WinTV-HVR Series
WinTV-PVR Series

WinTV v7 Application

Reference Manual English

M-HVRNOVAPVR-V1.0-USA - 2007/10/11

Hauppauge!®

WinTV-HVR-Series
WinTV-PVR-Series

Reference Manual

Copyright ©Hauppauge Computer Works, 2007

Content

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.

FCC ID: H90WINCAST Assembled in Malaysia

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.

LEGAL DISCLAIMERS

If you have any feedback regarding the content of this manual we would be happy to receive your input. Please send any comments to the following address: support@hauppauge.co.uk

We have made every effort to ensure that the Text, Pictures and Tables in this manual, and software programs and hardware are free from errors. However, we cannot guarantee that errors or omissions do not exist. As a result, we cannot accept liability for any loss, damage or misunderstanding made directly or indirectly as a result of using our Manual, Software and/or Hardware.

This manual, as well as the software described in it, is furnished under license and may be used or copied only in accordance with the terms of such license. The content of this manual is furnished for informal use only, is subject to change without notice, and should not be construed as a commitment by Hauppauge Computer Works Incorporated. Hauppauge Computer Works Inc. assumes no responsibility or liability for any errors or inaccuracies that may appear in this book. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or storing in a retrieval system, or translating into any language in any form without the express written permission of Hauppauge Digital Europe S.A.R.L.

All manufacturers' names, product names and any registered and unregistered trademarks mentioned in this manual are used for identification purposes only and remain the exclusive property of their respective owners.

Trademarks:

Hauppauge logo and WinTV product name: Hauppauge Computer Works, Inc. Windows, Video for Windows, NetMeeting and Internet Explorer: Microsoft Corporation. Pentium is a registered trademark of Intel Corporation. All other trade names are the service mark, trademark or registered trademark of their respective holders.

Introduction

This manual covers all of the WinTV-PVR and WinTV-HVR models for displaying TV on your PC's screen. It covers, but is not limited to, the following models:

Personal Video Recorder (Analog)

WinTV-PVR-USB2

WinTV-PVR-150

WinTV-PVR-250

WinTV-PVR-350

Hybrid Video Recorder (Analog and Digital)

