Advanced Color TFT LCD Monitor

USER'S MANUAL

18.1-inch SXGA TFTLCD Color Monitor

Version0212-E

FCC

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.

Caution : Any changes or modifications in construction of this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment

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 against harmful interference in a residential installation 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.

CONTENTS

LIFE SUPPORT APPLICATIONS

These products are not designed for use in life support appliances, devices, or systems where malfunction of these products can reasonably be expected to result in personal injury. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify for any damage resulting from such improper use or sale.

The information presented in this document may form a part of quotation or contract under the agreement of both parties. Otherwise, this datasheet is subjected to be changed without notice.

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0. CONNECTIONS

DVD / VCR

Headphone

TV Antenna
CATV

Speaker

SVHS Video Audio-L Audio-R Head Line out Stereo in
phone

DC in

Analog
RGB

12V Adapter

PC
USB / VGA / Sound
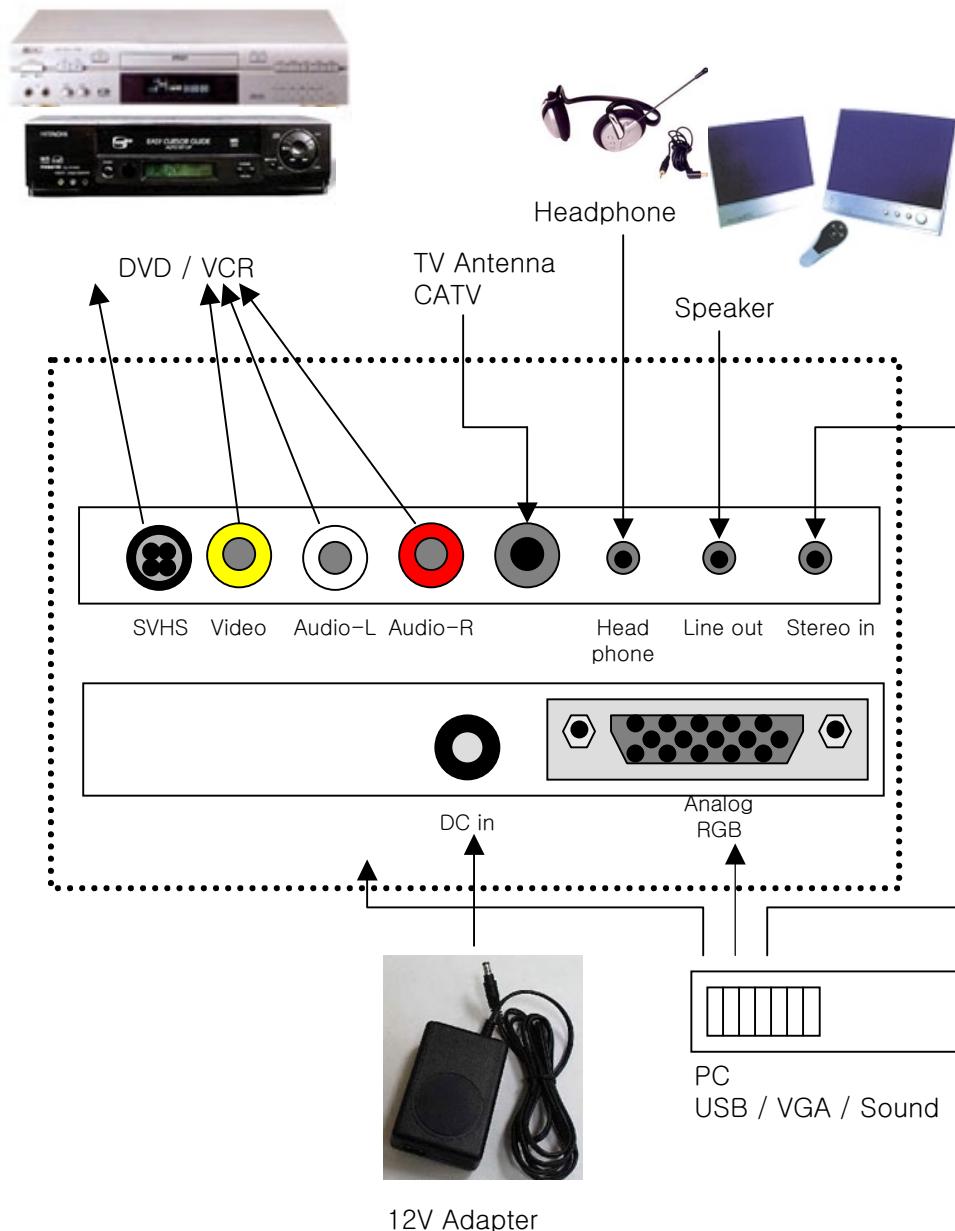
1. QUICK START

- Connect the 15-pin D-sub connector to the VGA port of PC.
- Connect the opposite side of VGA cable to TFT LCD monitor.
- Connect the RCA jack or SVHS cable to your DVD player, camcorder or VCR
- Plug in the Audio cables to the proper connecter of your monitor.
- Plug in the external antenna or CATV cable to the Antenna connector.
- Plug in the power cord to AC/DC adapter power inlet and 110V / 220V consent.
- Plug in the 12V DC output to TFT LCD monitor.
- Adjust the TFT LCD monitor tilt.
- Turn on the external signal sources and TFT LCD monitor.
- Adjust the display. (SXGA, 1280x1024 pixels, 24 bit color)

2. U.S. FCC CLASS B NOTICE

3. PRODUCT OVERVIEW

This 18.1" SXGA TFTLCD Monitor, accepts standard analog RGB signal, TV signal, Video signals (VCR, DVD and Camcorder) from various video sources which are available in the marketplace. This monitor supports SXGA and lower resolutions at the frame frequency up to 75Hz. Lower resolution modes can be expanded to full screen through the expansion algorithm. The user interface includes Audio, Display, Scaling, Control, Smart Setting, and additional features.

This monitor contains high-end LCD controller, TV tuner, USB board, which have high performance and user friendly interfaces. Fancy design monitor makes your desk simple and luxury.

The LCD monitor neither emits harmful rays nor requires space. Moreover, it conforms to VESA DPMS (Display Power Management Signaling) requirement, therefore energy consumption is remarkably little. Actual power consumption of LCD monitor is less than 55 watts during the operation, in contrast CRT monitor. These features guarantee you with safe, clean, and healthy environment.

