

True Color System

Introduction

Chapter 1 Summary

1.1 Function & Characteristic

a. Support DVI series monitor card. DVI serials monitor card is cheaper than Media Monitor card, and it's good for use.

b. Communicate medium is standard net cable or optical fiber.

c. Communicate by PCI or RS-232. The controller can be inserting in computer's PCI or place outside of computer communities by RS-232.

d. Super transmit ability. A Controller can mostly transmit 768 by 640 pixels or 640 by 768 pixels data signal. A standard cable can transmit 768 by 160 pixels data signal.

e. A controller can control a set of HUB cards.

f. Use in many conditions, such as in doors LED screen or outdoor LED screen. It's suitable for categories of LED screen which are static mode, 2 scan mode, 4 scan mode, 8 scan mode, 16 scan mode act.

g. Support remote transition. 100M is the longest distance when use a standard net cable. If you use optical fiber, the longest distance is 10km.

h. Work stably and credibly. It is designed by 4 layers PCB and super scales integrate circuit, and it works more stably and credibly.

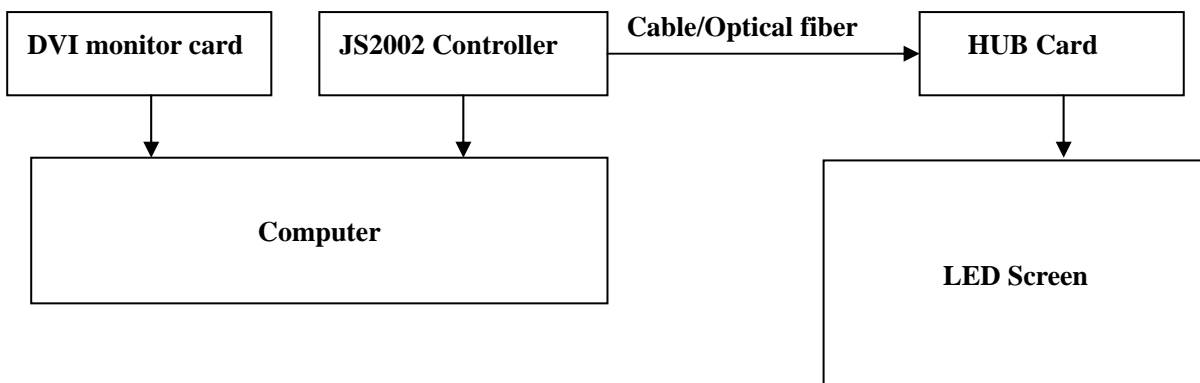
i. Display pictures pretty and no distortion. It can receive 24bits RGB data signal from DVI Serials card without distortion. The lowest frequency is 60HZ.

1.2 Elements

Controller receive 24bits RGB data signal from DVI monitor card's output or Media video card's output, and then transmit them to HUB card by cable or optical fiber, finally HUB card transmit the video gray data to LED Screen.

1.3 Constitute and Connection

JS2002 Controller + DVI monitor card + JS2004/JS2002 HUB Card



Chapter 2 Installation and Setting

2.1 Main tech. parameters

JS2002-True Color Controller

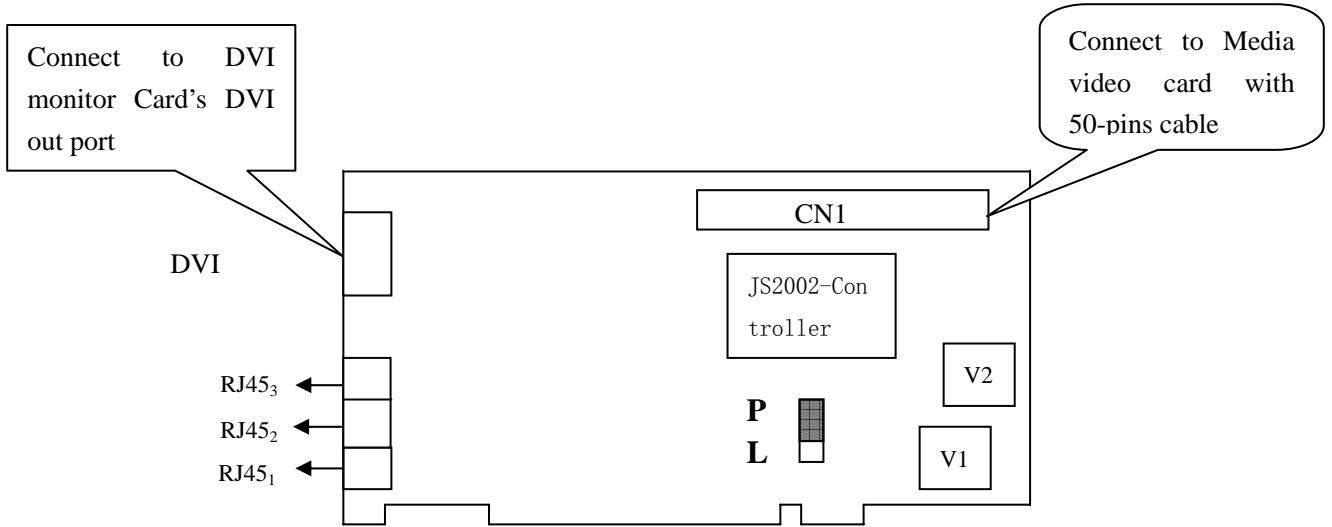
Type	JS2002-S	JS2002-D	JS2002-T	JS2002-F	
Gray level	1024 levels、4096 levels				
Monitor resolution	1024 by 768 Pixels				
Support monitor	DVI monitor card 、Media video card				
LED screen mode	16 scan mode, 8 scan mode, 4 scan mode, 2 scan mode, static				
Communicate interface	PCI or RS-232				
Communicate medium	Standard net cable				
Out port's number	1	2	3	4	
Control range	768x640 Mode	768 by 160	768 by 320	768 by 480	768 by 640
	640x768 Mode	640 by 192	640 by 384	640 by 576	640 by 768
Net cable's number	1	2	3	4	
Longest distance	100m				
Power	5V				

