

FCC ID: HFSKX1

EUT: LCD MONITOR

QUANTA COMPUTER INC.

USER'S MANUAL

EXHIBIT D

## FEDERAL COMMUNICATIONS COMMISSION

### 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. 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.

Shielded interface cables (except Line in, earphone data cable) must be used in order to comply with emission limits.

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

# 1. Getting Started

## Package Contents

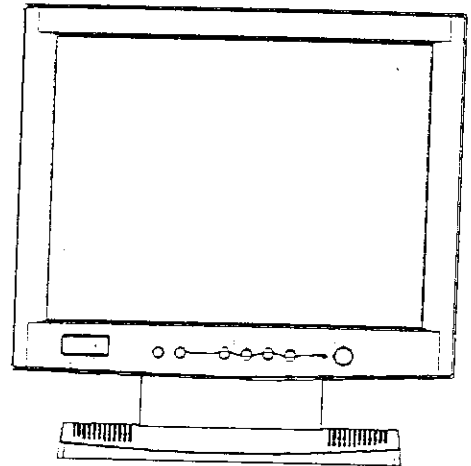
Congratulations on your purchase of the high quality KX1 LCD Monitor.

Your KX1 Monitor package includes the following:

- KX1 LCD Monitor
- VGA cable with 15 pin D-Sub connector
- AC adapter (19 VDC)
- Power cord
- Audio cable with 3.5 mm ear phone plug
- User's Guide
- Software diskette of Display Quality Check utility

### Note:

Save the original box and all packing material for future shipping needs.



## Connecting the KX1 LCD Monitor

The rear panel of KX1 is shown as the figure. There are three connectors: video in D-Sub connector, DC power jack, and audio LINE-IN connector. Take the following steps to connect your KX1.

1. Grasp the bottom of the neck cover with your hand.
2. Carefully pull away the cover from the neck.
3. Lift off the cover.
4. Turn off the computer.
5. Connect the VGA cable between KX1 and your computer's monitor port; use the end with cord at the computer side.
6. Connector the audio cable between the **LINE-IN** of KX1 and the LineOut jack of your computer.
7. Connector the power plug into the power jack of KX1.
8. Connect the power cord into AC adapter and connect it into wall outlet.
9. Install the neck cover back into position.
10. Power on the computer and ready to use your KX1 LCD Monitor.



## Features

### *Superior Image*

- On Screen Display (OSD) control system provide you easy way to adjust screen image through front panel buttons.
- KX1 use latest technology to provide sharp and clear image with high brightness and wide view angle.

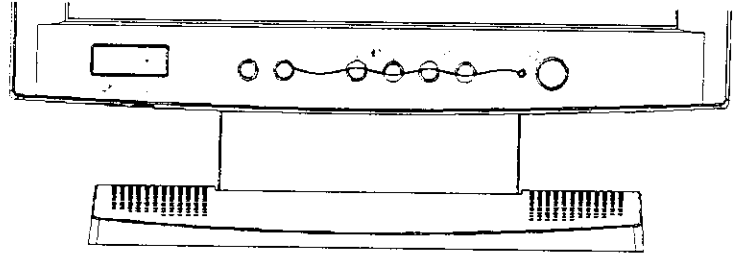
## 2. Operation

### Note:

For best performance set your computer to 1024 x 768 resolution with 16 bits or 24 bit colors. See the user guide that came with your computer for instruction. Lower resolutions degrade display quality.

### Front Panel

All operation controls and volume adjustment are located at the front panel. The figure shows the function of them.



- **I/O**: The power switch. To turn on the KX1, press the power switch and the power LED will light.
- **Power light LED**: The light turns green when it detects the input video signal or it will remain in orange and into power saving mode when there is no video signal.
- **[ + ]**: Press this button will increase the value of selected item with the OSD menu. With OSD menu off, this will increase the brightness.
- **[ - ]**: Press this button will decrease the value of selected item with the OSD menu. With OSD menu off, this will decrease the brightness.
- **[ ^ ]**: Pressing this button move the selected item upward with the OSD menu. With OSD menu off, this increases the contrast.
- **[ v ]**: Pressing this button move the selected item downward with the OSD menu. With OSD menu off, this decreases the contrast.
- **MENU**: Displays and exits the OSD menu.
- **AUTO**: Pressing this for KX1 to auto detects the image and places the screen into center position automatically.

