User Manual

19" LCD Monitor
DSC1910-D（DSC1910-DC）

Contents

Federal Communications Commission (FCC) Statement
You are cautioned that changes or modifications not expressly approved by the part responsible for compliance could void the user's authority to operate the equipment

FCC- Class B
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 communications. However, there is no guarantee that interference will not occur in 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.**

1. Application

This high-resolution color display is specifically designed to meet the rigorous performance standards needed for diagnostic, interventional radiology, and other medical applications. To guarantee image integrity, features include accurate signal conversion and a wide range of interfacing options.

Compact design -Low weight and small size with improved performance make the color flat panel display DSC1910-D preferable to conventional CRT monitors.

Embedded LUT(Look Up Table)-This monitor is factory calibrated to achieve DICOM part 3.14 compliance and Linear gray level reproduction at the factory set point. 5 different settings are stored within the display.

Screen resolution- DSC1910-D is equipped with a panel with Super In Plane switching technology. The optimal picture resolution is 1280 x 1024 pixels. Video signals with other resolutions typical to medical engineering are optimally zoomed in or out to the screen size.

Fast backlight stability- The luminance stabilization circuit employs a built in photo sensor to keep the back-light lamps at a constant luminance for consistent calibration over the life of the display and can control the back light system automatically to extend the life of the monitor and achieve very short warming up time.

Embedded full functional standbase - The standbase is embedded inside the monitor and can be easily removed. The standbase is up/down and tilt adjustable.

2. Declarations

Safety precautions

Medical Equipment
With respect to electric shock, Fire and mechanical hazards only in accordance with UL 60601-1 and CAN/CSA C22.2 No. 601.1

Regular maintenance and calibration are recommended
Please note that liquid crystal displays such as the DSC1910-Ddo not have a failure rate of zero and image parameters may change over time (e.g. luminance or discoloration). Please ensure that all measures are taken to prevent injuries or incorrect diagnoses. Regular maintenance and calibration are recommended.
Correct and safe operation of the flat panel displays is dependent on proper transport, storage, installation and assembly, as well as careful operation and maintenance. The units must only be used for applications for which monitors are normally used. The information in the Section "Technical data" must be observed exactly.
For the sake of safety, the following precautions must be observed:

Danger: There is a danger to life if the warning information is not observed. Severe personal injury or damage to property may occur.
Do not open the unit yourself.

Certain components inside the units are at high-voltage, i.e. touching these components presents a **danger to life!**

Only use a perfect power supply cable
A damaged power supply cable may result in a fire or electric shock. When disconnecting the power supply cable, always do so by holding the plug.

Only use the same type of fuse
2.0A/250V

Do not insert any objects into the housing
Objects inserted into the housing may result in damage to the unit or personal injury.

Do not place any objects on top of the units
Penetrating liquids may result in a fire or electric shock.

Connection
No contact to a patient must occur when handling the cables.

Do not hurt yourself, when moving the display
The display can be tilted backwards and forwards. Please, pay attention not to hurt yourself, when moving the display. Fingers or small objects may get stuck at the bottom of the display.
When moving the display up and down (height adjustment), make sure you do not squeeze your hand or any other object. The minimum distance between the display edge and the bottom is only 83 mm.

Caution
Incorrect installation may result in extensive damage to property. Installation should be carried out by trained personnel
When installing your medical electrical system with our products in an environment with patients, please observe the safety requirements of EN 60601-1 (IEC 60601-1) for "Specifications for the safety of medical electrical systems" in order to prevent injury to patients and users of your systems.

Take appropriate measures to particularly ensure that discharge currents remain below the required limits: Appropriate measures:
- Disconnecting devices for signal input or output unit
- Use of a safety transformer
- Use of additional PE conductor

Only use the signal cables and interface cables specified by the manufacturer for the installation.

Use power cables with a PE contact. Only insert into sockets with a PE contact.

For certain applications, the video earth can be separately connected to the PE via the additional PE connection in the plug panel (observe IEC 601-1-1).

Close the plug panel using the provided cover (meaning the display stand), and secure using the screws.
Turn switch off and then remove power cord.

Mounting information: The stability of the display must be guaranteed following mounting of the foot/holder. The immersion depth of the mounting screws has to be 10 to 12 mm including a 3 mm VESA mounting plate. (See also table "Mounting screws" on the following). All these requirements are satisfied when using the original foot. All requirements must be observed when using customer-specific mounting solutions.

Notice for users: The plug panel closed by the cover (display stand), must not be opened by users.

Servicing information: If housing components have to be removed for servicing, this must not be carried out in the presence of patients, the user, or other persons not involved with servicing.
The following applies to installations in the USA and Canada**:** Molded power supply plugs must comply with the requirements for "Hospital Grade Attachments" UL 498.