JS2002 –True Color Optical Fiber Controller

Type	JS2002-D	JS2002-F	
Gray level	1024 levels、4096 levels		
Monitor resolution	1024 by 768 Pixels		
Support monitor	DVI monitor card 、Media video card		
LED screen mode	16 scan mode, 8 scan mode, 4 scan mode, 2 scan mode, static		
Communicate interface	PCI or RS-232		
Communicate medium	Single mode optical fiber or Multimode optical fiber		
Out port's number	1 Out port	2 Out ports	
Control range	768x640 Mode	768 by 320	768 by 640
	640x768 Mode	640 by 384	640 by 768
optical fiber's number	1	2	
Longest distance	10km (Single mode optical fiber) 1km (Multimode optical fiber)		
Power	5V		

2.2 Connection and Operation

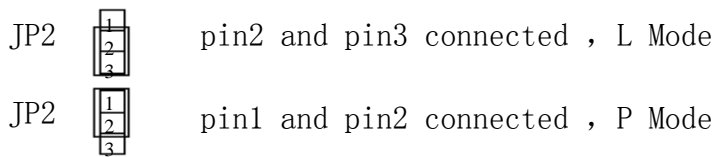
1. JS2002-True Color Controller



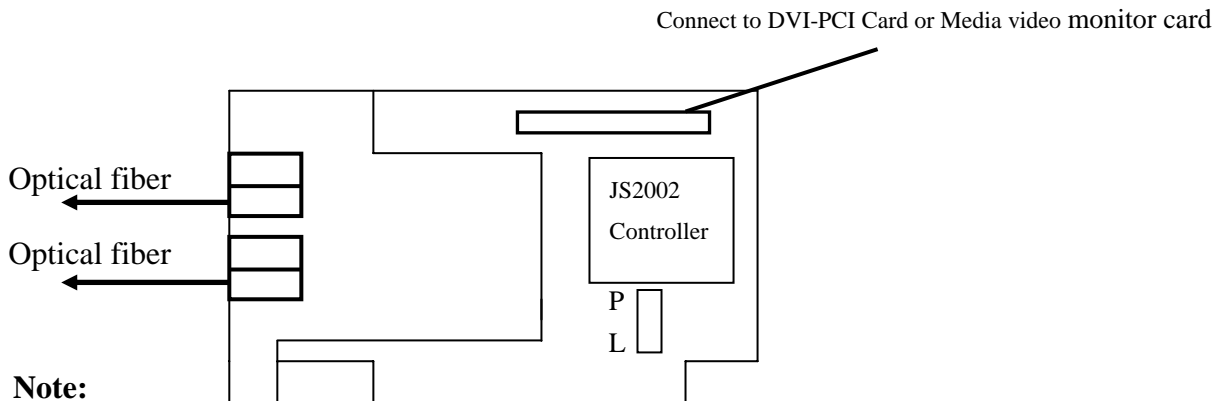
JS2002-True Color Controller

Note:

- a. RJ45₁, RJ45₂, RJ45₃ are out ports which connected to HUB card import by cables.
- b. Controller can work on L Mode or P mode. L mode is Default.
- c. When you use JS2002-True Color Controller, HUB Card is needed to receive Signal transmits from Controller and then transmit data signal to LED screen. And some other wires, such as several standard cables, flat cables, and some Switch Card are needed.
- d. Sometimes, LED screen's import is deferent from the HUB Card's output. In this condition, Switch Card should be available.

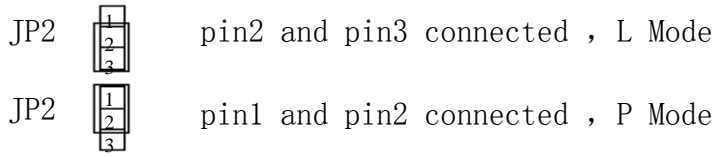


2. JS2002 –True Color Optical fiber Controller

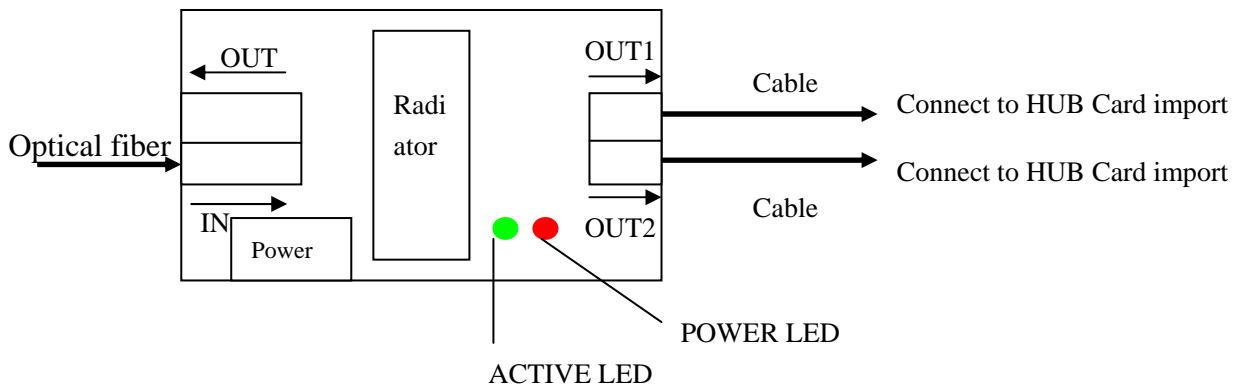


Note:

a. It can work at L mode or P mode. See



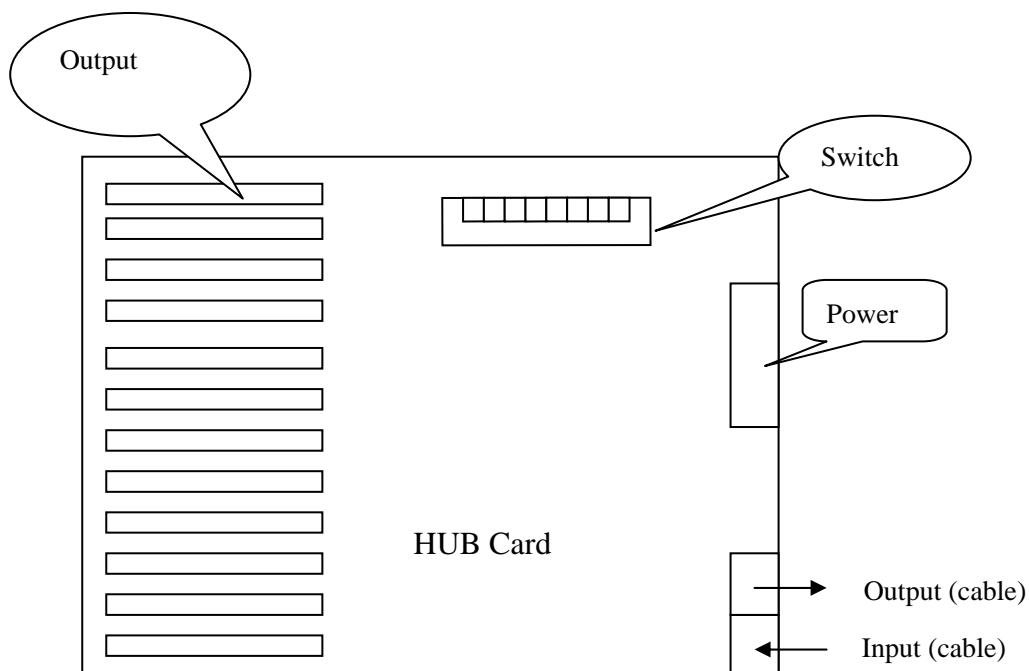
3. Optical fiber Receiver



Note:

a. Optical fiber Receiver used in Optical fiber systems. When power is on, the ACTIVE LED is bright and POWER LED wink.

2. HUB card

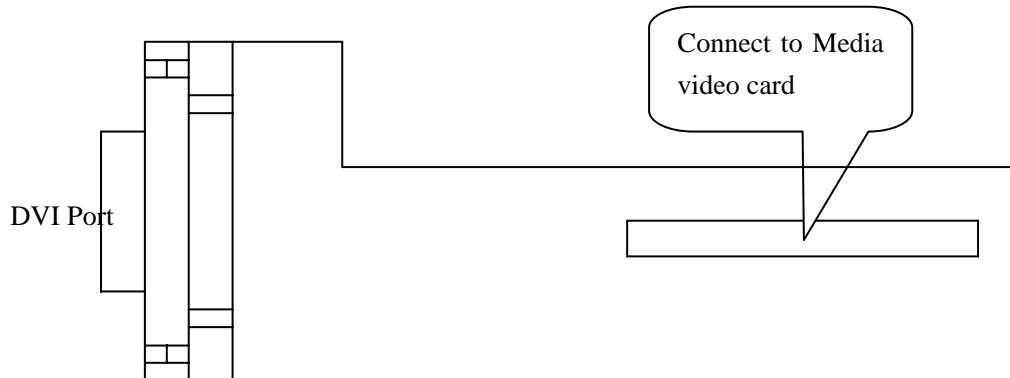


Note:

a. There are 8 switches on the HUB Card which are near the power electrical outlet. They are mainly used to setting the sampling window's size and position. When the switch at the position "ON", it is 0 .Or else it is 1. Our engineers define the meaning.

b. HUB Card is used in every LED system.