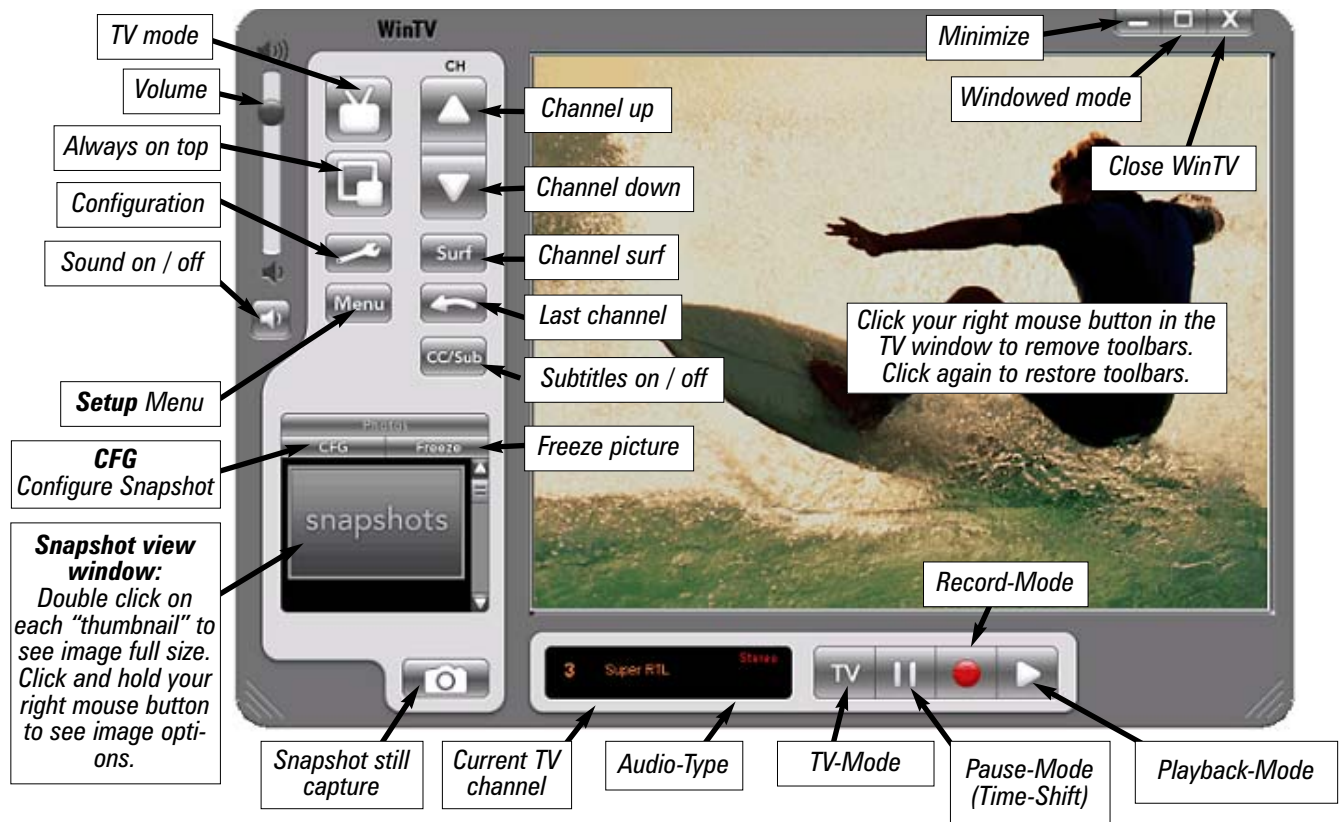HVR-950

HVR-1250

HVR-1500

HVR-1600

HVR-1800

HVR-1950

For models which have particular features, we will note which models these features are available on.

The WinTVv7 Application

After the installation of the software from the CD-ROM you will see the shortcut "Hauppauge WinTV" in the Windows Start menu and on your desktop. To start the WinTV application double left click on your mouse button.

TV mode
Volume
Always on top
Configuration
Sound on / off
Setup Menu
CFG Configure Snapshot
Snapshot view window: Double click on each "thumbnail" to see image full size. Click and hold your right mouse button to see image options.
Snapshot still capture
Current TV channel
Audio-Type
TV-Mode
Pause-Mode (Time-Shift)
Playback-Mode
Channel up
Channel down
Channel surf
Last channel
Subtitles on / off
Freeze picture
Minimize
Windowed mode
Close WinTV
Record-Mode

Click your right mouse button in the TV window to remove toolbars. Click again to restore toolbars.

Some control options can be selected by right clicking on the mouse button:

- When watching a "current TV program" a simple right click on the "current TV channel" will display the current TV list for fast channel changing. You can also change channels by using the numbers on the keyboard or by pressing the letter on the keyboard for the channel that you want to view.

- With a right click of the mouse button on the "audio type/language selection" you can change the available audio language settings of the current TV program that you are watching.

- With a right click of the mouse button (hold for 2 seconds) in the TV window the control options are displayed.

In order to re-size the window, move the mouse pointer to the edge of the TV window. This changes the mouse pointer into a double arrow. Press and hold the left hand mouse button and drag the window into the desired size, releasing the left mouse button when finished.

Fundamental operation

Channel changing

You can change channels by using the Channel Up or Channel Down buttons on the WinTV. You can also type a channel number (for example:27) and WinTV will tune to that channel.

Volume change

With the slide bar on the top left hand side of the WinTV application window you can change the Volume level. Alternatively you can use the keypad on the keyboard <PgUp> for volume up or <PgDn> for volume down.

Sound on / off

To mute the sound on or off click on the green button below the slider bar. Alternatively you can use the keys on the keyboard <CTRL> + <M>.

Last channel

Clicking the "last channel" button will allow you to quickly change to the last viewed channel.

Surf preview

Clicking on the button "Surf" will show up to 16 still image preview of TV channels that you have scanned. The screen will gradually fill and double clicking on one of the preview images will show the selected channel in full screen.

