



LCD Monitor User Manual - QES1500

Progressive & Interlace Monitor

17C3 A/D Board Series



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Please read this manual to learn about the safety precautions and get the most out of the design features of your new monitor.

INTRODUCTION

Thank you for purchasing the QES1500 Progressive & Interlace Series Color Monitor. We are confident that you will be pleased with the performance and reliability of your new monitor. The QES1500 Progressive & Interlace Series Color Monitor was designed to meet the screen performance requirements of today's demanding industrial and military applications. While complying with a wide variety of industrial video formats, it delivers a larger screen area, higher resolutions, and greater color accuracy than many monitors in its price range.

PRODUCT DESCRIPTION

The QES1500 Progressive & Interlace Series Industrial LCD Displays are high performance, Active Matrix color/monochrome TFT LCD monitors designed for those demanding applications that require a rugged, high quality computer display capable of sub-VGA through 1920x1200 resolutions. These premium displays accept a broad range of standard signal formats, enabling them to function in most modern industrial environments. For legacy or replacement applications, we can configure this LCD display to accept a wide variety of sub-VGA formats and video signal inputs. Options available are; Tabletop (Desktop) Configuration, Open Frame Configurations, Rack Mount Configurations, Wall/Arm Mount Configurations, Touch Screen, Vandal Protection Shield, Enhanced Sunlight Readability, NEMA 4X stainless steel panel mount bezel. These computer display panels have all the features necessary for use in those industrial, manufacturing, financial, transportation and other severe environments that require bright, crisp computer imaging.

DISPLAY FEATURES

- Analog RGB Sync On Green (SOG) Capable
- HDMI Digital Input Signal Capable
- VESA 75/100 Standard Mounting – Specific Models.
- DDC2B Plug & Play
- Universal Power Supply with VESA Power Management
- User Friendly OSD interface
- High Brightness and Contrast
- Wide Viewing Angle
- Front Remote Controls on Specific Models
- Tilt and Swivel Base on Specific Models
- Heavy Duty Cold Roll Steel Chassis on Specific Models

DISPLAY OPTIONS

- RS-170A and RS-343 Video Signal Capable (Interlace Formats)
- TTL Input for EGA, CGA and MDA Timings
- RCA (NTSC/PAL) and Composite Video
- 3/4/5 Wire BNC Inputs
- Universal Video Input Box
- Wireless Remote Control
- Anti-Reflective Protective Faceplate
- Touch Screen Option: Resistive, Capacitive and SAW (Surface Acoustic Wave)
- Differential Video Input Options for long cable lengths and/or high-noise factory environments

UNPACKING THE MONITOR

Your LCD monitor package will consist of the following components listed on the section below. Open shipping container and lay all the components on a flat clean surface. If any component is missing, please contact Dynamic Displays as soon as possible.

NOTES:

- We recommend you keep the packing box for transportation.
- In case of transporting and packing the unit in the packing box, carefully place it, in the packing box keeping its panel from touching any objects

PRODUCT SAFETY PRECAUTIONS

Read all these instructions and save this manual for later use. Follow all warnings and instructions on the product.

These safety instructions must be followed to ensure your safety and prevent property damage.

- Do not cover or block the ventilation holes in the enclosure.
- Do not insert sharp objects or spill liquid into the monitor through the cabinet slots. This may cause accidental fire, electric shock or failure.
- Unplug the unit when not in use for an extended period of time.
- Do not attempt to service this product yourself, since opening or removing the cover may expose you to potential electric shock. Only a qualified technician should service this product.

PACKAGE CONTENTS

Before operating this monitor, please make sure that all items listed are present in your package:

- LCD Monitor
- AC/DC Adapter
- AC Power Cord
- VGA Cable
- User's Manual

CONNECTING THE MONITOR

No tools are required to install the LCD monitor. Simply follow the instructions outlined in the next few steps. Connectors for the signal and power are located on the back panel.

- **Connect Signal Cable (VGA):** Attached the VGA cable connector with the ferrite bead closest to it to the graphics card adaptor on your computer system and attached the other end to the monitor. Be cautious in inserting the cable properly into both connectors. If the cable does not fit it may be facing the wrong direction. Turn the cable over and try to match the shape of the connector with that of the graphics adapter.
- **Connect Power Adapter and Cable:** Connect the round shape plug end of the AC/DC adapter to the DC Power input connector of the LCD monitor. Connect the female end of the power cable to the AC power input receptacle on the AC/DC adapter. Then plug the male end of the power cable into an AC outlet.

- **Connect HDMI (High-Definition Multimedia Interface) Cable (Optional):** If you have a DVI digital graphics card adapter and a DVI cable, connect it to the DVI (IN) connector of the monitor. The optional DVI graphics adapter and the DVI cable can be ordered by contacting Dynamic Displays.
- **Connect Audio signal Cable (Optional):** Connect Audio In connector of the LCD monitor and an Audio Out device (PC, DVD, CD) with the attached stereo mini cable.
- **Connect Touch Screen Cable (Optional):** Connect the optional USB or RS 232 serial touch screen connection to the driver card or system driving the touch screen controller.
- **Turn ON your monitor and system.** If your monitor displays an image, installation is complete. If it does not display an image, please refer Troubleshooting.