This monitor supports VESA DDC 1/2 requirements, therefore it is truly Plug-and-Play for all PCs. No hardware or software change needed. Simply unplug your CRT cable, and plug it into the LCD monitor.

4. USAGE NOTICE

Warning

Please do not open or disassemble the products, because it may cause electric shock. Please be advised all the warnings, precautions, and maintenance advice as recommended in this user's manual in order to maximize the life of your monitor.

Do:

- Turn off the monitor before cleaning its surface.
- Periodically wipe its surface with a soft and dry cloth.
- Use the quality and safety-approved AD/DC adapter.
- Disconnect the power plug from the AC outlet when the product is not in use for long time.

Do not expose the monitor to:

- Extremely hot, cold, and humid environments during operation.
- Area susceptible to dust.
- Direct sunlight
- Abrasive cleaners, waxes, and solvents

5. DRIVER INSTALLATION

5.1. Frame Frequency (or Refresh Rate) Setting

This monitor is designed to run under the frame frequency (or refresh rate) up to 75Hz.
It is highly recommended for you to change the frame frequency of your PC to 60Hz,
because TFT LCD monitor shows best performance in frame frequency 60Hz.
To change it, you can use the installation diskette included in the package.
When you install the monitor to your PC, very rarely, you may have a trouble due to
mismatch of PC and monitor. In this case, you can't see any image in the display
(Black display). It is caused by the difference of display setting between the monitor
And your previous monitor. You can solve the trouble by changing the display setting
as following:

- Restart PC
- Press **F8** key when DOS message appears.
- There will be a menu in DOS mode, then select **Safe Mode** using up/down key
  or numeric key
- Press **Enter** key. Then PC runs in **Windows Safe Mode**.
- Start installation procedure using **Add New Hardware Wizard** or **Display
  Properties Dialog** as described in the following section.

5.2. Installation of TFT LCD Monitor Display Driver in Windows

5.2.1. Installation instruction of the 'Add New Hardware Wizard'.

- Start Windows.
- Insert the driver diskette into a floppy drive.
- Click the **Start** button. Click the **Setting** and **Control Panel** menu item.
- From the **Control Panel** folder, select the **Add New Hardware** icon.
- Follow the instructions. When you are asked to 'Select the type of hardware you
  want to install' select **Monitors**.
- Press the **Have disk** button from the next dialog.
- Select the **'A' drive** from the dialog. Press **OK**. The wizard will automatically
  install the Display Drivers.
- Follow the additional instructions given by the wizard.

