WinTV-HVR-2250

Dual hybrid PCI Express Video Recorder for NSTC, ATSC and clear QAM

Quick Installation Guide

Contents of the WinTV-HVR-2250 package

• **WinTV-HVR-2250 PCI Express board** with dual hybrid NTSC/ATSC/QAM TV tuners

• **A/V breakout cable** for the primary A/V input

• **A/V panel and cable** to add a second set of audio/video inputs

• **Remote control transmitter** and **IR remote control receiver/blaster cable** (on models with remote control)

• **IR transmitter cable** for the A/V input on the A/V panel (on models with remote control)

• **WinTV-HVR Installation CD-ROM** including WinTV v7 application with TV scheduler

Installing the WinTV-HVR-2250

WinTV-HVR-2250 is a PCI Express tuner board with two TV tuners, each which can be used to watch or record an analog or digital clear QAM cable TV or ATSC digital TV program at the same time. Each analog TV tuner also includes a hardware MPEG-2 encoder, so that your computer does not slow down when watching or recording analog TV channels.

WinTV-HVR-2250 is designed for **WindowsXP, Windows Vista and WIndows 7**. It can be used with Windows Media Center or Hauppauge's WinTV v7 application.

Note: if you are running the Windows Media Center application, you only need to install the **WinTV-HVR Windows device driver**. You do not need to install the Hauppauge WinTV applications. But if you are using Windows Media Center and want to use the on board Media Center compatible receiver transmitter, you also need to run the **Hauppauge CIR config tool** and select **Hauppauge WinTV-HVR-2250**. See below in the section entitled "**Configuring the IR Blaster**".
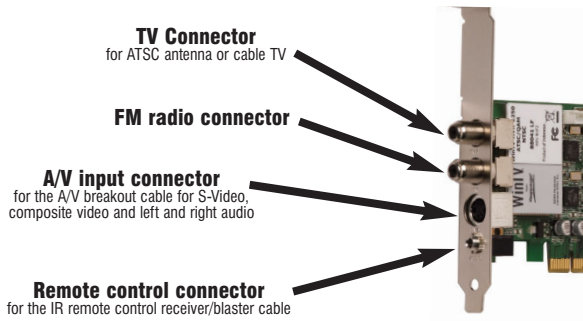
Installation overview

✓ Install the **WinTV-HVR-2250** board in a PCI Express slot in your PC and connect a TV source.

✓ On models supplied with the Media Center remote control, plug the **IR remote control receiver/blaster cable** into the **Remote control connector**. **Position the IR receiver/learn sensor** where infra-red light from the remote control transmitter can hit it.

✓ **Install the A/V panel** in another slot in your PC, and connect the supplied cable to the WinTV-HVR-2250 connector.

✓ After booting Windows, install WinTV-HVR Windows device driver from the **WinTV-HVR-2250 Installation CD-ROM.**

✓ **Optional:** After the Windows driver is installed, install the **WinTV applications** from the **WinTV-HVR-2250 Installation CD-ROM.**

Install the WinTV-HVR-2250 board and connect the cables

Turn the power off on your PC. Install the **WinTV-HVR-2250** into a PCI Express slot.

TV Connector for ATSC antenna or cable TV

FM radio connector

A/V input connector for the A/V breakout cable for S-Video, composite video and left and right audio

Remote control connector for the IR remote control receiver/blaster cable

TV connection

Plug your **cable TV** or **ATSC digital TV antenna** into the **TV Connector**. Plug an FM antenna into the FM radio connector if desired.

A/V breakout cable

The **A/V breakout cable** can be used to bring audio/video from a satellite TV or cable set top box. Plug the A/V breakout cable into the **A/V input connector**.

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 **A/V breakout cable**.

Installing the IR 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 **Remote control connector**. Add the supplied **batteries** to the **Remote control transmitter**.

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 or WinTV v7 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 sensor**.


