

User Manual

S242P

23.6" FHD Surgical Color LCD Display

BEACON 巨烽

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I SAFETY SYMBOLS & PRECAUTIONS

I SAFETY SYMBOLS

Medical displays are mainly used to provide trained medical staff with professional digital images, thus for the professional reading and analysis.

This manual uses the safety symbols below. They denote critical information. Please read them carefully.

	WARNING Failure to abide by the information in a WARNING may result in serious injury and can be life threatening.
	CAUTION Failure to abide by the information in a CAUTION may result in moderate injury and/or property or product damage.
	Alert electrical hazard.
	Indicates a prohibited action.
	Indicates to ground for safety.

To prevent fire or shock hazard, do not expose the device in rain or in wet environments. This monitor is completely safe for the patients. This device is not recommended to connect household equipments.

Although every effort to ensure the latest information provided in this manual. please note that monitor specifications are subject to change without notice.

I PRECAUTIONS

To ensure personal safety and proper maintenance, please read this section and the caution statements on the unit.

WARNING

If the unit begins to emit smoke, smells like something is burning, or makes strange noises, disconnect all power connections immediately and contact your dealer for advice.

Attempting to use a malfunctioning unit may result in fire, electric shock, or equipment damage.

Do not open the cabinet or modify the unit.

Opening the cabinet or modifying the unit may result in fire, electric shock, or burn.

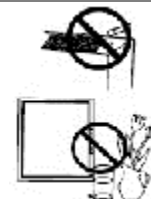


Refer all servicing to qualified service personnel.

Do not attempt to service this product yourself as opening or removing covers may result in fire, electric shock, or equipment damage.

small objects or liquids away from the unit.

Small objects accidentally falling through the ventilation slots into the cabinet or spillage into the cabinet may result in fire, electric shock, or equipment damage. If an object or liquid falls/spills into the cabinet, unplug the unit immediately. Have the unit checked by a qualified service engineer before using it again.



This monitor can be a long boot, but the life will be reduced.

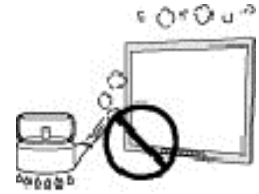
Place the device on a solid and stable surface.

If the unit is placed on an inadequate surface may occur fall and result in personal injury or equipment damage. If the unit falls, disconnect the power immediately and ask dealer for help. Please do not continue to use damaged equipment. Using a damaged unit may result in fire or electric shock.

**Set the unit in an appropriate location.**

Not doing so may result in fire, electric shock, or equipment damage.

- | Do not place outdoors.
- | Do not place in the transportation system (ship, aircraft, trains, automobiles, etc.
- | Do not place in a dusty or humid environment.
- | Do not place in a location where the steam comes directly on the screen.
- | Do not place near heat generating devices or a humidifier.
- | Do not place in an inflammable gas environment.

**To avoid danger of suffocation, keep the plastic packing bags away from babies and children..****Use the enclosed power cord and connect to the standard power outlet of your country.**

Be sure to remain within the rated voltage of the power cord. Not doing so may result in fire or electric shock.

To disconnect the power cord, grasp the plug firmly and pull.

Tugging on the cord may damage and result in fire or electric shock.

**The equipment must be connected to a grounded main outlet.**

Not doing so may result in fire or electric shock.

**Use the correct voltage.**

- | The unit is designed for use with a specific voltage only. Connection to another voltage than specified in this User's Manual may cause fire, electric shock, or equipment damage.
- | Do not overload your power circuit, as this may result in fire or electric shock.

Handle the power cord with care.

- | The unit is designed for use with a specific voltage only. Connection to another voltage than specified in this User's Manual may cause fire, electric shock, or equipment damage.
- | Do not overload your power circuit, as this may result in fire or electric shock.

**Never touch the plug and power cord if it begins to thunder.**

Touching them may result in electric shock.

Do not touch a damaged LCD panel directly with bare hands.

The liquid crystal that may leak from the panel is poisonous if it enters the eyes or mouth. If any part of the skin or body comes in direct contact with the panel, please wash thoroughly. If some physical symptoms result, please consult your doctor.

**Follow local regulation or laws for safe disposal.**

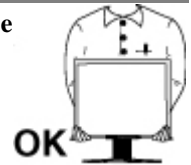
CAUTION

Handle with care when carrying the unit.

