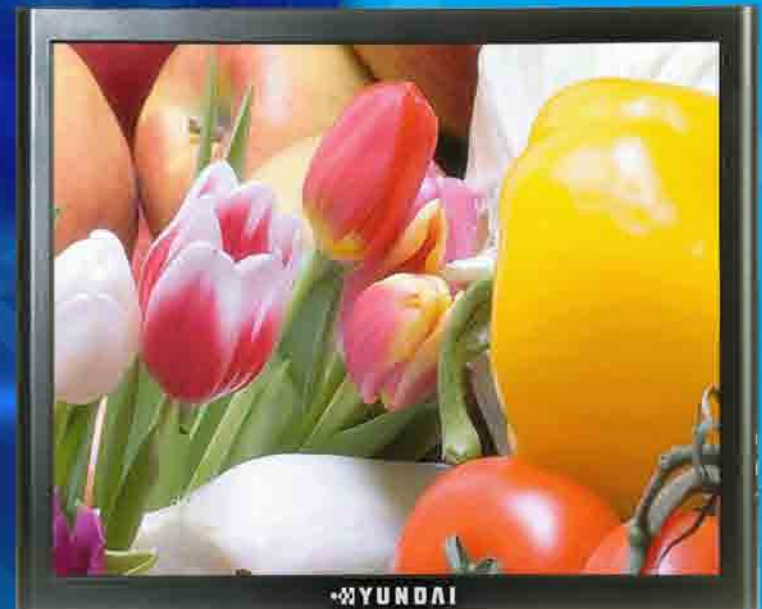


HYUNDAI
HYUNDAI IT CORP.

Type No. L19T0D070
Model. G90TR
Dual Function Touch Monitor



User's Guide

U.S.A.

U.S.FEDERAL COMMUNICATIONS COMMISSION RADIO FREQUENCY INTERFERENCE STATEMENT INFORMATION TO THE USER

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 of a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for assistance.

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

Connecting of peripherals requires the use of grounded shielded signal cables.

DECLARATION OF CONFORMITY

WE HYUNDAI IT CORP.
 Ami-ri Bubal-Eub Ichon-Si Kyungki-Do
 467-860 KOREA

declare under our sole responsibility that the product:

Kind of equipment : LCD TOUCH MONITOR

Type-Designation : L19T0D070

to which this declaration relates is in conformity with the following standard(s) or other normative document(s)

Safety : IEC60950-1:2002
EMC : EN 55022/1998+A1:2000+A2:2003
 : EN 55024 :1998+A1:2001+A2:2003
 : EN61000-3-2:2000+A2:2005
 : EN61000-3-3:1995+A1:2001+A2:2005

following the provisions of the Low Voltage Directive 73/23/EEC, 93/68/EEC and the EMC Directive 89/336/EEC.

TUV SUD Product Service GmbH
Ridlerstrasse 65 - 80339 Munchen - Germany

KOREA/ May 6, 2008
(Place and date of issue)

Jong Won, Choi 
(Name and signature of authorized person)

Ho Suk, Chon 

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1. Introduction

This manual contains instructions for installing and operating HYUNDAI IT G90TR.

HYUNDAI IT G90TR. is a highly ergonomic color display unit.

- 19" viewable SXGA LCD
- High quality screen re-scaling capability
- VESA DPMS (Display Power Management Signaling)
- VESA DDC1/2B compatibility
- Advanced digital On-Screen-Display controls
- Fast and accurate auto adjustment
- Most advanced image scaling
- Supporting VESA Flat Panel Monitor Physical Mounting Interface
- Digital Signal Input by DVI-1.0 Compatibility
- 5-wrie Resistive Touch monitor (G90TR)

2. Safety Information

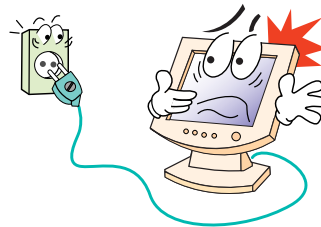
This Monitor has been engineered and manufactured to assure your safety. You can prevent serious electrical shock and other hazards by keeping in mind the following:



Do not place anything wet on the monitor or the power cord. Never cover the ventilation openings with any material and never touch them with metallic or inflammable materials.

