# Hauppauge!

# WinTV-HD **Quick Installation Guide** for Windows<sup>®</sup>98/Me/2000

Note: The WinTV-HD requires the latest version of Windows98, known as Windows98-SE, any version of Windows2000 or WindowsMe.

Note: We recommend a PII 600 or better for recording transport streams to you hard disk.

# Contents of the WinTV-HD package

#### WinTV-HD board

Pod Cable, with A/V inputs, IR connection and Monitor interface

External Audio cable - 1/8" miniplug to 1/8" miniplug.

**S/PDIF cable**, to convert LineOut jack to Phono plug for S/PDIF Applications

Internal Audio Connector, Connect Analog Audio Internal to your sound card.

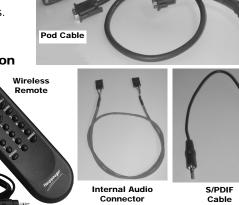
Wireless Remote with 2 AAA batteries.

Remote receiver with velcro fastener.

### WinTV-HD for Windows Installation CD-ROM with:

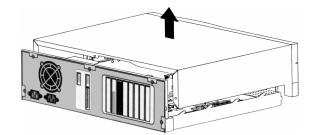
WinTV driver and application Remote control application Utilities

VGA to Y-Pr-Pb

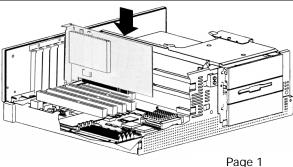


This board and remote are subject to change

# Step 1: Prepare the computer



# Step 2: Install the WinTV-HD board



Switch off the computer

The manufacturer of your PC supplies instructions on removing the PC cover.

Remove the cover.

# Locate a free PCI slot (a short

white slot). Unscrew and remove the metal cover plate which covers the back of the empty slot.

Plug the WinTV-HD board into the PCI slot, and screw the WinTV's metal cover plate to the PC.

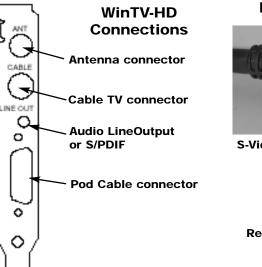
Replace the computer cover

# Step 3: Connect the WinTV-HD cables

The WinTV-HD board has two coax video connectors: one for a UHF/VHF TV antenna and one for cable TV. Screw your UHF/VHF antenna (a rooftop antenna is recommended for digital TV reception in most areas) into the Antenna connector. Plug your cable TV connection to the Cable TV connector.

One end of the External Audio cable (1/8" minijack) should be plugged into WinTV-HD's Audio LineOutput, and the other end plugged into the Line-In connector on your PC's sound card for stereo speaker sound.

If you are connecting the WinTV-HD to a Home Theater system which uses a Digital sound input, the WinTV-HD's S/PDIF adapter lets you convert the 1/8" Line-Out jack to a



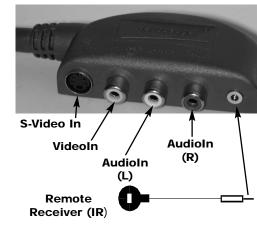
Digital sound RCA jack. See Step 3a below.

Plug the Pod Cables' 26-pin male connector into the WinTV-HD Pod Cable connector.

The yellow VideoIn jack, the 4pin S-Video In connector and the AudioIn (L) and (R) on the Pod Cable can be used to input analog audio/video from a VCR, camcorder, DVD player or satellite TV receiver.

The Remote receiver (IR) is plugged into the Pod Cable's (IR) plug. Use the Velcro dot to position the Remote Receiver (IR) where it will be able to receive line of sight, infra-red commands from the Remote Transmitter.

# Pod Cable A/V Connectors



Internal Analog Audio Connector

When using the S/PDIF output for audio from

your digital channels, audio from your analog TV

Connect one end of the supplied internal

Connect the other end to your sound card's

audio cable to connector **JP2** on the

black internal audio input connector.

channels comes from the Internal Analog Audio

# Step 4: Using the S/PDIF & Internal Analog connectors

connector.

