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IGA Windows Driver Setup

The Integrated Graphics Accelerator (IGA) is a 64 bit high performance Windows Graphics User Interface Accelerator. Its powerful hardware graphics drawing engine provides the fastest speed for running Windows applications. The integrated RAMDAC provides 16.7 million colors at up to 1280x1024 resolution and 64 thousand colors at up to 1600x1200 resolution.   But, you can not take advantage of all those features unless you install and setup IGA Windows Accelerated Drivers properly.

The IGA Accelerated Windows Driver supports virtual desktop. This new feature allows users to further explore the powerful capabilities of the IGA graphics accelerator even on a small, low resolution monitor. The Windows Driver Setup program can also be used to configure your virtual desktop environment.

There are two ways to use this setup program: 1. Normal Setup; 2. Configure Virtual Desktop Environment.

Please refer to the corresponding sections of the help document to setup your graphics accelerator.

When you finish setting up, click the button "OK" to Accept Selection.

Normal Setup

To setup your IGA Graphics Accelerator without Virtual Desktop, you have to make sure that the check box "Virtual Desktop Enable" is unchecked. For normal setting up, you have four parameters to select for configuring your IGA Graphics Accelerator: resolutions, color depths, refresh rates and font sizes.

The highest resolution you can choose is 1600x1200. The highest color depth is 16.7 million (True Color). The refresh rate selections are: interlaced and non-interlaced 60 Hz, 72 Hz, 75 Hz. For font sizes, you can choose either "small" font or "large" font. But, some combinations are not available because they are either not feasible or due to hardware limitations, such as video memory size. The Setup Program works hard to help you. It has already eliminated all non-feasible situations and combinations that your Graphics Accelerator does not allow. But, there is one important factor the program can not predict -- your monitor. To help solve this problem, a specific function button -- "Refresh Text" is designed to verify whether your monitor works under the desired combination.

Please follow the procedure to do the setup:

1) Use the combo box "Resolution" to choose a resolution. For 14 or 15 inch monitors, recommended resolution is 800x600 or below. For 17 inch or other large monitors, you may choose 1024x768 or above.

2) Use the combo box "Color Depth" to choose a color depth. For most software and applications, 256 colors will be a good choice. If you need to display real life video or photo, you may need 64k or even 16.7 million colors.

3) Use the combo box "Font Size" to choose either small font or large font for your system. For 640x480 resolution, you should use small font. For 1024x768 and above, you should choose large font. For 800x600 resolution, you can choose either fonts.

4) Use the combo box "Refresh Rate" to choose a refresh frequency for your monitor. Normally,   higher the refresh rate will give better display result. But, the refresh rate setting can not go beyond your monitor's ability. Otherwise, the display monitor may lose sync.   The setup program provides an easy way to help users verify whether your monitor can work at the selected resolution and refresh rate. When you click on the "Refresh Test" button, the program will set the monitor to that resolution and refresh rate for a few seconds. If the text displayed in the middle of the screen is clear, you can select that resolution-frequency combination.

5) Click the button "OK" to <u>Accept Selection</u>.

Cofigure Virtual Desktop Environment

The IGA Graphics Accelerator is a powerful graphics interface card. A 2 Mb board can support as high as 1600x1200 resolution in 256 colors. But, a monitor running at that high resolution may cost a lot of money. The Virtual Desktop of the IGA Graphics Accelerator provides a practical solution for the problem. By setting up Virtual Desktop, you can set your Windows to work in a much higher resolution than your monitor can support while setting your monitor working at a low resolution.

In a Virtual Desktop environment, you can see only a portion of the Windows desktop at one time. You can either use the mouse to move the viewpoint -- your monitor screen, or you can freeze your viewpoint and use another program -- "Virtual Desk," provided together with this program,   to control your viewpoint position in the Virtual Desktop environment.

Next is the procedure to setup the Virtual Desktop Environment:

1) Check the check box "Virtual Desktop Enable" first.

2) Use the combo box "Virtual Desktop" to choose a resolution for your Virtual Desktop. This resolution is only limited by the memory on your Graphics Accelerator board. The setup program is designed with this factor in mind. You can select any number provided by the program safely.

3) Use the combo box "Viewport Size" to choose a display mode for your monitor -- a resolution and refresh rate combination. This is the actual resolution and refresh rate that your monitor will work on. The setup program has a few default display modes. If those default display modes do not satisfy your requirement, please refer to Define Viewport Mode for defining your own Viewport modes.

4) Use the combo box "Color Depth" to choose a color depth. For most software or applications, 256 colors will be a good choice. If you need to display real life video or photo, you may need 64k or even 16.7 million colors.

5) Use the combo box "Font Size" to choose either small font or large font for your system. For 640x480 resolution, you should use small font. For 1024x768 above, you should choose large font. For 800x600 resolution, you can choose either small font or large font.

6) Click the button "OK" to Accept Selection.

Define Viewport Mode

The button "Define Viewport Mode" will bring you another dialog window to assist defining Viewport modes for your virtual desktop.

The left list box of the dialog window has all the modes available for IGA graphics accelerator. In the right list box are the modes you defined for your Viewport.

