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S2 Synchronous Sender

USER MANUAL



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1. Introduction

As a new generation of sender, S2 Sender has updated its core chips, and the performance significantly improved. It adopts dual USB2.0 as the communication interface to achieve high speed communication between the PC and senders. S2 Sender realizes cascading between multiple senders and much more convenient. S2 Sender can be applied to small display perfectly.

2. Interface Description

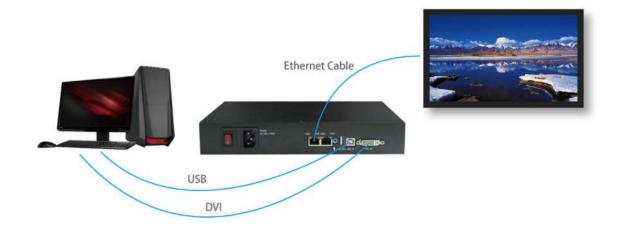




No	Name	Function	Remarks
1	Indicator panel and Configuration button	Adjust the brightness of the entire screen (16 levels); Display the whole screen test mode conversion	Press "+" and "" together to switch between brightness adjustment and testing mode.
2	Power Switch	On/off	
3	Power Socket	AC 100~240V	
4	Output Ports	RJ45, to transmit network signals	The control area of the two outputs can be separately set.
5	Audio input	Input audio signal via Ethernet cable	
6	USB TYPE-A	USB output, cascading among multiple senders	
7	USB TYPE-B	USB input, connecting PC for configuring parameters	
8	DVI Input	DVI output interface, connect to the graphics card	



3. Hardware Connection



1) Power Supply (PCI):

Match with computer PCI slot, or DC 3.8-12V for power supply.

2) Video Signal Input (DVI):

Connect PC with S2 via proper DVI/HDMI cable via DVI interface.

3) Screen Configuration (USB):

Use a standard USB A/B cable to connect S2 with PC for S2 configuration.

4) Ethernet Cable (RJ45):

Connect S2 sender with the receiving card via Ethernet cable for controlling receiving card and the screen (Note: The Ethernet cable must be CAT5E or CAT6).



4. LEDVISION Installation and Preliminary Configuration

4.1 Computer Configurations

- CPU Frequency>= 2.0GHZ
- Host Memory>=1G
- Graphic card with DVI/HDMI interface: Memory ≥512MB
- The resolution of PC's graphic card should be equal to or larger than the actual LED display's.

Computer configuration can be adjusted according to the actual situation. Adjustment mainly aims at total pixels of LED display, the complexity of playing contents and whether playing HD video or not.



4.2 USB Driver Installation

First download the installation package of LEDVISION software from Colorlight's official website <u>www.colorlightinside.com</u>, and complete the installation according to the diagrams shown below.

1. Run the software package, and select [English] for installer language. Click [OK] to move on.



Note: Run LEDVISION version 4.18 or higher while using S2.



2. After selecting a language, an installation wizard like below will appear. Click [Next];

Then choose installation location, click [Browse] to change default target location, then click [Next] after completing.

Choose components according to your own computer status, click [Install] to complete.

	LEDVISION Setup	- 🗆 💌 🥚		LEDVISION Setup	
Choose Install Lo Choose the folder	ocation r in which to install LEDVISION .		noose Components Choose which features of LEDV	/ISION you want to install.	4
	EDVISION in the following folder. To install in a differe r folder. Click Next to continue.		Check the components you wanstall. Click Install to start the	nt to install and uncheck the comp installation.	onents you don't want to
Destination Fold	-		elect components to install:		Description Position your mouse over a component to see its description.
C:\Program Fil Space required: 1 Space available: 2		Browse	pace required: 100.8MB	< >	
	< Back Next	t > Cancel		< Back	Install Cancel

After the installation is complete you are ready to use LEDVISION.