WinTV-HD

### S/PDIF Jumper setting

To configure the WinTV-HD for an external S/PDIF decoder, place the 2 Shunt jumpers vertically on the top half of jumper JP4. This routes the S/PDIF output to the Audio LineOutput mini stereo connector. Then connect the supplied S/PDIF cable between the Audio Line-Out jack on the WinTV-HD back panel connector and a **Digital** input on your Home Theater system



Analog audio setting S/PDIF audio setting (Factory default)



### **Dual Monitor mode (DMS)**

In Dual Monitor mode, you can watch analog and digital TV-in-a-window on your VGA screen, plus at the same time see Hi-Def TV full screen on another Hi-Def monitor or another VGA monitor. Connect your high definition



to VGA or HiDe



# click Next.

General Device Manager
C View devices by type
<ul> <li>Bipley adapters</li> <li>Field (Michael Control (Michael</li></ul>
Properties Refr

# Step 5: Single and Dual Monitor Setup

### Single Monitor mode (SMS)

In Single Monitor mode, you can watch analog and digital TV-in-a-window plus see Hi-Def TV full screen on your VGA monitor.

Remove your VGA monitor cable from your VGA card and connect it to the short leg of the Pod cable labeled "MONITOR"

Now, connect the long leg of the Pod cable labeled "VGA" to your VGA card.

monitor to the short leg of the Pod cable labeled "MONITOR". Leave your VGA monitor connected to your VGA card. During operation you need to tell the software you are in DMS. Right click the mouse button on the TV screen and keep the right mouse button depressed for a few seconds until you'll see the Settings menu pop up. Then go to Hi-Def Options and click Dual Monitor.

#### If you are using the supplied **VGA to Y-Pr-Pb** adapter, check YPrPb Primary display as your Primary display.

You can choose the Hi-Def output resolution by clicking one of the Set resolutions settings.



# Step 6: Install the WinTV driver for Windows



**5b.** When you see the above dialog box, insert the WinTV Windows Installation CD-ROM into your CD-ROM drive. Select CD-ROM drive and

**5d.** You will see a number of files being copied to your hard disk drive.

5e. Click Finish. You will need to reboot your system for the changes to take effect.





5f. The WinTV-HD will be listed in Device Manager in Sound Video and Game controlers as Janus Video Capture

# Step 7: WinTV Software installation



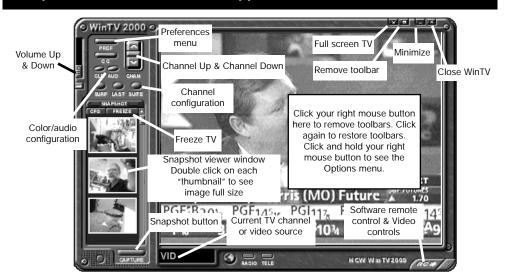
After the PC reboots the WinTV Application Setup will be run.

To use the remote control, make sure **Install the** Hauppauge IR Remote Control Application is checked.

Click Install to install the WinTV2000.

After the Setup program is complete, you will see a WinTV2000 icon on your Windows desktop. To run the **WinTV2000** application, double click on the WinTV2000 icon. After rebooting your PC, the Remote Control will be enabled.

# Step 8: The new WinTV2000 application



Make sure your Country and Broadcast/Cable Settings are correct before scanning. If you still have trouble finding stations try setting Tuning Mode to All Channels and rescan

Tuning Mode Channels by Country

Video Format NTSC M

Country United States

Cancel Start...

oadcast / Cable

Tuner Format

# Scanning for channels

When running WinTV2000 for the first time, you will need to scan for your HDTV channels. The WinTV-HD board has two coax video connectors: a UHF/VHF TV antenna connector and a cable TV connector. You will need to scan for TV channels on each connector

When scanning the UHF/VHF Antenna

Connector, set the Tuner Format to **DTV-ATSC**. Make sure the Broadcast entry is set to Antenna. When scanning the Cable Connector for HDTV channels

set the Tuner Format to **MN**. Make sure the Broadcast

entry is set to Antenna or to Cable for regular cable channels.

