



# **Graphic Cards**

## **Software Reference**

**E1416**

**First Edition V1**

**September 2003**

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# FCC/CDC statements

## Federal Communications Commission Statement

This device complies with FCC Rules Part 15. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with manufacturer's instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.



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The use of shielded cables for connection of the monitor to the graphics card is required to assure compliance with FCC regulations. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

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## Canadian Department of Communications Statement

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

**This class B digital apparatus complies with Canadian ICES-003.**

# Safety information

## Electrical safety

- To prevent electrical shock hazard, disconnect the power cable from the electrical outlet before relocating the system.
- When adding or removing devices to or from the system, ensure that the power cables for the devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing system before you add a device.
- Before connecting or removing signal cables from the motherboard, ensure that all power cables are unplugged.
- Seek professional assistance before using an adapter or extension cord. These devices could interrupt the grounding circuit.
- Make sure that your power supply is set to the correct voltage in your area. If you are not sure about the voltage of the electrical outlet you are using, contact your local power company.
- If the power supply is broken, do not try to fix it by yourself. Contact a qualified service technician or your retailer.

## Operation safety

- Before installing the motherboard and adding devices on it, carefully read all the manuals that came with the package.
- Before using the product, make sure all cables are correctly connected and the power cables are not damaged. If you detect any damage, contact your dealer immediately.
- To avoid short circuits, keep paper clips, screws, and staples away from connectors, slots, sockets and circuitry.
- Avoid dust, humidity, and temperature extremes. Do not place the product in any area where it may become wet.
- Place the product on a stable surface.
- If you encounter technical problems with the product, contact a qualified service technician or your retailer.

## Macrovision Corporation Product Notice

This product incorporates copyright protection technology that is protected by method claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only *unless otherwise authorized by Macrovision Corporation*. Reverse engineering or disassembly is prohibited.

## Conventions used in this guide

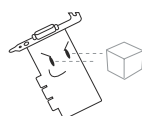
To make sure that you perform certain tasks properly, take note of the following symbols used throughout this manual.



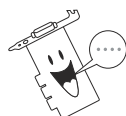
**WARNING:** Information to prevent injury to yourself when trying to complete a task.



**CAUTION:** Information to prevent damage to the components when trying to complete a task.



**IMPORTANT:** Information that you **MUST** follow to complete a task.



**NOTE:** Tips and additional information to aid in completing a task.

## Where to find more information

Refer to the following sources for additional information and for product and software updates.

### 1. ASUS Websites

The ASUS websites worldwide provide updated information on ASUS hardware and software products. The ASUS websites are listed in the ASUS Contact Information on page vii.

### 2. Optional Documentation

Your product package may include optional documentation, such as warranty flyers, that may have been added by your dealer. These documents are not part of the standard package.

# **ASUS contact information**

## **ASUSTeK COMPUTER INC. (Asia-Pacific)**

Address: 150 Li-Te Road, Peitou, Taipei, Taiwan 112  
General Tel: +886-2-2894-3447  
General Fax: +886-2-2894-3449  
Web Site: [www.asus.com.tw](http://www.asus.com.tw)

### *Technical Support*

MB/Others (Tel): +886-2-2890-7121 (English)  
Notebook (Tel): +886-2-2890-7122 (English)  
Desktop/Server (Tel): +886-2-2890-7123 (English)  
Support Fax: +886-2-2890-7698

## **ASUS COMPUTER INTERNATIONAL (America)**

Address: 44370 Nobel Drive, Fremont, CA 94538, USA  
General Fax: +1-502-933-8713  
General Email: [tmd1@asus.com](mailto:tmd1@asus.com)  
Web Site: [usa.asus.com](http://usa.asus.com)

### *Technical Support*

Support Fax: +1-502-933-8713  
General Support: +1-502-995-0883  
Notebook Support: +1-510-739-3777 x5110  
Support Email: [tsd@asus.com](mailto:tsd@asus.com)

## **ASUS COMPUTER GmbH (Germany and Austria)**

Address: Harkortstr. 25, 40880 Ratingen, BRD, Germany  
General Email: [sales@asuscom.de](mailto:sales@asuscom.de) (for marketing requests only)  
General Fax: +49-2102-9599-31  
Web Site: [www.asuscom.de](http://www.asuscom.de)

### *Technical Support*

Components: +49-2102-9599-0  
Notebook PC: +49-2102-9599-10  
Support Fax: +49-2102-9599-11  
Support Email: [www.asuscom.de/support](http://www.asuscom.de/support) (for online support)

## **ASUSTeK COMPUTER (Middle East and North Africa)**

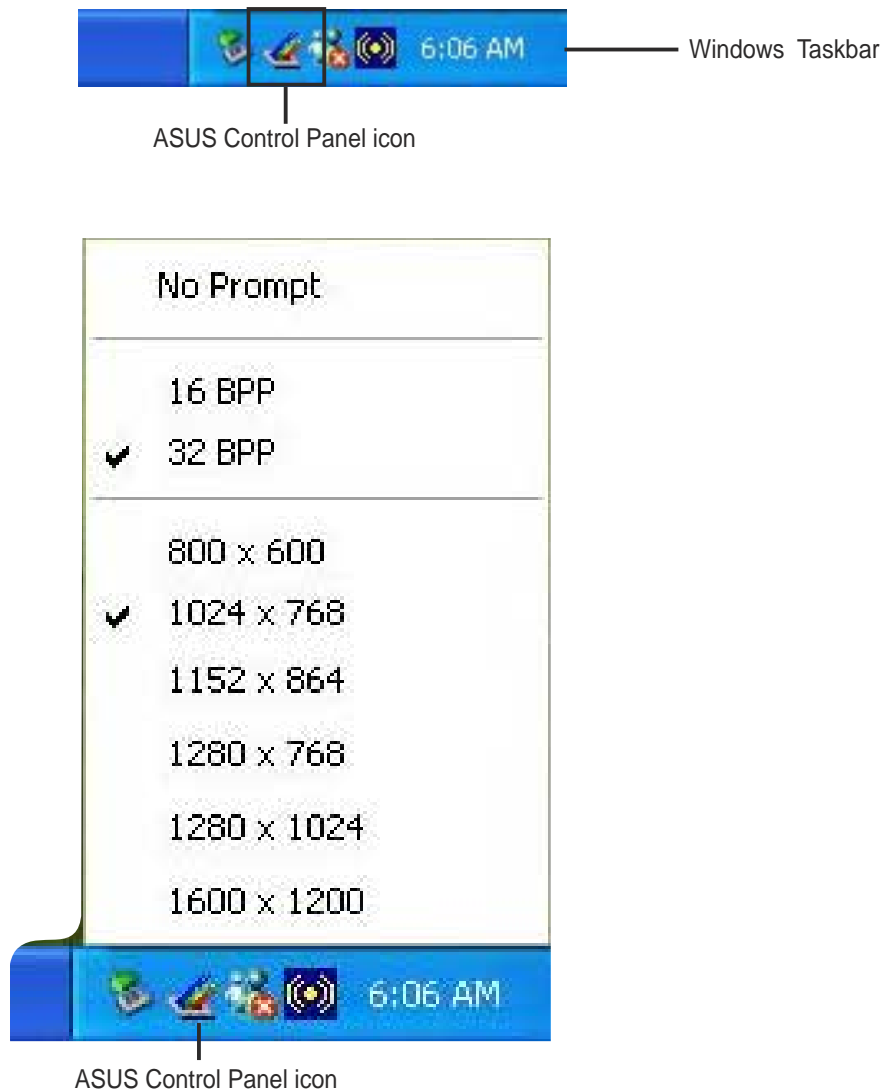
Address: P.O. Box 64133, Dubai, U.A.E.  
General Tel: +9714-283-1774  
General Fax: +9714-283-1775  
Web Site: [www.ASUSarabia.com](http://www.ASUSarabia.com)