3. DVI switch card



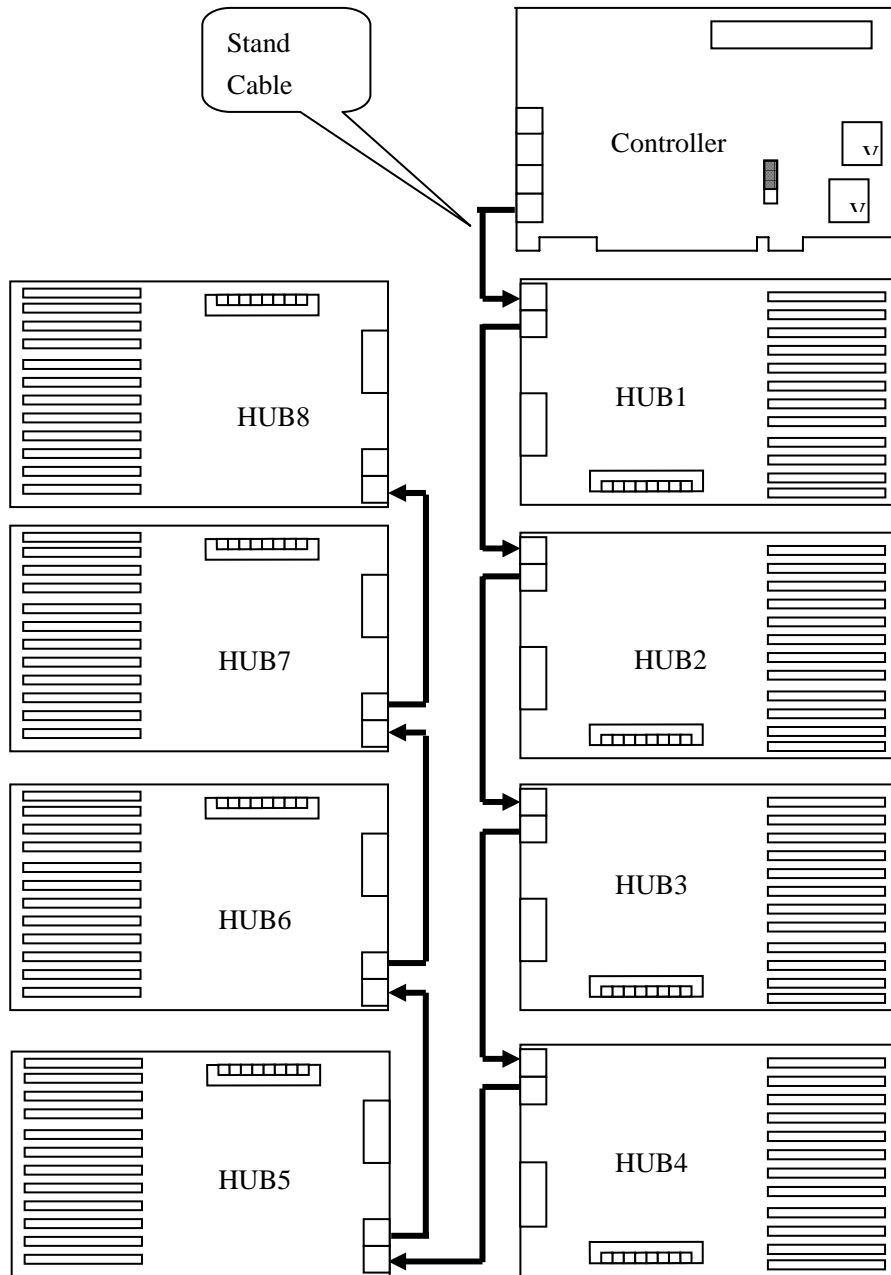
Note:

a. When you use DVI Monitor Card to get 24bits RGB signal from computer monitor, DVI switch card should be available. If you use Media monitor to support your computer monitor, a 50-pin flat cable is enough. DVI switch card should be assembled to Controller if you use DVI Monitor Card.

Appendix1 JS2002/2004 HUB Card Out port definition

Describe	Out port	Out port	Describe
GND	1	2	BLUE
GND	3	4	LINH
GND	5	6	LINA
GND	7	8	LINB
GND	9	10	LINC
GND	11	12	LIND
GND	13	14	RED
GND	15	16	STR
GND	17	18	CLK
GND	19	20	GRN
GND	21	22	BLUE
GND	23	24	LINH
GND	25	26	LINA
GND	27	28	LINB
GND	29	30	LINC
GND	31	32	LIND
GND	33	34	RED
GND	35	36	STR
GND	37	38	CLK
GND	39	40	GRN

Appendix2 a Sample of System design



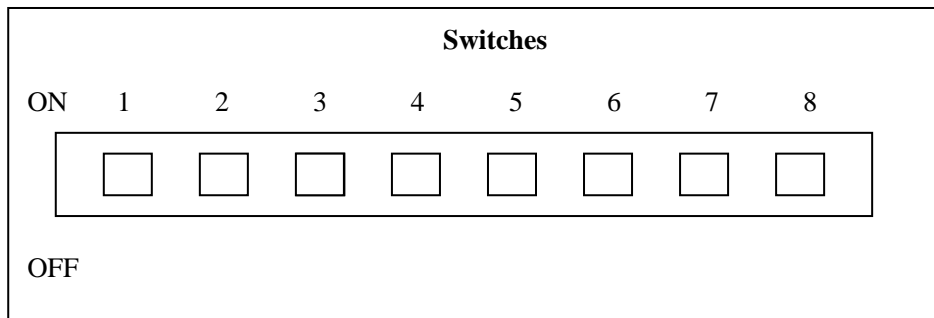
Note:

a. On the above system, a controller controls 256 by 192 pixels LED screen. Above only show you half of the connection, the other part of connection is the same. But you should connect the HUB1's input to controller's the second output.

In this system, 1-4 switch are defined, others undefined.

The switch should be set as follow.