Caution
Failure to observe the warnings may result in substantial damage to property.
Provide sufficient heat dissipation
Slots are provided at the rear of the housing. The display must be placed or secured on a hard, level surface at least 10 cm from the wall and 15 cm away from other devices. Several displays can be butt-mounted horizontally and vertically.
The following must be observed when mounting (VESA connection):

Mounting screws	
Number	4
Thread	M4
Strength	12
Immersion depth	Min. 10 mm; Max. 12 mm
Torque	Max. 3 Nm

The permissible ambient temperature range (5 °C ... 40 °C) must not be violated. Do not subject device to unnecessary shocks. Take care when transporting! **Use the original packaging!** The panel in particular should be protected against shocks.

When touching the panel surface, the mechanical contact or an electrical discharge may cause a brief disturbance in the picture quality.

Care of unit / cleaning agents

− The front panel is extremely sensitive to mechanical damage. Avoid all scratches, knocks etc.!

− Remove water drops immediately; extended contact with water discolors the surface.

Clean the front panel when dirty using a micro fiber cloth and, if necessary, a glass cleaning agent*. Only clean housing parts using a cleaning agent for plastics*.

- **Note:**
  Do not use cleaning agents containing solvent, e.g. petroleum spirit!

Environmental Requirements

Mercury

The Cold Cathode Fluorescent Lamp (CCFL) utilized as the light source for LCD displays, The CCFL is a low-pressure discharge lamp. Construction of the lamp uses a glass tube coated on the inside with an inorganic phosphor. The sealed lamp's envelope contains a mixture of mercury; Mercury damages the nervous system and is toxic in high doses.

Lamp Disposal

Hg

Lamp(s) inside this product contains mercury and must be recycled or disposed of according to state, local or federal law. For more information, Contact the electronic industries alliance at www.Elae.org. For lamp specific disposal information check www.lamprecycle.org.

3. Installation

Provide adequate ventilation

Ventilation slots are located on the rear of the housing.

Ambient temperature

The permissible ambient temperature range must not be violated.

Minimize reflections

The display should be positioned so that reflections of lights, windows, furniture with shiny surfaces or light-colored walls do not appear on the screen.

Minimize mirroring

In order to reduce mirroring on the unit, ceiling lighting or reflected light (no dazzling) should be used. Mirroring can only be eliminated if the screen is clean and free of grease. Clean the display using a suitable micro fiber cloth.

Change of environment

If the unit is brought into a warm environment from a cold one, water may condense upon it. The unit should not be switched on until all the condensed water has evaporated, including that inside the unit. This may take several hours, depending on the conditions.

4. Start-up

Caution

In order to ensure safe operation of the equipment, close attention must be paid to the information contained in this Instruction Manual as well as the warnings in Section 2 "Safety precautions".

Caution Information for end customer

None of the settings must be changed on site by the user, otherwise the guarantee is canceled. This also applies to settings made using the DSC1910-Dkeys. These are therefore locked for certain applications. If settings have to be changed, please contact the responsible servicing department.

The display is designed for individual connection to a graphics card with a power supply of 100 or 240 Volt (TN-S system with PE conductor). If the display is to be used in a sequence of several displays, or if it is not exactly known whether the graphics card standard can be output by the display, refer to Section 5.1 "Connection of the flat panel display".

In order to start the unit properly, the following steps should be carried out in the given sequence.

4.1 Connecting the power and signal cables

Warning The display can be tilted backwards and forwards. Please, pay attention not to hurt yourself, when moving the display. Fingers or small objects may get stuck at the bottom of the display.

Caution

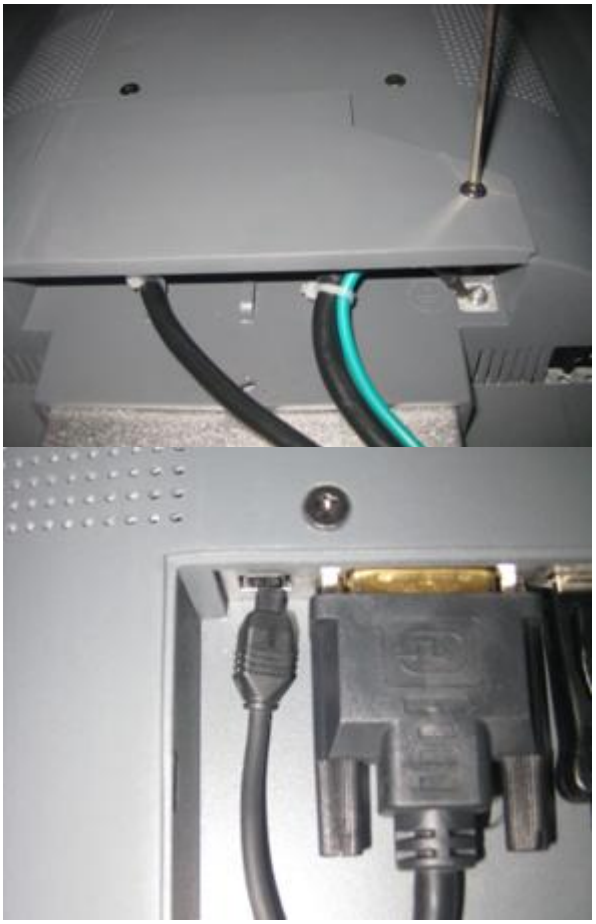
Use a power cable with PE conductor corresponding to the safety requirements of the respective country of use. Note for North America: Molded power supply plugs must comply with the requirements for hospitals with respect to CSA Std. C22.2 No. 21 and UL 498.The power supply and signal connections are located on the rear of the color flat panel display.

