![SAMSUNG ELECTRONICS]

SyncMaster 710NT

- Safety Instructions
- Introduction
- Setup
- Adjusting Your Monitor
- Troubleshooting
- Specifications
- Information

SyncMaster

SAMSUNG

Adobe Reader

Manual

Regulatory

Install drivers

▶ ▶ Windows Me Windows 98

▶ ▶ Windows 2000 Windows XP

Install programs

▶ ▶ Natural Color

▶ ▶ MagicTune™ MagicTune™

▶ ▶ MagicRotation

Notational | Power | Installation | Clean | Others |

Notational

> **Please read the following safety instructions as they are designed to prevent damage to property and harm to the user.**

Warning / Caution

Failure to follow directions noted by this symbol could result in bodily harm or damage to the equipment.

Notational Conventions

🚫	Prohibited	❗	Important to read and understand at all times
🔧	Do not disassemble	🔌	Disconnect the plug from the outlet
✋	Do not touch	⏚	Grounding to prevent an electric shock

Notational | **Power** | Installation | Clean | Others |

Power

When not used for an extended period of time, set your computer to DPMS.
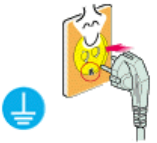If using a screen saver, set it to active screen mode.

Shortcut to Anti-Afterimage Instructions ▶

Do not use a damaged or loose plug.

- This may cause electric shock or fire.

Do not pull the plug out by the wire nor touch the plug with wet hands.

- This may cause electric shock or fire.

Use only a properly grounded plug and receptacle.

- An improper ground may cause electric shock or equipment damage.

Insert the power plug firmly so that it does not come loose.

- A bad connection may cause fire.

Do not excessively bend the plug and wire nor place heavy objects upon them, which could cause damage.

- This may cause electric shock or fire.
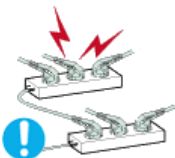
Do not connect too many extension cords or plugs to one outlet.

- This may cause fire.

Do not disconnect the power cord while using the monitor.

- A surge may be caused by the separation and may damage the monitor.

Do not use the power cord when the connector or plug is dusty.

- If the connector or plug of the power cord is dusty, clean it with a dry cloth.
- Using the power cord with a dusty plug or connector may cause an electric shock or fire.

| Notational | Power | Installation | Clean | Others |

Installation

Be sure to contact an authorized Service Center, when installing your monitor in a location with heavy dust, high or low temperatures, high humidity, and exposed to chemical substances and where it operates for 24 hours such as at airports, train stations etc.

Failure to do so may cause serious damage to your monitor.

Place your monitor in a location with low humidity and a minimum of dust.

- Failure to do so may cause electric shock or fire inside the monitor.

Do not drop the monitor when moving it.

- This may cause damage to the product or the person carrying it.

Install the monitor base in a showcase or shelf so that the end of the base does not protrude from the showcase or shelf.

- Dropping the product may cause damage to the product or the person carrying it.

Do not place the product on an unstable or small surface area.

- Place the product on an even, stable surface, as the product may fall and cause harm to someone walking by, specifically children.

Do not place the product on the floor.

- Take care, as someone, specifically children may trip over it.

Keep any flammable objects such as candles, insecticides or cigarettes away from the product.

- Otherwise, this may cause fire.

Keep any heating devices away from the power cable.

- A melted coating may cause electric shock or fire.

Do not install the product in places with poor ventilation, for instance, a bookshelf, closet, etc.

- Any increase in internal temperature may cause fire.

Put down the monitor carefully.

- Failing to do so may damage the monitor.

Do not place the monitor face down.

- This may damage the TFT-LCD surface.

The installation of the bracket must be done by a qualified professional.

- Installing the bracket by unqualified personnel may result in injury.
- Always use the mounting device specified in the owner's manual.

When installing the product, make sure to keep it away from the wall (more than 10 cm / 4 inchs) for ventilation purposes.

- Poor ventilation may cause an increase in the internal temperature of the product, resulting in a shortened component life and degraded performance.

Keep the plastic packaging (bag) out of children's reach.

- The plastic packaging (bag) may cause suffocation if children play with it.

Clean

When cleaning the monitor case or the surface of the TFT-LCD screen, wipe with a slightly moistened, soft fabric.

Do not spray water or detergent directly onto the monitor.

- This may cause damage, electric shock or fire.

Use the recommended detergent with a smooth cloth.

If the connector between the plug and the pin is dusty or dirty, clean it properly using a dry cloth.

- A dirty connector may cause electric shock or fire.

Make sure to unplug the power cord before cleaning the product.

- Otherwise, this may cause electric shock or fire.

Unplug the power cord from the power outlet and wipe the product using a soft, dry cloth.

- Do not use any chemicals such as wax, benzene, alcohol, thinners, insecticide, air freshener, lubricant or detergent.

Contact a Service Center or Customer Center for interior cleaning once a year.

- Keep the product's interior clean. Dust which has accumulated in the interior over an extended period of time may cause a malfunction or fire.

| Notational | Power | Installation | Clean | Others |

Others

Do not remove the cover (or back).

- This may cause electric shock or fire.
- Refer servicing to a qualified servicing company.

If your monitor does not operate normally - in particular, if there is any unusual sound or smell coming from the monitor - unplug it immediately and contact an authorized dealer or Service Center.

- This may cause electric shock or fire.

Keep the product away from places exposed to oil, smoke or moisture; do not install inside a vehicle.

- This may cause a malfunction, electric shock or fire.
- In particular, avoid operating the monitor near water or outdoors where it could be exposed to snow or rain.

If the monitor is dropped or the casing is damaged, turn the monitor off and unplug the power cord. Then contact a Service Center.

- The monitor may malfunction, causing electric shock or fire.

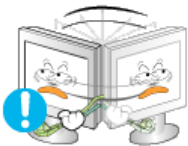**Disconnect the plug from the outlet during storms or lightning or if it is not used for a long period of time.**

- Failure to do so may cause electric shock or fire.

Do not try to move the monitor by pulling only the wire or the signal cable.

- This may cause a breakdown, electric shock or fire due to damage to the cable.

Do not move the monitor right or left by pulling only the wire or the signal cable.

- This may cause a breakdown, electric shock or fire due to damage to the cable.

Do not cover the vents on the monitor cabinet.

- Bad ventilation may cause a breakdown or fire.

Do not place water containers, chemical products or small metal objects on the monitor.

- This may cause a malfunction, electric shock or fire.
- If a foreign substance enters the monitor, unplug the power cord and contact a Service Center.

Keep the product away from combustible chemical sprays or inflammable substances.

- This may cause an explosion or fire.

Never insert anything metallic into the monitor openings.

- This may cause electric shock, fire or injury.

Do not insert metal objects such as chopsticks, wire and tools or inflammable objects such as paper or matches into the vent, headphone port or AV ports.

- This may cause electric shock or fire. If an alien substances or water enters the product, turn the product off, unplug the power connector from the wall outlet and contact a Service Center.

When viewing a fixed screen for an extended period of time, residual image or blurriness may appear.

- Change the mode to energy saving mode or set a screensaver to a changing picture when away from the monitor for an extended period of time.

Adjust the resolution and frequency to the levels appropriate for the model.

- An inappropriate resolution may cause undesirable picture quality.

  17 inch (43 cm) - 1280 X 1024

Keep the volume at a comfortable level when using the headphones.

- Excessively loud volume levels may damage hearing.

Viewing the monitor continuously at a too close angle may result in damage to your eyesight.

To ease eye strain, take at least a five-minute break after every hour of using the monitor.

Do not install the product on an unstable, uneven surface or a location prone to vibrations.

- Dropping the product may cause damage to the product or the person carrying it. Using the product in a location prone to vibrations may shorten the lifetime of the product or may catch fire.

When moving the monitor, turn off and unplug the power cord. Make sure that all cables, including the antenna cable and cables connected to other devices, are disconnected before moving the monitor.

- Failure to disconnect cables may damage it and cause fire or an electric shock.

Place the product out of children's reach, as they could damage it by hanging onto it.

- A falling product may cause injury to the person or even fatality.

When not using the product for an extended period of time,

keep the product unplugged.

- Otherwise, this may cause heat emission from the accumulated dirt or degraded insulation, causing electric shock or fire.

○ **Do not place your children's favorite toys or any other objects of interest on the product.**

- Children may try to climb on the product to retrieve an object. The product could fall, causing physical damage or even death.

○ **Proper Seating Posture During Monitor Use**

- Periodically take a 10 minute break every hour or so to relieve eye strain.
- Position the monitor so that your eyes are slightly higher than the display panel.
- Adjust the LCD screen panel angle so that the panel faces downwards.
- Adjust the LCD screen panel so that the reflection of the illumination is minimized for your comfort.
- Keep your arms parallel to the floor and lightly place your hands on the keyboard.
- Position the monitor or chair so that your eyes are slightly higher than the display panel.

Unpacking | Front | Rear |

Please make sure the following items are included with your monitor.
If any items are missing, contact your dealer.
Contact a local dealer to buy optional items.

Unpacking

Monitor

Manual

Quick Setup Guide	**Warranty Card** (Not available in all locations)	**User's Guide, Monitor Driver, Natural Color software, MagicTune™ software, MagicRotation software**

Cable

D-sub Cable	**Power Cord**	**LAN Cable**

● **Sold separately**

Keyboard (USB)   **Mouse (USB)**

● **Front**

MENU / ⊞   ◢◣ / ▼   ▲ / ⟨⟩   ⏎ / SOURCE   AUTO   ⏻

1   2   3   4   5   6   7

1	**MENU button [⊞]**	Opens the OSD menu. Also use to exit the OSD menu or return to the previous menu.
2	**MagicBright™ [◢◣]**	MagicBright™ is a new feature providing optimum viewing environment depending on the contents of the image you are watching. Currently six different modes are available: Custom, Text, Internet, Game, Sport and Movie. Each mode has its own pre-configured brightness value. You can easily select one of six settings by simply pressing MagicBright control button.

   1) Custom

     Although the values are carefully chosen by our engineers, the pre-configured values may not be comfortable for your eyes depending on your taste.
     If this is the case, adjust the brightness and contrast by using the OSD menu.

   2) Text

     For documentations or work involving a lot of text.

   3) Internet

     For working with a mixture of images such as text and

graphics.

4) Game

For watching motion pictures such as a game.

5) Sport

For watching motion pictures such as a sport.

6) Movie

For watching motion pictures such as a DVD or Video CD.

>>Click here to see an animation clip

③	**Volume button[◖◗]**	When OSD is not on the screen, push the button to adjust volume.
2,3	**Adjust buttons [▼/▲]**	Adjust items in the menu.
④	**Enter button [▣] / SOURCE button**	Activates a highlighted menu item. / Push the 'SOURCE', then selects the video signal while the OSD is off. (When the SOURCE button is pressed to change the input mode, a message appears in the upper left of the screen displaying the current mode -- Analog or Client input signal.)
⑤	**AUTO button**	Use this button for auto adjustment.
⑥	**Power button [⏻]**	Use this button for turn the monitor on and off.
⑦	**Power indicator**	This light glows green during normal operation, and blinks green once as the monitor saves your adjustments.

See PowerSaver described in the manual for further information regarding power saving functions. For energy conservation, turn your monitor OFF when it is not needed, or when leaving it unattended for long periods.

| Unpacking | | Front | | Rear | |

Rear

(The configuration at the back of the monitor may vary from product to product.)

①	**POWER IN port**	Connect the power cord for your monitor to the power port on the back of the monitor.
②	**VGA IN port**	Connect the signal cable to the 15-pin, D-sub port on the back of your monitor.

3	**VGA OUT port**	Connect a monitor to another monitor through a D-Sub cable.
4	**Kensington Lock**	The Kensington lock is a device used to physically fix the system to something when using it in a public place. (The locking device has to be purchased separately.) For using a locking device, contact the place of purchase.
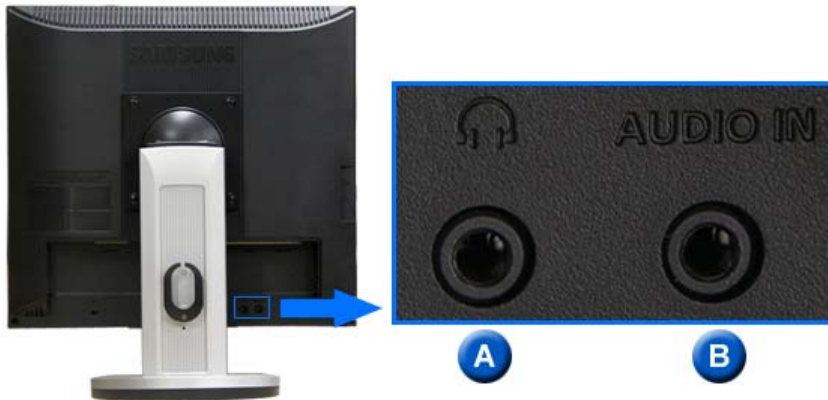
A	**[Ω]**	Headphone connection terminal.
B	**AUDIO IN**	Connect the audio cable for your monitor to the audio port on the back of your computer.
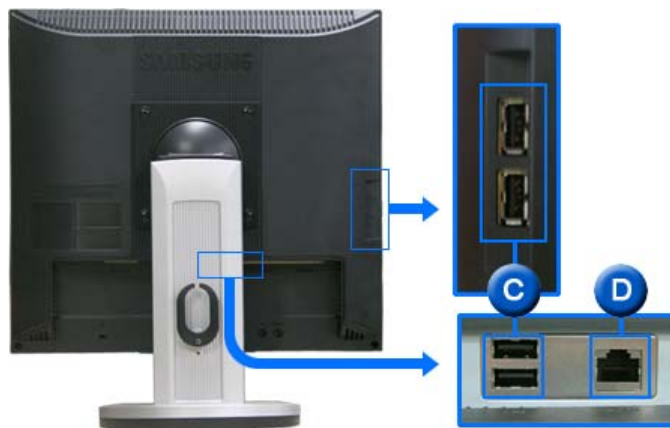
C	**USB (USB Connection Terminal)**	You can connect USB devices such as a mouse, keyboard and external storage devices (e.g. DSC, MP3, external storage, etc.).
D	**LAN (LAN Connection Terminal)**	Connect when using it as a monitor. (For more detailed information, refer to the Client Monitor User Manual)

See Connecting the Monitor for further information regarding cable connections.

When used as a Client monitor

When used as a normal monitor

Tuning the power off while booting up a Client may damage the monitor.
In addition, exit all running programs before turning the monitor off.

What is Client Monitor?

Client Monitor is a new type of monitor that can be used as a general monitor and can also be used as a terminal by connecting it to a host PC with a LAN connection so that you can use a Client Monitor to access the Internet, create a document and edit an image file.
In addition, you can connect an external storage device (e.g. DSC, MP3, external storage, etc.) to the USB port and enjoy music, video and games saved on the device.

Moreover, you can display your screen on another display device such as a projector through the VGA OUT port so that the monitor can be utilized for various purposes such as video conferences, joint-work, etc.

In addition, since Win CE is integrated within the monitor, you can search the Internet or USB memory independently without connecting it to the host PC.

When used as a
Client monitor

What is Client | Connecting a | Configuring Client | Notice to Users |
Monitor? | Client Monitor | Monitor Environment

When used as a
normal monitor

Connecting the Monitor | Using the Stand | Installing the Monitor Driver | Installing the Monitor Driver | Natural Color |
(Automatic) | (Manual)

⚫ **Connecting a Client Monitor**

1) Connect to the host PC using a LAN cable

1 Host PC   **2** Hub   **3** LAN Cable **4** Client Monitor
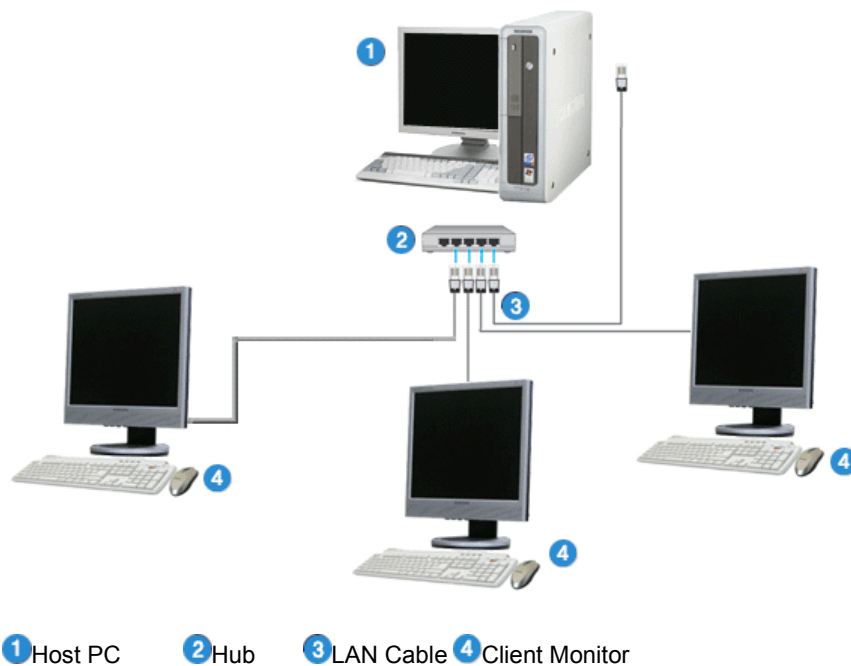
1. Connect the power cord to the power terminal at the back of the monitor.

2. Connect the mouse and the keyboard to the USB ports.
3. Connect the LAN port on the back of the monitor and the hub.
4. Connect the hub and the LAN port of the host PC.

- The host PC must have an IP address.
- After connecting the LAN and setting the IP address, you can view the host PC screen on the monitor.
- Use the VGA IN port to directly connect the monitor to a PC.
- Connect to the VGA OUT port to display the same picture on another monitor such as the projector. (For presentation purposes)
- Use the USB port to connect an external storage device (e.g. DSC, MP3, external storage, etc.).

2) Setup Client Monitor

The Thin Client Setup Wizard is executed when a thin client is installed for the first time, data are not backed up after update, or the Reset the terminal to factory default settings check box is checked on Control Panel -> System. The Thin Client Setup Wizard helps configure basic settings. The procedure for this is as follows:

1. When starting the system for the first time, the Thin Client Setup Wizard is launched as shown below. If **Next** is not clicked during the 15 second countdown after the first 30 seconds, all settings are configured to the factory defaults and the setup wizard is exited.

2. When entering a terminal name and clicking on **Network Properties**, the **Network Manager** dialog box is displayed. This dialog box shows a list of adapters installed on your terminal. You can change the properties of an adaptor, such as the IP address and name server, by clicking on **Properties**.
Click **Next** to proceed to the next step.
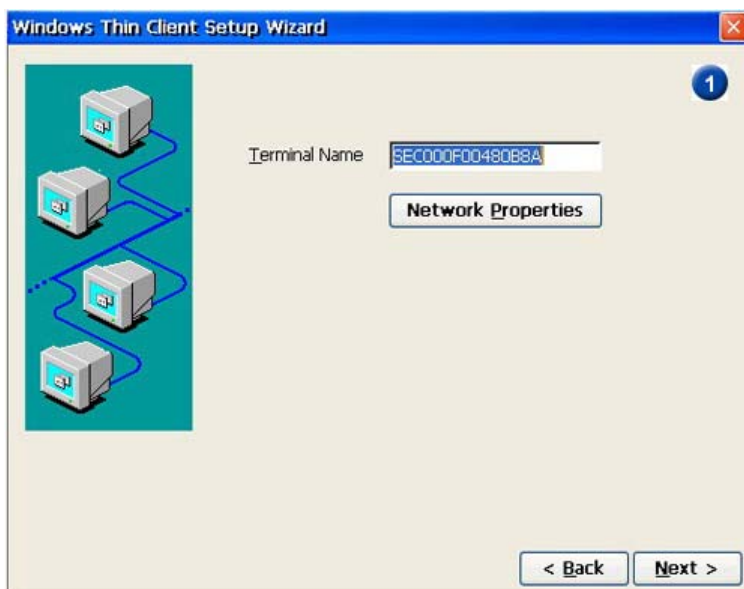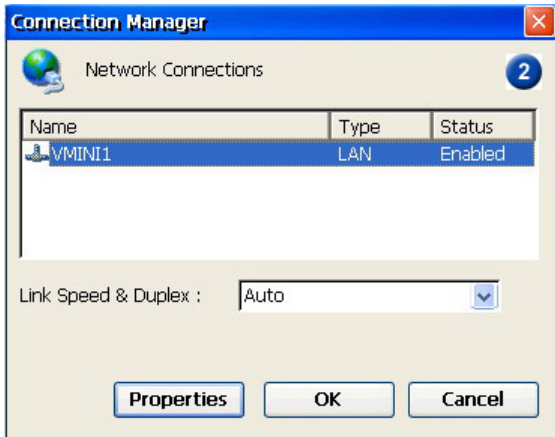
3. Configure the resolution, the color settings, and the screensaver. Then click **Next**.
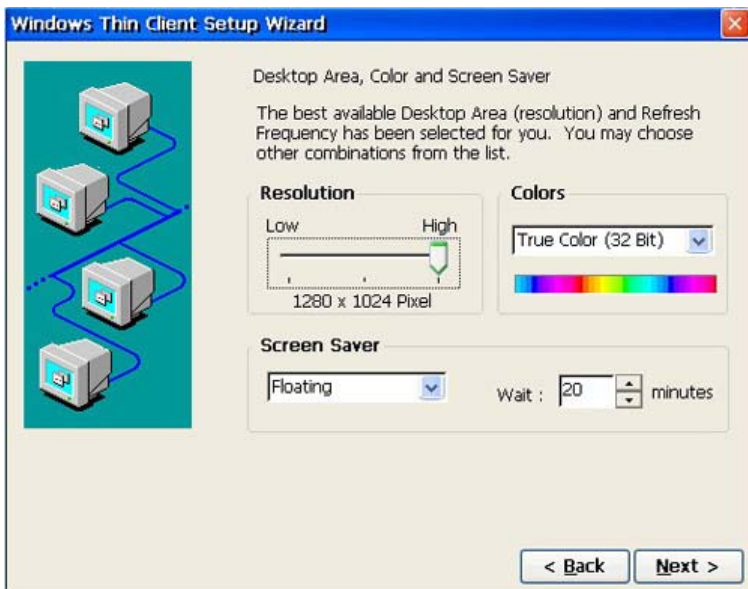
4. Select the **shell interface** to use with the terminal.
   Click **Next** to proceed to the next step.
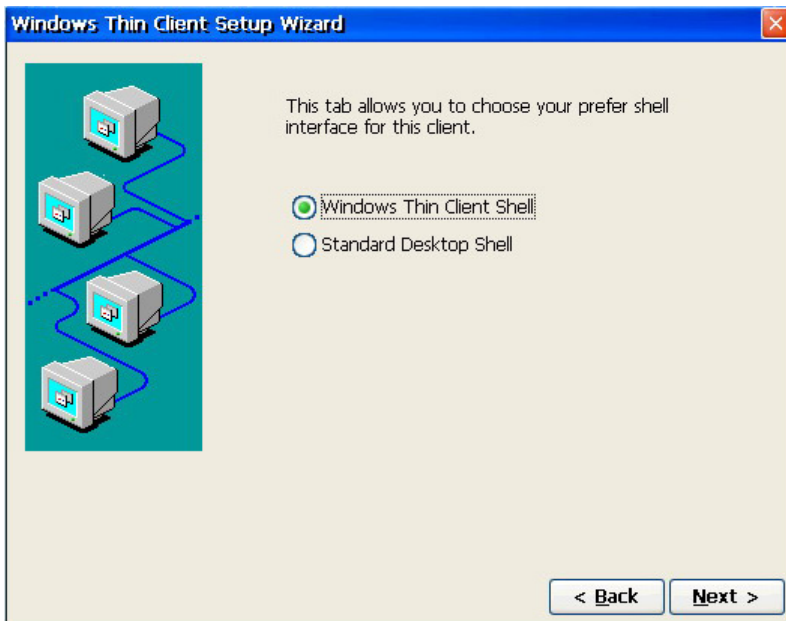
5. In the next window, set the other terminal properties and click on Next.