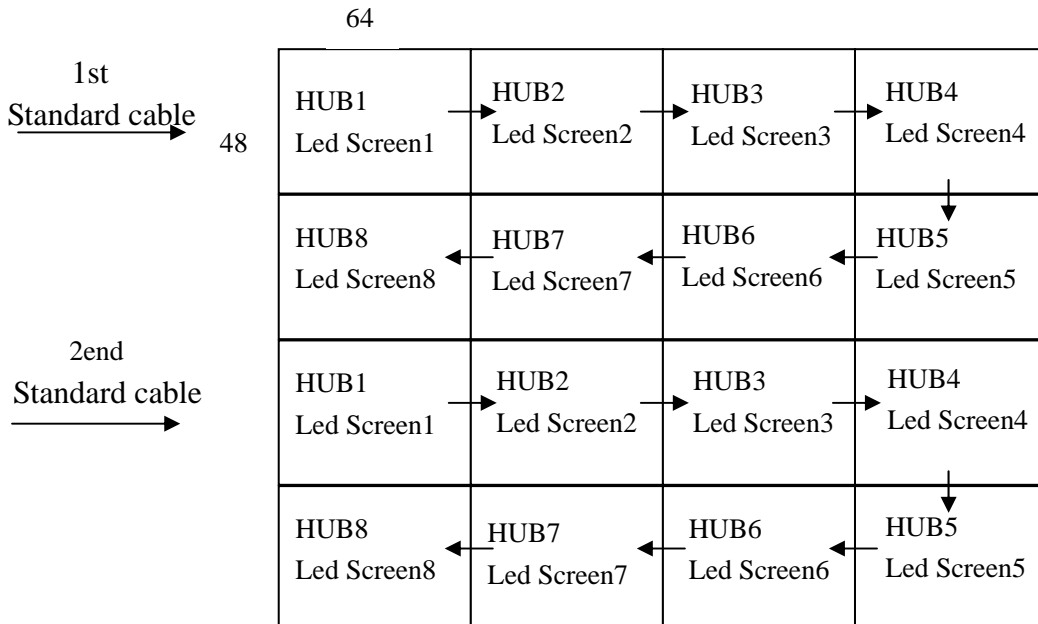
HUB	Switch1	Switch2	Switch3	Switch4	Switch5	Switch6	Switch7	Switch8
HUB1	0	0	0	0	0	0	0	0
HUB2	1	0	0	0	0	0	0	
HUB3	0	1	0	0	0	0	0	0
HUB4	1	1	0	0	0	0	0	0
HUB5	0	0	0	1	0	0	0	0
HUB6	1	0	0	1	0	0	0	0
HUB7	0	1	0	1	0	0	0	0
HUB8	1	1	0	1	0	0	0	0



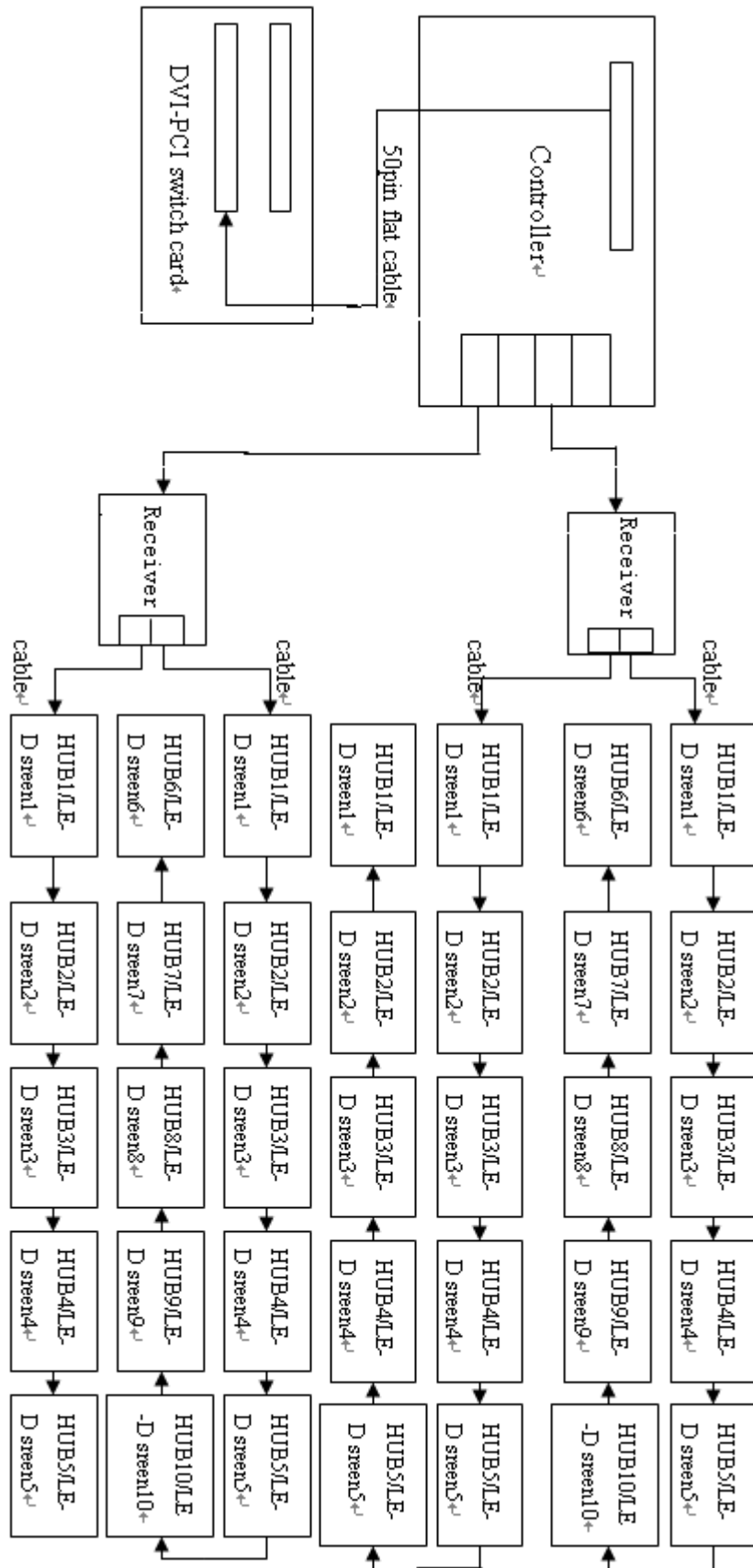
b. A hub card control 64 by 48 pixels LED screen and it will display 128 by 96 pixels dynamic pictures.

c. There are 12 out ports on a HUB card, and a port control 64 by 4 pixels LED screen.