Channel Configuration Show Suites		Add Edit Delete	×	<u>Setting up</u>
Channel Name	Channel	Description	<b></b>	
🕑 月 WCBS-DT	56			After you have
🕑 🖩 WNYW-DT	44			, ,
🗹 🖩 Ant-4	4			add the chann
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🖌 🖩 Ant-7	7			
🖌 関 Ant-9	9			Then double c
🗹 🖩 Ant-11	11			
🖌 🖩 WCBS	2			ChoseTuner f
🗹 🖩 Ant-13	13			Cable TV
🗹 🖩 Ant-25	25			Cable TV
🖌 🖩 Ant-31	31			
🗹 🗒 Composite	201			
Auto Scan		All Channels: WCBS-DT	OK	Click on the d
				Change the C

### the channels

e scanned for channels, you can nel names. To do this, click on the on WinTV2000. click on Input Sources.

for the Antenna, or Tuner2 for

desired channel, then click on Edit. Change the ChannelName to the name of the station. Then click OK.

appear.
Click Next. Select Search for the best dri-
ver for your device <i>Recommended</i> Click
Next.
Add New Hardware Wizard
Windows will search for new drivers in its driver database

Floppy disk drives

CD-ROM drive

Specify a locatio

< Back Next > Cancel

**5a.** When re-starting Windows for the first time

installed, the Add New Hardware Wizard will

after the WinTV-HD board has been

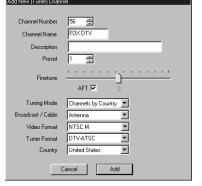
# Step 9: Manually Adding HDTV channels

HDTV is broadcast over the airwaves. To receive HDTV, a UHF/VHF rooftop antenna is recommended in most areas of the U.S. In cities, a bowtie antenna can often be used if positioned near a window facing the Digital TV broadcaster.

Since HDTV is broadcast over the air, it is necessary to position the antenna to point at the Digital TV transmitter. We have included a utility in the WinTV application to help position the UHF/VHF TV antenna.

To position the UHF/VHF antenna, do the following:

- use the supplied list of Digital TV stations to find a HDTV channel which broadcasts in your area. For example, in Cleveland, WKYC broadcasts HDTV on channel 2.
- open the Channel Suite Manager. To do this, click on the Suite button on WinTV2000, or click on Configure/Channels/SuiteManager on the WinTV32 application. Then double click on Input Sources. Click on **Tuner** to see the Digital TV antenna configuration.



▼ SNR (in dB) 22.0 ▼ Average/20sec 22.2

Frors/1sec 0 Average/20sec 0

Video PID 0

4x3 Conversion

ime **O** Pa

Com C Lot

Resolution(WxH) 704x480 FrameRate/sec 5994

Carrier Offset 5.336 KHz

- Then click Add. Enter the HDTV Channel Number (for example: 2 for WKYC in Cleveland) and the Channel Name. Make sure Broadcast is set to Antenna, and that Tuner Format is set WinTV Diagno
- to DTV-ATSC. Click Add and then OK. 4×3
- Now, open the **diag**- 4 x 3 Pan Scan nostics menu to 4 x 3 Letter Box 16 x 9 help adjust your Record UHF/VHF antenna. Hi-Def Options 🔹 🕨 Hold the CTRL but-Select Channel Select Suite ton on your keyboard down while <u>F</u>ile <u>D</u>isplay clicking the right Options mouse button. <u>C</u>onfigure Keep the right ⊻iew <u>H</u>elp mouse button Diagnostics. depressed for a few

seconds, and you'll see a menu pop up. Click on the last line, **Diagnostics.** 

Now slowly rotate your antenna until the **Sync Lock** and **Eq. Lock** lights turn **green**. This indicates that the UHF/VHF antenna is pointed to the DTV transmitter.

