

WinTV-PVR-pci

Personal Video Recorder

Quick Installation Guide

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Installing the WinTV-PVR-pci

The WinTV-PVR is a Plug-n-Play device designed for Windows98SE, Windows Me, Windows2000 and WindowsXP. Plug-n-Play simplifies the installation and hardware setup of WinTV by having hardware settings assigned by Windows. This section describes how to install these boards using the Plug-n-Play installation.

Installation overview

To install WinTV-PVR under Windows98SE, WindowsME, Windows2000 or WindowsXP, you will follow these steps:

- ✓ Install the WinTV-PVR-PCI board in your PC and connect the TV and audio cables
- ✓ After booting Windows, you will install WinTV Windows device driver from the WinTV-PVR-PCI Installation CD-ROM
- ✓ A system check and VGA check will be run (Windows98 only)
- ✓ After the Windows driver is installed, you will install the WinTV applications from the WinTV-PVR-PCI Installation CD-ROM

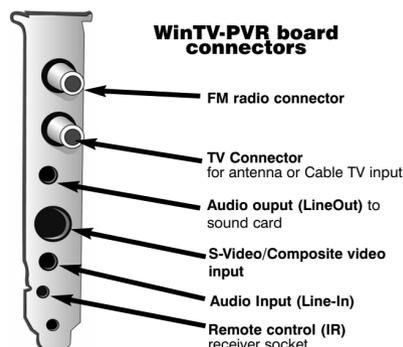
Step 1: Install the WinTV-PVR and connect the cables

Turn the power off on your PC. Install the WinTV-PVR into a PCI slot. On some PC's, the WinTV-PVR needs to be plugged into the first or second PCI slot. Plug your TV antenna or cable TV cable into the TV Connector.

The live TV audio from the WinTV-PVR is routed to your PC's sound card for amplification and mixing. To connect to the sound card, plug one end of the supplied Audio cable into WinTV-PVR's Audio output (LineOut) connector. Plug the other end of this cable into the LineIn connector on your PC's sound card.

Plug the supplied Radio aerial into the FM radio connector. This may not be necessary if your TV aerial or cable network supplies an FM signal.

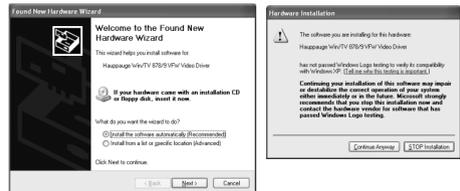
The S-Video/composite video input and Audio input can be used to bring audio/video from a VCR, camcorder, camera, DVD player or satellite TV receiver. If your video device uses a yellow composite connector instead of S-Video, use the supplied Composite to S-Video adapter.



The Remote control receiver is plugged into the Remote control receiver socket. Use the Velcro dot (on the back of the Remote control receiver) to position the Remote control receiver where it will be able to receive infra-red commands from the Remote control transmitter. Add the supplied batteries to the Remote control transmitter.

Step 2: Install the WinTV-PVR driver for Windows XP

After installing the WinTV-PVR in your PC and booting into Windows, the Found New Hardware Wizard will appear. Insert the WinTV-PVR-PCI Installation CD-ROM in your PC's CD-ROM drive and make sure Install the software automatically (Recommended) is checked. Then click NEXT. When the Hardware Installation dialog



box opens, click Continue Anyway.

Click Finish.

After the video driver is installed, the Found New Hardware Wizard will detect the WinTV audio driver. Click Next, then Continue anyway and then Finish to complete the audio driver installation.



This completes the driver installation for Windows XP. Go to step 3.

Step 2a: Install the WinTV driver for Windows 98SE, Me, and Windows2000

Turn the power on your PC.

When re-starting Windows for the first time after the WinTV-PVR board has been installed, the Add New Hardware Wizard will appear.

Click NEXT. Select Search for the best driver for your device (Recommended). Click NEXT.