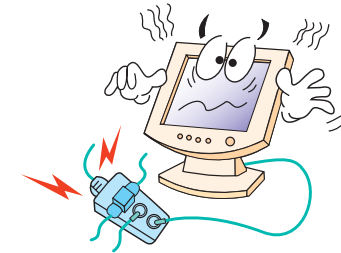
G90TR Dual Function Touch Monitor

Avoid operating the monitor in extreme heat, humidity or areas affected by dust.
Temperature : 5~35°C
Humidity : 30~80RH



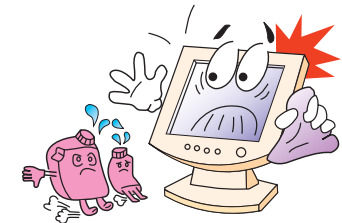
Be sure to turn the monitor off before plugging the power cord into the socket. Make sure that the power cord and the other cords are securely and rightly connected.

Overloaded AC outlets and extension cords are dangerous, as are frayed power cords and broken plugs, which may cause electric shock or fire. Call your service technician for replacement.



Do not use sharp tools such as a pin or a pencil near the monitor, as they may scratch the LCD surface.

Do not use a solvent, such as benzene, to clean the monitor, as it will damage the LCD surface.



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Dual Function Touch Monitor

Cleaning and Maintenance

- To avoid risk of electric shock, do not disassemble the display unit cabinet. The unit is not user-serviceable. Remember to unplug the display unit from the power outlet before cleaning.
- Do not use alcohol (methyl, ethyl or isopropyl) or any strong dissolvent. Do not use thinner or benzene, abrasive cleaners or compressed air.
- Do not wipe the screen with a cloth or sponge that could scratch the surface.
- To clean your antistatic screen, use water and a special microfiber screen cleaning tissue used in optical lens cleaning, or lightly dampen a soft, clean cloth with water or a mild detergent.
- If the instructions above do not help in removing stains, contact an authorized service agent.
- The main plug for the power cord shall be ready for being used at any time.
- An apparatus with Class I construction shall be connected to a main socket outlet with a protective earthing connection.

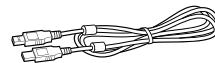
G90TR

Dual Function Touch Monitor

3. Installing the monitor

3-1. Packing List

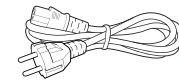
The following items should be found in the packaging.



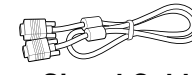
USB Cable



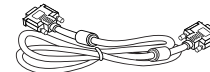
Manual CD & Touch
Install CD



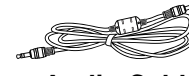
Power Cord



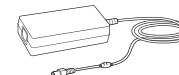
Signal Cable



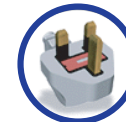
DVI-D Cable



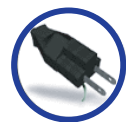
Audio Cable



AC/DC Power
Adapter



UK



Japan



America/Canada



Europe



South Africa



Australia



Korea



Above power cord can be changed upon different voltage areas. Please contact your dealer if anything is missing or damaged.

Other power cord except the cord packed in the product or longer than 3m may affect EMC of the product in operating condition.

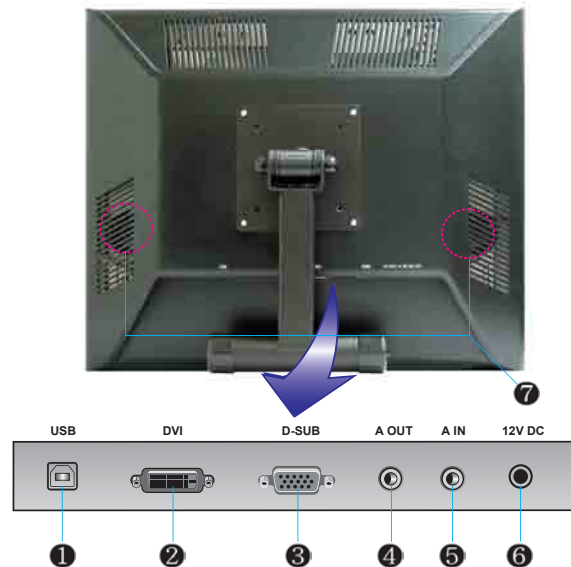
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Dual Function Touch Monitor