4.3 Graphic Card Settings

Set up the working mode of the computer graphic card after completing hardware connection and powering S2 on, you can select **Duplicate** mode or **Extend** mode according to the different requirements.

• **Duplicate Mode:** That the contents displayed on LED screen are consistent with computer, that is to say, copy the computer contents onto LED screen, as pic below.



PC Screen

LED Screen



• Extend Mode: That the contents displayed on LED screen are inconsistent with computer's, that is, to extend a display image from the right side of PC screen, which was consistent with LED display's, we also call it "background playing", as pic below.

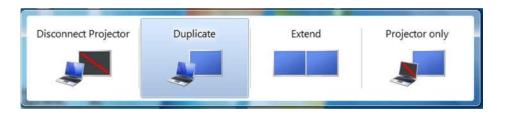




For different computers, there are different ways to change the mode. Take **WIN 7/8** system + **NVIDIA** graphics cards as an example, please read the following settings ways.

• Method 1: Hold down the WIN and P keys at the same time, and select the mode as you want in the pop-up

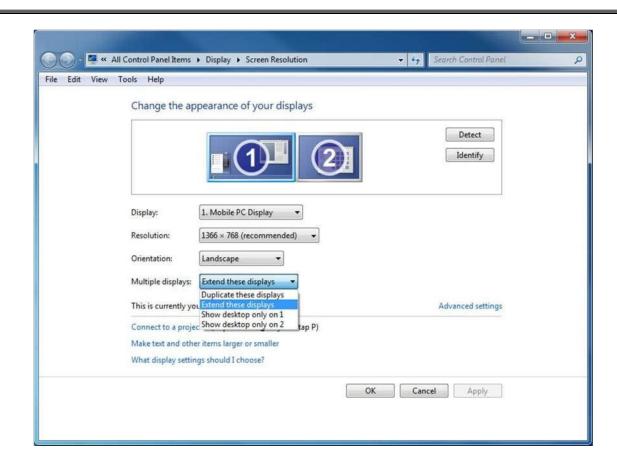
window.



• Method 2: Right-click and select "Screen resolution" to enter the page of "modify the display appearance"; if your graphics card is not NVIDIA and cannot find the setting interface please refer to the description of the graphics card.







Note: As for other kinds of graphic cards, if there is no corresponding window, please refer to the user manual of the graphic card.

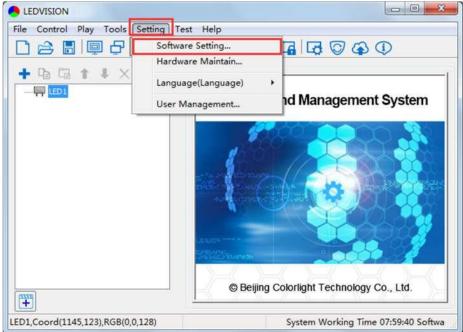


5. Parameter Configuration

First of all, please make sure the software under i Series Mode before setting.

Click the **"Setting"** > **"Software Setting"** to enter the Software Management window, change the mode by inputting password: **168**.

Mode Settings	Mode Settings	Classic Mode		
Play Settings				
Startup Settings	Play Settings	Play Mode	Normal Play Mode *	
LED Play Screen		Default Decode	Self Decoding First	
Timer Settings			Program Into	
Network Settings		Record Play L	og le Smooth Processing(High Graphics Requirements)	
Shortcut Settings				
Other Settings	Startup Settings	Run When Sy	stem Starts	
		Play When So	oftware Starts	
		Minimize After	r Start	
		Wait for 30 se	econds if system start up less than 2 minutes	
		Permit Multi-Ir	nstance	
		Note: Allow	ed to run one instance each directory!	





5.1 Confirmation on Hardware Connection

Please make sure the correctness of the hardware connection before setting, use LEDVISION to detect sender and all receiving cards.

5.1.1 Detect Sender and receiving card

Run LEDVISION, click the "Control" > "Screen Control" to enter the Screen Control window.