When you see the dialog box, insert the WinTV Installation-CD-ROM into your CD-ROM drive.

Select CD-ROM drive and click NEXT.

Once the Hauppauge WinTV video driver has been detected, click NEXT.

You will see a number of files being copied to your hard disk drive.

Click FINISH.

After the Hauppauge WinTV video driver has been installed, the Hauppauge WinTV audio driver will be automatically installed.

System and DirectDraw check for Windows95, 98, Me

After all files are copied, the Hauppauge WinTV System Inspection utility will be run. Check for the message "Your Hauppauge WinTV hardware and software drivers appear to have been installed and configured correctly". Click on Close.

Now the Hauppauge WinTV DirectDraw Inspection utility will be run. Check if the message "GOOD NEWS! We detect a compatible VGA card and drivers" appears. Click Close.

If you do not see this message, then your VGA card does not have an updated Direct Draw driver. You will also find the latest Microsoft drivers on the WinTV-PVR-PCI Installation CD-ROM in the DirectX directory.

Note: "Step 4: WinTV-PVR Software installation" will update the Direct Draw driver for Windows. If you get an error message during the DirectDraw check, following step 4 may fix this.

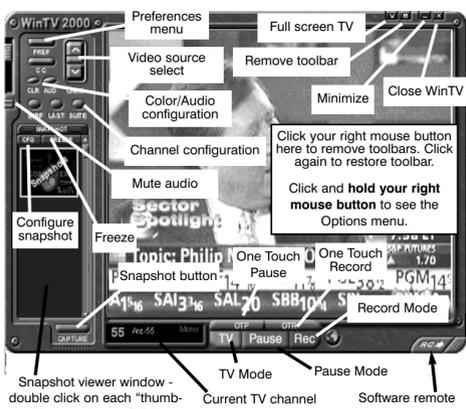
Step 3: WinTV-PVR Software installation

WinTV Setup will automatically run. If Setup does not start automatically, run SETUPEXE from the WinTV-PVR-PCI Installation CD-ROM.

Click Install to start the application installation. The installation requires two reboots. The installation may require a file from your Windows CD-ROM, so keep it handy. After the Setup program is complete, you will see the WinTV2000 icon on your Windows desktop.



The WinTV2000 application



Running WinTV for the first time

When running WinTV for the first time, you will need to scan for your TV channels.

Choose the Video Format for your geographic region:

- North America uses NTSC(M)
- Europe uses PAL B/G
- U.K. uses PAL I
- South America uses either PAL M or PAL N

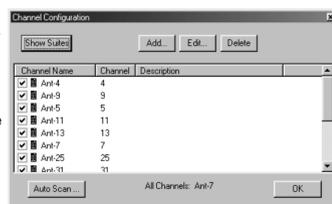
If you are using Cable TV, in the Broadcast box select Cable. Otherwise select Antenna. Then click on Start.

Setting up the channels

After you have scanned for channels, you can assign channel names to channel numbers and fine tune for better reception. To do this,



click on the Channel configuration button (marked Suite). Then click on the desired channel, then Edit. Change the Channel Name to the name of the station. Fine tune if necessary. Then click OK.



To set up a External video source

Click the Suite button (Channel configuration) on the WinTV2000 and click on Add. Click Composite (or S-Video). Pick your video format (NTSC for North and South America, PAL for Europe, etc.) and give it a name (for example: external), then click ADD. Now you have an external video channel.

To change to External video, either select the channel name you just configured, or click the Switch video source button on the WinTV-2000 application.

Rescanning for channels

If later on you want to re-scan channels, click on the Channel configuration button (Suite) and then Auto scan. Make sure you select cable or antenna in Broadcast / cable. In the U.S. if you scanned using cable and only received a few channels, try rescanning, but use Cable (HRC) instead. Chose the correct Video format for your region and then click Scan.

