USER'S
MANUAL

12.1"

TFT LCD Monitor
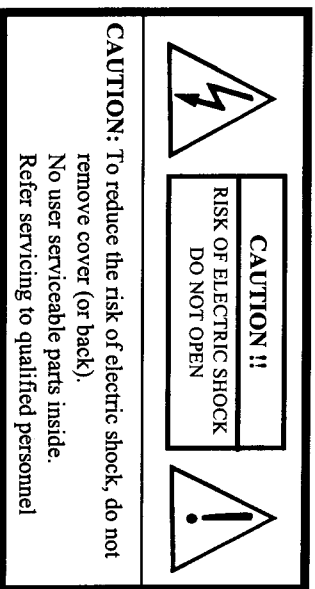
# Table of Contents

# 1. Caution and Warning



CAUTION !!

RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: To reduce the risk of electric shock, do not
remove cover (or back).
No user serviceable parts inside.
Refer servicing to qualified personnel

WARNING:

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS MONITOR TO
RAIN OR MOISTURE.

"HIGH VOLTAGE EXISTS ON THE BACK LIGHT POWER LEAD OF THIS
MONITOR. BEFORE SERVICING, DETERMINE THE PRESENCE OF HIGH
VOLTAGE BY CONNECTING THE H.V. METER BETWEEN THE BACK LIGHT
POWER LEAD AND CHASSIS ONLY."

# 2. FCC Requirements

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

The equipment has been tested and found to comply with the limits for a Class B
digital device, pursuant to part 15 of FCC rules. These limits are designed to
provide reasonable protection against harmful interference in a residential
installation. This equipment generates, uses and can radiate radio frequency
energy and, if not installed and used in strict 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 measure:

- Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and the 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 interconnected cables and shield power cords must be employed with
this equipment to insure compliance with the pertinent RFD emission limits governing
this device.

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## 2.FCC Req uirements

Changes or modifications no expressly approved by the manufacturer could void the user authority to operate the equipment.

**Notice of Compliance with Canadian Interference-causing Equipment Regulations**

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numrique de la Classe B respecte toutes les exigences du Rlement sur le matriel brouilleur du Canada.

## 3. Product Safety Precautions

Follow all warnings and instructions marked on the product.

Do not use this product near water.

This display should be installed on a solid horizontal base.

When cleaning, use only a neutral detergent cleaner with a soft damp cloth. Do not spray with liquid or aerosol cleaners.

Do not expose this display to direct sunlight or heat. Hot air may cause damage to the cabinet and other parts.

Adequate ventilation must be maintained to ensure reliable and continued operation and to protect the display from overheating. Do not block ventilation slots and openings with objects or install the display in a place where ventilation may be hindered.

This display should be operated from the type of power source indicated on the AC/DC adapter.

Do not install this display near a motor or transformer where strong magnetism is generated. Images on the display will become distorted and the color irregular.

Do not allow metal pieces or objects of any kind fall into the display from ventilation holes.

Do not attempt to service this unit yourself. Removal of the display cover may expose you to dangerous voltage or other risks. Refer all servicing to qualified service personnel.

# 3. Product Safety Precautions

Unplug this product from the wall outlet and refer servicing to qualified service personnel in the event that:

1. Liquid is spilled into the product or the product is exposed to rain or water.
2. The product does not operate normally when the operating instructions are followed.
3. The product has been dropped or the cabinet has been damaged.
4. The product exhibits a distinct change in performance, indicating a need for service.
5. Power cord or plug is damaged or frayed.

# 4. Introduction

Welcome to enjoy the fantastic sightseeing world. . This new technology will bring you the whole new feeling about the "monitor". We show here some of the major advantages of the LCD monitor. You will really find some other advantages when you use it.

1. The character of low radiation and less flicker reduce the probability of harm for your health compared to traditional CRT monitor.
2. The LCD monitor weights only 3.8 Kgs, and its compact size requires only minimal desktop space. These two merits make this monitor easier to be transported and can be used in nearly any environmental.
3. The LCD monitor operates on low power consumption level offering savings on power bills and the earth resources.
4. The special design of the LCD cabinet is both attractive and ergonomic.
5. The usage of the LCD monitor is the same as the CRT monitor. There is no need to change the hardware of your computer, just plug and play..