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Select [Sender Card] for sending device, Click [Detect Sender Cards] in Sender Card Settings. Please check the hardware connection or the installation of relevant driver if cannot detect sender cards.

Select network port and click "**Detect Receiver Cards**" respectively, the software will automatically acquire the Receiver (Receiving card) quantity for each network port of the sender. Please check corresponding cable if the numbers of receiving card are inconsistent with actual status.

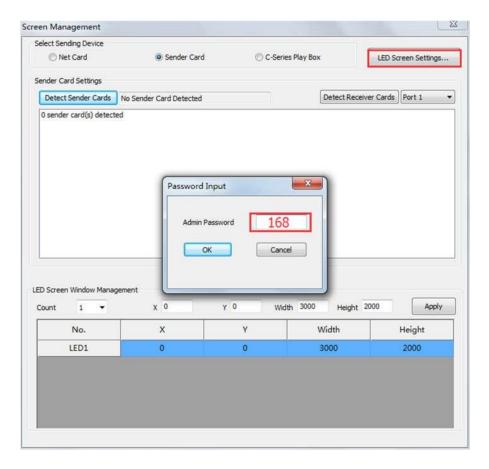
elect Sending Device			
Net Card	Sender Card	C-Series Play Box	LED Screen Settings
ender Card Settings			
	No Sender Card Detected	Detec	t Receiver Cards Port 1
Detect Dender Cords	No Sender Card Detected		



5.2 LED Screen Setting

Click "LED Screen Settings" and input password [168] to enter the LED Screen Setting interface, and set up "Sending

device", "Screen parameters", "Connection parameters".





5.2.1 Sending Device Setting

Configure on the relevant parameters of the sender card.

and a set of the set o	Parameters Connect	tion Parameters(L	ook From Front)						
Select Sending Devic	e								
O Net Card	Sender	Card O	C-Series Play B		Detect Receive	er Cards	All 1	2 3	4
Unercard	(e) serioer	cato	Coeries ridy of	78					
				-	Port Index	Index	Version	Run Time	Support Chips
Toatal: 0	No Sender Card Deter	cted	Detect						
Input Signal Informa	tion								
Type	No Signal	Frame Rate			-				
Width		Height			_				
Sender Card Resolut									
Resolution	800 x 600 Y	l,	Set	-	1				
Advanced									
Zero Frame Dela		MT I	Standard	v					
	У	Frame Output		~					
Loop Backup									
Enable HDCP		Input Bit Depth		Y					
Auto Switch (DV)	,HDMI)	Input Type	HDMI	v					
Better Graylevel	On Low Brightness	Sync Method	Auto	~					
			Send						
Test Mode O	ff	¥	Write Logo						
	ormal Mode	· • ·	3D Setting						
Work Mode N									

Sender Card Resolution: Generally, sender card resolution must be consistent with the graphic card's.

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Input Signal Information: Display the sender info that auto acquired via the software, which only provided for reference, and did not support personally set up.

Advanced: Prepare for professionals for special applications settings, no operation allowed for non-professionals.

Advanced settings include the parameters listed below:

Zero Frame Delay: Default uncheck, and should be enabled by technician under special status.

Auto Switch DVI/HDMI: The sender only identifies the video signal that has been set up when unchecked; Auto identify the signal that has been connected first when checked.

Brightness adjustment via multi-function card: Auto adjusts screen brightness via the sensor of multi-function card when checked.

Maximum Transmission Unit (MTU): Default "Standard", and consult with the technician if you need to apply to "Long Frame".

Frame Output: Default "Every Frame", and consult with the technician if you need to apply to "Every Other Frame".

Input Bit Depth: Default "8bit".

Input Type: DVI/HDMI, according to the actual using status.

Sync Method: Default "Auto"

Write logo: Custom, display before video signal input. The image formats should be bmp, jpg or png.

