

ELM-900K



User's Guide

 DisplayTune®  Pivot® Pro  LiquidColor®

Make sure to read the **Safety Precautions** section before using the product.

Make sure to read the **User's Guide** section before using the product.

■ Precautions you need to know before usage

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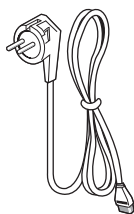
- ※ Limited Warranty
- ※ Regulatory Information

Components

- ※ Check if all the components are included in the package. Contact your sales representation if any components are missing.
- ※ Actual components may look different from the pictures below.



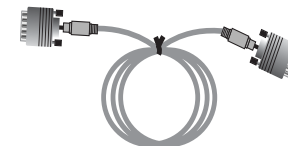
Monitor



Power cable



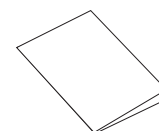
Adaptor



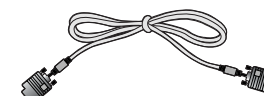
DVI cable



Install CD



Quick Guide



RGB cable

Safety Precautions

※ The contents of this section are intended to protect the user from danger and prevent physical accidents. Please read through the contents for proper use.



Ignoring the safety precautions may lead to accidents causing injury or fatality and structural damage

Cautions are categorized into two types, "Warning" and "Caution" depending on their level of importance.



Warning May lead to accidents causing serious human injury

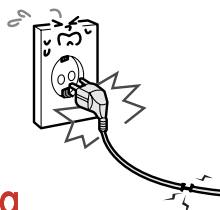


Caution May lead to minor accidents and damage

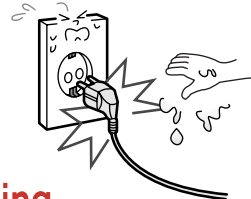
Do not use a damaged power cord or plug, or connect to a loose power outlet. Doing so may cause electric shock or fire.



Warning

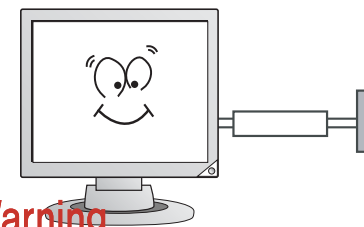


Warning



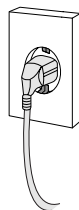
Warning

Connect the power plug to grounded power outlets only. Failure to do so may cause electric shock or injury.



Safety Precautions

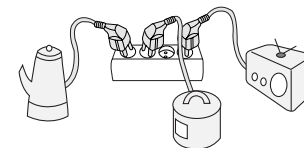
Insert the power plug securely into the outlet. Insecure and unstable electrical contact may lead to fire.



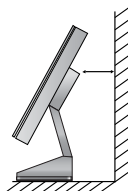
Do not bend the power cord excessively or allow the cord to be compressed under a heavy object. Doing so may cause electric shock or fire.



Do not connect more than one plug to a single wall outlet. Doing so may lead to fire.



Provide sufficient space between the monitor and the wall for ventilation (cooling). Overheating may lead to fire.



Installing a wall bracket must be done by a qualified professional. Installation by unqualified personnel may result in injury.



Place the monitor on a firm flat surface and be careful when handling the monitor.

Mishandling the product may cause short circuits and damage to the product or cause injury.



Safety Precautions

Do not place candles, lighted cigarettes, or other heat-radiating objects on the monitor or near the monitor.

Doing so may lead to fire.



Disconnect the power when cleaning the product.

Failure to do so may cause electric shock or fire.



Do not place the product in a place where the ventilation is poor (eg. inside a cabinet).

Doing so may lead to fire.



Do not use flammable sprays or substances near the product.

Doing so may lead to explosion or fire.



Do not insert metallic objects into the ventilation holes. They may cause electric shock or fire.



Do not allow children to climb onto the product or hang on it. The product may fall over and cause serious injury.



Safety Precautions

Do not attempt to dismantle, repair, or modify the product yourself. This may cause fire or electrical failures.



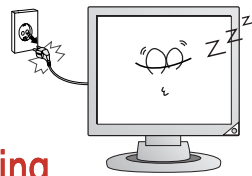
Warning



Unplug the monitor when not using for a long period of time. Dust build-up on the product (near the vents) may cause overheating and lead to fire. Use a dry soft cloth for cleaning purposes.



Warning



Carefully unplug the monitor if you see any signs of smoke or smell odor of burning. Contact the manufacturer for further information.



Warning

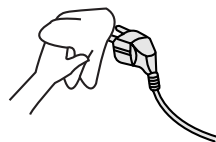


Clean any dirt, dust or water from the power plug contacts.

They may cause electrical faults or fire.



Warning

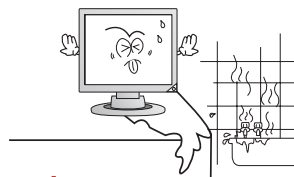


Do not spray water directly onto the product.

It may cause electrical faults or fire.



Warning

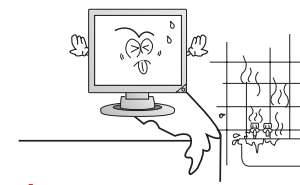


Do not install the monitor where water (rain) drops can enter the enclosure, or where there is oil or humidity.

It may cause electrical faults, fire, or lead to damage to the monitor.



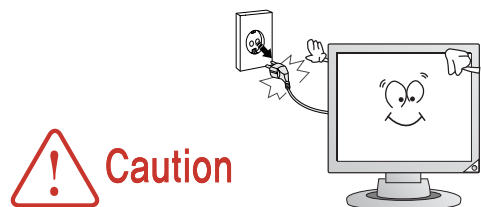
Warning



Safety Precautions

Use a soft dry cloth to clean the monitor, and unplug it before cleaning.

Do not use any chemical solutions on the monitor for cleaning purposes. Do not use a wet cloth on the monitor.



Set the PC to match the resolution and frequency of the monitor.

19 " Types – 1280 x 1024 @ 60Hz



Do not place the monitor face down.

The TFT– LCD surface may be damaged.



Set the PC to activate power save mode (DPMS) when the monitor is not used for a while. Set the screen saver function and select a type that maintains motion in the whole screen.

Component Name & Introduction

Front



· Power Button, Power Indicator

● Front of the Monitor

- 1. Power Indicator: This will enable you to see the overall power status of the system.

Normal(ON)	Blue
Off	White
Energy Saving	Amber Orange
Cable not Connected	Amber Blue

- 2. Power Button: Use this button for power the monitor on and off, change the input source, or perform Auto Adjustment.
- Power On/Off : Touching a power button will make a beep sound and turns the power on & off.
 ※A Inside the power button, the sensor detecting a touch from the human body.

From Display Tune software (Options → Preference → Enable audio tone power on/off button). If you don't check for this function, the message window will be loaded to specify the button function on the right upper part of the screen.

- Source Change : If you release the button after two times of audio tone ring, the input source changes to Analog or Digital.
- Auto Adjustment : If you release the button after three times of audio tone ring, the auto adjustment
 ※It works properly when the input source is an analog.

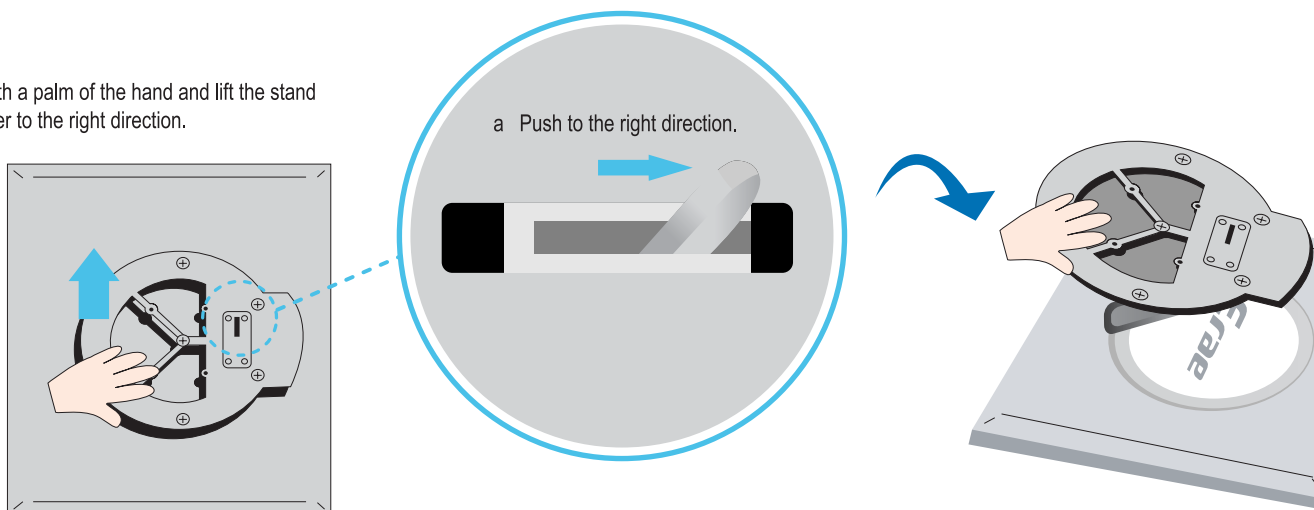
Using the stand

※Unfold the stand for the desktop use and fold the stand for the wall mounting use.

Unfolding the stand base

1. Place the monitor with its front facing downward on a cushion or soft cloth.
2. Push the folding stopper to the right direction shown below and lift the stand to unfold.
 ※Caution : As shown in picture below, press the stand base with one hand and pull the folding stopper. Otherwise, you might get hurt by stand base's popping out.
3. When folding or unfolding a stand base, try not to touch the screen panel or avoid placing your fingers under the stand base.

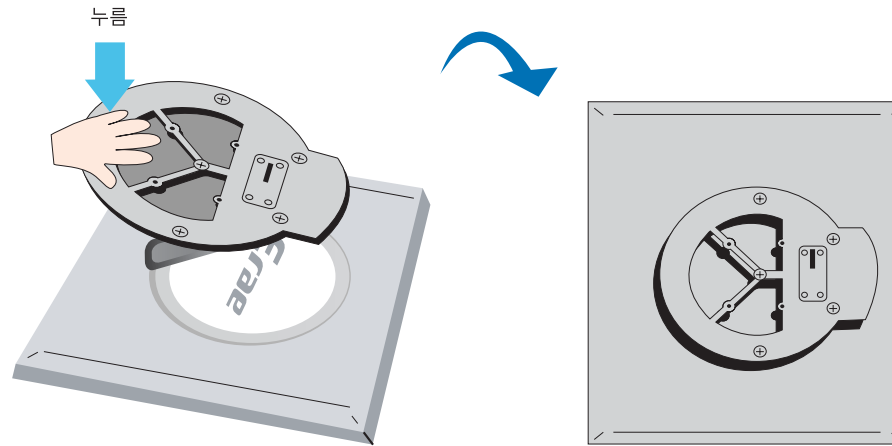
a Press the stand base softly with a palm of the hand and lift the stand after you push the folding stopper to the right direction.