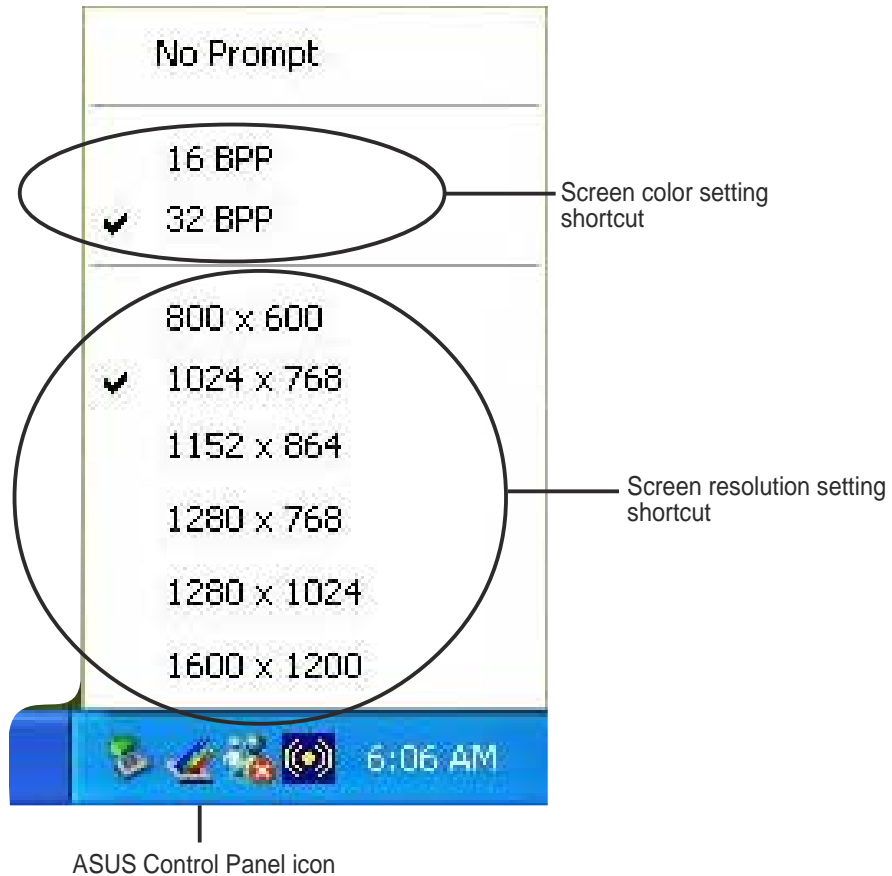
# 1. ASUS Control Panel

After installing the display drivers, look for the **ASUS icon** on the **Windows taskbar**. **Click** the ASUS control panel icon to open the **ASUS Control Panel** to display a menu composed of shortcuts to the graphics card various enhanced functions.



## 1.1 Screen resolution setting shortcut

The ASUS Control Panel includes a list of screen resolution setting shortcut options for easy screen resolution setting. Click one of the listed screen resolutions available to change the screen resolution settings.



After selecting any of the listed screen resolutions, your computer screen may flicker while adjusting to the new setting. When adjusted it prompts a timed confirmation dialog box, click **OK** to apply new settings or **Cancel** to abort.



## 2. ASUS VideoSecurity

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The ASUS VideoSecurity is a powerful security utility that detects any change in a specified surveillance region. Using video capture devices, video snapshots are captured automatically when there is a deviation in the user-defined surveillance region. Also, a specific program can be executed or an optional warning message is be sent via email or phone to the user.

### 2.1 Limitations

Differences in hardware sensitivity can affect the consistency of the VideoSecurity utility in detecting possible errors. Before you execute VideoSecurity, there are some limitations to understand to appropriately use this application.

- Due to changing temperatures, the captured image of some Charge-Coupled Devices (CCDs) cameras are distorted, which results in an errorous detection.
- If the features (e.g., color, luminance) of the object are similar with the background, the object may not be detected clearly.
- The USB camera cannot capture the object smoothly and immediately when an object moves too fast.
- VideoSecurity can only process the following pixel formats: UYVY, YUY2, and I420.

### 2.2 System Requirements

#### Software:

- Microsoft Windows 98SE/ME/2000/XP with DirectX 8.0 or later
- Windows Driver Model (WDM) capture driver for your video capture devices.
- Internet connection (if you want to use Email notification feature)

#### Hardware:

- Video capture devices like CCD, V8 or Hi-8, which supports UYVY, YUY2 or I420 pixel format.
- A sound card or sound controller is necessary if you want to play a warning .wav file.
- A standard voice modem (if you want to use the Warning Phone Call feature).

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## 2.3 Running ASUS VideoSecurity

Click the ASUS icon on the taskbar's status area. Clicking this icon opens the ASUS Control Panel, then click the ASUS VideoSecurity to run VideoSecurity.



### Command buttons

#### *Start/Stop*

The **Start/Stop** button starts or stops the VideoSecurity watchdog detection process.

#### *Setup*

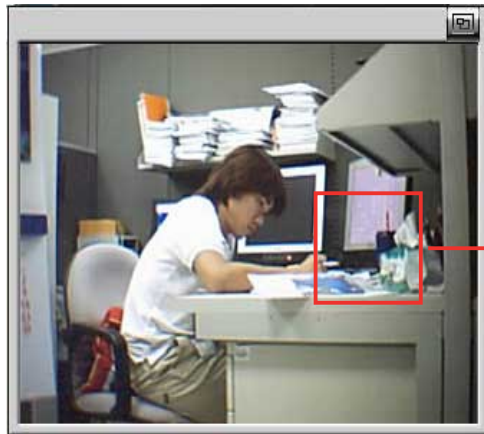
The **Setup** button launches the ASUS VideoSecurity Setup Wizard program (wsetup.exe). Refer to section “2.4 ASUS VideoSecurity Setup” for more detailed information.

#### *Video Source*

The **Video Source** button allows you to select from available video source devices. Click the button to display pop-up menu. To select, move the mouse over the list of available items then click on the selected item. The active video source device is denoted by a check mark before the item.

#### *Detect Region*

The **Detect Region** button allows you to define a view port on the VideoSecurity video window for detection. Click this button then use the mouse to draw a rectangular detect region.



Detect region

### *Hide History*

The Hide History button allows you to display or hide the VideoSecurity panel containing the recorded information everytime an motion is detected in the scan area.

Click on the list box to select folder.