3D Setting: Works only for the function setting of 3D sender, did not apply for S2.



5.2.2 Screen Parameters

Observe the display screen with single cabinet as unit, if all cabinets display normally (it is normal circumstance even the picture between cabinets is not continuous), please ignore this step and directly go to the next step.

Otherwise, enter the following configuration:

Click [Load], choose the correct parameter file.

Click **[Send]**, to send the loading parameter to the receiving card. Each cabinet should display normally (it is normal circumstance even the picture between cabinets is not continuous), then click **[Save To Receiver]** to save the parameters to the receiver card.

If each cabinet cannot display normally, then contact with the LED screen engineers.

			LED Screen	Setting LED1				- • ×
ending Device Screen	Parameters Cor	nnection Parameters(Look F	rom Front)					
Module Information								
Chip Type	Normal Chip	Width	64	Inverted Data	No	Reverse		
Scan Mode	16 scan	Height	16	OE Active High	No	Reverse		
Box Setting								
Width	64	<=146 Cascade	Left To Right 🛛 🗸 🗸	Data Group	Normal 20 g	roups 🗸		
Height	64	<=512 Fold Count	No Split 🗸 🗸		Data G	roup Swap		
Performance Setting								
Refresh Rate	1920	Y Multiple	Refresh x 16 🛛 🗸	Calibration Mode	Disable	~	Blanking Phase	
Gray Level	8192	✓ Gray Mode	Balanced Low Gray V	Calibration	From Receiv	ver Cards 🗸 🗸	SCK Duty Ratio	
Serial Clock	13.9 MHz	Y Display Mode	Gray-level First 🗸 🗸	No Signal Action	Keep the La	st Frame 🗸 🗸	White Balance Setting	
Blanking Value	0	+ (×100ns) Brightness	8 ~	Input Bit Depth	8bit	v	Intelligent Module Setting	
Brightn	ess Percent: 719	6 Minimum C	E: 90.8 ns	Enable Gradual	Disable	~	Custom Gamma Table	
Deer		-		Gamma Value	2.8	~	Other Settings	
Hide	Advanced Setting	15						
Intelligen	t Setting	Screen Test	Send	After Modify				激活 W
Read	Load	Save	Send Save T	o Receiver				转到"电脑



5.2.3 Connection Parameters (Look from front)

You don't need to set up the control area of each net port respectively under i series mode, but set up the connection relationship of the receiver card aiming at each net port loading via the sender, and the software will auto calculate and set up the control area according to the connection relationship. Detailed Setting Steps as follows:

1) Set up the quantity of receiving card

Set how many Receiver (Receiving card) that one port manages in Row Count and Col Count (6*6 as an example), how many pixels that one Receiver (Receiving card) manages in Width and Height (128*128 as an example), you will see led display mapping area from the right side (Viewing from the front of led display).