3-2. Selecting a suitable location

- Place the monitor at least 30cm from other electrical or heat-emitting equipment and allow at least 10cm on each side for ventilation.
- Place the monitor in a position where no light shines directly onto or is reflected on the screen.
- To reduce eye strain, avoid installing the display unit against a bright background such as a window.
- Position the monitor so that the top of the screen is no higher than eye level.
- Position the monitor directly in front of you at a comfortable reading distance (around 45 to 90cm)

3-3 Rear View & Signal input Jacks



① USB : Connect to USB of PC

② DVI : Connect to the jack, "DVI" (Digital) of PC.

③ D-Sub : Connect to the jack, "D-Sub" (Analog) of PC.

④ Audio Out : Connect to Head Phone.

⑤ Audio In : Connect to the jack, "Audio Out " of PC . Output PC Sound.

⑥ Power In (12V DC):Connectto AC/DC Adaptor

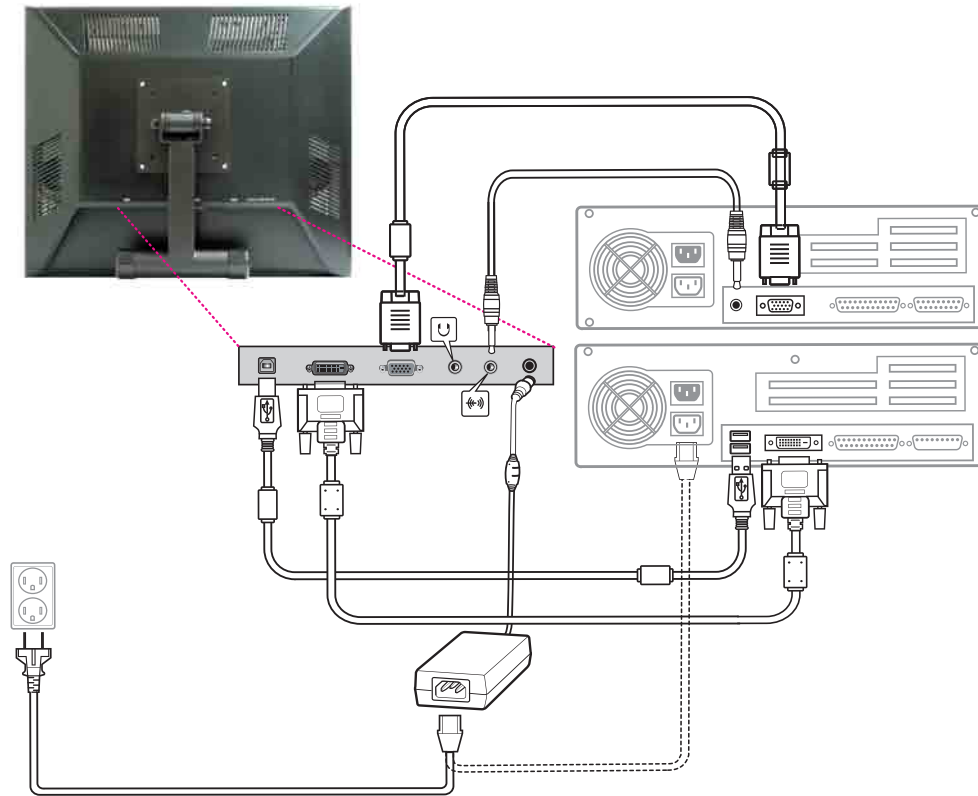
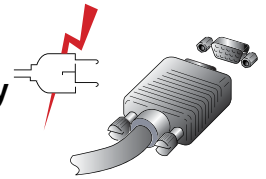
⑦ Speaker : Output PC sound.