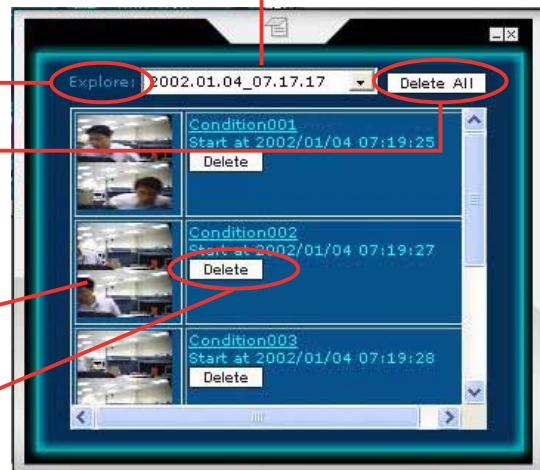
Click **Explore** to search other recorded files in your hard disk.

Click **Delete All** if you want to delete all recorded conditions in the current folder.

Click the picture to view the recorded image or video.

Click **Delete** if you wish to delete this recorded condition.

If the recorded condition is a video, the **View Video** button is added. Click button to watch video.



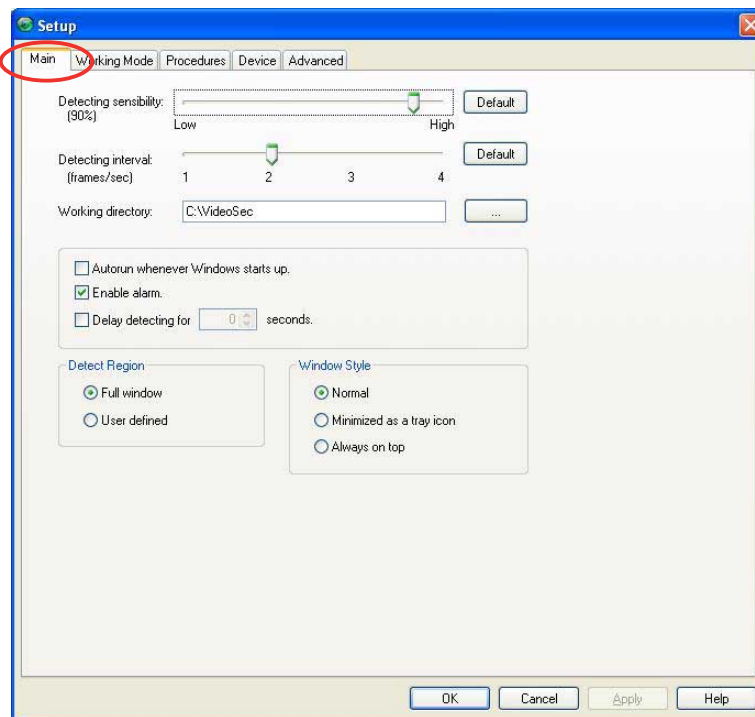
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## 2.4 ASUS VideoSecurity Setup

Click the Setup button from the ASUS VideoSecurity main menu to display the Setup dialog box.

### Main

The **Main** tab contains the sensibility, frame per second interval, detect region, windows style, autorun, warning sound and timer settings necessary for the optimal performance of the VideoSecurity utility.



### *Detecting Sensibility*

Detecting sensibility sets the receptibility of VideoSecurity to environment changes. Temperature and lighting are important factors that may affect monitoring. The quality of the video capture device is also very important in setting the sensibility. For optimum performance, test the performance several times using different values to fine-tune this parameter. The **Default** button sets this parameter to its optimum setting based on normal light and temperature conditions.

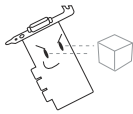
### *Detecting Interval*

The interval (frame/sec) or scan rate has four default values. Configuration options include: 1 frame/sec, 2 frames/sec, 3 frames/sec and 4 frames/sec. Set to a higher scan rate for a more accurate detection. The **Default** button sets this parameter to its recommended setting.

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### *Working Directory*

The working directory sets the storage folder or directory for all the image and video files. The default directory is **C:\VideoSec**, or select another folder by clicking the command button with a directory tree icon. Everytime you execute VideoSecurity, a new folder is created in this working directory. The created folder filename denotes the current time and date VideoSecurity application was launched. For example, "2003.08.26\_04.10.10", meaning VideoSecurity was launched on August 26, 2003 at 4:10:10 PM.



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Do not change the working folder's name while VideoSecurity is running. Doing so will cause a fatal runtime error.

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### *Detect Region*

- The **Full Window** setting will detect all area visible from the video capture device when the VideoSecurity watchdog is on.
- The **User defined region** detects only the area defined by the user when the VideoSecurity watchdog in on.

### *Window Style*

- The **Normal** setting is the default option. If you select this option the VideoSecurity dialog box will display as a general Windows program.
- The **Minimized as a tray icon** setting will put the VideoSecurity icon on the taskbar in the lower-right corner of your screen. Whenever VideoSecurity detects a problem it will execute automatically or you can also run VideoSecurity by double-clicking on the icon.
- The **Always on top** setting initializes the VideoSecurity dialog box as a normal window and always appear on top of other windows, dialog boxes or applications.

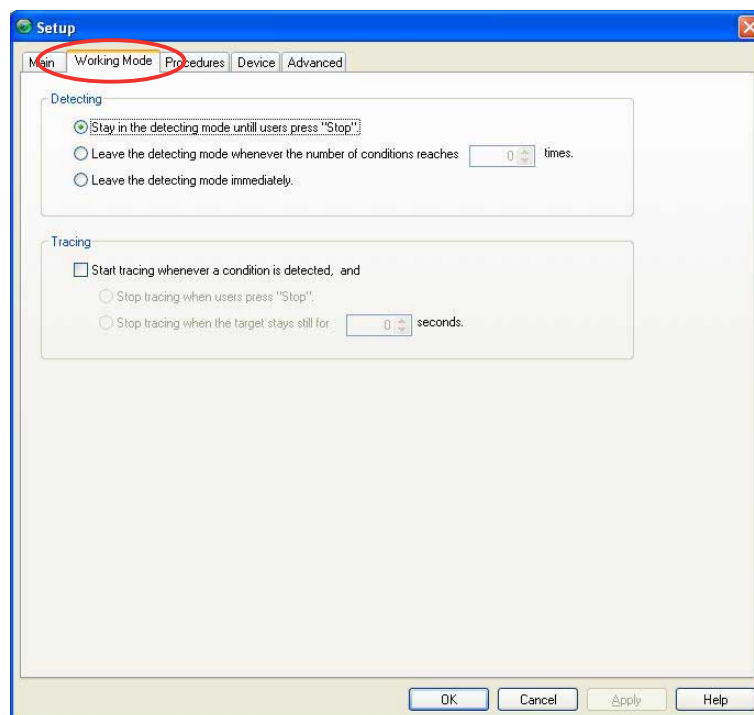
### *Check boxes*

- The **Auto-run whenever system boots up** check box enables or disables the autorun feature of VideoSecurity. When checked or enabled, the VideoSecurity utility executes automatically when the system boots up.
- The **Play warning sound** check box enables or disables the warning sound whenever VideoSecurity detects a problem.