I<sup>2</sup>C Found

Locked

Locked

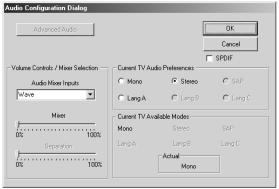
 Source Information Audio PID 0

Aspect Ratio

En Lock

#### NOTE: A higher (SNR) number means a stronger signal.

# Step 10: Configuring audio



#### Basic audio setup

To configure the WinTV-HD audio for your speaker configuration, click on Configure / Audio.

Set Audio Mixer Inputs to Wave **Volume**. You should hear sound from a TV channel. If you do not hear audio, refer to the next section: "Quick Troubleshooting Guide."

**NOTE:** When S/PDIF audio, check **S/PDIF** in the dialog box and Jumper JP4 accordingly (Step 4).

# Recording and playing back HD TV programs

High definition digital TV is broadcast in a format called the MPEG2 Transport Stream. The MPEG 2 Transport Stream is the complete digital information from the broadcast transmission, and includes video, audio and any data broadcast with the show (close captioning data, program quide data, etc.).

When you record a High Definition TV show to your PC's hard disk, you are actually recording the entire MPEG2 Transport Stream. Once 4×3

recorded to disk, this Transport Stream can be played back through the WinTV-HD, where the video is decoded and displayed on your monitor.

Note: We recommend a PII 600 or better for recor ing transport streams to you hard disk. Also, while recording HD TV programs, we recommend running the WinTV-HD full screen.

#### Recording an HD TV program to disk

To record a HD TV program to your hard disk:

- 1. Right click the mouse button on the TV screen and hold it depressed for a few seconds until the **Settings** menu pops up. Select Stream to Play Then highlight **Transport Capture** and click on Start Transport Capture.
- 2. The Select Stream to Play dialog box will open. You can change the default file name and change the directory where you want the file recorded. Click Save and you will start recording.
- **3.** To stop recording, **right click** the mouse button on the TV screen and **hold it** depressed for a few seconds until the Settings menu pops up. Then highlight Trans-

port Capture and click on Stop Transport Capture.

Recording HD-TV consumes a lot of disk space. Every 10 minutes of HD uses about 2 Gigabytes of hard disk space. The WinTV-HD creates new file names approximately every 10 minutes (every 2 Gigabytes) of recording. On play-

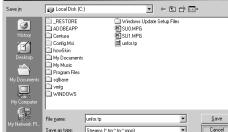
back, the **WinTV-HD** automatically plays these files uninterrupted so you see smooth playback.

#### Playing back a HD TV program

To play back your recorded file:

- 1. **Right click** the mouse button on the TV screen and hold it depressed for a few seconds until the Settings menu pops up. Then highlight Transport Stream Playback and click on Open File For PlayBack.
- 2. The Select Stream to Play dialog box will open. The last recorded program will be listed in the file name box. If this is the program you want to playback, click **open** and your recorded file will play. Otherwise, select the program from the file list and then click **open**.
- **3.** To stop the playback, **right click** the mouse button on the TV screen and hold it depressed for a few seconds until the **Settings** menu pops up. Then highlight Transport Stream Playback and click on Stop PlayBack Mode.

	✓ 4 x 3 Pan Scan 4 x 3 Letter Box		
	16×9		
	Hi-Def Options	•	
d-	Transport Stream Playback	+	
	Transport Capture	Þ	Start Transport Capture
ha	Select Channel	۱.	Stop Transport Capture
ng	Select Suite	- <b>)</b>	
	<u>F</u> ile	•	
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	Options	•	
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	Diagnostics		



History Desktop My Documents My Computer	BESTORE DODECAPP Centura Centura Config Mai Config Mai My Documents My Documents My Music Program Files sqbase vmlg WINDOWS File game:	unfor.tp	Windows Update     SUD MPG     SUT MPG     SUT MPG     ■ unfortp	Setup Files	Save
	File name:	unfor.tp		-	Save
My Network Pl					
	Save as type:	Streams (*.trp	;".tp;".mpg)	-	Cance



lect Stream to	Play						? ×
iok in:	🚮 Desktop			•	+ @ ☆		
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ly Network Pl	File name: Files of type:	Streams	WILTP s (".trp:".tp:".mpg)		•	[	<u>O</u> pen Cancel

- HD recording.
- screen

Note: If your recorded .tp file exceeds 1.96gig, the recording program will automatically start a new file with the extension xxxxx.#1.mpg xxxxx#2.mpg and so on.

