WinTV-HVR-1850

PCI Express Video Recorder for NSTC, ATSC and clear QAM TV

Quick Installation Guide

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Contents of the WinTV-HVR-1850 package

- **WinTV-HVR-1850 PCI Express board** with hybrid NTSC/ATSC/QAM TV tuners
- **Media Center remote control and IR transmitter/receiver cable** (included with the Media Center kit versions only)
- **WinTV v7 CD-ROM** (on some WinTV-HVR-1850 models) including Windows drivers and WinTV v7 application with TV scheduler

or

- **Media Center driver CD-ROM** with Vista drivers (on some models)

Installing the WinTV-HVR-1850

WinTV-HVR-1850 is a PCI Express TV tuner board which can be used to watch or record analog TV, clear QAM digital cable TV or over-the-air ATSC digital TV programs. The WinTV-HVR-1850 also includes a hardware MPEG-2 encoder so that your computer does not slow down when recording analog TV programs.

WinTV-HVR-1850 is designed for **Windows 7**, **WindowsXP**, **Windows Vista**. It can use Windows Media Center, Hauppauge's WinTV v7 application or many excellent third party TV applications such as SageTV and BeyondTV.

Note: if you are using Windows Media Center, you only need to install the WinTV-HVR Windows device driver. You do not need to install the Hauppauge WinTV applications.

Installation overview

- Install the WinTV-HVR-1850 board in a PCI Express slot in your PC and connect a TV source. For the best ATSC digital TV reception, use a high quality roof top antenna.
- On models supplied with a remote control, the **IR remote control receiver/blaster cable** is plugged into the **IR Remote control connector**.
- After booting Windows, install WinTV-HVR Windows device driver from the Installation CD-ROM.
- **Optional:** After the Windows driver is installed, install the WinTV applications from the Installation CD-ROM.
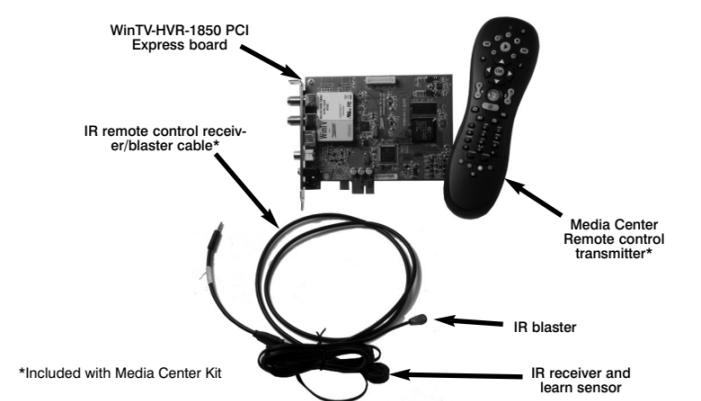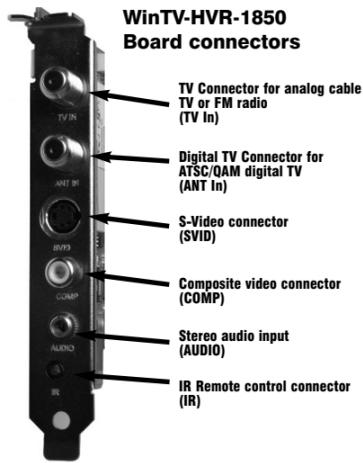
Install the WinTV-HVR-1850 board and connect the cables

Turn the power off on your PC. Install the WinTV-HVR-1850 into a PCI Express slot. It will work in x1, x8 and x16 PCIe slots.
Note: You cannot install WinTV-HVR-1850 into a PCI slot.

If you are using analog cable TV, plug your cable TV coax cable into the **TV Connector**.

If you are using clear QAM digital cable TV (only supported in Media Center versions TV Pack 2008 or Windows 7), plug your cable TV coax cable into the

WinTV-HVR-1850 Board connectors

- TV Connector for analog cable TV or FM radio (TV IN)
- Digital TV Connector for ATSC/QAM digital TV (ANT In)
- S-Video connector (SVID)
- Composite video connector (COMP)
- Stereo audio input (AUDIO)
- IR Remote control connector (IR)

WinTV-HVR-1850 PCI Express board

IR remote control receiver/blaster cable*

Media Center Remote control transmitter*

IR blaster

*Included with Media Center Kit

IR receiver and learn sensor

Digital TV Connector (ANT In).

If you are using ATSC digital TV, plug your roof top antenna into the **Digital TV Connector (ANT in)**.

