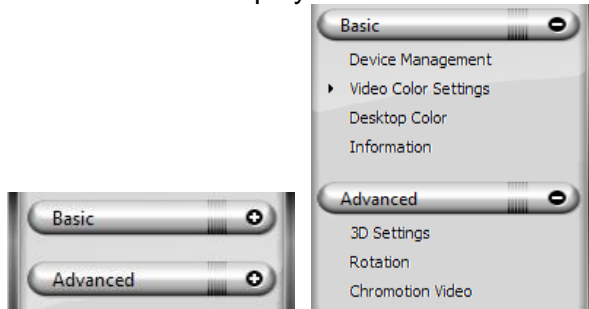## 6.2.5 Left Menus

|	
Left Panel Menus	The left side of the S3 ScreenToys window contains selection items for display and utility.
Basic and Advanced dropdown lists	These two dropdown lists contain the Basic and Advanced utility menu items available for further configuration. Use the Menu Expand ⊕ and the Menu Hide ⊖ buttons to control the display of menu items. The default view of the menu lists is **Group View** (shown above). You can select the alternate **Tree View** option from the **CHROME®** menu to change the appearance of the left menus: Tree (hover) (select) When hovering over the menu in either view, the target selection will have blue letters and a blue underline. Selected items appear with blue highlight while you are in the menu area, but once you click on the right portion of the dialog area, the blue highlight will disappear. In the group view a black right arrowhead (▸) indicates the selected page.
change asterisk	If you make changes to any utility menu page an asterisk * will be appended to end of menu page name. The asterisk will disappear when you click **Apply All** or **Undo All**.
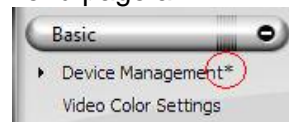
6.2.6 Right Panel Controls

6.2.6.1 Shortcut Keys

The right main panel contains the adjustable settings for the S3 ScreenToys utility named in the banner, and selected in the left panel utility dropdown lists.

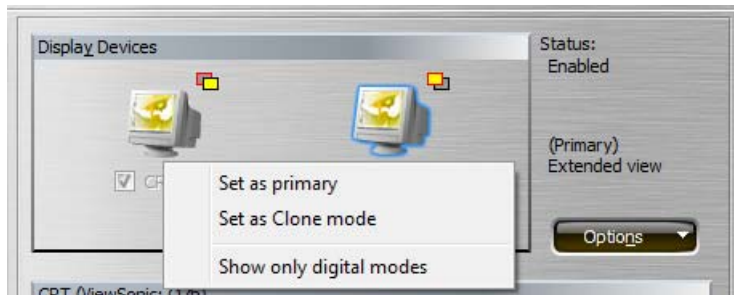|	
Settings Area	Utility content will vary, and utility-specific context menus and tips are available.
Alt+Shortcut Keys	Shortcut keys for menu items are indicated by an underlined letter in the string. Press the **Alt** key down and then press the indicated letter to invoke the command. In the example below (from the Device Management page): **Alt+m** switches the focus to the Monitors droplist. **Alt+y** is the shortcut keyboard key that switches the focus to the Display Devices area: **Alt+n** makes the Options dropdown list appear. Other shortcut keys which appear on most S3 ScreenToys pages are: **Alt+a** is for Apply All. **Alt+u** for Undo All. **Alt+d** resets values to their defaults. (note: the display may go black while values are being reset). **Alt+e** exits the S3 ScreenToys page. Shortcut keys are not case sensitive. Though there is not an overlap in the shortcut key definitions among the S3 ScreenToys menus, you must be on the appropriate page before activating the shortcut key for it to take effect.

6.2.6.2 Context Menus and Tooltips

Context Menus
Context menu appearance may vary between operating systems. These menus display on a right click when the pointer is positioned on top of an item. For example, here is a context menu for the Device Management CRT icon:
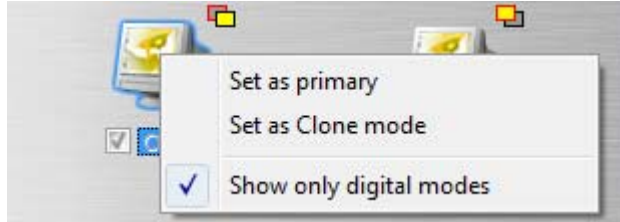
Tip: Whenever a right-click menu is available for the item underneath the hovering cursor, the cursor will change to a cursor with a small mouse image with the right button in red.

Tooltips and Infotips
These tips display on pointer hover for Windows Vista. For Windows XP right click. To view a description of an item or selection option on any page of **S3 ScreenToys** or the **Display Settings Monitor** area or **Advanced** tab, first make the window active by clicking in the page or on the title bar. Next position the pointer on top of the item. In approximately 1 second a description line, box, or balloon will appear (if a Tooltip or Infotip is available for the item). Move the pointer into the tooltip area to make the tip stay on your screen. Move the pointer away from the area to make the tip disappear. Below is an example showing the Infotip for a Monitor Icon:

6.2.6.3 Sliders

Sliders

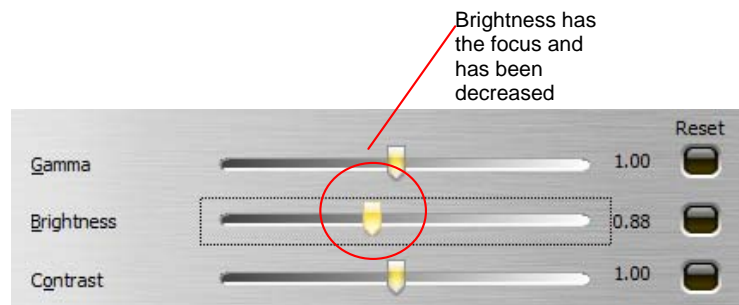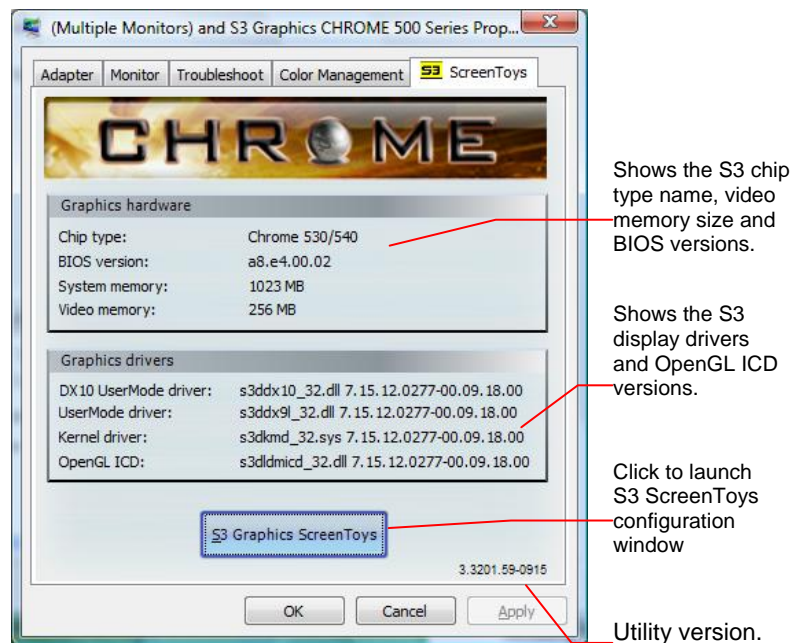|	
Slider colors	Some advanced adjustments are made using a slider which can be moved to the left or right to change a value within a range. When a slider is selected, it will have an outline around it. The intensity and outline color of the tab on the slider will vary depending on pointer activity: Light: Pointer is hovering over the slider tab. Gray outline: Normal Intense: Pointer is holding or dragging the slider tab. An Infotip may also appear to show the slider value.
Sliders	To use a slider: Click on the slider bar. A dotted line around the bar will appear indicating it has the focus and is available for adjustment. Drag the slider along the bar to adjust. • Move to right to increase the value being adjusted. • Move to left to decrease the value being adjusted. When moving a slider, a value will appear just below the depressed cursor. The value will indicate the current value. Brightness has the focus and has been decreased To return an adjustment to its default value, click the black button on the right of each slider bar. The other two slide bar values will not be affected. To use a keyboard to adjust a slider bar value: • Right arrow or Up arrow increases the value. • Left arrow or Down arrow decreases the value. The current value for each slider is displayed on the right.

6.3 S3 ScreenToys Tab

This informational tab includes a button to access the **S3 ScreenToys** dialog window.