### Tips on optimizing your PC system for HD recording and playback

The HD transport stream has a datarate of 19.4 million bits per second, and therefore recording and playing back High Definition TV is very system intensive. Here are some tips on optimizing your system for recording and playing back HD TV without dropping video frames:

- use a PC with a Pentium II 600MHz or faster. Though while recording and playback the CPU does not do the actual encoding or decoding of HD video (this would require a very fast CPU), it still needs to manage the disk drive

- defragment your hard disk driver before recording, or use a second disk drive just for

- use a 7200 RPM disk drive for recording (many old hard disk drives spin at 5400 RPM)

make sure your hard disk drive has DMA enabled in Windows

- minimize the number of background applications running

- if you have a newer model VGA card which supports VIP1 (some of the recent NVidea and ATI cards support this), then use the internal flat ribbon cable to connect the WinTV-HD to the VGA card. By doing this, you eliminate moving the transport stream over the PCI bus, thereby improving capture performance. When using the internal VGA cable, you need to make a system registry change. See our website for more information: http://www.hauppauge.com/html/sw\_wintvhd.htm

if your VGA card does not support VIP1 and cannot use the internal connector from the WinTV-HD to the VGA card, then while recording we recommend running WinTV full

## Keyboard shortcuts

+	channel up
-	channel down
Page Up	Volume Up
Page Down	Volume Down
Ctrl M	Mute audio
Ctrl P	Image print
Ctrl T	Full screen TV
Ctrl F	Image freeze

Ctrl C Image Copy to the clipboard

# Quick Troubleshooting Guide

Note: Our web site has information on installing the WinTV-HD and software updates. WinTV-HD software updates can be found at: http://www.hauppauge.com/html/sw tvhd.htm

Note: The WinTV-HD requires the latest version of Windows98, known as Windows98SE, any version of Windows2000 or WindowsMe.

### **Install ERROR 69:**

If you receive ERROR 69, see included bulletin

#### Incompatible motherboards

We recommend the use of a motherboard with an Intel chipset because some older motherboards do not fully support the WinTV-HD. We have software updates on our web site which will fix incompatibilities found with several VIA and SIS-based motherboards. Please see http://www.hauppauge.com/html/sw\_wcst.htm in the Tips section.

#### Poor image when running WinTV in 256-color mode

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

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

Be sure your PC's audio mixer LineIn setting is not muted, and at a reasonable volume level. If the LineIn setting is not muted, you can verify that the WinTV-HD card is working by connecting self-amplified speakers directly to the A/V cable's 1/8" miniplug. Use the supplied Adapter if necessary.

#### System lockups or error messages when running WinTV2000

Some VGA cards have memory conflicts with **WinTV-HD**. To fix this, try switching PCI slots. Also, you can increase the memory range used by the WinTV-HD board in Device Manager. To do this, look under Sound, video and game controllers, double click on the Janus Capture section, click on Resources, unclick Use Automatic settings and double click on Memory range. In the Edit memory range dialog box, there are small up/down arrows next to Value. Click the little up arrow a couple of times. Make sure there are no conflicts. Then click **OK** and then **OK** again. When it says **Created a forced** configuration, click Yes. Then reboot your PC.

#### Poor TV Reception or Not detecting all channels:

Poor HDTV reception is generally the result of an weak TV signal. When using a 'roof-top' antenna, an aerial booster may be required. If you find that some or all of the channels have not been detected, you can insert channels manually. See Step 8.