Disconnect the power cord and signal cables and remove the optional unit. Moving the unit with the cord or the option attached is dangerous. It may result in injury.

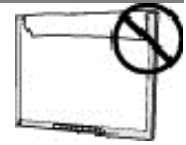
When handling the unit, grip the bottom of the unit firmly with both hands ensuring the panel faces outward before lifting.

Dropping the unit may result in injury or equipment damage.



Do not block the ventilation slots on the cabinet.

- | Do not place any objects on the ventilation slots.
- | Do not install the unit in a closed space.
- | Do not use the unit laid down or upside down.



Blocking the ventilation slots prevents proper airflow and may result in fire, electric shock, or equipment damage.

Do not touch the plug with wet hands.

Doing so may result in electric shock.



Periodically clean the area around the plug.

Dust, water, or oil on the plug may result in fire.

Unplug the unit before cleaning it.

Cleaning the unit while it is plugged into a power outlet may result in electric shock.

If you plan to leave the unit unused for an extended period, disconnect the power cord from the wall socket after turning off the power switch for the safety and the power conservation.

LCD PANEL

When the monitor is cold and brought into a room or the room temperature goes up quickly, dew condensation may occur inside and outside the monitor. In that case, do not turn the monitor on and wait until dew condensation disappears, otherwise it may cause some damages to it.

In order to suppress the luminosity change by long-term use and to maintain the stable luminosity, please use the monitor with the lower brightness.

The screen may have defective pixels. These pixels may appear as slightly light or dark area on the screen. This is due to the characteristics of the panel itself, and not the product.

The backlight of the LCD panel has a fixed life span. When the screen becomes dark or begins to flicker, please contact your dealer.

Do not press on the panel or edge of the frame strongly, as this may result in damage to the screen. There will be prints left on the screen if the pressed image is dark or black. If pressure is repeatedly applied to the screen, it may deteriorate or damage your LCD panel. Leave the screen white to decrease the prints.

Do not scratch or press on the panel with any sharp objects, such as a pencil or pen as this may result in damage to the panel. Do not attempt to brush with tissues as this may scratch the LCD panel.

When the screen image is changed after displaying the same image for extended periods of time, an afterimage may appear. Use the screen saver or timer to avoid displaying the same image for extended periods of time.

FCC Warning:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.



Wellkang Ltd
Suite B
29 Harley Street
LONDON, W1G 9QR
United Kingdom

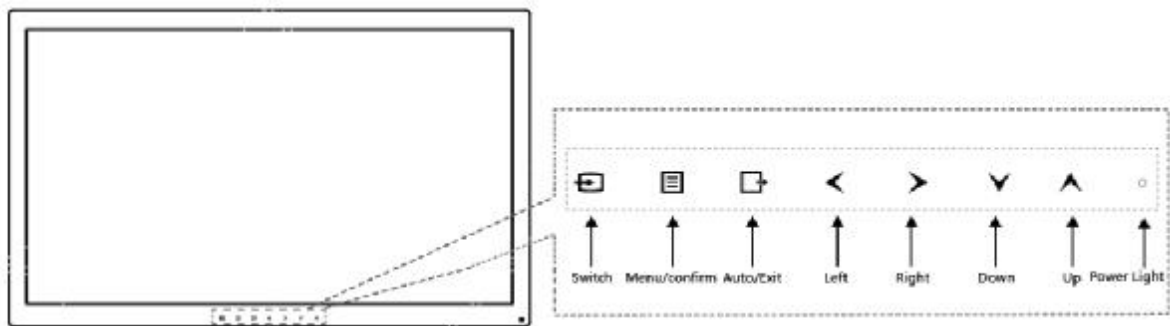
I INTRODUCTION

S242P is a professional full HD surgery medical image display used in the operating room with the characteristic such as high definition and high brightness.