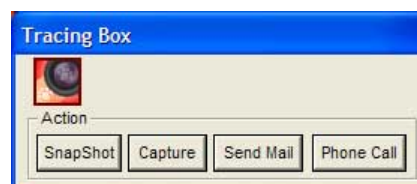
- 
- The **Start detecting after: XXX seconds** check box enables or disables the scheduled execution option and allows you to set the number of seconds VideoSecurity will automatically start detecting. Click the up or down arrow to input the number of seconds VideoSecurity will start detecting.

## Working Mode

The **Working Mode** tab enables you to set the VideoSecurity actions when any unusual condition is detected.



- The **Start tracing and users can choose to stop** option button sets VideoSecurity to start a trace when a motion is detected until the motion object is out of the scan area. The system prompts a tracing box to specify the handling procedure.



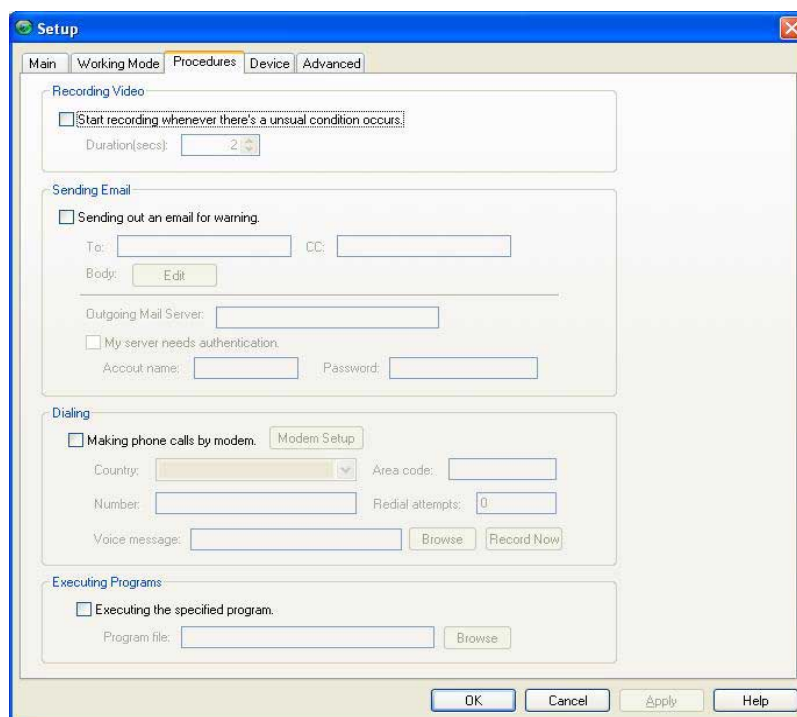
- The **Start tracing and automatically stop tracing when the target stays still for XXX seconds** option button allows you to set the handling procedure when a motion is detected until the motion object is out of the scan area. You can also set the time (in seconds) when VideoSecurity stops tracing once the motion object stops moving.



- The **No tracing** option button sets VideoSecurity to perform no action even when a motion is detected on the scan area.
- The **Stop detecting immediately** option button sets VideoSecurity to immediately stop the watchdog function when a motion is detected on the scan area.
- The **Continue detecting, unless users press [Stop]** option button sets VideoSecurity watchdog function to stop only when the user press the [Stop] button.
- The **When conditions continue to happen for over XXX times, stop detecting** option button stops the VideoSecurity watchdog function when the motion detected repeats the number of times as specified by the user.

## Procedures

The **Handling Procedures** tab enables you to set the VideoSecurity parameters for Recording, Send Email, Make phone call and Execute specific program handling procedures.



### *Recording Video*

Check the **Start recording whenever there's an unusual condition occurs** check box to enable this feature. Input the duration of recording (in seconds) or click on the up/down arrows to increase or decrease field value.

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## *Sending email*

The **Send out an email as warning** check box allows you to enable or disable this feature. When the check box is enabled, it requires you to input the email addresses of note recipient, edit the body of the email and set the Simple Mail Transfer Protocol (SMTP) parameters.

- **Email Address** - the electronic mail address of the main recipient of the note when the VideoSecurity watchdog detects a motion in the scan area.
- **CC** - the recipient of a copy of the note sent to the main addressee.
- **Body** - enables you to encode the content of the note to the main addressee. Press the **Edit** button to encode your notes.

Click **OK** after encoding note or **Cancel** to abort.



- **SMTP Mail Server Setup** - contains the parameters and protocols necessary in sending your email.



Input the **Outgoing Mail Server-SMTP** server IP address, for example 168.187.2.22 or the domain name like, mail.company.com.

The **My server requires authentication** check box allows you to input your User ID and password. The **Remember my password** check box saves an encrypted copy of your user ID and password and appears as default everytime you execute this setup.

Click **OK** after the configuration or **Cancel** to abort.

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## *Dialing*

Enable the **Making phone calls by modem** check box to use this handling procedure. When enabled, the following fields are activated: country code, area code, telephone number, redial attempts, the modem setup button, voice message recording options and its .wav file folder location.

- **Area code** - the digital area code of the location of the recipient.
- **Country code** - the digital country country code of the recipient.
- **Number** - the digital telephone number of the recipient.
- **Redial Attempts** - specifies the number of redials you want in case the connecting line is busy.
- **Model setup** - this button launches the ASUS Phone Dialer that allows you to configure your modem connection.
- **Record Now** - this button launches the Windows sound recorder to enable you to record, edit, mix and save sound files using wave (.wav) format. The wave file created is sent to the recipient when a warning phone call is made. When recording wave files, make sure that the file format has 8kHz of sample rate, 16bit sample size and 1 channel. The default .wav file name is "warning.wav".
- **Voice message** - this field is for the location of the wave file you want to send when a warning phone call is made. Make sure that the wave file exists in the folder.

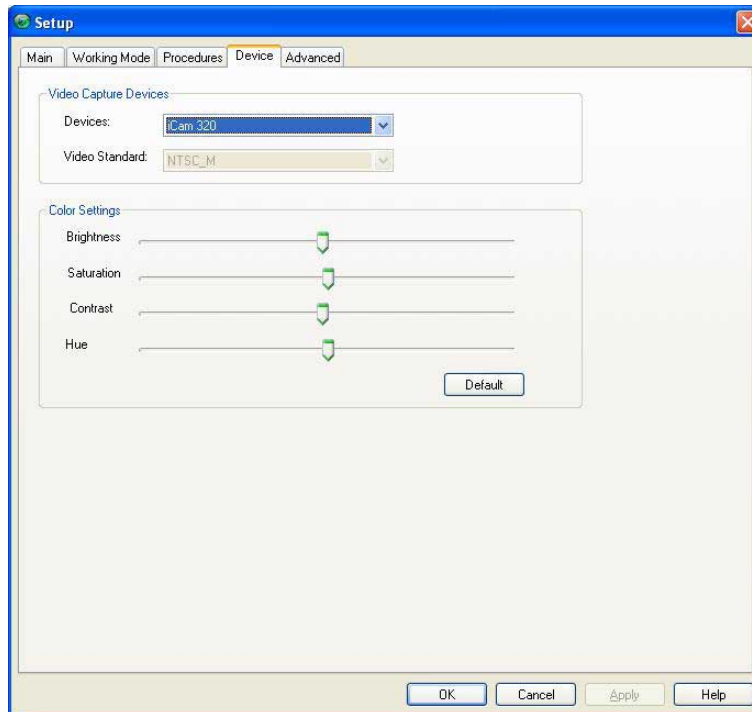
## *Executing Programs*

The **Execute specific program** handling procedure option enables you to specify the program filename and path to run when the VideoSecurity watchdog detects a motion in the scan area.