G90TR

Dual Function Touch Monitor

3-4. Connecting the monitor

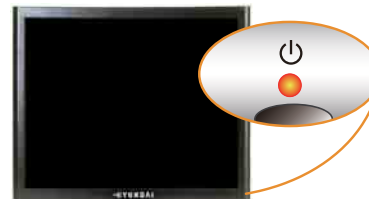
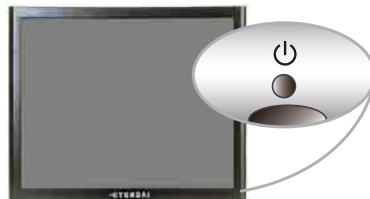
! Before you start cabling your monitor, check that the power is off on all units. To avoid any possibility of electric shock, always connect your equipment to properly earthed outlets.



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Dual Function Touch Monitor

1. Connect AC/DC Power Cable to Adaptor and then connect Adaptor Cable to Monitor through the jack "12V DC" .
2. One end of "Audio Cable" to PC through the jack, "Audio Out". And the other end to Monitor " Audio In".
3. Connect PC and Monitor through the jack, D-Sub (Analog signal) with D-Sub cable
4. Connect PC and Monitor through the jack , DVI (Digital signal) with DVI Cable.
5. Insert the other 15-pin signal cable connector into the 15-pin VGA connection on your computer and screw it down.
6. Plug the power cord connection to connection on the monitor.
7. Plug the other end of the power cord to your computer's main supply or to a 100V-240V earthed electrical outlet.
8. Turn on the monitor using the power switch and check that the power LED is on. If not, repeat steps 1,2,3,4,5,6 and 7 or refer to the Troubleshooting section of this guide.
9. Turn on the power to the computer. The picture will appear within about 10 seconds. Adjust the picture to obtain optimum picture quality. See section Adjusting the picture in this guide for more information.



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Dual Function Touch Monitor

- Audio system Option Model

This monitor has an audio system including two micro loudspeakers. Each of the two micro loudspeakers has an 2W (max.) output power. This system also supports a headphone output jack.

! When this monitor is turned on, audio is always set up as off mode. Please use AUDIO direct access button on the front cover or On Screen Display to put audio on.



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Dual Function Touch Monitor

3-5. Setting the refresh rate

Follow the instructions below to set your refresh rate in Windows 98/ME/XP/2000/VISTA.

1. Go to the configuration window(Start-Settings-Configuration window).
2. Double click on the 'Display' icon.
3. Click on the 'Settings' tab.
4. Click on the 'Advanced' button.
5. Click on 'Adapter' and select 60Hz from the list.
6. Click on 'Apply' to accept the selected value.

G90TR

Dual Function Touch Monitor

Preset Timing Table

! If the signal from the system doesn't equal to the preset timing mode, adjust the mode with reference to the user's guide of video card because the screen may not be displayed.

No.	Resolution	H-Freq	V-Freq	Mode
1	640 x 350	31.4 KHz	70 Hz	IBM
2	720 x 400	31.4 KHz	70 Hz	IBM
3	640 x 480	31.4 KHz	59 Hz	IBM
4	640 x 480	35.0 KHz	66 Hz	MAC
5	640 x 480	37.8 KHz	72 Hz	VESA
6	640 x 480	37.5 KHz	75 Hz	VESA
7	800 x 600	35.1 KHz	56 Hz	VESA
8	800 x 600	37.8 KHz	60 Hz	VESA
9	800 x 600	48.0 KHz	72 Hz	VESA
10	800 x 600	46.8 KHz	75 Hz	VESA
11	832 x 624	49.7 KHz	74 Hz	MAC
12	1024 x 768	48.3 KHz	60 Hz	VESA
13	1024 x 768	56.4 KHz	70 Hz	VESA
14	1024 x 768	60.0 KHz	75 Hz	VESA
15	1152 x 864	67.5 KHz	75 Hz	VESA
16	1152 x 870	68.7 KHz	75 Hz	MAC
17	1280 x 1024	64.0 KHz	60 Hz	VESA
18	1280 x 1024	80.0 KHz	75 Hz	VESA

Optimum resolution 1280 x 1024 @ 60Hz

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Dual Function Touch Monitor

3-6. Way to Install driver for touch monitor

The driver for touch screen software enables to have mutual communication to touch screen-controller through and SUB

- **Supporting organization**
This utility program enables test for the correction and draw test through the touch screen. Including addition and removal.
- **Supporting many languages**
It's automatically installed according to the selected languages. English, Chinese, French, Spanish, German, Japanese, Italian and Dutch are available.