Connecting a TV signal to your WinTV-HVR-1850

WinTV-HVR-1850 supports several different types of TV: analog cable TV, ATSC digital TV, clear QAM digital cable TV and TV from a satellite or cable TV setop box.

Note: clear QAM digital cable TV is only supported in Windows 7 Media Center TV Pack 2008 or the Hauppauge WinTV v7 application.

If you are using analog cable TV

Connect your cable TV coax cable to the **TV connector** on the back of the WinTV-HVR-1850 board.

If you are using ATSC digital over-the-air TV

Connect your TV antenna to the **Digital TV connector** on the back of the WinTV-HVR-1850 board.

If you are using clear QAM digital cable TV

Connect your cable TV coax cable to the **Digital TV connector** on the back of the WinTV-

HVR-1850 board.

Note: clear QAM digital cable TV is only available in some areas and through some cable TV operators. Contact your local cable TV company to see if they support clear QAM digital cable TV. To watch clear QAM digital cable TV, you need to be using Windows Media Center TV Pack 2008, Microsoft Windows 7 or Hauppauge's WinTV v7.

If you are using a cable TV or satellite TV set top box

Connect the set top box to the WinTV-HVR-1850 through either **S-Video** or **Composite video** connector on the WinTV board. You can also connect a coax cable from the **RF Out** on your set top box to the **TV connector** on the WinTV board.

Audio input from an external A/V device can be brought into the WinTV board via the Stereo audio input jack.

During the Media Center TV tuner setup, Media Center will automatically detect which method you are using to connect to the set top box.

If you would like the remote control blaster to change channels on the set top box, position the IR Blaster over the **IR receiver on your set top box**.

Installing the Hauppauge Media Center remote control receiver/blaster (on models supplied with remote control)

On models supplied with the Hauppauge Media Center compatible remote control, the **IR remote control receiver/blaster cable** is plugged into the **IR Remote control connector.** Add the supplied **batteries** to the **Media Center remote control device**.

Note: the Hauppauge remote control can also be used with the Hauppauge WinTV v7 application. See instructions below to configure the remote control for Hauppauge's WinTV application.

Note: The use of the IR Blaster is optional. **It is only needed if you have a cable TV or satellite set top box** and want Media Center to change the channels on your set top box. If you are not using a set top box, you should still connect the IR remote control receiver/blaster cable, **but you will only use the IR receiver**.

The **IR remote control receiver/blaster cable** has two ends: the **IR receiver and learn sensor** and the **IR blaster:**

- Position the **IR receiver and learn sensor** in a spot on your PC where it will be able to receive infra-red commands from the **Media Center remote control device**. Use the Velcro dot (on the back of the IR receiver) to position the **IR receiver and learn sensor**.
- **Optional:** position the **IR blaster** on your cable TV or satellite set top box.

Infrared light from the IR blaster needs to hit the remote control receiver in your set top box.

To test the IR Remote control receiver, click the **Start button** in the middle of the remote control. Windows Media Center should open.

Install the Windows drivers

Turn on your Windows XP, Vista or Windows 7 PC and boot into Windows.

If a 'Found New Hardware' wizard appears, please cancel it and allow windows to load fully before proceeding.

Insert the **WinTV Installation CD-ROM** in your PC's CD-ROM drive.

Note: if the CD does not autorun, navigate to the CD and run the 'Setup.exe' file.

"**Hauppauge WinTV Installation CD-ROM**" window will appear on the screen.

Install the WinTV driver

Click the button labeled **Step 1: Install Drivers**.

A blue screen will open and begin installing the drivers for your WinTV.

Once the drivers have installed, click on the **Finish bar** to exit.

Install the WinTV applications (optional)

Click the button labeled **Step 2: Install WinTV**

The setup application will then open and begin automatically installing the WinTV application components. Once complete, click **OK** then **Exit**.

Note: the latest driver updates are available at: www.hauppauge.com

TV Tuner set up in Windows Media Center

Run the Windows Media Center application.

Cursor down to **Tasks**. Cursor left to **Settings**. Click **enter**.

Cursor down to **TV**. Click **enter**.

Cursor down to **Set up TV Signal**. Click **enter**. Click **Next**.

In **Confirm your Region**, make sure your region is selected. Click **Next**.

You will see a message which says **Download TV Setup** options. This takes about 5 minutes to complete.

Click **Next** when this download is complete.