Tips on using WinTV 2000

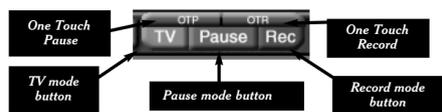
To watch TV without the WinTV toolbar:

Click your right mouse button in the WinTV's video window to remove the toolbar and leave just the TV window ("no-title" mode). You can change channels in the no-title mode by typing a number or by hitting the +/- keys. To adjust the audio volume, hit PgUp/PgDn, or CTRL-M to mute the audio. To restore the toolbars ("title mode"), click your right mouse button in the video window. You can set the window size and position differently in each mode.

the Windows Volume Control Mixer and make sure WaveOut is listed and not muted.

Watch, Pause and Record TV

There are three buttons to control the Watching, Recording and Pausing of TV. Clicking on the Pause button will cause the Pause menu to roll down from the WinTV2000 application, while clicking on the Rec button will cause the Record menu to roll down.



The One Touch Pause button prepares the WinTV-PVR for pausing live video (see Pause mode below).

The One Touch Record button will start a record session. If you click OTR more than once, a record timer will be set and the recording will be done for 15 minutes for each time the OTR button is clicked. For example, if you click the OTR button 3 times, the WinTV-PVR will record for 30 minutes.

Quick instructions on recording and pausing your TV shows

- If you want to record a TV show you are watching:
 - click the Record button to lower the record and play menu
 - in the Record menu, click the red record button to start recording
 - when you are finished recording, click the stop button
 - click the Play button to play the video you just recorded
 - to play a video you recorded earlier, click the "file" button and then move to the video you want to play. click OK and then play
- If you want to pause a TV show you are watching:
 - click the Pause button to lower the pause menu. After about 15 seconds, your screen will stop and the delay time will start counting
 - to start the video from where you paused, click the play button
 - to pause the video again, click the pause button

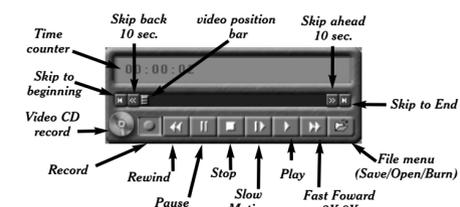
- to rewind the video to the beginning, click the skip to the beginning button. If your video was paused, click the play button.
- to rewind the video 10 seconds, click the rewind 10 seconds button. If your video was paused, click the play button.

Record Mode

Click on the Record button on the WinTV-2000 application to open the Record and Playback control bar.

Time counter

The time is specified in a Hour:Minute:Second format. When Recording, the time of the recording will be displayed. On playback, the current position time and the total time in the video being played will be displayed.



Record Button

Clicking the Record button will automatically generate a file name and start recording your audio/video program. The quality of the video recording and the directory where the files are stored are set in the MPEG Configuration Menu (see the section entitled "Configuring the format for MPEG compression") by clicking the PREF button on the WinTV2000 application, then clicking Capture / MPEG.

While recording:

- Live video continues to play in the WinTV window
- the Counter will display the length of your recording

- if you had started recording with the OTR button, and had clicked it more than once, the total time for the recording will also be displayed

The quality of the recording is configured from the MPEG Configuration Menu (see the section entitled "Configuring the format for MPEG compression"). There are several video qualities: VCD plus MPEG2 2.0, 4.0, 6.0, 8.0 MBit/sec, etc. The highest quality is MPEG2 12.0 MBit/sec, and the lowest quality is VCD.

The recorded video file is saved in the DVCR Recorded File Path which can be configured from the MPEG Configuration Menu. Everytime you record a file, a new file is automatically created. The first file will be _dvcr001.mpg. The second file will be _dvcr002.mpg and so on.

Clicking the Stop button will stop your recording, and then saves the recorded audio/video file to disk using the automatically assigned file name. The Counter will be reset to 00:00:00 after the A/V file is saved.