   For more information on terminal properties, refer to Configuring the Client Monitor Environment .
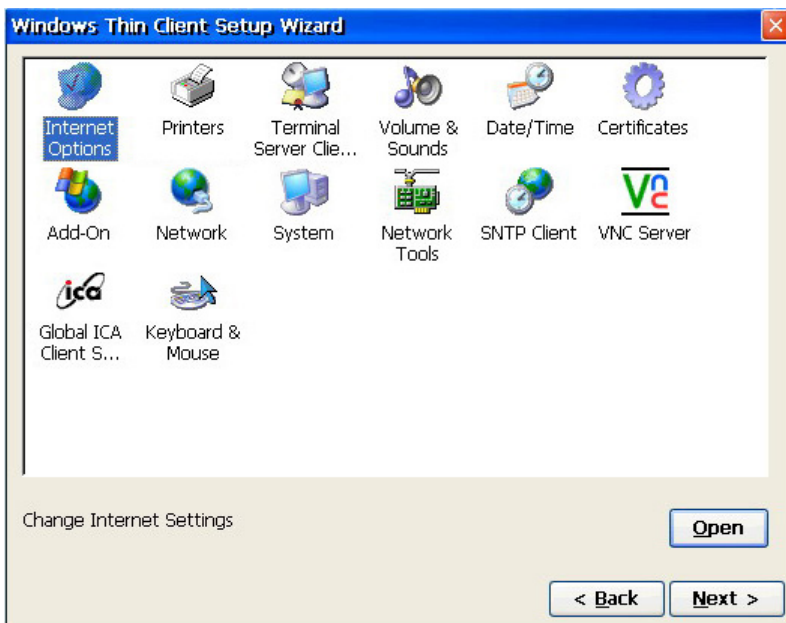
6. If you want to change any of the settings you have configured, click on **Back** or click on **Finish** to complete the Setup Wizard.
   The thin client then completes the Setup Wizard and restarts the terminal automatically.
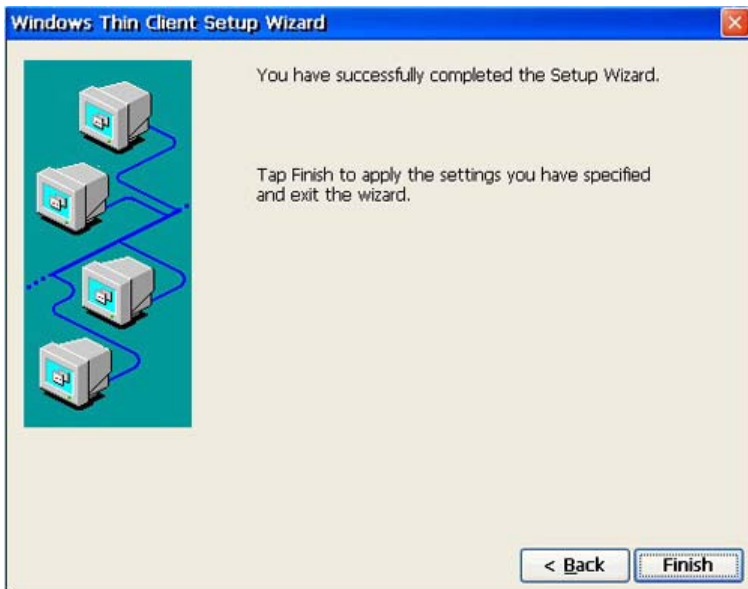
3) Connecting to the Host PC

You can add, edit or remove connections using the Terminal Connection Manager (Thin Client Shell)or the icon/menus on the Desktop. However, this function requires administrator privileges. If you logged on as a limited user, the menus for configuring connections are hidden or deactivated.

If you click the Add button or the Add New Connection menu on the Terminal Connection Manager, the New Connection window is displayed. If you select a connection to create and click OK, the Connection Wizard is executed.
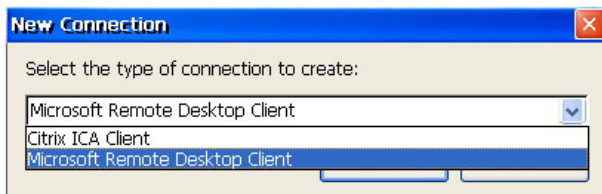
- Citrix ICA Client: ICA
  When using a terminal server on a variety of operating systems such as Unix and Linux as well as Windows.
- Microsoft Remote Desktop Client: RDP
  When using a terminal server on the Windows operating system.

1. Citrix ICA Client

1. Select a server from the server list or enter server information (IP address, DNS name) directly. To update the server list, click Refresh.
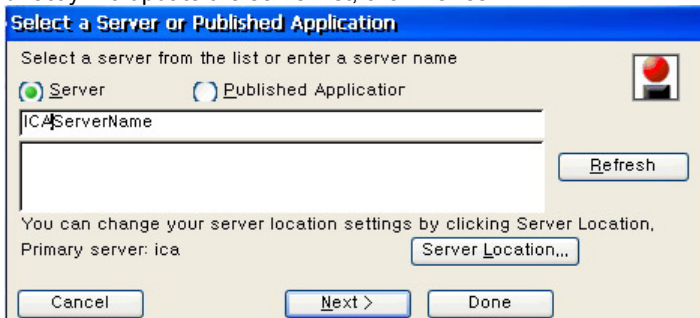
Click on Server Location and configure the server properties in the displayed window.
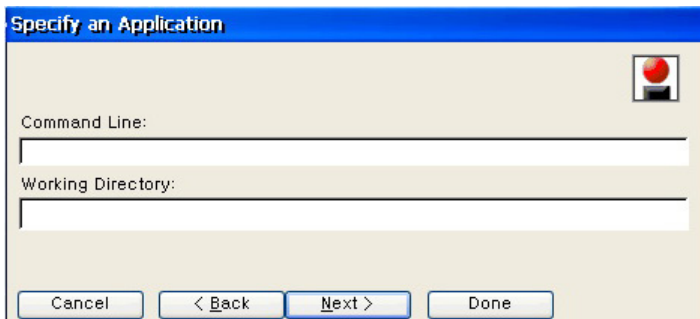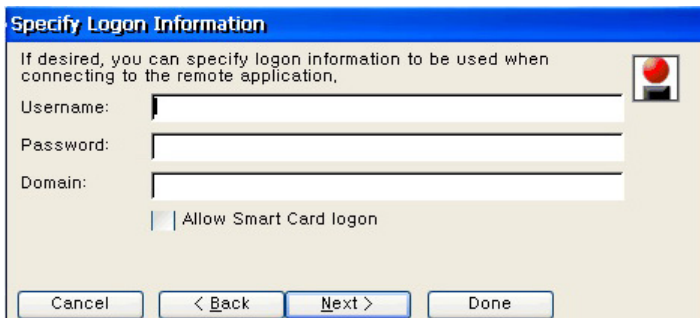
Click Next to proceed to the next step.
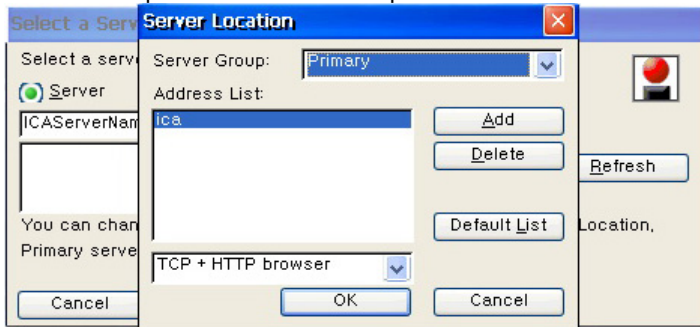
2. Enter the name that will be displayed in the list on the Terminal Connection Manager (or as a connection icon on the Desktop) and click Next.
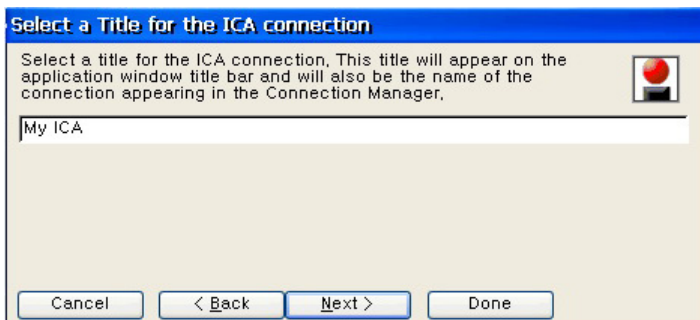

3. When you connect to the server, the server's Desktop is displayed on the monitor, by default. If you want to start an application when connected, enter its name and working directory.
   Click Next to proceed to the next step.

4. If you want to log on the server automatically when connected, enter user name, password and domain. If you wan to use a smart card for login, check the 'Allow Smart Card logon' checkbox. Click Next to proceed to the next step.
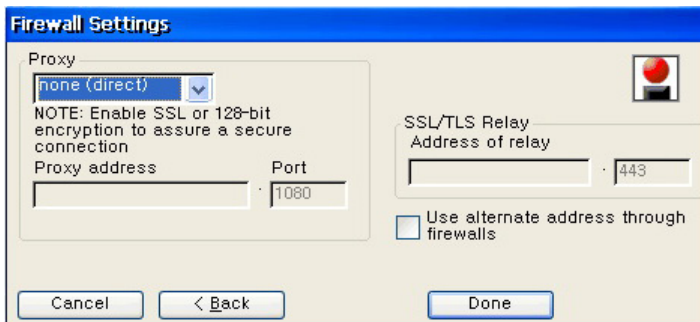

5. Select window colors. Selecting a small number of colors speeds up overall processing on the network. Click Next to proceed to the next step.
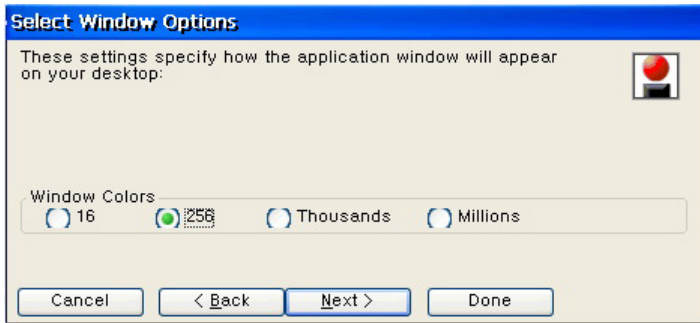
6. Select compression, encryption, and sound options for ICA connection.

7. Enter the information required to pass firewalls or security policies.
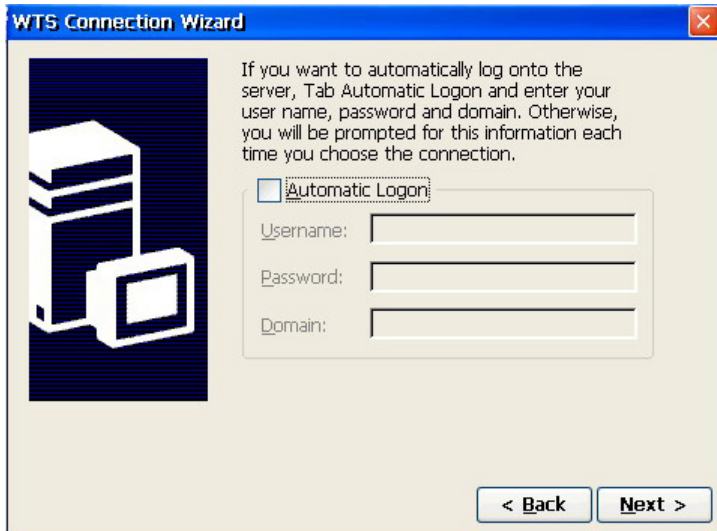

2. Microsoft Remote Desktop Clinet

1. Enter a name for the connection and host PC's name. The name you enter will be displayed in the list on the Terminal Connection Manager (or as a connection icon on the Desktop). You can enter an IP address or DNS name for host PC's name.
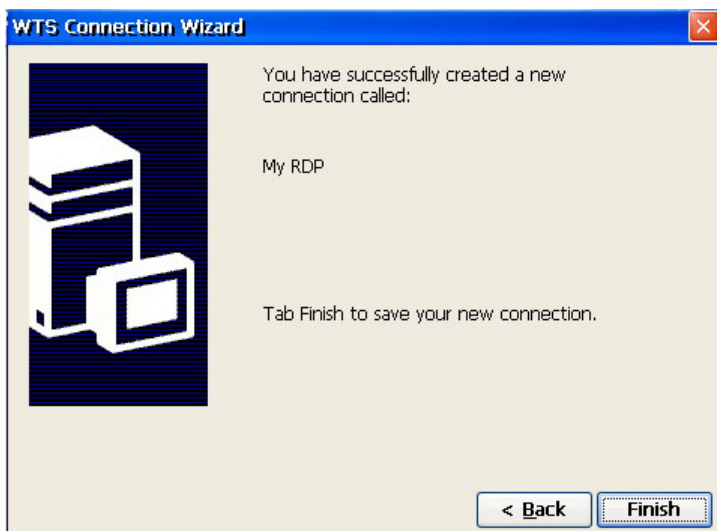Click Next to proceed to the next step.
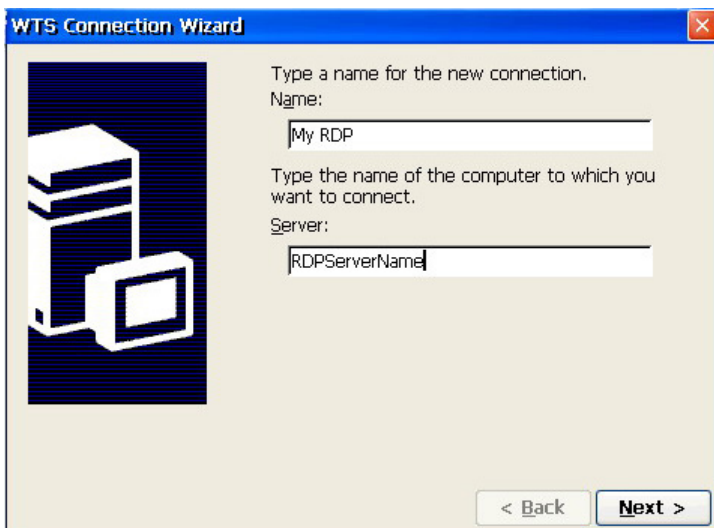
2. If you want to log on the host PC automatically when connected, check the 'Auto Login' check box and enter user name, password and domain.
   Click Next to proceed to the next step.

WTS Connection Wizard

If you want to automatically log onto the server, Tab Automatic Logon and enter your user name, password and domain. Otherwise, you will be prompted for this information each time you choose the connection.

☐ Automatic Logon

Username: [   ]

Password: [   ]

Domain: [   ]
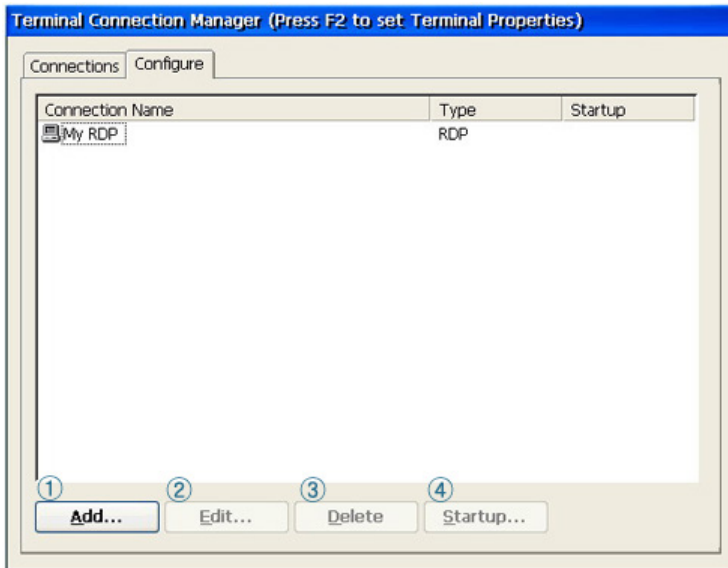
[< Back] [Next >]

3. When connected to the host PC, Window NT Desktop is displayed on the monitor, by default. If you want to start an application when connected, enter its path and file name.
   Click Next to proceed to the final step.

WTS Connection Wizard

On connection, the Windows NT desktop is displayed by default.
To start an application when you connect, select Application file name and type its name.

◉ Desktop
○ Application file name:
   [Desktop]

When you specify an application, you can also specify a working directory.
Working directory:
   [   ]

[< Back] [Next >]

4. Save the new connection and finish the WTS Connection Wizard.

WTS Connection Wizard

You have successfully created a new connection called:

My RDP

Tab Finish to save your new connection.
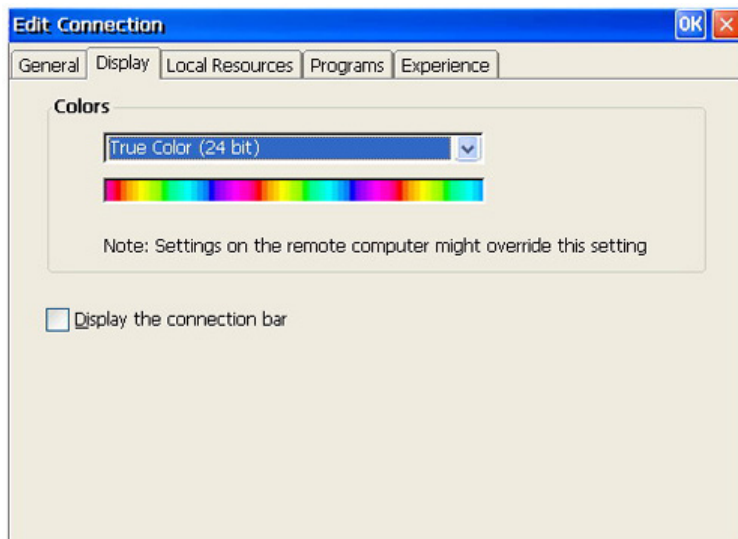
[< Back] [Finish]

5. If you want to change settings, select a new setting and click Edit.

- General : Displays information such as the connection name and the host PC name when auto login is selected.
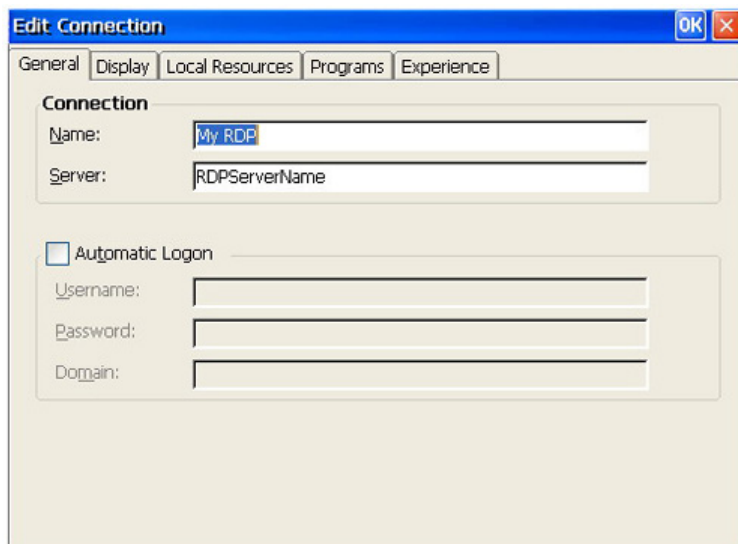

- Display : Configures the screen resolution. Make sure to set a value higher than the minimum value that the computer you want to connect to supports.

- Local Resources

Remote Computer Sound : You can configure the sound so that you can easily identity the connection state.

Local Device : Select one of the external devices which are being connected to the host PC computer you want to connect to.
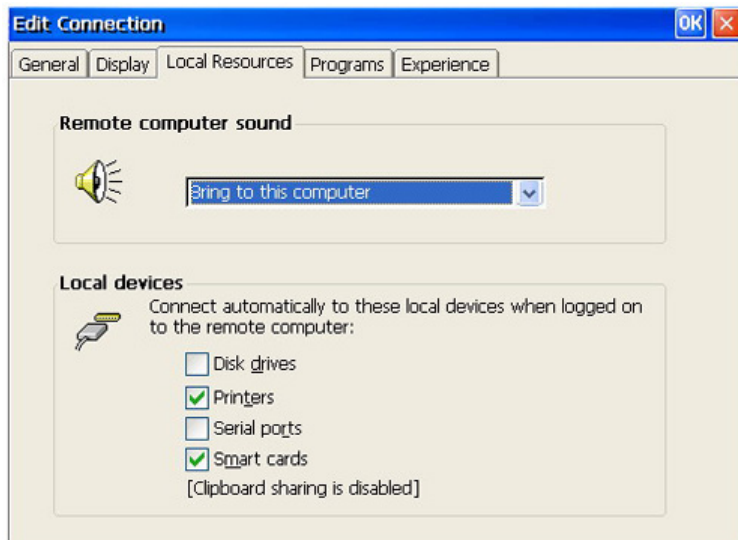
- Programs : Specify what is displayed on the first screen when connected. You can select the Desktop or an application program.
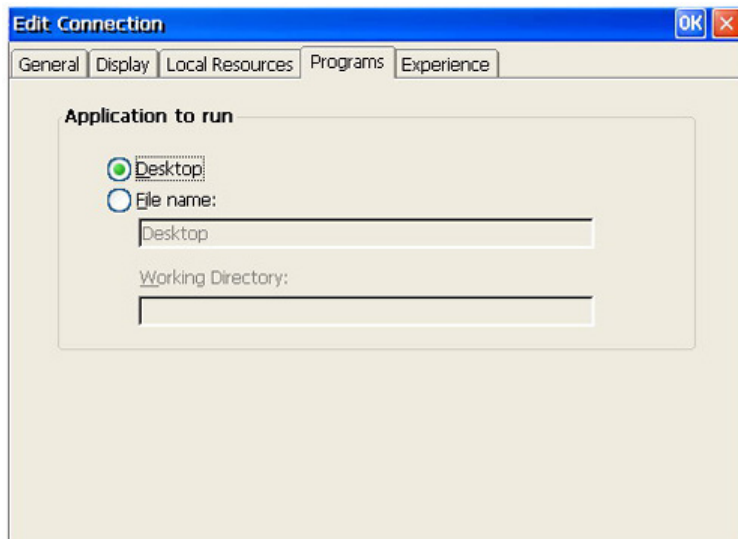

- Experience : You can configure the communications speed between your terminal and the host. You can also share a set of configurations for the host PC with other terminals. You can configure your terminal settings so that it tries to reconnect automatically whenever it is disconnected.
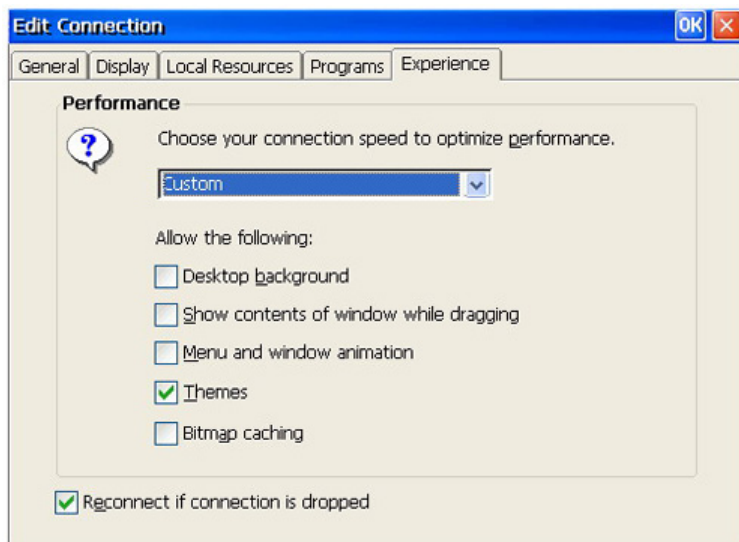
4) How to Configure Host PC