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## Device

The **Device** tab enables you to set the video and color tuning configurations.



### *Video Capture Devices*

The **Video Capture Devices** box allows you to choose from the available capture devices and set a compatible video standard. Click the combo list box to display the options for each parameter.

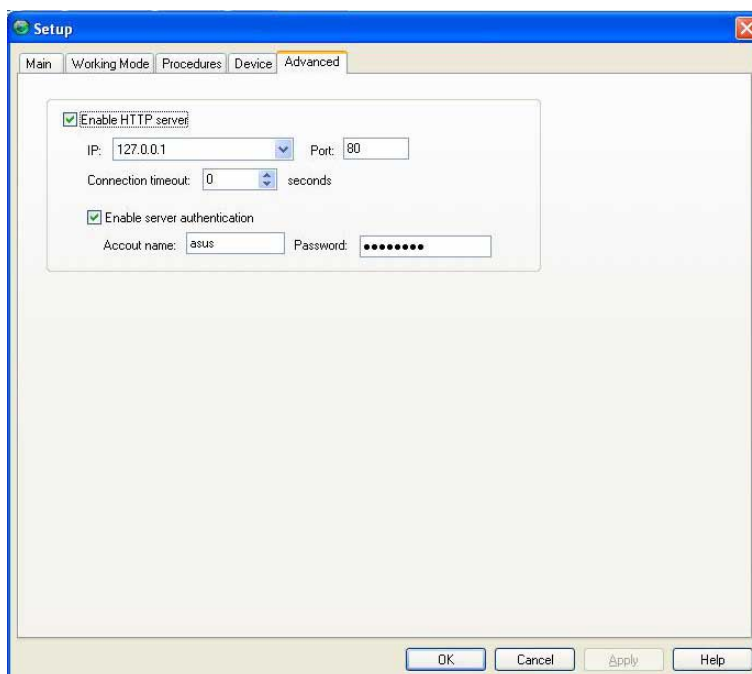
### *Color Settings*

The **Color Settings** box contains tools for color correction requirements. Adjust the Brightness, Saturation, Contrast and Hue by moving the slider sideways. Click the **Default** button to load the recommended default values for each parameter.

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## Advanced

The **Advanced** tab allows you to enable or disable the HTTP server and configure its parameters.



### *Enable HTTP Server*

The **Enable HTTP Server** check box allows you to enable or disable the HTTP Server. When enabled, the succeeding parameters are activated. Input your Internet Protocol (IP) address, Port and connection timeout in seconds.

### *Enable server authentication*

The **Enabled server authentication** check box enables or disables the server authentication feature. When enabled, it requires you to input the account name and password.

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Click **OK** after the configuration or **Cancel** to abort.

Click the **Apply** button to load the default values for the handling procedure settings.

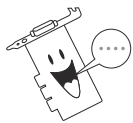
Click the **Help** button to launch the ASUS VideoSecurity on-line help.

### 3. ASUS GameFace

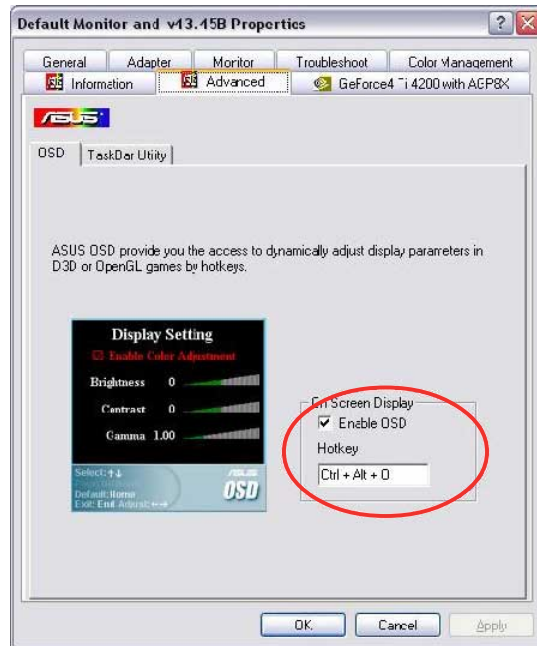
ASUS GameFace is a real-time audio/video communication feature that enables point-to-point video conferencing functions and online gaming to take place at the same time. Follow the given steps in using ASUS GameFace.

#### STEP 1: Enable ASUS OSD

- Open **Display Properties** dialog box from desktop or control panel.
- Select **Advanced** tab on Settings page.
- Select **OSD** from in Advanced tab.
- Check the **Enable OSD** check box and input the appropriate hotkey.



You can also enable the On-Screen Display (OSD) in the GameFace application.



#### STEP 2: Launch ASUS GameFace

- ASUS GameFace automatically detects the connected audio/video WDM capture device upon start-up. You can change the input device from **Options** in the **Tool** menu if you have more than one audio/video device.



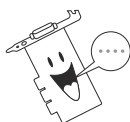
## STEP 3: Local Playback Mode

- Select **Local Play/Stop** from the File menu to start local playback when local video is not playing.
- Select **Local Play/Stop** from the File menu to stop local playback when playing local video.
- You can also press the **Play/Stop** button to start or stop local playback.



## STEP 4: Network Playback Mode

- Connect to remote computer:
  - Input the computer name (Local Area Network) or IP Address in the combo box.
  - Select **New Call** from the File menu or press the “Make a Call” button.
  - You will see and hear the remote audio/video signal if the remote computer accepts the call.



For computer name and IP addresses go to Tools->Info for lists of information.

- Waiting for connection:
  - Launch ASUS GameFace
  - A message box appears on an incoming call. Click **Yes** to accept the call.
  - Select **End Call** from the File menu or press the “End the Call” button to disconnect.



## STEP 5: GameFace Settings



- Select **Option** from the Tool menu.
- Select **GameFace Option Dialogue**
- Enter GameFace page to adjust transparency, position and hotkey settings.



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## STEP 6: Launch Game and show GameFace

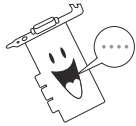


- Begin your game.
- After entering Full-Screen mode, press the hotkey (default is **Ctrl+Alt+V**) to activate GameFace.
- Press the On-Screen Display hotkey to show the OSD menu.
- Use the arrow keys to select the GameFace application page and adjust the Transparency, Position X, Position Y, Size or toggle to enable or disable GameFace.

## 4. ASUS Digital VCR

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With ASUS Digital VCR, you can watch and record TV programs from your TV tuner, and also can enjoy all kinds of media effortlessly from numerous signal inputs, such as analog, digital camcorders, VCRs, and PC cameras. The “Channel Surfing” function allows you to watch a snapshot of 16 channels at one time while refreshing itself continually. Two different kinds of skins are available for users to choose.



