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CRT to LCD Upgrade

Original CRT Display

Upgraded Monitor with LCD Panel

Dynamic Displays LCD Monitor

Dynamic Displays, Inc.
1625 Westgate Road
Eau Claire, WI 54703

QES1500 Progressive & Interlace Units
Industrial LCD Monitors User's Manual
Glee 17C2 Series
QUICK GUIDE

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Contact Information:

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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; Touch Screen, Vandal Protection Shield, Enhanced Sunlight Readability, Open Frame Configurations, Rack mount Configurations, Wall/Arm Mount Configurations, NEMA 4X stainless steel panel mount bezel and LED Backlight. 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.

Note: For a more detail specification, see specific model number spec sheet.

Product Safety Precautions

Read all of 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.

1. Do not cover or block the ventilation holes in the enclosure.

2. Do not insert sharp objects or spill liquid into the monitor through the cabinet slots. This may cause accidental fire, electric shock or failure.

3. Unplug the unit when not in use for an extended period of time.

4. 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.

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 to 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

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
- Users 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 DVI (Digital Video 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.

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 goes blank and gives an "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.

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.
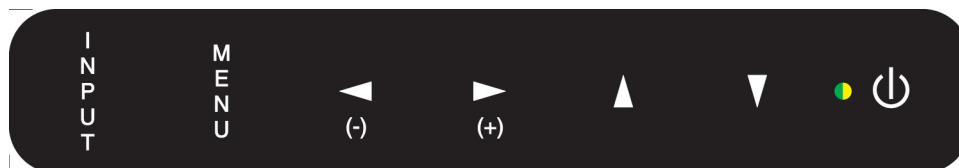
Menu Operating Instructions:

Your LCD monitor allows you to easily adjust the characteristics of the image being displayed. All of 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:

- **INPUT:**   Selects Input Video Source.
- **MENU:**   Selects command function.
- **Left   (-) / ◄:**   Moves selection to left or decreases function value.
- **Right (+) / ►:**   Move selection to right or increase function value
- **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 automatically the first time the unit is first turned on.

Input Video Options Selection;

- **PC**:   Select VGA input connector, HD15.

- **DVI:**   Select Digital Input Connector, DVI.

- **AV:**   Selects Composite Video Connector, RCA Jack.

- **SVIDEO:**   Selects S-Video Input Connector – Din 4.

OSD Interface buttons function:

- Input Button: Push this button, to select the video input signal (PC, DVI, AV or SVIDEO). 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.

<u>*OSD Interface Controls;*</u>

1. PC/Picture (AV Mode)
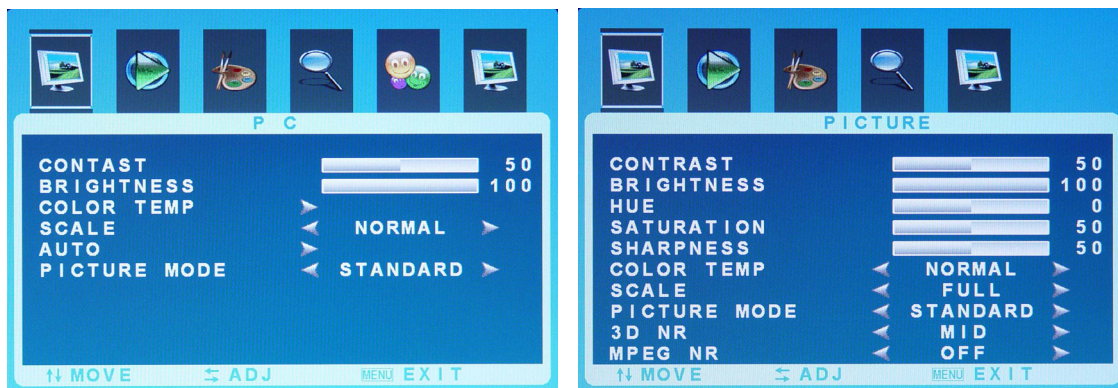
1.1. Contrast; Increases or decreases video gain of the image.

1.2. Brightness; Increases or decreases the brightness of the image.

1.3. HUE; *Only Available on S-Video or Composite Video*.

1.4. Saturation; *Only Available on S-Video or Composite Video*.

1.5. Sharpness; *Only Available on S-Video or Composite Video*.

1.6. Color Temp; allows the user to adjust for desire White Color Balance to a predetermined temperature colors or individual Red, Green and Blue Controls.