At **TV Signal**, click '**I will configure my TV signal manually**' and click **Next**

You will then see: **Cable / Satellite / Antenna**. Chose the source of your TV signal (**Cable** for use with analog cable TV, **Satellite** for use with a satellite set top box and **Antenna** for use with ATSC digital over the air TV) and click **Next**.

At this point, Media Center will set up the TV tuner. This might take a minute or so.

Note: Media Center requires TV Pack 2008 to support QAM TV channels. You can also use the Hauppauge WinTV v7 application, or SageTV or BeyondTV for QAM TV reception,

You will then see a message saying **Examining cable TV, antenna or set top box connection**.

After determining the type of signal, you will see **You are Done!**

Click through the rest of the settings, set up your Guide listings and click **Finish**.

Then return to the main menu. Go to TV + Movies and then live TV to watch and record TV.

Running WinTV v7 (optional)

WinTV v7 is a easy to use TV application for watching TV, recording videos and playing them back on your PC. Although WinTV v7 does not have all of the media features of Windows Media Center, it is a handy application if you are just watching TV on your PC or

notebook.

Note: you cannot run WinTV v7 and Windows Media Center at the same time.

To run the **WinTV v7 application**, **double click on the WinTV icon** on your Windows desk top.

When you run WinTV for the first time, the WinTV **Device Setup Wizard** appears. Select the TV source that you are using. On some model WinTVs, you have multiple tuners and therefore you can select multiple sources. For the WinTV-HVR-1850, you can chose either ATSC or Digital QAM and Analog TV. You cannot chose both ATSC and Digital QAM.

*Note: If you'd like to use the A/V inputs, please select **External inputs (Composite/S-Video)**.*

ATSC digital over-the-air TV

Select **Digital ATSC** and click **Next**. In the **ATSC Setup menu**, click **Next**.
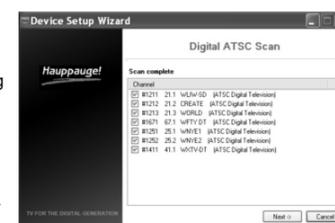
In **Digital ATSC Scan**, the digital TV scanning process will scan from channels 2 to 51. As TV channels are found, they will appear in the **Channel box**.

When complete, click **Next** / **Next** and **OK**.

Note: if you do not receive any ATSC digital TV channels, an antenna signal booster might be needed. After adding a signal booster, see instructions on rescanning TV channels and the Troubleshooting section for information on choosing an antenna.

Clear QAM Digital Cable TV

Clear QAM digital cable TV channels are those TV channels broadcast on a digital cable network which are unencrypted ('free to view'). If you have a cable operator who transmits clear QAM digital TV programs, chose **Digital QAM** and **Next**.

Encrypted channels are automatically not selected. The resulting channels in the list might be both standard and high definition channels.

Analog cable TV

Select your **Country** and your **TV Source** from the drop down list. To automatically scan for channels, click **Next** to continue.

Click the **Scan** button and WinTV will automatically scan for analog channels. The scanning process takes about 10 minutes.

External audio/video sources

You can bring video into the WinTV from an external audio/video source such as a cable TV or satellite set top box.

In the Device Setup Wizard, select **External Inputs** and click **Next**.

You will be presented with the option to add a **Composite** and an **S-Video Input**. Please select your country (if not correct) and click **Next**.

If you wish to connect a source not normally designed for operation in your country, you can configure the Video Format manually from the drop down list. Change the value from "AUTO".

Note: Pal BGHIDK is the commonly used format in Europe. NTSC is the broadcast format used in North America.

Rescanning TV channels

If you want to rescan for TV channels, click the **Setup menu** (**Gear button** in the lower left corner of WinTV v7).

Click on the **Devices tab**. Chose your WinTV device by clicking on it, then click **Tuner setup**. Choose the TV format you want to scan, then click **Next**. Click **Next** and a new scan will be started. When the scan is complete, click **Next** / **Next** and **OK**.

Using the WinTV v7 application

To watch TV, click the **Watch TV** button.

To see the TV Channel list, click your **right mouse button** in the TV window and select

Find Channel.