To connect to a host PC from a client monitor, you must first add a user as described below:

1. Add a user to the host PC. Right-click **My Computer** on the **Desktop** and select **Manage** from the displayed menu.
    The **Computer Management** window is displayed. Then select **Local Users and Groups > Users**.
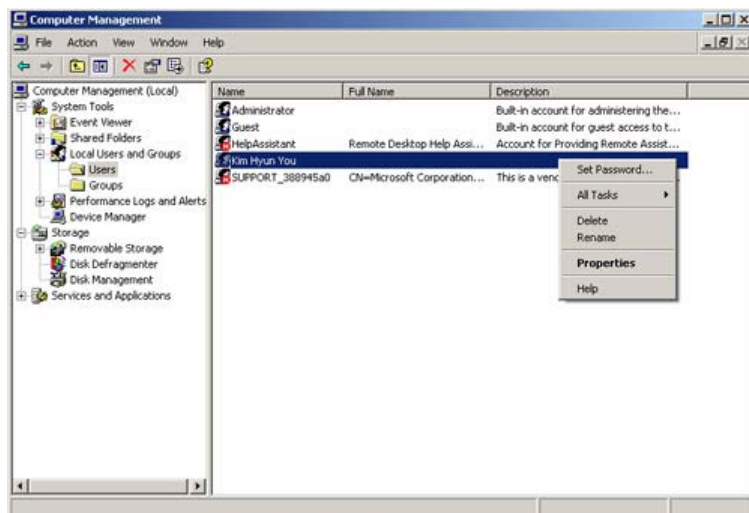

2. Right-click on the Users item and select New User from the displayed menu.
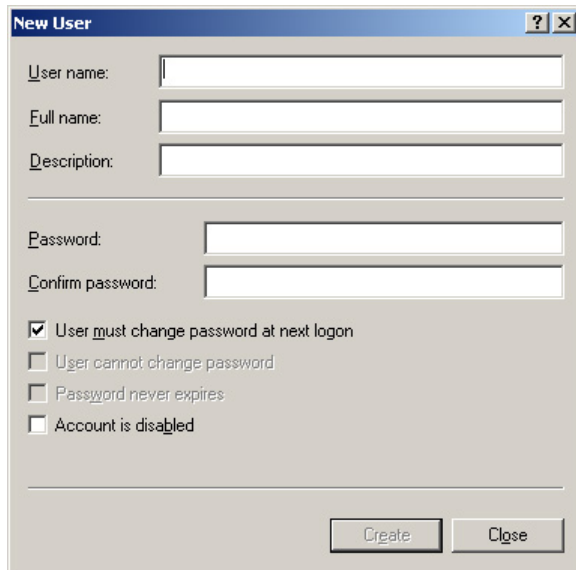
3. Right-click on the new user just created and select Properties from the displayed menu. Select the **Member** Of tab. If the User group entry exists in the list, remove it from the list. Note: A user account should belong to either the **Administrators** or **Remote Desktop Users** group so that it can logon to the host PC.
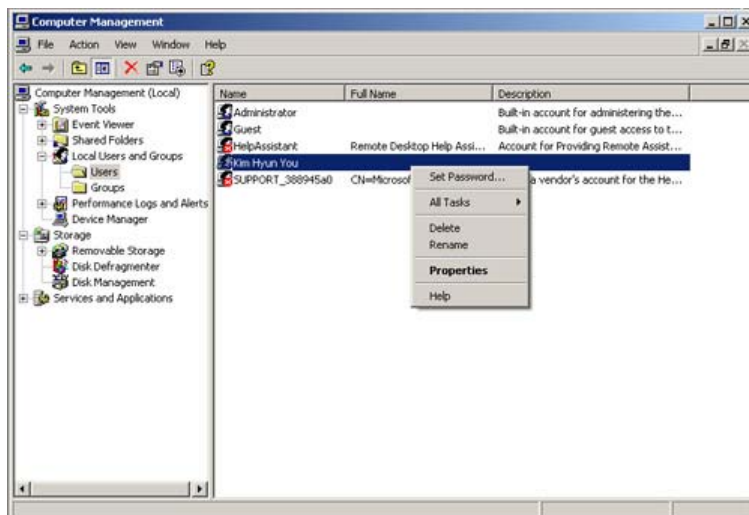

4. Click Add and then click Advanced on the bottom of the displayed window. The Select Group window is displayed.
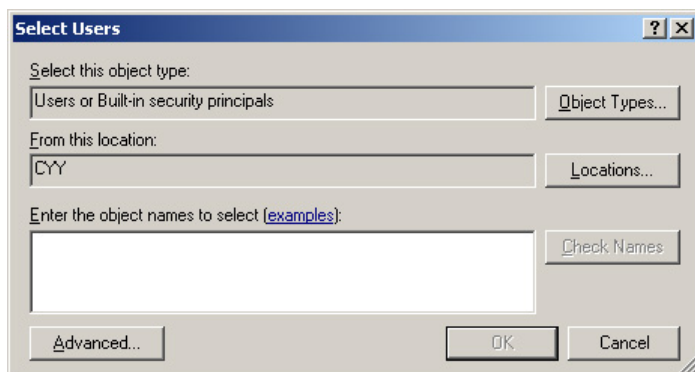
5. Click Find Now to display a list of groups that can be added.
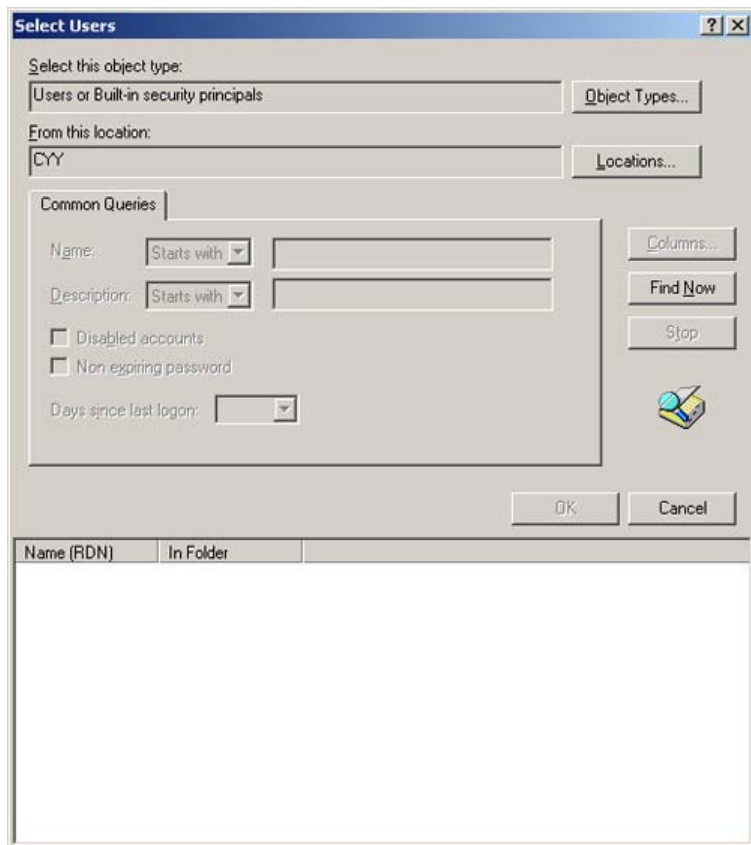
6. Select Administrators or Remote Desktop Users from the list of groups displayed.
   o Administrators: The members of this group have all access rights for the target computer and domain.
   o Remote Desktop Users: The members of this group have the right to logon to the target computer remotely.
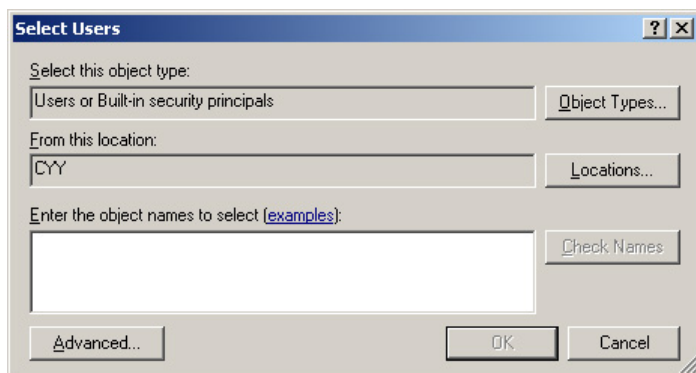
7. Click OK on all open windows to close them.

8. Now you can connect to a host PC from a client monitor and login to the host PC with the user ID you created.

5) Terminal Connection Manager

1. Connections Tab
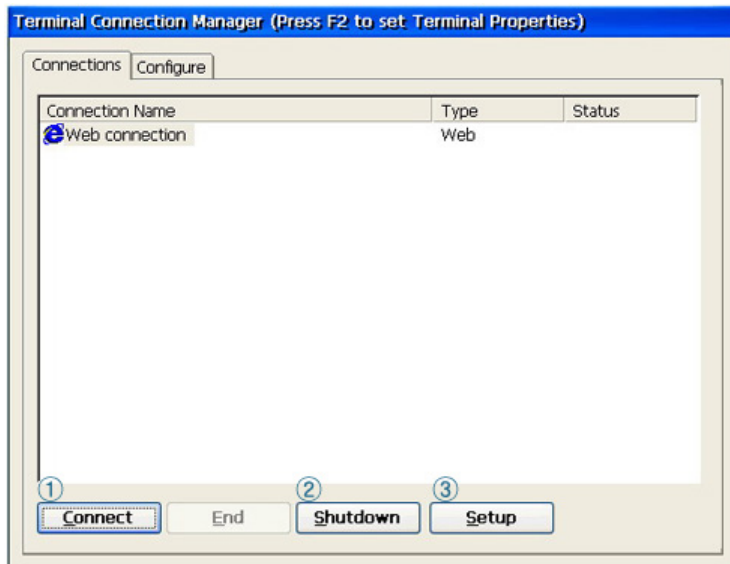
① Connect : Selects the host PC to connect to, or opens an Internet window.
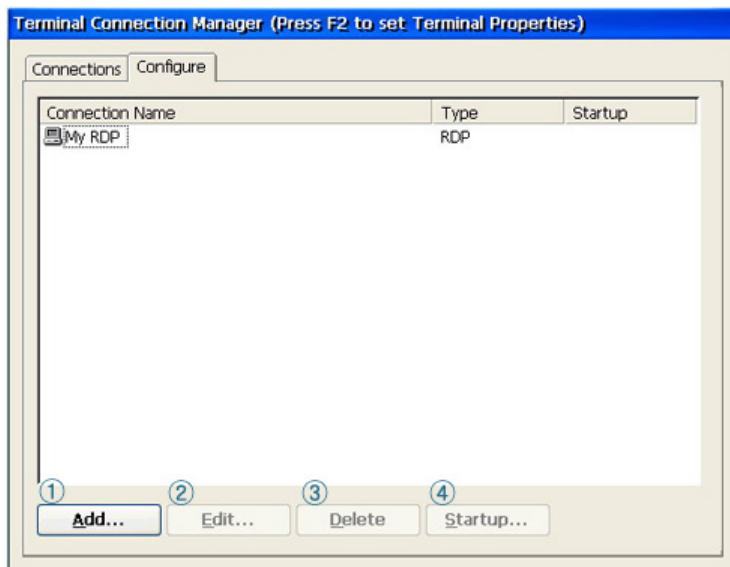② Shutdown : Icons/Menus on the Desktop (Desktop Shell) : Start > Shut down
You can shut down or restart the system.
③ Setup : Icons/Menus on the Desktop (Desktop Shell) : Start>Settings>Control
Panel
You can configure the settings for the computers contained in the product.
For more information, see Configuring the Client Monitor Environment.

2. Configure Tab

① Add : You can add a new host PC to your network.
For more information, see How to Connect a Host PC.
② Edit : You can change the settings for a host PC connection.
Fore more information, see Editing.
③ Delete : When clicking **Delete** in the Terminal Connection Manager window or clicking
Delete in the displayed menu when right-clicking a connection icon, a **Confirm
Connection Deletion** message box is displayed.
④ Startup : When clicking on **Startup Options** in the Terminal Connection Manager window,
the **Connection Startup Options** dialog is displayed. When selecting the '**Run the
selected connection automatically when started**' checkbox, the selected
connection is run automatically after finishing a login.

6) Opening/Closing a Connection

To open a connection, double-click a connection in the Configure tab of the Terminal Connection
Wizard or click the Connect button. Alternatively, you can double-click a connection icon, or you

can right-click it and select Open from the displayed menu. To close a connection, click the Close button in the Configure tab of the Terminal Connection Wizard or close the connection window. The Close button is only activated if the selected connection is being connected.

※ Using shortcut keys when multiple connections are running:
Ctrl + Alt + End: Displays either the **Terminal Connection Wizard**(for Thin Client Shell) or the **Desktop**(for Desktop Shell).
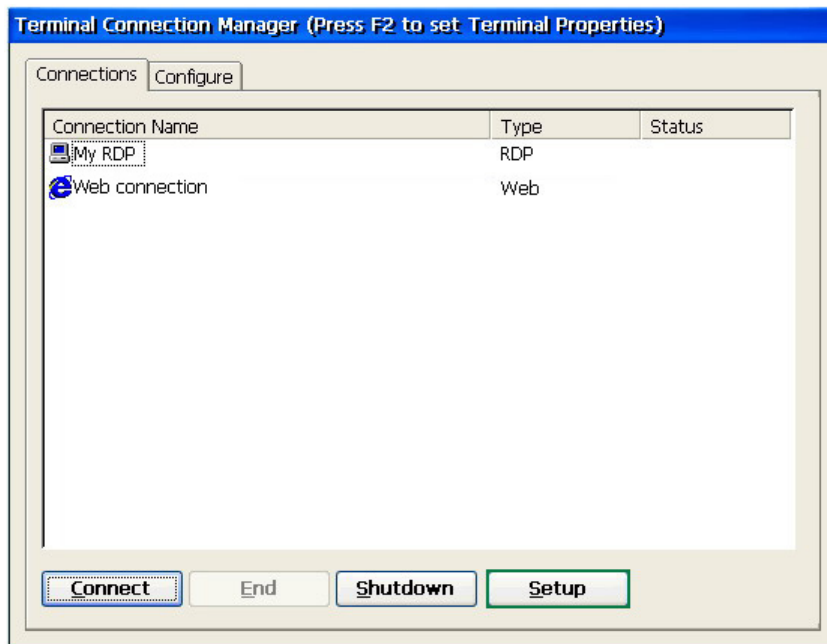Ctrl + Alt + ↑(or ↓): Allows you to switch to a different connection.

○**Configuring Client Monitor Environment**

The available items on Control Panel are different according to privileges of login account. When logged on with Administrator privileges, all items are displayed and available. If you logged on as a limited user, only the items that the administrator permitted are displayed. This can be configured with Control Panel > Security > Privileges.
If you click on an item on Control Panel, a brief description of the selected item is displayed on the bottom left of the window. To open a Control Panel item, double-click on it or press the Alt+O keys after selecting it.

* Accessing Control Panel with the Terminal Connection Manager

1. Press the [⊡/SOURCE] button on the bottom of the front of the monitor to switch to Client mode.
2. To open Control Panel, click Configure or press [F2] key on the Terminal Connection Manager.
3. Continue to configure settings when the dialog below is displayed.

Terminal Connection Manager (Press F2 to set Terminal Properties)

Connections	Configure

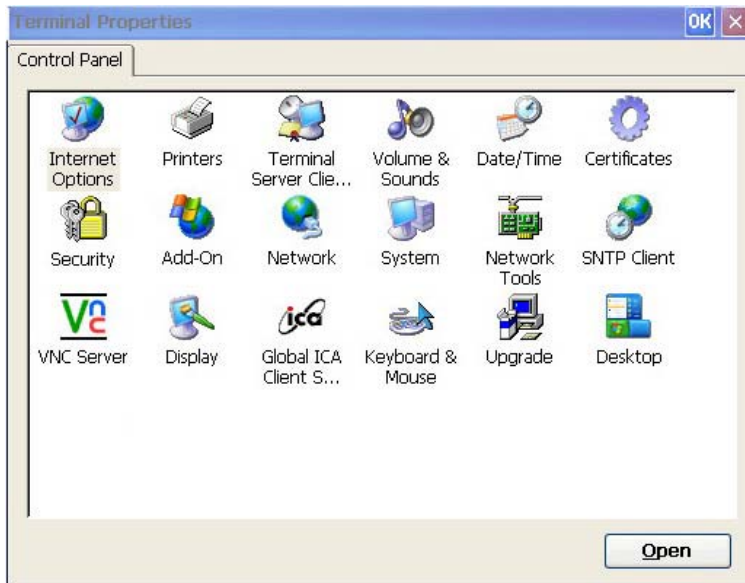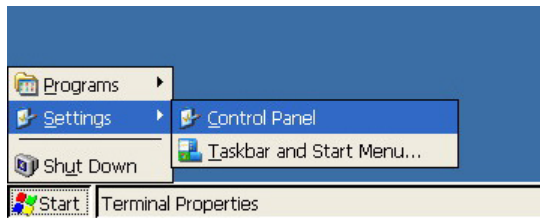| Connection Name	Type	Status
⬜My RDP	RDP	
⬛Web connection	Web	

[Connect]   [End]   [Shutdown]   [Setup]

* Accessing Control Panel with the Start menu

1. Press the [⊡/SOURCE] button on the bottom of the front of the monitor to switch to Client mode.
2. Click Start -> Settings -> Control Panel.
3. Continue to configure settings when the dialog below is displayed.

Internet Options

With Internet Options in Control Panel, you can change the settings for Internet Explorer using the Internet Options applet on Control Panel. You can specify the home page which is displayed when the browser starts and a web page for searching which is displayed when the Search button is pressed. You can also security level and whether to block popup windows or not. You can access this applet by clicking Tool menu -> Internet Options on Internet Explorer.

Printer

A thin client performs printing works of a RDP/ICA host PC at a local printer. You can configure and modify local printers using the Printer applet.
The Printer window shows the Add Printer icon and the icons of the printers configured previously. (If there is no printer configured, only the Add Printer icon is displayed.)
If you double-click the Add Printer icon or click the Open button, the Printer Wizard is displayed. Select a port to use with printer, a printer manufacturer, and printer. If you set the added printer as the default printer, printing is performed with this printer unless you specify a different printer. If you double-click an existing printer icon or click the Open button, the Printer Properties window is displayed, which allows you to change the properties for the printer.

Terminal Host PC Client License

If you select an item in the list of saved licenses, its content is displayed on the window below. Click Delete]to delete the selected license. Click Save to save the selected license.

Volume and Sound

With Volume and Sound in Control Panel, you can open the Volume and Sound Properties window. You can select volume level and configure activation and deactivation of sound according to various events through the check boxes provided.

Date/Time

With Date/Time in Control Panel, you can configure date and time of the terminal using the Date/Time Properties window. Select a month using the arrow buttons and click a date. To change the AM/PM, hour, minutes, and seconds of the current time, click in each item and then enter a value directly or click the arrows buttons. In addition, if you want your terminal's clock to be adjusted automatically when daylight saving time changes, check the Automatically adjust clock for daylight saving changes check box.

Certificates

With Certificates in Control Panel, you can import, view or remove a certificate. A certificate can be imported from a file or smart card. If your terminal does not provides a smart card reader, the smart card item is displayed deactivated when you click Import. If you click Remove with a certificate selected, it will be deleted immediately without displaying any confirmation message. If you want to save a deleted certificate again, click Control Panel -> System and check the Reset the terminal to factory default settings checkbox.

Software Setup

With Software Setup in Control Panel, you can update modules. Click Add and enter the IP address of the host PC that contains update files. Your monitor will connect to the host PC, download update files and update modules. Update progressions are displayed on message boxes or on the status bar. When the updates finishes, click Close and restart your terminal. When restarted, open the Software Setup window and you can identify the name, version, and size of installed programs.
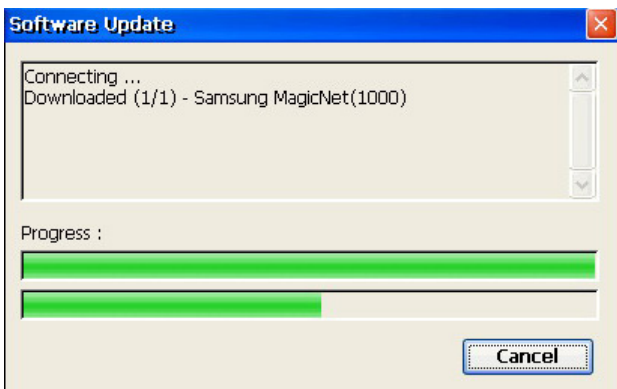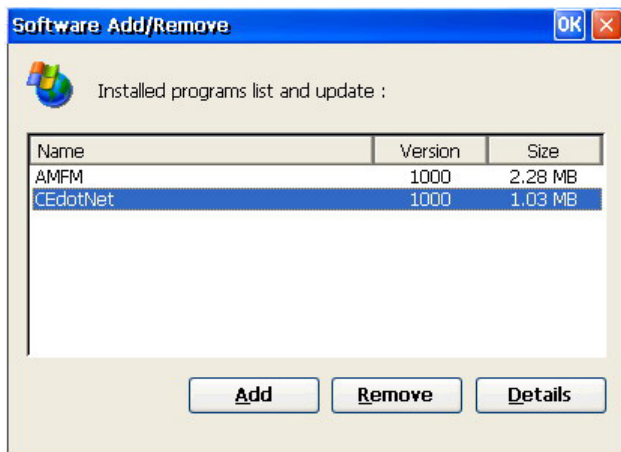
Network

With Network in Control Panel, you can view the list of adapters installed in the terminal. To change the properties of an adapter, click Properties after selecting it. You can change IP address and host PC's name.

System

The Terminal Information tab shows manufacturer, product information, OS version, and memory information, etc. You can also reset the terminal to factory defaults.

Networking Tools

With Networking Tools in Control Panel, you can view IP properties and check your network's state using Ping and Trace Route. The IP Properties tab shows the IP address, subnet mask, gateway, DNS host PC, and WINS host PC for the selected adapter. If your terminal gets its IP address from DHCP server, the Refresh and Release buttons are activated. Click Release to release the currently allocated IP address and click Refresh to update IP address.

With the [Ping] tab, you can enter an host address (IP address or DNS name) and click Ping to execute the ping command. Ping command ping sends ICMP echo request to the host and wait response. If the host is working, it sends a response. In addition, ping measures and shows the time required from going to the host to returning to the client. Ping is used as a tool to detect whether the network has a problem or not.

With the Trace Route tab, you can execute tracert command by entering a host address (IP address or DNS name) and clicking Trace. tracert traces the path that a packet travels from the thin client to the host and shows the information on each router a packet passes. In addition, it also lets you know the time required from going to each router to returning to the client using ICMP echo request/reply. By analyzing this information, you can find a network that has a problem on the Internet path.

SNTP Client

With SNTP (Simple Network Time Protocol) in Control Panel, you can get a standard time from an SNTP host PC and synchronize your terminal's time with it. Your terminal provides a list of several SNTP PCs by default. You can also add/remove a host from the SNTP host list. To synchronize time, select an SNTP host PC and click Synchronize. Then, the terminal will connect to the specified host PC, get standard time and change your terminal's system time with it. You can identify progressions on the message windows displayed. If you want to synchronize your terminal's time to standard time whenever it boots up, check the Synchronize at boot-up check box.

VNC Host PC

With VNC Host PC in Control Panel, you can allow your thin client to be controlled remotely from a host that has a VNC client. Open the VNC Host PC applet, and determine whether to ask the password whenever a VNC client connects to your terminal. If you check the 'No authentication used' check box, all hosts that have a VNC client program can connect to your terminal. If you check the VNC password authentication check box and set a password, only the host that provides the correct password can access to your terminal. If you want an VNC host PC to executed at every boot-up, check the Start at boot-up check box.