    1.6.1. Normal; Recalls the values for the color temperature of 7500K.

    1.6.2. Warm; Recalls the values for the color temperature of 6500K.

    1.6.3. Cool; Recalls the values for the color temperature of 9300K.

    1.6.4. S-RGB - *Only Available on PC Mode.*

    1.6.5. User - When selecting "USER" you may adjust each individual color one at a time - *Only Available on PC Mode.*

        1.6.5.1. User_R; Allows the user to adjust the Red gain.

        1.6.5.2. User_G; Allows the user to adjust the Green gain.

        1.6.5.3. User_B; Allows the user to adjust the Blue gain.

1.7. Scale; With Scale selected, Use the "Left/ Right" buttons to choose from the following options:

    1.7.1. Normal - Fills the entire screen.

    1.7.2. Center - *Only Available on PC Mode*.

    1.7.3. Panorama – *Only Available on S-Video or Composite Video.*

    1.7.4. Full – *Only Available on S-Video or Composite Video.*

    1.7.5. Zoom – *Only Available on S-Video or Composite Video.*

    1.7.6. Zoom 2 – *Only Available on S-Video or Composite Video.*

1.8. Auto; Automatically adjusts for optimum image - *Only Available on PC Mode.*

1.9. Picture Mode

    1.9.1. Standard

    1.9.2. Dynamic

    1.9.3. Soft

    1.9.4. User

    1.9.5. 3D NR – Only Available on S-Video or Composite Video.

        1.9.5.1. Off

        1.9.5.2. Low

        1.9.5.3. Mid

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1.9.5.4.   High

1.9.6.   MPEG NR - *Only Available on S-Video or Composite Video.*

    1.9.6.1.   Off

    1.9.6.2.   Low

    1.9.6.3.   High

2. SOUND

2.1. Equalizer

    2.1.1.   120 Hz

    2.1.2.   500 Hz

    2.1.3.   1.5KHz

    2.1.4.   5KHz

    2.1.5.   10KHz

2.2. Balance; Sound balance Left and Right

2.3. Sound Mode

    2.3.1.   Standard

    2.3.2.   Movie

    2.3.3.   Music

    2.3.4.   User

2.4. AVC; Automatic Volume Control

    2.4.1.   Off

    2.4.2.   On

2.5. Surround

    2.5.1.   Off

    2.5.2.   On

3. SYSTEM

3.1. OSD – Language; Allows the user to select different OSD operating language.

3.1.1. English

3.1.2. Chinese

3.2. OSD H-Position; Adjust horizontal OSD positioning.

3.3. OSD V-Position; Adjust vertical OSD positioning.

3.4. OSD Duration; Adjust timer to display OSD.

3.5. OSD Halftone; In this function, user can adjust the transparency of OSD display.

3.5.1. Sleep – Timer; Turns of display image after a set period of no screen activity.

3.5.2. Off

3.5.3. 15 Min

3.5.4. 30 Min

3.5.5. 45 Min

3.5.6. 60 Min

3.6. Memory – Recall; Restore to factory settings.

3.7. OSD Time – Enables OSD timeout

3.7.1. On – When set to "On", OSD time-out is enabled.

3.7.2. Off – When set to "Off", OSD is always present.

4. ADVANCE - *Only Available on PC Mode*.

4.1. HSTART; Adjusts horizontal screen positioning.

4.2. HSIZE; Increases or decreases the Horizontal Size.

4.3. VSTART; Adjusts vertical screen positioning.

4.4. VSIZE; Increases or decreases the Vertical Size.

5. GEOMETRY - *Only Available on PC Mode*.
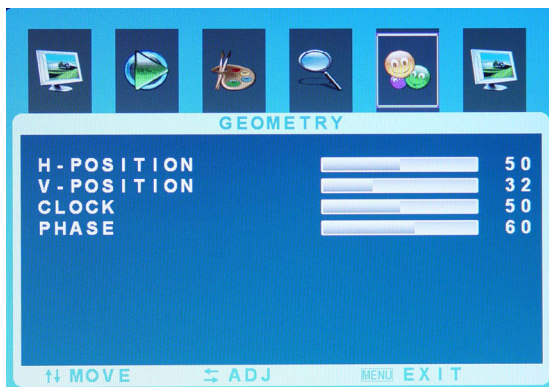
5.1. H-Position; Adjusts horizontal screen positioning.

5.2. V- Position; Adjusts vertical screen positioning.

5.3. Clock: Fine adjustment on horizontal position of video signals.

        5.4.   Phase; Phase adjustment; the phase should be adjusted until the screen image is sharp.

6. PIP – Picture in Picture

    6.1.   Multi Window

        6.1.1.   Off

        6.1.2.   PIP – Picture in Picture

        6.1.3.   POP – Picture Offset Picture

    6.2.   Sub Source

        6.2.1.   AV - *Only Available on PC Mode*.

        6.2.2.   S-Video - *Only Available on PC Mode*.

        6.2.3.   PC - *Only Available on S-Video or Composite Video*

        6.2.4.   DVI - *Only Available on S-Video or Composite Video*

    6.3.   Size – Only Available in PIP mode

        6.3.1.   Large

        6.3.2.   Small

        6.3.3.   Middle

    6.4.   PIP Position – Only Available in PIP mode

        6.4.1.   Top L

        6.4.2.   Bottom L

        6.4.3.   Bottom R

        6.4.4.   Top Right

    6.5.   Border Color

        6.5.1.   Black

        6.5.2.   Blue

    6.6.   Sound Source

        6.6.1.   Main

        6.6.2.   Sub

    6.7.   Swap

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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 The Screen	1. Check the color of the LED indicator on the LCD monitor. • "**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.