5.2.2. Installation instruction using the 'Display Properties Dialogs'

- Click the **Right mouse button** on the empty Desktop area.
- Select the **Settings property** dialog. Press the **Advanced Properties** button.
- From the **Advanced Display Properties** dialog, select the **Change** buttons.
- Press the **Have disk** button from the next dialog.
- Select the **'A' drive** from the dialog. Press **OK**. The wizard will automatically install the Display Drivers.
- Follow the additional instructions given by the wizard.

5.2.3. Installation instruction using Plug-N-Play

- Connect VGA cable and turn on the monitor power first.
- Turn on the computer
- After Windows starts, there will be a Windows dialog box indicating **New Hardware Found**. If this message does not appeal, please install the monitor driver using '5.2.1.' or '5.2.2.' procedure.
- Select the button **Driver Disk Provided by Manufacturer**, and select **OK** button to go to next window labeled **Have Disk**.
- Insert Windows Driver floppy diskette into floppy drive, and press **OK**.
- Among the device selection menu, select **the model**, and press **OK**.
- Windows will automatically install the driver.

6. PACKAGE CHECKLIST

18.1" TFT LCD Monitor
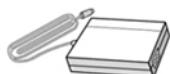
User's Manual   AC/DC Adapter   Driver diskette   Power Cord   Audio Cable
(Option)

VGA Cable   RCA Cable   ANT Jack   S-VHS Cable   Remote Controller
(Option)   (Option)   (Option)   (Option)

7. FRONT BUTTON

| Source | Menu | ▼ | ▲ | ◄ | ► | LED | Power |
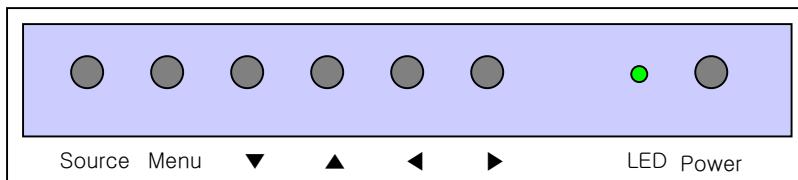
Standard OSD Function

Button	Function	Status	Hot key
Power	Power ON/OFF	ON/OFF	
LED	Indicates operation status	Green(ON) /Red(No signal)	
Auto	Auto Adjustment	Auto Adjustment	
Menu	Activate menu Exit menu	Brightness/Contrast/Color Etc….	
Exit	Exit menu	Exit Menu	
Select	Select menu	Select menu	
Down/Up	Move menu / Adjust menu	Down/Up	

Optional OSD Function

| Button	Function	Status	Hot key
Power	Power ON/OFF	ON/OFF	
LED	Indicates operation status	Green(ON) /Red(off)	
Source	Select signal source	Analog RGB / S-Video / Composite video / TV	Rotate signal source
Menu	Activate menu Select menu	Analog RGB / S-Video / Composite video / TV	
▼ ▲ ◄ ►	Cursor control TV Channel select Volume control Increment / Decrement value		▼ ▲ : TV Channel ◄ ► : Volume control

8. OSD OPERATION

8.1. Main Menu

PC	TV / Composite Video / SVHS
Source	Source
Audio	Audio
Display	Display
Position & Scaling	Scaling
Control	Control
Smart Setting	TV Setting
PIP Config Exit	Exit
1024 x768 VF: 75Hz HF: 60.0KHz	1024 x768 VF: 75Hz HF: 60.0KHz