IR remote control receiver/blaster cable*

IR blaster (only used if you have a cable TV or satellite set top box)

IR receiver/learn sensor (point your remote control at this sensor)
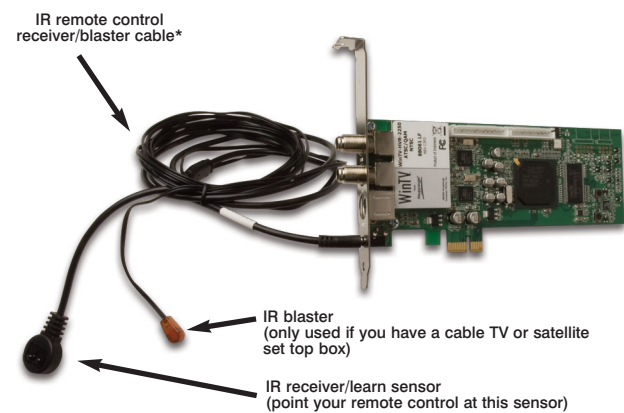
The **IR remote control receiver/blaster cable** has two ends: the **IR receiver/learn sensor** and the **IR blaster:**

• Position the **IR receiver/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 auxiliary A/V panel

The **A/V panel and cable** can add a second set of audio/video inputs to the WinTV-HVR-2250. Install the **Auxiliary A/V panel** in a slot on the back of your PC. Plug the cable into the 12 pin **Auxiliary A/V connector** on the WinTV-HVR-2250.

Auxiliary A/V connector 12-pin connector

Auxiliary A/V cable
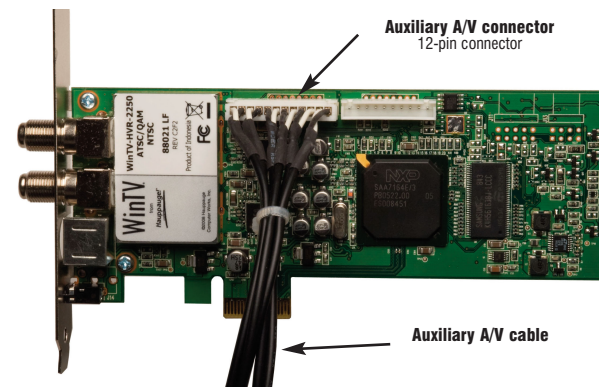
Install WinTV-HVR-2250 software

Turn on your 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.

If you are using Windows Media Center and want to use the Hauppauge remote control with Media Center: Go to the **WinTV V7 installation CD** in the **MISC** folder and run **HCWCIRConfig_Tool.exe**

Put a check in the box labeled "**Hauppauge WinTV-HVR-2250**". Click **OK** to save the changes.

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

Install the WinTV applications (optional: not needed if you are using Windows Media Center)

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

Note: Media Center requires Windows 7 or TV Pack 2008 to support QAM TV channels. You can also use the Hauppauge WinTV v7 application, or SageTV or BeyondTV.

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.

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!**

Note: If you see a message "IR hardware not detected", and you are only using one TV tuner, then you need to tell Media Center to use only Tuner 1.

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 for the first time

To run the **WinTV v7 application** for watching TV, recording videos and playing them back on your PC, **double click on the WinTV icon** on your Windows desktop.

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-2250, you can chose either ATSC or Digital QAM and Analog TV. You cannot chose both Digital ATSC and Digital QAM.

ATSC digital over-the-air TV

Select **Digital ATSC** and click **Next**. In the **ATSC Setup menu**, click **Next**. You will see the **Digital ATSC Scan** scanning for digital over-the-air channels.