Sender No. +	1.9	10 P	1	2	3	4	5	6	Receiver Card Layout
Port		E.	Port: No.: 0 Width: 128 Height: 128	Port No.: 0 Width: 128 Height: 128	Port No.: 0 Width: 128 Height: 128	Port: No.: 0 Width: 128 Height: 128	Port: No.: 0 Width: 128 Height: 128	Port: No.: 0 Width: 128 Height: 128	Col Count 6 💠 Row Count 6 🌩
Reset the Current Port Number		2	Port No.: 0 Width: 128 Height 128	Port No.: 0 Width: 128 Height: 128	Port No.: 0 Width: 128 Height: 128	Port No:0 Width: 128 Height: 128	Port No.: 0 Width: 128 Height: 128	Port: No.: 0 Width: 128 Height: 128	No. 1
Calculate Auto Calculation Manual Edit Sender Port X Y Width Height		e	Port No.: 0 Width: 128 Height: 128	Port No.: 0 Width: 128 Height 128	Port No.: 0 Width: 128 Height: 128	Port No.: 0 Width: 128 Height: 128	Port No.: 0 Width: 128 Height: 128	Port No.: 0 Width: 128 Height 128	Width 128 Height 128
nan an ann an an Airtean ann an Airtean ann an Airtean ann an Airtean ann an Airtean Airtean Airtean Airtean Ai		4	Port No.: 0 Width: 128 Height: 128	Port No.: 0 Width: 128 Height 128	Port: No.: 0 Width: 128 Height: 128	Port No.: 0 Width: 128 Height: 128	Port: No.: 0 Width: 128 Height: 128	Port No.: 0 Width: 128 Height: 128	Operation Guide
		ŝ	Port No.: 0 Width: 128 Height: 128	Port No.: 0 Width: 128 Height: 128	Port No.: 0 Width: 128 Height: 128	Port No.: 0 Width: 128 Height 128	Port No.: 0 Width: 128 Height: 128	Port No.: 0 Width: 128 Height: 128	
		φ	Port No.: 0 Width: 128 Height: 128	Port No.: 0 Width: 128 Height: 128	Port: No.: 0 Width: 128 Height: 128	Port No.: 0 Width: 128 Height 128	Port: No.: 0 Width: 128 Height: 128	Port No.: 0 Width: 128 Height: 128	



2) Receiver Card Parameters Setting

Select the target sender and the net port from the left side, then select the corresponding cabinets of net port actual control area and set the connection lines in the mapping area.

ding Device Screen Parameters Connection Parameters Sender Card Information		1 1	EE 7	Show			0	
Sender No. +-		· · · · · · · · · · · · · · · · · · ·	== - -		v Connection Lin	es 💿 Standard	O Complex	
2 3		1	2	3	4	5	6	Receiver Card Layout
Port	+	Port 1-1 No.: 1 Widtl.S 128 Height 128	Port 1-1 No.: 2 Width: 128 Height 128	Port 1-1 No.: 3 Width 128 Height 128	Port: No.: 0 Width: 128 Height 128	Port No.: 0 Width: 128 Height 128	Port: No.: 0 Width: 128 Height 128	Col Count 6 🔹
Reset the Current Port Number	~	Port 1-1 No.: 6 Width 128 Height 128	Port 1-1 No.: 5 Width: 128 Height 128	Port 1-1 No.: 4 Width: 128 Height 128	Port No.: 0 Width: 128 Height: 128	Port No.: 0 Width: 128 Height: 128	Port: No.: 0 Width: 128 Height: 128	Reset All Selected Card Informatic No. 9
Calculate Auto Calculation Manual Edit Sender Port X Y Width Height	m	Port -1 No: 7 Width: 128 Height 128	Port 1-1 No.: 8 Width: 128 Height 128	Port 1-1 No: 9 Widt 128 Height 128	Port: No.: 0 Width: 128 Height: 128	Port: No.: 0 Width: 128 Height: 128	Port No.: 0 Width: 128 Height: 128	Width 128
1 1 0 0 384 384	4	Port No:: 0 Width: 128 Height: 128	Port No.: 0 Width: 128 Height: 128	Port No.: 0 Width: 128 Height: 128	Port No.: 0 Width: 128 Height 128	Port No.: 0 Width: 128 Height: 128	Port No.: 0 Width: 128 Height: 128	Operation Guide
	ي ٩	Port: No.: 0 Width: 128 Height: 128	Port No.: 0 Width: 128 Height: 128	Port No.: 0 Width: 128 Height 128	Port: No.: 0 Width: 128 Height: 128	Port: No.: 0 Width: 128 Height: 128	Port: No.: 0 Width: 128 Height: 128	
	9	Port No.: 0 Width: 128 Height: 128	Port No.: 0 Width: 128 Height 128	Port No.: 0 Width: 128 Height: 128	Port: No.: 0 Width: 128 Height: 128	Port No.: 0 Width: 128 Height: 128	Port No.: 0 Width: 128 Height: 128	
<								

There are two methods to set up:

1. Use mouse to select one by one

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A. In the mapping area, select the first receiving card based on the actual connection of the net port (view from the front), and then set up the actual loading width and height of the target receiving card in the right side (128*128 as an example).