Options menu

The Options menu is the main menu where you can select channels, turn on closed captions, open the TV Scheduler, and shows the most important TV control functions.
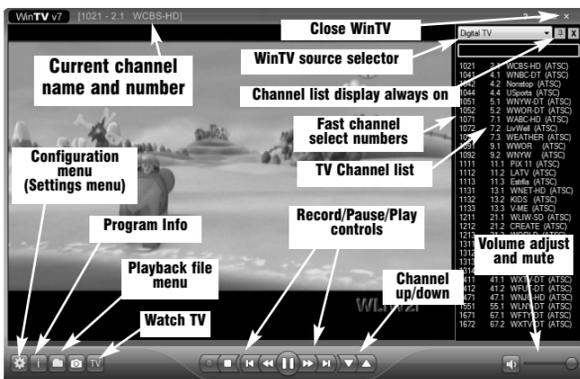
To bring up the Options Menu, click your **right mouse button** once in the TV window .

To **see the channel list**, click on **Find channel**. You will see the list of channels which have been scanned.

To **show the Channel menu as part of the TV window**, click the **Channel list always on** icon at the top of the channel list.

To turn on closed captions, click on **Show Captions**.

To manually schedule a TV recording, or to see which programs have been scheduled, click on **Scheduler**.

Labels on top diagram:
Current channel name and number
Close WinTV
WinTV source selector
Channel list display always on
Fast channel select numbers
TV Channel list
Configuration menu (Settings menu)
Program Info
Record/Pause/Play controls
Playback file menu
Channel up/down
Volume adjust and mute
Watch TV

Labels on bottom diagram:
Options menu
click your **right mouse button** to view
Playback menu
Channel list
TV Scheduler
closed captions
Always on top

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To turn on the Always on Top mode, click on **Stay on Top**.

IR blaster in WinTV v7

If you would like to use the Hauppauge IR blaster to change the channels on your cable TV or satellite set top box, see the section entitled "Configuring the IR blaster so WinTV v7 can control your set top box".

Watch, Pause and Record TV with WinTV v7

WinTV v7 is always recording video to your PC's hard drive while TV is being displayed. In this way, you can immediately skip back and replay the TV program you are watching.

Clicking on the **Pause button** will cause the video to pause, while clicking the **Record button** will cause the current TV program to be recorded to hard disk.

Recording your TV shows

If you want to record a TV show you are watching:

• Click the **Record button**. The recorded file name will popup on the video for a few seconds as the recording starts.
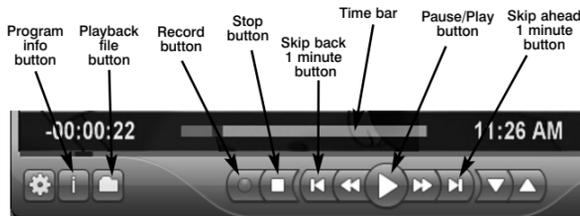
• When you are finished recording, click the **Stop button**.

• Click the **Playback file button** and select the last file recorded to play the video you just recorded

• To play a video you recorded earlier, click the **Playback File button** and then move your mouse and click once on the video you want to play. Click **Open** and the file will start playing.

The recorded video file is saved in the directory set in **Recordings directory.** The default directory is **MyVideos**. To change this directory, click the **Settings button** and then the **Folders tab**. Every time you record a file, a new file is automatically created. The file will be formatted as **(ChannelNumber)_(ChannelName)YearMonthDay_Time**.

For digital TV programs, the quality level recorded is the same as it is transmitted by the TV station. For example, if the TV station is transmitting a high-definition program, WinTV will record the program in high-definition. closed cap-

Labels on playback controls:
Program info button
Playback file button
Record button
Stop button
Skip back 1 minute button
Time bar
Pause/Play button
Skip ahead 1 minute button

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tions, parental control information and SAP audio is recorded with digital TV programs.

For analog cable TV using the built-in hardware MPEG-2 encoder, the quality of the video recording is set to 6Mbits/sec. This will be a configurable setting in a future version of WinTV v7.

If you want to pause a TV show you are watching:

• Click the **Pause** button. Your TV video will stop and the Time counter will start counting.

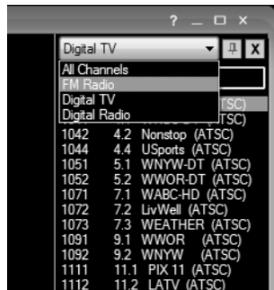• To start the video from where you paused, click the **Play button**

• To rewind the video to the beginning, click the **Skip to the beginning button**. If your video was paused, click the **Play** button.

• To rewind the video 10 seconds, click the **rewind 10 seconds button**. If your video was paused, click the **Play** button.

The **Delay counter** displays how much time you are behind the live video. For example, if the delay counter says 00:01:23, then the video window is showing video 1 minute and 23 seconds behind live video.