Menu

Information
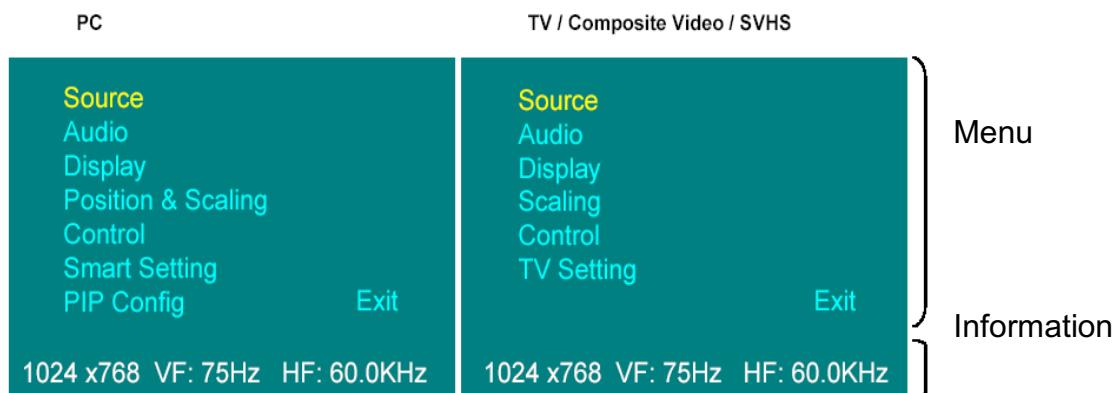
- Source: Select signal source
- Audio: Audio source select and setting
- Display: Image quality setting
- Position & Scaling: Image position and expansion control
- Control: Capture image or OSD control
- Smart setting: Auto adjustment
- TV setting: TV Channel, Bilingual, Air-Cable, Channel scan etc.
- PIP Config:PIP source, size and position control
- Information: Displays current video mode and frequency

8.2. Image Control

Brightness (Common)

+

__Procedure__   Menu > ▼ ▼ (Display) > Menu>Menu (Brightness)

Brightness

-          40   +

◀ Dark

▶ Bright
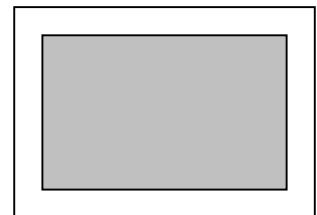
Contrast (Common)

__Procedure__   Menu > ▼ ▼ (Display) > Menu > ▼ >Menu (Contrast)

Contrast

-          40   +

◀ Distinct

▶ Vague
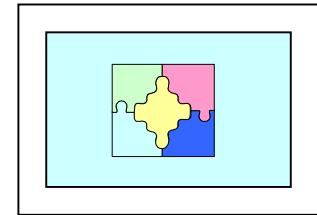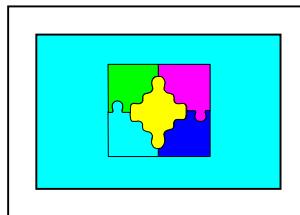
Saturation (TV / CVBS / S-Video)

Procedure   Menu > ▼ ▼ (Display) > Menu > ▼ ▼ >Menu (Saturation)

Saturation

-   0   +
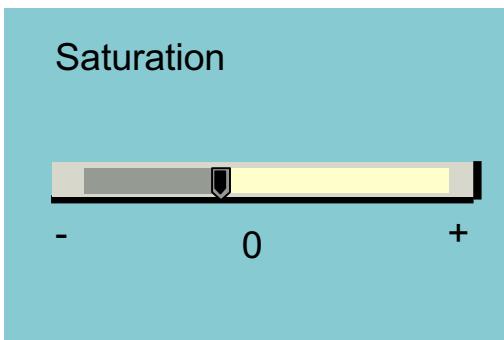
◀ Decrement   ▶ Reddish
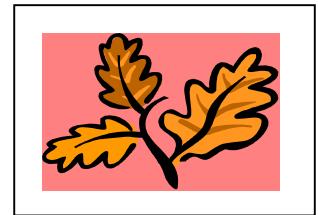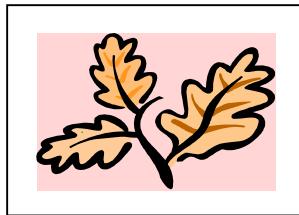
* Saturation means the color tone in accordance with the difference of color concentration under red color criterion.