Note

Note that the cables are already positioned when you receive the display (power cable and DVI-D cable). The following steps are only necessary if you need to connect/disconnect the cables of the scope of supply.

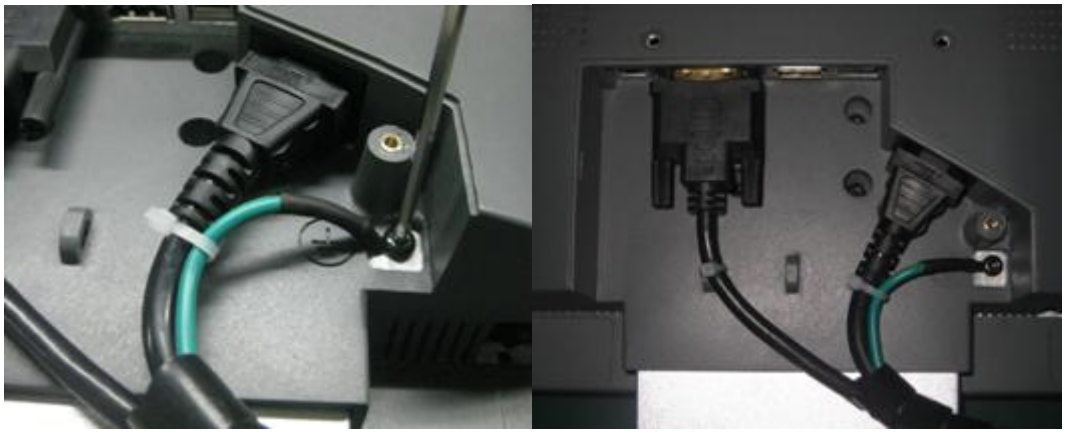
4.1.1 Little cover (removing)

Remove the one screws with an M4 Slot screwdriver (one turn suffices). Open the little cover and remove it



4.1.2 Cable (attaching)

Connect the cables to the display.
To remove the power cable ,first remove the strain relief .It is used for protecting the connection. As the following figure shows. When fixing the power cable, reverse the steps.



DVI-A connector: the flat panel display can be connected to the computer system using an VGA-DVI-A Cable or the analog channel of an DVI connection. for analog signal. The display is adapted using an OSD menu.

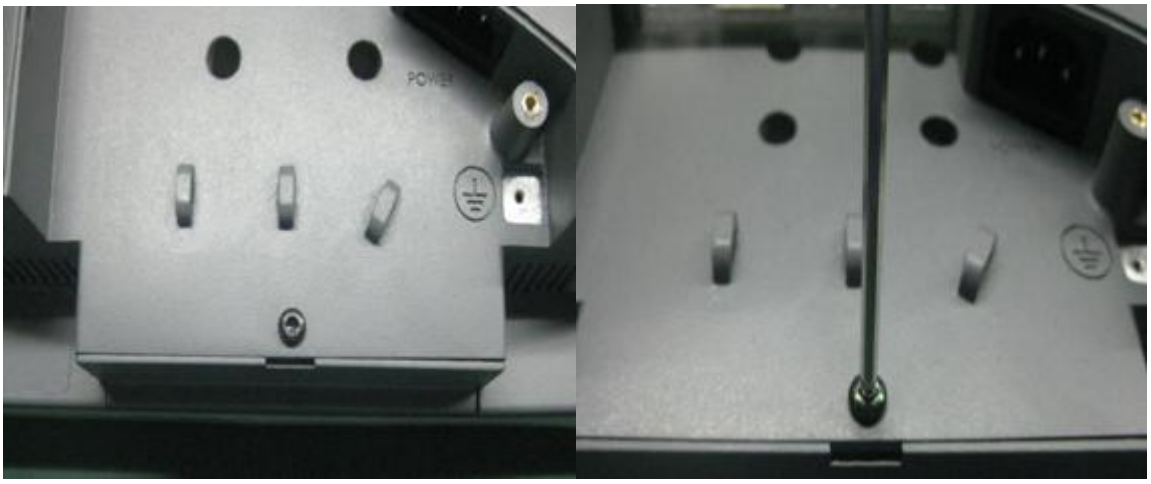
DVI-D connection: The connection to the computer can also be made via the digital single link or via the analog channel of the DVI connection. The picture quality, noise immunity and radiated interference of the complete system depend on the cable quality and length.