Display

With Display in Control Panel, you can specify color settings, screen resolution, and screensaver option. For screen resolution and color settings, only the values applicable to your terminal are displayed. For screensaver option, you can select one of three options, (None), Floating image, Turn off monitor. If you select (None), no screensaver operates. If you select either Floating image or Turn off monitor, a screensaver starts automatically if there is no user input for the specified waiting time. You need to restart your terminal to apply Display setting changes.

ICA Client Setup

If you double-click ICA Client Setup, the Global ICA Client Settings window is displayed.

With the Keyboard Shortcuts tab, you can configure shortcut keys. Some shortcut keys are used to control operations of the ICA Connection window, and the remaining are normal Windows shortcuts. If you want to change the default key assignments, select a key from

the combo box.

With the Preferences tab, you can configure update functionality settings. These settings are used when you update your terminal modules manually using a Terminal Manger program instead using Auto Update.

With the Server Location tab, you can view a list of IPC host PCs that exists on your network.

The Firewall Settings tab is used to configure a SOCKS (Socket Secure) firewall. SOCKS is a protocol that configures the proxy host PC which exists between thin client and host PC. The proxy host PC is used as a channel that mediates communication between thin client and host PC.

Keyboard & Mouse

With Keyboard & Mouse in Control Panel, you can configure your terminal's keyboard and mouse properties.

With the Keyboard tab, you can configure how much time elapses before characters repeat and how quickly characters repeat when you hold down a key. You can also specify whether to activate Num Lock, Caps Lock, and Scroll Lock keys at boot-up.

With the Mouse tab, you can change mouse button configuration to either Right-handed or Left-handed configuration, and adjust the speed of your mouse pointer that the pointer responds to the movements of the mouse itself.

Upgrade

Using the Upgrade item in the Control Panel, you can upgrade your terminal's firmware. By entering the URL of a host PC that provides the upgrade files and clicking on Update Now, your terminal tries to connect to the host PC. If the connection is successful, it downloads and installs the relevant files. You can cancel the upgrade while downloading files, but you cannot cancel while the installation is in progress. Forcefully shutting down the terminal during the installation can cause a serious problem.
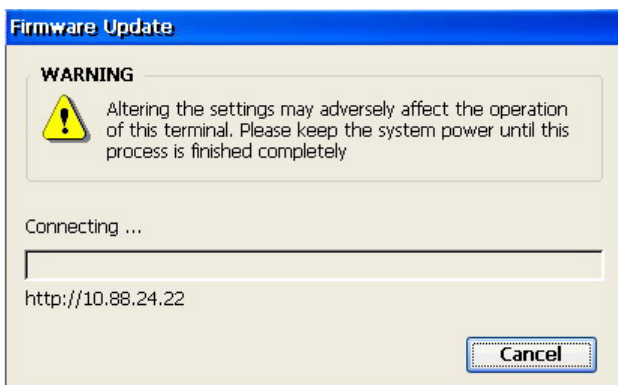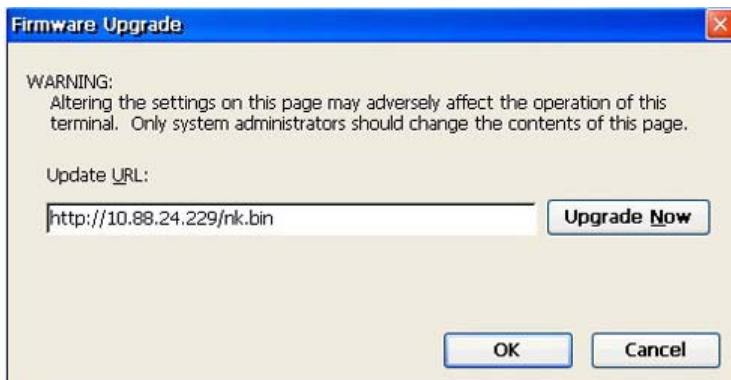
When the firmware update finishes, your terminal restarts and the Setup Wizard is displayed. When selecting the 'Reset the system using the saved configuration file' option and clicking Next, all system settings are saved with the existing values and your terminal is

restarted. If you want to configure your terminal with fresh new settings, unselect the 'Reset the system using the save configuration file' option and click on Next. The next steps are the same as the steps when setting up your terminal for the first time.
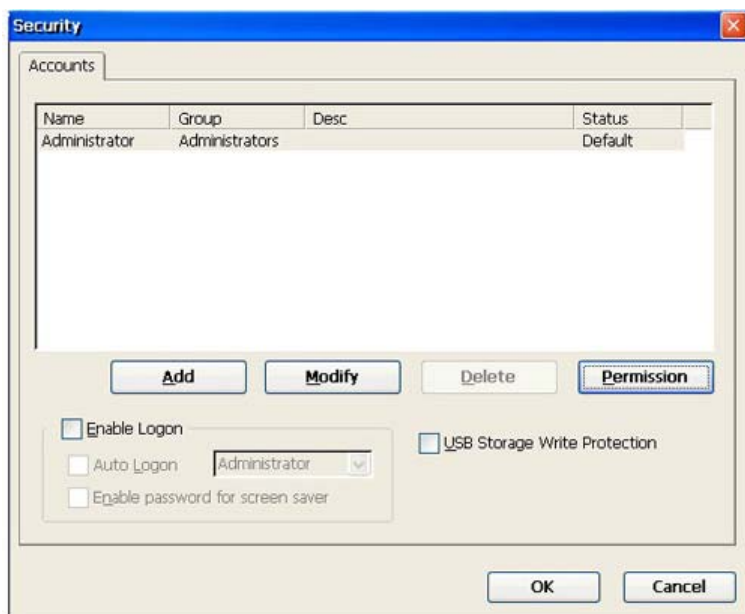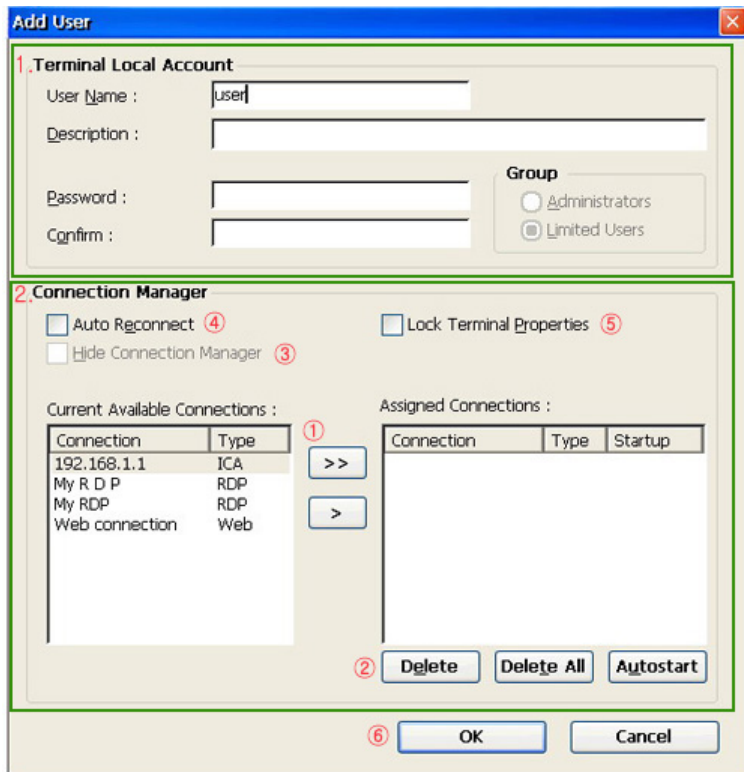

Desktop

The thin client provides a Desktop Shell and a Thin Client Shell.
When selecting a shell and restarting your terminal, it boots up into the selected shell.

Security

The Security applet provides various security-related functionalities. The window as shown below is open when you double-click the Security icon.
All user accounts are listed with sorted.

- Each item contains name, group, description, and status info (Default, Auto Start).
  If you click Add or Modify, the window as shown below is displayed.

Add User

1. **Terminal Local Account**

User Name : user
Description :

Password :
Confirm :

Group
○ Administrators
◉ Limited Users

2. **Connection Manager**

☐ Auto Reconnect ④   ☐ Lock Terminal Properties ⑤
☐ Hide Connection Manager ③

Current Available Connections :   Assigned Connections :

Connection	Type
192.168.1.1	ICA
My R D P	RDP
My RDP	RDP
Web connection	Web

① [>>]   [>]

Connection	Type	Startup

② [Delete] [Delete All] [Autostart]

⑥ [OK]   [Cancel]

1. You can enter basic information using the Terminal Local Account group. The user name is the required item to create a new account.
(You cannot use symbolic characters and you can use up to 20 characters. If you want to set a password for an account, set a password within 20 characters long and make sure to confirm your password.)
2. You can allocate connections and configure options using the Connection Manager group.
   ① To allocate a connection to your terminal, select the connection you want to use from the available connections list and click the [>] button or double-click the connection. Use the [>>] button to allocate all available connections to your terminal.
   ② Use the Remove and Remove All buttons to cancel an allocation. The Auto Start button changes the state of the selected allocated connection to 'Auto Start' or 'Default' (toggling).
   ③ If you set an allocated connection to Auto Start, the Hide Connection Manager check box is activated. If you check this check box, when the Thin Client Shell logs on to the server with the specified account, the connection whose state you set to Auto Start is executed instead the Connection Manager being displayed.
   ④ If you want to reconnect automatically when a connection fails or finishes, check the Auto Restart check box. However, this check box cannot be checked with the Hide Connection Manager check box at the same time.
   ⑤ Check the Lock terminal properties check box if you want to open terminal properties only if password authentication is passed successfully,
   ⑥ Click OK to add or modify the account. If you want to delete an account, use the Remove button on the Security dialog.

- If you click Privileges on the Security dialog, the window as shown below is displayed. You can specify Control Panel items a limited user account can use. When logged in as a limited user account, only the specified items are displayed in Control Panel.
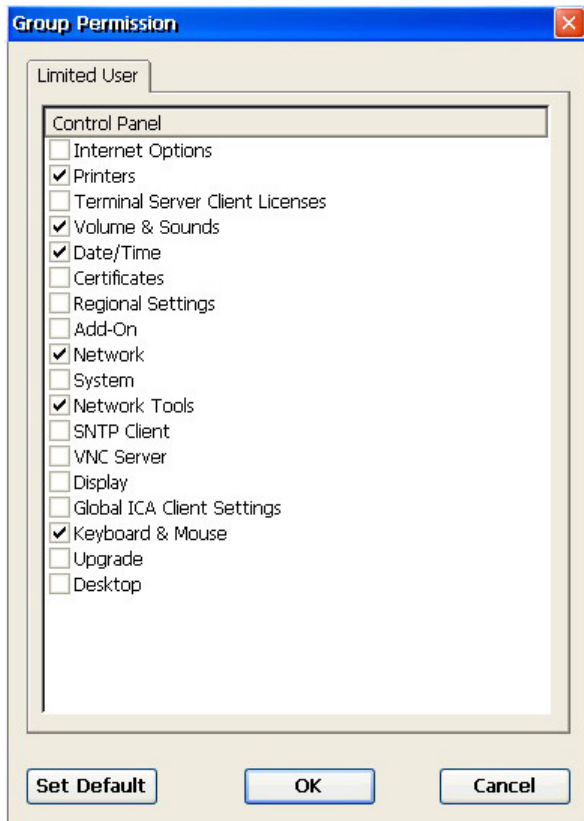
If you want to apply the login functionality in order to allow access for allowed users only, check the Use login function check box. If you do not check this check box, the selected account is the same with the administrator account. If you check the Use login function check box, the Auto Login and the Set screensaver password check boxes are activated. If you check the Auto Login check box and select an account, you are logged in automatically with the specified account unless you click Cancel and login to the server with a different account at a login time. If the Set screensaver password is checked, a window to enter the password is prompted to authenticate the user when the screensaver finishes.

① The Logon window is displayed when a user turns on or restarts a client terminal, or another user is logged out.
② If the **Auto Login** option is selected, the Auto Login window is displayed. Unless you click **Cancel** within five (5) seconds and login to the host PC with a different account, you will be logged on to the host PC automatically with the specified account.
③ With the **Shut down** button, you can shut down or restart your terminal, or log out from the host PC you are logged on to. The Log Out item is only displayed if 'the **User login function** option is selected.

- If you don't want the user to write on USB memory when connected to RDP or ICA, check the Write-protect on USB memory check box.

 However, for Windows 2000 Server OS, only low color (256 colors) is supported.

When used as a Client monitor				
	What is Client Monitor?	Connecting a Client Monitor	Configuring Client Monitor Environment	Notice to Users

When used as a normal monitor				
	Connecting the Monitor	Using the Stand	Installing the Monitor Driver (Automatic)	Installing the Monitor Driver (Manual)	Natural Color

⬤ Notice to Users

1) Use a PC with Windows 2000 Server/ 2003 Server OS as a host PC.

- Two users cannot connect to Windows XP Home/Professional PC at the same time.

2) When a USB mouse is not recognized, separate and reconnect the USB mouse. The mouse will be recognized.

3) Separating peripheral devices while booting up the Client may cause an error. Before separating peripheral devices, make sure the power is off.

4) The automatic rotation function is only available when the monitor is directly connected to a PC.
   Client monitor does not support the automatic rotation function.

5) Restrictions of the Windows 2000 Server Operating System

- Only Low Color (256 colors) screen quality is supported.
- You cannot find the USB device connected to the monitor from the host PC.

⬤ Connecting the Monitor
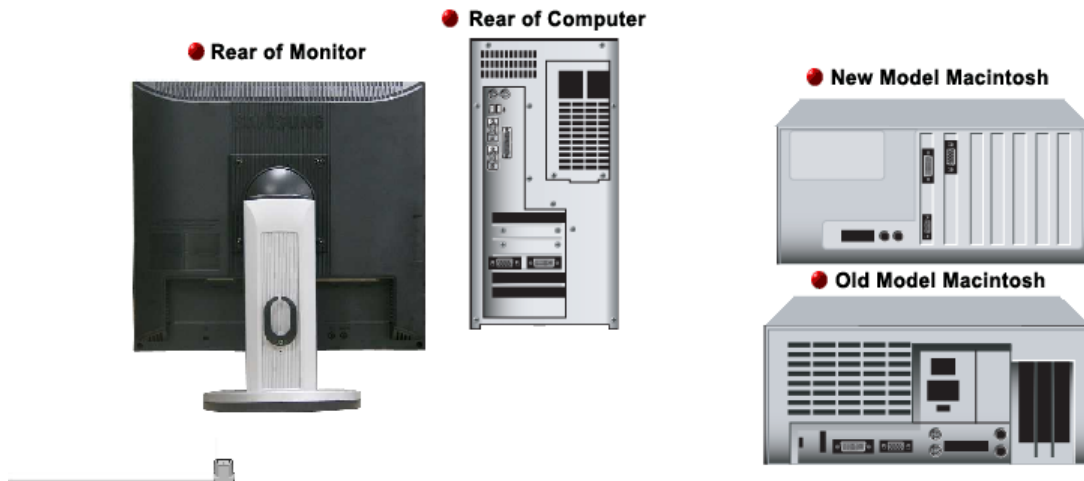
1.   Connect the power cord for your monitor to the power port on the back of the monitor.
       Plug the power cord for the monitor into a nearby outlet.

2-1. Using the D-sub (Analog) connector on the video card. Connect the D-sub Cable to the VGA IN port on the back of your monitor.

       [VGA IN]

2-2. Connected to a Macintosh.

Connect the monitor to the Macintosh computer using the D-Sub connection cable.

2-3. In the case of an old model Macintosh, you need to connect the monitor using a special Mac adapter.

3. Turn on your computer and monitor. If your monitor displays an image, installation is complete.

⦿ **Network Connection**

① Host PC ② Hub ③ LAN Cable ④ Client Monitor
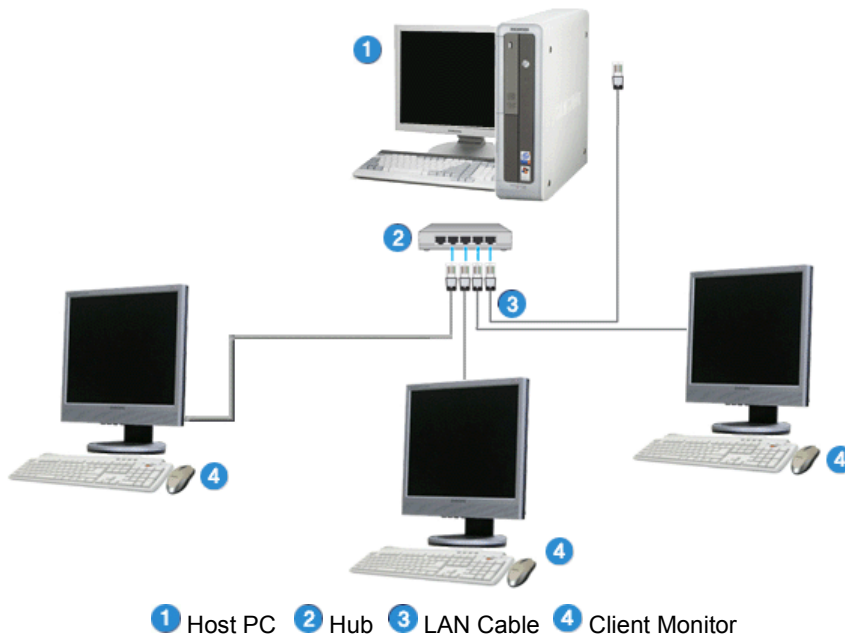
Connect the Client Monitor and the LAN port of the host PC using a LAN cable.

For more detailed information, refer to the Client Monitor User Manual.

⦿ **External Device Connection**

A	🔌 **USB** **(Down-Stream 2, 2port)**	Connect USB devices such as a mouse, keyboard and external storage devices (e.g. DSC, MP3, external storage, etc.). (You cannot use these devices without connecting to the host PC or switching to the Client Office.)
B	**LAN (LAN Connection Terminal)**	Connect the LAN cable.
C	**D-sub 15-pin port [VGA OUT]**	Use it by connecting it to another monitor. (The picture of the main monitor is displayed on the connected monitor.)

For more detailed information, refer to the Client Monitor User Manual.

Cable Fix Ring

When connecting the cable is finished, fix the cables to the Cable Fix Ring.

When used as a Client monitor	What is Client Monitor?	Connecting a Client Monitor	Configuring Client Monitor Environment	Notice to Users

When used as a normal monitor	Connecting the Monitor	Using the Stand	Installing the Monitor Driver (Automatic)	Installing the Monitor Driver (Manual)	Natural Color

Using the Stand

● **Pivot Stand**

A.Stand Stopper

You can only rotate the screen when the screen is lifted to its maximum height. Do not rotate the screen by force, as this might damage the stand.

● **Tilt angle**

⦿ Attaching a Base

This monitor accepts a 100 mm x 100 mm VESA-compliant mounting interface pad.

A. Monitor

B. Mounting interface pad (Sold separately)

1. Turn off your monitor and unplug its power cord.
2. Lay the LCD monitor face-down on a flat surface with a cushion beneath it to protect the screen.
3. Remove four screws and then remove the stand from the LCD monitor.
4. Align the mounting interface pad with the holes in the rear cover mounting Pad and secure it with four screws that came with the arm-type base, wall mount hanger or other base.

When used as a Client monitor	What is Client Monitor?	Connecting a Client Monitor	Configuring Client Monitor Environment	Notice to Users

When used as a normal monitor	Connecting the Monitor	Using the Stand	Installing the Monitor Driver (Automatic)	Installing the Monitor Driver (Manual)	Natural Color

## ⦿ Installing the Monitor Driver (Automatic)

When prompted by the operating system for the monitor driver, insert the CD-ROM included with this monitor. Driver installation is slightly different from one operating system to another. Follow the directions appropriate for the operating system you have.

Prepare a blank disk and download the driver program file at the Internet web site shown here.
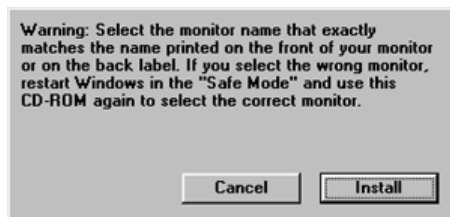
- Internet web site :   http://www.samsung.com/ (Worldwide)
                               http://www.samsung.com/monitor (U.S.A)
                               http://www.sec.co.kr/monitor (Korea)
                               http://www.samsungmonitor.com.cn/ (China)

Windows ME

1. Insert CD into the CD-ROM drive.
2. Click **"Windows ME Driver"**.
3. Choose your monitor model in the model list, then click the **"OK"** button.
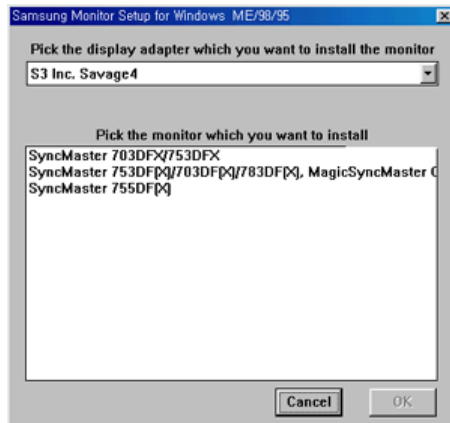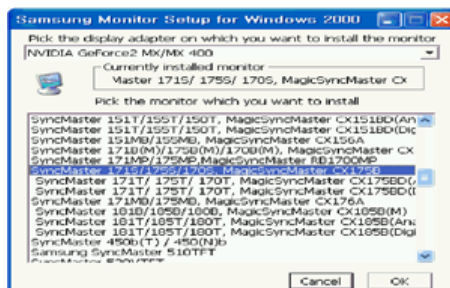

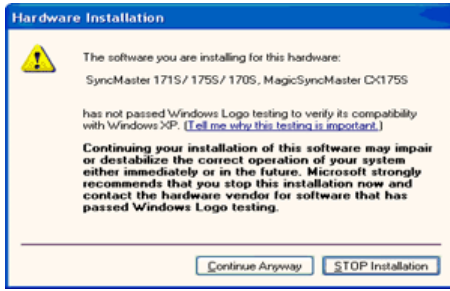4. Click the **"Install"** button in the **"Warning"** window.

5. Monitor driver installation is completed.

Windows XP/2000

1. Insert CD into the CD-ROM drive.
2. Click **"Windows XP/2000 Driver"**
3. Choose your monitor model in the model list, then click the **"OK"** button.

4. If you can see following message window, then click the **"Continue Anyway"** button. Then click **"OK"** button.

This monitor driver is under certifying MS logo,and this installation don't damage your system.The certified driver will be posted on Samsung Monitor momepage
http://www.samsung.com/.

5. Monitor driver installation is completed.

| When used as a Client monitor | | What is Client Monitor? | Connecting a Client Monitor | Configuring Client Monitor Environment | Notice to Users |

| When used as a normal monitor | |

| Connecting the Monitor | Using the Stand | Installing the Monitor Driver (Automatic) | Installing the Monitor Driver (Manual) | Natural Color |

Installing the Monitor Driver (Manual)

Windows XP | Windows 2000 |Windows Me |Windows NT | Linux

When prompted by the operating system for the monitor driver, insert the CD-ROM included with this monitor. Driver installation is slightly different from one operating system to another. Follow the directions appropriate for the operating system you have.