Hue (TV / CVBS / S-Video)

Procedure   Menu > ▼ ▼ (Display) > Menu > ▼ ▼ ▼ >Menu (Hue)

Hue

-            0   +
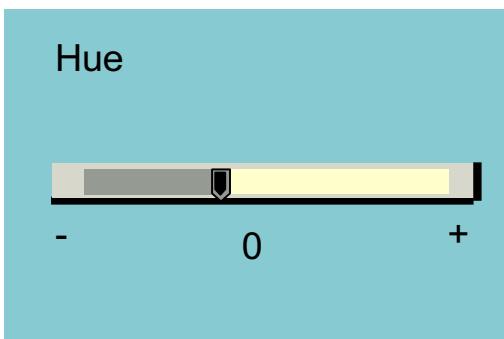
◀ Bluish   ▶ Greenish
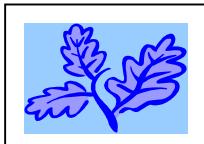
* Hue means that it is a difference of color toward Blue or Red color direction.

Color Temperature (Common)

Procedure   Menu > ▼ ▼ (Display) > Menu > ▼ ▼ ▼ ▼ >Menu (Color Temperature)
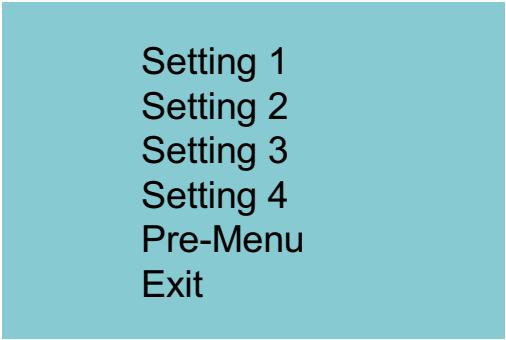
Setting 1
Setting 2
Setting 3
Setting 4
Pre-Menu
Exit

Setting 1: Bluish white
Setting 2: Default
Setting 3: Reddish white
Setting 4: More reddish white

Sharpness (Common)

**Procedure**   Menu > ▼ ▼ (Display) > Menu > ▼ ▼ ▼ ▼ ▼ >Menu (Sharpness)

Sharpness

Sharp   1 2 3 4 5 Soft

Frequency (Analog RGB)

Procedure   Menu > ▼ ▼ (Display) > Menu > ▼ ▼ >Menu (Frequency)

Frequency

-          40   +

Mismatch
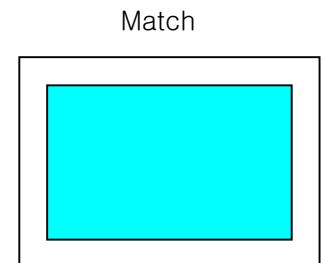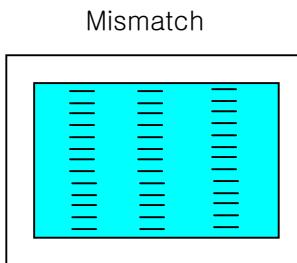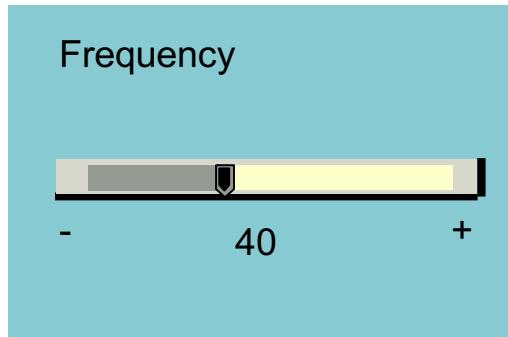
Match

Phase (Analog RGB)

Procedure   Menu > ▼ ▼ (Display) > Menu > ▼ ▼ ▼ >Menu (Phase)

Phase

-          40   +

Mismatch
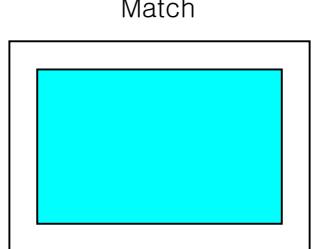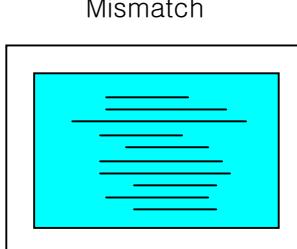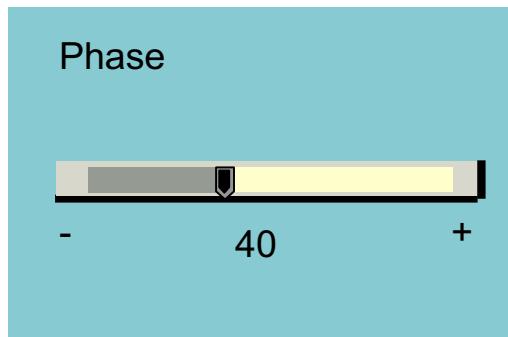
Match