ACCESS: To open the advanced **ScreenToys** tab, right click in any unpopulated area of the **Desktop**. Click **Personalize**. Click **Display Settings**. (XP: Click Properties/ Settings). Click **Advanced Settings…** (XP: Advanced)**,** then click the **S3 ScreenToys** tab.

Note: To access the system configuration and driver information on this tab page from the **S3** taskbar icon or **CHROME®** menu, click **Information**, which also will contain additional details about your adapter's environment.

OPTIONS: The **S3 ScreenToys** tab areas include:

Logo area	This area contains a graphic.
Graphics hardware	This area includes information related to the graphics, system and BIOS configuration.
Chip type	Shows the S3 Graphics chip type name.
BIOS version	Shows the S3 Graphics video BIOS version.
System memory	Shows the amount of detected system memory.
Video memory	Shows the amount of detected video memory.

|	
Graphics drivers area	This area includes information about the display drivers.
DX10 UserMode driver and UserMode driver	Shows the S3 Graphics Windows Vista User Mode display driver filenames and version numbers. Driver version numbers are divided into two portions separated by a hyphen. The first portion is the version number following Microsoft's conventional format. The portion after the hyphen is S3 Graphics internal version number.
Kernel driver	Shows the S3 Graphics Windows Vista Kernel Mode driver filename and version number.
OpenGL ICD	Shows the S3 Graphics Installable Client Driver for OpenGL filename and version number.
Other	
S3 Graphics ScreenToys	Click on the **S3 Graphics ScreenToys** button to launch the S3 Graphics ScreenToys configuration windows.
Version	Displays the current version number of the page.
Apply	This utility page is information-only. Therefore, the Apply button will be dimmed and unavailable.
OK, Cancel	Click **OK** or **Cancel** to exit the tabbed page and return to **Display Settings**.

6.4   S3 Taskbar Icon

S3 Graphics software packages include a taskbar icon giving you reduced-click access to S3 Graphics display configuration options and utility windows.
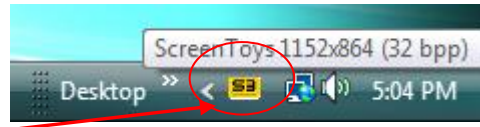
The **CHROME®** menu is accessible through the taskbar icon which appears as the S3 logo represented by a black "S3" on a yellowish background .

➣ A left click on the icon will launch the **S3 ScreenToys Device Management** window.

➣ A single right click on the icon will bring up the **CHROME®** taskbar menu.

Click to select any option from the menu.

To clear the menu from the screen, click anywhere on the desktop to close but not deactivate the menu.

If you want to deactivate the menu and taskbar icon, select **Exit**. The menu and taskbar icon are automatically reactivated when you right click on the desktop and select **S3 ScreenToys**.

To launch a related S3 ScreenToys page, select the appropriate menu item, such as Display Devices, Desktop Color, 3D Settings, Video Color Settings, Chromotion Video or Information.
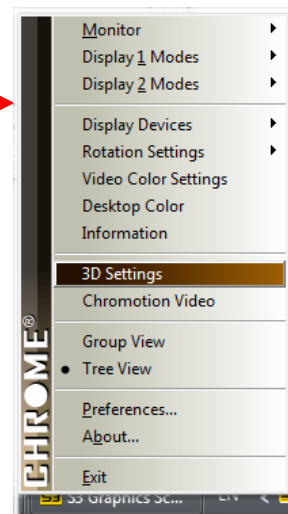
Directly select submenu options for Monitors, Display modes, Display Devices and Rotation Settings. This provides reduced click access by initiating the change without requesting confirmation from you.

Selection of a sub-menu feature will toggle the feature ON (enabled) or OFF (disabled). A check on the left of the feature name indicates that the feature is ON (enabled).

Caution: Unpredictable results may occur when attempting to change display and utility settings through the **CHROME®** menu when either the **Display Settings** dialog window or the **S3 ScreenToys Device Management** window is also open. To avoid sending conflicting requests to S3 Graphics software, always close any open **Display Settings** or **S3 ScreenToys** windows first before proceeding with display control adjustments using the **CHROME®** menu.

6.5 CHROME® Menu

6.5.1 CHROME® Menu General Settings

CHROME® menu: general settings	These items provide general information about the **S3 ScreenToys** and **CHROME®** Menu.

Information

Click **Information** to launch the **S3 ScreenToys Information** page which provides copyright and version information about the system environment and installed S3 Graphics software. Some of this information is the same as provided on the **Display Settings Advanced S3 ScreenToys** tab page.
A vertical scroll bar is provided to allow access to all the information provided.

Group View Tree View

Select **Group View** or **Tree View** to change the appearance of the menus in the left column of the **S3 ScreenToys** dialog windows.
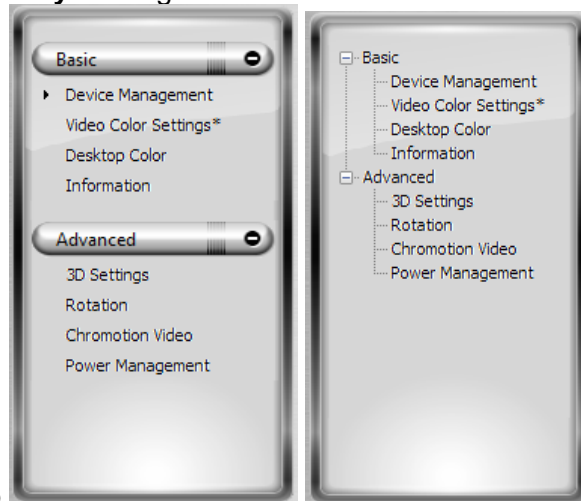
Group   Tree
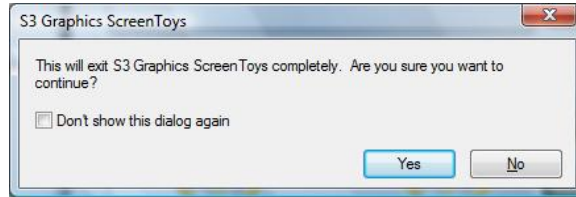
Preferences

Select Preferences to show configuration options for S3 ScreenToys menu and dialog display. See Preferences for further detail.

About

Select About to show a dialog window which contains a description for S3 ScreenToys as well as version and copyright information.
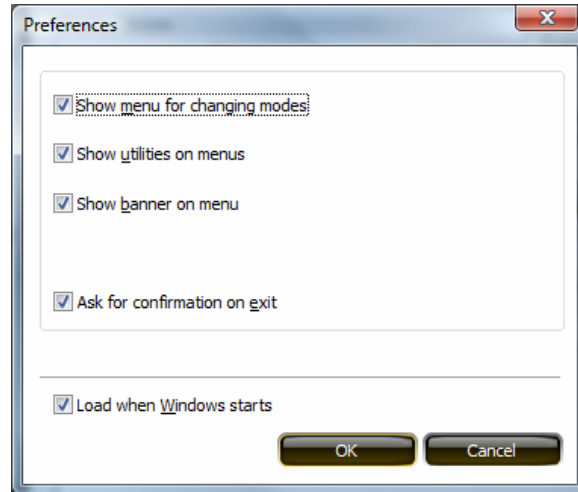
Exit

Click **Exit** to deactivate the **S3** taskbar icon and close the **CHROME®** menu. A dialog box may pop up asking if you want to exit completely. Click **Yes** to exit completely.
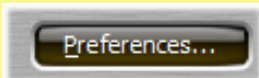

To re-activate the S3 taskbar icon and **CHROME®** menu, simply right click on the desktop and select **S3 ScreenToys**.

6.5.2 CHROME® Menu and S3 ScreenToys Preferences

Preferences	Preferences options allow control of options for customizing the behavior of S3 ScreenToys menu and window items.
	The Preferences dialog can be selected from a button on the upper right of the main S3ScreenToys page, or from the CHROME® taskbar menu.
Show menu for changing modes	Check the **Show menu for changing modes** box to enable access to the lists of desktop Display Modes, stated in combinations of supported screen resolutions and color qualities, for each available display output device.

Clear the checkbox to disable this option. When disabled, the menu will not have the Display Modes items and will look similar to the image to the right.
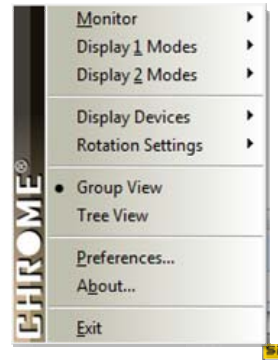
See the section on <u>CHROME Menu for Display Modes</u> for further detail on this feature when enabled.