1. The following can only be used as a general reference and may not be an exact reflection of the software version you are using. The contents are subject to change at any time without notice.
  2. For MPEG-1 recording, the minimum system requirement is Pentium II 350 or AMD K6 family at 450 MHz. For MPEG-2 recording, the minimum system requirement is Pentium III 650 MHz or Athlon 650 Mhz.
  3. Make sure that the latest DirectX driver version is installed on your system.
- 



Click here to switch skin



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## Running ASUS Digital VCR

To run the utility, click **Start** and point to **Programs** and then **ASUS Digital VCR** and then click **ASUS Digital VCR**.

You may also run ASUS Digital VCR by clicking or right-clicking the ASUS Control Panel icon (see 4. **Software Reference | ASUS Control Panel**) on the taskbar's status area to display the ASUS Control Panel, pointing to **ASUS Digital VCR**, and then clicking it.

## Uninstalling ASUS Digital VCR

To uninstall the software, click **Start** and point to **Programs** and then **ASUS Digital VCR** and then click **Uninstall**. You may also uninstall the software using the **Add/Remove Programs Properties** dialog box at the **Windows Setup** tab. Windows online help for more information on removing a Windows component.

## Using ASUS Digital VCR

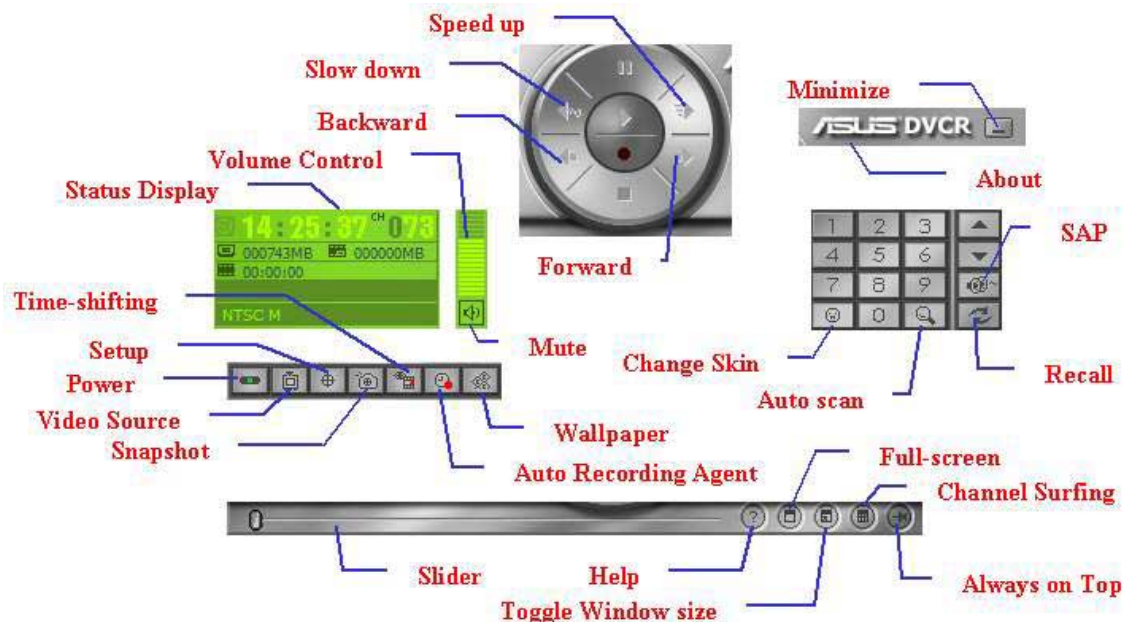
ASUS Digital VCR has been designed as a standard Windows program. The functions can be accessed by means of ASUS DVCR panel or by right-clicking the VCR screen.



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## Easy Access

The user-friendly skin allows you to easily operate the ASUS Digital VCR. Just like your TVsets and VCRs, you can quickly access to most of the functions with one single click.



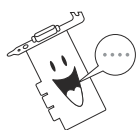
### Enable full screen

To enable full screen, click the **Full Screen** button or use the hot key, CTRL+S. To disable full screen, double-click the display, then click the **Full Screen** button. You may also use CTRL+S or ESC to disable full screen display. The display will then revert to its previous size.

### Enable wallpaper display

To *Enable wallpaper display*, click the Wallpaper button or use CTRL+W.

To disable desktop wallpaper, double-click anywhere the display and then click the wallpaper button. You may also use CTRL+W to disable the desktop wallpaper.




Before using the *Enable wallpaper display* option, make sure that the **View as Web Page** option of the Active Desktop setting is not selected (see **Start – Settings –Active Desktop – View as Web Page**).

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## Always on Top

The **Always on Top** option is provided for users who may wish to continue watching VCD/DVD/TV programs or want to have the ASUS Digital VCR monitor visible while doing other tasks, such as when downloading files from the Internet or word processing. To keep the monitor always on top of other programs, click the **Always on Top** button or select the **Always on Top** command from the **Window(W)** menu. Position the monitor where it will not interfere with your other tasks.

To disable the Always on Top option, click  or select the **Always on Top** command from the **Window(W)** menu.

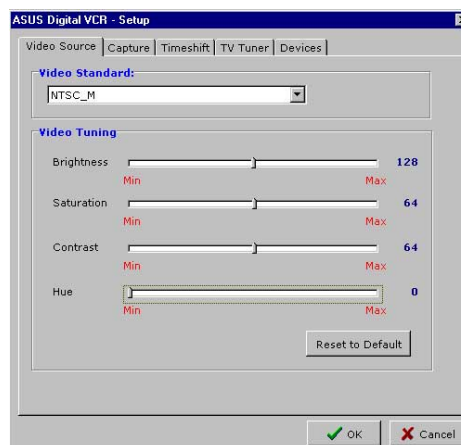
## Setup

When first using ASUS Digital VCR, you must set up the video source. Use the **Setup** button on the ASUS Digital VCR Control Panel or use the F9 hot key to show or hide the video source setup screen on the monitor.

## Video Source

Select the Video Standard from the list.

If the Video Standard is not set up on the Video Source page, it will be decided when you choose your country on the TV Tuner page.

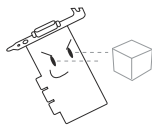
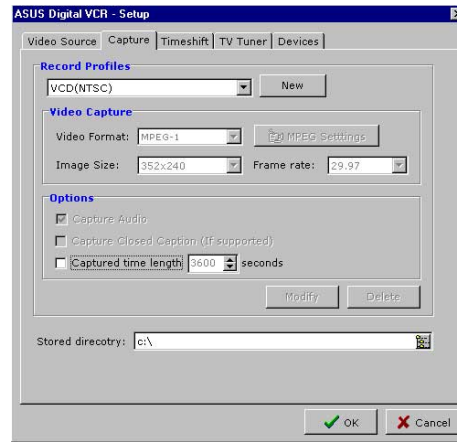


Use your mouse/pointing device or the UP and DOWN arrow keys to select options (*Brightness*, *Saturation*, *Contrast*, *Hue*), and the LEFT (select to the left or to decrease) or RIGHT (select to the right or to increase) arrow keys to change an option. You may also use your mouse/pointing device to change an option by clicking the appropriate item or slider.