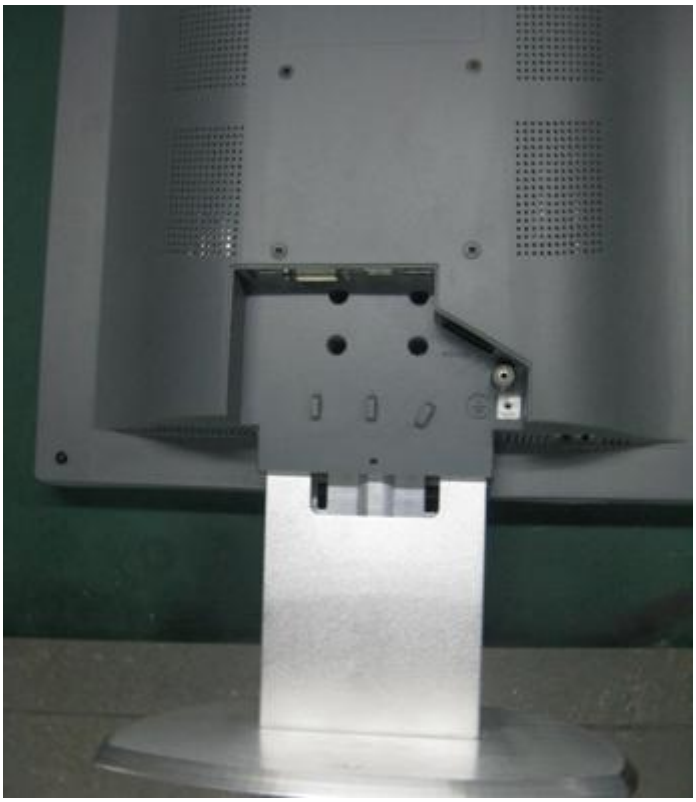
DP connection: The connection to the computer can also be made via the digital single link or via the DP connection. The picture quality, noise immunity and radiated interference of the complete system depend on the cable quality and length.

Serial connection: you can connect the display via the RJ11 connector to the computer for firmware updating.

4.1.3 Standbase (attaching)

Remove the little cover first for table use.





Put the standbase inside the monitor.

Fasten the screws for the standbase.

4.2 Switching on the display

Switch on the flat panel display using the power switch. The operation LED lights up (color: green, provided the timing has been recognized – please refer to section 7 "Fault diagnostics").

4.3 Adjusting the image geometry

The display automatically recognizes the used standard, and set-up values for each standard are preprogrammed. However, depending on the graphics card used, it may still be necessary to align and size the picture for the selected standard (see Section 6.1 "Picture adjustment"). Normally auto adjust will work.

4.4 Adjusting the brightness and contrast

The brightness and contrast must be adjusted for the respective graphics card (different output levels) in the system on site.

Note on adjustment

− Use the SMPTE test pattern.

− Adjust the brightness so that image sections with 5% and 0% blackness still visibly contrast from one another.

− Adjust the contrast so that image sections with 95% and 100% whiteness still visibly contrast from one another. To adapt the luminosity to the ambient lighting, adjust the backlight brightness (note: 137 cd/m² factory setting is

then modified).

4.5 Screen saver

A screen saver function should be used in order to reduce "image sticking" which can occur in TFT displays.
It is high risk to display a static graphic over half an hour.
Image sticking is the effect where a faint image of the previous screen contents can still be seen after the display contents have changed. By using a screen saver with permanently changing screen contents, unnecessary effects of the same image are avoided.

If the keyboard is locked, contact the servicing department in order to unlock it. The guarantee is cancelled if you unlock it yourself!