Show utilities on menus	Clear the checkbox to disable this option. When the checkbox is not checked, your CHROME® menu will appear similar to the sample on the right. You can still access all the utilities from S3 ScreenToys windows available when you right click on an empty area of the **Desktop**, then click **S3 ScreenToys**.
Show banner on menu	Select **Show banner on menu** to show a vertical banner on the left side of the CHROME taskbar menu. The banner is shown by default. Clear the checkbox to disable this feature.
Ask for confirmation on exit	Select this option if you want S3 ScreenToys to display a confirmation dialog window when you click **Exit** (from the S3 ScreenToys window or from the CHROME taskbar menu). The dialog will ask you to confirm that you want to change any unapplied display settings you have made during this session. Clear the checkbox to disable this feature.
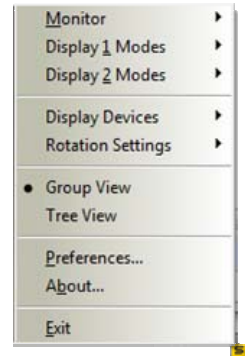
Load when Windows starts	Select **Load when Windows starts** to load S3 ScreenToys taskbar icon whenever Windows starts. The initial default setting is checked (enabled), and the CHROME® taskbar icon will load on restart, and the S3 ScreenToys item will appear on desktop right-click.

Clear the checkbox and the taskbar icon will not automatically load the next time Windows starts. Note that the desktop right-click context menu for S3 ScreenToys is not affected by this setting, and will always be available.

If you disable **Load when Windows starts**, here is a method to restore the CHROME taskbar icon and menu:

Right click on the desktop. Click on **ScreenToys**. Click on the white ☒ in the upper corner to close the S3 ScreenToys window.
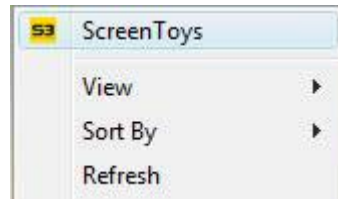
Note that the **S3 ScreenToys** icon will now appear in the taskbar. |
| OK, Cancel | Click **OK** to apply your changes or **Cancel** to exit without changes. |

6.5.3 CHROME® Menu Access to S3 ScreenToys

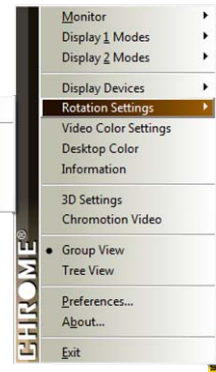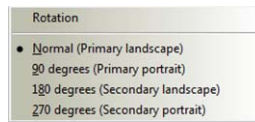|	
Utility Access area	Available S3 Graphics utilities will be listed in this area. If you have enabled **Extend the desktop** in **Display Settings**, any configuration options you make through this list will apply to **Display 1** or **Display 2**, as selected in the row above this area.
Video Color Setttings, Desktop Color, 3D Settings, Chromotion Video,	Click on a utility name to open that utility window directly. The utility window looks and behaves the same as the one you would see if you opened it through the S3 ScreenToys desktop menu option. Access by either method is quicker than from the **Display Settings Advanced** window. Menu items with a right arrowhead (▶), such as **Rotation Settings**, include submenus with direct access to utility options. The top item listed in the submenu will open the utility window. Direct "fast-action" items are listed below the top item. Click on any submenu item to instantly adjust your configuration to the menu setting listed. For example, Rotation options are directly accessible. When you click on a rotation option that is different from your current setting, your screen will immediately rotate to the new orientation. Options are applied to the currently selected display device as described above. After a utility is selected, you can use either the **CHROME®** menu or the **S3 ScreenToys** left menu panel to switch to another utility in the suite. Refer to S3 ScreenToys Basics for additional detail on common features of the ScreenToys setting windows.

6.5.4 CHROME® Menu for Display Devices and Modes

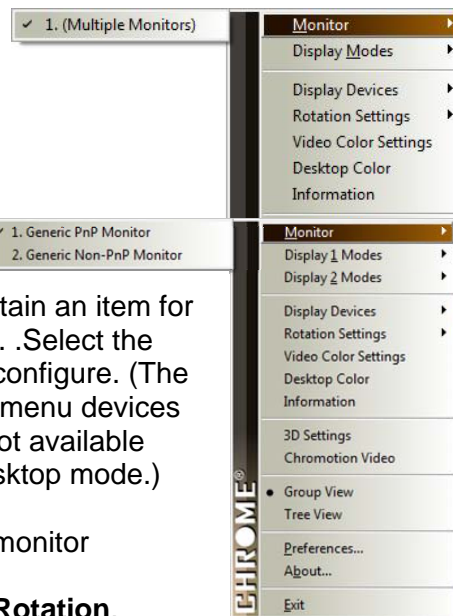|	
Monitor	Use this area to toggle between selected displays.
√ **1. xxx Monitor** **2. xxx Monitor**	A check ✓ indicates which display is selected for configuration with the display specific utilities listed in the **CHROME®** menu and **S3 ScreenToys** pages. If two monitors are available for configuration: If you are in clone mode, the **Monitor** submenu will contain one item **1. (Multiple Monitors)**. Then you must use the **Display Devices** submenu (described below) to select the device you wish to configure. If you are in Extended desktop mode, the list will contain an item for each attached device. .Select the **Monitor** you wish to configure. (The **Display Devices** submenu devices will be dimmed and not available while in Extended desktop mode.) Pages which have a monitor dependency include: **Rotation Settings** ▶**Rotation**, **Display Devices** ▶**Device Management**, and **Desktop Color**.
Display Devices	Use this menu group to launch the **Device Management** settings window of **S3 ScreenToys** or to toggle between configurable devices when in Multiple Monitor clone mode.
Device Management	Click to launch the **S3 ScreenToys Device Management** settings window. Refer to the: **Device Management** description for additional detail.

Devices types list   Click to select a device for current configuration when in Multiple Monitor clone mode.

If you have unchecked the Options menu item Show only connected display devices. Then the device option will show all possible display options compatible with your hardware, including those which are not connected and not enabled.
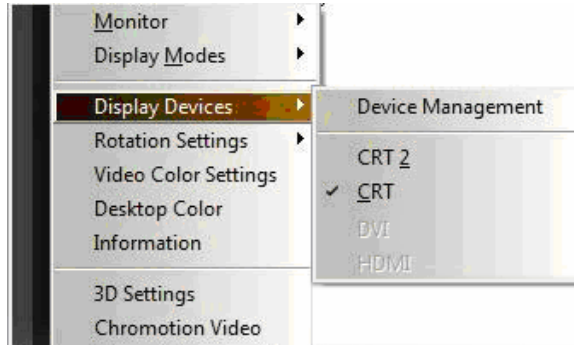
If you have two displays, for example:
- Multiple Monitor configuration with one of the connected devices disabled (see above where only CRT device is selected).
- Multiple Monitor configuration in clone mode with both Devices selected:
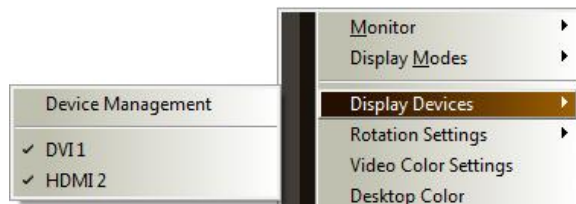
This option will be dimmed and unavailable for selection:
- if you have only one monitor connected and enabled in your system.
- If you are in an Extended mode Multiple Monitor configuration. While they are in Extended desktop mode, device selection should be done through the **Monitor** submenu
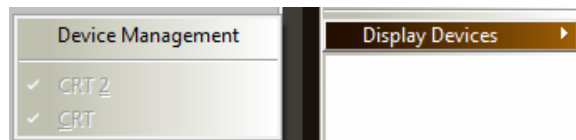
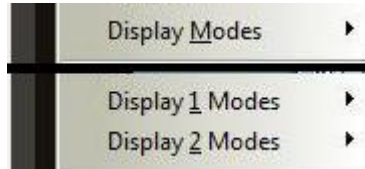|	
	Use these submenus for changing display screen resolution and color quality for a single connected device. When multiple monitors are configurable, the there will be a mode list submenu for each display.
Display Modes **Display 1 Modes** **Display 2 Modes** submenus	Select **Display Modes** to access a list of supported desktop modes for the configurable display device. If more than one display is enabled and configurable there will be both a **Display 1 Modes** and a **Display 2 Modes** submenu. The modes that are displayed in the list should be the same as the ones listed in **Display Settings** page. The list shows the available screen sizes, grouped by the number of colors. Each available display mode has its own entry in the menu, in the form "<width> x <height>." For example, the first mode might be "800x600." The current display mode is marked with a dot ● or diamond. A new list is generated every time you click on the menu item. For example, available modes change for some rotation states, so the list of modes may change after you rotate your image. Also, if the "**Hide modes that this monitor cannot display**" option is checked in **Display Settings Advanced Monitor**, then the **CHROME®** taskbar menu will only show the modes that can be displayed. Similarly, if that option is unchecked, then the **CHROME®** menu will display all the modes supported by the driver, regardless of whether the monitor supports them. To change the display to another mode, first click the color depth you want (16bpp or 32bpp), then click the mode with the screen size and number of colors you want. Depending on your operating system, you may be
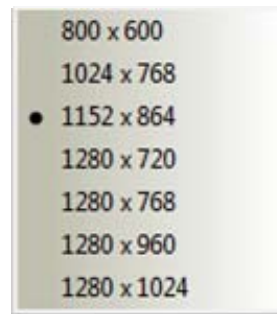
asked to confirm your choice. The software may ask to restart your computer if the number of colors changes.