VCD Record Button:

Clicking the VCD Record button will automatically generate a file name and start recording your program using the VCD record quality. All other characteristics are the same as in the Record mode. This button makes it easy to save VCD quality video, for burning later on to a Video CD.

Stop Button:

Clicking the Stop button will stop the video you are recording or playing back. Once the video is stopped, live TV will be displayed in the WinTV window.

Play Button:

Clicking the Play button will playback from disk the last video file created. When playing a video, you can rewind, fast forward, replay 10 sec or skip forward 10 sec using the buttons on the control bar.

Pause Button:

Clicking the Pause button while Playing will pause your audio/video file. Clicking the Pause button again will continue the playing.

Rewind Button:

Clicking the Rewind button while playing will play the video file in reverse at 1x speed. Clicking the Rewind button again will continue the playing.

Fast Forward Button:

Clicking the Fast Forward button one time will fast forward your video at 2X speed. Clicking the Fast Forward button two times will fast forward your video at 8X speed.

Slow Motion Button:

Clicking the Slow Motion button while playing video will play in Slow Motion. To start playing your video file at the normal speed, click the Slow Motion button again.

File Button:

Clicking the File button opens the File menu. The last file recorded is listed in the File name box.

In the File menu you can:

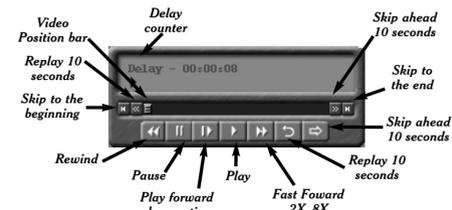
- Rename your recorded video file. To rename a video file, find the file you would like to rename (remember, the automatically generated file names start with _dvcr), highlight it with your mouse, and click and hold the right mouse button. Go down to Rename and then you can type in a new name. Remember: you must keep the MPG extension on the file.
- Play a video file previously recorded: find the file you would like to play, highlight it with your mouse (one click of the mouse button) and click Open. Then click the Play button.
- Delete recorded video files which you no longer want (and

which consume hard disk space). Click your **right mouse button** on the **video file** once, go down the menu and click on **Delete**.

- **Burn your recorded video file onto CD-RW media in a Video CD format.** If you want to burn the last file recorded, simply click **Burn**. If you want to select another file to be burnt onto CD-ROM, **highlight it with your mouse** (one click of the mouse button) then click **Burn**. For more complete instructions, see the section entitled **Creating Video CD's**.

Pause mode

Clicking the **Pause button** on the **WinTV-2000** application starts the **Pause mode**. The **Pause Menu** will drop down.



Note: It takes about 10 seconds to create a pause buffer. While the buffer is initializing, do not click any buttons on the WinTV application.

Pause buffer:

The **Pause buffer** is a circular buffer on your hard disk. The maximum amount of time which your TV program can be delayed is dependent upon how much storage space you have set for the Pause buffer and which type of MPEG format you have chosen. Both of these can be set in the MPEG settings menu (see the section entitled "Configuring the format for MPEG compression").

There are several different MPEG format settings which can be selected:

MPEG1 VCD

MPEG2 2.0MB/sec Full D1 CBR or Half D1 CBR

MPEG2 4.0MB/sec Full D1 CBR or VBR

MPEG2 6.0 MB/sec Full D1 CBR or VBR

MPEG2 8.0 MB/sec Full D1 CBR or VBR

MPEG2 12.0 MB/sec Full D1 CBR or VBR

SVCD SP, EP, LP Datarate: 2.2Mbps/sec, Image size:480x480 pixels

Note: Full D1 has image size of 704x480 for NTSC video sources or 704x576 for PAL video sources. Half D1 has image size of 352x480 for NTSC video sources and 352x576 for PAL video sources.

Note: CBR is constant bit rate, VBR is variable bit rate.

For creating Video CD's for playback on your home DVD player, chose the **MPEG1 VCD** format.