# 5. Hardware Installation

This chapter will guide you the correct installation procedures of your LCD monitor.

## 5-1. Unpacking

After you unpack your LCD Monitor, please make sure that the following items are included in the carton and in good condition. If you find that any of these items are damaged or missing, please contact your dealer immediately.
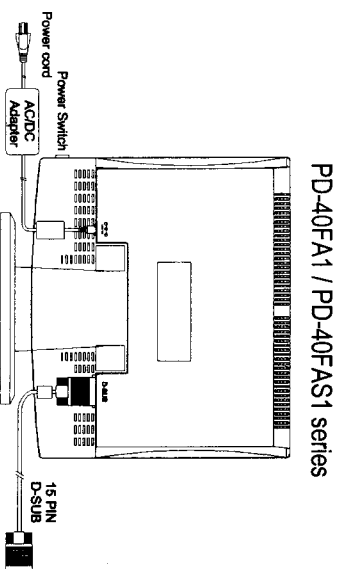
♦ One LCD Monitor mounted on its stand
♦ 15-pin D-sub Video cable
♦ AC/DC adapter with 12V DC output
♦ AC power cord
♦ The user manual

## 5-2. Installation

This analog LCD display **DOES NOT** require any special drivers. Necessary drivers are supplied by the video card manufacturer and may be found on the diskettes supplied with the video card that came with your computer. Windows 95/98 drivers for both the display and the video card are supplied on the Windows 95/98 CD or diskettes. Unfortunately, Microsoft did not provide a complete listing of the displays on the initial retail release. You may use the standard **SVGA (800X600)** as the display type. The video card must also be set up correctly in Windows 95/98 and make sure the video output of the VGA card is on list in Section 6.1 or check your Video Card manual or Windows 95/98 Read me file for further information on Video Card. After the question listed above is solved, we continue the setup procedure as below.

# 5. Hardware Installation

1. Turn power off both Computer and Display before making any connection.
2. Install Display on the solid horizontal surface such as a table or desk.
3. Connect the power cable and the AC/DC adapter, then connect adapter to the back of the LCD monitor.
4. The LCD monitor comes with a 15-pin to 15-pin video cable, you may use this cable for both IBM PC's & compatibles and Macintosh.
5. Tighten the screws of the Display cable until the connectors are fastened securely.
6. Switch on power to the Display, then to the monitor.

## PD-40FA1 / PD-40FAS1 series



Power cord
Power Switch
AC/DC Adapter
15 PIN D-SUB

# 6. The Display Timing

## 6-1 Applicable video timing

The following table lists the better display quality modes that the LCD monitor provides. If the other video modes are input, the monitor will stop working or display unsatisfactory picture quality.
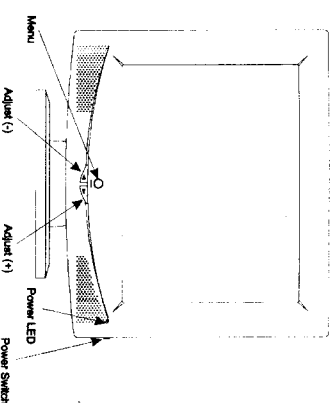
| Mode | Resolution | VESA MODES Horizontal Nominal Frequency +/- 0.5KHz | Vertical Nominal Frequency +/- 1 Hz | VCLK Nominal Pixel Clock (MHz) |
|------|-----------|------------------|------------------|------------------|
| DOS | 720*400 | 31.5Khz | 70.0Hz | 28.322MHz |
| VGA | 640*480 | 31.5KHz | 59.9Hz | 25.175MHz |
| | 640*480 | 37.9KHz | 72.0Hz | 31.500MHz |
| | 640*480 | 37.5KHz | 75.0Hz | 31.500MHz |
| | 640*480 | 43.3KHz | 85.0Hz | 36.000MHz |
| SVGA | 800*600 | 35.2KHz | 56.0Hz | 36.000MHz |
| | 800*600 | 37.9KHz | 60.0Hz | 40.000MHz |

Table 6.1 Applicable video timing

# 7. The Display Controls

## 7-1 Display Controls

### PD-40FA1 / PD-40FAS1 series



Menu    Adjust(-)    Adjust(+)    Power LED    Power Switch

**1) MENU:**

To select the setting items.