Using the stand

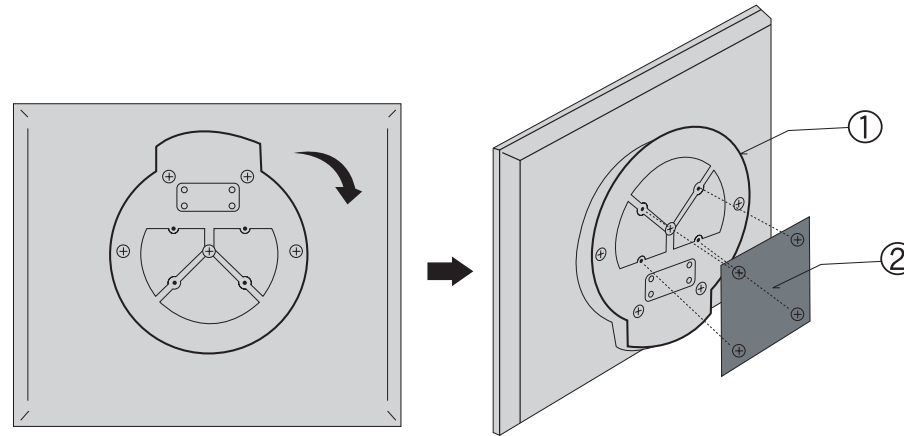
Folding the stand base

If the stand base is pressed toward the backside of monitor, the folding stopper is locked automatically.



Installation of VESA mounting bracket

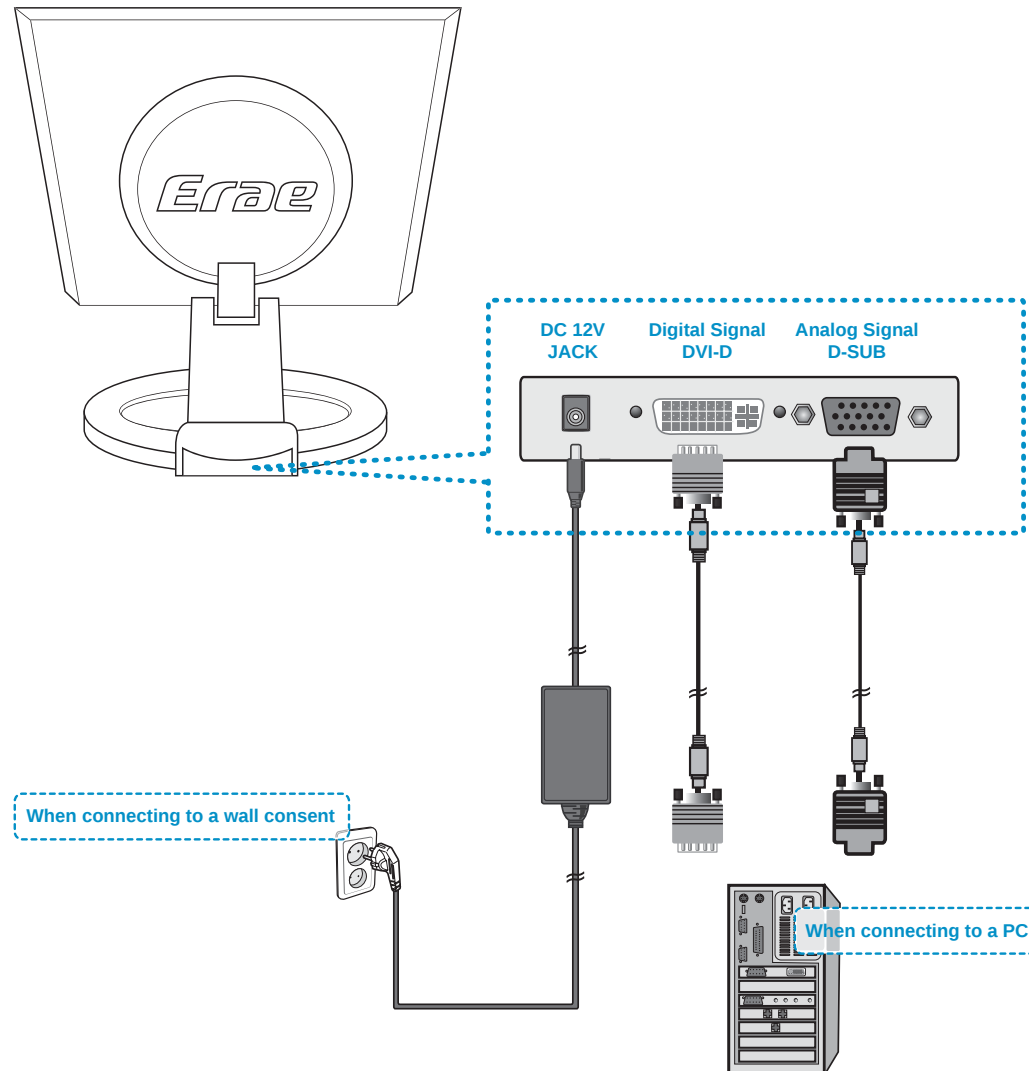
The size for the stand bottom of monitor is 100mm x 100mm and designed for the VESA standard.



1. VESA Stand
2. VESA mounting bracket (Purchase separately)

Fold the stand and place the front side of stand toward the top direction. Then, put the VESA mounting bracket on it and fix them with 4 screws thru the holes of VESA mounting bracket and stand

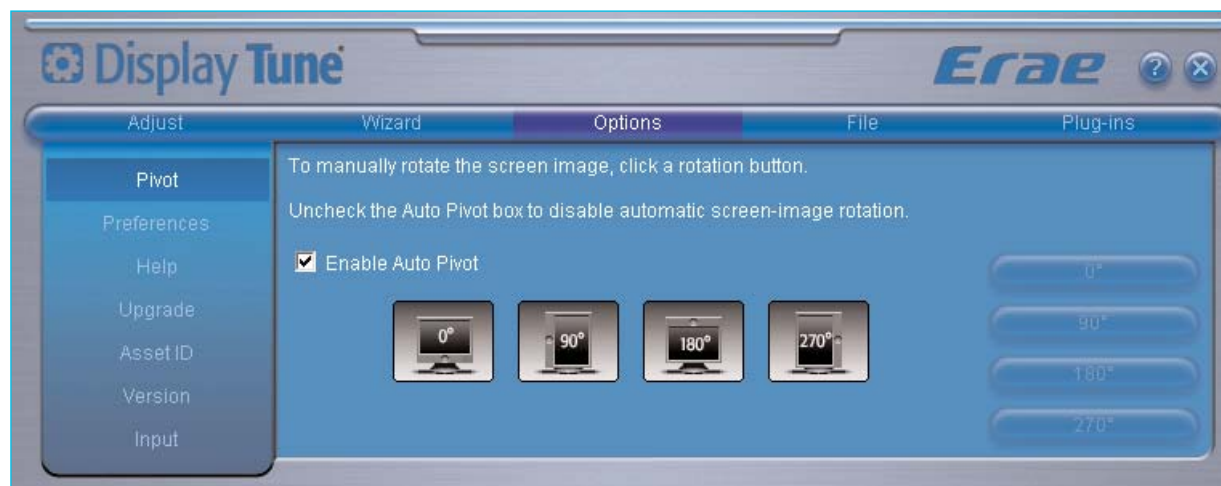
Connecting the monitor to a computer



Using the Auto Pivot / Auto Mirror

- ※ This model supports Auto Pivot (automatic rotation) and Auto Mirror.
- ※ To use this function, install the provided Display Tune® software first.
- ※ Display Tune® Software requires Microsoft Explorer 6.0 or later.
- ※ Please, refer to Page 21 ~ 26 for the installation of Display Tune® software.
- ※ The response time (speed) the auto Pivot and Auto Mirror function can vary depending on the video card and the PC performance, and these functions are not supported in the DOS mode.
- ※ Display Tune could not work properly if the front screen is placed horizontally.

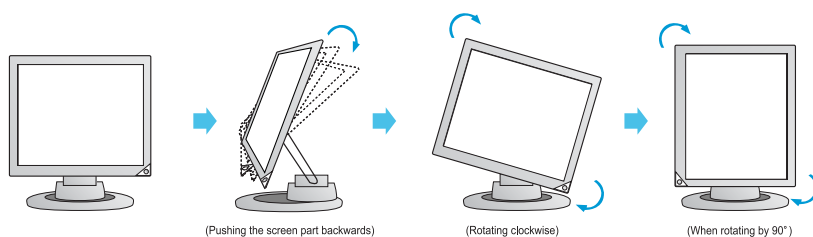
Execute Display Tune software, and go to **Option → Pivot → Auto Pivot**.
Check on "Enable Auto Pivot".



Auto Pivot / Auto Mirror Function

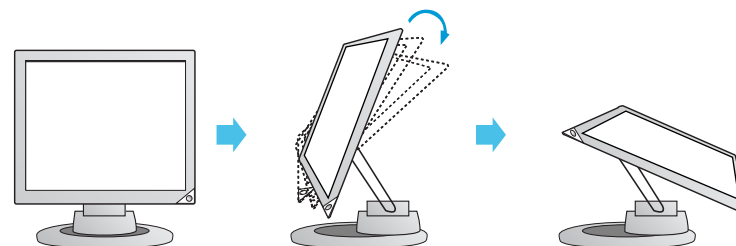
1. Auto Pivot

- Auto Pivot is a function that a screen rotates automatically if you rotate the monitor in 90 degree counterclockwise.



2. Auto Mirror

- The monitor screen automatically mirrors when you switch it forward/backward.



Caution : Be careful not to touch the power button section when rotating the screen.
Be careful that your hands are not pressed down when rotating the screen.
Tilt the screen part while rotating it so that the monitor does not touch the floor/desk.

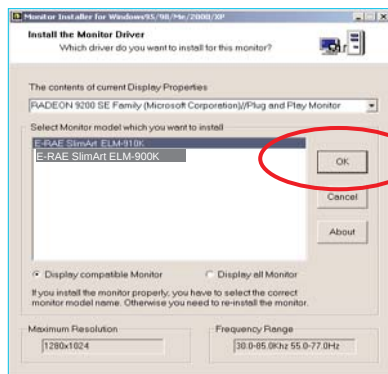


Installing the Monitor Driver

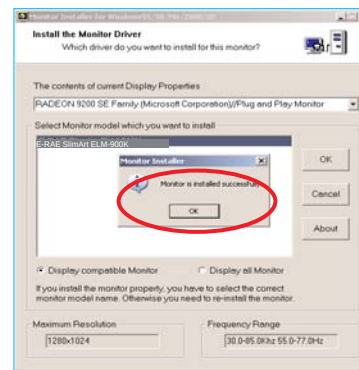
1. Turn on the monitor and PC.
2. Insert the monitor installation CD into CD-ROM. In a few seconds, the installation screen will be displayed.
(The installation screen can not be displayed depending on OS's setting status, "If the screen does not appear, execute Index, htm in CD."
Click on the "OK" button
3. Select "Monitor Driver" in the installation screen.
4. Select "Yes" to install monitor driver.