If you would like to burn a DVD ROM, chose **MPEG2 2.0MB/sec, 4.0MB/sec, or 8.0 MB/sec** for best compatibility.

If you have a fast PC and would like the best video image quality, chose **MPEG2 12.0MB/sec**.

If you have a slower PC, try either the **MPEG2 2.0MB/sec** or the **MPEG2 4.0MB/sec** formats.

Once chosen, the format is set for both the **Pause and Record modes**. You can change the format **between recordings or after you have exited Pause mode**, but the format **cannot be changed** while Recording or while in the Pause mode.

Using WinTV-Scheduler

WinTV-Scheduler allows you to schedule your TV watching and recording of TV shows. **WinTV-Scheduler**, once it is set, can be closed and the **WinTV** application will "wake up" at the desired time and tuned to the desired channel.

WinTV-Scheduler can be found in the **Hauppauge WinTV** folder. Click the **Start** button, then **Programs**, then **Hauppauge WinTV** and then

The **Limit Pause Mode Buffer size** sets the maximum size of the Pause buffer. Here are some suggested sizes:

- if you are using **MPEG1 VCD format**, 650 MBytes per hour are used. So if you want a 1/2 hour buffer, then **set the Limit Pause Mode Buffer Size to 325 MBytes**.
- if you are using **MPEG2 4.0MB/sec**, about 2 Gigabytes per hour is used for the Pause buffer. So for a 30 minute buffer, then set the **Limit Pause Mode Buffer Size to 1000 MBytes**.

Delay counter:

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.

Pause button:

Clicking the **Pause button** causes **WinTV** to start saving an audio and video stream (referred to as an A/V stream) into the **WinTV's** Replay Buffer. It takes about 10 seconds for the Replay Buffer to be initialized and for Pause to become effective.

Unclicking the **Pause button** will cause the audio/video program to start playing from the point where the button was originally pushed.

Most **WinTV** functions are active while in the **Pause** or **Pause Live** mode. For example, you can change volume, resize the TV window, go into "no-title mode", etc. If you are in the **Pause** mode though, the video image in the **WinTV** window is frozen so you will not see the function change. For example, in **Pause** mode if you change volume you will not hear the volume change.

While in **Pause** mode, the **Video Position bar** shows the amount of the **Replay Buffer** which is filled with video. For example, if the Video Position indicator shows halfway, it means that half of the Replay Buffer is filled. If you find you cannot **Replay** or **Pause** as many minutes as you would like, there is a setting in the Preferences menu where you can increase the size of the Replay Buffer.

While in **Pause** mode, the **A/V** stream is always saved in the **Replay Buffer**. To stop saving the A/V stream in the **Replay Buffer**, you must exit the **Pause** mode by clicking the **TV** mode button.

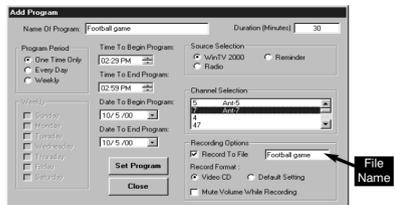


Scheduler.

Once **WinTV-Scheduler** is running, to set up an **event** for timed watching or recording, click on the **Add Program** button.

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

- **Time to Begin Program:** set to the desired start time. The default time is about 3 minutes from the current time. Click on the hour to set the hour, the minute to set the minute and the second (if you feel this is necessary) to set the minute to start the program. **Note:** It takes about 10 seconds to launch the **WinTV** and set up for recording, so set the **Time to Begin Program** to 10 seconds before the time your TV show actually starts.
- **Time to End Program:** set to the time to end this event. **Note:** you need to leave at least 30 seconds between scheduled programs to give the recorder time to set up its disk buffers.
- **Program Period:** one time, daily, weekly



Replay button:

While in the **Pause** mode, hitting the **Replay** button acts like the **Instant Replay** you see on TV broadcast sporting events: the audio/video goes back in time and you repeat what you have previously seen.