**2) ADJUST ▶ : ( RIGHT )**

To increase value of selected item

**3) ADJUST ◀ : ( LEFT )**

To decrease value of selected item

**4) POWER SWITCH**

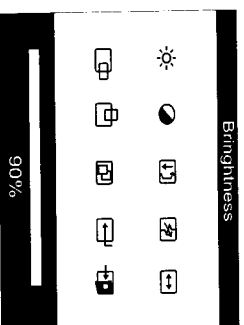Pushing the power switch will turn the 0monitor on. Pushing it again to turn the monitor off.

**5) POWER INDICATOR**

The LED will light with green color in normal on state, and will twinkle in power saving mode.

## 8-1 Main Menu

The OSD main menu (Figure 8-1) is displayed on screen when MENU key is pressed. The OSD menu is a combination of graphic and text display. The selected item is draw in red color. In the last item press LEFT or RIGHT key to exit OSD.



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The OSD adjusting menu:

● **Brightness**

Setup the brightness of the panel

● **Contrast**

Setup the contrast of the panel, maybe need fine tune after auto-tune see section ( 8-2 ).

● **Phase**

The item "Phase" is used to adjust the Analog to Digital sample pixel clock, adjust Phase can reduce horizontal noise. A slider with current value is displayed.

● **Track**

The item "Frequency" is used to adjust the Digital sample pixel clock, adjust Track can reduce horizontal black line. A slider with current value is displayed.

● **Frequency**

The item "Track" is used to adjust the number of clocks (pixel) per line ( sample per line ). A slider with current value is displayed. Adjust the width of the picture, adjust frequency can reduce vertical noise. The picture must match the width of the display area.

● **Horizontal Centering**

Move the picture horizontally.

● **Vertical Position**

Move vertically the picture. The picture must match the height of the display area in SVGA Mode.

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● **Resolution**

Display the picture model

● **Autotune & Recall**

Autotune the parameters or Recall the factory setting of this mode.

● **Exit**

Press LEFT key will EXIT and **not save** the parameters you adjust.
Press RIGHT key will exit and **save** the parameters you adjust.

**Note:**

If you don't press any key during 15 seconds, the OSD will disappear by itself and not save the parameters.

Note:

If the monitor can't work normally by using incorrect ways, please turn off the monitor. First keep pressing RIGHT key, then turn on the monitor till the frame appears.

## 8-2 How to use Autotune Adjustment

The Autotune is a new design OSD adjustment item . We will tell you how to use Autotune adjustment below.

The adjustment of Autotune: This function can tune the parameters of **Phase, Track, Frequency, H-position and V-position.**

**Suggesting Adjustment Steps :**

Step 1: Entry the Windows 95/98 Shut-down frame. (Note: The **Wallpaper** color CAN NOT be black.)

Step 2: Entry OSD and Choose the "Autotune & Recall" item , then press LEFT key. The Picture will be Auto-adjusted by itself. After 10 seconds, you can leave OSD and Shut-down frame.

Step 3: If you are not still satisfied with the picture quality, you could choose **Contrast** item in OSD and adjust it .

Note:

1. If you don't like the effect of Autotune Adjustment , you can adjust Phase, Track,..... items in OSD.

2. Autotune adjustment can be used in Windows 95/98 except black background frame, but the best effects is in the **SHUT DOWN** frame.

3. If the monitor can't work normally by using incorrect ways, please turn off the monitor. First keep pressing RIGHT key, then turn on the monitor till the frame appears.