Prepare a blank disk and download the driver program file at the Internet web site shown here.
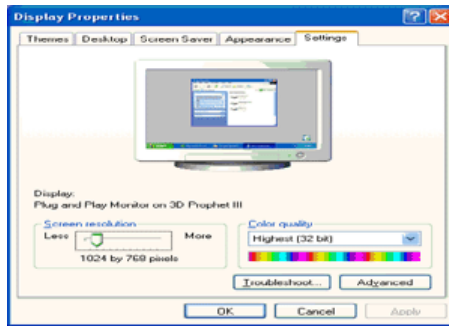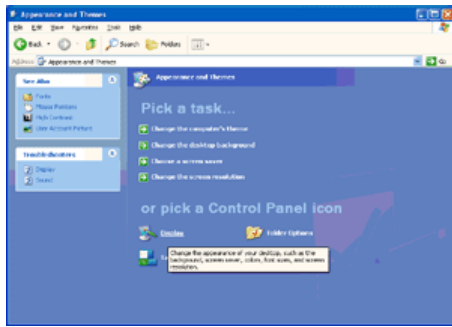
- Internet web site :   http://www.samsung.com/ (Worldwide)
                         http://www.samsung.com/monitor (U.S.A)
                         http://www.sec.co.kr/monitor (Korea)
                         http://www.samsungmonitor.com.cn/ (China)
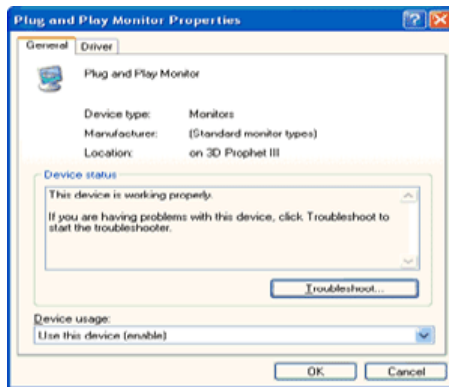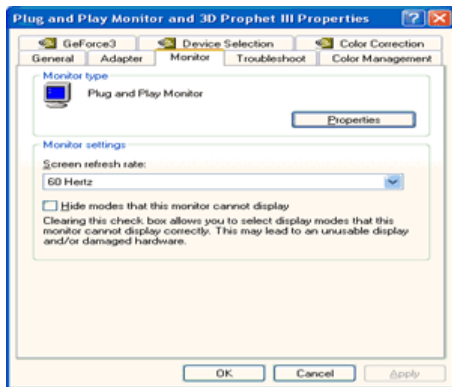
Microsoft® Windows® XP Operating System

1. Insert CD into the CD-ROM driver.
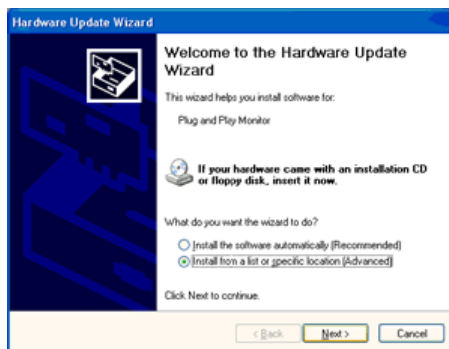2. Click "**Start**" —> "**Control Panel**" then click the "**Appearance and Themes**" Icon.
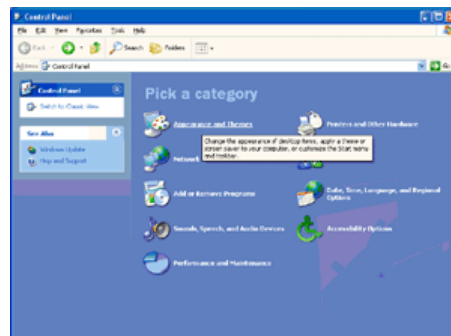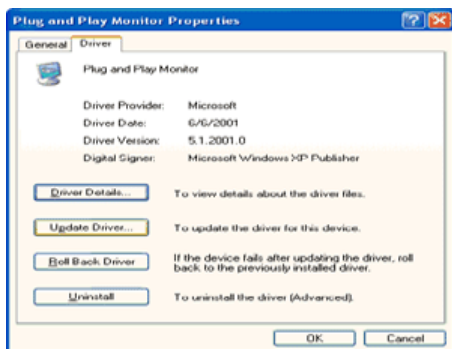

3. Click "**Display**" icon and choose the "**Settings**" tab then click "**Advanced..**".

4. Click the "**Properties**" button on the "**Monitor**" tab and select "**Driver**" tab.

5. Click "**Update Driver..**" and select "**Install from a list or..**" then click "**Next**" button.

6. Select "**Don't search ,I will..**" then click "**Next**" and then click "**Have disk**".
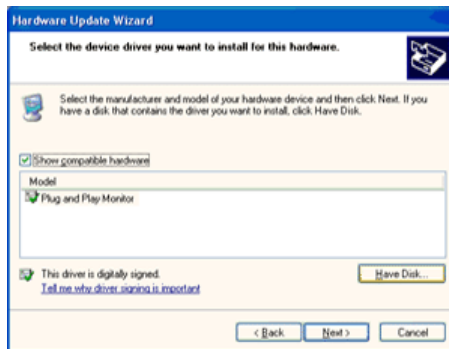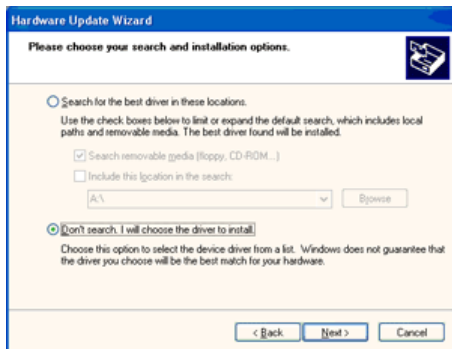
7. Click the "**Browse**" button then choose A:(D:\Driver) and choose your monitor model in the model list and click the "**Next**" button.
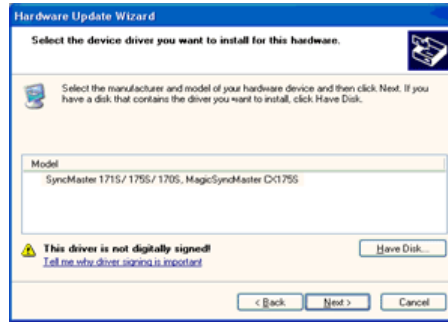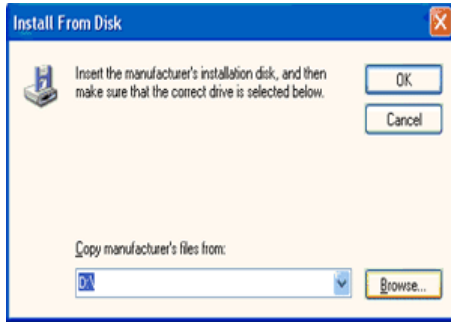
8. If you can see following message window, then click the "**Continue Anyway**" button. Then click "**OK**" button.
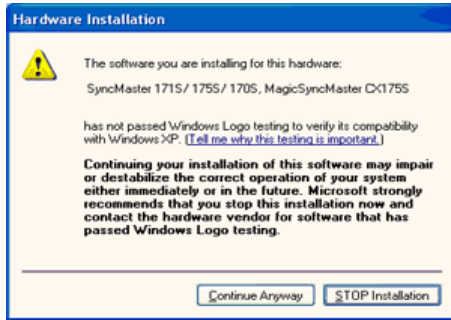
This monitor driver is under certified MS logo,and this installation doesn't damage your system.The certified driver will be posted on Samsung Monitor homepage.
http://www.samsung.com/

9. Click the "**Close**" button then click "**OK**" button continually.
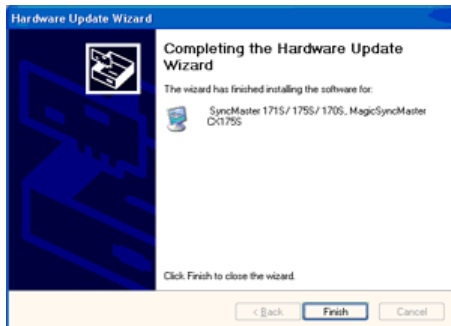
10. Monitor driver installation is completed.

○ **Microsoft® Windows® 2000 Operating System**

When you can see "Digital Signature Not Found" on your monitor, follow these steps.

1. Choose "**OK**" button on the "**Insert disk**" window.
2. Click the "**Browse**" button on the "**File Needed**" window.
3. Choose A:(D:\Driver) then click the "Open" button and then click "**OK**" button.

How to install

1. Click "**Start**" , "**Setting**" , "**Control Panel**".
2. Double click the "**Display**" Icon.
3. Choose the "**Settings**" tab and then click "**Advanced..**".
4. Choose "**Monitor**".
   Case1: If the "Properties" button is inactive, it means your monitor is properly configured.
          Please stop installation
   Case2: If the "Properties" button is active, click the "Properties" button then follow next steps
          continually.
5. Click "**Driver**" and then click on "**Update Driver..**" then click on the "Next" button.
6. Choose "**Display a list of the known drivers for this device so that I can choose a
   specific driver**" then click "**Next**" and then click "**Have disk**".
7. Click the "**Browse**" button then choose A:(D:\Driver).
8. Click the "**Open**" button, then click "**OK**" button.
9. Choose your monitor model and click the "**Next**" button then click "**Next**" button.
10. Click the "**Finish**" button then the "**Close**" button.

   If you can see the "**Digital Signature Not Found**" window then click the "**Yes**"button.
   And click the "**Finish**" button then the "**Close**" button.

- ● **Microsoft® Windows® Millennium Operating System**

  1. Click "**Start**" , "**Setting**" , "**Control Panel**".
  2. Double click "**Display**" icon.
  3. Select the "**Settings**" tab and click "**Advanced Properties**" button.
  4. Select the "**Monitor**" tab.
  5. Click the "**Change**" button in the "**Monitor Type**" area.
  6. Choose "**Specify the location of the driver**".
  7. Choose "**Display a list of all the driver in a specific location..**" then click "**Next**" button.
  8. Click the "**Have Disk**" button
  9. Specify A:\(D:\driver) then click "**OK**" button.
  10. Select "**Show all devices**" and choose the monitor that corresponds to the one you
      connected to your computer and click "**OK**".
  11. Continue choosing "**Close**" button and "**OK**" button until you close the Display Properties
      dialogue box.

- ● **Microsoft® Windows® NT Operating System**

  1. Click **Start**, **Settings**, **Control Panel**, and then double-click **Display** icon.
  2. In Display Registration Information window, click Settings Tab and then click **All Display
     Modes**.
  3. Select a mode that you wish to use (Resolution, Number of colors and Vertical frequency)
     and then click **OK**.
  4. Click **Apply** button if you see the screen working normally after clicking **Test**. If the screen is
     not normal, change to a different mode (lower mode of resolution, colors or frequency).

     If there is no Mode at **All Display Modes**, select the level of resolution and vertical
     frequency by referring to the Preset Timing Modes in the user guide.

- ● **Linux Operating System**

  To execute X-Window, you need to make the X86Config file, which is a type of system setting file.

  1. Press Enter at the first and the second screen after executing the X86Config file.
  2. The third screen is for **setting your mouse**.
  3. Set a mouse for your computer.
  4. The next screen is for **selecting a keyboard**.
  5. Set a Keyboard for your computer.
  6. The next screen is for **setting your monitor**.
  7. First of all, set a **horizontal frequency** for your monitor. (You can enter the frequency
     directly.)
  8. Set a **vertical frequency** for your monitor. (You can enter the frequency directly.)
  9. Enter the **model name of your monitor**. This information will not affect the actual execution
     of X-Window.
  10. You have **finished** setting up your monitor.
      Execute X-Window after setting other requested hardware.

When used as a Client monitor	What is Client Monitor?	Connecting a Client Monitor	Configuring Client Monitor Environment	Notice to Users

Connecting the Monitor | Using the Stand | Installing the Monitor Driver (Automatic) | Installing the Monitor Driver (Manual) | Natural Color

- **Natural Color**

  - **Natural Color**

One of the recent problems in using a computer is that the color of the images printed out by a printer or other images scanned by a scanner or a digital camera are not the same as those shown on the monitor.
The Natural Color S/W is the very solution for this problem. It is a color administration system developed by Samsung Electronics in association with Korea Electronics & Telecommunications Research Institute (ETRI).
This is only available for Samsung monitors and ensures that the color of the images on the monitor are the same as the printed or scanned images.
For more information, refer to Help (F1) in the software program.

Installing the Natural Color Software
nsert the CD included with the Samsung monitor into the CD-ROM Drive. Then, the initial screen of the program Natural Color will be executed. Click Natural Color on the initial screen to install the Natural Color software.
To install the program manually, insert the CD included with the Samsung monitor into the CD-ROM Drive, click the Windows [Start] button, select [Run...].
Enter D:\color\eng\setup.exe and then press the <Enter> key.
(If the drive where the CD is inserted is not D:\, enter the applicable drive.)

Uninstalling the Natural Color Software Program
Select **"Setting/Control Panel"** on the **"Start"** menu and then double-click **"Add/Delete a program"**.
Select Natural Color from the list and then click the **"Add/Delete"** button.

User Control Buttons | Direct Functions | OSD Functions | MagicTune™ | MagicRotation
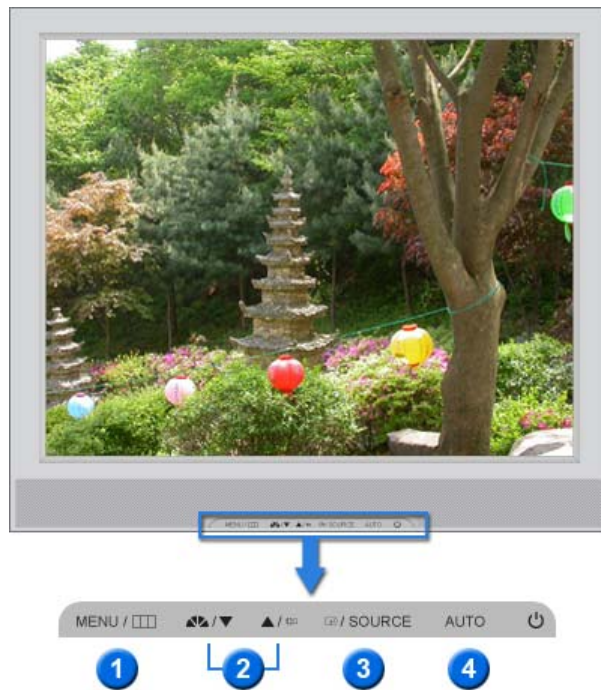
1. [MENU/] Opens the on-screen menu and exits from the menu or closes the adjustment menu.

2. [▼/▲] This button allows you to adjust items in the menu.

3. [ ] Press this button to Activates a highlighted menu item.

4. [**AUTO**] Press to Self-Adjusts the incoming PC signal automatically. The values of fine,coarse and position are adjusted automatically.

User Control Buttons | Direct Functions | OSD Functions | MagicTune™ | MagicRotation

AUTO

| MENU / ▥   ▧/▼   ▲/▣   ▣/ SOURCE   AUTO   ⏻ |

Menu	Description
AUTO	When the '**AUTO**' button is pressed, the Auto Adjustment screen appears as shown in the animated screen on the center. Auto adjustment allows the monitor to self-adjust to the incoming video signal. The values of fine, coarse and position are adjusted automatically. (Available in analog mode only)
	To make the automatic adjustment function sharper, execute the 'AUTO' function while the AUTO PATTERN is on.
	- If auto adjustment does not work properly, press AUTO button again to adjust picture with more accuracy.
	- If you change resolution in the control panel, auto function will be executed automatically.

◉ **OSD Lock & Unlock**

>> AUTO button

>> MENU button

Menu	Description
OSD Lock & Unlock	After pushing the "MENU" button more than 5 seconds, OSD function is locked (unlocked). You can also adjust the brightness and contrast of the monitor with the OSD adjustment locking feature.

 MagicBright™

Menu		Description
	MagicBright™	Push the MagicBright button to circle through available preconfigured modes. - Six different modes (Custom/Text/Internet/Game/Sport/Movie)

Volume

Menu	Description
Volume [⟨⟩]	When OSD is not on the screen, push the button to adjust volume.

SOURCE

Menu	Description
SOURCE	Selects the video signal while the OSD is off.

Picture	Brightness	Contrast			
Color	MagicColor	Color Tone	Color Control	Gamma	
Image	Coarse	Fine	Sharpness	H-Position	V-Position
OSD	Language	H-Position	V-Position	Transparency	Display Time
Setup	Image Reset	Color Reset			
Information					

Picture
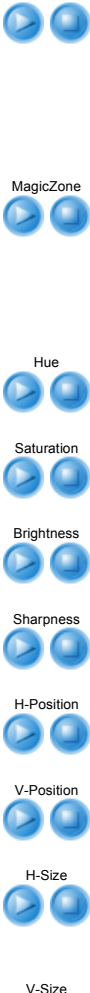
Menu	Description	Play/Stop
Brightness	You can use the on-screen menus to change the brightness according to personal preference. **Direct Access Feature** : When OSD is not on the screen, push the ⚙ button to adjust brightness. MENU → ↵ → ↵ → ▲, ▼ → MENU	▶ ■
Contrast	You can use the on-screen menus to change the contrast according to personal preference. (Not available in MagicColor mode of Full and Intelligent.) MENU → ↵ → ▲, ▼ → ↵ → ▲, ▼ → MENU	▶ ■

 ⬤ **Color** 🔶

Menu	Description	Play/Stop
MagicColor	MagicColor is a new technology that Samsung has exclusively developed to improve digital image and to display natural color more clearly without disturbing image quality. **1) Off** - Returns to the original mode. **2) Demo** - The screen before applying MagicColor appears on the right and the screen after applying MagicColor appears on the left. **3) Full** - Displays not only vivid natural color but also more realistic natural skin color with clearness. **4) Intelligent** - Displays vivid natural color with clearness. **5) MagicZone** - The MagicZone ensures the clear and sharp display of animated multimedia or photo images by enhancing the brightness, sharpness, saturation, hue of a certain area on the screen. Especially, MagicZone is appropriate to using the moving picture. ▪ Hue : This function is to adjust the hue of the MagicZone. ▪ Saturation : This function is to adjust the saturation of the MagicZone. ▪ Brightness : This function is to adjust the brightness of the MagicZone. ▪ Sharpness : This function is to adjust the sharpness of the MagicZone. ▪ H-Position : This function is to move the MagicZone horizontally. ▪ V-Position : This function is to move the MagicZone vertically. ▪ H-Size : This function is to adjust the horizontal size of the MagicZone. ▪ V-Size	(play/stop buttons) MagicZone (play/stop) Hue (play/stop) Saturation (play/stop) Brightness (play/stop) Sharpness (play/stop) H-Position (play/stop) V-Position (play/stop) H-Size (play/stop) V-Size

	: This function is to adjust the vertical size of the MagicZone.	
Color Tone	The tone of the color can be changed and one of four modes can be selected - Cool, Normal, Warm and Custom. (Not available in MagicColor mode of Full and Intelligent.) MENU → ▲,▼→ ↵ → ▲,▼→ ↵ → ▲,▼→ MENU	
Color Control	Adjusts individual R,G,B color balance. (Not available in MagicColor mode of Full and Intelligent.) MENU → ▲,▼→ ↵ → ▲,▼→ ↵ → ▲,▼→ ↵ → ▲,▼→ MENU	
Gamma	Gamma correction changes the luminance of the colors with intermediate luminance. • Mode 1 • Mode 2 • Mode 3 MENU → ▲,▼→ ↵ → ▲,▼→ ↵ → ▲,▼→ MENU	

UP

 Image

Menu	Description	Play/Stop
Coarse	Removes noise such as vertical stripes. Coarse adjustment may move the screen image area. You may relocate it to the center using the horizontal control menu. (Available in analog mode only) MENU → ▲,▼→ ↵ → ↵ → ▲,▼→ MENU	
Fine	Removes noise such as horizontal stripes. If the noise persists even after fine tuning, repeat it after adjusting the frequency (clock speed).	

|		
	(Available in analog mode only) MENU → ▲, ▼ → ↵ → ▲, ▼ → ↵ → ▲, ▼ → MENU	▶ 🔵
Sharpness	Changes the clearance of image. (Not available in MagicColor mode of Full and Intelligent.) MENU → ▲, ▼ → ↵ → ▲, ▼ → ↵ → ▲, ▼ → MENU	▶ 🔵
H-Position	Changes the horizontal position of the monitor's entire display. (Available in analog mode only) MENU → ▲, ▼ → ↵ → ▲, ▼ → ↵ → ▲, ▼ → MENU	▶ 🔵
V-Position	Changes the vertical position of the monitor's entire display. (Available in analog mode only) MENU → ▲, ▼ → ↵ → ▲, ▼ → ↵ → ▲, ▼ → MENU	▶ 🔵

UP

◉ **OSD** 🔲

MENU / ▦   🔊/▼   ▲/ ⊞   ⊞/ SOURCE   AUTO   ⏻

Menu	Description	Play/Stop
Language	You can choose one of eight languages. • English, Deutsch, Español, Français, Italiano, Svenska, Русский , Português **Note**:The language chosen affects only the language of the OSD. It has no effect on any software running on the computer. MENU → ▲, ▼ → ↵ → ↵ → ▲, ▼ → MENU	▶ 🔵
H-Position	You can change the horizontal position where the OSD menu appears on your monitor. MENU → ▲, ▼ → ↵ → ▲, ▼ → ↵ → ▲, ▼ → MENU	▶ 🔵
	You can change the vertical position where the OSD menu	

V-Position	appears on your monitor. MENU → ▲, ▼ → ⏎ → ▲, ▼ → ⏎ → ▲, ▼ → MENU	▶ ⏹
Transparency	Change the transparency of the background of the OSD. MENU → ▲, ▼ → ⏎ → ▲, ▼ → ⏎ → ▲, ▼ → MENU	▶ ⏹
Display Time	The menu will be automatically turned off if no adjustments are made for a certain time period. You can set the amount of time the menu will wait before it is turned off. MENU → ▲, ▼ → ⏎ → ▲, ▼ → ⏎ → ▲, ▼ → MENU	▶ ⏹

⬆ UP

◯ **Setup** 🎛️

MENU / ▭   ◑/▼   ▲/▯   ▢/ SOURCE   AUTO   ⏻

Menu	Description	Play/Stop
Image Reset	Image parameters are replaced with the factory default values. MENU → ▲, ▼ → ⏎ → ⏎ → ▲, ▼ → MENU	▶ ⏹
Color Reset	Color parameters are replaced with the factory default values. MENU → ▲, ▼ → ⏎ → ▲, ▼ → ⏎ → ▲, ▼ → MENU	▶ ⏹

⬆ UP

◯ **Information** 🔲

Menu	Description
Information	Shows a video source, display mode on the OSD screen. MENU → ▲ , ▼

MagicTune™ HELP

Overview

What is MagicTune™?

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. MagicTune™ is a software utility that guides you through the tuning process with easy to understand instructions and back ground 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 environme or having a single user have multiple defined presets based on content and ambient lighting.

Basic Functionality

MagicTune™ is a software utility that allows monitor adjustment and color tuning using the Display Data Channel Command Interface (DDC/CI) protocol.   All adjustments to the display are controlled via software to eliminate the need to use the monitor on-screen display (OSD).
MagicTune™ supports Windows™ 98 SE, Me, 2000, XP Home, and XP Professional.
It is recommended using MagicTune™ in Windows™ 2000 or later.

  MagicTune™ allows for quick accurate tuning of the display with the ability to easily save and use monitor configurations that are best suited for you.

OSD Mode

The OSD mode allows easy adjustment of monitor settings without taking pre-defined steps. You can access the desired menu item to set with ease.

The MagicTune™ program is an additional program for monitor products.
Some computing systems that install either an older or the latest video driver are not compatible with MagicTune™.
Please visit the MagicTune™ Website for technical support for MagicTune™.

Specifications subject to change without notice.
MagicTune™ is a trademark of SAMSUNG ELECTRONICS CO., Inc.
Windows™ is a registered trademark of Microsoft Corp.
Other trademarks are property of their respective holders.