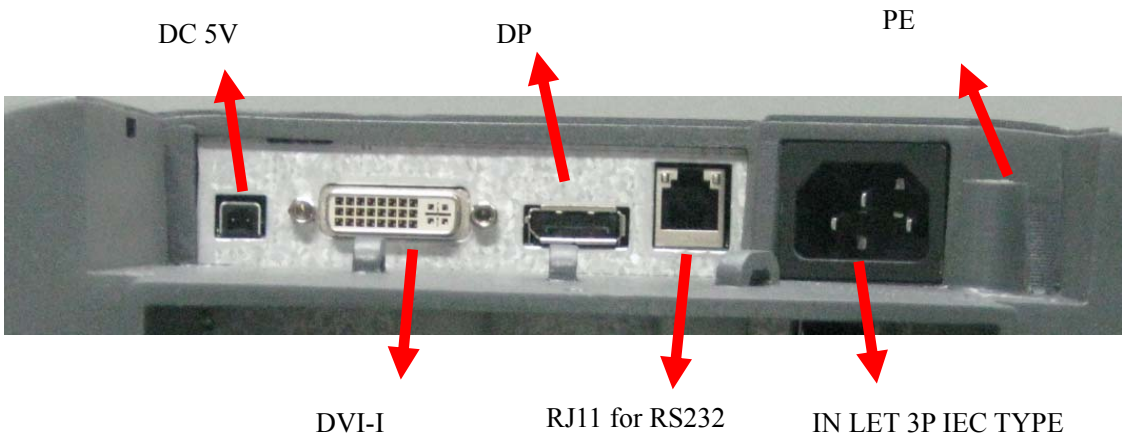
5. Connections

5.1 Connecting the flat panel display

Note
All screening precautions contained in the corresponding EMC guidelines must be observed. If these guidelines are not observed, interference signals could penetrate the monitor.
Information on cable installation
Only screened cables are permitted for the signal connections.
All connectors should be of screw or locking types (as far as possible).
Signal and power cables must not be routed in the same duct.
The display must not share a power supply with motors or valves (glitches!).

5.2 Connection panel

A connection panel for the signals and power supply is located at the rear of the flat panel display underneath the stand and its cover.



5.3 Information on additional serial interface (Service Only)

Serial connection: you can connect the display via the 9pin D-SUB connector to the computer for firmware updating and monitor test.

5.4 Analog and digital inputs (DVI-I,DP)

DVI-I connector
Connect VGA-DVI-A cable with DVI-I connector (male) for the analog input to the DVI- connector (female). Or connect DVI-D cable for digital signal.

DP socket
With DP digital signal through DP cable.

5.5 Power supply connection

Note
Device fuses can not be exchanged outside of the repair centers.
The display power supply is connected using an appliance plug. Only use the power cable supplied in the delivery, or a cable with PE conductor and appliance socket to DIN 49 547, IEC 320.
Caution
A power cable with PE conductor must be used which corresponds to the safety requirements of the respective country of use.

5.6 Serial interface

Caution
No other units may be connected to the service socket. Connection or disconnection of a unit may only be carried out by servicing personnel or those trained by them. A Serial Spot Meter or Universal Serial Luminance Meter must not be connected in the presence of patients.
The display has a serial RS 232 RJ11 interface sockets to update the SW.

5.7 DC-5V power supply

Caution
This port is only use for DVI long cable support.The maximum current is 1A.Connection or disconnection of a unit may only be carried out by servicing personnel or those trained by them.

6. Adjustments

6.1 Picture adjustment

This section describes the settings for operation of the flat panel display with a video source. The most important settings are:

Adjusting the graphics memory of the video source

As with all monitors, the flat panel display also has certain limits, e.g. maximum resolution and vertical frequency. The graphics adapter must be set when using the flat panel display such that the limits are observed.

Fine adjustment of the flat panel display

Note

Fine adjustment of the flat panel display can only be carried out via the analog port 15-pin SUB-D. The digital input (DVI-D) does not require a fine adjustment since the display signal is always optimum.

RGB picture sources via 15-pin Sub-D connector supply analog signals which are basically intended for conventional CRT monitors and which are processed directly by them.

In contrast, the analog signals must be converted for a flat panel display into digital signals by a video digitizer. Depending on the picture source, cable length and video mode (e.g. VGA, SVGA, XGA) this conversion may cause certain deviations which cannot be corrected fully automatically by the flat panel display. A manual fine adjustment is therefore necessary during which the flat panel display (or, more precisely, the video digitizer) is matched to the respective video source. The fine adjustment comprises e.g. setting the horizontal/vertical picture position and the picture sharpness. This can be carried out for the color flat panel display DSC1910-Dusing an OSD menu.

To optimize the display settings for the installed graphic board, and to ensure all gray levels are distinguishable, we recommend to adjust the brightness and contrast levels for and only for analog inputs. Note that the calibration (in the Look Up Table) is not changed by these adjustments (All the monitors are and remain factory calibrated):

Using a 100% black picture and an appropriate measurement device (a spot meter recommended), decrease the brightness level using the OSD controls until the measurement device displays a constant level (i.e. the measured value no longer changes). Once this is achieved, increase the brightness level slightly until the display is just above the absolute lowest black level (one step is generally sufficient).

Similarly, set the white level using a 100%-white test pattern and the measurement device. Only the contrast level should be adjusted to ensure that the black level remains unchanged.

• Control again the black value did not change. In case it did you need to duplicate the two previous steps until it does not change anymore (cause: pedestal).

Increase the contrast level until the measurement device no longer detects an increase in luminance. Once this is achieved, decrease the contrast level slightly (1 or 2 steps is generally sufficient).

At this point, the display is configured for optimal performance with the installed graphic board. If one is not yet satisfied with the luminance level, the black and white levels can be further increased by adjusting the backlight level in the OSD menu. Please note that higher backlight level settings tend to reduce the stability of luminance over time.