### Note:

For the detection to be meaningful the display shall be full of image, like the MS-Window desktop screen. Do not press **AUTO** under DOS mode, the detection might not be meaningful.

- **HP-OUT**: Connect the headphone or external speaker from this connector.
- **Volume**: Adjust the volume of audio. This adjustment applies to the integrated speakers as well as the **HP-OUT** connector.

### OSD Control

When press the MENU button, the OSD menu will display. Press it again, the menu will disappear. If there is no button pressed for about 6 seconds, the menu will turn off automatically.

When OSD menu appears, use **[ ^ ]** and **[ v ]** to select between items. Then use **[ + ]** and **[ - ]** to change the setting of the selected item.

The function of menu items are described as following:

## Power Management System

This KX1 meets VESA DPMS (Display Power Management Signaling) standards. For the power saving feature to work, the video board or computer must also meet VESA DPMS standards.

| State   | LED    | Power | Recovery Time |
|---------|--------|-------|---------------|
| On      | Green  | 30 W  | N/A           |
| Standby | Orange | 3 W   | < 4 sec       |
| Off     | None   | ---   | < 20 sec      |

The KX1 goes into the power saving stages with the following video synchronization signals:

| State   | H-Sync | V-Sync |
|---------|--------|--------|
| On      | On     | On     |
| Standby | Off    | Off    |
| Off     | ---    | ---    |

To conserve energy, we recommend tuning off the KX1 at the power switch when it will not be used for long period of time.

## Factory Preset Timings

| #  | Resolution |   |     | V-Sync<br>(Hz) | H-Sync<br>(KHz) |
|----|------------|---|-----|----------------|-----------------|
| 2  |            |   |     |                |                 |
| 3  |            |   |     |                |                 |
| 4  |            |   |     |                |                 |
| 5  |            |   |     |                |                 |
| 6  |            |   |     |                |                 |
| 7  | 640        | x | 480 | 60             | 31.5            |
| 8  | 640        | x | 480 | 67             | 35.0            |
| 9  | 640        | x | 480 | 72             | 37.9            |
| 10 | 640        | x | 480 | 75             | 37.5            |
| 12 | 720        | x | 350 | 50             | 31.5            |
| 14 | 800        | x | 600 | 56             | 35.2            |
| 15 | 800        | x | 600 | 60             | 37.9            |
| 16 | 800        | x | 600 | 72             | 48.1            |
| 17 | 800        | x | 600 | 75             | 46.9            |
| 18 |            |   |     |                |                 |
| 20 | 1024       | x | 768 | 60             | 48.8            |
| 19 | 1024       | x | 768 | 60             | 48.4            |
| 21 | 1024       | x | 768 | 70             | 56.5            |
| 22 | 1024       | x | 768 | 72             | 58.1            |
| 23 | 1024       | x | 768 | 75             | 60.0            |
| 24 | 1024       | x | 768 | 75             | 60.2            |

## 4. Trouble Shooting

If your KX1 LCD Monitor is not operating properly, use this trouble-shooting chart for quick solutions to common problems. If the problem still exists, call your monitor dealer.