# 9. Troubleshooting Tips

In the event that you experience trouble with your Display, check the following items before contacting the dealer from whom the Display was purchased. The most common problems usually involve an incorrectly an incorrect connection from the Video Card to the Display. We recommend that you also consult your Video Card User's manual during the Troubleshooting Procedure. Do not exceed the maximum refresh rate recommended for the display.

| Problem | Troubleshooting Tip |
|---|---|
| No image on display screen | 1. Check that power cord of the Computer has been connected securely into wall outlet or grounded extension cable or strip. <br> 2. Check that power switch of the Display has been pressed and LED on the front of Display is lit. <br> c3. Check that Video (Signal) Cable from the Display has been securely and correctly connected. <br> 4. Check that Video Card is firmly seated in card slot of Computer motherboard. <br> 5. Check that the video input from the Video Card falls within the timing range (listed in the table of section 6) of the Display. |

# 9. Troubleshooting Tips

| Problem | Troubleshooting Tip |
|---|---|
| Abnormal image. | 1. Check that the video input from the Video Card falls within the timing range (listed in the table of section 6) of the Display. <br> 2. Check that Video (Signal) Cable from the Display has been securely and correctly connected to the Video Connector at the rear side of the Computer. |
| Colors of image on screen are abnormal | 1. Check that Video (Signal) Cable from the displays has been securely and correctly connected to the 15-pin Video Connector at the rear side of the computer. |
| Disturbances on Screen | 1. OSD adjustment is incorrect. Please consult section 7 for OSD screen adjustment procedures. |

# 10. Specification

| Model | PD-40FA1 | PD-40FAS1 |
|---|---|---|
| LCD panel type | 12.1" TFT | Sharp 12.1" TFT |
| Resolution | SVGA 800X600 Max. | |
| Pixel dimension | 0.3075 mm(H) x 0.3075 mm (V) | |
| LCD display color | 262,144 Colors max.(18 Bit) | |
| OSD control | Brightness, Contrast, Phase, Track, Frequency, H/V Centering, Resolution, Recall Default, Exit/Save | |
| Manual control | Select, Adjust ( ◄ , ► ), Power. | |
| Viewing angle | H: ± 40° max. | H: ±70° V: ± 50° |
| | V: +10°,-30° max. | H: ± 45° V: +10° , -30° |
| Contrast ratio | 120 : 1 type. | 300 : 1 type. |
| Brightness | 100 cd/m² | 250 cd/m², 200 cd/m² |
| Response time | 20 ms Rise | 20 ms Rise / 30 ms Rise |
| Active display area | 246 mm(H) x 184.5mm(V) | |
| AC/DC adapter | Input: AC 100 ~ 240V, 50 ~ 60Hz Output: +12 V DC. | |
| Input signal | Video: Analog 0.7 Vp-p, 75 ohms Sync.: TTL Level, Positive/Negative, Separate Sync | |
| Input connector | 15 Pin D-Sub. | |
| Power management | VESA DPMS Compatible | |
| Dimensions | 34 cm(W) x 32.5 cm(H)x 16.6 cm(D). | |
| Weight | 3.5 Kgs.(LCD Module only) | 3.8 Kgs(LCD Module only) |
| Accessory | VGA cable, AC/DC adapter, power cord. | |
| Temperature | Operation : 0 – 40° C | Operation: 0–40° C |
| Storage | -25 – 60° C | -20–60° C |

# 11. ANNEX : Option

- Touch screen upgradable
- Internal 2Wx2 Speaker/1 microphone(as seen in Figure 1)
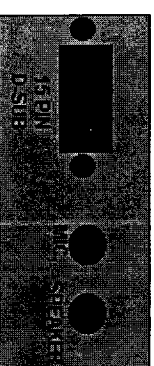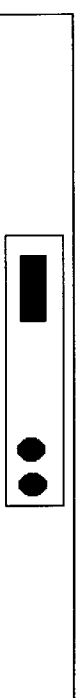- External earphone/microphone connector(as seen in Figure 2)
- Volume tuner



Figure 1



VOLUME    MIC.   EARPHONE
TUNER

Figure 2