6.2 Optimum picture quality

In order to achieve an optimum picture quality, the color flat panel display DSC1910-Dshould be operated with a graphics resolution of 1280 x 1024 pixels (settings for graphics card in the PC). When adjusting the picture position and size, ensure that the picture appears exactly on the active surface of the display and that it is not offset by even one pixel. For example, if the horizontal position is offset by one step to the right, the right-hand edge of the picture will disappear, and a black pixel column will appear at the left-hand edge. And similarly for an offset to the left, top or bottom. If the vertical lines are still slightly fuzzy, adjust the setting "Frequency/phase" (see Section 6.4 "Description of the menus").

6.3 OSD menu

6.3.1 Keys assignment and operation LED

A “dynamic help for keypad function” is available for each menu: it explains the role of each key depending on the OSD menu window, which is currently active.

6.3.2 Key functions without active OSD menu

Key	Action
Menu	Activate OSD
Up	Select between DVI-D / DVI-A input source
Down	Select DP input source

* Scenario in case all signal sources is available. If not, the signal from the next available source will be displayed.

6.3.3Key functions in the OSD menu

Key(s)	Situation	Action
Menu	Always	Jump to next line
Up	Slide controller	Increase value
	Selection point	To previous selection
	Command	"Enter key"
Down	Slide controller	Decrease value
	Selection point	To subsequent selection
Set	Except "Exit OSD" menu	One menu level upwards (settings are retained)
	In "Exit OSD" menu	Return to main menu (settings are retained)

6.3.4 Submenu calls

Press the “Menu” key while the OSD is active, the function icon will jump to next line. Pressing the “Up” key, the coordinate submenu will be selected.

6.3.5 Locking of OSD menu

Key(s)	Action
1x the Set key 3x the Up key	Lock or unlock OSD If the OSD is locked, it is only possible to switch over the source (see Section 6.3.2).

6.3.6 Keys function hints

A “dynamic help for keypad function” is available for each menu: it explains the role of each key depending on the OSD menu window, which is currently active.

6.4 Description of the menus

Main Menu	Function	Adjustment range	Description
Performance	Brightness	0…100	Set brightness Adapting the representation of darker picture areas. Note: The brightness settings are already optimized for digital DVI signals. Manual changes to these values are not recommended, as this can result in an impairment of picture quality (loss of grayscales).
	Contrast	0…100	Adjustment of contrast This allows the brighter area to be seen more distinctly. The center point is in 50 position. Note: for DVI-D signals the Contrast setting is optimized. Manual changes are not recommended.
	Backlight	0…100	It is used to adjust the Brightness of the monitor. The center point is in 50 position.
	Color	Color1 Color2 Color3 User	Color 1,color 2 ,color 3 are three fixed color temperature and can not be changed. User temperature can be adjustable and saved.
Display	H Position	0…255	Shift picture in horizontal direction
	V Position	0…255	Shift picture in vertical direction
	Frequency (Analog only)	0…100%	Adjust the frequency and phase of the input signal.
	H-sync Phase (analog only)	0…100%	Source clock phase
	ADC Phase (Analog only)	R	R ADC clock phase
		G	G ADC clock phase

		B	B ADC clock phase
	Sharpness	Interpolation filter 0 to 8	One of the 9 filters can be selected for the sharpness setting to reduce scaling artifacts. Interpolation filters depend on the input resolution. A filter is not usually used with 1280X1024 since each pixel is controlled by its own pulse. The user should individually adjust the filter depending on the application.
Source		DVI-D DP DVI-A BNC-DVI-A	Select the input source priority. If you call this OSD menu, the current source is displayed. If current source is inactive, it will auto search other port.
Auto Function (Analog only)	Auto Color	On / Off	Automatically get input signal match with the monitor
	Auto Configure	On / Off	Automatically adjust the image display settings.
	Execute		The selected auto functions are executed. Note: The quality of the function depends on the applied picture contents. To get better effect it is recommended to apply full screen picture and including white and dark contents.
OSD	Horizontal position	0 ... 255	Adjustment of OSD horizontal position (Default state is on the bottom right corner of the screen)
	Vertical position	0 ... 255	Adjustment of OSD vertical position (Default state is on the bottom right corner of the screen)
	Background	0 ... 12	Select the OSD background transparency

	LED	On/Off	Setting the status of the operation LED
	Language	English 中文	Use the "Language" menu to select the language of the OSD menu . English is the default. While in the English menu state the "中文" font means to select to Chinese menu. And while in Chinese menu state the "English" font means to select to English.
Information	Firmware version OSD version Configure version Current source Current inner temperature DPMS status Current LUT Working hours		Current display status can be informed。
Service level 2	Settings in this menu must only be carried out by service person*		
Exit	Accept changes Reject changes Quit		Quick OSD menu and check box to select save or reject the changes.