8.3. Audio Control

Audio Match (Common)

__Procedure__   Menu > ▼ (Audio) > Menu > Menu (Audio Match)

__Function__   Select source of audio at PIP function
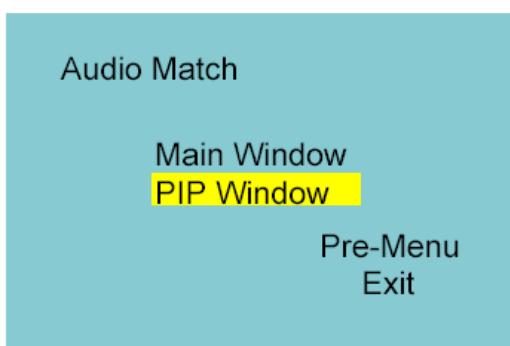
Audio Match

       Main Window
       PIP Window

            Pre-Menu
            Exit

Audio Source (Common)

__Procedure__   Menu > ▼ (Audio) > Menu >Menu (Audio source)
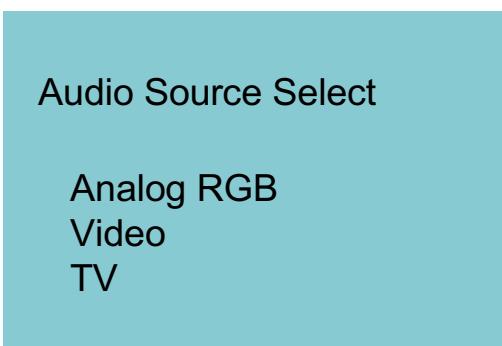
Audio Source Select

  Analog RGB
  Video
  TV

Audio - Others (Common)

__Procedure__   Menu > ▼ (Audio) > Menu > ▼ (Bass)
                 Menu > ▼ (Audio) > Menu > ▼ ▼ (Treble)
                 Menu > ▼ (Audio) > Menu > ▼ ▼ ▼ (Mute On/Off)

8.4. Scaling

Fill Screen / Fill To Aspect Ratio (Common)

Procedure   Menu > ▼ ▼ ▼ (Scaling) > Menu >Menu (Fill Screen)
                    Menu > ▼ ▼ ▼ (Scaling) > Menu >Menu (Fill To Aspect Ratio)

Fill Screen   Maximize the image
Fill to Aspect Ratio   Picture aspect ratio to 4 : 3


Zoom (Common)

Procedure   Menu > ▼ ▼ ▼ (Scaling) > Menu > Menu > ▼ ▼ ▼(Zoom)

                                           ▼ Zoom out   ▲ Zoom in

Function   Magnify the image size to x64
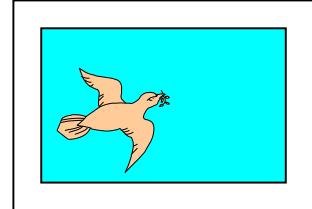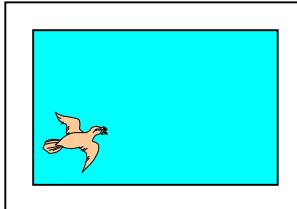
8.5. Control

Capture Frame (Common)

Procedure   Menu > ▼ ▼ ▼ ▼ (Control) > Menu >Menu (Capture Frame)

Function   User captures moving picture.

Reset to Factory Default (Common)

Procedure   Menu > ▼ ▼ ▼ ▼ (Control) > Menu > ▼ >Menu (Reset to Factory Default)

Function   User setting becomes invalid, and return to factory default setting.