If your computer was off, turn on your computer/system. Your display should now operate as a normal computer display showing your windows or whatever video is being sent to the flat panel.

Note: If for any reason the display has a "Blue Screen" with a message "Out of Range" or "No Input Signal", your system source is putting out a signal that is out of range or non compatible with the LCD's video A/D board. If this happens, make sure you are inputting the correct signal. If the display doesn't work properly, it may be because:

- The resolution is too high or low for the LCD.
- The power source is incorrect.

MONITOR SETUP

Unlike CRT displays, the LCD panel has a fixed pixel format over a set area. So for best performance, the "native resolution" setting is always recommended. Use the following notes as a reference to setup your display.

- **8.4", 10.4" and 12.1" monitors:** The native resolution of the LCD panel is 800 X 600; Recommended resolution is 800 X 600 @ 60 KHZ
- **14.1" and 15" monitors:** The native resolution of the LCD panel is 1024 X 768; Recommended resolution is 1024 X 768@ 60 KHZ
- **17" and 19" monitors:** The native resolution of the LCD panel is 1280 X 1024; Recommended resolution is 1280 X 1024 @ 60 KHZ or 1024 X 768 @ 60 Hz.
- **24" Monitors:** The native resolution of the LCD panel is 1920 x 1200; Recommended resolution is 1920 x 1200 @ 60 or 75 Hz.

RELATED DOCUMENTS:

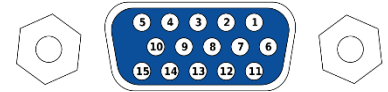
- 0046115 17C3 A/D MCU RE-PROGRAMMING PROCEDURE

SIGNAL INPUT CONNECTIONS

Following are the pin out descriptions for the standard and optional connectors provided on the monitor:

VGA HIGH DENSITY HD15 CONNECTOR PIN OUT

PIN ASSIGNMENTS FOR VGA VIDEO HD15 INPUT CONNECTOR			
PIN	CONNECTION	PIN	CONNECTION
1	RED VIDEO	9	KEY/PWR
2	GREEN VIDEO	10	GND
3	BLUE VIDEO	11	ID0/RES
4	ID2/RES	12	ID1/SDA
5	GND	13	HORIZONTAL SYNC
6	RED_RTN	14	VERTICAL SYNC
7	GREEN_RTN	15	ID3/SCL
8	BLUE_RTN		



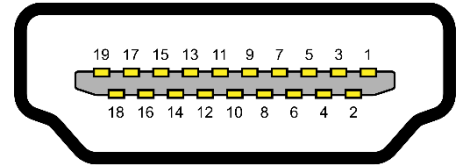
FEMALE BNC'S TO HD15 ADAPTOR CABLE (OPTIONAL)

BNC to HD15 Adaptor Connections						
Video Signal Input Available	Signal Description	Red	Green	Blue	Horz. Sync or C-Sync (Gray Cable)	Vertical Sync (Black Wire)
Sync on Green (SOG)	Composite Sync: Horizontal and Vertical Sync signals are on the Green Video Signal.	Connect	Connect	Connect		
Composite Sync (C-Sync)	Separate Composite Sync: Horizontal and Vertical Sync signals are on the Horizontal Sync Cable only.	Connect	Connect	Connect	Connect	
Separate Horizontal and Vertical Sync	Separate Sync: Both signals (Horizontal & Vertical) are on individual cables as identified on the chart.	Connect	Connect	Connect	Connect	Connect



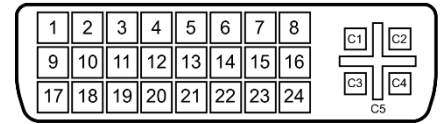
HDMI (HIGH DEFINITION MULTIMEDIA INTERFACE) CONNECTOR PIN OUT

PIN ASSIGNMENTS FOR HDMI INPUT CONNECTOR HDMI TYPE A RECEPTABLE			
PIN	CONNECTION	PIN	CONNECTION
1	TMDS DATA2+	11	TMDS CLOCK SHIELD
2	TMDS DATA2 SHIELD	12	TMDS CLOCK-
3	TMDS DATA2-	13	CEC
4	TMDS DATA1+	14	RESERVE (HDMI 1.0-1.3A)
5	TMDS DATA1 SHIELD	15	SCL
6	TMDS DATA1-	16	SDA
7	TMDS DATA0+	17	GND
8	TMDS DATA0 SHIELD	18	+5 V (UP TO 50MA)
9	TMDS DATA0-	19	HOT PLUG DETECT
10	TMDS CLOCK+		



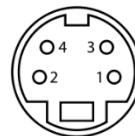
DVI (DIGITAL VISUAL INTERFACE) CONNECTOR PIN OUT