Always on top

With Always on Top, WinTV will always be visible on your Windows desktop on top any applications. To turn on, click the Always on top button. It will turn blue. To turn off, click this button again. A convenient way to use Always-on-Top is to make the TV window in the no-title mode small, and to make the TV window in the title mode larger. Then you can switch very quickly from a small window to a larger one by clicking the right mouse button.

TV mode

Click on the button "TV mode", in order to watch television in the full screen TV mode. With one click to the right mouse button or press the <ESC> key to leave TV mode.

To hide the WinTV toolbar (No-title mode)

Click your right mouse button in the WinTV's video window for the no-title mode. To restore the toolbars (the title mode), once again click your right mouse button in the video window. You can set the size of the window differently in each mode.

Freeze picture

Click on the button Freeze, around the picture "to freeze". Clicking on Freeze will un Freeze the picture.

Snapshot

Clicking on the "Camera" symbol will take a snapshot still picture of the Video window that you are viewing. A "Thumbnail" (preview made smaller) of the still image of the video window will appear in the snapshot preview border. Double click on the "Thumbnail", to see it in full size. Now you can save the picture using option in the menu "file"/"save under..." on your hard disk. Clicking the Button CFG allows you to configure the snapshot function.

Saving several snapshots at the same time

Highlight the first image and then hold down the <SHIFT> key on the keyboard and then highlight the subsequent images that you want to save. Once you have selected the images that you want to save release the <SHIFT> key and then right click on a image to select the SAVE to file option.

Channel-Menu

To display the channel configuration menu <right> click with the mouse button on the TV window:
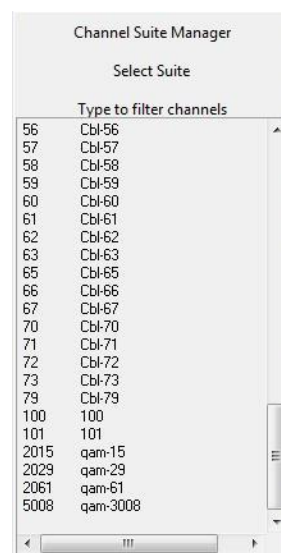
The channel configuration allows you to configure using the following options:

- Position the mouse pointer on the channel that you want to select and click the <Left> hand mouse button to select.

- Use the <Up> and <Down> and <Left> and <Right> arrow keys on the keyboard to select the different sub-menu that you want to select and press Enter / Return

- To select a channel list of either TV or Radio you can filter for either TV or Radio channels to be show in the channel list.

The channel can also be selected by pressing the 1st letter of the channel name on the keyboard.