MagicTune™ HELP

Installation

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

2. Click the MagicTune™ installation file.

3. Select installation Language, Click "Next".

4. When the Installation Shield Wizard window appears, click "Next."

5. Select "I agree to the terms of the license agreement" to accept the terms of use.

6. Choose a folder to install the MagicTune™ program.

7. Click "Install."
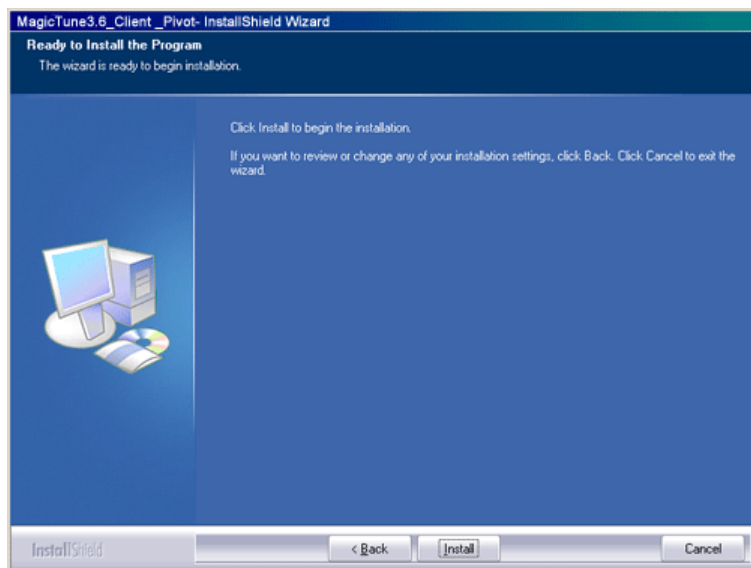
8. The "Installation Status" window appears.
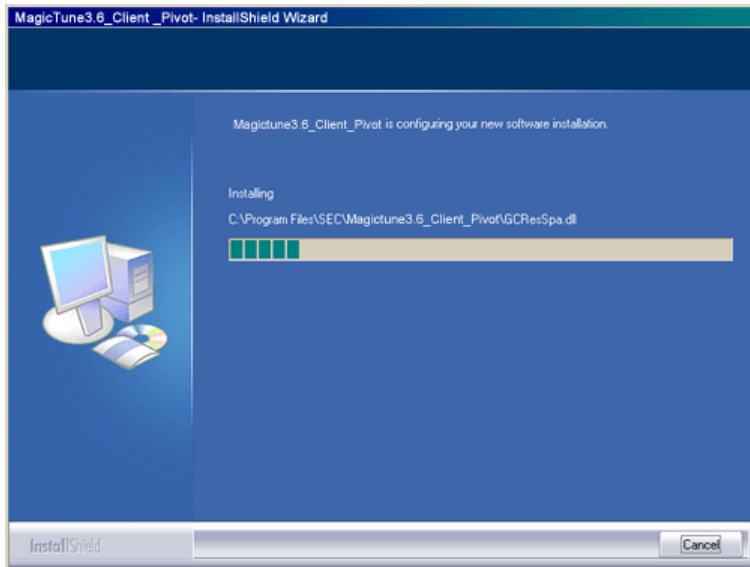
9. Click "Finish."
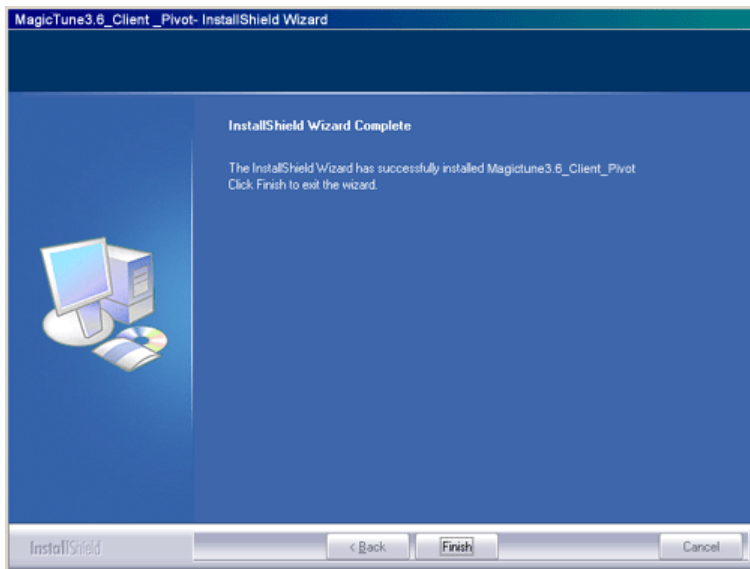
10. When the installation is complete, the MagicTune™ executable icon appears on your desktop.
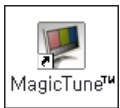
Double-click the icon to start the program.

MagicTune™ execution icon may not appear depending on specification of computer system or monitor. If that happens, press F5 Key.

Installation Problems

The installation of MagicTune™ can be affected by such factors as the video card, motherboard and the network environment.
See "Troubleshooting" if you have trouble during installation.

System Requirements

OS

- Windows™ 98 SE
- Windows™ Me
- Windows™ 2000
- Windows™ XP Home Edition
- Windows™ XP Professional

It is recommended using MagicTune™ in Windows™ 2000 or later.

Hardware

- 32MB Memory above
- 25MB Hard disk space above

* For more information, visit the MagicTune™ website.

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MagicTune™ HELP

MagicTune™ allows for quick accurate tuning of the display with the ability to easily save and use monitor configurations that are best suited for you.

- **OSD mode may appear inconsistent with the explanation in guidance book depending on specification of each monitor.**
- **When Rotation is functioning, portion of MagicTune™ program may not operate normally.**
- **AutoRotation : The screens display will automatically rotate when the monitor is rotated.**

To execute Auto Rotation, it should be done as below.
- Please install both MagicRotation and MagicTune™ 3.6 programs in your computer.
- Launch MagicTune™ 3.6
- **Option** → **Preference** → Click the small box in the **enable task tray menu**.

- MagicTune™ control mode will be different according to monitor models.
- The permitted angle of rotation of the monitor is determined by the model of the monitor.

OSD Mode

The OSD mode makes the adjustment of settings on all monitors easy. When selected , each tab on top of the control window displays the general descriptions of the sub-menu items for adjustment.
When selected, each tab displays a list of menus. For quick adjustment of the monitor settings, the OSD mode allows easy and convenient access to all tabs and sub-menu items.

⬜ Button Tab Definition

OK	Applies any changes made and exits MagicTune™.
Reset	Restores the display settings to the factory settings.
Cancel	Exits MagicTune™ without applying the changes made. If you have not made any changes in the control window, clicking "Cancel" does not cause any actions.

⬜ Picture Tab Definition

Allows the user to adjust the screen settings to the desired values.

Brightness	Makes the entire screen brighter or darker. The detailed data of the images in the dark areas can be lost if the brightness is not adjusted to the proper level. Adjust the brightness for best viewing conditions.
Contrast	Adjusts the difference in brightness between the bright and dark areas on screen. Determines the crispness of the images.

Resolution	Lists all display resolutions supported by the program.

MagicBright™ is a new feature providing the optimum viewing environment depending on the contents of the image you are watching. Currently four different modes are available: Text, Internet,Game, Sport, Movie and Custom. Each mode has its own pre-configured brightness value. You can easily select one of six settings by simply pressing MagicBright control buttons.

1. Text: For documentations or works involving heavy text.
2. Internet: For working with a mixture of images such as text and graphics.
3. Game : For watching motion pictures such as a Game.
4. Sport : For watching motion pictures such as a Sport.
5. Movie: For watching motion pictures such as a DVD or Video CD.
6. Custom: Although the values are carefully chosen by our engineers, the pre-configured values may not be comfortable to your eyes depending on your taste. If this is the case, adjust the Brightness and Contrast by using the OSD menu.

MagicBright™ appears on the left column.

MagicBright control mode will be different according to monitor models.
Some monitor will only support Four modes(Text, Internet, Entertain, Custom)

MagicTune™

⬜ Color Tab Definition

Adjusts the "warmth" of the monitor background or image color.

MagicColor and Gamma will be shown only in the monitor that supports these functions.

The tone of the color can be changed.

- Warm2 - Warm1 - Cool 1 - Cool 2 - Cool 3 - Cool 4 - Cool 5 - Cool 6 - Cool 7
- Off

Color Tone

Color Tone mode will be different according to monitor models.
Some monitor will only support Four modes(Warm, Normal, Cool, Custom)

Color Control	Adjusts of the monitor image color. You can change the monitor color to your desired color. • R- G - B

Calibration	The process through which the colors of your choice are optimized and maintained. You will find MagicTune™ extremely useful if you are one of those who wish to view images with their full details accurately reproduced - including web images and ones produced by a digital camera or scanner.

MagicColor is a new technology that Samsung has exclusively developed to improve digital image and to display natural color more clearly without disturbing image quality.

1. OFF : Returns to the original mode.
2. DEMO : The screen before applying MagicColor appears on the right and the screen after applying MagicColor appears on the left.
3. Full : Displays not only vivid natural color but also more realistic natural skin color with clearness.
4. Intelligent : Displays vivid natural color with clearness.
5. MagicZone
   - The MagicZone ensures the clear and sharp display of animated multimedia or photo

images by enhancing the brightness, sharpness, saturation, Hue of a certain area on the screen. This offers an easy-to-use interface that highlights the video-playing portion of your multimedia program by automatically detecting and highlight the desired area by dragging.

- When the mouse cursor is activated( )and it is necessary to de-activate it to use it for other tasks, right click your mouse, or put the activated cursor ( )on the taskbar and click. When de-activated, the icon on the screen changes back to the one shown before activation.
- Especially, MagicZone is appropriate to using the moving picture.
- **Auto Detect** : If you run the Movie in some players, MagicZone will automatically get the play screen highlighted (it will be supported in players of Gom, Adrenalin, KCP, Window Media, and Power DVD etc.,)Some other players also can be highlighted but could have some problems.

- Tusk menu

	HUE	Adjust the tint of the color.
	Saturation	Adjusts the color saturation.
	Brightness	Adjusts the Brightness.
MagicColor	**Sharpness**	Adjusts the difference between the lightest and darkest areas of the display.
	Zone Off	Turn off the zone that you have captured.
	Reset	Returns to the the default setting that vendor has set.

- Depending on the monitor models **Color Control, Sharpness, Contrast, Color Tone, Brightness** will not be adjustable in **MagicColor** mode of **Full** and **Intelligent**.

- MagicTune™ will be disappear if you excute MagicZone, and closing the MagicZone after adjusting, will show the MagicTune™ again.
  (System Tray is Unhecked)
  MagicTune™ will be disappear if you excute MagicZone, and closing the MagicZone after adjusting. will not show MagicTune™ again.
  (System Tray is Checked)

- MagicColor mode will be different according to monitor models.
  MagicZone mode will show if the monitor supports the function.

	Gamma correction changes the luminance of the colors with intermediate luminance.
Gamma	Gamma mode will be different according to monitor models. Some monitor will only support Three modes(Mode1, Mode2, Mode3).

🔲 Image Tab Definition

Adjusts the Fine , Coarse and Position values.

Image Setup	- Fine : Removes noise such as horizontal stripes. If the noise persists even after Fine tuning, repeat it after adjusting the frequency (clock speed). - Coarse : Removes noise such as vertical stripes. Coarse adjustment may move the screen image area. You may relocate it to the center using the Horizontal Control menu. - Auto Setup : Auto adjustment allows the monitor to self-adjust to the incoming video signal. The values of fine, coarse and position are adjusted automatically.
Position	Adjusts the screen location horizontally and vertically.

Sharpness	Changes the clearance of image.

Option Tab Definition

You can configure MagicTune™ using the following options.

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 task tray menu . - To access the MagicTune™ menus, click the icon on the [task tray menu]. The menus are not displayed if the [Enable System Tray] is deselected in [Options] ' [Basic Settings]. • Select Language - The language chosen affects only the language of the OSD.
Source Select	• Analog • Digital

Support Tab Definition

Shows the Asset ID and the version number of the program, and allows you to use the Help feature.

Help	Visit the MagicTune™ website or click to open the Help files (User Manual) if you need any help installing or running MagicTune™. The User Manual opens within a basic browser window.
Asset ID	you can use the server to control the Client monitor. (Server program should be installed to use this program as Client)
	User Name	Shows the user name that is registered in PC.
	User ID	Shows the user ID that is register in PC.
	Server IP	Write down the server IP .
	Department	Write down the department.
	Location	Write down the location.
Version	Displays the version of MagicTune™.

The MagicTune™ program is an additional program for monitor products.
Some computing systems that install either an older or the latest video driver are not compatible with MagicTune™.
Please visit the MagicTune™ Website for technical support for MagicTune™.

MagicTune™ HELP

Color Calibration

1. Color Calibration

Color Calibration guides you to get optimal color condition for your monitor.

Proceed following 5steps for getting optimal monitor color condition .

1. Control "Brightness control bar" for matching the brightness of control patch and the brightness of background pattern
2. When you detect specific color tone on "Control patch", move the control cursor toward to the direction of the color tone referring to "Color reference Circle".
   => Adjustment is finished properly, you won't detect any color tone on Control patch.
3. When you finish adjustment for step1,Click "Next" button .
4. Repeat 1), 2), 3) procedures for remaining step2 ~ step5.
5. You can easily view the calibration effect through clicking "Preview " button!

How multiple users can use adjusted color values
Definition
When monitor is used by multiple users, color values which are adjusted via Color calibration for each users can be saved and used. Up to 5 users can use the saved color values.

1. How to save adjusted color values:
   Press Next to make it change into Apply and then you can save adjusted color values.
   As many as 5 values can be saved.
2. How to apply the saved color values:
   Press Multi User button on main screen to select and use one of the saved color values.

2. Preview

Press "Preview" button on the Color Calibration.
The above picture will be shown.

1. Press "View Calibrated" button to see the calibration effect which you adjusted.

2. Press "View Uncalibrated" button to see the original image.

The MagicTune™ program is an additional program for monitor products.
Some computing systems that install either an older or the latest video driver are not
compatible with MagicTune™.
Please visit the MagicTune™ Website for technical support for MagicTune™.

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MagicTune™ HELP

▓▓▓ Uninstall

The MagicTune™ program can be removed only by using the "Add or Remove Programs" option of the Windows™ Control Panel.

Perform the following steps remove MagicTune™.

1. Go to [Task Tray] ' [Start] ' [Settings] and select [Control Panel] in the menu. If the program runs on Windows™ XP, go to [Control Panel] in the [Start] menu.

2. Click the "Add or Remove Programs" icon in Control Panel.

3. In the "Add or Remove Programs" screen, scroll down to find "MagicTune™." Click on it to highlight it.

4. Click the "Change/Remove" button to remove the program.

5. Click "Yes" to begin the uninstall process.

6. Wait until the "Uninstall Complete" dialog box appears.

Visit the MagicTune™ website for technical support for MagicTune™, FAQs (questions and answers) and software upgrades.

The MagicTune™ program is an additional program for monitor products.
Some computing systems that install either an older or the latest video driver are not compatible with MagicTune™.
Please visit the MagicTune™ Website for technical support for MagicTune™.

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MagicTune™ HELP

Overview | Installation | OSD Mode | Color Calibration | Uninstall | **Troubleshooting**

::::: Troubleshooting

The current computing system is not compatible with MagicTune™.

? **Please press OK and click on the "Shortcut to the MagicTune™ site" to view our home page for further reference.**

⬤ An error may occur when your video/graphic card is not in the 'Available' list.
(The latest or oldest video cards may not be compatible.)

💡 Please visit our homepage to see the Troubleshooting section.

⬤ An error may occur if the card maker has modified the video card driver or the graphics chip even when the video card is in the list.

💡 Please visit our homepage to see the Troubleshooting section.

⬤ Check if your monitor is manufactured by Samsung.
Products from other manufacturers may cause errors.

💡 Only Samsung products are able to support this feature.

⬤ An error may occur even when your monitor is manufactured by Samsung but is out of date.
Check if your monitor is able to support MagicTune™.

💡 This feature is only supported by those monitors that are registered on our homepage.
Check for the monitor before purchasing it as out-of-date models are not supported.

⬤ An error occurs when no information on EDID (Extended Display Identification Data) exists for the current monitor.
This happens when from your desktop, Start > Setup > Control Panel > System > Hardware > Device Manager > Monitor is selected, the current "Plug-and-play monitor" is removed and new hardware is searched for but the system couldn't find any "Plug-and-play monitor".

💡 Please visit our homepage to see the Troubleshooting section.

⬤ An error occurs when replacing the monitor with a new one when the system power is off but the system has not been restarted.

💡 Please restart the system each time the monitor is replaced before using MagicTune™.

⬤ An error occurs when the video card driver is not installed properly.
This happens when the current video card list is not displayed normally. You can check this via Start > Setup > System > Hardware > Device Manager > Display Adapter.

[boilerplate]Download from Www.Somanuals.com. All Manuals Search And Download.

Visit the video card maker's homepage and download and install the latest driver.

For more information about the video card, contact the card manufacturer.

To ensure normal operation, please restart your system.

An error occurs when the system is not restarted after installing MagicTune™.

(This is for Win98SE and WinMe only.)

Restart the system before use.

For the best performance of MagicTune™, adjust to the optimal resolution. Refer to the User Guide for the optimal resolution.

If you do not adjust to the optimal resolution and perform Color Calibration, the monitor cannot be adjusted to the optimal condition.

Refer to the manual for the optimal resolution.

This video card does not support MagicTune™.
Please install a new video card driver.

An error occurs when the video card driver is not installed properly.
This happens when the current video card list is not displayed normally. You can check this from Start > Setup > System > Hardware > Device Manager > Display Adapter.

Visit the video card manufacturer's homepage and download and install the latest driver.
For more information about the video card, contact the card manufacturer.

As the Highlight program uses the communication lines,
please exit the Highlight program before you can access MagicTune™.

Some of Samsung CDT monitors support the Highlight feature.
When using both the Highlight feature and MagicTune™ simultaneously, conflicts occur, which cause errors.

Make sure to turn OFF Highlight before using MagicTune™.

Troubleshooting

- MagicTune™ may not work in case monitor is replaced or driver of graphic card is updated while MagicTune™ is operating. If so, please restart the system.

Symptom	Check List	Solutions
Check when MagicTune™ does not function properly.	MagicTune™ feature is found only on PC (VGA) with Window OS that supports Plug and Play.	* To check whether your PC is available for MagicTune™ feature, follow the steps below (When Windows™ is XP); Control Panel -> Performance and Maintenance -> System -> Hardware -> Device Manager -> Monitors -> After deleting Plug and Play monitor, find 'Plug and Play monitor' by searching new Hardware. MagicTune™ is an additional software for the monitor. Some graphic cards may not support your monitor. When you have a problem with

the graphic card, visit our website to check the compatible graphic card list provided.
http://www.samsung.com/monitor/MagicTune

| MagicTune™ doesn't work properly. | Have you changed your PC or video graphic card? | Download the latest program. The program can be downloaded http://www.samsung.com/monitor/MagicTune. |

- Visit the MagicTune™ website for technical support for MagicTune™, FAQs (questions and answers) and software upgrades.
- Visit the MagicTune™ website and download the installation software for MagicTune™ MAC.

The MagicTune™ program is an additional program for monitor products.
Some computing systems that install either an older or the latest video driver are not compatible with MagicTune™.
Please visit the MagicTune™ Website for technical support for MagicTune™.

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MagicRotation Help

Overview

● **What is MagicRotation?**

Traditionally, computer displays allowed the user to view only in landscape mode.
In today's information age, more users need to view documents, web pages, emails, etc. in there day to day life. These types of applications can be better viewed in portrait mode where the entire contents are available on the screen. This greatly improves the user's productivity allowing him the flexibility to switch between landscape and portrait modes.

The MagicRotation Software from Samsung Electronics, Inc. provides the user with a rotation feature (0, 90, 180, 270 orientation) that facilitates the optimum utilization of computer display screen, better viewing and improved user productivity.

● ●

● **Basic Function**

MagicRotation will support Windows™ 98 SE, Me, NT 4.0, 2000, XP Home and XP Professional.

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◑ Installation

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

2. Click the MagicRotation installation file.

3. Select installation Language, Click "Next".
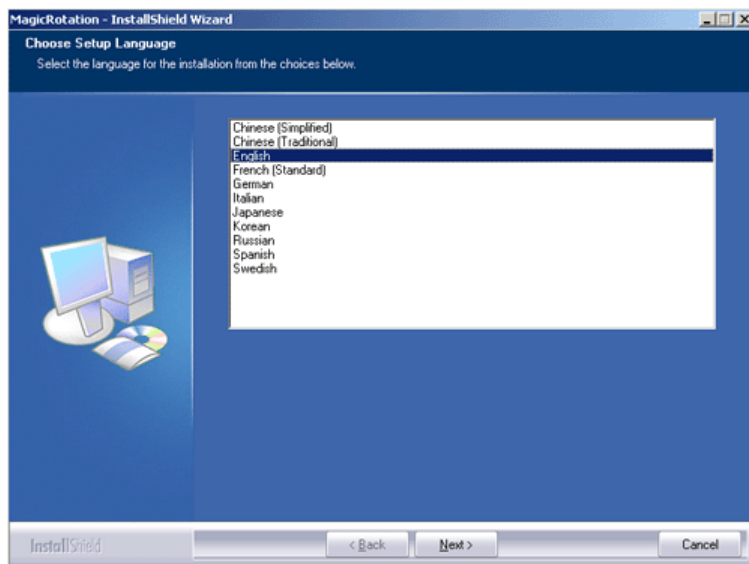
4. When the InstallShield Wizard window appears, click "Next."
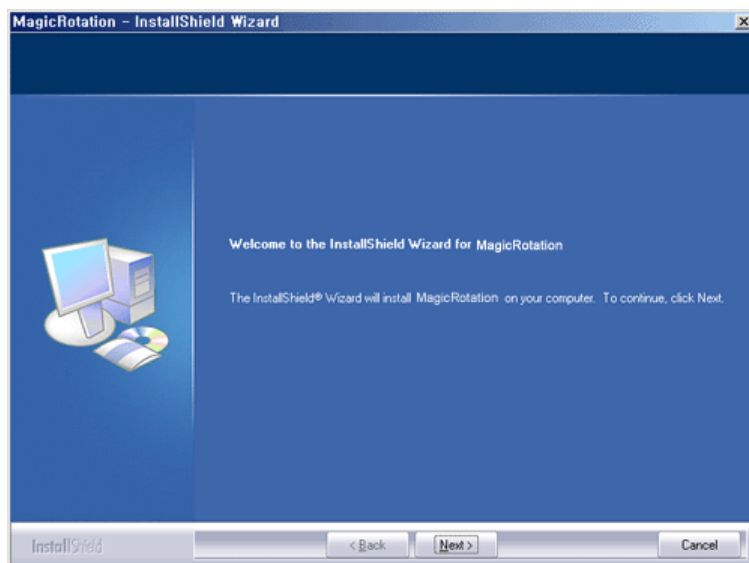
5. Select "I accept the terms of the license agreement" to accept the terms of use.
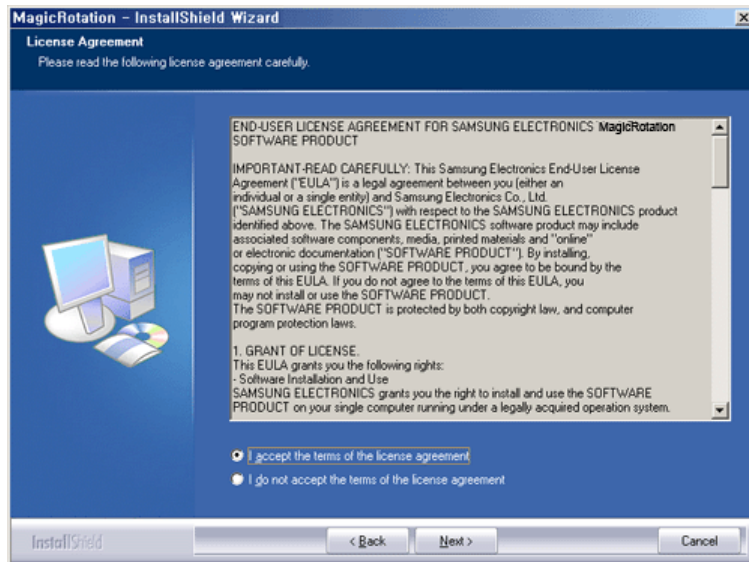
6. Choose a folder to install the MagicRotation program.
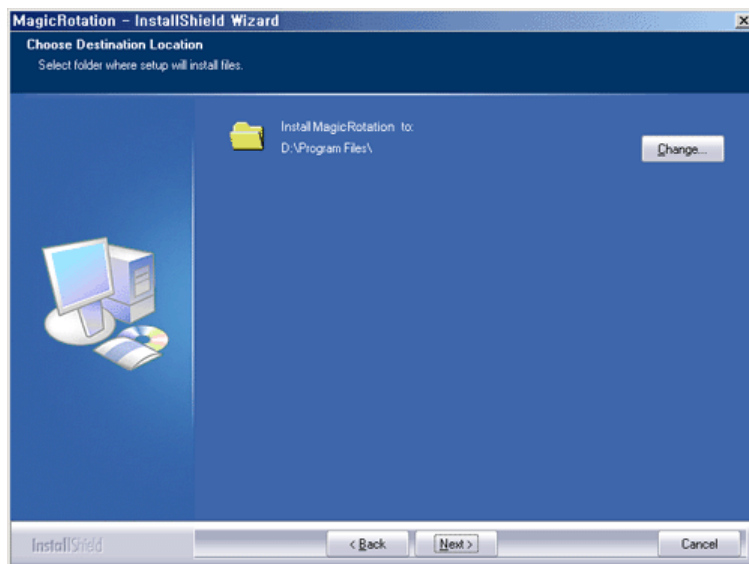
7. Click "Install."
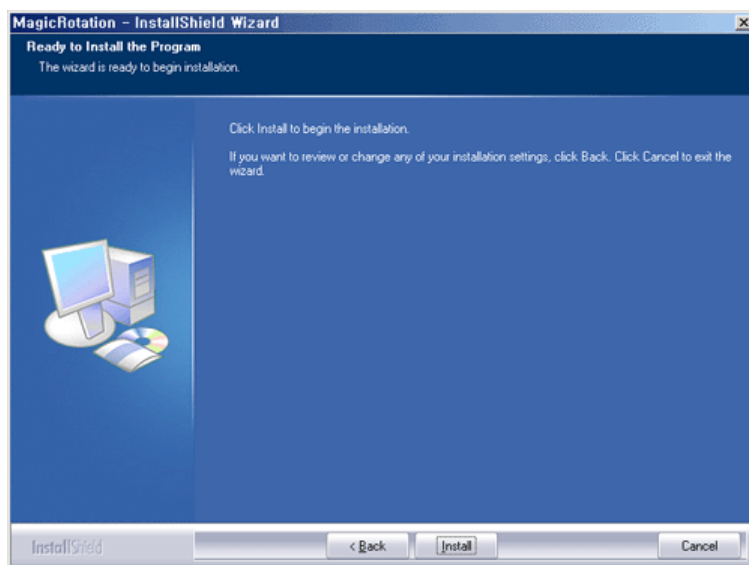
8. The "Setup Status" window appears.
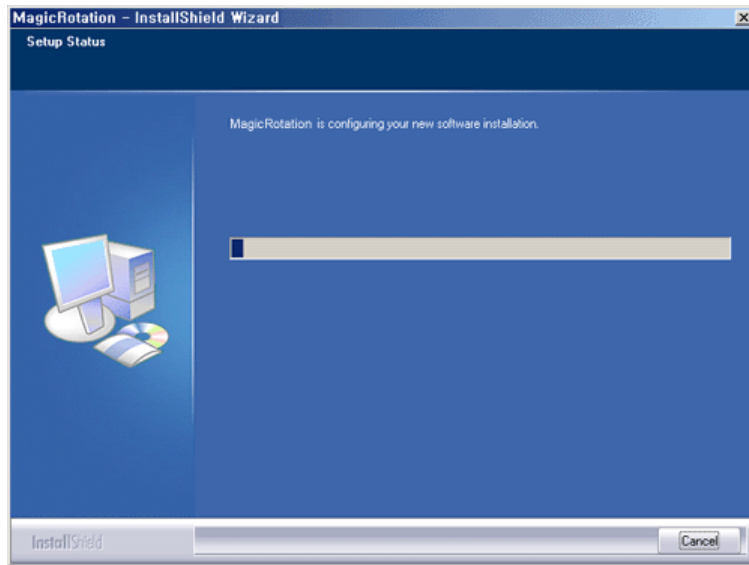
9. Click "Finish."