PIN ASSIGNMENTS FOR DVI INPUT CONNECTOR			
PIN	CONNECTION	PIN	CONNECTION
1	TMDS DATA 2-	16	HOT PLUG DETECT
2	TMDS DATA 2+	17	TMDS DATA 0-
3	TMDS DATA 2/4 SHIELD	18	TMDS DATA 0+
4	TMDS DATA 4-	19	TMDS DATA 0/5 SHIELD
5	TMDS DATA 4+	20	TMDS DATA 5-
6	DDC SCL	21	TMDS DATA 5+
7	DDC SDA	22	TMDS CLOCK SHIELD
8	ANALOG VERTICAL SYNC	23	TMDS CLOCK+
9	TMDS DATA 1-	24	TMDS CLOCK-
10	TMDS DATA 1+	C1	ANALOG RED
11	TMDS DATA 1/3 SHIELD	C2	ANALOG GREEN
12	TMDS DATA 3-	C3	ANALOG BLUE
13	TMDS DATA 3+	C4	ANALOG HORIZONTAL SYNC
14	+5 V	C5	ANALOG RETURN GND
15	GND		



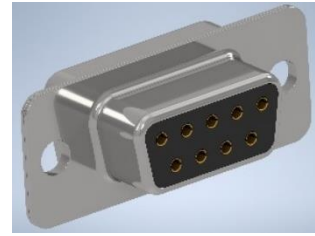
S- VIDEO 4 PIN CONNECTOR (OPTIONAL).

PIN ASSIGNMENTS FOR S-VIDEO INPUT CONNECTOR MINI-DIN 4	
PIN	CONNECTION
1	GND (Y)
2	GND (C)
3	Y INTENSITY (LUMINANCE)
4	C COLOR (CHROMINANCE)



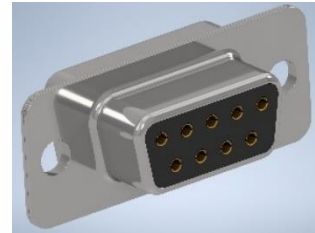
CGA 9 PIN D-SUB CONNECTOR (OPTIONAL)

PIN ASSIGNMENTS FOR 9 PIN OPTIONAL CGA COLOR GRAPHICS ADAPTER - VIDEO TYPE: TTL D-SUB9 FEMALE CONNECTOR		
<u>PIN</u>	<u>CONNECTION</u>	<u>DESCRIPTION</u>
1	GND	GND
2	N/C	GND
3	RED	RED VIDEO (TTL)
4	GREEN	GREEN VIDEO (TTL)
5	BLUE	BLUE VIDEO (TTL)
6	INT.	INTENSITY (TTL)
7	RES	RESERVED
8	HSYNC	HORIZONTAL SYNC
9	VSYNC	VERTICAL SYNC



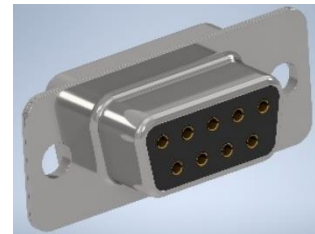
EGA 9 PIN D-SUB CONNECTOR (OPTIONAL)

PIN ASSIGNMENTS FOR 9 PIN OPTIONAL EGA ENHANCED GRAPHICS ADAPTER. - VIDEO TYPE: TTL D-SUB9 FEMALE CONNECTOR		
<u>PIN</u>	<u>CONNECTION</u>	<u>DESCRIPTION</u>
1	GND	GND
2	SR	SECONDARY RED (TTL)
3	PR	PRIMARY RED (TL)
4	PG	PRIMARY GREEN (TTL)
5	PB	PRIMARY BLUE (TTL)
6	SG/I	SECONDARY GREEN / INTENSITY (TTL)
7	SB	SECONDARY BLUE (TTL)
8	HSYNC	HORIZONTAL SYNC
9	VSYNC	VERTICAL SYNC



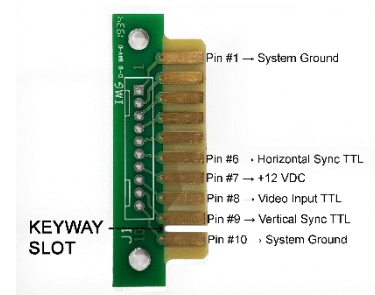
MDA 9 PIN D-SUB CONNECTOR (OPTIONAL)

Pin Assignments for 9 Pin Optional MGA – Hercules Monochrome Graphics Adapter - Video Type: TTL D-SUB9 FEMALE CONNECTOR		
<u>PIN</u>	<u>CONNECTION</u>	<u>DESCRIPTION</u>
1	GND	GND
2	N/C	GND
3	N/C	No Connection
4	N/C	No Connection
5	N/C	No Connection
6	I	Intensity
7	M	Monochrome Video (TTL)
8	HSYNC	Horizontal Sync
9	VSYNC	Vertical Sync



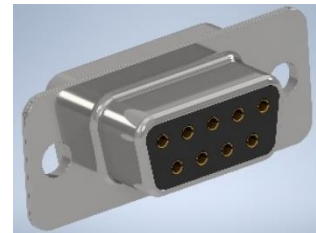
Card Edge 10 Pin Connector:

Card Edge 10 Pin - Video Type: TTL or Analog		
PIN	CONNECTION	DESCRIPTION
1	GND	System GND
2	N/C	Ext. Brite Control
3	N/C	Ext. Brite Control
4	N/C	Ext. Brite Control
5	N/C	Video Highlight
6	H	Horizontal Sync (TTL)
7	M	+12 VDC
8	HSYNC	Video Input (Analog or TTL)
9	VSYNC	Vertical Sync (TTL)
10	GND	System Ground



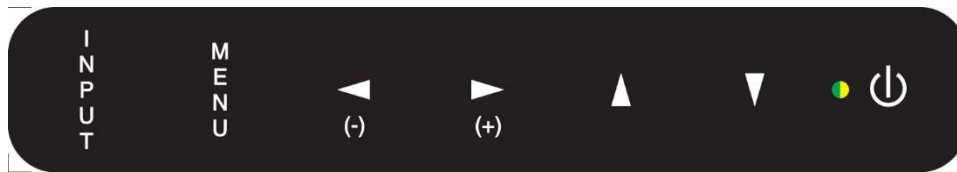
Touch Screen 9 Pin D-Sub connector, Serial Port (Optional).

Pin Assignments for 9 Pin Optional Touch Screen		
PIN	CONNECTION	DESCRIPTION
1	CD	Carrier Detect
2	RDX	Receive Data
3	TXD	Transmit Data
4	DTR	Data Terminal Ready
5	GND	System Ground
6	DSR	Data Set Ready
7	RTS	Request to Send
8	CTS	Clear to Send
9	RI	Ring Indicator



OSD CONTROLS & FUNCTIONS

The OSD interface is composed of 7 membrane switches (as shown below) and a Bi-color LED. All the adjustments required for the monitor are done through these buttons which interface with the Menu selections on the OSD.



MENU OPERATING INSTRUCTIONS:

Your LCD monitor allows you to easily adjust the characteristics of the image being displayed. All these adjustments are made using the OSD control buttons on the front or rear of the monitor. While you use these buttons to adjust the controls, the OSD shows you their numeric values as they change.

MENU OSD CONTROL BUTTONS:

- **Source:** Input Video Source Selection.
- **MENU:** Activates OSD Screen or Return to previous menu.
- **Left (-) / ◀:** Moves selection to left or decreases function value.
- **Right (+) / ▶:** Move selection to right or increase function value. Enter (OK)
- **UP / ▲:** Increase value.
- **DOWN / ▼ :** Decreases value.
- **LED:** Green Light: Power ON
Orange Light: Power Saving or No Input Signal
- **POWER:** Power ON/OFF control. The monitor will enter into Auto Setup the first time the unit is first turned on.

The monitor will enter "Auto Setup" automatically the first time the unit is first turned on. This option can be disable, see "PC Setting" section "Auto Adjust Enable").

INPUT VIDEO OPTIONS SELECTION:

- **VGA1:** Select VGA input connector, HD15.
- **VGA2:** Option. Set to Active on "Factory Settings Mode".
- **HDMI1:** Select Digital Input Connector, HDMI1.
- **HDMI2:** Option. Set to Active on "Factory Settings Mode".
- **AV:** Selects Composite Video Connector, RCA Jack.
- **Component:** Selects S-Video Input Connector.
- **USB**

OSD INTERFACE BUTTONS FUNCTION:

- **Input Button:** Push this button, to select the video input signal (VGA1, VGA2, HDMI1, HDMI2, AV, Component, USB). With the adjust buttons ▲ or ▼, highlight the input required; then with the adjust buttons ◀ (-) or ▶ (+) confirm the selection.
- **Menu button:** Opens the OSD menu. Also used to exit the OSD menu or confirm adjustment settings and return to the previous menu.
- **Adjust Buttons:** ◀ (-), ▶ (+): These buttons have various functions.
 - They are used to navigate through the items on the OSD from left to right or right to left.
 - They are used to select menu item to be adjusted.
 - They are used to adjust the value of the menu item.
 - They are used to confirm the selection of the video input signal source.
 - They are used to increase or decrease the volume of the speakers.
- **Adjust Buttons:** ▲, ▼: These buttons used to navigate the OSD menu items from top to bottom or bottom to top.
- **Power Button:** Push this button to turn the unit on or off.

MEMBRANE DIRECT KEYS ADJUSTMENTS:

- Left/Right Key Brightness:



- UP/Down Key Contrast:



OSD STRUCTURE

1. Picture



- a. Picture Mode (Picture Quality):
- b. Standard (Color: 50; Sharp 50; Tint 50)
 - i. Soft (Color: 40; Sharp 50; Tint 50)
 - ii. User (Color: 50; Sharp 50; Tint 50)
 - iii. Vivid (Color: 50; Sharp 60; Tint 60)
- c. Brightness: Increases or decreases the brightness of the image.
- d. Contrast: Increases or decreases video gain of the image.
- e. Color: [Only Available on AV/Component Video](#)
- f. Sharpness: Adjust picture sharpness. [Only Available on AV/Component Video](#)
- g. Hue; [Only Available on AV/Component Video](#)
- h. Color Temperature: Allows the user to adjust for desire White Color Balance to a predetermined temperature colors or individual Red, Green and Blue Controls.
 - i. Warm: Recall Warm Color Temperature from EEPROM (6500K).
 - ii. Medium: Recall Medium Color Temperature from EEPROM (7500K).
 - iii. Cool: Recall Cool Color Temperature from EEPROM (9300K).
 - iv. User: When selecting "USER" you may adjust each individual color one at a time
 1. Red: Allows the user to adjust the Red gain.
 2. Green: Allows the user to adjust the Green gain
 3. Blue: Allows the user to adjust the Blue gain.
- i. Aspect Ratio (The following aspect ratio descriptions are based on a landscape format):

Note: The aspect ratio of a monitor, is a proportional representation expressed as two distinct numbers separated by a colon. In the case of monitors, the aspect ratio describes the correlation between width and height.