Display Modes
(for 2 devices in multiple monitor clone mode)

If two display devices are connected and configured for clone mode, then the **CHROME® Monitor** menu will display **1. (Multiple Monitors)**.
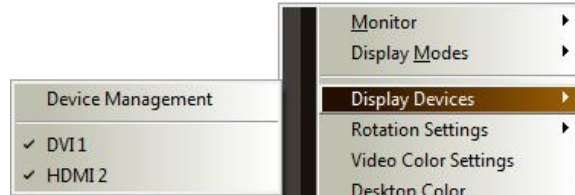
The monitors to be affected by changes to Display Modes are controlled through the **CHROME Display Devices** menu.

Before selecting your new mode, first open **Display Devices** and click one or both of the monitor options. For example to change the mode for an attached **DVI** and **HDMI,** check both devices. Then select **Display Modes**. The modes available will represent only those modes supported by both devices.

If only one display is checked in the **Display Devices** submenu, then the **Display Modes** available will be the list appropriate for the checked device.

Display Modes
(for extended desktop configurations)

When in Extended desktop, there will be both **Display 1 Modes** and **Display 2 Modes** submenus. **Display 1 Modes** submenu provides a list of supported desktop modes for the display device which owns the Primary View of your desktop. **Display 2 Modes** will provide a separate list for the secondary display.

Make your independent mode selection for each display. Select **Display 1 Modes** or **Display 2 Modes**, then select the number of colors, then select the screen size.

Depending on your operating system, you may be asked to confirm your choice. The software may ask to restart your computer if the number of colors changes.

SECTION 7   S3 SCREENTOYS DEVICE MANAGEMENT

This section details the S3 ScreenToys controls for display device configuration and management.

7.1   S3 ScreenToys Device Management Display Controls

ACCESS: To adjust display device settings for active displays, right click on an empty area of the desktop to activate the pop-up menu, then click **S3 ScreenToys**.

Alternately, click on the **S3** [S3] tray icon, select **Display Devices**, then **Device Management** from the **CHROME®** menu.

From the menu on the left of the dialog window, select **Basic**, then **Device Management** to show the **S3 ScreenToys Device Management** dialog window.

SELECT A DEVICE: Find the display device icon for the item you wish to configure and click on the checkbox underneath to select. Click on the icon to show options for configuration of that device in the lower **Device Settings** area.

OPTIONS: S3 ScreenToys Device Management offers the following display configuration options:

7.1.1 Display Icons

Display Devices area	This area contains icons and checkboxes for supported display devices.
Display Device Icons	The Display Devices area contains Display Device Icons for the currently supported display devices. Devices which display a yellow flower on their screen (not dark gray) are currently detected as connected and active.

HDMI   DVI

CRT   LCD

Some desktop board configurations are capable of supporting a 2nd HDMI or a 2nd DVI. If two same-type devices are detected, there will be a separate icon for each in the device icon area.
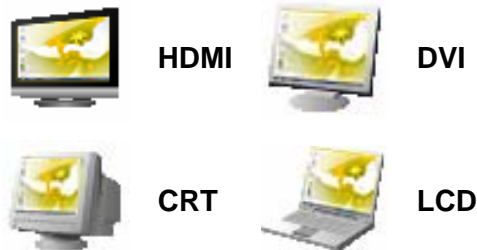
general icon notes	Click a Display Device icon, or navigate to it using the cursor keys, to select a device for configuration with **S3 ScreenToys Device Management**.
	When a device is selected, a blue outline surrounds the icon to identify it as selected. The Device Settings area (located below the icon area) will change and provide context-sensitive options for that device.
	Right click on a device icon in the Display Devices area to launch a popup context menu for that device.
Display Status checkbox	Each Display Device Icon has an associated Display Status checkbox which indicates the device's on/off status.
	ON (checked) indicates the graphics adapter is outputting a signal to the display device which is detected and active. The display device is fully enabled in this state.
	OFF (unchecked) indicates the device is detected but the graphics adapter is not outputting a signal to this device. When in OFF status, the device may remain powered and connected to the system, but S3 Graphics software will

treat the device as inactive.

Check the device's Display Status checkbox to change the device's status to ON. Clear the checkbox to change the device's status to OFF.

You must select **Apply All** to finalize the Status change.

At a minimum at least one device must be on. S3 Graphics software will disallow device combinations that are not compatible with your hardware.

Display device status cannot be adjusted while in Windows Vista/XP Extended desktop mode. (Note: Extended mode can be toggled from either Options dropdown list, select Display Settings, or from the Personalization Display Settings page. Select the secondary display and uncleck Extend desktop to this display. Once in Multiple Monitor Clone mode (SingleView same image), you should now be able to fully configure your displays independently.)

Display device status cannot be adjusted while playing DVD or higher resolution video.

Dragging Devices	Display Device icons can be selected and dragged to a new position.
Drag action	Click on an icon and hold the mouse button down while dragging the image icon to the left or right in the Display Device area. While the drag operation is in progress you may see a faint monitor image and a black vertical line indicating the current target destination for the icon. Note that this adjustment is for convenience only and is not considered a "change" by the application. You do not have to Apply, the application will automatically remember the icon positions. Moving icons has no affect on the relative position of the displays in screen space.
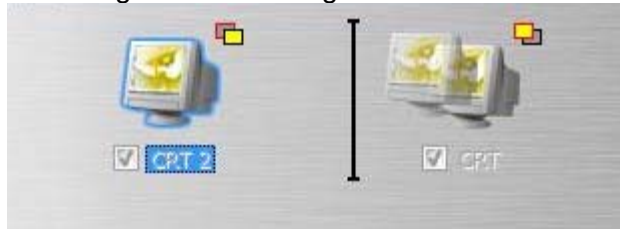
Disallowed.
The icon will have a gray screen and will be dimmed and unavailable. A red circle with a diagonal line through it will overlay on uper left corner of the device image and the device text and status checkbox will be dimmed.
The Disallowed Device is usually a connected device which could be supported but cannot be used at this time. For example, the current hardware configuration may not support this device, or the device cannot be enabled in combination with the other currently enabled devices.

Disconnected.
The icon will have a gray screen and will be dimmed and unavailable. A red X will overlay on uper left corner of the device image and the device text and status checkbox will be dimmed.
The Disconnected Device could be supported but is not detected as currently connected to the system.

Connected/ Disabled/ Not Selected.
The icon will display the device with a gray screen. The device text and status checkbox will not be dimmed.
The Connected/Disabled/Not Selected Device is detected as connected to the system but the device is not enabled and is not available for configuration.

Connected/ Disabled/ Selected.
The icon will display the device with a gray screen. The device text and status checkbox will not be dimmed. A blue outline around the device and a blue highlight on the device text name.
The Connected/Disabled/Selected Device is detected as connected to the system, but is not currently enabled. The blue outline indicates it is the device currently selected for configuration in **S3 ScreenToys Device Management**. Click on another connected device to clear this as the current configuration selection.

Connected/ Enabled/ Not Selected.
The icon will display the device with a yellow flower screen and a check in the device status checkbox.
The Connected/Enabled/Not Selected Device is detected as connected and active. **S3 Device Management** configuration options can not be made for this device at present, since it does not have a blue outline indicating it is selected for configuration. Clear the status checkbox to change the device status to off.

Connected/ Enabled/ Selected.
The icon will display the device with a yellow flower screen, a blue outline and a check in the device status checkbox.
The Connected/Enabled/Selected Device is detected as connected and active. **S3 Device Management** configuration options can made for this device, as indicated by the blue outline indicating it is selected for configuration. To select a device for configuration in the current session, select the device from the Display dropdown list and then click on the icon. The blue outline should appear. Clear the status checkbox to change the device status to off.