Selecting FM radio programs

On those WinTV products which support FM radio, if you have scanned for FM radio staions in the section entitled "Using WinTV for the first time" you can change the WinTV v7 application to FM by clicking **FM radio** in the Source selector, found in the upper right hand corner of the WinTV application.

Configuration menu

The **WinTV v7 Configuration menu** is accessed by clicking the gear button in the lower left hand corner of WinTV v7.

General tab: you can set the Video Renderer which allows WinTV v7 to display video with a wide range of graphics systems.

Devices tab: allows is where you can re-scan for TV channels and set up the TV sources in WinTV v7.

Parental control tab: is where you can set the Parental Control level.

Advanced options: you can set options such as **Convert TV recordings to .MPG file type** and **Game mode** here.

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TV Scheduler in WinTV v7

The built-in **TV Scheduler** allows you to schedule the recording of TV shows. Once a record event is set, WinTV v7 can be closed and the **WinTV** application will "wake up" at the desired time and tuned to the desired channel.

When a scheduled record event takes place, the WinTV v7 application records "in background" so that you can continue to watch your live TV program, even as the recording progresses.

The **TV Scheduler** can be found in the WinTV v7 **Options menu**. Right click your mouse button in the TV window to see the Options menu. Click **Scheduler**. To set up an event for timed watching or recording, click the **Add button**.

The items that need to be set for each event are:

• **Name:** you can add a name to the recording. If you do not enter a name, the name will be in the channel/date format.

• **Channel:** chose one of your scanned channels.

• **Start time:** set to the desired start time. Click on the hour to set the hour, the minute to set the minute. Note: It takes about 15 seconds to launch the WinTV and start recording.

• **Duration:** number of minutes in the recorded program.

• **Recurrence:** one time, daily, weekly. **Note: If you set for Record Weekly, you must also specify the Day of the Week for the recording.**

• **Date to Begin Program:** today's date is the default. Change this if you want to schedule on another date.

• **Source selection:** leave set at **WinTV** to bring up the **WinTV** at the requested time and on the requested channel.

Once these are set, click **OK**. You can add

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more recordings, clicking **OK** after each event is set.

When you are finished click **Close**. The **WinTV** program does not have to be running for the **Scheduler** to work. If **WinTV** is not running, it takes about 15 seconds to start **WinTV** and to start the recording of TV.

Configuring the IR blaster so WinTV v7 can control your set top box

The **IR Configuration Utility** is used to configure the WinTV-HVR's built-in remote control IR blaster for use with either WinTV v7 or Windows Media Center.

Note: the remote control is initially configured for Windows Media Center. If you want to use the IR blaster with WinTV v7, you must run this utility.

To run the IR configuration utility, go to the WinTV program group and click on **HCWCIRConfig_Tool.exe** (this file can also be found on the web site. http://hauppauge.light-path.net/software/utils/hcwcirconfig_tool_1.2.28165.exe).

To configure the IR blaster for use with WinTV v7 remote control, remove the check from the box labeled "Hauppauge Consumer Infrared Receiver".

To configure as a Windows Media Center remote control, put a check in the box labeled "Hauppauge Consumer Infrared Receiver"

Click **OK** to save the changes.

Note: your computer must be restarted for the changes to take effect.

Learning the remote control codes for your set top box

In WinTV v7, the IR RemoteBlaster lets the WinTV-HVR board change the channel on a satellite or cable TV set top box by transmitting 'channel change' commands to the box via an Infra Red (IR) transmitter.

Note: You will need the remote control from your set top box to complete the configuration in this section.

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Note: this proceedure is only necessary if you are using WinTV v7. If you are using Windows Media Center, it will configure the IR blaster.

The **Hauppauge IR RemoteBlaster** consists of two components:

1. **IR Blaster cable.** This cable has an IR cable jack and an IR transmitter. The IR cable jack plugs into the back of the WinTV board, and the IR transmitter needs to be positioned over the IR receiver on your set top box using the self stick tape supplied on the front of the transmitter.

2. **IR Blaster Configuration program** (BlastCfg.EXE) for configuring the codes for the IR transmitter.

During the installation of the WinTV applications from the Installation CD-ROM, the Hauppauge IR Blaster applications will be automatically installed.

