Min OE:     496 ns       Smart Setting     Load File     Save File     Read From HW	Planking Time:	15	(=1.20up)	Ghost Contro			
Line Change T 3 (0~12) Brightness Effi 52.69% Min OE: 496 ns Smart Setting Load File Save File Read From HW Send To HW	Dianking rime.		(=1.2003)		13	(1~14)	
Brightness Effi     52.69%     Min OE:     496 ns       Smart Setting     Load File     Save File     Read From HW	Line Change T	3	(0~12)				
Brightness Effi     52.69%     Min OE:     496 ns       Smart Setting     Load File     Save File     Read From HW							
Smart Setting Load File Save File Read From HW Send To HW	Brightness Effi	52.69%		Min OE:	496 ns		
Smart Setting Load File Save File Read From HW Send To HW							
Smart Setting Load File Save File Read From HW Send To HW							
	Smart Setting			Load File	Save File Read	From HW Send To	HW
Save Config File Save Close			C		Save Config Fi	le Save	Close
			唐、文档、		- 40 +07.202	****	



2) Import the configuration file of cabinet into MCTRL660.

The operation steps are as follows:

System(	3) Tools(C) Plug-in Tool(P) User(U) Language(Lang)(L) Help(H)
	Screen Config(S) Bightness(B)
Screen	onf Calibration(C) rol Monitor Function Card
- Local Sys	Display Control(P)
	Monitor(M)
Contro	SV Function Card(F) 0 View Detail
- Monitor In	To Hardware Information(H)
63103	Multiple Screen Management(A)
	Point Detect(T)
	Prestore Picture(R)
ļ	Color Restore(O)
	Light Panel Flash(U)
Server Sta	us: Receive Card relay(I)
	MultiBatch of Adgustment(M)
	Load configuration file(E)
🖳 Load configuration fi	e 🗾 🖳 Load configuration file
Select COM port:	COM3   Select COM port: COM3
Add File	Move Up Move Down Delete File
Rename File	Save to HW

**Tip:** After the **MCTRL660 Setting** interface is displayed, the NovaLCT-Mars automatically reads the existing configuration files in the MCTRL660. The NovaLCT-Mars can perform operations such as modification of file name, adjustment of file order and deletion to these files.

3) Load the configuration file of cabinet



4) Save the configuration file of cabinet into receiving card. See detailed operation in 7.4.5 Save RV Card

Parameters.

### 7.4.5 Save RV Card Parameters

Save the current configuration parameters to the hardware so that the data will not disappear when there

is outage.



### 7.4.6 Smart Brightness

This parameter is set to Disable by default. To successfully enable this function, you must load the

configuration files first. Currently, only non-pulse-width modulation (PWM) chips are supported.



### 7.4.7 Restoring to Factory Settings

Restore to the factory Settings for the MCTRL660.

Load Cabinet Files	
Save RV Card Paramet	ers
Smart Brightness	Enable
Factory Default	

### 7.5 Display Control



- 1) Normal: The screen is restored to normal display.
- 2) Black Out: The screen is black out, then the home page display of MCTRL660 operation screen is as

follows:

DVI IN	BLACKOUT		
HDMI IN	DLACKOUT		
Master	1 2 3 4		
EDID RES: 1920×1080@60			

3) Freeze: Screen freezes, then the home page display of MCTRL660 operation screen is as follows:

DVI IN	
HDMI IN	FROZEN
Master	1 2 3 4
EDID RES: 1	$1920 \times 1080 @60 \text{Hz}$

4) Test Pattern: The screen shall be tested through four colors (red, green, blue and white) and four

shapes.



Then the home page display of MCTRL660 operation screen is as follows:

DVI IN	
HDMI IN	
Master	1 2 3 4
EDID Res:	1920×1080@60HZ

### 7.6 Language Setting



### 8 Hardware Program Updating

Connect MCTRL660 to a computer and run NovaLCT-Mars on this computer. Log in as an advanced user

and type in admin on the NovaLCT-Mars main interface to open the page for updating the hardware

program.