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	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	1. Adjust the brightness and contrast ~~by~~ 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. * Contact Dynamic Displays, Inc. and return unit for repair if suggestion 1 or 2 does **NOT** fix the Dim Image.
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-ammonic 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.

QUICK INSTALLATION GUIDE

PHOTOS ARE FOR REFERENCE ONLY

NOTE: Each monitor model may be different. This is an example to assist the installation of a flat panel monitor into a customer supplied chassis.

1. Remove CRT, board assembles and harness from original monitor:
    *   Unplug CRT monitor from power, unscrew board assemblies and CRT from chassis and Keep the screws from CRT mounting.
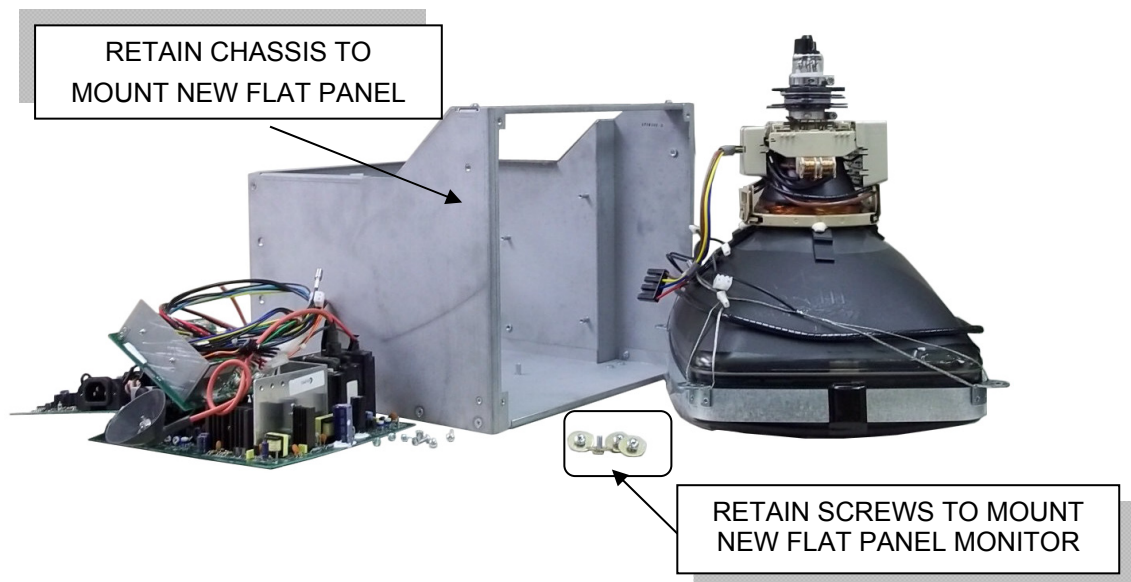

Side View (CRT Monitor)   Front View (CRT Monitor)   Rear View (CRT Monitor)

RETAIN CHASSIS TO MOUNT NEW FLAT PANEL
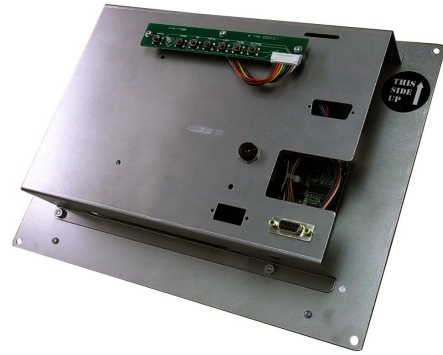
RETAIN SCREWS TO MOUNT NEW FLAT PANEL MONITOR

CRT, Board Assembly's and Harnesses removed from Chassis.

2. Install the new Flat Panel Monitor into the original chassis.

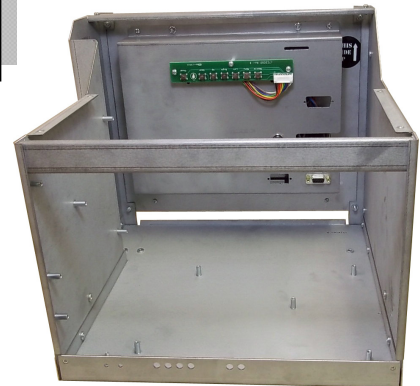
View (New Flat Panel Monitor
and Power Supply)

Back View (New Flat
Panel Monitor)

SCREW
(4 PLACES)

Mount Flat Panel Monitor to
Chassis using screws from CRT

Rear View (Flat Panel Monitor)
in Chassis

Plug Power Supply into
Flat Panel Monitor.