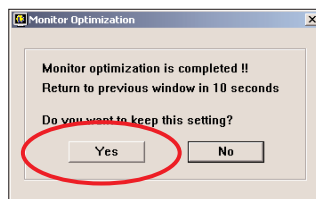
Installing the Monitor Driver



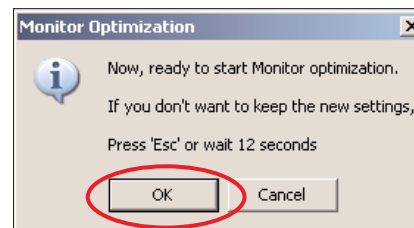
Click on the "OK" button



Click on the "OK" button



Automatically adjusts the screen.
Click on the "Yes" button



Click on the "OK" button

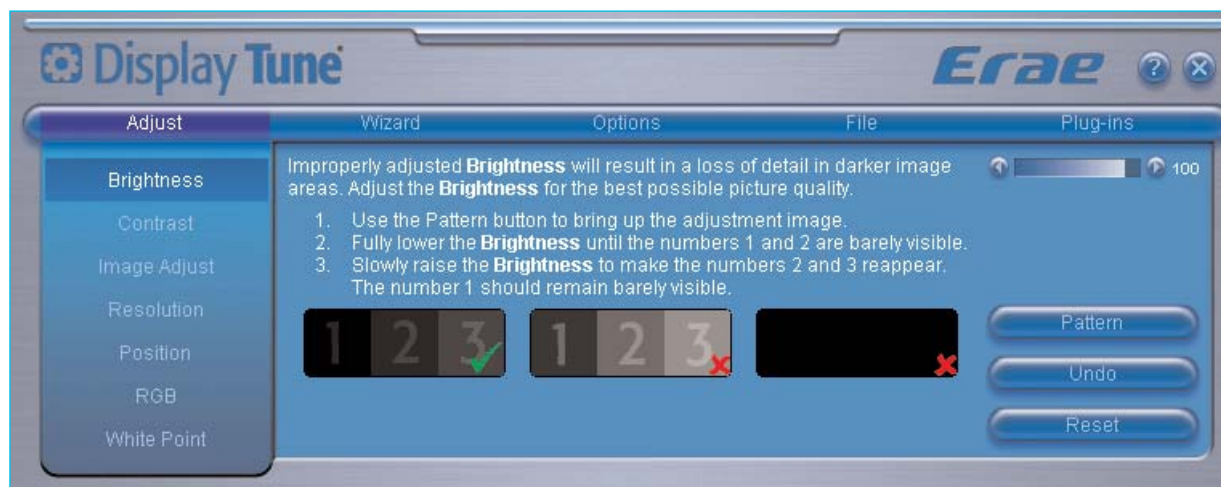
- Monitor driver installation complete.

To install Display Tune® software

- ※ Display Tune supports Windows 98SE, Me, 2000, NT, XP Home, XP Professional, and XP Professional x64 Edition.
- ※ Display Tune® software requires Microsoft Explorer 6.0 or later.
- ※ The booting time could take more after the installation of Display Tune® software.
- ※ During playing a game or watching a movie clip with a full screen, you could not execute Display Tune®.

1. What is Display Tune®?

- Display Tune is a software utility that allows monitor adjustment and color tuning using the Display Data Channel Command Interface (DDC/CI) protocol.
- Display Tune runs in the background and can be accessed through the task tray, start menu, or right click on the desktop. Display Tune allows for quick accurate tuning of the display with the ability to easily save and use monitor configurations that are best suited for you.

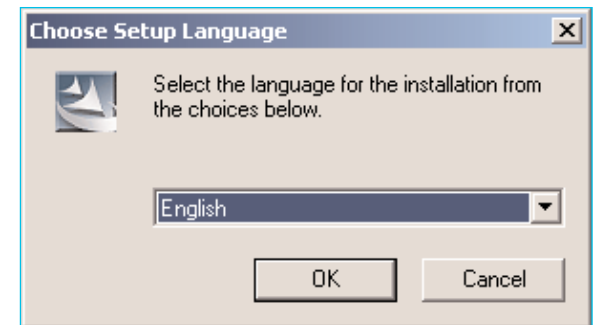
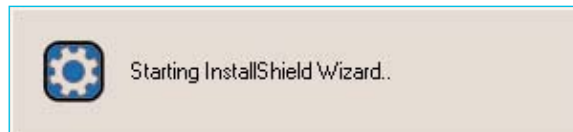


To install Display Tune® software.

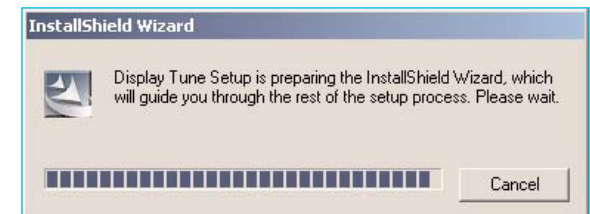
2.Installation

2-1. Insert the installation CD into the CD-ROM drive.

2-2. Select language as shown on the right.

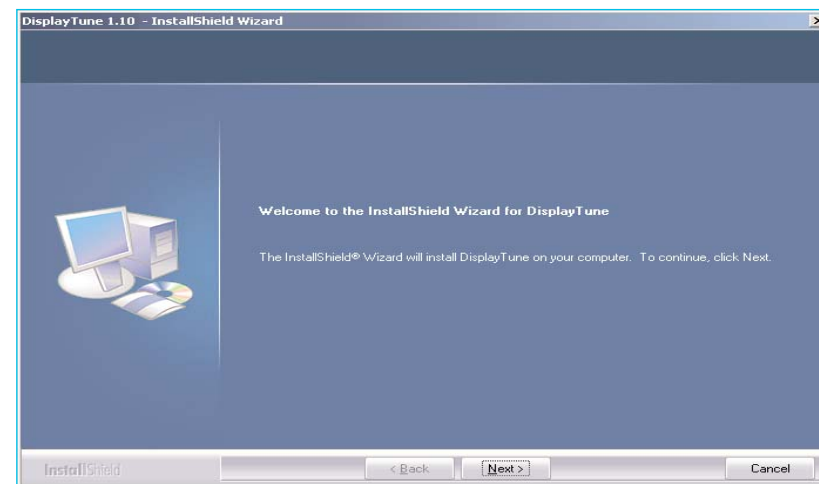


2-3. Select installation language, click "OK".

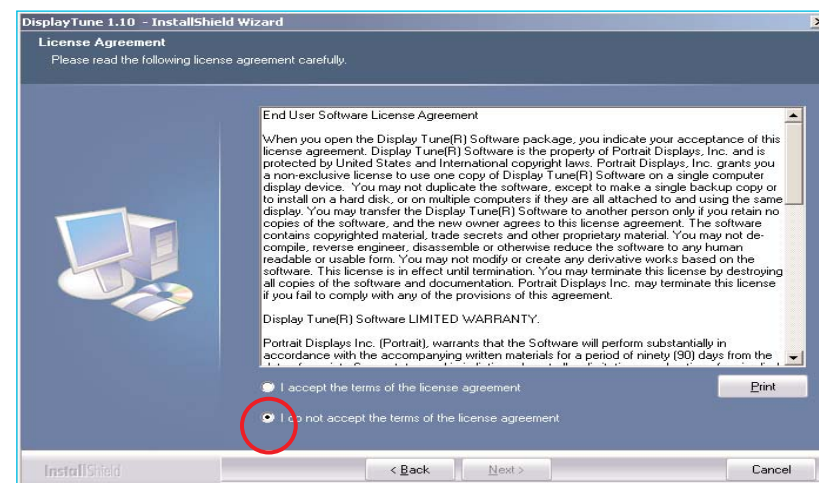


To install Display Tune® software.

2-4. Press "Next" button.

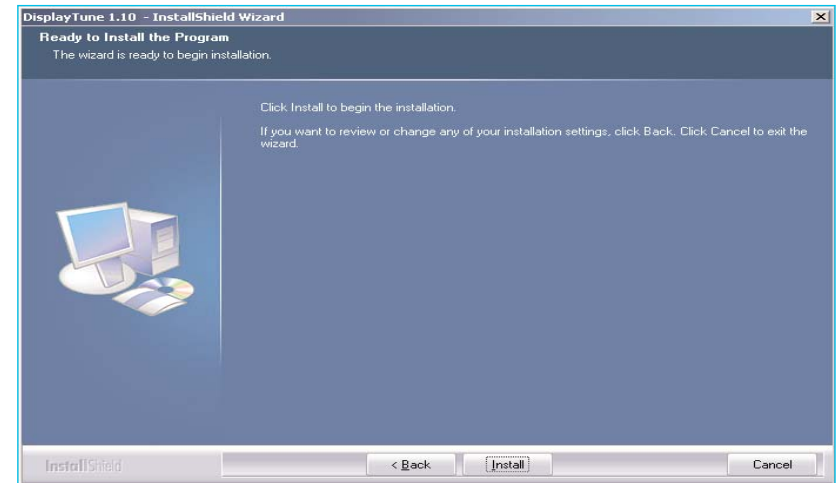


2-5. If you agree on the license agreement, check on "I accept terms of license agreement". If you don't agree on it, the installation will not complete.

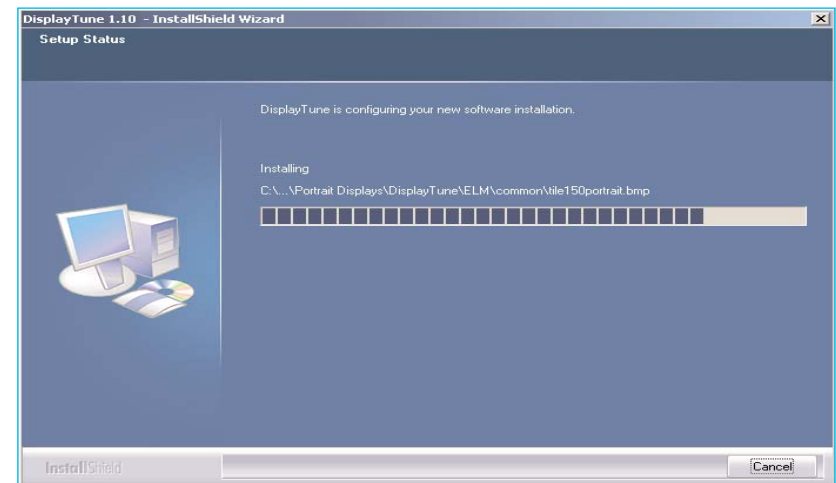


To install Display Tune® software.