Every time you boot Windows, the IR32 application should automatically run. You will notice a small IR icon in your system device tray.
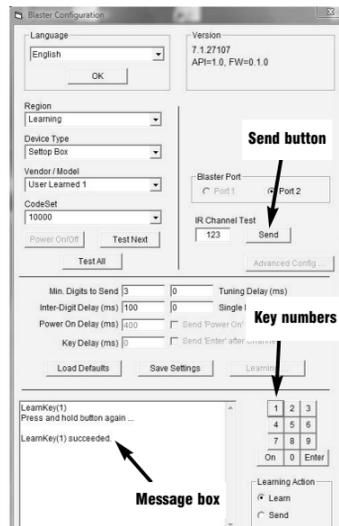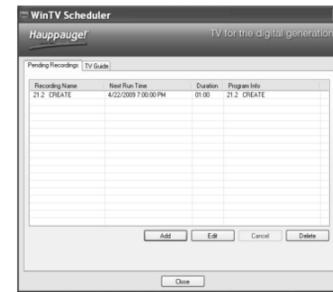
Configuring the IR Blaster

The IR Blaster Configuration program, can be found in the **Program Groups / Hauppauge WinTV**. Run **BlastCfg.EXE**

First make sure the IR transmitter is positioned over the remote sensor on your set top box. Remember, the IR transmitter has a very short transmission distance and needs to be positioned over the remote sensor on your set top box.

To access the learn function, click on **Learn**.

You will need to 'learn' the **0 through 9** keys, plus **Power on** and **Enter**. To learn the new keys:

- **hold the remote control from your set top box** as close to the IR receiver and learn sensor as possible

- **in the Blaster config program,** click the button you would like to learn (for example: 1)

- **then depress and hold** the corresponding key on your set top box remote control. You will be instructed in the message box when to release the key onyour remote control.

Labels:
Send button
Key numbers
Message box

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- **Do this for the keys** 0 to 9 plus On and Enter

You should receive a **LearnKey(key#) Succeeded** message. Then move on to the next key.

If you receive a **LearnKey(key#) Failed** error, this means that the key was either held down too long, or not long enough, or that the remote was not held close enough to the IR sensor on the HD PVR. Try again.

Once you are finished with the numbers 0 to 9 and On and Enter, you can test the learning by clicking the **Send button** in the Blaster Configuration program. It will send the numbers 123 to your set top box. Your set top box should now be on channel 123.

Close the Blaster Configuration program and your configuration will be saved.

Troubleshooting

Installation tips and software updates can be found at : www.hauppauge.com/site/support

Some notes on system compatibility

Decoding high definition ATSC TV is very CPU intensive. A graphics card with at least 64MBytes of memory and the latest graphics driver from the manufacturer makes the decoding task easier. Typically a 2.2 GHz Pentium 4 processor or equivalent with a graphics card having 64MBytes of memory is required to properly decode digital TV on your PC. A 1.6GHz AMD Sempron laptop computer tested in the Hauppauge lab used 50% of the CPU for playing ATSC 480i format.

In some cases, either a faster processor or more graphics memory might be required. Slow or jerky video and a noisy TV picture indicate system performance problems.

Jerky video with live ATSC digital TV

Jerky or distorted video can be caused by two things in your PC or laptop: a slow CPU which cannot decode the ATSC TV signal fast enough, and a graphics system which cannot keep up with the high datarates of high definition ATSC TV.

Many times, improving the performance of the graphics display will fix the jerky video display of digital TV. Here are some tips on improving graphics performance:

• Use the latest graphics driver: graphics drivers are often 'tweeked' to improve performance, especially the built-in graphics on laptops. Check the Microsoft Windows update site to download the latest graphics driver for your computer. For Dell computers, check the Dell website for the latest graphics driver.

• In the WinTV v7 Settings menu (click the "gear" icon), in the **General tab** change the **Video Renderer**. This is used to change the display mode of a graphics card for TV watching. This does not affect any other Windows program. The default mode used

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by WinTV is **EVR**. **EVR** uses your graphics card to move the digital TV image into the graphics memory. If you chose **Overlay**, the processor moves the TV signal into the graphics memory. It is more CPU intensive but often fixes display problems on some laptops.

To use hardware graphics acceleration, click **VMR7**, **VMR9** or **EVR**.

Note: hardware acceleration does not work on all systems.

If this setting does not help, or if you experience WinTV not responding after a channel change, then your graphics system cannot use hardware graphics acceleration.

In this case, run click 'Overlay' then rerun WinTV.

Only some channels are found during ATSC channel scan

If you are only receiving some known TV channels when scanning, it means your TV antenna is not adequate to pick up the channel. You will need either an antenna signal booster (a Radio Shack antenna amplifier will work) or a high gain antenna. Here's a link to an ATSC antenna selector: http://www.antennaweb.org/aw/address.aspx

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