Channel search

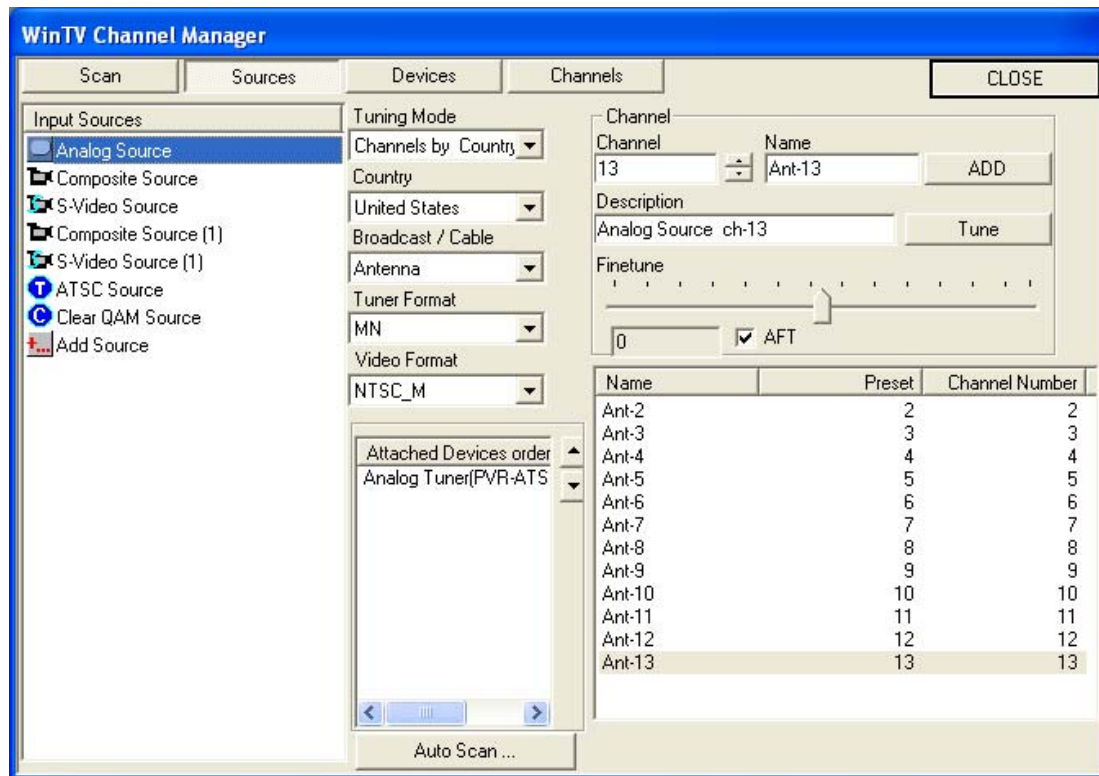Click on the Button MENU and "Suite Manager" to open the channel manager.

The channel manager is divided into the options "Scan", "Sources", "Devices" and "Channels".

You can select the option by left clicking on the option name, click on the "Sources" to scan for channels.
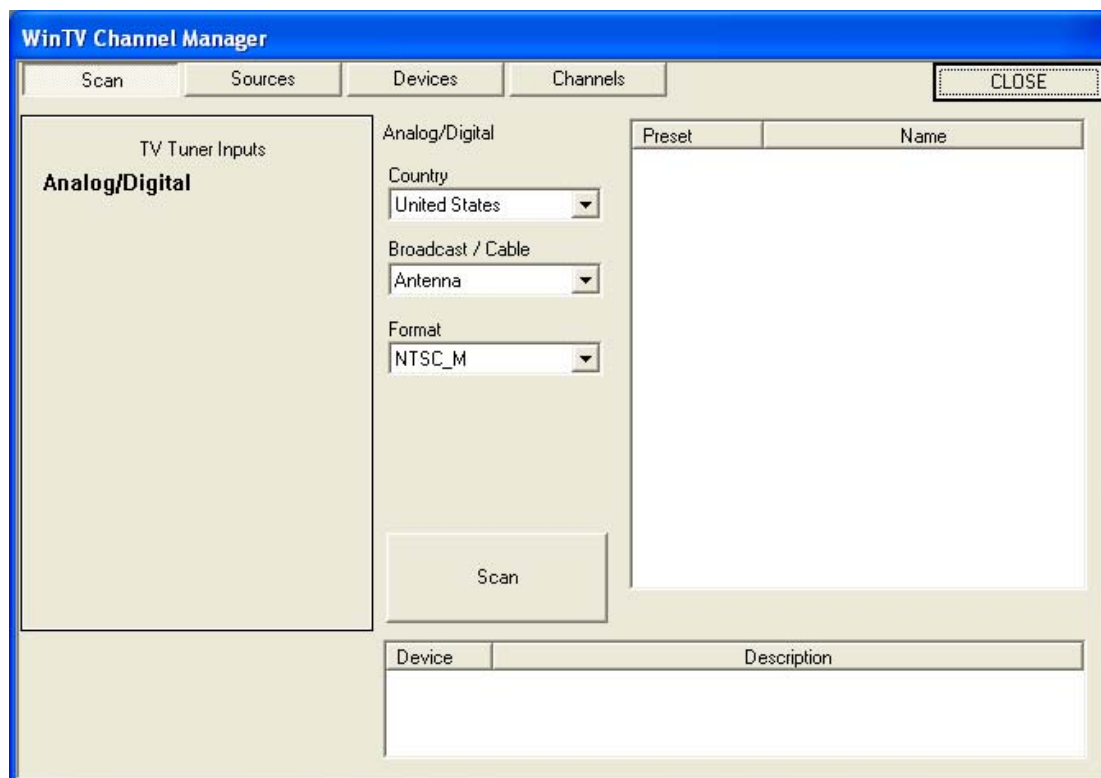
Search for Analog channels

This section refers to products with RF antenna and Cable tuner.