2-6. Click “Install” button.

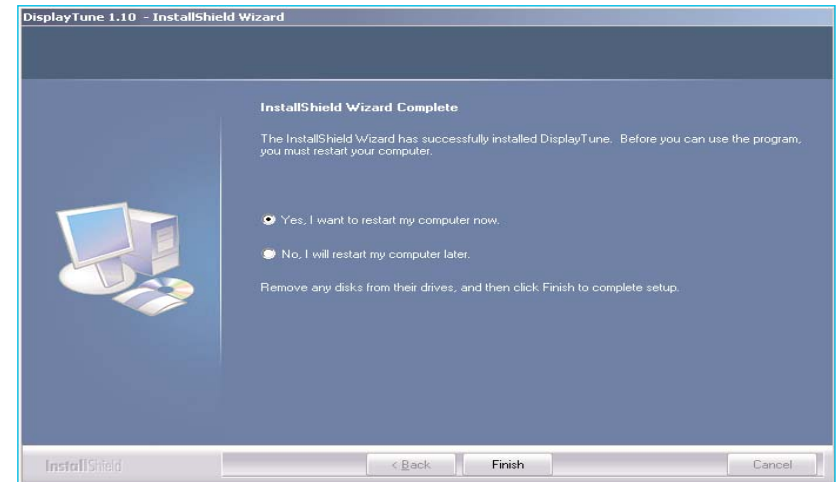


2-7. The “Install Wizard” is shown after the software installation.



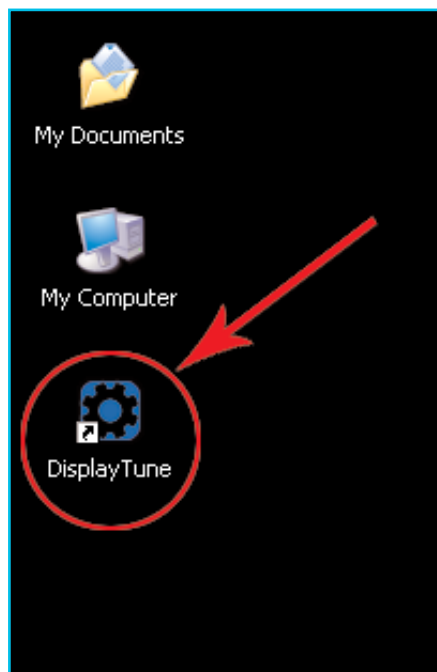
To install Display Tune® software.

- 2-8. Click “Finish” button to finish the installation and reboot PC. After re booting, the short cut of Display Tune would be created on the context menu and installation process is done.

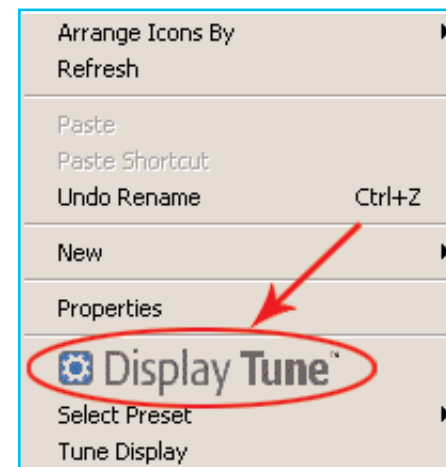


To install Display Tune® software.

Desktop



Context menu



ⓘCaution

- Display Tune® program could not work properly when the input signal is changed or the Power and input cable are detached.
- Do not execute the Display Tune® program while an auto control is working.
- It could cause a program not working properly. If the program does not work properly, Close a Display Tune® icon on system tray and execute the program again.



Display Tune® Help

1. Overview

• What is Display Tune®?

- Monitor performance can vary due to the graphics card, host computer, lighting conditions and other environmental factors. In order to get the best image on a monitor requires you to adjust it for your unique setting. Unfortunately, the manual controls available to tune the image often prove to be challenging. Proper adjustment (tuning) requires an easy to use program that goes through a step-by-step process to obtain the best overall picture quality.
- In most cases, even simple adjustments to Brightness or Contrast require navigation of the multi-level, on-screen display (OSD) menus that are not easy to understand. Furthermore, there is no feedback to assist in correctly setting the controls of the monitor. Display Tune is a software utility that guides you through the tuning process with easy to understand instructions and background patterns designed for each monitor control. The display settings for each user can be saved, providing an easy way to select display characteristics in a multi-user environment, or having a single user have multiple defined presets based on content and ambient lighting.

• Basic functionality

- Display Tune is a software utility that allows monitor adjustment and color tuning using the Display Data Channel Command Interface (DDC/CI) protocol. 刊 All adjustments to the display are controlled via software to eliminate the need to use the monitor on-screen display (OSD). Display Tune supports Windows 98SE, Me, 2000, NT, XP Home, XP Professional, and XP Professional x64 Edition.
- Display Tune runs in the background and can be accessed through the task tray, start menu, or right click on the desktop. Display Tune allows for quick accurate tuning of the display with the ability to easily save and use monitor configurations that are best suited for you.

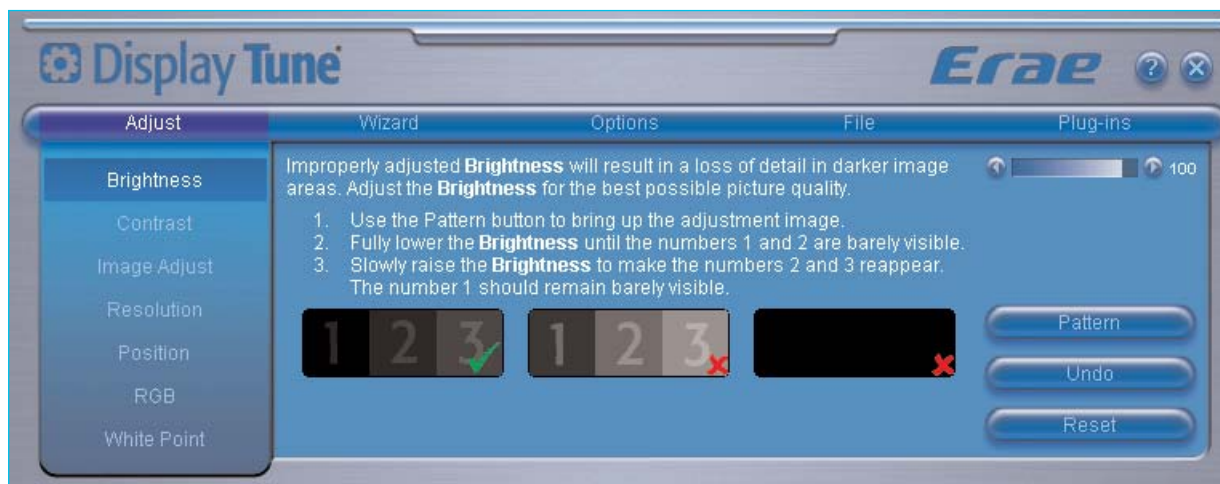
• Wizard and OSD Modes

- Display Tune has two modes of operation: Wizard and OSD mode. The preferred method of use is Wizard mode, which takes you through a step-by-step process to accurately calibrate the monitor. 嵌 This method relies on a sequence of steps that will obtain the best display results when completed.
- OSD mode allows you to easily make changes to any single monitor setting without the need to go through a predefined sequence. This method is less accurate than Wizard mode, but allows easy access to any monitor adjustment.

Display Tune® Help

2. OSD Mode

OSD mode allows for easy access to any of the of the monitor settings. The tabs across the top of the control panel list the general description of the controls within that tab. Selecting the the tab displays a list of menu items. Any tab and submenu item can be randomly accessed for quick tuning of the monitor.



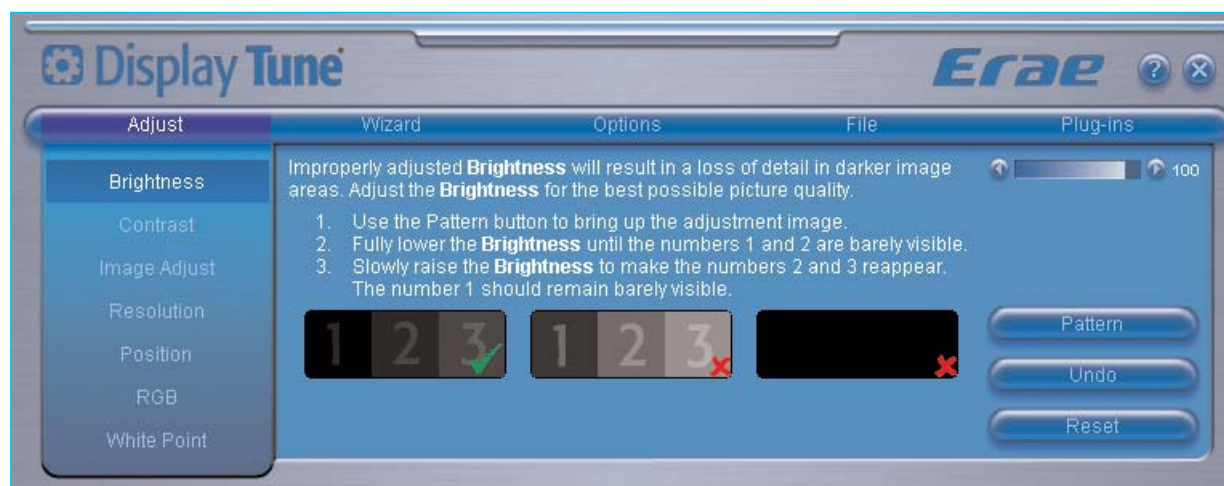
3. Control Definition

- Undo** – Restores the monitor value for the active control pane to its previous setting. If no change was made to the current control pane, undo will have no affect.
- Reset** – Restores the monitor value for the active control pane to its factory setting.

Display Tune® Help

- Pattern** – Select the pattern button to view the adjustment image. Patterns automatically load in wizard mode.
- ◀ / ▶ – Increases or decreases the monitor value by one unit for the current control pane.
- Slider** – Increases or decreases the monitor value for the current control pane.
- ⓘ – Access to Help file: opens Help file using the default browser window
- ✕ – Closes Display Tune.

• Display Tab Definition – Adjust



- Brightness** – Loads the Brightness instruction pane with slider control. Select the patterns button to load the adjustment image then use the slider to tune the brightness.