Device state indicators (cont.)	Display Device Icons change their appearance to reflect the state of the display device.

Status:

Status:

for selected display
The icon will display the device with a desktop bitmap on the screen and a blue outline around the device. There may also be a blue highlight on the device text name. There is a check in the device status checkbox.
In the example, the status **Enabled/Connected/** indicates that the Device is detected as connected to the system, active and the device is currently selected for configuration in the **Device Management** page.

Status:
(multiple monitor)
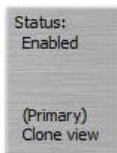
Status:

for selected display in multiple monitor configuration
For multiple monitor configurations, additional information is provided about the relationship between two display devices. The selected monitor may be either: Primary (i.e., the main monitor) or Secondary. The display on the two monitors will be either:
Clone view: both monitors show the same image, or
Extended view: monitors each provide a different part of a large desktop view. In the example, the multiple monitor configuration for the selected device is **(Primary) in a Extended View**.

Primary Secondary Status Indicators

For dual display configurations, rectangle pairs may appear to the upper right of a display icon. The leftmost upper rectangle is outlined in red and gives the status of that display, and the rightmost lower rectangle is outlined in black and reports the status of the other display. If the leftmost upper rectangle is bright yellow and in front of the lower rectangle, then that device is the Primary View. If the leftmost upper rectangle is gray and positioned behind the lower rectangle, then the associated device is the secondary display, which could be either a clone view or part of an extended desktop.

To change the Primary View device, right click on whichever device is currently the secondary display (the icon will have the gray leftmost upper rectangle, or change your Display selection from the Display dropdown list.). A popup context menu will appear.
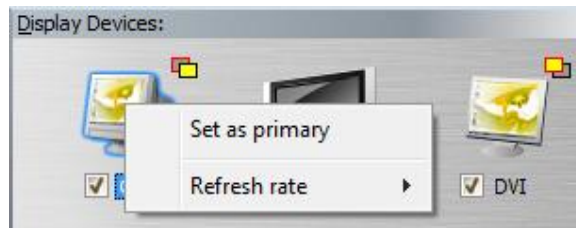
Click to select the option **Set as Primary**. Now the Primary/Secondary indicator icons will change on screen, and the **Apply All** button at the bottom of the window will become available for selection. As with all changes, you must click **Apply All** to complete the change.

7.1.2 Display Options dropdown list

Options dropdown list	The Options dropdown list provides options which allow you to control the re-enumeration of the connected devices and access to controls for basic display settings. Options include:
Re-detect display devices	Check this option to force a re-enumeration of your connected devices. This will Re-detect all connected devices, which may be useful to do after you have connected a new device.
Show only connected display devices	When checked (default), only connected devices appear in the Display Devices area. Uncheck this option to show all possible devices for your configuration, including those devices not connected.
Restore default device icon order	If you have previously dragged your display icons around in the Display Devices area, check this option to restore the order of the devices to their default order.
Display settings…	This page is similar to the Display Settings page provided by the operating system. See Device Management Display Settings… for details.
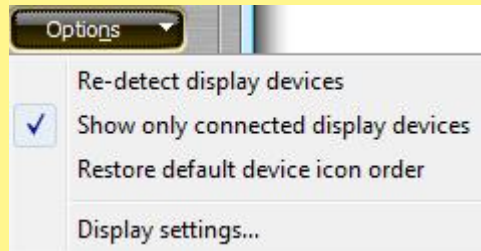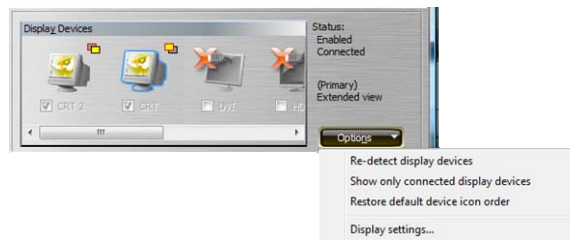
7.1.3 Display Context Menus

Context menus for Device Management	These tips display on pointer hover in Windows Vista, or on right click for Windows XP.
Context Menus, Tooltips and Infotips for DVI	Right click on the DVI icon in the **Display Devices** or on items in the **Device Settings: DVI** area to display the context sensitive Tooltips and Infotips for DVI. The context menu for DVI may include Refresh rate.
Context Menus, Tooltips and Infotips for CRT	Right click on the CRT icon in the **Display Devices** or on the **Device Settings: CRT** area to display the context menu for CRT. The context menu for CRT includes: Refresh rate.
Context Menus, Tooltips and Infotips for HDMI	Right click on the HDMI icon in the **Display Devices** or on the **Device Settings: HDMI** area to display the context menus and Infotips for HDMI. The menu for HDMI will allow you to adjust the resolution and refresh for the selected HDMI device.

7.2 S3 ScreenToys Device Management Display Settings

ACCESS:

The **Display Settings Display Configuration** page is accessible from the **Options** dropdown list on the right display device area of the **Device Management** page.
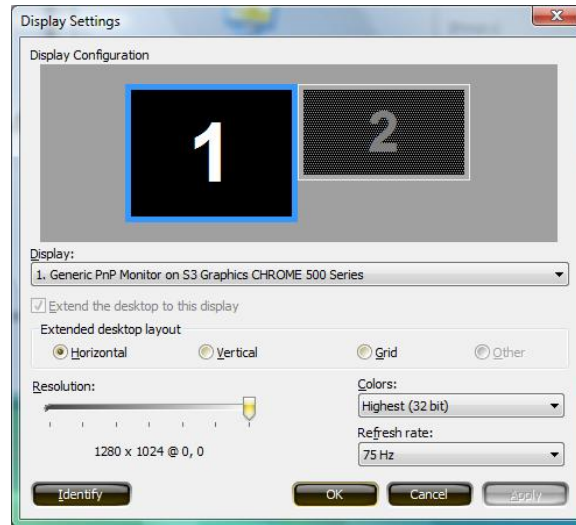
OPTIONS:

Display Settings	This page is similar to the **Display Settings** page provided by the operating system. The following items are the same:
	    ✦ Display dropdown list
	    ✦ Extend desktop checkbox
	    ✦ Resolution slider
	    ✦ Color bit depth selector
	    ✦ Identify button
	
	Controls available on the OS page but not available on the S3 page include:
	    ✦ Changing primary and secondary monitors
	    ✦ Dragging monitor icons to change relative position
	    ✦ Advanced settings button
	
	Discussed below are those controls which are available on the **S3 ScreenToys Display Settings** page but which are not available on the OS **Display Settings** main page are:
	    ✦ Desktop layout radio button
	    ✦ Refresh rate selection dropdown list

Extend Desktop layout

There are three radio buttons provided as an aid to relative positioning of the multiple displays in an extended desktop configuration:

➔ Select **Horizontal** to arrange the desktop in a horizontal row with the Primary display (1) positioned on the left and the secondary (2) on the right.

➔ Select **Vertical** to arrange the desktop in a vertical row with the Primary display (1) positioned above the secondary (2).

➔ Select **Grid** when you have four displays to arrange in a grid pattern. If only two displays are present, selecting Grid will result in a Horizontal arrangement.

➔ If **Other** appears as a grayed out layout option, then the layout has been previously adjusted through the operating system's Display Settings page, and the layout does not exactly match the other 3 available choices on this dialog. You cannot select this option, it is informative only.

Refresh rate… From the **Options** dropdown list, select **Display settings…** Near the lower right corner, click the **Refresh rate…** dropdown list to select a refresh rate from the available refresh rates for the display device icon outlined in blue which represents the current output display device. The operating system will test the selected refresh rate and you will have the option to accept or decline the change.
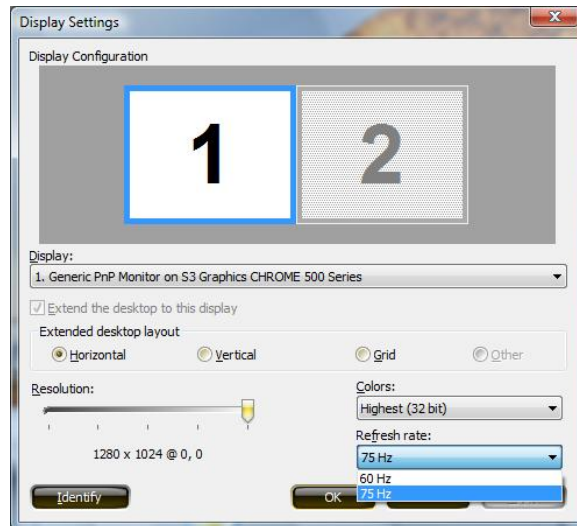
7.3 Fine Tuning CRT

When your display device is detected as a connected and active CRT, you can configure the CRT using the **S3 ScreenToys Device Management** page. Adjustments you make are remembered by the S3 Graphics software even when your system is sleeping or rebooted.