The procedures for installing touch driver is as follows.

1. Insert TouchKit-CD into CD-ROM driver.
2. If inserting CD, according to the type of OS, the program is executed automatically and manually.
3. Please note the enclosed touch driver for the detailed installation of program.

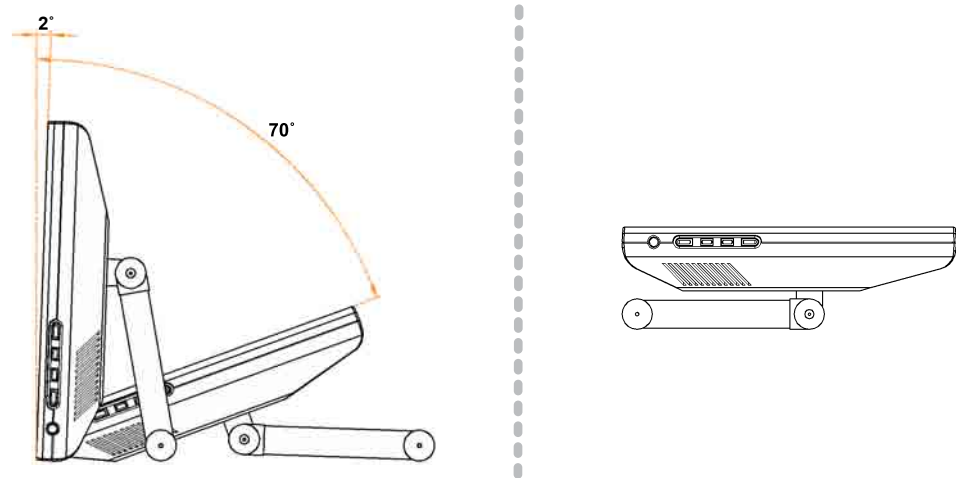
G90TR

Dual Function Touch Monitor

3-7. User's Environment

Recommended Ergonomic User's Environment

- Tilt angle of the monitor should be between 2 ~ 70 degree.



- This display unit supports a Kensington-type security device to secure your monitor. Kensington lock is not included.
- To purchase and install the Kensington locking device, please refer to the following contact information.

* *Kensington Technology Group*

· Address : 2000 Alameda de las Pulgas 2F san mateo, California 94403-1289

· Tel : +1 650 572 2700 · Fax : +1 650 572 9675 · Web-site : www.kensington.com

Kensington Security
(Locking) Slot

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VESA MOUNT'G

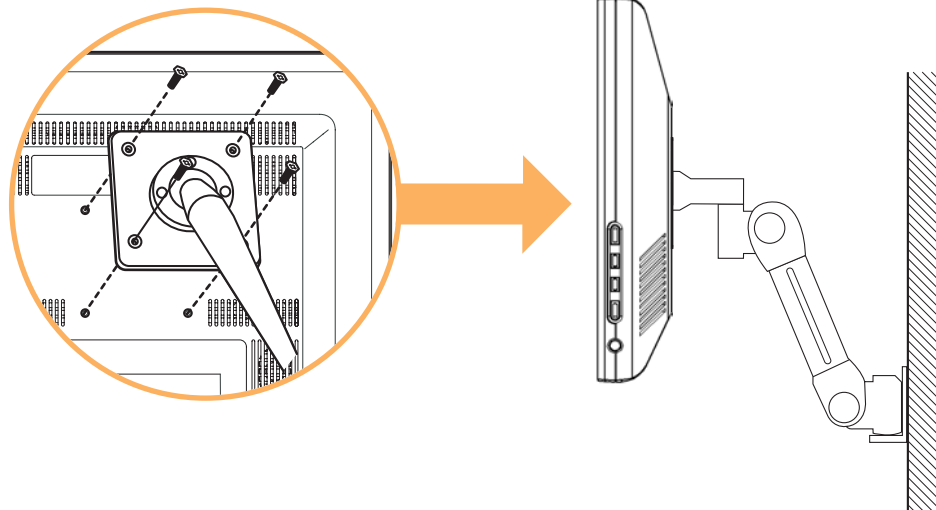
- This display unit supports VESA FPMPMI standard for 100mmx100mm screw mounting by giving 4 screw holes on the Rear Cover of the unit.
- For buying VESA Flat Panel Monitor Mounting Devices, please contact following information.