Each click of the **Replay button** causes audio/video to go back 10 seconds. For example, if you want to repeat the audio/video you saw 10 seconds ago, you would **click the Replay button once**. If you want to see the video you saw one minute ago, you would need to **click the Replay button six times**.

For extended replay times, you might find it more convenient to grab the **Video Position indicator control bar** and move it to the left. Once you let the control bar go, audio/video starts to play (it might take a few seconds for the **WinTV** application to start playing). You might have to move the Video Position indicator to the left and right to find the desired spot to start replaying audio/video.

While **Replaying**, your audio/video program continues to be recorded in the **Replay Buffer**. Therefore, if you have clicked the **Replay** button 3 times (so that you are **replaying** the audio/video seen 30 seconds ago), the video you see in the **WinTV** window will be 30 seconds behind the "live" audio/video program.

To catch up to the "live" audio/video program, you can either exit the **Pause** mode by clicking the **TV** mode button, you can click the **Skip** button, which skips ahead 10 seconds per click, or you can grab the Video Position indicator and move it to the right until it is at the end of the Video Position bar.

Skip Ahead Button

Clicking the **Skip** button will skip the video ahead 10 seconds.

Rewind Button:

Clicking the **Rewind** button while playing video will rewind the recorded video. Clicking the **Rewind** button again will continue the playing.

Fast Forward Button:

Clicking the **Fast Forward** button one time will fast forward your video

- **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 **WinTV32** to bring up the **WinTV** at the requested time and on the requested channel.

- **Channel selection:** chose one of your scanned channels.

- **Recording options:** click on **Record to File** to record your show. Leave this button unchecked to watch TV at the requested time. You can also **name your file** to record, in the dialog box below.

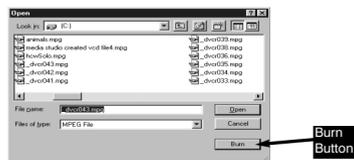
Once these are set, click **Set Program**. You can add more **Events**, clicking **Set Program** after each event is set. When you are finished click **Close**.

The **WinTV** program does not have to be running for the **Scheduler** to work. If **WinTV** is not running, it takes about 30 seconds to start **WinTV-PVR** and to start the recording of TV.

Creating Video CD's

Most PC's based on Windows can play MPEG1 files created with **WinTV-PVR** through the **Windows MediaPlayer**. PC-based DVD players, such as **WinDVD**, can play the **MPEG2** formats as well. So, if you simply want to play your video files on a PC, you do not have to create a Video CD. Just use **Windows MediaPlayer** to play your **MPEG1** encoded videos from your hard disk.

The format used on **Video CD's** (VCD) is **MPEG1**. Most DVD players can play **Video CD's** in addition to DVD movies. The **WinTV-PVR** includes a conversion utility, **WinTV-Convert**, which will take **WinTV-PVR** created **MPEG1** video files and convert them into **Video CD** compliant files.



at **2X speed**. Clicking the **Fast Forward** button two times will fast forward your video at **8X speed**.

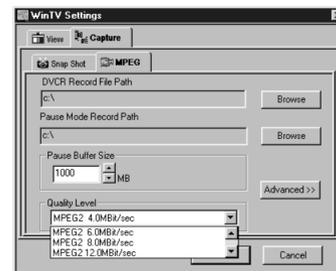
Slow Motion Button:

Clicking the **Slow Motion** button while playing video will play in **Slow Motion**. Clicking the **Slow Motion** button again, will continue playing normally.

Configuring MPEG compression formats

The **WinTV-PVR** supports several different formats for **MPEG** video compression. The differences in these formats is:

- the video quality that you will see when playing back recorded video or while in the pause mode



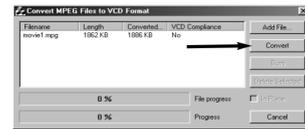
- the amount of CPU horsepower required during playback and pause mode, and
- the compatibility when creating Video CD's.