ACCESS: To adjust CRT, right click on the desktop and click from the menu to select **S3 ScreenToys**. In the left menu column, select **Basic, Device Management**. In the **Display Devices** area, click the **CRT** icon. Next check the **Device Status** checkbox underneath the icon. When the selected device icon has a blue outline and checked box, available options for the device can be configured. The lower **Device Settings: CRT** area will show available options for CRT configuration.

OPTIONS:
Options for CRT adjustment may include:

	The Device Settings title row will report the manufacturer name and model detected for the selected display device. The following options may be available for adjustment for the selected CRT. NOTE: If using multiple monitors, you must exit Extended desktop mode for these settings to be available.
Size	The Size controls allow you to increase and decrease the horizontal and vertical size of the display image. This does not change the actual desktop size, but rather uses the hardware to stretch or shrink the visible image. Click the **plus** signs to increase the horizontal or vertical size. Click the **minus** signs to decrease size. Click the **middle round** button to reset both horizontal and vertical size to the default values. Most monitors have a similar control built in.
Position	The Position control allows you to move the monitor image position to suit your individual preference and monitor. Click the **plus** signs to move the image position up or to the right on the monitor. Click the **minus** signs to move the image towards the left or the bottom of the monitor. Click the **middle round** button to reset the image position to the default values. Most monitors have similar controls built in.
Test Pattern	If a test pattern button is accessible, you can click the **Test Pattern** button to cycle through various test patterns to help you calibrate and adjust the CRT image. In order, the patterns are: SMPTE color bars, alignment patterns (to help with scaling and aspect ratio adjustments), and red, green, and blue backgrounds. Other CRT features can be adjusted while Test Pattern backgrounds are displayed.

Refresh rate…   Click the **Refresh rate…** button. The **CRT Properties Screen Refresh Rate** window will appear. Select a refresh rate from the dropdown list of available refresh rates for the current output display device. Click **Apply** to apply your change. The operating system will test the selected refresh rate and you will have the option to accept or decline the change.
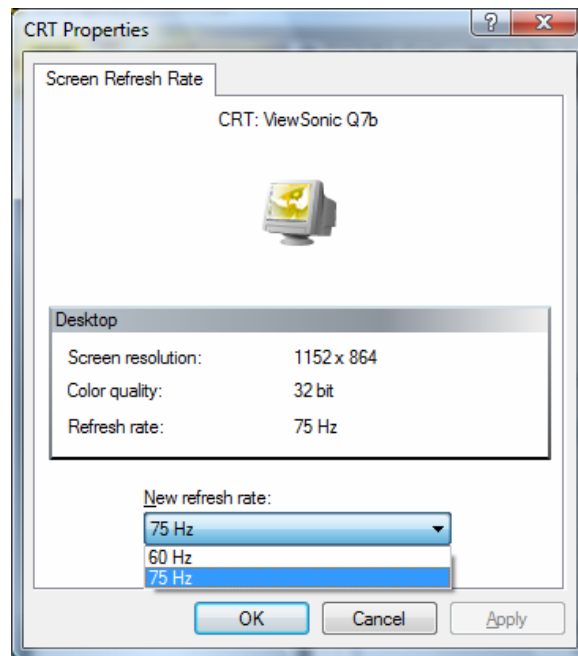
Alternately, from the **Options** dropdown list, you can select a refresh from the **Display settings Display configuration** window which also has a **Refresh rate…** dropdown list to select a refresh rate from the available refresh rates for the current output display device, as represented by the display device icon outlined in blue.
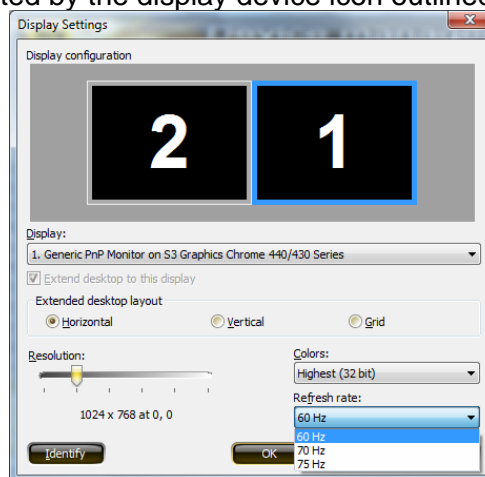
7.4 Fine Tuning DVI

When a DVI is detected as connected and active, you can configure the DVI using **S3 ScreenToys Device Management** page. Adjustments you make are remembered by the S3 Graphics software even when your system is sleeping or rebooted.

ACCESS: To adjust DVI, right click on the desktop and click from the menu to select **S3 ScreenToys**. In the left menu column, select **Basic, Device Management**. In the **Display Devices** area, click the **DVI** icon. Next check the **Device Status** checkbox underneath the icon. When the selected device icon has a blue outline and checked box, available options for the device can be configured. The lower **Device Settings: DVI** area should show options for DVI configuration.

OPTIONS:
Options for DVI adjustment vary with the type of DVI. If your multi-sync DVI reports itself as a CRT, then the CRT options will appear as associated with the device.

Device Settings: DVI model info & settings area	Reports DVI specific information.
	The **DVI Settings area** title row will report the manufacturer name and model detected for the selected display device.
	Options described below do not appear in the **DVI Settings** area if the option is not supported for the

Panel Type	Details the physical size (in pixels) and panel type of the device selected.
Display Scaling image icon	The icon shows an example of the currently checked Display scaling option. Change the Display scaling option to observe the change in screen size that results from changing the Display scaling setting.
Display scaling dropdown list	The **Display scaling dropdown list** allows you to let S3 Graphics software help set an optimized mode for your DVI output.

Preserve aspect ratio is the default setting. The S3 Graphics software will maintain the aspect ratio and up scale the screen image as large as possible to the device's native resolution.
Note: Even if you have enabled the monitor's built-in scaling, the monitor's scaling will not occur. The S3 Graphics driver does the expansion to the native display resolution.

Select the **Disabled** list item to have S3 Graphics software use the display resolution and refresh rate requested you specify, without any GPU up scaling. This setting is appropriate when you want to use the monitor's built-in scaling.

Select the **Full screen** list item to have S3 Graphics software upscale the screen image to a full screen image which matches the device's native resolution. The aspect ratio may not be maintained.

Select the **Center 1:1** list item to have S3 Graphics software use the GPU upscale hardware to center the display but do not do any upscaling.

Preserve aspect ratio — Select the Preserve aspect ratio checkbox to ensure the desktop image always maintains its original aspect ratio, or relationship between the horizontal and vertical size (in pixels).

For example, if you have a wide screen panel you might choose not to maintain the aspect ratio and thereby allow the S3 Graphics hardware and software to horizontally expand the image to fit the wide panel size.

Refresh rate… — Click **Refresh rate…** to launch the **S3 Graphics Screen Refresh Rate** window. Under Windows Vista and Windows XP you can use the utility to select from a dropdown list of refresh rates for the current output display device.
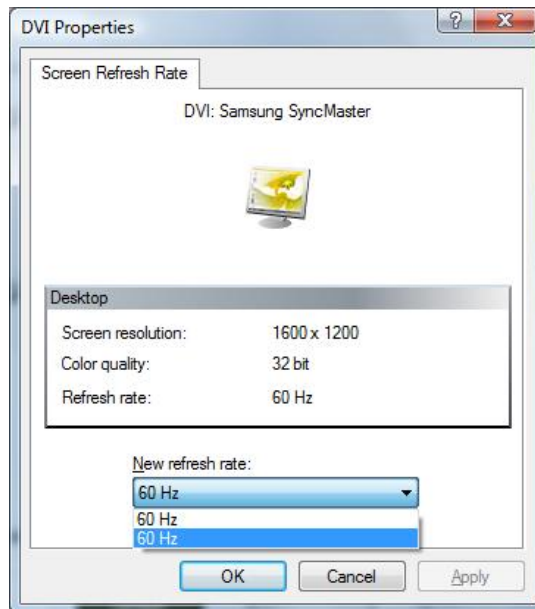
7.5   Fine Tuning HDMI

When an HDMI display device is detected as connected and active, you can configure HDMI using **S3 ScreenToys Device Management**.