Have to reboot the system in order for the MagicRotation to work properly.
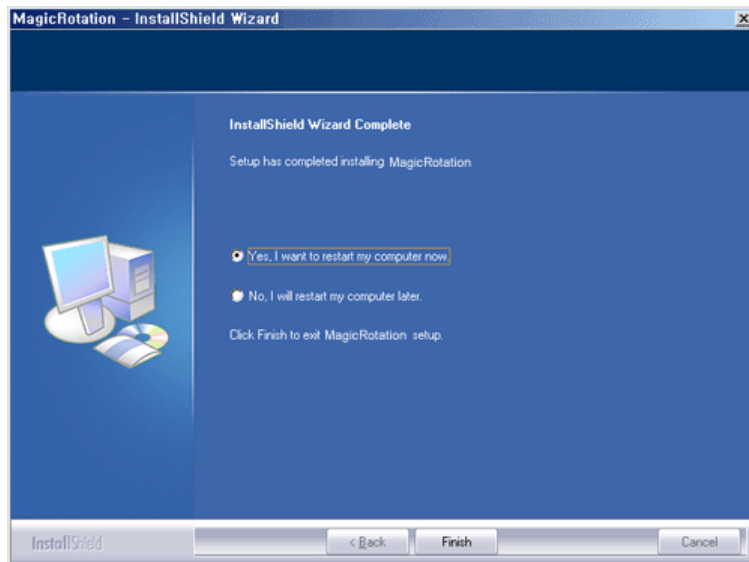
10. When the installation is complete, the MagicRotation executable icon appears
on your desktop.

MagicRotation

● ●

⚪ Installation Problems

The installation of MagicRotation can be affected by the factors such as video card,
motherboard and the network environment.
See "Troubleshooting" if you have trouble during installation.

● **Limitation**

1. The "Display Driver" should be properly loaded for the MagicRotation to work properly.
   The installed "Display Driver" should be the latest driver supplied by the vendor.

2. If some applications like Windows Media Player, Real Player, etc. are not displaying movie files properly in 90, 180 and 270 orientations then do the following :
   - Close the application.
   - Select the Orientation (90, 180, 270) you want to view the application.
   - Relaunch the application.

   In most cases this should fix the problem.

3. User Applications using OpenGL and DirectDraw (3D drawing) will not function as per the orientation mode selected (90, 180, 270).
   e.g. 3D games

4. DOS based applications in Full Screen Mode will not function as per the orientation mode selected (90, 180, 270).

5. Dual is not supported in Windows™ 98, ME, NT 4.0.

6. MagicRotation does not provide support for 24 bits per pixel (Bit depth/Color Quality).

7. If you are changing your Graphic Card it is recommended that you uninstall the MagicRotation Software before doing so.

● System Requirements

OS

- Windows™ 98 SE
- Windows™ Me
- Windows™ NT 4.0
- Windows™ 2000
- Windows™ XP Home Edition
- Windows™ XP Professional

Hardware

- 128MB Memory above(recommended)
- 25MB Free Hard disk space above

Service Packs

- It is recommended that your System has the latest Service Pack installed.
- For Windows™ NT 4.0, it is recommended to install Internet Explorer 5.0 and above with Active Desktop component.

* For more information, visit the MagicRotation website.

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MagicRotation Help

- **When Rotation is functioning, portion of MagicTune™ program may not operate normally.**
- **AutoRotation : The screens display will automatically rotate when the monitor is rotated.**

    To execute Auto Rotation, it should be done as below.
    - Please install both MagicRotation and MagicTune™ 3.6 programs in your computer.
    - Launch MagicTune 3.6
    - **Option** → **Preference** → Click the small box in the **enable task tray menu**.

    - **MagicRotation™ program can not be provided as Simple Stand does not support Pivot function.**
    - **The permitted angle of rotation of the monitor is determined by the model of the monitor.**

⭕ Interface

Task Bar Menu	Menu pops up when the right mouse button is click.

MagicRotation

Rotate ① Rotate
Rotate to 0 ② Rotate to 0
Rotate to 90 ③ Rotate to 90
Rotate to 180 ④ Rotate to 180
Rotate to 270 ⑤ Rotate to 270
Hot Key ⑥
Help ⑦
About ⑧
Exit ⑨

① **Rotate** : Display will get rotated by the unit of 90 degree.

90° 90° 90°

0° 90° 180° 270°
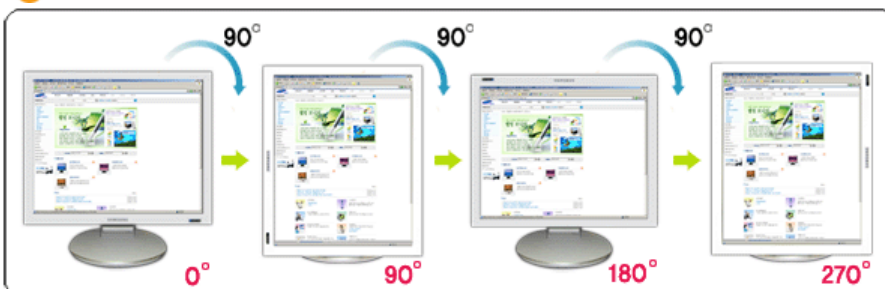
② **Rotate to 0** : Display will get rotated to 0 degree from the current angle of Rotation.
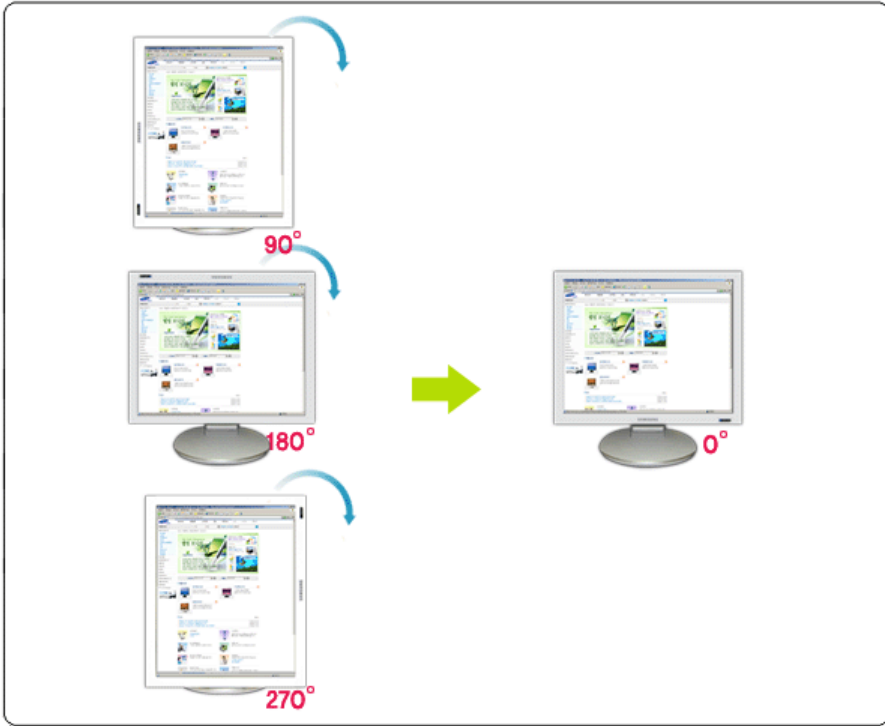
3 **Rotate to 90** : Display will be rotated 90 degrees from the current angle.
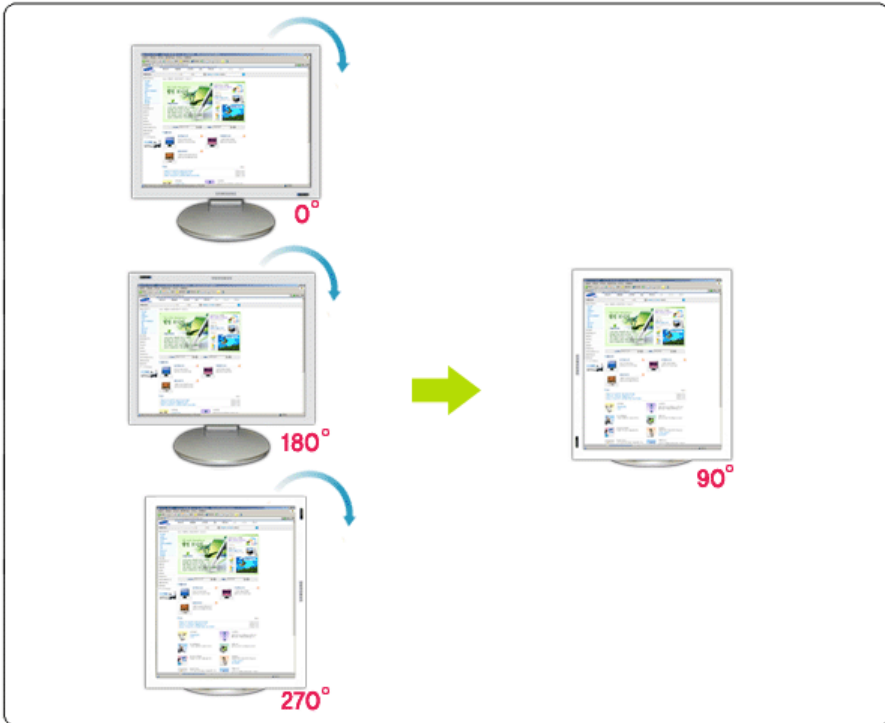
4 **Rotate to 180** : Display will be rotated 180 degrees from the current angle.

- -
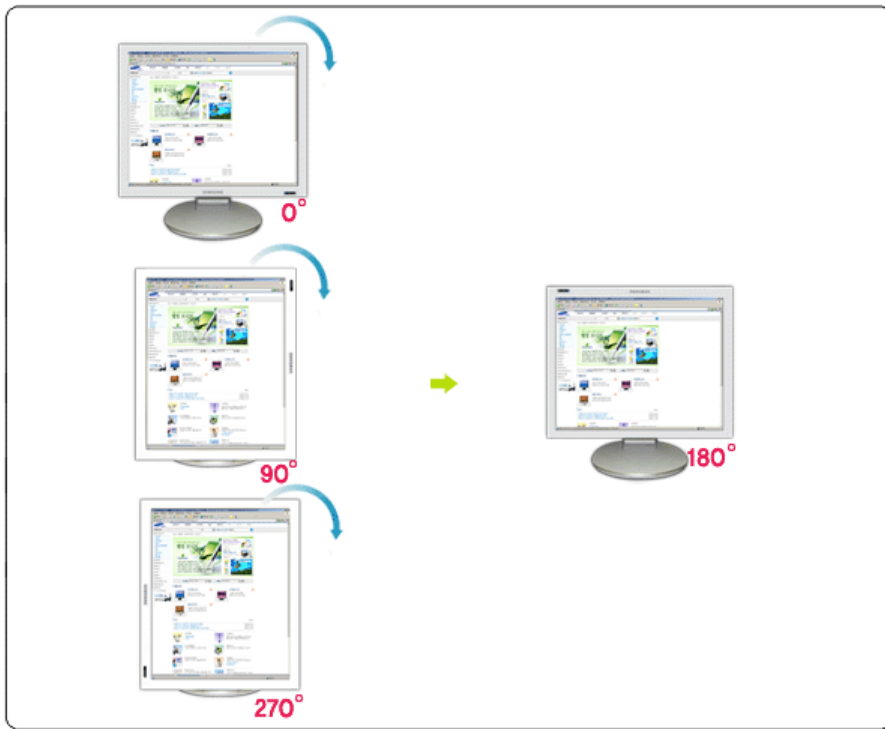
5 **Rotate to 270** : Display will be rotated 270 degrees from the current angle.

- -
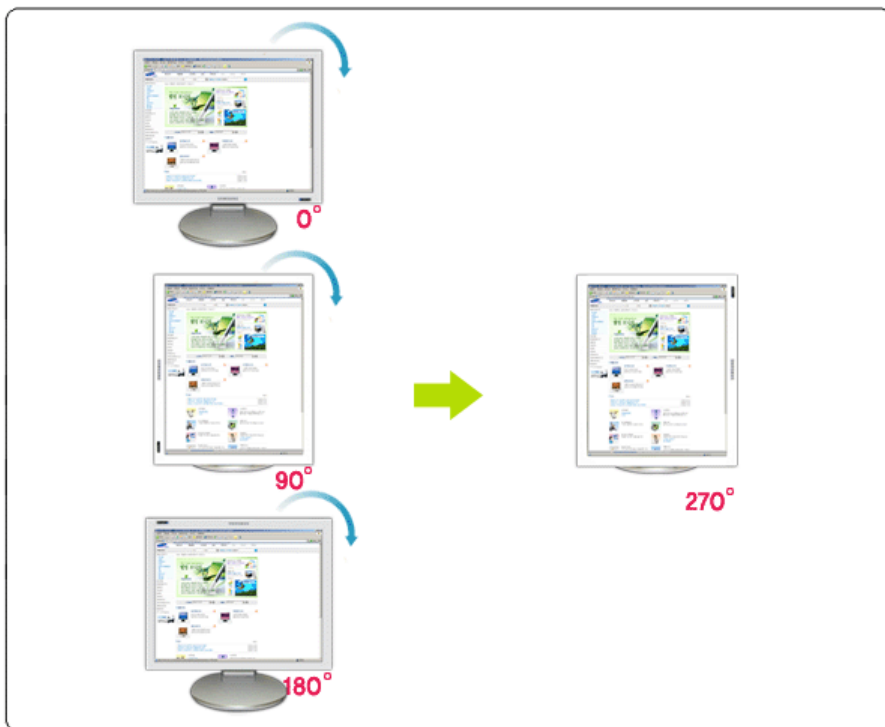
6 **Hot key** : Hot Keys are available by default and can be changed by user.
It can be assigned by user directly with keyboard after changing the existing
HotKey . User can create the hot key with the combination of Shift, Ctrl, Alt and
general keys. In case only general key is pressed, it will be assigned in the form of
Alt+general key.

- -

7 **Help** : Shows the HELP of MagicRotation program.

- -

8 **About** : Shows the version and copyright of MagicRotation program.

- -

**9** **Exit** : Exits from MagicRotation program.

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⚪ Uninstall

The MagicRotation program can be removed only by using the "Add/Remove Programs" option of the Windows Control Panel.

Perform the following steps to remove MagicRotation.

1. Go to [Task Tray] ' [Start] ' [Settings] and select [Control Panel] in the menu.
   If the program runs on Windows™ XP, go to [Control Panel] in the [Start] menu.

2. Click the "Add/Remove Programs" icon in Control Panel.

3. In the "Add/Remove Programs" screen, scroll down to find "MagicRotation"
   Click on it to highlight it.

4. Click the "Change/Remove" button to remove the program.

5. Click "Yes" to begin the uninstall process.

6. Wait until the "Uninstall Complete" dialog box appears.

7. After uninstall restart the system to complete the uninstallation.

Visit the MagicRotation website for technical support for MagicRotation, FAQs (questions and answers) and software upgrades.

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MagicRotation Help

⚙ Troubleshooting

● **Before You Call Technical Support**

- MagicRotation Software works with the installed "Display Driver" supplied by your Graphic Card Vendor to provide screen rotation capabilities. If the installed "Display Driver" is working incorrectly or has bugs in it, then these bugs would still exist even after MagicRotation Software is installed.
  Any incorrect/random behaviour resulting due to problems in the installed "Display Driver" are not due to MagicRotation Software.

  In order to verify if a problem exists in the installed "Display Driver" , you can perform the following diagnostic steps :

  1. Check if the problem is occurring in both 0 orientation (Landscape mode) and 90 orientation (Portrait mode).
  2. Check if the problem occurs with different color depths (8/16/32 bits per pixel) and different resolution modes (800 x 600, 1024 x 768).
  3. Check if the problem occurs without installing MagicRotation Software.

  If the problem is repeating in any/all of the following scenarios then it may be the problem with your installed "Display Driver" :

  In order to correct the problem you need to perform the following steps :

  1. Uninstall MagicRotation Software.
  2. Obtain the latest "Display Driver" from your Graphic Card Vendor.
     The latest "Display Driver" from (ATI, NVIDIA, MATROX, INTEL, etc.) are easily available for download from their respective websites.
  3. Install the latest "Display Driver"
  4. Install MagicRotation Software. In most of the cases this should correct the problem.

· ·

- MagicRotation may not work in case monitor is replaced or driver of graphic card is updated while MagicRotation is operating.
  If so, please restart the system.

· ·

- Visit the MagicRotation website for technical support for MagicRotation, FAQs (questions and answers) and software upgrades.
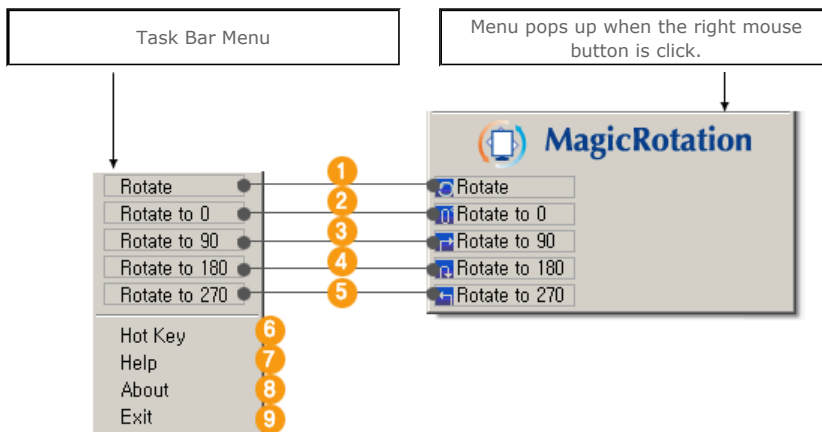
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Check List   Q & A   Self-Test Feature Check

🔵 **Check List**

☑ Before calling for assistance, check the information in this section to see if you can remedy any problems yourself. If you do need assistance, please call the phone number on the Information section or contact your dealer.

Symptom	Check List	Solutions
No images on the screen. I cannot turn on the monitor.	Is the power cord connected properly?	Check the power cord connection and supply.
	Can you see **"Check Signal Cable"** on the screen?	Check the signal cable connection.
	If the power is on, reboot the computer to see the initial screen(the login screen), which can be seen.	If the initial screen (the login screen) appears, boot the computer in the applicable mode (the safe mode for Windows ME/XP/2000) and then change the frequency of the video card. (Refer to the Preset Timing Modes) Note: If the initial screen (the login screen) does not appear, contact the Service Center or your dealer.
	Can you see **"Not Optimum Mode","Recommended mode 1280 x 1024 60 Hz"** on the screen?	You can see this message when the signal from the video card exceeds the maximum resolution and frequency that the monitor can handle properly. Adjust the maximum resolution and frequency that the monitor can handle properly. If the display exceeds SXGA or 75 Hz, a **"Not Optimum Mode","Recommended mode 1280 x 1024 60 Hz"** message is displayed. If the display exceeds 85 Hz, the display will work properly but the **"Not Optimum Mode","Recommended Mode 1280 x 1024 60 Hz"** message appears for one minute and then

		disappears. Please change to the recommended mode during this one-minute period. (The message is displayed again if the system is rebooted.)
	There is no image on the screen. Is the power indicator on the monitor blinking at 1 second intervals?	The monitor is in PowerSaver mode. press a key on the keyboard to activate the monitor and restore the image on the screen. If there is still no image, press the '⏎ / **SOURCE**' button. Then press any key on the keyboard again to activate the monitor and restore the image on the screen.
I cannot see the On Screen Display.	Have you locked the On Screen Display (OSD) Menu to prevent changes?	Unlock the OSD by pressing the MENU button for at least 5 seconds.
The screen shows strange colors or just black and white.	Is the screen displaying only one color as if looking at the screen through a cellophane paper?	Check the signal cable connection.Make sure the video card is fully inserted in it's slot.
	Have the screen colors become strange after running a program or due to a crash between applications?	Reboot the computer.
	Has the video card been set properly?	Set the video card by referring to the video card manual.
The screen suddenly has become unbalanced.	Have you changed the video card or the driver?	Adjust screen image position and size using the OSD.
	Have you adjusted the resolution or frequency to the monitor?	Adjust the resolution and frequency at the video card. (Refer to the Preset Timing Modes).
	The screen can be unbalanced due to the cycle of the video card signals. Readjust Position by referring to the OSD.	
The screen is out of focus or OSD cannot be adjusted.	Have you adjusted the resolution or frequency on the monitor?	Adjust the resolution and frequency of the video card. (Refer to the Preset Timing Modes).
LED is blinking but no images on the screen.	Is the frequency properly adjusted when checking the Display Timing on the menu?	Adjust the frequency properly by referring to the video card manual and the Preset Timing Modes. (The maximum frequency per resolution may differ from product to product.)
There are only 16 colors shown on the screen. The screen colors have changed after changing the video card.	Have the Windows colors been set properly?	Windows ME/2000/XP: Set the colors properly at the **Control Panel → Display → Settings**.
	Has the video card been set properly?	Set the video card by referring to the video card manual.
There is a message that reads "Unrecognized monitor, Plug & Play (VESA DDC) monitor found".	Have you installed the monitor driver?	Install the monitor driver according to the Driver Installation Instructions.
	See the video card manual to see if the Plug & Play (VESA DDC) function can be supported.	Install the monitor driver according to the Driver Installation Instructions.