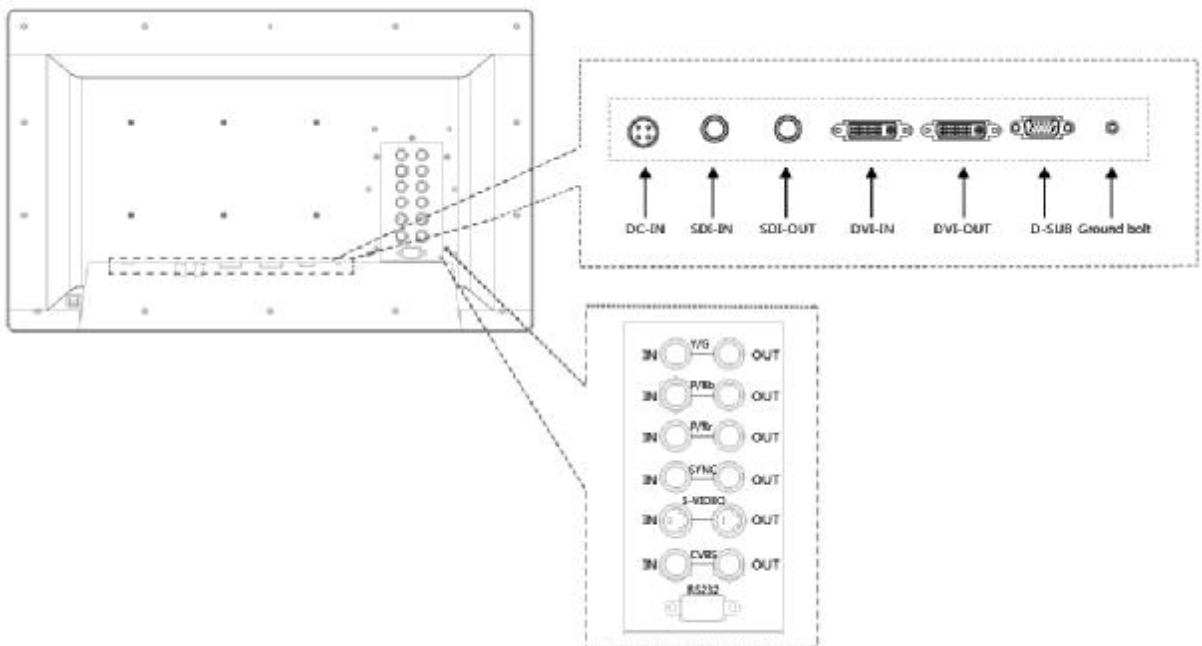
This product is with precise calibration and completely compliant with standard of medical imaging, it uses the latest generation of LED backlight panel, supports resolution 1920 x1080, provides HD display for the output of surgery, endoscope and etc. With built-in brightness stabilization control circuit and 12 bit image processing technology, make sure the product meet the demand of high precision medical imaging. With a variety of interfaces, it is suitable for a variety of digital operating equipment signals. The products comply with IEC60601-1, IEC 60601-1-2 safety and EMC standards and CCC safety certification

I CONTROL AND CONNECTOR

a. The front side of the monitor



b. The back side of the monitor



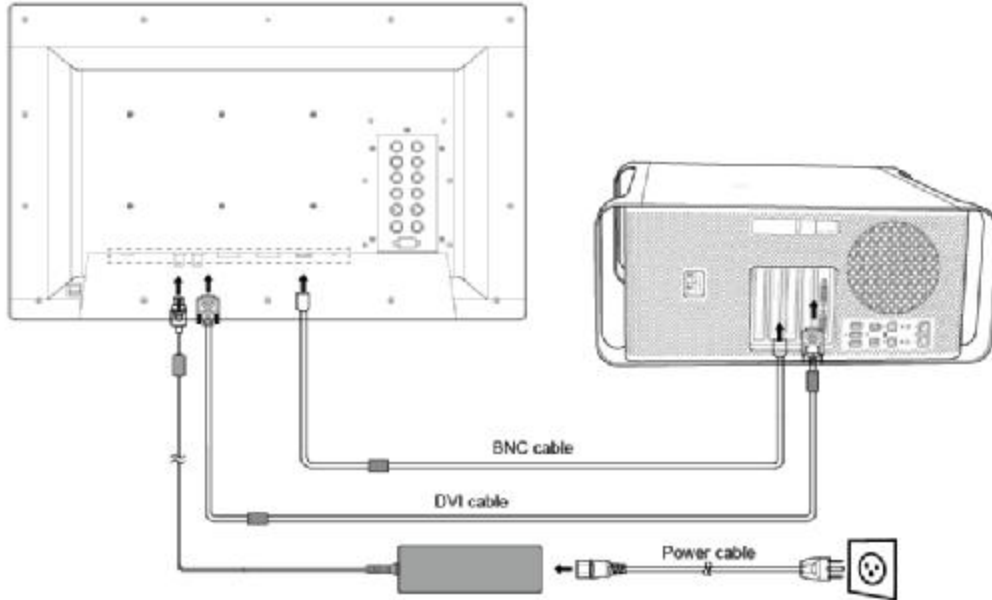
I QUICKLY STARTING

Note: Be sure that the power switches of both the computer and the monitor are OFF.