| Problem...                       | Possible Cause...                       | What to do...                                                                                                                       |
|----------------------------------|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| No picture, LED off              | Power cord disconnected                 | Connect the power cord.                                                                                                             |
|                                  | Power switch off                        | Turn on the power switch.                                                                                                           |
|                                  | Faulty AC outlet                        | Try another AC outlet.                                                                                                              |
| No picture, LED on               | Video cable connection                  | Connect VGA cable properly.                                                                                                         |
|                                  | Computer or graphics card               | Check PC or VGA card connection.                                                                                                    |
|                                  | Video sync signal                       | Check if the video mode is supported by KX1.                                                                                        |
| Image is not centered            | Screen position adjustment              | Adjust H-position and V-position in OSD menu or press <b>AUTO</b> for auto adjustment.                                              |
| Screen is dark or too bright     | Brightness and contrast adjustment      | Adjust <b>BRIGHTNESS</b> and <b>CONTRAST</b> with front panel buttons.                                                              |
| Color is not pure                | Color adjustment                        | Check the relative setting of R,G,B in the <b>Video Utility</b> sub-menu of the OSD.                                                |
| Character is not solid           | Low resolution mode                     | Set the display mode to 1024x768 resolution.                                                                                        |
| Wavy lines, banding, fuzzy image | Phase adjustment                        | Adjust the <b>PHASE</b> for best image.                                                                                             |
| Vertical stripes                 | Clock adjustment                        | Adjust the <b>CLOCK</b> till vertical stripes no longer existed.                                                                    |
| No sound                         | Audio cable connection                  | Connect the audio cable between the LINEOUT jack of PC and the LINE-IN jack of KX1 (located under the neck cover on the rear side). |
|                                  | Volume control adjustment, PC side      | Check if the PC audio is mute or adjust the output volume.                                                                          |
|                                  | Volume control adjustment, monitor side | Turn the rotary switch of <b>VOLUME</b> to its right for increasing the volume.                                                     |

### 3. Technical Data

#### Specifications

|                              |                      |                                                                                                  |                          |        |
|------------------------------|----------------------|--------------------------------------------------------------------------------------------------|--------------------------|--------|
| LCD                          | Type                 | 14.5 inch TFT color LCD module, 18-bit color, 0.288 mm pixel pitch                               |                          |        |
|                              | Display Area Surface | 294.9 x 221.2 mm (15.4 inch)<br>Anti-glare, hard coat                                            |                          |        |
| Input Signal                 | Video Sync           | RGB analog (0.7 / 1.0 Vp-p, 75 ohms)<br>H/V separate (TTL)                                       |                          |        |
| Compatibility                | PC                   | IBM® XT, AT, 386, 486, Pentium® or PS/2 and compatible (from VGA upto 1024 x 768 non-interlaced) |                          |        |
| Connectors                   | Front                | Headphone-Out                                                                                    | 3.5 mm stereo phone jack |        |
|                              | Rear                 | Video-In                                                                                         | Mini D-Sub 15 pin female |        |
|                              |                      | Line-In                                                                                          | 3.5 mm stereo phone jack |        |
|                              |                      | Power                                                                                            | DC 19 V (AC adapter)     |        |
|                              | Speaker              | Stereo speaker 1.1 W @ 8 ohm                                                                     |                          |        |
| User Control                 | Buttons              | Auto, Menu, Up, Down, Left, Right, Power                                                         |                          |        |
|                              | Rotary switch        | Volume control                                                                                   |                          |        |
| Power Saving & LED Indicator |                      | On                                                                                               | Green                    | 35 WAC |
|                              |                      | Standby                                                                                          | Orange                   | 5 WAC  |
|                              |                      | Off                                                                                              | None                     | ---    |
| Power Adapter                | Input                | 100 – 240 VAC, 50/60 Hz                                                                          |                          |        |
|                              | Output               | 19 VDC, 50 W                                                                                     |                          |        |
| Operation Conditions         | Temperature          | 0°C to 35°C (32°F to 95°F)                                                                       |                          |        |
|                              | Humility             | 5% to 90% (non-condensation)                                                                     |                          |        |
| Storage Conditions           | Temperature          | -20°C to 60°C (-4°F to 140°F)                                                                    |                          |        |
|                              | Humility             | 5% to 90% (non-condensation)                                                                     |                          |        |
| Dimension                    | Physical             | 350(W) x 355(H) x 175(D) mm                                                                      |                          |        |
|                              | Packing              | 468(W) x 468(H) x 233(D) mm                                                                      |                          |        |
| Weight                       | Net                  | 4.5 Kg.                                                                                          |                          |        |
|                              | Gross                | 6.0 Kg.                                                                                          |                          |        |
| Other Features               |                      | Compatible with DDC1™ and DDC2B™                                                                 |                          |        |
| Regulations                  | Safety               | UL, C-UL, CB Report                                                                              |                          |        |
| Agencies                     | EMC                  | FCC-B, CE, VCCI-B, CNS-B                                                                         |                          |        |
|                              | Others               | Energy Star, DPMS                                                                                |                          |        |

All products and trademarks are brand names of their respective companies. Specifications are subject to change without notice.