To configure the **MPEG** compression, click on the **Preferences** button on **WinTV2000**, then **Capture** and then on the **MPEG** folder.

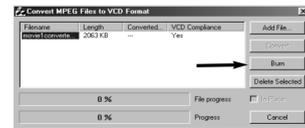
Note: We have found that most home DVD players can play Video CD's created with CD-RW media. Some DVD players, though, can only read CD-R media. If you are not able to have your DVD player read a CD-RW made using these steps, we suggest trying a CD-R media. A complete list of tested compatible DVD players can be found on our web site at: http://www.hauppauge.com/dvdplayers

Step 1: Creating a Video CD compatible video file

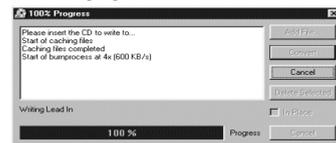
While in the record mode, click on the **Video CD Record** button. You



can also have set the **MPEG** Quality to **MPEG1 VCD** format, and then click the **Record** button. In both cases, a **Video CD** compatible file will be created on your hard disk, with the name of the file automatically generated by the **WinTV** application. After you have record-



ed your show, click on **File** button in the **Record** menu, the **last file recorded** will be highlighted, then click on the **Burn** button. The



Convert MPEG files to VCD format menu will open.

Step 2: Converting Your video file

After you have clicked the burn button, the "Convert MPEG files to VCD format" window will open with the file you listed. At this point you have an opportunity to add other files to be burnt on the Video CD. Remember, only files that have been recorded in the Video CD format can be recorded as a Video CD.

Once you have chosen any other video files to be added to the Video CD, highlight your files and click the **Convert** button.

Step3: Burning your converted file to a CD-R or CD-RW

After the converting process is complete, your file will be VCD compliant. Now you are ready to burn your VCD file on a CDRW. Click the **Burn** button to burn your Video CD's.

The **Hauppauge VCD** converter will locate your burner and show your progress, during your burn.

Note: Hauppauge recommends using CD-RW media to create Video CD's for DVD playback. Most DVD players can use CD-RW media, while some can use either CD-RW or CD-R media. If you insert one of the created Video CD's and the DVD player does not turn on the Video CD light or display Video CD on your TV screen, then try creating a Video CD using a CD-R media.

Step 4. Playing the Video CD back on your DVD player or PC

Once a Video CD has been created, you can play this on most home DVD players, or you can play it back using **MediaPlayer**.

A list of tested compatible DVD players which can play Video CD's created with the **WinTV-PVR** can be found on our web site:

<http://www.hauppauge.com/dvdplayers>

Sometimes a version of **MediaPlayer** cannot "see" the Video CD movie file. If this is the case, you can manually select a video to be played by opening the Video CD using **Windows Explorer**, and looking in the **MPEGAV** directory on the Video CD. There will a file (or several files if your Video CD contains more than one video file) with names like **Avseq01.dat**. You can open this file with **WindowsMedia Player** and the video will play back in a window on your PC screen.

Tips on System Optimization:

These are tips that will help you improve capture and playback performance of video files on you PC.

- 1.) Do not use **DoubleSpace** or any other disk compression scheme! This severely slows down your hard disk.
- 2.) Make sure **DMA** is checked for your Hard disk drives in **Device Manager**. Right click your mouse on the **My Computer** icon on your desktop, and click on **Properties**. Click on the **Device Manager** tab and double click on **Disk Drives**. Highlight **GENERIC IDE DISK TYPE** and click on **Properties**. Click on **Settings**. Make sure **DMA** is selected.
- 3.) Defragment your Hard Disk. To Defragment your hard disk, in **Windows** click on **Start / Programs / Accessories / System Tools** and click on **Disk Defragmenter**.
- 4.) There are several hard disks on the market which are designed for higher performance video captures. These drives use 1:1 interleaving and track caching to eliminate gaps caused by a hard disk drive seeking to the next track. They are available with both **IDE** and **SCSI** interfaces.