! Only M4 x10 size screw should be used for proper mounting.
(Using wrong size screw may cause damages to the device)

* Ergotron, Inc.

• Address : Ergotron Europe Kuiperbergweg 50 1101 AG Amsterdam The Netherlands

• Tel : +3 1 20 696 60 65 · Fax : +3 1 20 609 04 59 · E-mail : info.eu@ergotron.com



G90TR Dual Function Touch Monitor

4. Adjusting the picture

You can adjust the screen display by using the buttons located below the screen.



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Dual Function Touch Monitor

4-1. Using the On Screen Display

To make adjustments in the On Screen Display, follow these steps:

1. Push the **MENU** button to call the OSD to the screen.
2. Push the **▼** or **▲** button to choose the item you want to adjust. The selected item is highlighted.
3. Push the **SELECT** button to adjust the highlighted item.
4. Use the **▼** or **▲** button to adjust the selection.
5. Push the **MENU** button to return to the previous menu if you are in a submenu.
6. The display unit automatically saves the new settings in 1 second after your last adjustments and the menu disappears. You can also push the **MENU** button to make the menu disappear.

4-2. Direct access buttons

LED LAMP

LED Lamp shows the power on or off with its color. When the power is on, LED Lamp is fluorescing with Green or Amber color. In normal mode, its color is Green and in the save mode, the color changes to Amber.

MENU

"MENU" button has the function to make OSD Window be on the screen or disappear.

SELECT

Decide the Input Signal between Analog and Digital.

POWER

Power ON or OFF.

DOWN / UP

This button has 4 functions.

(- / +)

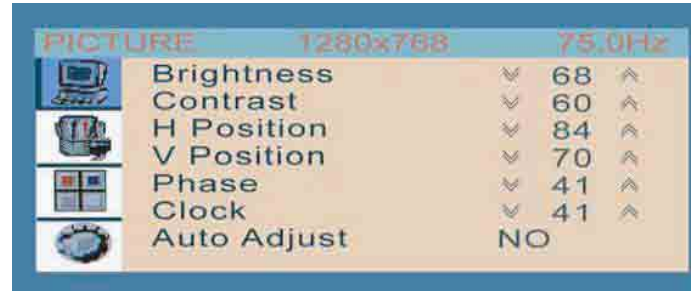
- Reducing/Increasing the sound volume.
- In OSD Menu, it makes cursor move down.
- In OSD Menu, it makes the data of Sub item decreased.
- In OSD Menu, it makes the data of Sub item move to the left.

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Dual Function Touch Monitor

4-3. OSD Adjustments

- PICTURE



BRIGHTNESS

Adjusting the Brightness for all over the Screen.
(At factory, they have set the initial Brightness to 50.)

CONTRAST

Adjusting the Contrast for all over the Screen.
(At factory, they have set the initial Contrast to 50.)

H.POSITION

Moving the position of the screen horizontally.

V.POSITION

Moving the position of the screen vertically.

PHASE

Refine the Picture delicately.

CLOCK

Adjust the size of the Picture Horizontally.