- i. Full: Image is scale to fill LCD screen completely.
 - ii. UnderScan: Image is programmed to be approximately 10% smaller than “Full Screen”.
 - iii. PointToPoint: Screen image size represents the actual video input format resolution.
 - iv. Panorama: LCD screen is scale to 16:9 screen aspect ratio.
 - v. Zoom 2: Image is programmed to be approximately 20% larger than “Full Screen”.
 - vi. Zoom 1: Image is programmed to be approximately 10% larger than “Full Screen”.
 - vii. 4:3: The Horizontal size is maximized, and the vertical size is programmed to have the 4:3 ratio.
 - viii. 1:1: The vertical size is maximized, and horizontal size is programmed to be the same size as vertical size.
- j. 3D NR: [Only Available on AV/Component Video](#)

3-Dimensional Noise Reduction

- i. Off
- ii. Low
- iii. Middle
- iv. High
- v. Default

- k. MPEG NR: [Only Available on AV/Component Video](#)

Cleans up block noise around outlines and mosquito noise on the background.

- i. Off
- ii. Low
- iii. Middle
- iv. High
- v. Default

2. *Sound*



a. Sound Mode

- i. Standard
- ii. Music
- iii. Movie
- iv. Sports
- v. User

b. Treble: 0 to 100

c. Bass: 0 to 100

d. Balance: (-)50 to (+)50

e. Volume: 0 to 100

3. *Option*



a. OSD Language: Select the OSD language.

- i. English
- ii. Chinese

- iii. France
 - iv. Deutsch
 - v. Japanese
 - vi. Español
- b. OSD H Pos: Adjust the horizontal position of the OSD.
 - c. OSD V Pos: Adjust the vertical position of the OSD.
 - d. OSD Timeout: Adjust the OSD timeout.
 - e. OSD Transparency: In this function, user can adjust the transparency of OSD display.
 - i. Off
 - ii. Low
 - iii. Medium
 - iv. Hi
 - f. Restore Factory Default: Restore to factory settings

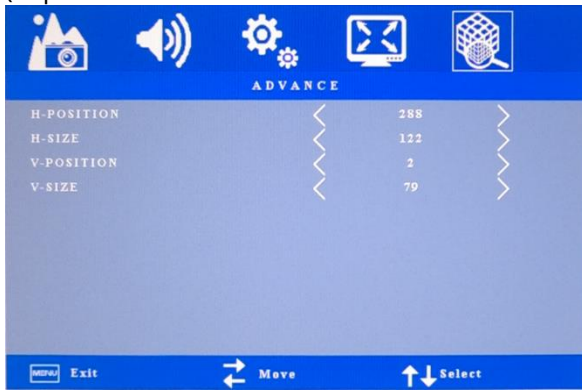
4. PC: (Available only VGA1/VGA2)



- a. Auto Adjust
- b. Horizontal Pos.: Adjusts horizontal screen positioning.
- c. Vertical Pos.: Adjusts vertical screen positioning.
- d. Clock: Adjust picture Clock to reduce Vertical-Line noise
- e. Phase: Phase adjustment; the phase should be adjusted until the screen image is sharp.
- f. ADC Tune
- g. Auto Adjust Enable: On/Off

5. *Advance*

(Aspect Ratio needs to be set to "Full" to activate this adjustments)



- a. H-Position: Adjusts horizontal screen positioning.
- b. H-Size: Adjust horizontal screen size.
- c. V-Position: Adjusts vertical screen positioning.
- d. V-Size: Adjust vertical screen size.

POWER MANAGEMENT (VESA):

VESA DPMS DDC-2B Plug and Play standard is applied to power management control. With "Power Savings" set to ON (Factory Setting Mode).

Mode	H Sync	V Sync	Video Signal	LED Indicator	Power Consumption (Nominal)
On	Active	Active	Active	Green	27 Watts (19" LCD Typ.)
Stand-By	Inactive	Active	Active	Amber	<1 Watt (19" LCD)
Suspend	Active	Inactive	Active	Amber	
Off	Inactive	Inactive	Active	Amber	

TROUBLESHOOTING

LCD Pixel Statement - The LCD unit is produced with high-precision manufacturing techniques. Nevertheless, some pixels may occasionally misfire or appear as black or colored dots. This has no effect on the recorded image and does not constitute a malfunction.

Normally a 17" SXGA (1280 X 1024) display has nearly 4 million sub-pixels. Industry standard specification allows 8 non-performing pixels on the LCD screen, which is only 0.0002% of the total sub-pixels.