Notice: To enter the Aadv. Option press 1xSet key +2x Down. key

7. Fault diagnostics

Fault	Cause	Remedy
No picture appears on the display, operation LED off	Broken fuse	Inform servicing department
	Power cable not inserted or incorrectly inserted	Insert power cable
No picture appears on the display, operation LED green blinking	No video signal	Check video cable
	Video source not supplying a signal	Check video source
Fuzzy picture, interference in vertical lines	Scanning frequency or phase incorrectly set	Adjust frequency and phase
Other faults –LED orange blinking	Loose plugs	Plug cables in properly and secure them
	Faulty cable	Replace cable
Other faults: “Temp. High” on screen	Temperature shutdown value has been reached	Display will be automatically shut down after a certain time (and turn on again when the temperature decreases enough again)

Other information available from the 2-colors LED

LED	Display status
LED orange	No error, stand-by has been activated
LED green	Video signal has been recognized, no error

8. Technical data

All technical data are valid after a warming-up period of 2 hours.

8.1 Display

Type	TFT, color active matrix
Display area	376 mm x 301 mm
Picture diagonal	19" or 48 cm
Native resolution	1280 x 1024 (full-screen format)
Pixel organization	3 vertical sub pixels
Pixel pitch	0.294 mm x 0.294 mm
Contrast ratio	Typically 600:1
Horizontal viewing angle	Typically ± 89°
Vertical viewing angle	Typically ± 89°
Backlight	6 dual CCFT (cold cathode fluorescent tube)
Brightness	Typically 280 cd/m² Factory setting: 137 cd/m²
Lifetime of backlight	50,000 hours typically for CCFT (applies to an ambient temperature for the backlight of 25° C)

8.2 Power supply

Power Supply	Input Voltage		AC100-240V~, 50 / 60Hz; 1.1A
	Power Consumption	Normal operation	<60W
		Power saving	<2W
	Input Connector		3P IEC Type

8.3 Electronics

Multi-standard technology	Video modes with resolutions less than 1280 x 1024 can be expanded to the TFT resolution, and thus utilize the full display area (like multi-sync CRTs). In the same way, resolutions higher than 1280 x 1024 can be reduced and then displayed. (Caution: depending if the timing is frame buffered or frame sync, image information might get lost; the gray levels - the color depth for color images - will also be reduced and might be visible)
Timing recognition	H frequency, V frequency

8.4 Inputs/outputs

8.4.1 Analog signal input

RGB input, H/C Sync input and V Sync input	Via DVI-I connector (analog pins are used) (female) Any polarity
CVS signal	Video level: 0.5 ... 1.0 Vpp Sync level: 0.2 ... 0.3 Vpp
BNC Input	Via BNC-DVI-A cable to the DVI-I socket

8.4.2 Digital signal input

DVI-D input	Via DVI socket , single link
DP input	Via DP socket
DDC	Via DVI

8.4.3 Serial interface

RS232	Via RJ11

8.4.4 Timing Input

Item		SPEC
Analog VGA	Frequency	Horizontal: 31 ~ 82kHz Vertical: 56 ~ 75Hz
	Pixel clock	25—140 MHz
	Video Bandwidth	≥ 165M Hz
	Video Input	Analog 0.7Vpp Input Impedance: 75 Ohm
	Sync Signal Input	Separate Sync, Composite Sync on Hs, TTL/LVTTL (N or P)
	VGA EDID datum	EDID via DVI I²C bus
SOG	Via DVI-I analog channel	Analog R,G, B: 0.7Vpp Input Impedance: 75 Ohm Sync on Green: 0.2-0.3V
CVS Signal	Via DVI-I to BNC connector (monochrome use)	Video Level: 0.6---0.9V Input Impedance: 75 Ohm Sync level: 0.2---0.3V
DVI Digital	DVI-Digital Single link	TMDS: 600mV for each differential line Input Impedance: 50 ohm
	DVI EDID datum	EDID via DVI I2C bus
Display Port	Display Port 1.1 Receiver 4 main Lanes	Display Port: 600mV for each differential line Impedance: 100 ohm per differential pair
	DP EDID datum	EDID via AUX channel

8.5 Controls and connection elements

Left Side	Four keys for OSD menu, operation-LED
Rear	• Power switch •Power supply connection • DVI socket • RS 232 sockets RJ11 • DC 5V/1A

8.6 Mechanical design

Item	Set	
	Width	418mm
	Depth	210mm
	Height	418.5~478.5 mm
Tilt	-5 degree ~15 degree	
Housing components	Plastic	
Kensington lock	On the rear of stand base	
Visible screen surface	Approx. 376mm×301mm	
Ventilation slots	In rear panel	
Degree of protection	IP20 to DIN40050	
Connection panel	At rear VESA 100 x 100 mm	
Net weight	TBD(Less than 6 .0 Kg without stand) TBD(With stand) (will meet Siemens Spec.)	