* At DVI mode, H.POSITION,V-POSITION,PHASE,CLOCK,AUTO ADJUST are not workable

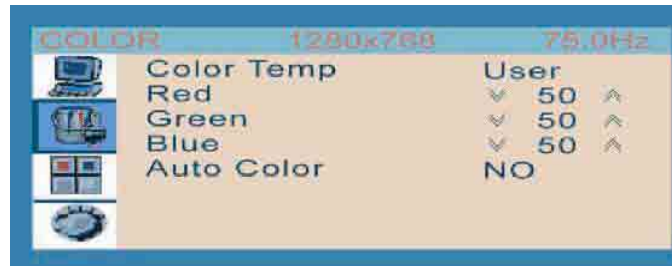
G90TR

Dual Function Touch Monitor

- Color

AUTO ADJUST

Adjusting the Picture Status to the optimum automatically.



COLOR TEMPERATURE

Adjusting Color Tone for all over the Picture.(At Digital mode, it is not workable

- USER : The user can adjust each color tone to its favorable tone like to the Reddish, Greenish or Bluish.

When the adjustment is concluded, you can set it and exit from the adjustment by pressing "MENU" button.

- Bluish : This makes the color tone of the picture to the Bluish.
- Reddish: This makes the color tone of the picture to the Reddish.

AUTO COLOR

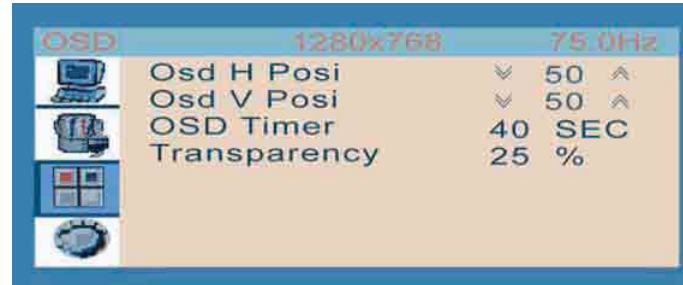
The color for all over the screen is adjusted to the most desirable status automatically.

* At DVI mode, AUTO ADJUST, COLOR TEMPERATURE, AUTO COLOR are not workable

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Dual Function Touch Monitor

- OSD



OSD H.POSITION

Move OSD Window horizontally.

OSD V.POSITION

Move OSD Window vertically

OSD TIMER

Select the time while OSD Window remains on the screen.
(10 Sec, 20 Sec, 30 Sec, 40 Sec)

TRANSPARENCY

Adjust the Transparency of OSD Window.

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Dual Function Touch Monitor

- Miscellaneous



LANGUAGE

Decide the language for OSD Menu.

RECALL

If you select "Recall", the Picture will be out of the range and then come back to the range at almost same time.

And all adjusted data will be back to the factory set.

INPUT SELECT

Decide the Input Signal between ANALOG and DIGITAL .

AUDIO

The sound from Speakers or Head Phone will be ON or OFF.

VOLUME

Adjusting the sound volume from speakers.

SOUND VOLUME

Press "DOWN" button and Volume Control Bar appears on the screen.

And then by using "DOWN" (Reducing), "UP" (Increasing) buttons, you can adjust the sound volume.

MUTE

Press "UP" button, and two choices (Mute ON or OFF) appear on the right-bottom area of the screen.

If you choose Mute ON, there will be No Sound. On the contrary, if Mute OFF, Sound will revive.

- Hot Key

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Dual Function Touch Monitor

5. Display power management

Reducing power consumption

If the power management function of your computer is enabled, your monitor turns on and off automatically. You can control power management features from your computer.

Your computer may have power management features which enable the computer or monitor to enter a power saving mode when the system is idle. You can reactivate the system by pressing any key or moving the mouse.

Mode	LED	Power consumption
Normal	Green	36 W(Typ)
off	Orange	≤ 1 W(Typ)
Unplugged	Not illuminated	0 W

! The power button does not disconnect the monitor from the power source. The only way to isolate the monitor completely from it to unplug the power cable.