Troubleshooting	
Symptom	Suggestion
There Is No Picture on Screen	<ol style="list-style-type: none">1. Check the color of the LED indicator on the LCD monitor.<ul style="list-style-type: none">• "GREEN": During normal operation the LED light will be green. If it is green and there is no picture, contact the customer service line.• "ORANGE": Check the connection of the VGA cable to the monitor and the connection to the computer.• "NO POWER": Make sure the power cord is securely connected to the adapter and the light on the adapter is green.2. The signal cable should be properly connected to the display card and computer. Try disconnecting the video cable from the display and connecting to a known working display (if available) to confirm the presence of proper video.3. Check whether the LCD monitor and computer power cords are connected and whether there is a supply of power.4. Make sure the resolution mode is supported by the display and check settings of the display card.5. Confirm that the video cable is not defective.
No Signal Input with Blue Screen	Check the signal connection between the computer and LCD monitor.
Missing Colors	If the red, green or blue colors are missing, check the signal cable to make sure it is plugged correctly. The pins in the cable could be loose and cause a bad connection.
Image Too Bright/Image Too Dark	Adjust brightness and contrast by OSD.
Irregular Image	Check the signal connection between the computer and LCD monitor.

	Select "Auto Adjust" button.
Distorted Image	Reset the LCD monitor. (Select "Recall" function by using OSD)
Image Is Not Centered / Size Is Not Appropriate	Use OSD Image Menu to adjust H. Position and V. Position. Check image size setting. Select Auto Adjust.
Uneven Color / Color Too Dark / Dark Area Distorted / White Color Is Not White	Use OSD Color Temperature Menu to adjust color setting.
No Sound	Check the audio signal cable connection between the computer and LCD monitor. Try pressing the "+MUTE" button to disable the volume Mute function. * Some models do not have speakers (sound)
The Display Is Dark / Bright Or Saturated	Verify video input levels are appropriate; 0.7V _{PP} for Analog inputs or 5 V _{PP} for TTL input video signal.
The Display Blinks	Check the signal connection between the computer and LCD monitor.
Image Blinks On And Off	The timing is special and not programmed in the MCU. Contact the Sales department at Dynamic Displays, Inc. 800-793-6862.
Hook On Top Of The Image	The LCD monitor needs the Universal Video Input Box. Contact the Sales Department at Dynamic Displays, Inc.
Dim Image	<ol style="list-style-type: none"> 1. Adjust the brightness and contrast with OSD. 2. The timing is special and not programmed in the MCU. Contact the Sales Department at Dynamic Displays. 3. Flat Panel may have come unplugged from inverter. 4. Lamp in Flat Panel may have failed. <p>* Contact Dynamic Displays, Inc. and return unit for repair if suggestion 1 or 2 does NOT fix the Dim Image.</p>
Lines Missing Or Not Displaying On Top Or Bottom Of The Image	The timing is special and not programmed In the MCU.

	Contact the Sales department at Dynamic Displays, Inc. 800-793-6862.
Characters Missing On Left Or Right Of Image	The timing is special and not programmed In the MCU. Contact the Sales department at Dynamic Displays, Inc. 800-793-6862.

CLEANING INSTRUCTIONS

- When cleaning, unplug the AC adapter from the LCD display and outlet for safety.
- Lightly wipe dirt from the cabinet and LCD panel surface with a clean lint-free cloth soaked in a neutral cleaning solution. This removes dust and other particles that can scratch the screen
- Treat the LCD panel with care. Do not rub the LCD panel surface with a rough item or hit it on the surface. Also, do not strongly press the LCD panel surface. This can lead to unevenness in the screen and also failure of the product.
- Cleaners recommended for the LCD panel are isopropyl alcohol (without abrasive), non-ammoniac glass cleaner, and watered-down neutral cleaning solution. Do not use organic solvent such as acetone and toluene.
- Do not use thinner, benzine, alcohol or such on the plastic cabinet. These can damage the cabinet, alter its quality and cause the paint to peel off.
- Do not apply insecticides and other volatile items to the cabinet. Also do not leave rubber and vinyl products or such in contact with it for long hours. This can cause the surface quality to alter and the paint to peel off.

UNIVERSAL VIDEO INPUT UNIT OPTION

Dynamic Display's unique Universal Video Input Option was designed to accept a wide variety of non-standard legacy video timing formats. It converts the video input signal to a VGA-style video format that is acceptable to most modern LCD displays. The Universal Video unit has a unique sync discriminator circuit that filters out extraneous sync pulses found in some legacy video signals. A phase lock loop design supplies sync pulses that are missing in other legacy video formats.

With the Universal Video Input Option, the user has the choice of switching between two separate video input ports. The first video input port is a standard HD-15 D-sub connection with fixed 75 ohm termination. The second video port has five BNC connections; Red, Green, Blue Video, Vertical Sync, and Horizontal/Composite Sync. The input impedance of each BNC input may be switched between 75 Ohms and Hi impedance for video loop-through applications.