OSD Position (Common)

Procedure   Menu > ▼ ▼ ▼ ▼ (Control) > Menu > ▼ ▼ >Menu (OSD Position)

Function   Moves the OSD window location
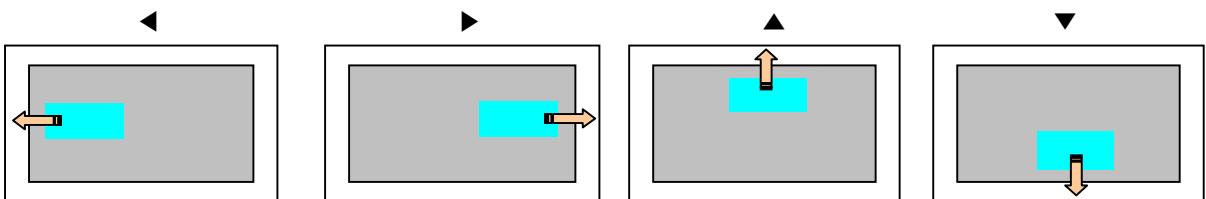
OSD Background Mode (Common)

Procedure   Menu > ▼ ▼ ▼ ▼ (Control) > Menu > ▼ ▼ ▼ >Menu (OSD Background Mode)

Function   Changes the background color of OSD window. (Translucent / Opaque)

9. PIP Control

Available from Video Model

PIP Size (PC)

Procedure   Menu > ▼ ▼ ▼ ▼ ▼ (PIP control) > Menu > (PIP size)

Function   select the PIP size (Unit :pixel => small:102x76, medium:204x152, large:306x228)
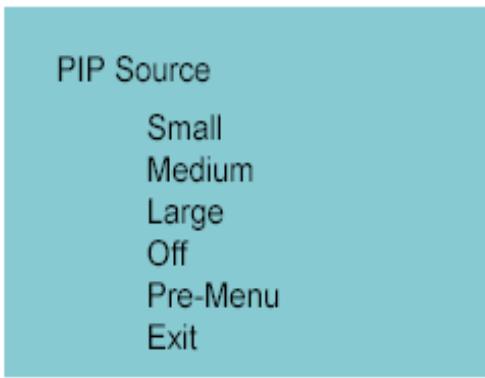
PIP Source

    Small
    Medium
    Large
    Off
    Pre-Menu
    Exit

PIP Source (PC)

Procedure   Menu > ▼ ▼ ▼ ▼ ▼ (PIP control) > Menu > ▼(PIP source) > Menu

Function   select the PIP source signal
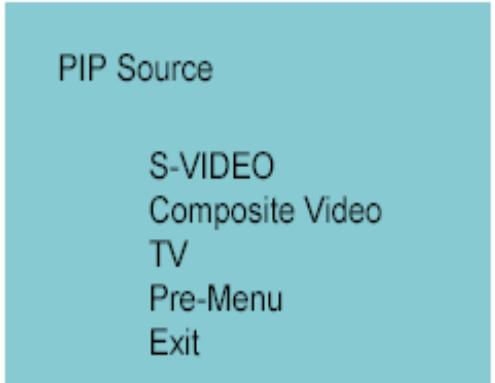
PIP Source

    S-VIDEO
   Composite Video
    TV
    Pre-Menu
    Exit

PIP Horizontal Position (PC)

Procedure Menu > ▼ ▼ ▼ ▼ (Control) > Menu > ▼ ▼ > Menu (PIP Horizontal Position)

Function Moves the PIP window location (Left & Right)
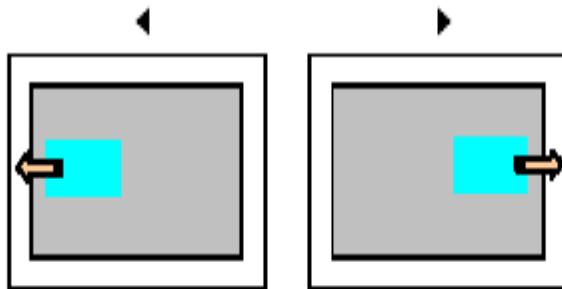
PIP Vertical Position (PC)

Procedure Menu > ▼ ▼ ▼ ▼ (Control) > Menu > ▼ ▼ ▼ > Menu (PIP Vertical Position)

Function Moves the PIP window location (Up & Down)
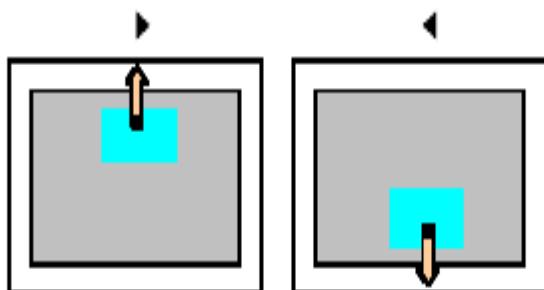
10. Troubleshooting

Warning

Please do not open the monitor, because it may cause electric shock to the customer. Also, the warranty program may not support the damages, which user causes. When problem persists in spite of trying the following troubleshooting advice, please contact dealer or the repair center listed in the back side of this manual.