Note: S3 HD Audio must also be configured to ensure a satisfactory sound and video synchronization. See Fine Tuning S3 HD Audio for detail.

ACCESS: To adjust HDMI, right click on the desktop and click from the menu to select **S3 ScreenToys**. In the left menu column, select **Basic, Device Management**. In the **Display Devices** area, click the **HDMI** icon. Next check the **Device Status** checkbox underneath the icon. When the selected device icon has a blue outline and checked box, available options for the device can be configured. The lower **HDMI Settings:** area will show available options for HDMI configuration.

OPTIONS:
The following options may be available for HDMI display output configuration:

Device Settings: HDMI model info & settings area	The **HDMI Settings** area title row will report the manufacturer name and model detected for the selected HDMI display device.
	The following configuration options are available when the HDMI device is connected and enabled and the HDMI Device icon is selected.

**HDMI Mode
dropdown list**

HDMI Mode is a dropdown list of available HDMI Formats.

This list is dynamically generated information processed by the driver from data specified in the HDMI monitor's information. The driver also prunes the list to those formats which do not exceed the graphic board's available digital interface bandwidth.

Note: If you have a 16:9 wide screen device, 4:3 formats will appear on your screen with black areas on the left and the right of the screen. If you have a 4:3 standard screen, 16:9 format types will appear on your screen in letter-box mode, i.e., with black areas on the top and the bottom of the screen.

**Display scaling
dropdown list**

The **Display scaling dropdown list** allows you to let S3 Graphics software help set an optimized mode for your HDMI output.

Preserve aspect ratio is the default setting. The S3 Graphics software will maintain the aspect ratio and up scale the screen image as large as possible to the device's native resolution.
Note: Even if you have enabled the monitor's built-in scaling, the monitor's scaling will not occur. The S3 Graphics driver does the expansion to the native display resolution.

Select the **Disabled** list item to have S3 Graphics software use the display resolution and refresh rate requested you specify, without any GPU up scaling.. This setting is appropriate when you want to use the monitor's built-in scaling.

Select the **Full screen** list item to have S3 Graphics software upscale the screen image to a full screen image which matches the device's native resolution. The aspect ratio may not be maintained.

Select the **Center 1:1** list item to have S3 Graphics software use the GPU upscale hardware to center the display but do not do any upscaling.

Note: If you have set and saved a Custom Mode for this device, the Custom Mode will be used, regardless of the current Display scaling setting.

Auto Mode checkbox
(Windows XP only)

The **Auto Mode checkbox** allows you to let S3 Graphics software own the selection of the optimized mode for your HDMI-output.

Select the **Auto Mode** checkbox to have S3 Graphics software automatically determine which HDMI Type is optimized for your configuration.

Clear the **Auto Mode** checkbox if you want to decide which HDMI Type should be selected. (This is the current default setting for Windows XP. For Windows Vista this option is not applicable.)

Mute S3 HD Audio device checkbox

The **Mute S3 HD Audio device** checkbox allows you direct access to mute the audio portion of the HD audio-video stream.

Select the **Mute S3 HD Audio device** check box to mute the audio portion of the merged HD-formatted audio-video stream.

Clear the **Mute S3 HD Audio device** checkbox to allow the audio portion of the stream to play.

Note: For further information on S3 HD Audio control, refer to the following section on Fine Tuning HD Audio.

Color space dropdown list

The **Color space** dropdown list allows you to select between three formats for your HDMI output. Video pixels can be encoded in either RGB, YCbCr 4:4:4 or YCbCr 4:2:2 formats.

Use this option when the output on the screen doesn't appear as expected.
Select:
➥ **RGB**. RGB encoding is the default. It can be used for

color depths of 24-bit and above.

- ➔ **YCbCr 4:4:4**. It can be used for color depths of 24-bit and above, and may provide greater color sampling.
- ➔ **YCbCr 4:2:2**. This format is not supported for color depths greater than 24-bits.

Advanced…	Click the **Advanced** button to open the HDMI Options page.

7.5.1 Advanced: HDMI Options
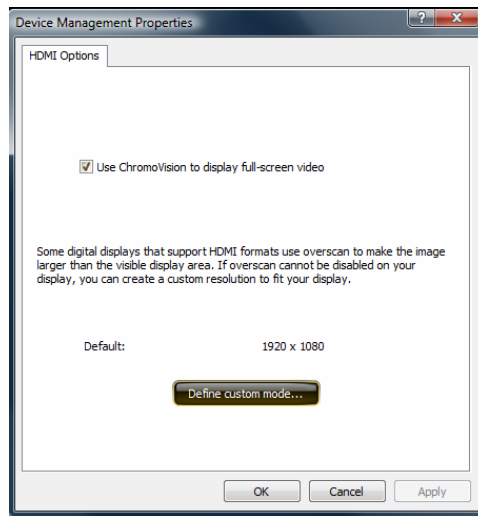
HDMI Options page	These additional HDMI configuration options are available for selection through the **HDMI Options** window, accessible from the **Advanced** button located in the HDMI settings area of the **S3 ScreenToys Device Management** window.
Use ChromoVision to display full-screen video	Click **Use ChromoVision to display full-screen video)** checkbox to enable ChromoVision. When you are using Windows Vista or Windows XP, ChromoVision allows full screen playback on your HDMI device while windowed video plays on another display device associated with the Primary View. ChromoVision is not available when there is only one display output device, and is not available when you Extend the desktop. You must be in Clone view.

Refer to the Video Enthusiast section for additional information about <u>ChromoVision</u>.

Overscan note	The Options page includes text advising the user that they may have the option to set a custom resolution for their display.
Default:	This area provides the default resolution for your HDMI device.
Define custom mode… button	Click the **Define custom mode…** button to open a dialog window which allows you to customize your HDMI desktop size.

Custom Resolution Settings

Use the minus buttons to adjust the display image size until you see the yellow border. Use the plus buttons to increase the size until the white background fills the screen with no yellow border. Click the center button to restore the default settings.

☑ Preserve aspect ratio

Width   Height
1280   720

[OK]   [Cancel]

HDMI Define custom mode	This control occupies the full area for the device on the desktop
Custom Resolution Settings: Size	The **Custom Resolution Settings** control button allow you to increase and decrease the horizontal and vertical size of the display image. This does not change the actual desktop size, but rather uses the hardware to stretch or shrink the image visible on the HDMI.
	Click the **plus** signs to increase the horizontal or vertical size.
	Click the **minus** signs to decrease size.
	Click the **middle round** button to reset both horizontal and vertical size to the default values.
	Note: If the **Size** control is dimmed, size should be adjusted using the **Display Settings** or **CHROME** menu

desktop resolution adjustments.

Additional video sizing adjustment control is usually available through the video quality controls built into the HDMI itself.

Preserve aspect ratio

Select the **Preserve aspect ratio** check box to ensure the HDMI image always maintains its original aspect ratio (proportional relationship) between horizontal and vertical size.

If the **Preserve aspect ratio** box is checked (default), the aspect ratio is fixed (locked), the horizontal size controls are disabled and you will only be able to adjust the vertical size. Any adjustment made to the vertical size of the display automatically causes an adjustment of the horizontal size necessary to maintain the existing aspect ratio.

If this box is not visible or dimmed, this option is not available for your configuration.

Restore Default

Click the **middle round yellow** button to return to the default HDMI size settings.

OK, Cancel

Click **OK** to apply the changes and exit. Click **Cancel** to exit the dialog without making any changes.

7.6   Fine Tuning S3 HD Audio

Microsoft Windows Vista includes an HD Audio software driver. After the installation of the S3 video driver, S3 HD Audio will be available for selection as the default audio device. If the video driver is removed, then HD Audio will not be available.

Note: If your video board does not include a connection for HDMI or DP, your board may not support S3 HD Audio.

The audio volume control for video is usually adjusted either through the video playback application, or through the audio output device.

You may wish to select your S3 HD Audio device as the default sound device. If you do not, there will be no S3 HD Audio sound. Note that if you want to stop using the S3 HD Audio you need to set another audio device as default.

To select S3 HD Audio device in Windows Vista:
- Open **Control Panel**. Select **Hardware and Sound**.
- Next select **Sound** and on the **Playback** tab you will see the available sound devices.
- Select the desired HD Audio device and Set as Default device.

To select S3 HD Audio device in Windows XP:
- Be sure you have installed Service Pack 3.
- Open **Control Panel**. Select **Sound**.
- On the **Playback** tab you will see the available sound devices.
- Select the desired HD Audio device and Set as Default device.