Either of these two video ports can accept the following video signal format types:

- Three-wire RS170 and RS343-style analog composite sync-on-green video formats - with and without serrations and equalizing pulses.
- Four-wire analog video formats with separate composite sync.
- Five-wire Red, Green, Blue Video, with separate horizontal and vertical syncs.

In addition to these analog video timings, the Universal Video Input Option also accepts TTL video signals on Port One via a 9-pin D-sub connector for CGA and EGA monitors.

Connecting The Universal Video (UVI) Box

Follow the instructions below to install the Universal Video Box to your Flat/Panel monitor.

Required tools: #2 Phillips Screw Driver

1. Mounting The UVI Box:

- Power down the Flat Panel Monitor and unplug the Power Adapter Cable (A/C - D/C Power Supply) going to the Flat Panel monitor unit.
- Unplug the Video Input Cable (SUB-D, 15HD) from your system going to the Flat Panel monitor unit.
- Mounting the (UVI) Box hardware is determined by which Flat/ Panel monitor you have. The following list is for Dynamic Displays Flat Panel systems:
 - a. 15" Flat Panel Plastic Enclosure
 - 8115061: Screw, Metric, Pan Head, Philips Head, Size M 4X8, Quantity of 4
 - 8120030: Washer ,Locking, Number 8, Quantity of 4
 - b. 19" Flat Panel Plastic Enclosure
 - 8115032: Screw ,Metric, Pan Head, Philips Head, Size M 3X8, Quantity of 4
 - 8120027: Washer, Locking External, Size 4, Quantity of 4
 - c. Rack Mount and Panel Mount
 - 8114455: Screw SEM, Pan Head, Philips Head ,Size 8-32 by 0.375, Quantity of 4
- Mount the (UVI) box to the VESA 100 mounting holes located on the rear of the Flat / Panel monitor.

2. Connect Video and Power to UVI and Flat Panel Monitor

- Plug the (VGA, SUB-D, 15HD) cable from the (UVI) box to the Flat / Panel monitor.
- Plug the Power Adapter / Cable (A/C - D/C Power Supply) into the input connector (12 VDC) on the (UVI) box.
- Plug one end of the DC Jumper Power Cable into the output connector (12 VDC) on the (UVI) box.
- Plug the other end of the DC Jumper Power Cable into the Flat/Panel (12VDC) input - located on the rear of Flat / Panel monitor.
- Determine Video Plug input from your System:
The (UVI) box supports D-SUB or BNC:
 - D-SUB, 15HD (VGA)
 - D-SUB, 9HD (CGA / EGA) TTL
 - BNC (COMPOSITE / SYNC ON GREEN / SEPARATE SYNC / SEPARATE COMP. SYNC)

After the correct input is determined set switch on (UVI) box for the correct input (D-SUB) or (BNC.) Switch located next to the last BNC on the right.

Universal Video Input Box Specification:

Supported Video Input	BNC Connector; 3/4/5 Wire RGB with Separate Sync, Composite Sync or Sync on Green. HD15 VGA Standard Connector: Five Wire RGB with Separate Sync, Composite Sync or Sync on Green. D-sub 9 Pin: TTL input for EGA & CGA.
Frequency Range	15 to 68 KHz
Input Interface	5 BNC's - HD15 (VGA Analog) - 9-pin D-Sub
Power Connectors	+12VDC Input and Loop through Voltage
Power Requirements	12VDC @ .0.25A
Dimensions	8" (L) x 4.3" (W) x 2" (H)
Mounting	VESA 75/100
Construction	Rugged for Industrial Applications
Weight	1 Lb.
Warranty	One Year Limited Warranty



FACTORY SETTINGS MODE

Values are typical for a 19" LCD

- Factory Mode; To enter in to "Factory Mode" follow these steps
 - Source Key → Menu key → Right key → Left key → Up key → Down key
 - Press Up/Down to select item
 - Press Right Key (OK) to enter
 - Press Menu key to back to upper level
 - Press Menu key to leave "Factory Mode"
 - Factory Mode Active

1) ADC ADJUST

- a) Mode ----- RGB / YPbPr(SD) / YPbPr(HD) / SCART
- b) ADC Tune ----- **Pass** or Fail
- c) R-Gain----- 1449
- d) G- Gain----- 1449
- e) B- Gain----- 1449
- f) R-Offset----- 0
- g) G- Offset ----- 0
- h) B- Offset T ----- 0
- i) ADC Phase----- 18

2) Picture Mode

- a) Source ----- VGA / HDMI1 / HDMI2 / AV / YPbPr1
- b) Picture Mode ----- User / Vivid / Standard / Soft
- c) Brightness ----- 50
- d) Contrast ----- 50
- e) Color----- 50
- f) Sharpness ----- 50
- g) Tint----- 50
- h) COPY ALL

3) White Balance

- a) Source ----- VGA / HDMI1 / HDMI2 / AV / YPbYr1
- b) Temperature ----- Medium / Warm / User / Cool
- c) R-Gain----- 128
- d) G-Gain ----- 128
- e) B-Gain----- 128
- f) R-Offset----- 1024
- g) G-Offset ----- 1024
- h) B-Offset----- 1024
- i) COPY ALL