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Dual Function Touch Monitor

6. Troubleshooting

If your monitor is not functioning properly, you may be able to solve the problem by following suggestions below :

Problem	Possible solution
Blank screen	<p>If the power LED is not lit, push the Soft power switch or check the AC cord to turn the monitor on. If the display unit is powered through the computer, check that the computer is switched on.</p> <p>The display unit might be in standby mode. Push one of the keyboard keys. Check that the keyboard is properly connected to the computer.</p> <p>Check that the signal cable connector is properly connected and that the connection pins are not bent or damaged. If the connector is loose, tighten the connector's screws.</p> <p>Check that the power cable is correctly connected to the display unit and to the power outlet.</p>
Error message: <i>Video mode not supported</i>	<p>Check the resolution and the frequency on the video port of your computer.</p> <p>Compare these values with the data in the Preset Timing Table.</p>
The display does not enter power management mode	<p>The video signal from the computer does not comply with VESA DPMS standard. Either the computer or the graphics adapter is not using the VESA DPMS power management function.</p>

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Problem	Possible solution
Color defects	Check that the signal cable connector is properly connected and that the connection pins are not bent or damaged. Try another color temperature.
Size, position, shape or quality unsatisfactory	Adjust the picture characteristics as described in the section OSD Adjustment (4-3).
Duplicated images	A problem with your graphics adapter or display unit. Contact your service representative.
Image is not stable	Check that the display resolution and frequency from your PC or graphic adapter is an available mode for your monitor. In your PC, you can check through Control panel, Display, Settings. If the setting is not correct, use your computer utility program to change the display settings.
Message : <i>No signal</i>	Check that the signal cable connector is properly connected and that the connection pins are not bent or damaged. If the connector is loose, tighten the connector's screws. Check that the computer is switched on.
The power LED is a orange color	To enter a power saving mode. You can reactivate the system by pressing any key or moving the mouse.

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Problem	Possible solution
The power LED is a orange color	<p>LED Indicator can be appear orange on changing of video mode or Input Signal.</p> <p>Check the Resolution and the frequency on the video part of your computer. Compare these values with the data in the Preset Timing Table.</p>

Contacting service

If the above troubleshooting hints do not help you find a solution to the problem, contact an authorized service agent. If the monitor is sent for service, use the original package if possible.

Unplug the display unit from the power outlet and contact a service agent when:

- The monitor does not operate normally according to the operating instructions.
- The monitor exhibits a distinct change in performance.
- The monitor has been dropped or the cabinet has been damaged.
- The monitor has been exposed to rain, or any kind of liquid(like water) has been spilled onto the monitor.

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Dual Function Touch Monitor

7. Specifications

LCD	19"viewable, Diagonal, Pixel pitch 0.294mm, A-Si TFT
Display area	376.32(H) x 301.056(V) mm
Number of color	16.7 million colors
Input signals	R.G.B Analog, 15 pin D-sub / Digital TMDS(DVI-D)
Frequency rate	Horizontal : 31.0 to 80.0KHz, Vertical : 56 to 76Hz
Maximum bandwidth	135 MHz
Maximum resolution	Analog : 1280 x 1024@75Hz, Digital TMDS : 1280 x 1024@75Hz
Recommended resolution	1280 x 1024@60Hz
Input voltage	DC 12V --- 3.5A
Power consumption	36W(Typ.)
Power management	VESA DPMS
Plug & Play	VESA DDC 1/2B
OSD menu	BRIGHTNESS, CONTRAST, COLOR CONTROL, H/V-POSITION, CLOCK PHASE, AUTO COLOR, LANGUAGE, AUTO ADJUST, AUDIO, OSD H/V-POSITION, OSD TIMER, RECALL, INPUT SELECT
Audio system	2ch x 2 watts / Ear Phone Jack
VESA FPMPI	100 mm x 100 mm screw mounting
Safety and EMC	FCC Class B, NRTL, TUV, CB, CE
Operating Temperature	5 ~ 35° C
Weight	6Kg unpacked, 7.5Kg packed
Dimensions (W X H X D mm)	472 X 406 X 157 mm

- Specification is subject to change without notice.
- HYUNDAI IT CORP. specification on "dead pixel" of LCD Panel applies to ISO 13406-2 Standard.