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 below for instructions on rescanning 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 chan-

---
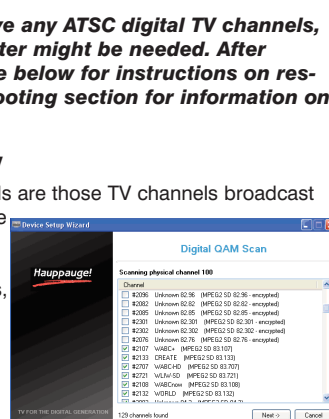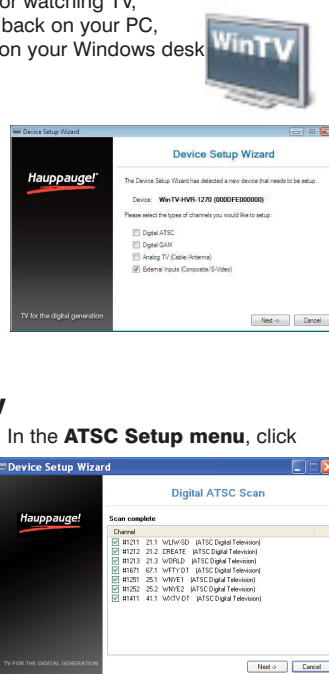
nels.

Analog cable TV

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

Note: If you'd like to use the A/V inputs, please select External Inputs.

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).

Then click on the **Devices tab**. Chose your WinTV device by clicking on it, then click **Tuner setup**. Chose 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, show the TV Guide and many other of 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

WinTV v7

Close WinTV

Channel list display always on

Channel name/number

Fast channel select numbers

TV Channel list

Settings button

Program Info

Record/Pause/Play controls

Playback file menu

Watch TV

Channel up/down

Volume adjust and mute

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.

Options menu
click your **right mouse button** to view

Playback menu

Channel list

TV Scheduler

Close captions

Always on top

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*.

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 in 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:

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**

- 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 captions, 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.

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 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

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.

N *ote: the WinTV-HVR-2250 board is initially configured for it's on-board remote control to be used with WinTV v7. If you want to use the built-in remote control with Windows Media Center, you must run the IR Configuration 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

---

WinTV V7 installation CD in the **MISC** folder).

You will see the dialog box **Configure Hauppauge Remote Control Receivers**. If the WinTV-HVR-2250 contains the only IR receiver in your PC, you will see a message **One Media Center remote control has been detected**.

To configure as a Windows Media Center remote control, put a check in the box labeled "Hauppauge WinTV-HVR-2250".

To configure the IR blaster for use with WinTV v7 remote control, remove the check from the box labeled "Hauppauge WinTV-HVR-2250".

Click *OK* to save the changes.

N *ote: your computer must be restarted for the changes to take effect.*

Learning the remote control codes in WinTV v7 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.

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

N *ote: this proceedure is only necessary if you are using WinTV v7. If you are using Windows Media Center, it will configure the IR blaster as part of the Media Center setup.*

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

Send button

Key numbers

Message box

---

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 (about 1 inch).**

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

- A message will apear saying **Press and hold the button**. Depress and hold the corresponding key on your set top box remote control. You will see a message **Release button** when you need to release the key on your remote control. You will do this three times.

- You should receive a **LearnKey(key#) Succeeded** message. 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.

- Then move on to the next key. **Do this for the keys** 0 to 9 plus **On** and **Enter**

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** to save the configuration.

Troubleshooting

Installation tips and software updates can be found at :
http://www.hauppauge.com/site/support_hvr2250.html

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 DVB-T digital TV on your PC. A 1.6GHz AMD Sempron laptop computer tested in the Hauppauge lab used 50% of the CPU for playing DVB-T 640i 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 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 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.

Note: if you have an nVidea graphics card, you can use VMR7.

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

Also, in some areas using cable TV, a format called Cable HRC is used. If so, try rescanning but use CABLE (HRC) instead of cable in the Broadcast/Cable box.

Black window when selecting an ATSC digital channel

A black window when selecting a digital channel means that the WinTV-HVR-2250 is not getting a good TV signal. This is most often due to poor reception. If the signal is very bad (or non existent), you will see a message "No Signal" pop up in your WinTV v7 window. See "Only some channels are found during digital channel scan" above.

Uninstalling the WinTV driver and applications

Run the hcwclear.exe from the installation CD. Select OK A black screen will briefly appear and once it has disappeared the software will be removed. If you now re-start the computer you will be at Step 4 of the installation.