Display Tune® Help

Contrast – Loads the Contrast instruction pane with slider control. Select the patterns button to load the adjustment image then use the slider to tune the contrast.

Focus (this sub menu will not be visible if you are using the digital connection of your graphics card and monitor)

- Loads the Pitch and Phase instruction pane with slider controls. Select the patterns button to load the adjustment image, then select Auto Setup to use the manufacturer recommended settings. If there still appears to be movement in the patterns use the Pitch slider to reduce any noise on the screen. Next use the Phase slider to completely eliminate residual noise.

Resolution – Select the Preferred button to set the display to the manufacturer's recommended settings. If your display is in any resolution over than Preferred the clarity of fonts and graphics will be compromised.

NOTE: The color calibration module requires the display to be set to the preferred resolution.

Position (this sub menu will not be visible if you are using the digital connection of your graphics card and monitor)

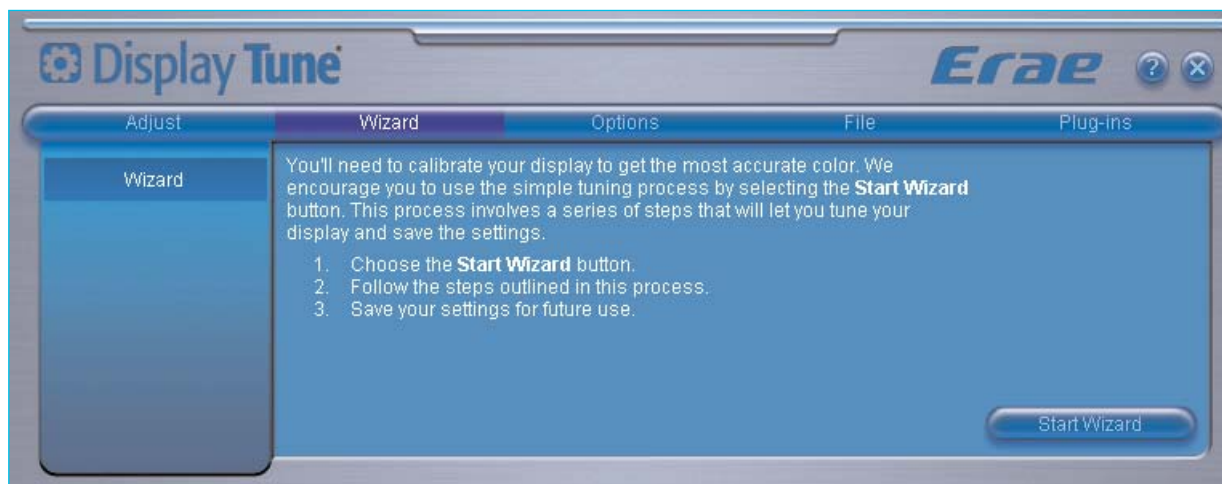
- Loads the Position instruction pane with control buttons. Select the patterns button to load the adjustment image then use the control buttons to position the grid so that all edges are visible.

RGB – Loads the Primaries instruction pane with Red, Green, and Blue slider control. Select the patterns button to load the adjustment image, then use the color slider to increase or decrease the corresponding primary color.

White Point – Lists the three common white point settings: 6500, 7500, and 9300.

Display Tune® Help

• Wizard mode



Wizard mode goes through a predefined step-by-step process with instructions and patterns for each monitor setting. Once the process is complete, you will be asked if you wish to save the settings as a preset. A preset can be called and used from the desktop or automatically each time the system is started.

– To run to Wizard mode:

1. Launch Display Tune
2. Select the Wizard Tab
3. Select Wizard from the Wizard sub menu
4. Select the Start Wizard button

Display Tune® Help

• Wizard Mode Adjustment Sequence

Resolution – Select the Preferred button to set the display to the manufacturer's recommended settings. If your display is in any resolution over than Preferred the clarity of fonts and graphics will be compromised.

NOTE: The color calibration module requires the display to be set to the preferred resolution.

Focus(this sub menu will not be visible if you are using the digital connection of your graphics card and monitor)
 – Loads the Pitch and Phase instruction pane, pattern, and slider controls. Select the AUTO button, then use the Pitch and Phase slider to completely eliminate residual noise.

Brightness – Loads the Brightness instruction pane, pattern, and slider control. Use the slider to tune the brightness in the darker image area.

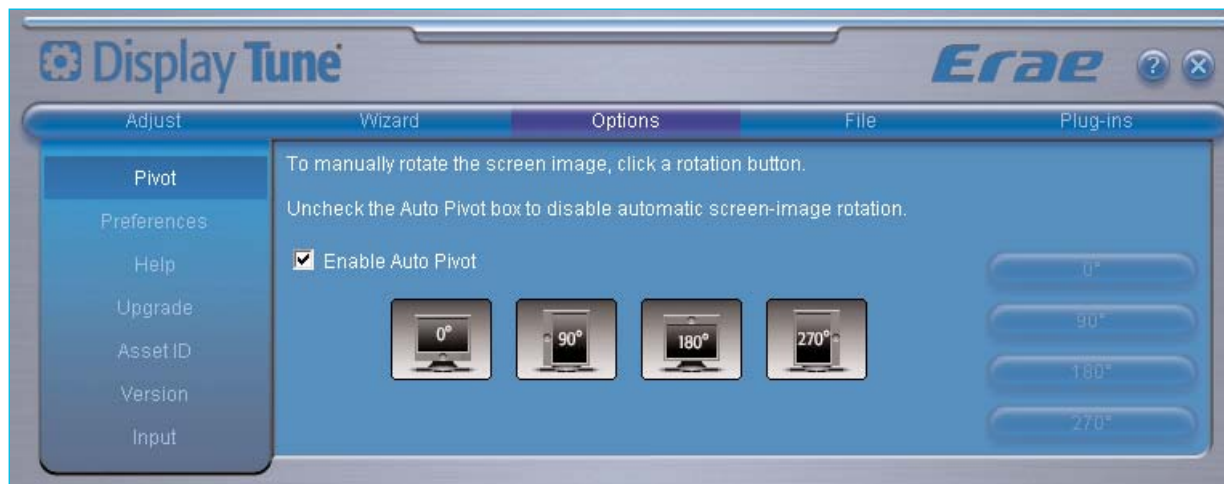
Contrast – Loads the Contrast instruction pane, pattern, and slider control. Use the slider to tune the contrast.

Position(this sub menu will not be visible if you are using the digital connection of your graphics card and monitor)
 – Loads the Position instruction pane, pattern and control buttons. Use the control buttons to position the grid so that all edges are visible.

White Point– Lists the three common white point settings: 6500, 7500, and 9300.

Display Tune® Help

• Display Tab Definition – Options



Auto Pivot – Auto Pivot automatically checks to see if the screen has been placed in a new orientation. When a new orientation is sensed, Auto Pivot will rotate the entire contents of the screen to support the new viewing mode.

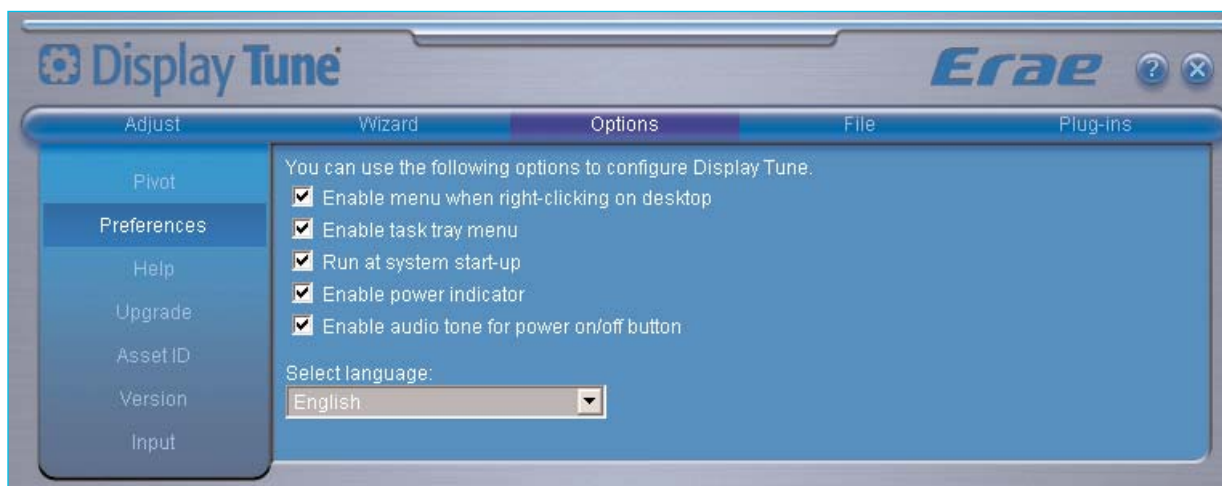
Enable Auto Pivot– Default is off, manually rotation buttons are active. Check the box to enable automatic screen-image rotation.

0° Landscap – Rotates the screen to landscape mode (Default monitor configuration).

90° Portrait – Rotates the screen to portrait mode.

Display Tune® Help

- 180° Landscape – Rotates the screen to presentation mode (Content is upside down).
 270° Portrait – Rotates the screen to portrait mode.



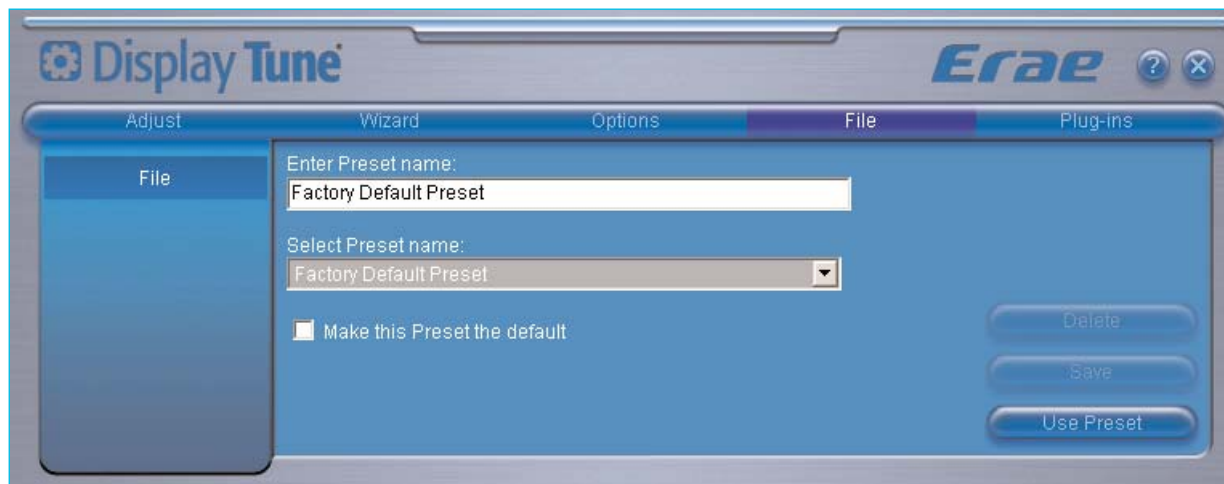
- Preferences** – Loads the Preferences Dialog Box. Preferences in use will have an "V" in the check box. To turn on or off any Preference, position the cursor over the box and click.
- Enable menu when right-clicking on desktop** – Puts Display Tune options in the right click context menu. To run Display Tune, simply right click anywhere on the desktop
- Enable task tray menu** – Shows complete list of menu items for Display Tune. When disabled, DisplayView will still be in the task tray, but will only have the Exit option available to the user.