LED screen and HUB card's relative

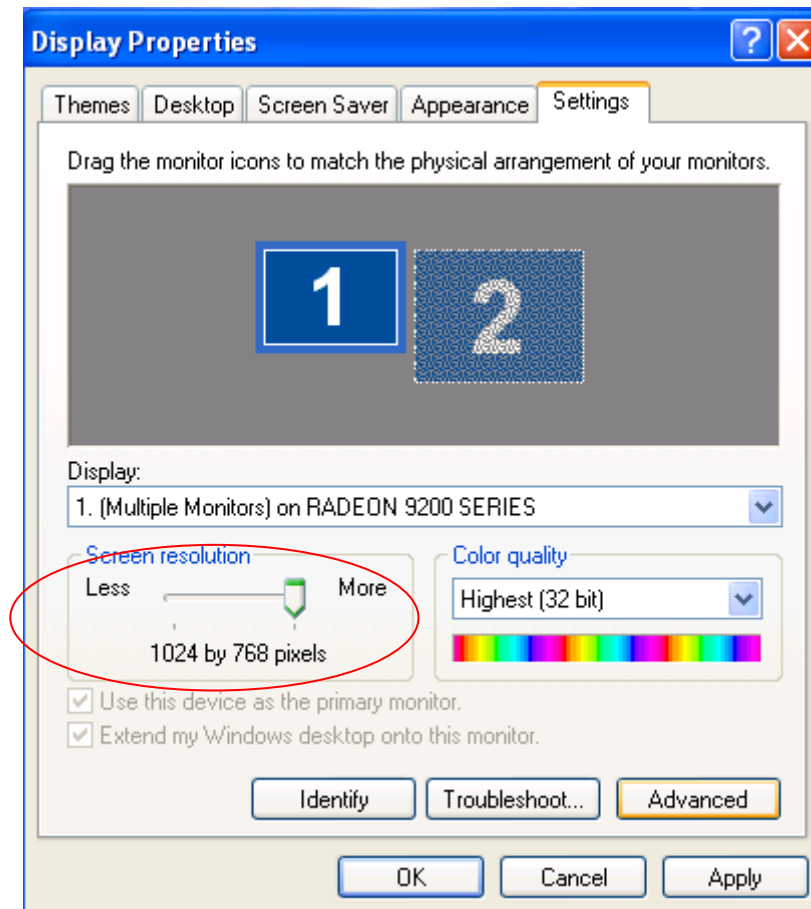


Appendix 3 A sample of optical fiber system design



Appendix 4 ATI Template setting

1. Click the desktop, and choose the “properties” Menu .Display Properties window is opened:

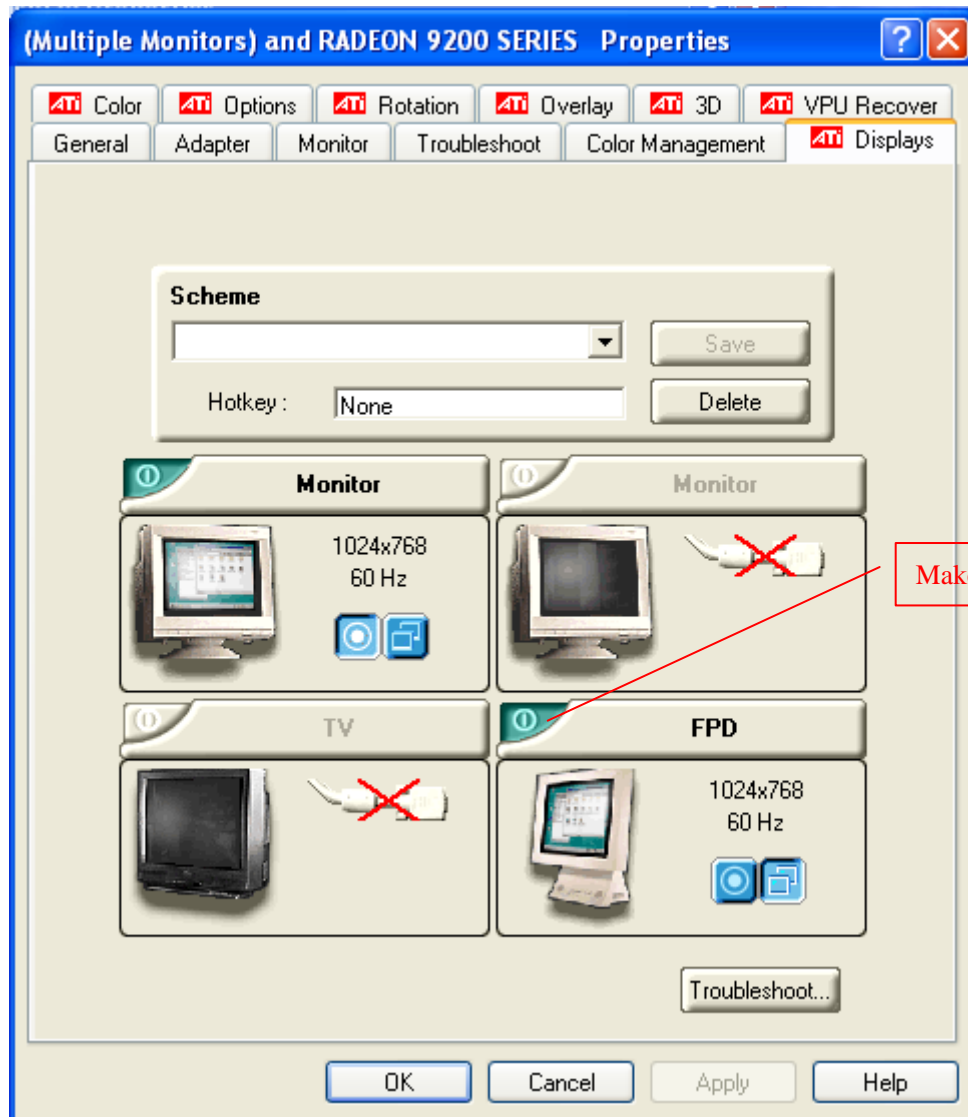


Set the Screen resolution to 1024 by 768 pixels.