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## Capture

Click the Capture tab to select video capture settings. There are four default profiles in **Record Profiles** drop-down list. Click the arrow to create your most-frequently used settings.

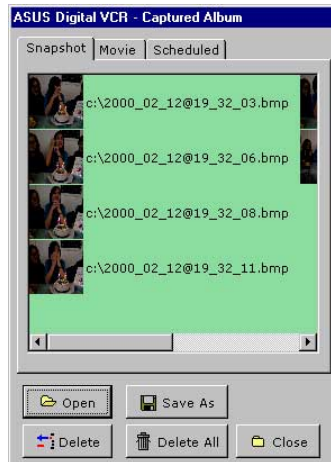


**IMPORTANT:** It is the intent of ASUS that this product be used in full compliance with the copyright laws of your respective and other countries and that prior permission be obtained from copyright owners whenever necessary.

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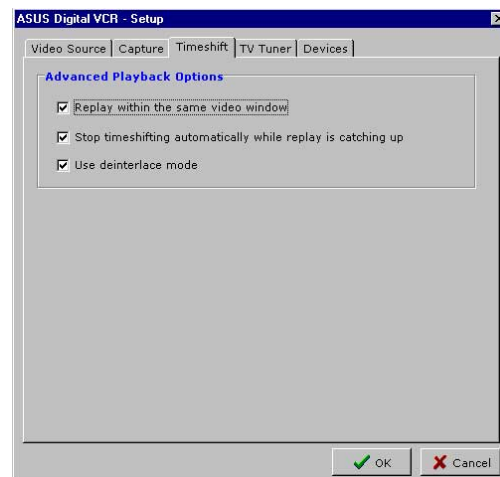
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Click Video source button to select the video source. Capture the images you want by clicking the snapshot button then use consecutively numbered filenames to store the images.



## Timeshift

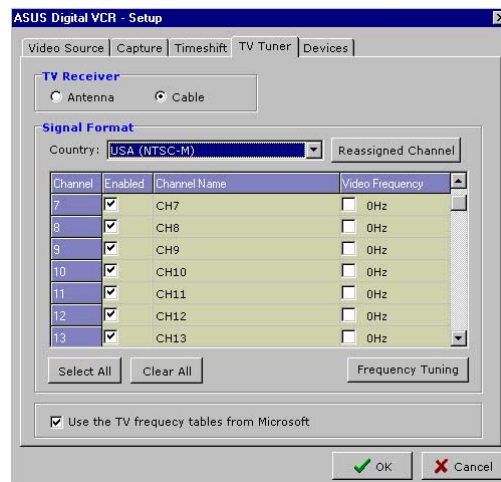
The innovative TimeShifting™ feature of the ASUS Digital VCR lets you record incoming video feeds into a buffer. So if you are watching your favorite TV show on your computer and you had to leave but you don't want to miss the rest of the show, all you need is to record it with ASUS TimeShifting™. When you come back, you don't have to wait (unlike traditional recorders) for the recording to finish to be able to watch what's been recorded. Just click **Play** and playback will start immediately (this while recording still continuing in the background)!



The de-interlace mode is used to filter the artifact from the interlaced TV signal. But it drains more system resources. Hence recording performance might decrease. It depends on your system capability to decide whether to use the deinterlace mode or not.

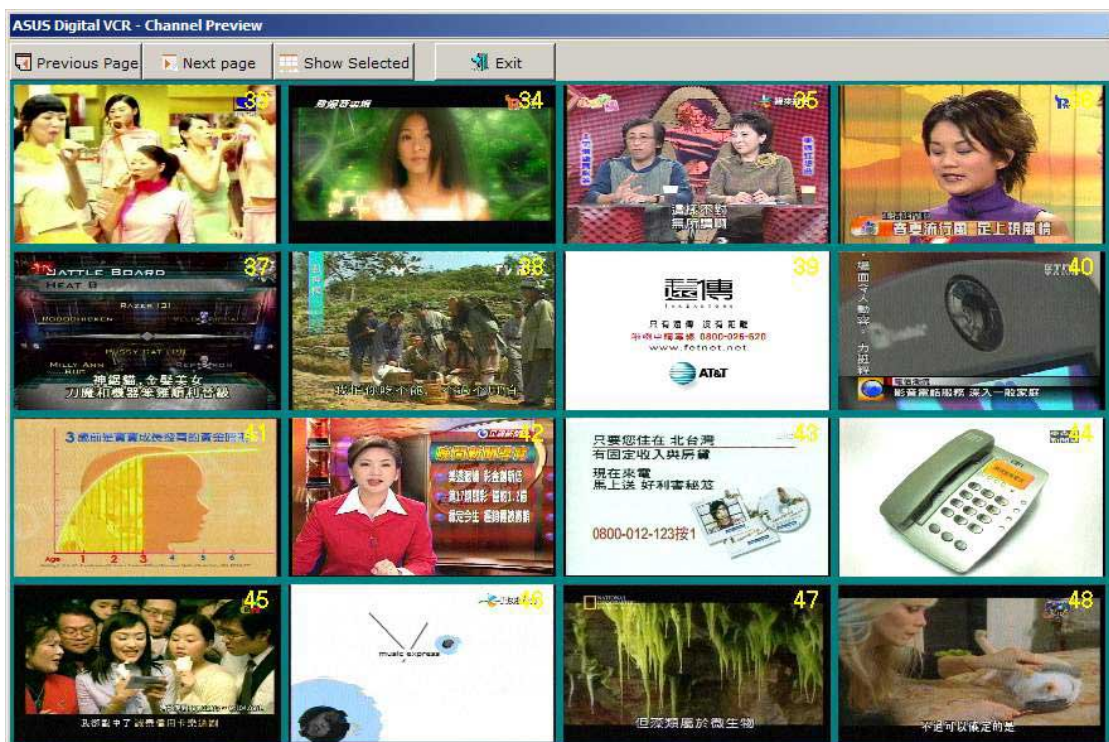
## TV Tuner

Click the TV Tuner tab to select your TV receiver and country.



The ASUS Digital VCR provides Frequency Tuning function and helps you get the right signal. Click the Frequency Tuning button to fine-tune the channels and to modify the TV signal if the built-in tables don't work.

After completing the settings, you can execute Channel Surfing by clicking the Channel Surfing button to simultaneously view a snapshot of 16 channels, rather than a flipping through all the channels.





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## Devices

Click the Devices tab to set up your Video Device and Audio Device. Many capture devices are supported by digital VCR. After a correct installation of the WDM device driver, Digital VCR will list all the available devices.

Select the mixer line you use to input the live audio so that Digital VCR can properly record it into files.