4) SSC

- a) MIU Enable----- 1 / 0
- b) MIU Modulation (KHz)----- 30
- c) MIU Percentage (%) ----- 1
- d) LVDS Enable ----- 1 / 0
- e) LVDS(KHz) ----- 30.0 KHz

- f) LVDS Percentage (%)----- 1.00 %
- g) Panel Swing ----- 250

5) SPECIAL SET

- a) 2 Hour OFF ----- Off / On
- b) WDT ----- Off
- c) White Pattern ----- Off / White / Red / Green / Blue / Black
- d) GE/GOP Pattern
- e) BMAP Pattern
- f) Restore Factory Defaults
- g) Power ----- On /Last / Off
 - i) Power plug remove and then plug in.
 - (1) Select "On": that means "remove power plug, then plug in, monitor is ON".
 - (2) Select "Off": that means "remove power plug, then plug in monitor is OFF". If you want monitor on, then you must press power key on keypad.
 - (3) Select "Last": that means "remove power plug, then plug in, monitor power ON or OFF will follow the last status of "on" or "off" just before the power plug is removed".
- h) VGA2 Enable----- On / Off
- i) HDMI2 Enable----- On / Off
- j) Power Savings Enable ----- On / Off
 - i) Message "No Signal" displays when signal input is removed or not present. This message will show for 4 minutes. Thereafter a new widow will appear warning "Monitor will shut-down in 60 sec", press any key or applied video to disable the turn off. After this period the monitor will shut down consuming less than 1 watt.
- k) Burn-In Mode ----- On / Off
 - i) No signal applied to activate Burn-In Mode.
 - ii) Set Burn-In to "ON".
 - iii) Press Menu (several times) to leave Factory mode.
 - iv) Burn-In is activated.
 - v) When "Burn-In" is activated, no matter if "Power Saving" is set at ON or OFF, the "Power Savings" function is disabled.
 - vi) Apply video to exit burn-in mode.
- l) AUTO-Programming
 - i) Refer to work instructions document #0046XXX "17C3 MCU Auto-Programming" for precise instructions.
- m) SOG Function----- On / Off
 - i) ON ----- Provide the option to extracted synchronization information from SOG signal.
 - ii) Off ----- Separate Sync or Composite Separate Sync need to be present.
- n) Auto-Progr Timing ----- Disable/Enable
 - i) Use to restore A/D Board to original "Factory Programming Settings". Refer to Procedure "Work Instructions, 17C3 MCU, Restore A/D Board Programming to Original Settings".

6) VIF1

7) QMAP ADJUST

8) PEQ

9) OverScan

- a) Overscan resolution ----- VGA / HDMI1 / HDMI2 / AV / YPbPr1
- b) Overscan-HSize----- 128
- c) Overscan-HPosition----- 50
- d) Overscan-VSize ----- 50
- e) Overscan-VPosition ----- 20

10) Other

- a) Test pattern----- Off / White /Red / Green / Blue / Black
- b) Initial channel
- c) DART DEBUG ----- HK / AEON / VDEC / NONE

11) Info

- a) Version ----- 0353-8894-00B3-04-01-01-02-000008-00150544-01-02
- b) Build Time ----- Jan 20, 2020, 17:39:50
- c) MIU0 DQS0----- 9
- d) MIU0 DQSI----- 9
- e) Board----- 17C3_01202020_STD_G190EG02
- f) Panel ----- AUO_G190EG02V1
- g) Main PQ Version ----- NONE
- h) Sub PQ Version ----- NONE
- i) Date ----- Jan 20, 2020
- j) Time ----- 17:39:50

12) NONLINEAR

- a) Mode ----- VGA / HDMI1 / HDMI2 / AV / YPbPr1
- b) Brightness Curve
 - i) OSD_0 ----- 80
 - ii) OSD_25 ----- 104
 - iii) OSD_50 ----- 128
 - iv) OSD_75 ----- 153
 - v) OSD_100----- 178
- c) Contrast Curve
 - i) OSD_0 ----- 80
 - ii) OSD_25 ----- 104
 - iii) OSD_50 ----- 128
 - iv) OSD_75 ----- 192
 - v) OSD_100----- 255
- d) Saturation Curve
 - i) OSD_0 ----- 0
 - ii) OSD_25 ----- 70
 - iii) OSD_50 ----- 148
 - iv) OSD_75 ----- 192
 - v) OSD_100----- 255
- e) Hue Curve
 - i) OSD_0 ----- 0
 - ii) OSD_25 ----- 25
 - iii) OSD_50 ----- 50
 - iv) OSD_75 ----- 75
 - v) OSD_100----- 100

f) Sharpness Curve

- i) OSD_0 ----- 0
- ii) OSD_25 ----- 25
- iii) OSD_50 ----- 50
- iv) OSD_75 ----- 75
- v) OSD_100----- 100

g) Volume Curve

- i) OSD_0 ----- 0
- ii) OSD_25 ----- 25
- iii) OSD_50 ----- 50
- iv) OSD_75 ----- 75
- v) OSD_100----- 100

Factory Name: 17C3_01202020_STD_G190EG02