Display Tune® Help

- Run at startup** – When checked, Display Tune will launch each time the system is restarted regardless of whether an Erae monitor is attached to the system. In laptop configurations, when the external monitor is undocked, it is recommended to uncheck this box to bypass launching Display Tune when no display is attached. To enable Display Tune you must either launch it from the desktop shortcut or from program files.
- Enable power indicator** – Turns on/off power indicator light on display.
- Enable audio tone for power on/off button** – Turns on/off audio tone for power on/off button.
- Select Language** – Display Tune can support up to 10 languages. The drop down will allow you to switch between the installed language and English.
- Help** – Loads the Help/Technical Support instruction pane. Help button will load the user manual (you must have found it you're here!) for Display Tune. Technical Support button will open a link to an automated online Technical Support form and send it to Portrait Displays for resolution. Technical Support button requires an Internet connection to work.
- Upgrade** – Loads the Help/Technical Support instruction pane. Help button will load the user manual (you must have found it you're here!) for Display Tune. Technical Support button will open a link to an automated online Technical Support form and send it to Portrait Displays for resolution. Technical Support button requires an Internet connection to work.
- Asset ID** – Loads the monitor information pane to provide manufacturing data of the display.
- Version** – Displays the version of Display Tune and the means of communication with the monitor.
- Input** – Loads the input pane for easy selection between Analog In (analog VGA mode) and Digital In (digital) source for the display. Some displays do not have both inputs. Selecting a source that is not available will have no affect.

Display Tune® Help

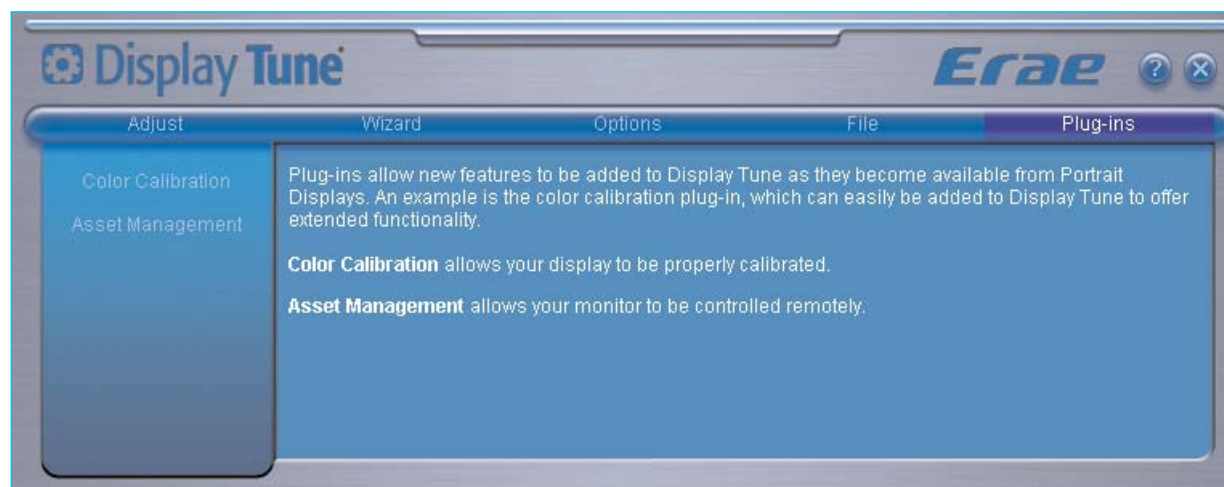
- Display Tab Definition – File



File – Loads the Preset pane for management of presets. The preset pane allows you to load the factory default preset to restore the monitor to the manufacturer recommended settings. In addition, presets can be saved for any combination of adjustments made with Display Tune. For more information, go to the Preset section in the help file.

Display Tune® Help

• Display Tab Definition – Plugins



Plugins – Plugins allow for additional functionality to be added to Display Tune. If any plugin is installed, selecting the Plugin tab will display all plugins installed in Display Tune

4. Color Calibration (optional)

Display Tune color calibration makes it possible to achieve sRGB color on your LCD. sRGB color is used to display images from websites as well as specifying a color matching technique to provide monitor and output device color that is consistent. Display Tune color calibration is handled through an interactive series of targets to "dial in" the high, mid, and low tone colors. Once the process is complete, the user will experience accurate color representation of images within Windows and from the web.

NOTE: Selecting the Factory Default Preset will disable color calibration. To enable color calibration, go to Options>Preferences and select Enable Color Calibration from the preference list.

Display Tune® Help

• How to use Display Tune Color Calibration

- The color calibration will take about ten minutes to complete. Display Tune color will go through a series of steps to produce sRGB color from your LCD.



- Adjust the display's height and tilt for normal viewing. Comfortably position yourself at the distance and viewing angle as you would for every day use. Do not change your viewing angle during the calibration process.
- Look at the middle square in the color ring. It should appear neutral of any color. If the square appears to have color other than gray present, slowly drag the square toward the same color of the outer color ring until the tint is removed. Example: If the square has blue tint, click on the square and slowly drag it toward the outer blue portion of the ring. This will remove blue tint from the square.

Display Tune® Help

- Once the square appears to be neutral move the slider up and down until the square blends into the background. Some targets will not allow for the square to completely vanish into the background. You'll want to get as close to blending the foreground square into the background gray as possible. Alternate between removing tint from the square and using the slider to get the optimal results. Once complete select Next to move to the next target in the series. Repeat the steps until finished. Once the process is complete, the Preset Dialog will appear asking if you wish to save the desired results.
- Display Tune provides a color target to assist in verifying that color calibration was successful

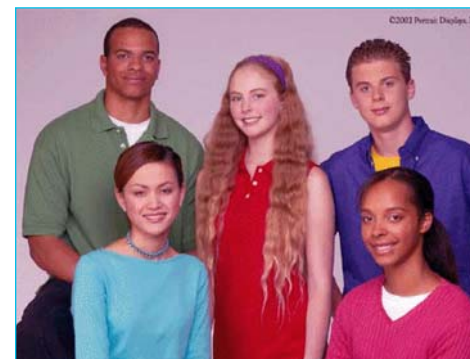
To Launch the color targets

1. Select the Task Tray Menu
2. Select Quick View Calibration
3. Display Tune will load the color target
4. Select View uncalibrated from the target (this will turn color calibration off)
5. Select View calibrated from the target (this will turn color calibration on)

• Calibrated Target



• Uncalibrated Target



Display Tune® Help

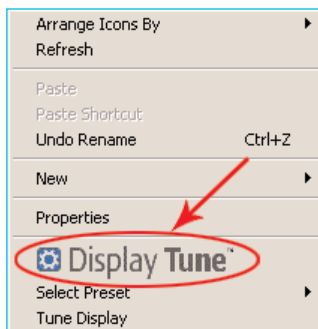
Asset Management

- In any local network or large enterprise, the importance of managing the client's hardware and software (assets) is instrumental in the total cost of ownership (TCO). Displays are viewed as an investment to the overall computing solution and require the same attention and management of the capital investment. Display Tune Asset Management Plug-in is a console application that provides the IT Manager the necessary components to remotely access two types of controls: 1) viewing the asset and 2) controlling the asset

To verify that Asset Management is installed correctly on the client:

1. Launch Display Tune
2. Click on the Plug-in tab
3. Select Asset Management from the list of installed plug-ins
4. Verify that Asset Management Status is set to Enabled. (if the pane states disabled, the asset management service failed to load)

5. Context Sensitive Menu

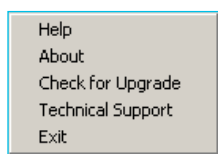


To access the Display Tune context sensitive menu, right-click on any vacant area of the desktop. If Enable Context Menu has been disabled in the Options>Preference the menu will not be visible.

- Select Preset** – Provides a list of predefined presets for immediate use.
- Tune Display** – Opens the Display Tune control panel.
- Display Tune logo** – Shows the version number of Display Tune.

Display Tune® Help

6. Task Tray Menu

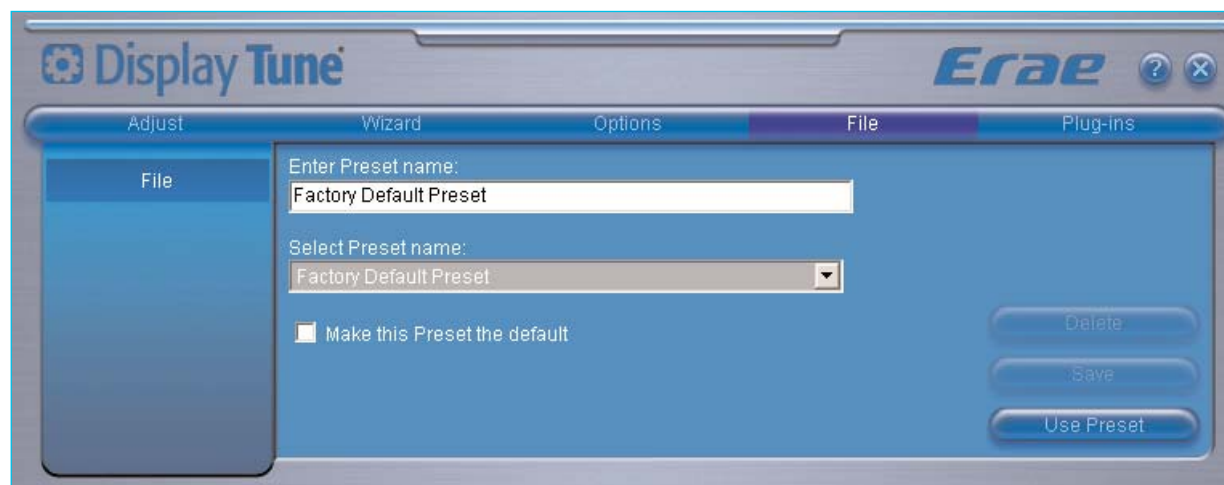


To access the Display Tune menu click on the icon in the task tray.