- **H Position:** adjust the horizontal position of display.
- **V Position:** adjust the vertical position of display.
- **Phase:** adjust the phase position of data sampling. See details in next section.
- **Clock:** adjust the number of clocks for each horizontal line.
- **Video Utility:** enter a sub-menu for video adjustment. They are:
  - **R,G,B:** separated control of each Red, Green, and Blue colors. Usually set to same value for all three colors.
  - **Input Level:** select between 0.7Vp-p and 1Vp-p of the input video signal level. Change this when **CONTRAST** adjustment does not provide the acceptable image quality.
  - **Black Level:** set the base of the display blackness. Left this in the default value of 127 will provide best result.
- **Frequency Information:** show you the H-Sync and V-Sync frequencies of input video signal.
- **Language:** select between English and German.
- **Recall:** recall the default setting and ignore all changes of current video mode.

After your adjustment KX1 will store the change into non-volatile memory when the OSD menu is off. So next time when you turn on the computer the setting will automatically restore.

## Phase Adjustment

Phase adjustment is a new adjustment of LCD monitor, which do not exist in conventional CRT monitor. It is sometimes called vertical fine-tune. It plays very important role in the display quality of LCD monitor.

The phase adjustment is to obtain the best display quality on your LCD monitor. The display quality is highly input signal dependent. Which means the best value of phase adjustment depends on the combination of all the following factors:

- input video source (different PC or different display card)
- display resolution (XVGA, SVGA, or VGA)
- frame rate (75 Hz or lower)
- type of display image (text, graphic, or image)
- contrast and brightness setting

So a practical way to obtain best display quality is to adjust the phase with the PC you are going to use and under the video mode (resolution and frame rate) that you most frequently use. Some test patterns can help to such a phase adjustment. Therefore, included in the package there is an MS-Window utility called Display Quality Check, **DQC.EXE**, which contains several test patterns to help you with the phase adjustment. If your system is not MS-Window, then you may find similar patterns to help you with it.

Following is a simple guideline for phase adjustment:

- Connect the KX1 LCD monitor to the PC that you will use.
- Turn on the computer and set the desired resolution and frame rate. The recommended mode is 1024 x 768, 75 Hz, and 24-bits colors.
- Adjust the contrast first. Use the 16 gray scale bars of **DQC.EXE** and adjust the **CONTRAST** setting till all 16 steps are clearly distinguishable.
- Enter the line and dot Moire patterns of **DQC.EXE** and press **MENU** and move to **PHASE** item. Then adjust the **PHASE** value to obtain min fluctuation on the screen.
- Save the change by pressing the **MENU** again to close OSD menu.

- Large screen area compatible with conventional 17" CRT monitors.
- Supports 16 million color in VGA, SVGA, and XVGA resolution.
- Multi-scan ability to accept horizontal frequencies from 25 to 60 KHz and vertical frequencies from 50 to 75 Hz.

#### ***Ergonomic Design***

- Anti-glare coating reduces eyestrain.
- Tilt base allows 30° rotation vertically for user comfortable.
- Low magnetic field or electrostatic charges for increased user safety.

#### ***Environmentally Friendly***

- Occupy much less desktop space than a conventional CRT monitor.
- Consumes less than one third of power that a conventional CRT monitor uses.
- Conforms to VESA® DPMS™ standards for reduce power consumption when not in use.
- Conforms to EnergyStar® for energy efficiency.

#### ***System Flexibility***

- Equipped with DDC1™ and DDC2B™ for Plug & Play compatibility.
- Universal AC adapter accepts input of 100 to 240 VAC at 50 or 60 Hz.
- The KX1 can be used with IBM® or compatible PC

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