B. Click the Receiver (Receiving card) one by one until the last one for this network port loads.

2. Connection Pattern

A. Aiming at the LED screen with standard connection lines.

B. First set up the receiving card information according to the actual loading width and height (128*128 as an example).

C. Select the connection line you want from the right side, then cover the corresponding area of net port loading in the mapping area, finally complete setting.

As the cabinets have multiple specification (that is the inconsistent capacity of the receiving card), you can select the different one to adjust separately after completing setting.

I I Z 3 4 3 0 Col Count Port Port Port Port Port Port Port No.: 1 No.: 2 No.: 3 No.: 1 No.: 1 <th>-2 Port: 1-2 Col Count 6 \$ No: 3 128 Width 128 Row Count 6 \$</th> <th> 110</th> <th>4</th> <th>3</th> <th>-</th> <th>1</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>10. +</th> <th></th>	-2 Port: 1-2 Col Count 6 \$ No: 3 128 Width 128 Row Count 6 \$	110	4	3	-	1						10. +	
Port Port 1-1 Port 1-1 Port 1-1 Port 1-1 Port 1-2 Port 1-2 No.: 3 Width 128 Width 128 <th>No: 3 128 Width 128 Row Count 6</th> <th>Port 1-2</th> <th></th> <th></th> <th>4</th> <th>1</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>-</th>	No: 3 128 Width 128 Row Count 6	Port 1-2			4	1							-
Image: No.:6 Port: 1-1 Port: 1-1 Port: 1-1 Port: 1-1 Port: 1-2		Width: 128	No. 1 Widt S 128	No.: 3 Width 128	No.: 2 Width: 128	No: 1 Widtl \$128	-					<u> </u>	
Calculate Manual Edit Port. 1-1 Port. 1-1 Port. 1-1 Port. 1-2	-2 Port2 Reset Al No: 4 128 Width: 128 Selected Card Informatio	Port 1-2 No.: 5 Width: 128	Port: 1-2 No.: 6 Width 128	Port: 1-1 No.: 4 Width: 128	Port 1-1 No.: 5 Width: 128	Port 1-1 No.: 6 Width 128	5	1-4		-	1-2 the Curr	Reset	1-1
Sender Port X Y Width Height Port Sender 1:3 Port Port </td <td>-2 Port 1-2 No. 9 128 Width 128</td> <td>Port 1-2 No.: 8 Width: 128</td> <td>Port: -2 No.: 7 Width: 128</td> <td>Port 1-1 No.: 9 Widtl 28</td> <td>Port 1-1 No.: 8 Width: 128</td> <td>Port: -1 No.: 7 Width: 128</td> <td>E</td> <td></td> <td></td> <td>lation</td> <td>uto Calo.</td> <td></td> <td>_</td>	-2 Port 1-2 No. 9 128 Width 128	Port 1-2 No.: 8 Width: 128	Port: -2 No.: 7 Width: 128	Port 1-1 No.: 9 Widtl 28	Port 1-1 No.: 8 Width: 128	Port: -1 No.: 7 Width: 128	E			lation	uto Calo.		_
Port: 1-3 Port: 1-3 Port: 1-3 Port: Port: Port: Port: Port: Port: Port: No::0	Port: No.: 0 128 Width: 128	Port: No.: 0 Width: 128	Port: No.: 0 Width: 128	Port: 1-3 No: 9 Widtl 28	Port 1-3 No.: 8 Width: 128	Port: 1-3 No.: 7 Width 128	4	384	384	0	0	1	
	Port No.: 0 128 Width: 128	No.: 0 Width: 128	No.: 0 Width: 128	No.:4 Width 128	No.:5 Width: 128	No.: 6 Width: 128	ي •	384	384	384	0	3	
Port.1-3 Port.1-3 Port.1-3 Port.1-3 Port.3 Port.3 <t< td=""><td>Port: No:0 128 Width: 128</td><td>No.: 0 Width: 128</td><td>No.: 0 Width: 128</td><td>No : 3 Width: 128</td><td>No.:2 Width: 128</td><td>No:1 Widts 128</td><td>9</td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	Port: No:0 128 Width: 128	No.: 0 Width: 128	No.: 0 Width: 128	No : 3 Width: 128	No.:2 Width: 128	No:1 Widts 128	9						