- | | |
|--------------------------|--|
| Help | – Access to Help file:opens Help file using the default browser window |
| About | – Displays detailed reference information:product version, release information, link to www.portrait.com |
| Check for Upgrade | – Opens link to www.portrait.com and automatically checks for the latest available version (requires an Internet connection to work) |
| Technical Support | – Opens link to automated online Technical Support form (requires an Internet connection to work) |
| Exit | – Closes Display Tune and turns off background color calibration. To run Display Tune either select Display Tune from the Program menu or restart the system. |

Display Tune® Help

7. Presets



Presets allow all characteristics of the monitor to be saved to a user defined file. The preset can be called at any time or set to automatically load each time the computer is restarted. Presets provide greater flexibility and can be based on multi-user configurations, content specific material, application requirements, and changes in the work environment.

Factory Preset

In addition to the user definable Presets, Display Tune has a Factory Default Preset. Loading this preset will reset the display to the recommended factory settings. The factory preset provides an easy way to restore the image if the monitor is poorly adjusted.

NOTE: The Factory preset can not be deleted or overwritten.

Display Tune® Help

• How to manage Presets.

To access the preset control pane, select the File tab.

Enter Preset Name – Typing a descriptive name of the file in the Enter Preset Name box and clicking the Save button will save the current settings as a Preset. After the Save button is clicked, this new Preset will appear in the drop-down menu below.

Select Preset Name– The drop down menu displays the list of available Presets. Holding down the arrow activates the drop-down menu. To activate a Preset, select the desired Preset from this menu. It will appear in both text boxes. Next click the Use Preset button.

Make this Preset the default

- When checking this box, the Preset shown in the Enter Preset name box is set as the default. Once selected, the preset will automatically load when the computer is restarted or when logging on as a user. To disable, uncheck the box when the default preset is shown in the Enter Preset Name box.

Delete – Deletes the visible preset in the drop down menu. Once deleted, the preset is lost.

Save – Saves the Preset. To enter in a new file name, highlight the file name in the active menu area type a new name. This will add the new file name to the drop down list and will NOT overwrite the previous file name.

Use Preset – Loads the selected preset

• How to Save Presets in Wizard Mode

To add a Preset

1. Launch Display Tune
2. Select the Wizard Tab

Display Tune® Help

3. Select the Start Wizard button
4. Proceed through the Wizard
5. Once complete, the Preset pane will appear.
6. Highlight the name in the menu box and enter in a new name. Leaving the current name visible will overwrite the file.
7. Select OK

• How to Save Presets in OSD Mode

To add a Preset

1. Launch Display Tune
2. Make adjustments to any of the monitor controls
3. Select the File tab
4. Highlight the name in the menu box and enter in a new name. Leaving the current name visible will overwrite the file.
5. Select Save

• How to Load Presets

There are two ways to load a saved preset; from within Display Tune from the File Tab or from the Context Sensitive menu

To load a Display Tune preset from within Display Tune

1. Launch Display Tune
2. Select the File tab
3. Select the file name from the drop down menu in the Preset drop down menu
4. Select Use Preset

Display Tune® Help

To load a Display Tune preset from the Context Sensitive Menu

1. Right Click on any vacant area of the desktop
2. Select the Preset name from the hierarchical menu

• How to Delete Presets

To Delete a Display Tune preset from within Display Tune

1. Launch Display Tune
2. Select the File tab
3. Select the file name from the drop down menu in the Preset drop down menu
4. Select Delete

NOTE: Once a preset has been deleted it can not be restored.

8. Uninstall

Display Tune can be uninstalled from either Add/Remove programs or the Start Menu.

Follow the steps below to Uninstall Display Tune from Add/Remove Programs:

1. Go to the Start menu in the System Tray, select Settings then select Control Panel from the menu.
(For Windows XP, select Control Panel from the Start menu).
2. In the Control Panel, open the Add/Remove Programs icon
3. From the Add/Remove window, scroll down then click Display Tune to highlight it
4. Click Change/Remove to Uninstall

Display Tune® Help

5. Click "Yes" to begin uninstalling Display Tune.
6. Wait until Windows shows the dialog box to confirm successful uninstall.
7. Once the uninstall is complete, you will be prompted to restart your system.
8. Choose "Yes" to complete the uninstall

Visit our website for Display Tune Technical Support, Frequently Asked Questions (FAQs), software Updates, and more.

9. Tips & Troubleshooting

[Visit our website for more information.](#)

Specifications subject to change without notice. Display Tune is a registered trademark of Portrait Displays, Inc. Windows is a registered trademark of Microsoft Corp. Other trademarks are property of their respective holders.

Recommendations

To enjoy optimal display

1. Due to the TFT-LCD monitor panel's characteristics, the optimal resolution is limited to one choice for each monitor size. Other resolution settings may decrease the display quality. Therefore it is recommended that the optimal resolution be used.

Optimal / 19" resolution by screen size (type)

19" : 1280x1024 @60Hz

2. The product may output a display of up to 1 PPM (one pixel per million) brighter or dimmer due to technical limitations in LCD Panel manufacturing. This characteristic does not affect the performance of the product.

Number of pixels by LCD panel size – 19" : 3,932,160 pixels

3. Use a soft dry cloth with a special cleansing solution for cleaning the monitor. Do not apply excessive force when cleaning the display panel. Using excessive force may leave marks.
4. Run the "Auto" (Auto-Adjust) function when dissatisfied with the display quality. This will enhance the quality. However, use the fine-tuning facility (phase/frequency control) if noise remains after automatic adjustment.
5. Having the monitor display fixed images may leave after-images or unwanted marks on the screen. Set the monitor power save mode from the PC or use a screen saver to protect the monitor.

Effects of Surroundings

The monitor position and location may affect viewing quality.

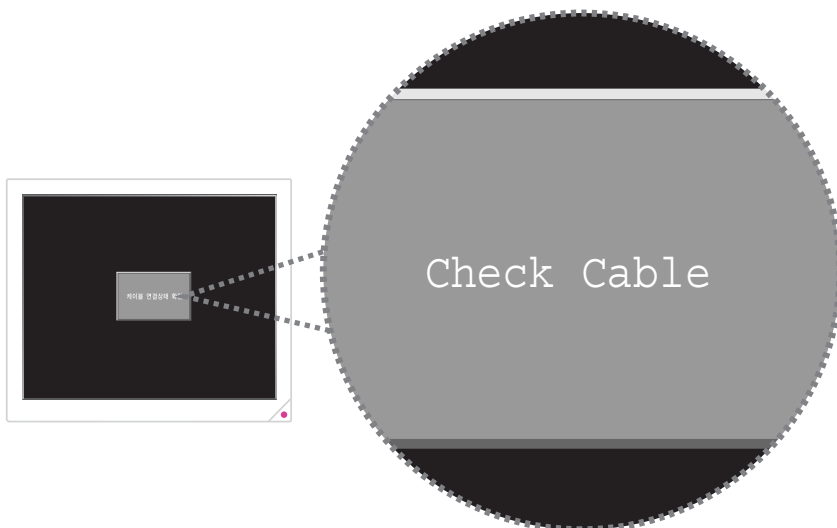
1. Do not place an amplifying speaker near the monitor.
2. Maintain at least 1m distance from any electronic appliances such as radios, fans, clocks, and telephones.

Self-Diagnosis Function

※ Execute self-diagnosis when the monitor remains blank even when the power and connections are correct.

Cable Connection Test Function

1. Turn off the PC and monitor.
2. Disconnect the video cable from the monitor or video card.
3. Turn on the monitor.

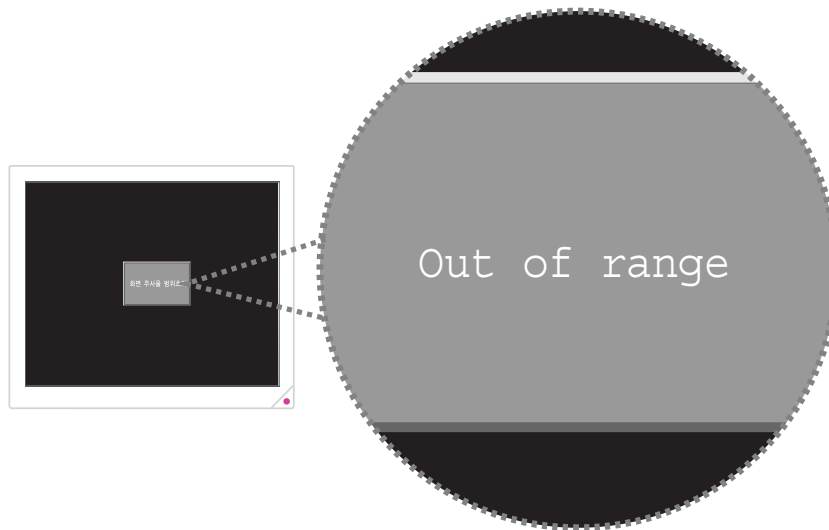


- This monitor provides a connection test function for testing the PC connection.
- Check if the cable has been disconnected from the monitor when the box shown is displayed on screen

4. Turn off the monitor and re-connect the cable. Then turn the computer and monitor on.
Contact your service center when the message remains displayed even after making the connections correctly with a new cable.

Self-Diagnosis Function

Input Signal Bandwidth Detection



- The power indicator light goes red when there is problem with the input signal, and the following message appears. This message appears when the input signal resolution is over the supported limit or if there is a fault in the signal cable.
- Boot the PC in safe mode and adjust the scanning rate to optimal resolution.

Troubleshooting

Problem	Solution
Color appears abnormal. It is in black and white.	Reconnect the PC connecting cables. Insert the PC's video card correctly. Re-boot the PC. Set the video card again after referring to the video card manual.
The displayed screen position suddenly changes or tilts inward.	Use the screen control to adjust the displayed screen shape. Set the resolution and/or frequency on the video card (refer to the supported mode table). Differences in the signal period of the video card may cause changes in the displayed position from time to time. Use the screen control functions to correct the displayed screen position.
Displays 16 colors only. The color has changed after replacing the video card.	Windows ME /XP /2000: Re-set the color from the Control Panel → Display → Setting Re-install the video card driver.
Power indicator lamp blinks orange.	Monitor is in Sleep Mode
Cannot control the screen with the buttons on the front of the monitor.	Contact technical support

Troubleshooting

Problem	Solution
There are colored spots on the screen	There may be a few colored (red, green, white, black) pixel spots on the screen during use. This is a natural characteristic in LCD panels. It is not a malfunction and does not affect the monitor's performance.
The power indicator lamp is off	Check if the power cable is intact. Reconnect the power cable correctly if necessary.
The "Check Cable" message appears on the screen.	Check if the connection between the PC and monitor is intact. Reconnect the cable correctly if necessary.
The "Out of range" message appears on screen.	The output signal from the video card exceeds the monitor's maximum resolution or frequency limit. Set the maximum resolution and frequency to suit the product limits.
The screen appears to be sliding downwards.	Check the connection between the PC and monitor. Re-connect if necessary. Run the auto-adjusting function.
The screen is unclear.	Run the auto-adjusting function.