I CONNECTING THE CABLES

Put the signal cable into the back of the monitor connector, then plug the other end into the computer's display interface. As shown in the figure below.

After connecting, tighten the screws.



I STARTING UP

Put the power cord into the back of the monitor power connector, then plug the other end into a power outlet. Turn on the switch of the monitor, meanwhile, the power indicate LED will be light (blue color). Then start the computer or the device.

Set the display mode as bellow: Resolution: 1920x1080, Refresh ratio: 60Hz.

If no image shown in the screen, please refer to the "failure analysis" to get help.

WARNING

Please use the enclosed power cord to connect the standard power outlet.

Please ensure that the monitor's power plug can be fully inserted into the socket. Make sure the power cord used within the rated voltage. Or it may result in fire or electric shock.

Equipment must be connected to a outlet that grounded good.

Or it may result in fire or electric shock.



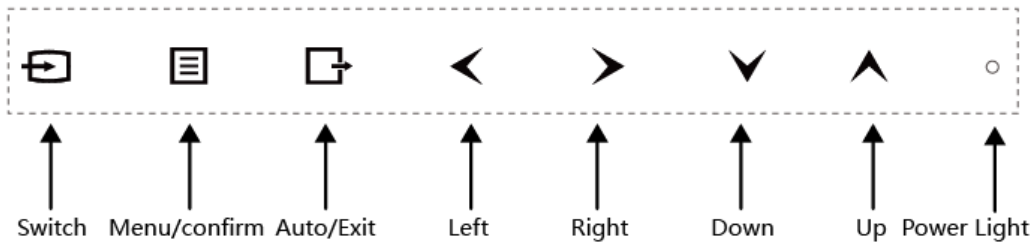
Please turn on the monitor and then computer power.

The monitor's power indicator will light (green). If the image does not appear, refer to the "failure analysis" for help. After each use, turn off the computer and the monitor.

Note:

This monitor can run for a long time, but life will be reduced. Recommended 10-minute break every hour.

I OSD MENU



I SIGNAL INDICATOR

Color	Display mode
Blue	Operating mode
Orange	Standby mode
None	Power off mode

I SHORTCUTS

Key	Function
◀ Left	Reduce brightness values
▶ Right	Increase brightness values
▲ Up	Reduce contrast values
▼ Down	Increase contrast values

I KEY FUNCTION




Keys	Function
◻◻ Signal switching	Signal switching
◻◻ Menu/Confirm	Enable the menu and moved to the next entry column/confirm the choice
◻◻ EXIT	Exit menu/Automatic adjust displays
◀ Left	Move to the left column
▶ Right	Move to the right column
▲ Up	Move to the last column or reduce values
▼ Down	Move to the next column or increase values

4.1 OSD MENU INTRODUCTION

Main Menu	Sub Menu	Reference
Input	Main Input	VGA/DVI /CVBS /S-VIDEO/YPbPr/ RGB/SDI
	PIP Mode	Large pip, Side-by-side, Off
Image	Brightness	Brightness adjust
	Contrast	Contrast adjust
	Sharpness	Sharpness adjust
	Aspect Ratio	5:4/ 4:3/ Full/ Full Aspect/ Native/ User
	Mode Select	Overlapping mode selection (According to different input signal to select different suitable overlapping mode.
Setup	Color Temp	5500K/6500K/7500K/8500K/9300K/10000K/User
	Gamma	DICOM/ 2.4/2.3/2.2/ 2.1/ 2.0/ 1.8
	RGB/ YPbPr RGB/ YPbPr SEL	RGB/YPbPr signal select
	OSD Position	Center/Top Left/Top Right Bottom Left/Bottom Right
	OSD Language	English /Chinese
	Auto Scan Input	On off
	Factory Reset	Restore the factory default parameters
VGA	Auto Adjust	Automatic adjust displays, Detailed to see 5.2-5.4.
	H-position	
	V-position	
	Clock	
	Phase	
Lock	Key Lock	Lock or unlock the touch-key shortcut functions
Status	FW version	Software version information
	Main Input	The input information of main signal source
	Main Format	The input signal format of main signal source

I TROUBLESHOOTING

If a problem persists even after applying the suggested remedies, contact a dealer.