3) Send to Receiver Cards & Save to Receiver Cards

Set up all the receiving card parameters and connection line respectively, click [Send] to send the correct parameter to the receiving card, and the screen should display normally about this time.

Then click [Save to Receiver] to save parameters to corresponding receiving card after confirming.

nding Dev	ice So	reen Pa	rameter	Conn	ection Para	meter	s(Loo	k From Front)						
Sender		nder Car	d Inform	ation			h	~ No.	⊞ 7	Short	w Connection Lin	es 🔘 Standard	Complex	¢
1	2		3					1	2	3	4	5	6	Receiver Card Layout
Port	1-						-	Port 1-1 No.: 1 Widtl 28 Height 128	Port 1-1 No.: 2 Width: 128 Height 128	Port 1-1 No.: 3 Width 128 Height 128	Port 1-2 No.: 1 Widtl S128 Height 128	Port 1-2 No.: 2 Width: 128 Height: 128	Port: 1-2 No.: 3 Width 128 Height: 128	Col Count 6 🜩
1-1	Peret	1-2	1.	3	1-4		64	Port 1-1 No.: 6 Width 128	Port 1-1 No.: 5 Width: 128	Port: -1 No.: 4 Width: 128	Port: 1-2 No.: 6 Width 128	Port: 1-2 No.: 5 Width: 128	Port 1-2 No.: 4 Width: 128	Reset All Selected Card Information
Calculate			-		nual Edit		3	Height 128 Port -1 No.: 7 Width: 128	Height 128 Port 1-1 No.: 8 Width: 128	Height 128 Port 1-1 No.: 9 Widt 128	Height: 128 Port: 1-2 No.: 7 Width: 128	Height 128 Port 1-2 No.: 8 Width: 128	Height 128 Port 1-2 No.: 9 Widt 128	No. 9 Width 128
Sender	Port	x	Y	Width	Height			Height 128	Height 128	Height 128	Height 128	Height 128	Height 128	Height 128
	1	0	0	384	384		4	Port 1-3 No.: 1	Port 1-3 No.: 2	Port: 1-3 No.: 3	Port 1-4 No.: 1	Port 1-4 No.: 2	Port 1-4 No.: 3	Operation Guide
1	2	384	0	384	384			Widtl 128 Height 128	Width: 128 Height: 128	Width 128 Height 128	Widtl 128 Height 128	Width: 128 Height: 128	Width 128 Height 128	
	3	0	384	384	384			Port 1-3	Port 1-3	Port -3	Port 1-4	Port 1-4	Port -4	
	4	384	384	384	384		S	No.: 6 Width 128 Height 128	No.: 5 Width: 128 Height: 128	No.: 4 Width: 128 Height: 128	No.: 6 Width 128 Height: 128	No.: 5 Width: 128 Height 128	No.: 4 Width: 128 Height: 128	
							9	Port -3 No.: 7 Width: 128 Height 128	Port 1-3 No.: 8 Width: 128 Height 128	Port 1-3 No.: 9 Widtl 128 Height 128	Port 4 No.: 7 Width: 128 Height 128	Port 1-4 No.: 8 Width: 128 Height 128	Port: 1-4 No.: 9 Widtl 128 Height 128	
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Connectio	on is mo	dified												



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