Troubleshooting

Problem	Solution
The screen appears unstable and flickers. The screen leaves shadows.	Check if the computer or video card output resolution and frequency is set within the limits. Re-set the screen display by referring to the resolution information and standard supported mode table.
Lines appear on the screen and the screen flickers.	Turn off any cordless phones, hair dryers, electrical drills etc. that are in use.

Troubleshooting

Problem	Solution
Could not install "Display Tune".	Display Tune would be installed under Windows98 with IE6.0 or higher version of OS. It does not support either Linux or Mac OS.
When Display Tune is executed, the brightness of monitor changes automatically.	From "Factory Defaultpreset" of Display Tune, if "Make this preset the default" is checked, get rid of check mark.
How can I check the button working if "Enable audio tone for power on/off button" is disabled.	If "Enable audio tone for power on/off button" is not checked, it displays "Power"→"Input signal" →"Automatic control" in order. Stay your fingers away from the button if the process you want to perform is on. "Automatic control" only supports for the analog input.
Auto Pivot does not work.	To use an "Auto Pivot", go to "Option→Pivot" and check on "Enable Auto Pivot". Then, it is enable after Wondows is executed. It does not support for Dos mode or game.
When starting a Window, I would like to get rid of "Pivot" logo.	Go to" Control Panel → Display setting → Advanced → Pivot Software" option, get rid of check mark from "Show splash screen a startup". Then the logo will not be displayed.

Troubleshooting

Problem	Solution
From the Adjustment categories, "Focus" and "Position" are missing.	In case of using the copy mode, the screen changes when the current input is changed from "Option -> Input", but the control function only supports the original input. Therefore, you can control the monitor with Display Tune if the original input cable is disconnected.
Even though I am using an analog screen, it displays as "Digital Input" from "Option -> Input".	From copy mode, Display Tune only supports for input of the priority order. Sometimes, the priority order is fixed in terms of the graphic card. Connect the input cable with PC and monitor and reboot the system.
If I use two monitors, how can I control the monitor?	Drag and drop "Display Tune" software to the monitor you want to control and control the category you want to change.
Display Tune does not work.	Display Tune software could not be used when Reboot the PC and connect the monitor. From Tray menu, terminate the Display Tune and delete all the monitors registered on "Control panel-> System-> Hardware-> Device manager". Execute "Hardware diction". Execute "Display Tune" software after the detection.

Caution

Use a soft dry cloth to clean the product

- Do not scratch the monitor panel with your fingernails or other sharp objects
- Do not use flammable substances such as benzene or paint thinner on the product. Do not use a wet cloth.

Use a clean cloth with special screen cleanser

- Do not use acetone, benzene, or paint thinner on the product.

Product Specification

모델명		ELM-900K
LCD	Visible Screen Area	376.32(H)×301.056(V) 19.0inch
	Pixel Pitch	0.294(H)×0.294(W)
	Maximum Visible Angle	89° / 89° / 89° / 89° (Top/Bottom/Left/Right)
	Displayed Color	16.7M
	Response Time	8msec(G to G)
	Brightness	300cd/m
	Contrast Rate	1000:1
	Recommended Resolution	1280X1024 (60Hz)
Video Signal	Horizontal Frequency	31KHz-81KHz
	Vertical Frequency	56Hz-75Hz
Power	AC (Adaptor)	110V-240V, 50Hz/60Hz
	DC (Monitor)	12V, 3.5A
	Power Consumption	Max. 40W, Power Save Mode 2W

· The above specifications may vary without prior notice to improve performance.

Supported mode table

Resolution	Horizontal Frequency (Khz)	Vertical Frequenc (Hz)
640×480	31.47	60
	37.86	72
	37.50	75
720×400	31.47	70
800×600	35.16	56
	37.88	60
	48.08	72
	46.88	75
1024×768	48.36	60
	56.48	70
	60.02	75
1280×1024	63.98	60
	79.98	75

Power Save Mode

This monitor comes with a power save function that activates when the monitor has not been used for a while. Power consumption is reduced in power save mode, and this is indicated by the power indicator lamp's color. Pressing a key on the keyboard or mouse turns the monitor back on. However this function is only enabled when the monitor is connected to a PC that has a power save function.

The power save function operates as described below.

Power save mode	Normal mode	Standby mode
Power indicator lamp color	Green	Orange (blinks every second.)
Power Consumption	40W	Below 2W

Limited Warranty

INTRODUCTION

This Warranty covers DoubleSight Displays, LLC's ("DSD") ELM-700K & ELM-900K & 19" LCD Monitors ("Product") sold by DSD or DSD's authorized resellers. DSD provides a limited warranty for the originally purchased Products for use, not resale ("Original Purchase"), located in the United States. No DSD authorized reseller may claim any right or interest under this limited warranty.

Notice

DoubleSight Displays now include a 3year standard warranty for ELM-700K and ELM-900K models only from Original Date of Purchase.
Thank you for your support!

DoubleSight Displays LLC

LIMITED WARRANTY

DSD warrants this Product to be free from defects in material and workmanship for a period of three (3) year from the date of Original Purchase. Spare parts are warranted for ninety (90) days. Subject to the conditions set forth below, if a Product proves to be defective in material or workmanship during the warranty period, DSD will, at its sole option, repair or replace the Product with a similar Product. Replacement Product or parts may include remanufactured or refurbished parts or components and will meet the specifications of the original parts or unit.

This warranty is extended by DSD only to the original purchaser ("you") of the Product and is not transferable. During the warranty period, DSD shall provide you with limited telephone technical support providing assistance to you solely for the purpose of defining any problem. Repair or replacement of the Product is limited to the United States.

CUSTOMER RESPONSIBILITIES

As the original purchaser you have thirty (30) days in which to review the contents of the Product's packaging for any missing or broken items. After the first thirty (30) days of ownership, beginning from the date of Original Purchase, a charge will be incurred for replacement of any item you, the original purchaser, may wish to order from DSD. Such charges will include handling and shipping costs incurred for delivery of any such items.

Limited Warranty

WARRANTY EXCLUSIONS

This warranty does not cover:

1. Any Product on which the serial number has been defaced, modified or removed.
2. Damage, deterioration or malfunction resulting from:
 - A. Accident, disaster, misuse, neglect, fire, water, lightning, or other acts of nature, unauthorized product modification, or failure to follow instructions and environment specifications supplied with the Product.
 - B. Repair or attempted repair by anyone not authorized by DSD.
 - C. Customer supplied interfacing.
 - D. Improper site preparation and maintenance.
 - E. Damage to or loss of any programs, data or removable storage media.
 - F. Software or data loss occurring during repair or replacement.
 - G. Any damage of the Product due to shipment.
 - H. Removal or installation of the Product.
 - I. Causes external to the Product, such as electric power fluctuations or failure.
 - J. Use of supplies or parts not meeting DSD's specifications.
 - K. Normal wear and tear.
 - L. Subjecting the Product to displaying of fixed images for long periods of time resulting in image persistence (afterimage effects) or image burn-in.
 - M. Any other cause which does not relate to a product defect.
3. Removal, installation, and set-up service charges.

HOW TO OBTAIN WARRANTY SERVICE

1. For information on warranty service, call DSD customer service toll-free in the U.S.A. by calling 1-877-TwoLCDs (1-877-896-5237), or email DSD at support@doublesight.com.
2. To obtain warranty service, you will be required to provide
 - A. The original dated sales slip.
 - B. Your name.
 - C. Your address.
 - D. The serial number of the product.
 - E. A description of the problem.
3. Bring or ship the Product prepaid and insured in the original container, with the associated accessories, to the DSD depot repair site. All Products returned to the DSD depot repair site for service MUST have prior approval which may be obtained by calling the telephone number above.

Limited Warranty

DISCLAIMER OF WARRANTIES

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THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS AND YOU MIGHT ALSO HAVE OTHER RIGHTS THAT VARY FROM STATE TO STATE.

EXCLUSIVE REMEDIES

THE REMEDIES PROVIDED IN THIS STATEMENT OF LIMITED WARRANTY ARE YOUR SOLE AND EXCLUSIVE REMEDIES. IN NO EVENT, WILL DOUBLESIGHT DISPLAYS, LLC BE LIABLE FOR DIRECT, INDIRECT, INCIDENTAL, CONSEQUENTIAL, OR OTHER TYPES OF DAMAGES RESULTING FROM ANY BREACH OF WARRANTY, OR CONTRACT OR ANY TORT (INCLUDING NEGLIGENCE) OR UNDER ANY OTHER LEGAL THEORY, INCLUDING LOST

PROFIT, DOWNTIME, GOODWILL, DAMAGE TO OR REPLACEMENT OF EQUIPMENT AND PROPERTY, AND ANY COSTS OF RECOVERING, REPROGRAMMING, OR REPRODUCING ANY PROGRAM OR DATA SORTED IN OR USED WITH THIS PRODUCT, EVEN IF DSD OR A DSD AUTHORIZED RESELLER FOR THIS PRODUCT HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, OR FOR ANY CLAIM BASED ON ANY THIRD PARTY CLAIM. DSD LIABILITY WILL BE NO MORE THAN THE AMOUNT YOU PAID FOR THE PRODUCT THAT IS THE SUBJECT OF A CLAIM. THIS IS THE MAXIMUM AMOUNT FOR WHICH DSD WILL BE RESPONSIBLE. SOME STATES DO NOT ALLOW

THE LIMITATION OR EXCLUSION OF LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES SO THE ABOVE EXCLUSIONS OR LIMITATIONS MAY NOT APPLY TO YOU.

This Product is warranted in accordance with the terms of this limited warranty. You are cautioned that Product performance is affected by system configuration, software, the application, customer data, and operator control of the system, among other factors. While DSD Products are considered to be compatible with many systems, specific functional implementation by the original purchaser of the Product may vary. Therefore, suitability of a Product for a specific purpose or application must be determined by the original purchaser and is not warranted by DSD.

Limited Warranty

FCC Compliance

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. 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 to 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.

FCC WARNING

To assure continued FCC compliance, the user must use a ground power supply cord and the provided shielded video interface cable with bonded ferrite cores. If a BNC cable is going to be used, use only a shielded BNC (5) cable. Any unauthorized changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this device.

User Information

Users may find the following booklet, prepared by the Federal Communications Commission, helpful: "How to Identify and Resolve Radio-TV Interference Problems." This booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402

SlimArt

TFT-LCD MONITOR

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