Trouble and countermeasure

<u>LED doesn't lit / No image</u>

Check if the display is in power saving mode.
Check if the display is switched on or the power cable is properly connected.

<u>Image is unstable (Flicker, Interference, Noise, etc.)</u>

Check if signal cable is secured
Check if frame (vertical) frequency of video signal is lower than 75Hz because this monitor can not run over 75Hz. In this case, please change the setting of 'Display Control Panel' of Windows to 60Hz, that displays the best performance.

<u>Dull image</u>

Adjust the Frequency or Phase.
Adjust the frame (vertical) frequency to 60Hz.
Remove any video signal distributor.

<u>Dark or saturated image</u>

Adjust the Brightness or Contrast.

11. Specifications

Model	18.1-inch SXGA TFTLCD Color Monitor

Display
Type	18.1" Color Active Matrix TFT LCD
Color	16.7Million (8bit/color)
Pitch	0.28 x 0.28 mm
Screen size	359.0(H) x 287.2(V) mm
Back light	6 CCFLs
Resolution (max.)	1280 x 1024 pixels
Contrast ratio	350:1
Brightness	250 cd/m^2

Video
Sync frequency	Vertical: 60Hz
	Horizontal: 31.5 ~ 80KHz
Input signal	Analog RGB 0.714 V$_{P-P}$, 15 Pin D-sub type
Viewing angle	Up/Down: 80º / 80º
	Right/Left: 80º / 80º

Compatibility
Plug & Play	VESA DDC 1/2B
Compatibility	VESA / IBM / MAC
Power Management	VESA Standard, DPMS

Operating Conditions
Power Consumption	Operating: 55 watt max.
	Stand-by: 4.8 watt max.
Temperature	Operating: 0 ºC ~ 40 ºC
	Storage: -20 ºC ~ 60 ºC
Humidity	Operating: 10% ~ 85% R.H.
	Non-Operating: 90% R.H. Max.

User control
OSD	Source select / Menu / Volume / Channel / etc

Mechanical
Tilt	Up: 25 º / Down: 5 º
Size	450 (W) x 440 (H) x 204 (D) mm, Net
	520 (W) x 520 (H) x 270 (D) mm, Gross
Weight	TBD

Option	USB / SVHS / Video (AV) / TV / Speaker / Mic.

12. VIDEO MODE SUPPORT

The modes are detected when presented to the input and previous alignments for setup are automatically recalled. A true multi-sync monitor emulation is implemented.

The factory preset supported modes include:

Mode[1]	Resolution	Refresh rate	H-freq.	Pixel freq.	Remarks[1]
VGA	640 x 350	70Hz	31.47KHz	25.175MHz	VESA Standard
VGA	720 x 400	59.940HZ	31.469KHZ	25.175MHZ	IBM VGA 3H
VGA	640 x 480	60Hz	31.5KHz	25.175MHz	Industry Standard
VGA	640 x 480	72Hz	37.9KHz	31.500MHz	VESA Standard
VGA	640 x 480	75HZ	37.5KHZ	31.500MHZ	VESA Standard
SVGA	800 x 600	60Hz	37.9KHz	40.000MHz	VESA Guidelines
SVGA	800 x 600	72Hz	48.1KHz	50.000MHz	VESA Standard
SVGA	800 x 600	75HZ	46.9KHZ	49.500MHZ	VESA Standard
XGA	1024 x 768	60Hz	48.4KHz	65.000MHz	VESA Guidelines
XGA	1024 x 768	70Hz	56.5KHz	75.000MHz	VESA Standard
XGA	1024 x 768	75HZ	60KHZ	78.750MHZ	VESA Standard
SXGA	1280 x 1024	60Hz	64.0KHz	108.000MHz	VESA Standard

Notes:
1. All mentioned modes are non-interlaced. The maximum and minimum frame rates are determined by the TFTLCD.
2. Factory preset modes are overwritten by additional user alignments for automatic recall. At all times it remains possible to recall the initial factory presets.