Problems	Points to check with Possible Solutions
1. No picture Indicator status: Off	Check that the power cord is correctly connected. If the problem persists, turn off the monitor power for a few minutes, then turn it back on and try again.
Indicator status: Green	Check the <Backlight> shortcut key setting.
Indicator status: Orange	Try pressing the keys on the computer keyboard or clicking the mouse.
2. Display position is incorrect. 	Adjust the image position by using the <H-Position> and <V-Position>. If the problem persists, use the graphics board's utility software to change the display position if available.
3. Vertical bars of distortion appear. 	Decrease the horizontal bars by using the <Clock>.
4. Horizontal bars of distortion appear. 	Decrease the horizontal bars by using the <Phase>.
5. The screen is too bright or too dark.	Adjust <Backlight> shortcut key (The backlight of the LCD monitor has a fixed life span. When the screen becomes dark or begins to flicker, please contact your dealer.)
6. After image phenomena appear	<ul style="list-style-type: none"> ! Make sure that whether you have used the screen saver or timer when displaying the same image for extended periods of time or not. ! Afterimages are particular to LCD monitors. Avoid displaying the same image for extended periods of time.
7. The screen has defective pixels	This is due to the characteristics of the panel itself, and not the LCD product.
8. Shiatsu traces left on the screen	Keep the screen background white can solve this problem.

I CLEANING

Periodic cleaning is recommended to keep the outlook of monitor clean and prolong the life time.

Note: Never use thinner, benzene, alcohol (ethanol, methanol or isopropyl alcohol), abrasive cleaners or other solvents before the solubility, as they may damage the cabinet or LCD screen.

Cabinet

To remove stains, use a soft cloth lightly moistened with a mild detergent solution.

Do not spray wax or cleaner directly into the cabinet. (For details, refer to the manual of the PC.)

LCD Panel

The LCD surface can be cleaned with a soft cloth, such as cotton or lens paper.

If necessary, use part of damp cloth (to improve its cleaning ability) to remove Stubborn stains.

I PRODUCT PACKAGING AND ACCESSORIES

LCD monitor

Power cable

DVI signal cable

BNC signal cable

S-VIDEO signal cable

User manual

Power adapter

I SPECIFICATION

8.1 SPECIFICATION

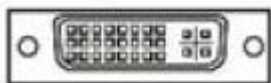
LCD panel	23.6", TFT color LCD, AG, Hard coating	
Brightness(Typ.)	400 cd/m ²	
Contrast	1000:1	
response speed	15ms	
Viewing angle	Horizontal&Vertical:178°atΦ=0°,90°,180°,270° CR >10	
Pixel pitch	0.2715 mm x 0.2715 mm	
Horizontal scanning frequency	31~80 kHz	
Vertical scanning frequency	50~76 Hz	
Resolution	1920 x 1080	
Support color	1.07 Billion	
Power supply	DC: 24V(4.2A)	
Power consumption	Max: 45 W	
Input interface	VGA	15 pin D-sub, 0.7 Vp-p, separate sync
	DVI	24pin, DVI-D, TDMS signal
	SDI	BNC, 75Ohm terminated
	CVBS	BNC, 75Ohm terminated (Support : PAL/NTSC/SECAM)
	S-VIDEO	DIN-4, 1VppY-signal, +/-300mV C-signal
	YPbPr/RG B	BNC, 1Vpp Y signal, +/-350mV Pb,Pr signal
Output interface	CVBS, YPbPr, S-VIDEO, DVI, SDI	
Service interface	RS232 D-SUB 9PIN	
Plug and Play	VESA DDC 2B	
Weight	6.0kg	
Temperature	Operating: 0°C ~ 40°C	
	Store: -20°C ~ 60°C	
Humidity	30%~80% R.H. non-condensing	