2. Click the “Advanced”button, another window is opened.

Set displays mode.

If the “FPD”button is red, click it to green .This operation is needed.

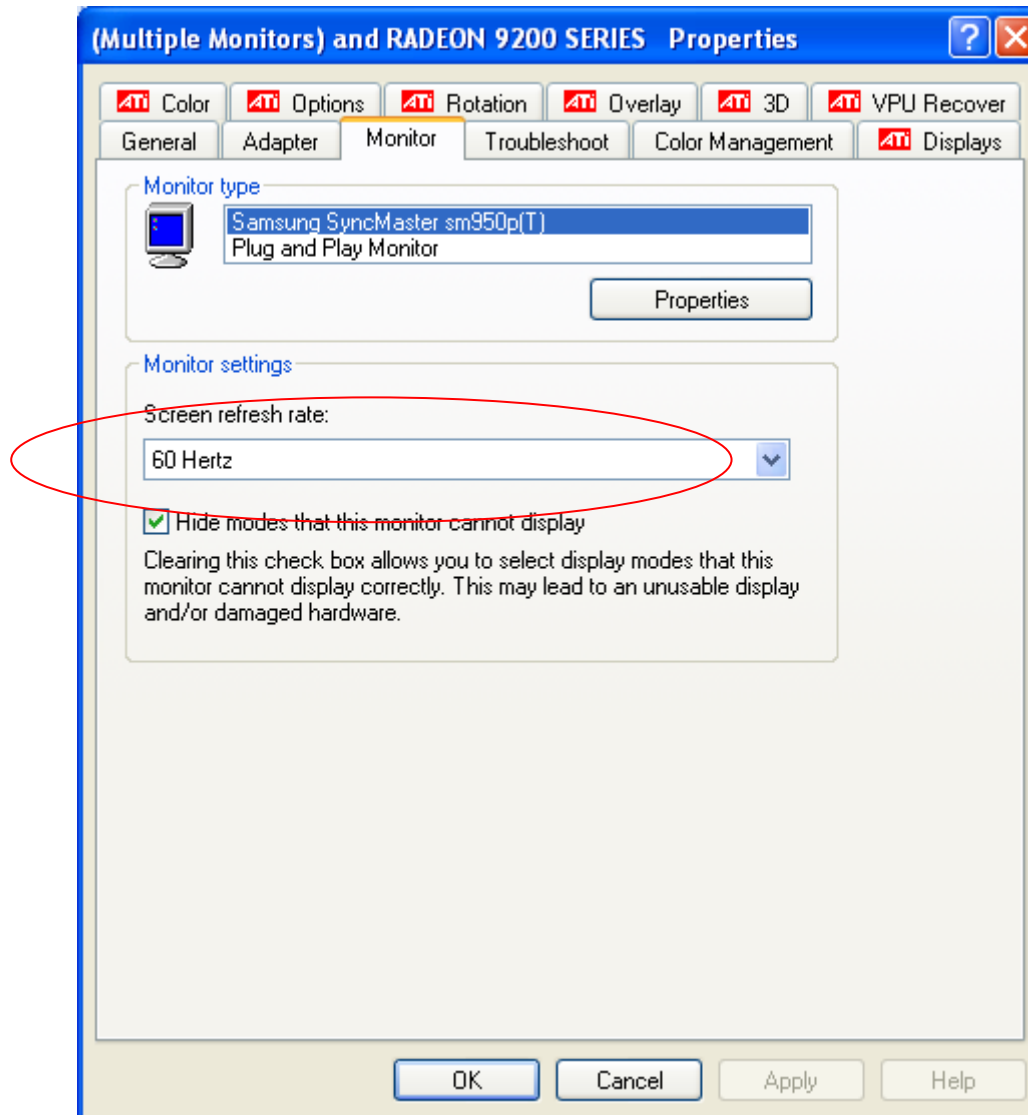


3. Set monitor parameters.

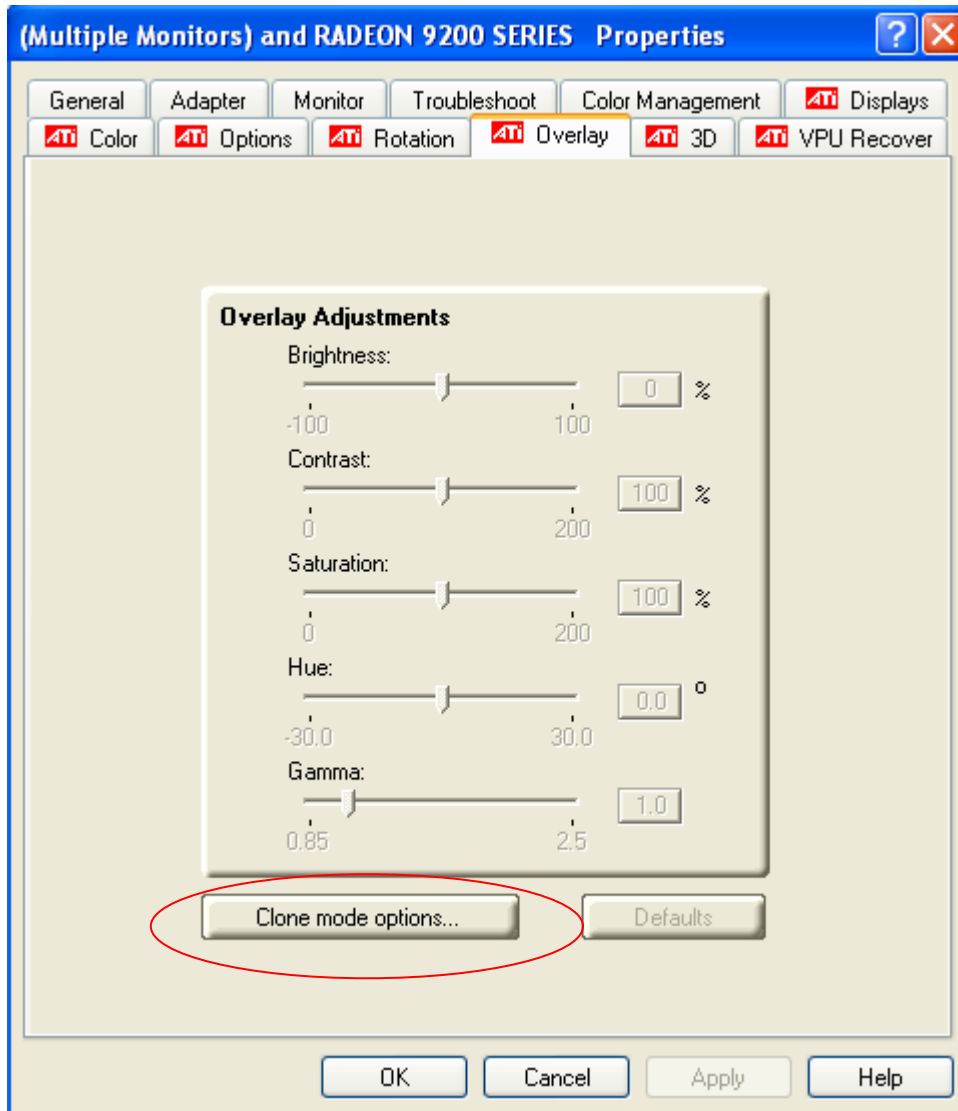
Set Screen refresh rate.

When your LED Screen is normal, set it to 60Hz.

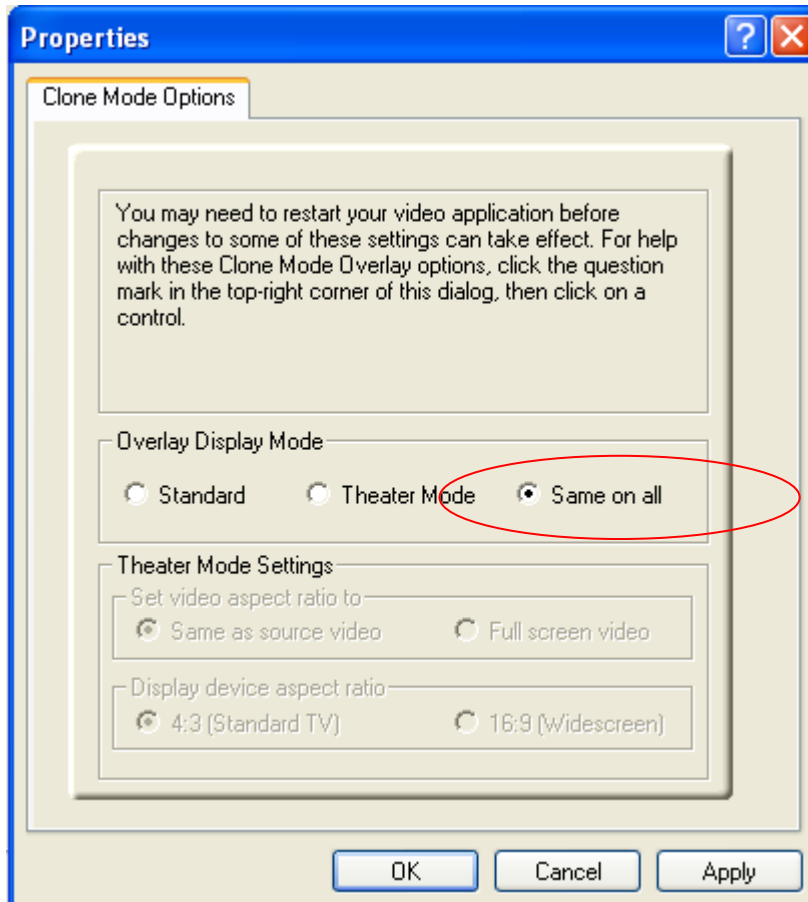
If your LED Screen supports Dynamic pixels, you should set it to 75Hz.



4. Set Overlay parameters. Click Overlay button.



And click “Clone mode options...” button, and choose “Same on all” in following window.



Appendix 5

Before you run the program “LedPara”, you should put two files to appoint direction.

1. If your system is Windows2000, and the system disk is X:

Put a copy of PORTIO.DLL to X:\WINNT\system32\ .

Put a copy of PortTalk.sys to X:\WINNT\system32\drivers .

2. If your system is WindowsXP, and the system disk is X:

Put a copy of PORTIO.DLL to X:\WINDOWS\system32\ .

Put a copy of PortTalk.sys to X:\WINDOWS\system32\drivers .