7.7 Fine Tuning LCD

When the mobile system's LCD panel is detected as connected and active, you can configure the LCD using the **S3 ScreenToys Device Management**. Adjustments you make are remembered by the S3 Graphics software even when your system is sleeping or rebooted.

ACCESS: To adjust LCD, right click on the desktop and click from the menu to select **S3 ScreenToys**. In the left menu column, select **Basic, Device Management**. In the **Display Devices** area, click the **LCD** icon. Next check the **Device Status** checkbox underneath the icon. When the selected device icon has a blue outline and checked box, available options for the device can be configured. The lower **LCD settings** area will show available options for LCD configuration.

OPTIONS:
The following options may be available for fine tuning for LCD display output:

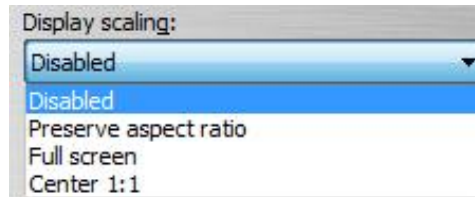| Device Settings: LCD model info & settings area	Reports LCD specific information. If the manufacturer and model of the LCD is available, it will be reported in the title row of this area.
Panel Type	Provides the native physical horizontal and vertical size (in pixels) as well as the type of panel device that is currently selected.
Display Scaling image icon	The icon shows an example of the currently checked Display scaling option. Change the Display scaling

option to observe the change in screen size that results from changing the Display scaling setting.

Display scaling dropdown list

The **Display scaling dropdown list** allows you to let S3 Graphics software help set an optimized mode for your LCD output.

Preserve aspect ratio is the default setting. The S3 Graphics software will maintain the aspect ratio and up scale the screen image as large as possible to the device's native resolution.
Note: Even if you have enabled the monitor's built-in scaling, the monitor's scaling will not occur. The S3 Graphics driver does the expansion to the native display resolution.

Select the **Disabled** list item to have S3 Graphics software use the display resolution and refresh rate requested you specify, without any GPU up scaling. This setting is appropriate when you want to use the monitor's built-in scaling.

Select the **Full screen** list item to have S3 Graphics software upscale the screen image to a full screen image which matches the device's native resolution. The aspect ratio may not be maintained.

Select the **Center 1:1** list item to have S3 Graphics software use the GPU upscale hardware to center the display but do not do any upscaling.

SECTION 8   MORE DISPLAY SPECIFIC PAGES

In addition to the **S3 ScreenToys Device Management** settings page, the **Basic** and **Advanced** menus provide access to general information about the graphics subsystem and pages which provided settings to control Desktop Color and Desktop orientation, Power management controls for power-sensitive systems, Color and Chromotion filter controls for video, and Direct3D and OpenGL controls for 3D. These controls are discussed in the next sections.

This section discusses two additional controls which are device-specific:
- Desktop Color
- Rotation

Later sections will cover those controls which are applied globally and are not affected by the configuration of the attached displays.

8.1   S3 ScreenToys Desktop Color

With **S3 ScreenToys Desktop Color** settings you can adjust the gamma, brightness, and contrast of the GPU output signal to compensate for differences between different DVI, CRT, HDMI and other display output devices. Different display output devices will display the same output at different intensities, or different levels of brightness, contrast and color.

You can make adjustments to **Desktop color** settings and then create and save "profiles" or named collections of settings. Independent **Desktop Color** settings can be applied for each current active display device when you have selected multiple monitor **Extend the Desktop** using both of the GPU's internal graphics engines. If you choose not to configure **Desktop Color** settings yourself, default settings are built into the software and are optimized for typical display devices.

ACCESS: To adjust **Desktop Color** for the active displays, right click on the menu to select **S3 ScreenToys**, and then in the left menu panel, click **Basic**, **Desktop Color**. The **S3 ScreenToys Desktop Color** page is also accessible from the **CHROME®** menu accessible by right click on the **S3** taskbar icon.

OPTIONS:

Select the display for which you want to adjust color from the **Monitors:** dropdown list in the upper left of the **S3 ScreenToys Desktop Color** page. Configuration options include:

Display dropdown list	This dropdown list menu will contain the configurable displays.
Monitors:	If only one display monitor is connected, this list will not be visible. In Clone multiple monitor mode, the list will be grayed and not selectable. If two display monitors are connected, a dropdown monitor list will be available for selection. Click the ▼ arrow to the right of the **Monitors**: dropdown list menu to show all connected display output devices (monitors). The Monitors dropdown list will contain the device name, if detected. Each display device will be further identified shown as "N. Display device name", where N is a number starting from 1. Select the device whose desktop color you wish to configure. (You can test the selection by experimentally moving a slider to detect which monitor is currently configurable.)
Example and Profiles area	This area displays an image to help you during the color adjustment process and configuration profile controls.
Display Device	The Display Device box on the right of this area will report which display is the current configurable device, by device type. You can change the configurable device from the Monitors dropdown list if it is available.

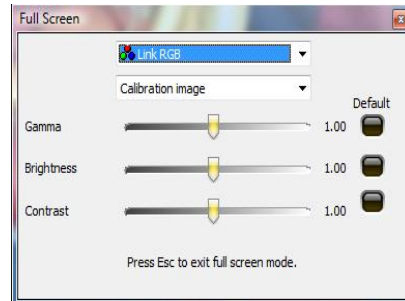|	
Calibration monitor image	This "monitor" image will display an image you select from the list of calibration images. The visual reference is intended to help you adjust the color.
Calibration image list	Click the ▾ arrow to the right of the Calibration image dropdown list to display a menu of calibration pictures available to display in the calibration monitor image. Clicking on the monitor image repeatedly will also cycle through the calibration images. Click on the image you want. Pictures include:

- **Color curves** display the gamma curve(s). This is the default.
- **Calibration image** shows a photographic image with many shades of red, green, and blue. The image gives a good "life-like" reference.
- **RGB color map** shows a grid of colored squares that span a good range of RGB values.
- **RGB color ramp** shows dark to light stripes each of red, green, blue, and white to allow better adjustment of contrast.
- **Color bars 75%** and **100%**
- A number of solid colors at 100% and 75% saturation levels are also available.

Full screen button	Click **Full Screen** to show the current calibration picture in full-screen. A miniature version of the **Desktop color** settings window is shown on top of the full screen calibration image. **Full screen** mode is useful when running displays at high resolutions with small font sizes, where the calibration image area may appear very small in normal mode.

Press **Esc** or click on ✖ to close the Full Screen dialog. |
| **Profiles** | Desktop Color profiles are global in nature, meaning that all schemes created at any time, using any display adapter, can be selected, even though different display adapters will have their own settings.
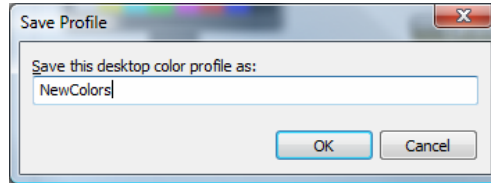
Click on the arrow to the right of the **Profiles** dropdown |

list to see the menu of all Desktop Color **Profiles** available for selection. Click on a profile to select it.

Save as…

Click **Save As…** to save the current settings using the existing Profile name or a new name. Click **OK** to complete the save.

Delete

Click **Delete** to delete the currently selected Desktop Color Profile.

Adjustment list

Click the arrow to the right of the Calibration dropdown menu to show a list of color channel(s) to adjust.

- Select **Red** to make further adjustments only to the red channel.
- Select **Green** to make further adjustments only to the green channel.
- Select **Blue** to make further adjustments only to the blue channel.
- Select **All colors** to make further adjustments to all three channels together. For example, green and blue adjustments will be changed to match the adjustment for red.

Desktop Color sliders

Use the three sliders controls in **Desktop Color** to change gamma, brightness, and contrast.

Gamma slider

Drag the slider thumb along the slider bar to the right to increase the intensity of the color in the display output. Drag the slider bar to the left to decrease the color intensity of the display output.

Brightness slider

Drag the slider thumb along the slider bar to the right to increase the luminance or amount of light in the display output. Drag the slider bar to the left to decrease the brightness and darken the display output.

Contrast slider

Drag the slider thumb along the slider bar to the right to increase the level of difference between the light and dark areas of the display output. Drag the slider bar to the left to decrease the amount of contrast in the display output.

Reset buttons   Click the black Reset button to the right of the slider to Reset the value for the individual slider to its default.

Defaults   Click the **Defaults** button at the bottom of the window to return all gamma, brightness, and contrast settings to the default for the current display Monitor.