System(S) Tools(C) Plug-in Tool(P)	User(U) Language(Lang)(L) Help(H)
Brightness Display Control Monitor	Function Card
- Local System Info Control System: 1 - Monitor Info	Other Device: 0 View Detail
Server Status: Server Version:2.0	:
System(S) Tools(C) Plug-in Tool(P)	User(U) Language(Lang)(L) Help(H)
System(S) Tools(C) Plug-in Tool(P)	User(U) Language(Lang)(L) Help(H) Advanced Login(A) Function Card
System(S) Tools(C) Plug-in Tool(P)	User(U) Language(Lang)(L) Help(H) Advanced Login(A) Function Card
System(S) Tools(C) Plug-in Tool(P) Prightness Display Control Monitor Local System Info Control System: 1	User(U) Language(Lang)(L) Help(H) Advanced Login(A) Function Card User Login Cadmin
System(S) Tools(C) Plug-in Tool(P) Prightness Display Control Monitor Local System Info Control System: 1 Monitor Info	User(U) Language(Lang)(L) Help(H) Advanced Login(A) Function Card User Login admin Passw
System(S) Tools(C) Plug-in Tool(P)          Image: System (S) Tools(C) Plug-in Tool(P)         Image: System (S) Display Control         Brightness         Display Control         Monitor         Local System Info         Control System:         Monitor Info         Image: System (S) Sy	User(U) Language(Lang)(L) Help(H) Advanced Login(A) Function Card User Login Admin Passw

System(S)	Tools(C)	Plug-in T	ool(P) Us	er(U) Lang	guage(Lang)	(L) Help(I	H)			
Screen Config     Brightness     Calibration     Display Control     Monitor     Function Card										
-Local Syste	m Info									
Control S	Svstem:	1	Other	Device:	0	Viev	v Detail			
- Monitor Info	22	0.0.0	1000	<i>~</i>	<u>^</u>	. 1				
						30				
Server Statu	s: Server Ve	rsion:2.0	unication p	ort has devi	ce accessed	-	the Real			×
- Program lo	pading		i incontrol p	one mus de m						
Select of	peration com	nmunication	oort							
Current commu	operation nication port	. <	COM4				Device o	ount:	1	
- Select Pr	ogram									
Program	n Name:	MRV20	)0 Data Ma	rs V4.2.5.0						
Program	n Version:	4.2.5.0								
Program	n Path:	d: Docu	mentsWovaLC	:T 2012\Data\D	)ata_Mars_4.2	.5.0\RVCard\C	CommonDataง	MRV200_Data	_Mars_V4	
The Sele	cted Items T	o Load		-						
📃 Send	Sending Board MCU Sending Board FPGA Scan Board FPGA Update Reconnect									
Hardware	Hardware Version Info									
Refre										
i P	I A A									
Sending Bo. MCU Sending Bo. FPGA Scan Bo. FPGA										
Display Inf	0									
									Clea	r

### **Current Serial Port**

Select the serial port through which the hardware to be updated is connected to the computer.

### **Program Path**

Select the program to be loaded to the hardware here.

#### **Sending Board MCU**

Select this option if the MCU program of a sending board is to be updated.

#### Sending Board FPGA

Select this option if the FPGA program of a sending board is to be updated.

#### Scan Board FPGA

Select this option if the FPGA program of a scan board is to be updated.

#### Update

Click this button to load the selected program to the selected hardware.

#### **Refresh All**

If this option is selected, the version information of all sending boards and scan boards connected to the

current serial port will be refreshed when the Refresh button is clicked.

### Set position

If this option is selected, only the version information of the selected scan board will be refreshed when

the **Refresh** button is clicked.

#### Refresh

Click this button to show the current version information of the hardware. This can be used to check whether the hardware program has been updated.

# 9 FAQ and Precautions

Questions	Solutions
	Inspect whether the power connection is correct and the switch has been turned
	on;
LED display is off	Type to test the image and confirm whether the connection of LED is correct and
	works normally;
	Inspect whether MCTRL660 output has signal and shows blank screen;
	Inspect whether the mode and parameter of screen configuration are correct;
	1) The product can only support configuration without computer for rectangular
Considerations	screen composed of cabinets of same size and specification; special-shaped cabinet
	and screen need online configuration.
	2) Offline and online operation cannot be conducted for the same screen.

JA				
10 Specifica	tions			
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Input index				
Interface	Number	Resolution specification		
DVI	1	VESA standard (supporting 1080i input); supporting HDCP		
HDMI	1	EIA/CEA-861 standard; meeting HDMI-1.3 standard; supporting HDCP		

Output index		
Interface	Number	Resolution specification

DVI	1	Corresponding with DVI input
HDMI	1	Corresponding with HDMI input

Overall Specifications	
Input power	AC 100-240V, 50/60Hz
Overall power consumption	16W
Temperature of working environment	-20~60°C
Humidity of working environment	0%~95%
Net weight	3.9 Kg
USB Cable	1.5M
DVI Cable	1.5M

# **11 Installation Dimensions**

### 19" 1U Standard cabinet. (Unit: mm)