8.7 Climatic conditions

Operation

Ambient temperature range	+5 ... +40 °C
Temperature gradient	Max. 5 °C/h
Relative Humidity	30-80%, no condensation
Atmospheric pressure	1040 - 674 kPa

Transport and storage (packed)

Ambient temperature range	- 20 ... + 60°C
Temperature gradient	Max. 5 °C/h
Relative Humidity	10-85%, no condensation
Atmospheric pressure	1040 ... 674 kPa (0 ... 3048 m)

8.8 Mechanical requirements

Operation

Vibration	According to EN 60068-2-6 10 ... 58 Hz with ± 0.075 mm deflection 58 ... 500 Hz at 10 m/s²
Shock	According to EN 60068-2-27 (single shock) 150 m/s², 6 ms No permanent shock allowed in operating conditions

Packed unit

Vibration	According to EN 60068-2-6 5 ... 9 Hz with ± 3.5 mm deflection 9 ... 500 Hz at 10 m/s²
Shock	According to EN 60068-2-27 (single shock) 250 m/s², 6 ms (in storage packaging) According to EN 60068-2-29 (permanent shock)

8.9 Safety specifications

Safety standards	EN 60601-1, IEC 60601-1
Approvals	CAN/CSA - C 22.2 No. 601.1-M 90, cTUVus mark, UL 60601-1,CCC
Protection class	Protection class I
Degree of protection to DIN 40050	IP 20
Type B/BF/CF applied part	No Applied Part
Category AP/APG equipment	No AP/APG
Conformity	CE

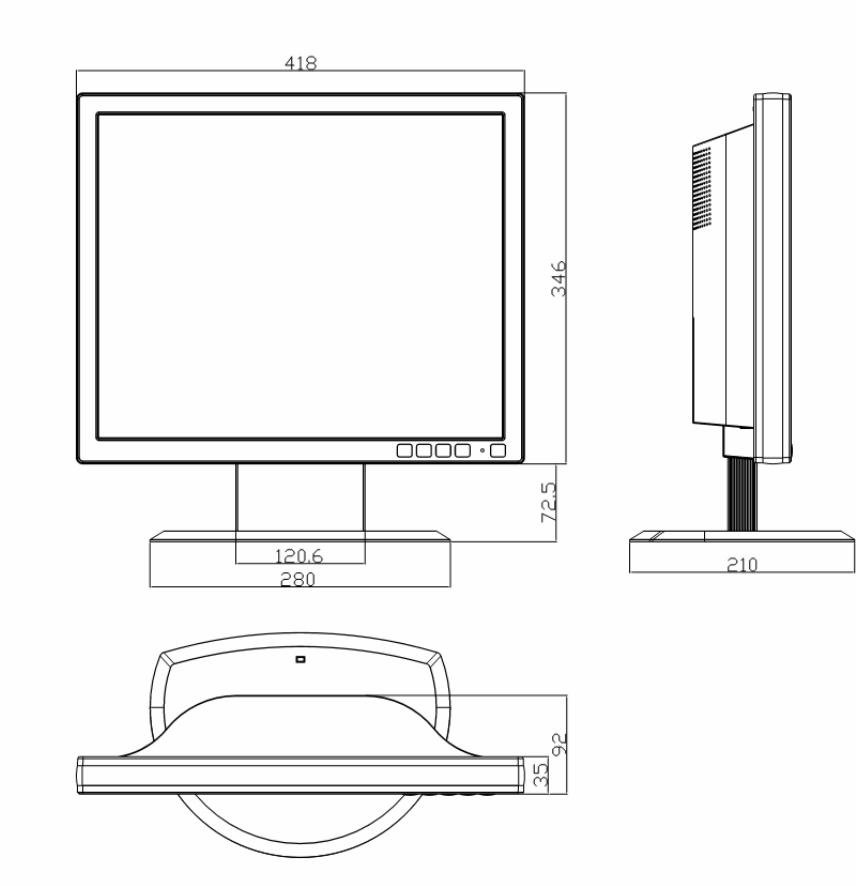
8.10 Electromagnetic compatibility

IEC6061-1-2
FCC Class B

9. Dimensional drawings

All dimensions in mm.

9.1 Front 、Platform and Side view



10 Remarks and contact address

Invalidity of guarantee

All unauthorized electrical or mechanical alterations on or in the unit result in loss of the guarantee.

Information on the Instruction Manual

For clarity reasons, this Instruction Manual does not contain all detailed information on this product. Your attention is additionally drawn to the fact that the contents of this Instruction Manual are not part of a previous or existing agreement, commitment or statutory right and do not change the latter.

Guarantee

All commitments on the part of Torch-Bigtide are contained in the respective sales contract which also contains the complete and solely applicable warranty conditions. These warranty conditions in the contract are neither extended nor limited by the contents of this Instruction Manual.

Repairs

Please contact your distributor from whom you originally purchased the product.

Environmental protection

When disposing of the device, the requirements and laws in the respective country must be observed.

Name of Manufacture: Shenyang Torch-Bigtide Digital Technology Co., Ltd.

Address: No.108, Baishan Rd, Yuhong District, Shenyang, Liaoning, China (110034)

Person to be contacted: Mr. Chen Baohu

Tel: 86-24-88087621