Problems related to Audio	No sound	Ensure that the audio cable is firmly connected to both the audio-in port on your monitor and the audio-out port on your sound card.
		Check the volume level.
	The sound level is too low.	Check the volume level.
		If the volume is still too low after turning the control to its maximum, check the volume control on the computer sound card or software program.
Check when MagicTune™ does not function properly.	MagicTune™ feature is found only on PC (VGA) with Window OS that supports Plug and Play.	* To check whether your PC is available for MagicTune™ feature, follow the steps below (When Windows is XP);
		Control Panel -> Performance and Maintenance -> System -> Hardware -> Device Manager -> Monitors -> After deleting Plug and Play monitor, find 'Plug and Play monitor' by searching new Hardware.
		MagicTune™ is an additional software for the monitor. Some graphic cards may not support your monitor. When you have a problem with the graphic card, visit our website to check the compatible graphic card list provided. http://www.samsung.com/monitor/magictune
MagicTune™ doesn't work properly.	Have you changed your PC or video graphic card?	Download the latest program. The program can be downloaded http://www.samsung.com/monitor/magictune.

Visit the MagicTune™ website and download the installation software for MagicTune™ MAC.

🔵 **Troubleshooting Client Monitor**

Symptom	Troubleshooting
The screen does not appear when I switch to the Client Mode.	To use the network function, approximately 30 seconds of booting time is required after turning the power on, and a blank screen appears for 3 to 4 seconds during booting. Please switch the mode about 30 seconds after the power is turned on.
The client screen appears, but I cannot connect to the server.	1) Check if the Hub port LED to which the LAN cable is connected blinks. If not, that indicates that the LAN connection is disconnected. In this case, connect using another LAN cable.
	2) Check if the settings of the 'Settings', 'Network' tab are properly set up. The default setting is "DHCP". If your network uses a static IP address, select 'Use the following IP address' and then enter the appropriate IP address information.
	3) Check if the 'User Name' and 'Password' set in the 'Remote Desktop' tab of 'Settings' are the same as those of the host PC. If not, match the 'User Name' and 'Password' of the 'Remote Desktop' with those of the host PC.
I cannot access the	1) Check if the Hub port LED to which the LAN cable is connected blinks.

Internet in the Client screen.	If not, that indicates that the LAN connection is disconnected. In this case, connect using another LAN cable.
	2) Check if the settings of the 'Network' tab of 'Settings' have been properly set up. The default setting is "DHCP". If your network uses a static IP address, select 'Use the following IP address' and then enter the appropriate IP address information.
The contents (video, voice) on the server do not play smoothly on the Client Monitor.	This is because the data is transmitted over the LAN. Check your LAN connection status.
I have connected a digital device such as a digital camera, camcorder or USB memory to the USB port, but they do not work.	This model supports USB devices that support removable disk functions without an additional driver installation. Check if the device you want to connect to is a device that supports the removable disk function without an additional driver installation.
The file list does not appear.	1) Check the files on the card. If only abnormal files (e.g. 0KByte, broken JPEG) exist, the files do not appear on the screen.
	2) The time required to display is determined by the size of the file. Wait a moment.
	3) Check if the format of the file is supported by the Client Monitor. If the extension of the file has been changed, the file will not be played.

Check the following items if there is trouble with the monitor.

1. Check if the power cord and the video cables are properly connected to the computer.
2. Check if the computer beeps more than 3 times when booting.
   (If it does, request an a service for the main board of the computer.)
3. If you installed a new video card or if you assembled the PC, check if the installed the adapter (video) driver and the monitor driver.
4. Check if the scanning ratio of the video screen is set to between 56 Hz ~ 75 Hz.
   (Do not exceed 75 Hz when using the maximum resolution.)
5. If you have problems in installing the adapter (video) driver, boot the computer in Safe Mode, remove the Display Adapter at the "**Control Panel→System→Device Administrator**" and then reboot the computer to reinstall the adapter (video) driver.

If problems repeatedly occur, contact an authorized service center.

Check List | **Q & A** | Self-Test Feature Check |

Q & A

Question	Answer
How can I change the frequency?	The frequency can be changed by reconfiguring the video card.
	Note that video card support can vary, depending on the version of the driver used. (Refer to the computer or the video card manual for details.)
How can I adjust the resolution?	Windows ME/XP/2000 : Set the resolution in the Control Panel →Display→Settings.
	* Contact the video card manufacturer for details.
How can I set the Power Saving function?	Windows ME/XP/2000 : Set the function at BIOS-SETUP of the computer or the screen saver. (Refer to Windows/Computer Manual).

How can I clean the outer case/LCD Panel?	Disconnect the power cord and then clean the monitor with a soft cloth, using either a cleaning solution or plain water. Do not leave any detergent or scratches on the case. Do not let any water enter the monitor.

Self-Test Feature Check

Self-Test Feature Check | Warning Messages | Environment | Useful Tips

Your monitor provides a self test feature that allows you to check whether your monitor is functioning properly.

Self-Test Feature Check

1. Turn off both your computer and the monitor.
2. Unplug the video cable from the back of the computer.
3. Turn on the monitor.
   If the monitor is functioning properly, you will see a box in the illustration below.

This box appears during normal operation if the video cable becomes disconnected or damaged.

4. Turn off your monitor and reconnect the video cable; then turn on both your computer and the monitor.
   If your monitor screen remains blank after using the previous procedure, check your video controller and computer system; your monitor is functioning properly.

Warning Messages

If there is something wrong with the input signal, a message appears on the screen or the screen goes blank although the power indicator LED is still on. The message may indicate that the monitor is out of scan range or that you need to check the signal cable.
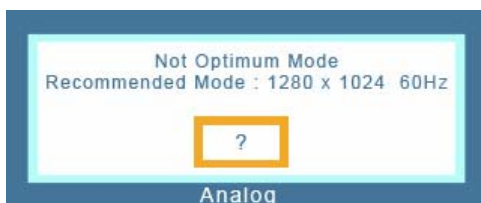
Environment

The location and the position of the monitor may influence the quality and other features of the monitor.

1. if there are any sub woofer speakers near the monitor, unplug and relocate the woofer to another room.
2. Remove all electronic devices such as radios, fans, clocks and telephones that are within 3 feet (one meter) of the monitor.

Useful Tips

- A monitor recreates visual signals received from the computer. Therefore, if there is a problem with the computer or the video card, this can cause the monitor to become blank, have poor coloring, become noisy, and video mode not supported, etc. In this case, first check the SOURCE of the problem, and then contact the Service Center or your dealer.

- **Judging the monitor's working condition**
  If there is no image on the screen or a **"Not Optimum Mode","Recommended Mode 1280 x 1024 60 Hz"** message comes up, disconnect the cable from the computer while the monitor is still powered on.
    - If there is a message coming up on the screen or if the screen goes white, this means the monitor is in working condition.
    - In this case, check the computer for trouble.

General | PowerSaver | Preset Timing Modes

● **General**

General	
Model Name	SyncMaster 710NT
LCD Panel	
Size	17" Diagonal (43 cm)
Display area	337.92 mm (H) x 270.336 mm (V)
Pixel Pitch	0.264 mm (H) x 0.264 mm (V)
Type	a-si TFT active matrix
Synchronization	
Horizontal	30 ~ 81 kHz
Vertical	56 ~ 75 Hz
Display Color	
16.2 M Colors	
Resolution	
Optimum resolution	1280 x 1024@60 Hz
Maximum resolution	1280 x 1024@75 Hz
Input Signal, Terminated	
RGB Analog , 0,7 Vp-p Positive at 75 Ω Separate H/V sync, TTL level positive or negative.	
Maximum Pixel Clock	
140 MHz	
Power Supply	
AC 100 to 240 VAC(+/- 10%), 60/50 Hz ± 3 Hz	
Signal Cable	
15pin to 15pin D-sub cable, Detachable	
Power Consumption	
Less than 45 W	

Dimensions (WxDxH)/ Weight

370.0 x 60.3 x 342.3 mm / 14.6 x 2.4 x 13.5 inch (Without Stand)
370.0 x 200.0 x 404.0 mm / 14.6 x 7.9 x 15.9 inch (with Basic Stand) / 6.25 kg

Dimensions (WxDxH)/ Weight (Package)

508.0 x 235.0 x 431.0 mm / 20.0 x 9.3 x 17.0 inch / 8.45 kg

VESA Mounting Interface

100 mm x 100 mm (for use with Specialty(Arm) Mounting hardware.)

Max internal speaker

0.8~1.0 W

Environmental considerations

Operating	Temperature: 50 °F ~ 104 °F (10 °C ~ 40 °C) Humidity: 10 % ~ 80 %, non-condensing
Storage	Temperature: -4 °F ~113 °F (-20 °C ~ 45 °C) Humidity: 5 % ~ 95 %, non-condensing

Plug and Play Capability

This monitor can be installed on any Plug & Play compatible system. The interaction of the monitor and the computer systems will provide the best operating conditions and monitor settings. In most cases, the monitor installation will proceed automatically, unless the user wishes to select alternate settings.

Dot Acceptable

TFT LCD panels manufactured by using advanced semiconductor technology with precision of 1ppm (one millionth) above are used for this product. But the pixels of RED, GREEN, BLUE and WHITE color appear to be bright sometimes or some black pixels may be seen. This is not from bad quality and you can use it without any problelms.
- For example, the number of TFT LCD sub pixels contained in this product are 3,932,160.

Note: Design and specifications are subject to change without prior notice.

Class B Equipment (Information Communication equipment for residential use)

This product complies with the Electromagnetic Compatibility Directives for residential use and can be used in all areas including common residential areas.
(Class B equipment emits less electromagnetic waves than Class A equipment.)

○ **Client**

Item	Specifications
LAN	10/100 Mbps
USB	Version 1.1 (4 Ports)
Sound	MP3, MPEG, Audio, WAV, WMA
Photo	JPEG, BMP
Video	MPEG1[Software Version, Video lower than CIF]
Others	An analog output port is supported so that you can connect the output from the Client Monitor to another display device. Macromedia's Flash is included. Bsquare's Java Virtual Machine (JVM) is included.

Local Device (USB) Connection Speed

When booting up a Client monitor, a blank screen may appear for 3~4 seconds until the Client Office screen appears.

If you turn the Client monitor off while booting, it may damage the product.

Local Device (USB) compatibility

HID(Human Interface Devices)

: Keyboard, Mouse

MSC(Mass Storage Class)

: Devices using the SCSI(Small Computer System Interface) command set

: FAT(File Allocation Table) System

Exception

Some manufacturers have wrongly specified their device as USB standard compatible.
Our product has exception handling procedures.
But Some devices are unlikely to work properly.

Some manufacturers have wrongly specified their device as SCSI compatible.
Such devices are unlikely to work properly.

It is recommended that USB devices are purchased after they are tested and confirmed to be compatible.

General   **PowerSaver**   Preset Timing Modes

PowerSaver (When used as a normal monitor)

This monitor has a built-in power management system called PowerSaver. This system saves energy by switching your monitor to low-power mode when it has not been used for a certain amount of time. The monitor automatically returns to normal operation when you press a key on the keyboard. For energy conservation, turn your monitor OFF when it is not needed, or when leaving it unattended for long periods. The PowerSaver system operates with a VESA DPMS compliant video card installed in your computer. Use the software utility installed on your computer to set up this feature.

State	Normal Operation	Power saving mode	Power off (Power button)
Power Indicator	Green	Green, Blinking	Off
Power Consumption	Less than 45 W	Less than 2 W (Off-mode)	Less than 2 W

PowerSaver (When used as a Client monitor)

State	Normal Operation	Power saving mode	Power off (Power button)
Power Indicator	Green	Green, Blinking	Off
Power Consumption	Less than 35 W	Less than 2 W (Off-mode)	Less than 2 W

General   PowerSaver   **Preset Timing Modes**

Preset Timing Modes

If the signal transferred from the computer is the same as the following Preset Timing Modes, the screen will be adjusted automatically. However, if the signal differs, the screen may go blank while the power LED is on. Refer to the video card manual and adjust the screen as follows.

Table 1. Preset Timing Modes

Display Mode	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (H/V)
IBM, 640 x 350	31.469	70.086	25.175	+/-
IBM, 640 x 480	31.469	59.940	25.175	-/-
IBM, 720 x 400	31.469	70.087	28.322	-/+
MAC, 640 x 480	35.000	66.667	30.240	-/-
MAC, 832 x 624	49.726	74.551	57.284	-/-
MAC, 1152 x 870	68.681	75.062	100.00	-/-
VESA, 640 x 480	37.500	75.000	31.500	-/-
VESA, 640 x 480	37.861	72.809	31.500	-/-
VESA, 800 x 600	35.156	56.250	36.000	+/+,-/-
VESA, 800 x 600	37.879	60.317	40.000	+/+
VESA, 800 x 600	46.875	75.000	49.500	+/+
VESA, 800 x 600	48.077	72.188	50.000	+/+
VESA, 1024 x 768	48.363	60.004	65.000	-/-
VESA, 1024 x 768	56.476	70.069	75.000	-/-
VESA, 1024 x 768	60.023	75.029	78.750	+/+
VESA, 1152 x 864	67.500	75.000	108.00	+/+
VESA, 1280 x 1024	63.981	60.020	108.00	+/+
VESA, 1280 x 1024	79.976	75.025	135.00	+/+

Horizontal Frequency

The time to scan one line connecting the right edge to the left edge of the screen horizontally is called the Horizontal Cycle and the inverse number of the Horizontal Cycle is called the Horizontal Frequency. Unit: kHz

Vertical Frequency

Like a fluorescent lamp, the screen has to repeat the same image many times per second to display an image to the user. The frequency of this repetition is called the Vertical Frequency or Refresh Rate. Unit: Hz

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● **Contact SAMSUNG WORLD-WIDE**

If you have any questions or comments relating to Samsung products, please contact the SAMSUNG customer care center.

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MEXICO	01-800-SAMSUNG (7267864)	http://www.samsung.com/mx
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ECUADOR	1-800-10-7267	http://www.samsung.com/latin
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Terms

○ **Dot Pitch**
The image on a monitor is composed of red, green and blue dots. The closer the dots, the higher the resolution. The distance between two dots of the same color is called the 'Dot Pitch'. Unit: mm

○ **Vertical Frequency**
The screen must be redrawn several times per second in order to create and display an image for the user. The frequency of this repetition per second is called the Vertical Frequency or Refresh Rate. Unit: Hz

Example : If the same light repeats itself 60 times per second, this is regarded as 60 Hz.

○ **Horizontal Frequency**
The time to scan one line connecting the right edge to the left edge of the screen horizontally is called the Horizontal Cycle. The inverse number of the Horizontal Cycle is called Horizontal Frequency. Unit: kHz

○ **Interlace and Non-Interlace Methods**
Showing the horizontal lines of the screen from the top to the bottom sequentially is called the Non-Interlace method while showing odd lines and then even lines in turn is called the Interlace method. The Non-Interlace method is used for the majority of monitors to ensure a clear image. The Interlace method is the same as that used in TVs.

○ **Plug & Play**
This is a function that provides the best quality screen for the user by allowing the computer and the monitor to exchange information automatically. This monitor follows the international standard VESA DDC for the Plug & Play function.

○ **Resolution**
The number of horizontal and vertical dots used to compose the screen image is called the 'resolution'. This number shows the accuracy of the display. A high resolution is good for performing multiple tasks as more image information can be shown on the screen.

Example: If the resolution is 1280 x 1024 , this means the screen is composed of 1280 horizontal dots (horizontal resolution) and 1024 vertical lines (vertical resolution).

For Better Display

1. Adjust computer resolution and screen injection rate (refresh rate) oncomputer as described below to enjoy the best quality of picture. You can have an uneven quality of picture in the screen if the best quality of picture is not provided in TFT-LCD.

   ○ Resolution: 1280 x 1024
   ○ Vertical frequency (refresh rate): 60 Hz

2. TFT LCD panels manufactured by using advanced semiconductor technology with precision of 1ppm (one millionth) above are used for this product. But the pixels of RED, GREEN, BLUE and WHITE color appear to be bright sometimes or some black pixels may be seen. This is not from bad quality and you can use it without any problelms.

   ○ For example, the number of TFT LCD sub pixels contained in this product are 3,932,160.

3. When cleaning the monitor and the panel outside, please apply the recommended small amount of cleaner by using a soft cloth to polish. Do not force the LCD area but rub softly. If excessive force is applied, you may stain it.

4. If you are not satisfied with the picture quality, you can get better quality of picture by performing the "auto adjustment function" in display screen that is appeared as window termination button is pressed.
If there's still noise after the automatic adjustment, use the FINE/COARSE adjustment function.

5. When viewing a fixed screen for an extended period of time, residual image or blurriness may appear.
Change the mode to energy saving mode or set a screensaver to a changing picture when away from the monitor for an extended period of time.

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PRODUCT INFORMATION (Image Retention Free)

LCD Monitors and TVs may have image retention when switching from one image to another especially after displaying a stationary image for a long time.
This guide is to demonstrate correct usage of LCD products in order to protect them from Image retention.

○ **Warranty**
Warranty does not cover any damage caused by image retention.
Burn-in is not covered by the warranty.

○ **What is Image retention ?**
During normal operation of a LCD panel, pixel image retention doesn't occur. However, if the same image is displayed for a long time, a slight difference in electric charge accumulates between the two electrodes which encase the liquid crystal. This may cause the liquid crystal to build up in a certain areas of the display. Thus, the previous image is retained when switching to a new video image. All display products, including LCD,are subject to image retention. This is not a product defect.

Please follow the suggestions below to protect your LCD from image retention

---

○ **Power Off, Screen Saver, or Power Save Mode**
Ex)
- Turn the power off when using a stationary pattern.
    - Turn the power off for 4 hours after 24 hours in use
    - Turn the power off for 2 hours after 12 hours in use
- Use a Screen saver if possible
    - Screen saver in one color or a moving image is recommended.
- Set the Monitor to power off with the PC Display Properties Power Scheme.

○ **Suggestions for specific applications**
Ex) Airports, Transit Stations, Stock Markets, Banks, and Controlling Systems
We recommend that you follow set up of your display system program as below:

○ **Display Information together with Logo or Moving image cycle.**
Ex) Cycle : Display Information for 1 hour followed by a
Display Logo or moving image for 1 minute.

○ **Change the Color Information periodically (Use 2 different colors).**
Ex) Rotate the Color Information with 2 colors every 30 minutes.
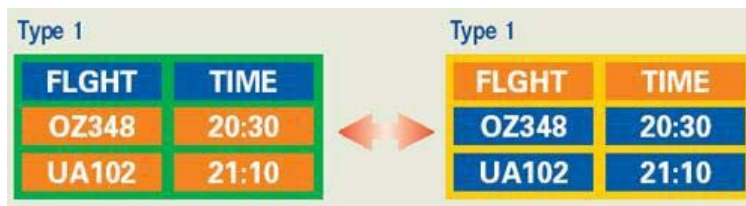
Avoid using a combination of characters and background color with large difference in luminance.
Avoid using Grey colors, which can cause Image retention easily.

- Avoid: Colors with big difference in luminance (Black & White, Grey)
Ex)

- Recommended settings: Bright colors with little difference in luminance
- Change the characters color and background color every 30 minutes
Ex)

- Every 30 minutes, change the characters with movement.

Ex)

○ **The best way to protect your monitor from Image retention is to set your PC or System to operate a Screen Saver program when you are not using it.**

Image retention may not occur when a LCD panel is operated under normal conditions.

Normal conditions are defined as continuously changing video patterns. When the LCD panel is operated for a long time with a fixed pattern (-over 12 hours-), there may be slight difference in voltage between electrodes that work the liquid crystal (LC) in a pixel. The voltage difference between electrodes increases with time, forcing the liquid crystal to lean. When this occurs, the previous image may be seen when the pattern is changed.
To prevent this, the accumulated voltage difference must be decreased.
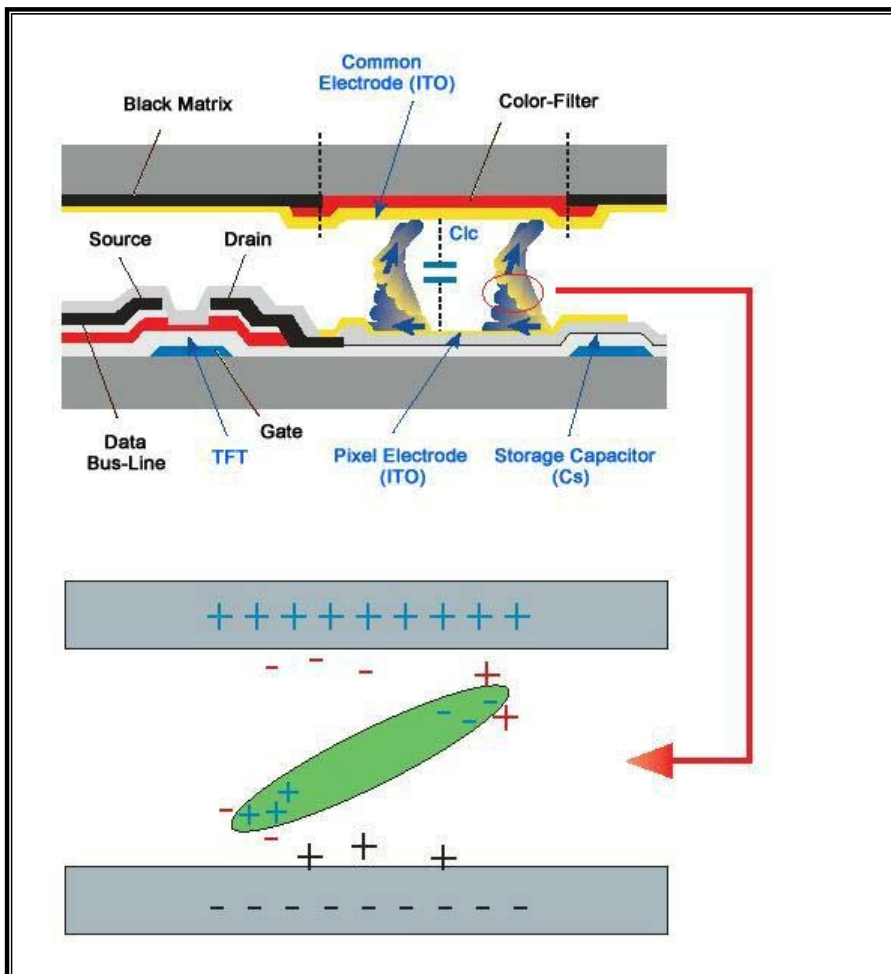
○ Our LCD Monitor satisfies ISO13406-2 Pixel fault Class II

Correct Disposal of This Product
(Waste Electrical & Electronic Equipment) - Europe only

(Applicable in the European Union and other European countries with separate collection systems)

This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.

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