Troubleshooting

Note: The **Troubleshooting** chapter in the **WinTV Installation Manual**, found in the **Manual** directory on your **WinTV Installation CD**, has more information.

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

Our FAQ can be found at: <http://www.hauppauge.com/html/faq.htm>

Problem: No TV audio from your PC's Left and Right speaker

Make sure you have plugged the **Sound** cable into the **Audio Output** jack,



and not the **Audio Input** jack.

After making sure your PC's audio mixer **LineIn** setting is not muted, and at a reasonable volume level, you can verify that the **WinTV** card is working by connecting self-amplified speakers directly to the **Audio Output** jack (**LineOut**) on the **WinTV** board.

Problem: Poor image when running in 256-color mode

Many VGA's cannot run **WinTV** in 256-color mode. Instead, run in 16-bit or 24-bit color mode.

Problem: Poor TV Reception or Not detecting all channels:

Poor TV reception is generally the result of an **Weak TV** signal. When using a "roof-top" antenna, an aerial booster may be required if there is poor TV reception. If you find that some or all of the channels have not been detected, you can insert channels manually.

Also, in some areas using cable TV, a format called **Cable HRC** is used. If so, try rescanning (see step 8) but use **CABLE (HRC)** instead of **cable** in the **Broadcast/Cable** box.

Problem: Live TV and video playback has a "Jerky" effect and/or lip synchronization during playback.

Make sure that **DMA** is enabled for **IDE** hard disks. See the section entitled "Tips on System Optimization".

Go to **Device Manager**(Double click disk drives)Double click your hard disk (e.g. **Generic IDE Disk Type46**). Click the **Setting** tab and Enable **DMA** by clicking the mouse in the **DMA** check box.

Problem: My Win TV application has display problems on the screen, e.g. blurred image.

In the **WinTV** program group (**Start / Programs / Hauppauge WinTV**) there is a utility called "Primary". Set it to "Allow Overlay". If it is on "Allow Overlay", try it on "Force Primary". Some **VGA** cards need to upgrade from the latest drivers in order for it to support **Overlay** mode. Try to upgrade your **VGA** drivers from the manufacturer web site.

How do I configure the Audio for the WinTV-PVR-pci?

While watching live TV and while recording video, the **WinTV-PVR** board amplifies the audio signal. When you adjust the audio volume slide bar in the **WinTV2000** application, the **WinTV-PVR** adjusts the audio volume accordingly. The **WinTV-PVR** is connected to your PC's sound card through the **LineIn** connector and the

sound card is simply used for mixing the various audio sources and for driving your PC speakers. If the **LineIn** volume is set too low, the audio volume you will hear while watching live TV and while recording video will be too low.

But while in **Pause mode** or while playing back recorded video, the **WinTV-PVR** does not amplify the audio, but instead your PC's sound card does the audio decompression and amplification. When you adjust the audio volume slide bar in the **WinTV2000** application, the **WinTV-PVR** simply sends commands to the sound card telling it to raise and lower the volume of the "Wave Out" control. For example, if you open the **Volume** control menu (double click on the little "speaker" in the lower right hand corner of your PC screen), you will see the **Wave Out** slide rise and fall as you adjust the audio volume slide bar in the **WinTV2000** application.

To adjust the audio volume, you need to adjust two settings:

- the **LineIn** needs to be set for proper volume while watching live TV and while recording video
- the **WaveOut** needs to be set for proper volume while in pause mode or while playing back recorded video

FCC Statement

Radio Interference Statement:

The **WinTV** boards have 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 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 into 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.

CAUTION: Changes or modifications not expressly approved by the party responsible for compliance to the **FCC** Rules could void the user's authority to operate the equipment.

CE Statement:

This equipment has been tested and complies with **EN 55013**, **EN 55020** and **IEC 801-3** part 3 standards.