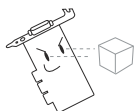
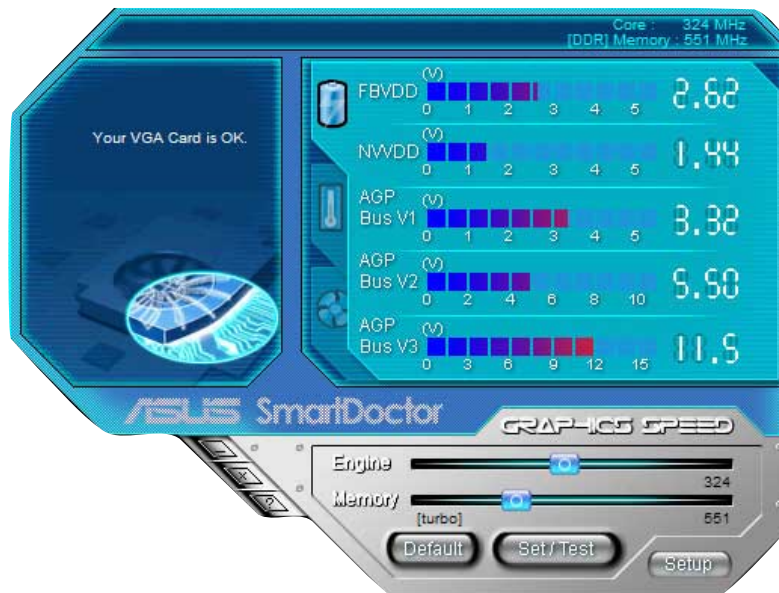


## 5. ASUS SmartDoctor

ASUS SmartDoctor is designed to satisfy two major goals. One is to monitor the graphic chip status, alerting users about abnormal events, such as fan malfunction or chip overheat. The other, as the name “SmartDoctor” implies, is to “cool” down the graphic chip smartly when it is not necessary for it to be kept running at full speed.

### 5.1 Functions

- Monitors graphic chip temperature, fan speed and voltage
- Notifies users about irregular hardware events, such as temperature overheat, fan malfunction, and out-of-safe-range voltage.
- Forcibly cools down the graphic chip when the graphic chip’s temperature is over an acceptable temperature, to protect the graphic chip from overheat damage.
- Cools down the graphic chip’s temperature when it is idle, and restores it to its maximum capability once needed, thus smartly extending the graphic chip’s lifetime.
- Cools down the GPU’s temperature to lengthen GPU lifetime.
- Sets monitor’s tolerable range or value to fit system’s requirement.
- Speed up system by adjusting core and memory clock slider manually.
- Provide 5 levels of fan speed adjustment.

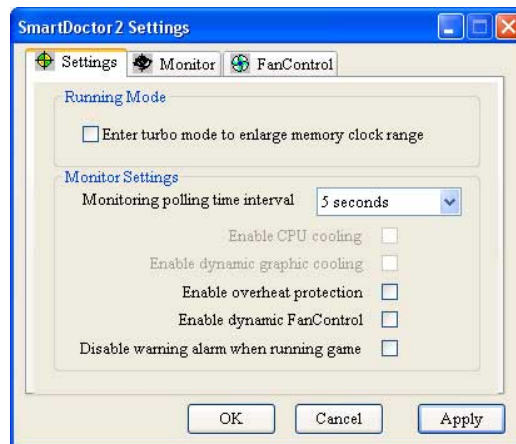


AGP bus VDDQ Voltage and AGP bus 3.3 Voltage should be supplied steadily by your motherboard. Otherwise, your system will crash.

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## 5.2 Setup

When you click the **Setup** button, the **Smart Doctor2 Settings** dialog box appears.

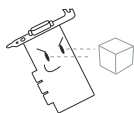


The default setting of SmartDoctor is **keep resident** which means that SmartDoctor will run every time Windows start and check the graphic card's status.

If your graphics card is working properly, SmartDoctor will terminate within 5 seconds.

**Dynamic Settings** will become available when you uncheck **Run once and terminate**.

- **Monitoring polling time interval** lets you specify the time intervals that SmartDoctor will take to check the graphic chip. The default setting is 5 seconds. You can choose a longer time interval value. SmartDoctor, however, will be less sensitive to graphic chip condition changes.
- **Enable GPU cooling** allows you to enable or disable the GPU cooling option. Enabling GPU cooling option will cool down the GPU's temperature when SmartDoctor detects that the GPU is idle. The GPU temperature will then drop.



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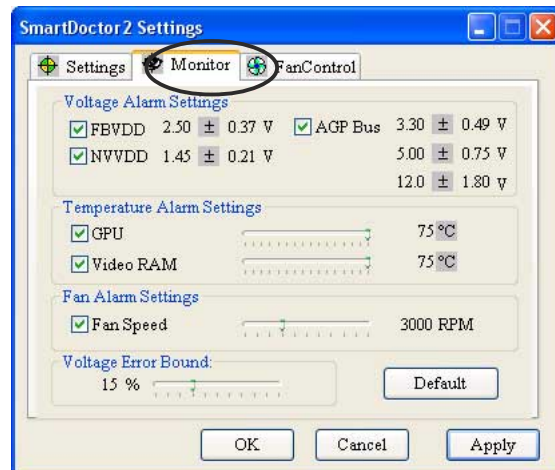
If you have already installed any GPU cooling software in your system, you should just choose only one. Running more than one GPU cooling software at the same time is redundant.

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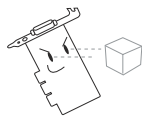
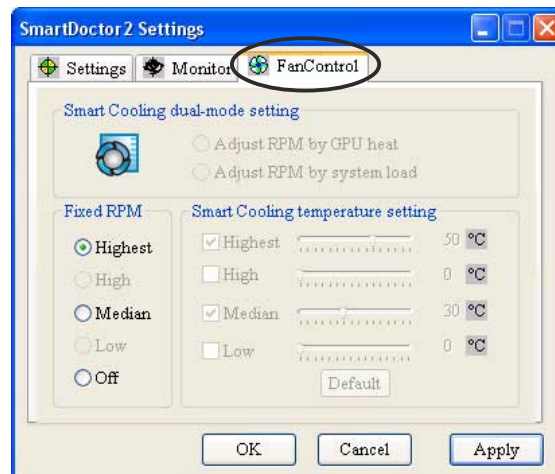
After GPU cooling is enabled, and when you run **System Monitor** in *Programs–Accessories–System Tools* to monitor GPU usage, you will find that GPU usage has reached its maximum, that is, 100%. Do not be alarmed—this is normal.

- **Enable dynamic graphic cooling** allows you to enable or disable the dynamic graphic cooling option. Enabling the graphic cooling option will cool down the graphic chip's temperature when SmartDoctor detects that the graphic chip is idle.
- **Enable overheat protection** lets you forcibly cool down the graphic chip when temperature is over the tolerable range or value.

Click the Monitor tab to specify the alarm settings for voltage, temperature, and fan, that fit your system.



Click the Fan Control tab to set smart cooling settings. When the Dynamic Fan Control is enabled, you may individually adjust dynamic fan speed levels or set to default values and Smart Cooling will automatically adjust fan speed to prevent overheating. Also, you may set the fan speed fixed at a desired level.



When SmartDoctor senses that something is wrong with your card graphic chip, the message display region will show a detailed description of the error or problem. The component in question will also have a flashing red value. If you enabled overheat protection in **Smart Doctor2 Settings** dialog box, SmartDoctor will cool down the graphic chip in time to protect it from possible overheat damage.

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## 5.3 Set/Test

When you click the **Set/Test** button, the **Smart Doctor2** tests the graphic card onscreen memory and displays the following screen while testing.