To add a mode to your Viewport modes, click on an available mode in the left list box. Then, click on the button "Add >>". If the same resolution has already been defined,   the higher refresh rate will replace lower one. To remove a mode from your Viewport modes, click on a mode for your Viewport on the right list box. Then, click the button "<< Remove".

To make sure that your monitor works for a specific mode, you can click a mode either in Available Modes or in Your Viewport Modes list box. Then, click the button "Test". Your monitor will be set to that mode for a few seconds. In this way, you can easily verify that your monitor is working at the desired mode.

When you finish defining Viewport modes, click the "OK" button to go back to the main dialog window. The defined modes will be available in the combo box "Viewport Size." But, only those Viewport resolutions that are less or equal to the Virtual Desktop resolution will be displayed in that combo box. If you want to choose a higher resolution for your Viewport, just increase the resolution of your Virtual Desktop.

Accept Selection

When you finish your setup, you can simply click on the "OK" button to accept your selection. The setup program will modify system.ini and win.ini files in your Windows directory (the driver and other font files should already be copied to your system by the installation program).

If you are running virtual desktop,   you can use the setup program to switch your Viewport from one resolution to another on the fly. You do not need to restart your Windows system.

If you are setting up your graphics accelerator without using virtual desktop, or changing colors, font sizes of your virtual desktop, the setup program may need to restart the Windows system.

Display Screen Centering

The Screen Centering provides an easy way to adjust the position of your screen on the monitor. The program not only centers the screen, it will also record the position you have set into a file. This is particularly useful when using virtual desktop to switch from one resolution to another resolution. If you preset all display modes for your virtual desktop Viewport, you do not need to physically adjust your monitor every time you switch resolutions.

To move the screen, you can click on either arrow buttons.

Clicking the center button will bring the screen back to the starting position before you enter the program.

Moving the screen beyond certain point might cause your monitor to lose sync. When this happens, you can either hit the <ESC> key to abort the program and bring back your screen, or simply wait for the time-out. The time out count down will start whenever you click an arrow button. The count down lasts for about 6 seconds. During the count down, if you click on any arrow buttons again, the count will restart from the beginning.

Virtual Desktop Control

The program "VD Control" (Virtual Desktop Control) is a convenient tool for virtual desktop users to do their daily work in virtual desktop environment.

When the program starts, it will freeze the Viewport even you did not set your Viewport to be freeze. By moving the small red rectangle in the program control panel, you can easily move your Viewport around the virtual desktop. In contract with regular way of using mouse to move the Viewport, this will provide more stabilized screens and an easy, rapid solution to move your screen viewport.

If you click on the system menu of the program control panel, you can get a menu of "Switch Resolution" and its sub menu. Using this menu, you can switch your Viewport from one resolution to another on the fly.

Please note that this program has to be running exclusively with the program "IGASetup". In other words, before you execute this program, you have to quit the IGASetup program. Before you run the "IGASetup" program, please quite "VD Control" first.

Color Calibration

The Color Calibration Program is a tool for fine tuning monitors. It helps users to adjust their monitors to match the environment, or to compensate the differentiation of monitors made by different manufactures. Users can also use it to adjust monitors to suit their personal preference.

1. Brightness Adjustments

Use the Test Pattern drop down combo to select either Color Ramps, Color Ramps with Dithering, or Color Map as your test pattern.

Place the mouse cursor over the Brightness slider button. Press and hold the left mouse button and move the slider to the left or right to adjust brightness.

Adjust the Brightness slider to the point that there is a linear transition from light to dark across the Color Ramp test pattern.

Click on the "Ok" button to preserve your setting. Or, continue to do Contract and Gamma Correction.

2. Contract Adjustments

Use the Test Pattern drop down combo to select either Color Ramps, Color Ramps with Dithering, or Color Map as your test pattern.

Place the mouse cursor over the Contract slider button. Press and hold the left mouse button and move the slider to the left or right to adjust contract.

Adjust the Contract slider to the point that there is a linear transition from light to dark across the Color Ramp test pattern. You may need to adjust contract together with Brightness to get the best result.

Click on the "Ok" button to preserve your setting. Or, continue to do Gamma Correction.

3. Gamma Correction

As we know, the characteristics of CRT monitors are not linear regarding to its signal voltage. Therefore, the video signals must be modified before transmission. This is the so called "gamma correction." Normally, the output of your display should already been corrected to roughly close to a linear characteristics. But, there are so many different makes of monitors that you may need a tool to fine tune your monitor's Gamma.

To adjust monitor Gamma, you need select the Color Ramps with Dithering test pattern first.

Then, place the mouse cursor over the Gamma slider button. Press and hold the left mouse button while moving the slider right or left to increase or reduce the monitor Gamma. From the curve above the color buttons, you can see that increasing Gamma will increase contrast in the dark tones of the display while decreasing contrast in the bright tones.

Adjust the Gamma slider to the point that the small dithered area in the test patter are closely matching the background color.

Click "Ok" button to preserve your setting.

The Gamma of three color components -- red, green, blue, can be adjusted separately. The only thing you need is to push down a color button, and follow the above procedure to adjust Gamma for that individual color.