8.2 D-SUB 15 PIN CONNECTOR



Pin	Signal	Pin	Signal	Pin	Signal
1	Red video	6	Red ground	11	Ground Shorted
2	Green video	7	Green ground	12	Data (SDA)
3	Blue video	8	Blue ground	13	H. Sync
4	Ground	9	5V	14	V. Sync
5	GND	10	Ground Shorted	15	Clock (SCL)

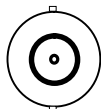
8.3 DVI-D CONNECTOR



Pin	Signal	Pin	Signal	Pin	Signal
1	TMDS Data 2-	9	TMDS Data 1-	17	TMDS Data 0-
2	TMDS Data 2+	10	TMDS Data 1+	18	TMDS Data 0+
3	TMDS Data 2/4 Shield	11	TMDS Data 1/3 Shield	19	TMDS Data 0/5 Shield
4	TMDS Data 4-	12	TMDS Data 3-	20	TMDS Data 5-
5	TMDS Data 4+	13	TMDS Data 3+	21	TMDS Data 5+
6	DDC Clock (SCL)	14	+5V Power	22	TMDS Clock shield
7	DDC Data (SDA)	15	Ground (For +5V)	23	TMDS Clock+
8	NC	16	Hot Plug Detect	24	TMDS Clock-

(*NC: No connection)

8.4 CVBS CONNECTOR



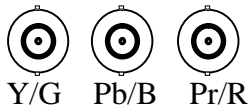
Pin	signal
1	CVBS
2	GND

8.5 S-Video CONNECTOR



Pin	signal
1	GND
2	GND
3	Y
4	C

8.6 YPbPr/RGB CONNECTOR



Pin	Signal		
1	Y/G	Pb/B	Pr/R
2	GND	GND	GND

8.7 PRESET TIMING

I VGA/DVI preset timing

Formats	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)
720 x 400	31.5	70.1	28.3
640 x 480	31.5	59.9	25.2
800 x 600	37.9	60.3	40.0
1024 x 768	48.4	60.0	65.0
1280 x 1024	64.0	60.0	108.0
1600 x 1200	75.0	60.0	162.0
1920 x 1080	66.6	59.9	138.50
1920 x 1080	67.0	60.0	172.750

I RGB/YPbPr preset timing

Video Formats	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)
752 x 582i/50Hz	15.625	50.0	14.1875
480i/60Hz	15.734	59.940	13.5
576i/50Hz	15.625	50.0	13.5
480p/60Hz	31.469	59.940	27.0
576p/50Hz	31.25	50.0	27.0
720p/50Hz	37.50	50.0	74.250
720p/60Hz	45.00	60.0	74.250
1080i/50Hz	28.125	50.0	74.250
1080i/60Hz	33.750	60.0	74.250
1080p/50Hz	56.250	50.0	148.50
1080p/60Hz	67.500	60.0	148.50

I CVBS, S-VIDEO preset timing

Video Formats	Horizontal Frequency(kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)
PAL(576i)	15.625	50.0	13.50
NTSC(480i)	15.734	59.940	13.50

I SDI input preset timing

Video Formats	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)
480i/60Hz	15.734	59.940	13.50
576i/50Hz	15.625	50.0	13.50
720p/50Hz	37.50	50.0	74.250
720p/60Hz	45.00	60.0	74.250
1080i/50Hz	28.125	50.0	74.250
1080i/60Hz	33.750	60.0	74.250

I DECLARATION OF CONFORMITY

This equipment is in conformity with the provisions of the CCC, CE, IEC60601-1 standard.

This equipment satisfies the following two conditions:

- I The device will not bring dangerous interference;
- I The device will not be influenced by outer interference and cause unpredictable results.
- I To avoid interference with radio or TV receiving, please use the power adapter and cable matched; Use other cable and power adapter may interfere the other electronic equipment;
- I This equipment has passed the standards of CCC; the device will have a wireless electromagnetic wave, incorrect installation and using will cause interference with wireless communication systems.
- I Please do the following steps if there is interference to the other devices when running this equipment:
 - I Adjust the angle and position of the radio or the television reception antenna;
 - I Increase the distance between this equipment and the radio or the television reception antenna;
 - I This equipment doesn't share the same the power input circuit with the radio or the television reception antenna;
 - I Please consult the professional person if any problem.