Click on the Button MENU and "Suite-Manager" to open the channel manager. Select the <sources> and highlight the <analog> source.

Automatic channel search

Click on "Autoscan...", in order to start the automatic RF antenna channel scan. The channel frequencies will scan from 1 to 69. When channels are found they will be listed and the scanning will continue. After the completion of the channel scan a new window of an overview of the scanned frequencies and the number of found programs are will be displayed.

Manual channel search

You can shorten the channel scan if you know the channel numbers for your local transmitter by entering the numbers into the channel number and click on Tune.

Search for Digital ATSC Channels

*N*ote: This section refers to products with Digital tuner (WinTV-HVR series). Select the ATSC option on the left hand side.

Automatic channel search

Click the <Autoscan> button to start the search for Digital channels, ensure that you have selected your country location. The channel search will count from 1 to 69 and when a signal is found the box locked will have a tick.

Manual channel search

You can shorten the channel scan if you know the Channel Numbers for your local digital transmitter by entering the numbers into the Channel Number and click on Tune.
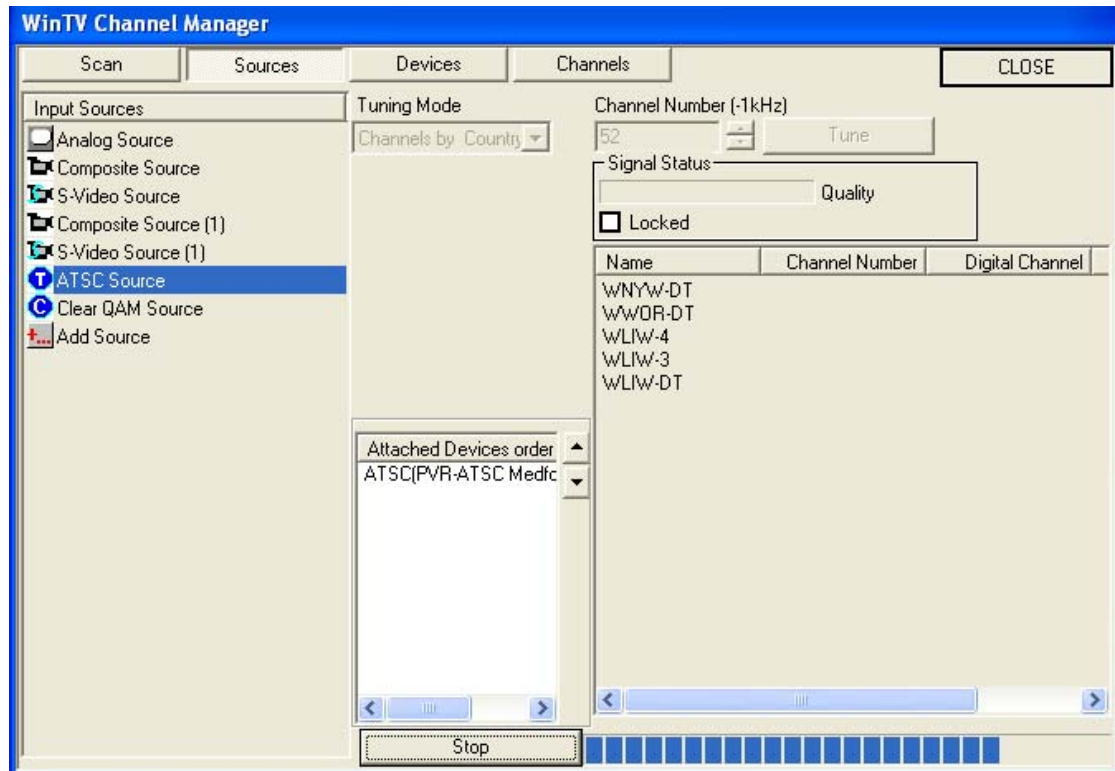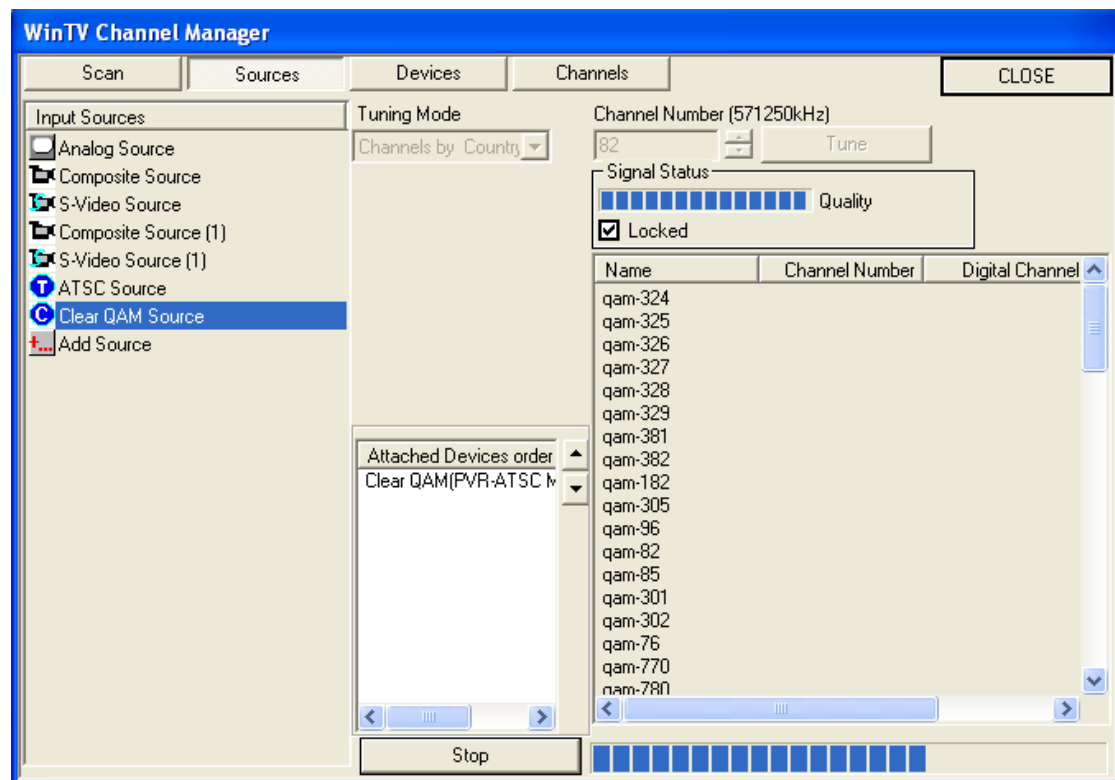

Search for QAM channels

Automatic channel search

Click the <Autoscan> button to start the search for QAM channels, ensure you have cable signal connected to the digital tuner. The channel search will count from 2 thru 125.

Configuration a Video Input

When connecting a external source to the WinTV product please ensure that the cables are connected in the correct order.

*N*ote: This section refers to WinTV products with Video Input.

Connecting a Video Recorder or Set top box

We recommend using a Composite cable for connecting most VCR's and set top boxes to our devices, this is because unless stated most of these devices will not be able to output in Svideo.

If your VCR or Set top box has a S-video output and your WinTV product has S-video input then you can use a S-video to S-video lead.

You may also need to connect the Red & White RCA phono plugs into the Stereo Line in for the sound to be transferred. Simply use a Red & White female RCA to Stereo Jack connection.

Configuring the Composite channel

Click on the Button MENU and "Suite-Manager" to open the channel manager. Select the <sources> and highlight the <Composite> or <S-video> source .

The video format used in North America is NTSC-M, type a name for the channel and a description and click on <Save> and <Close>.
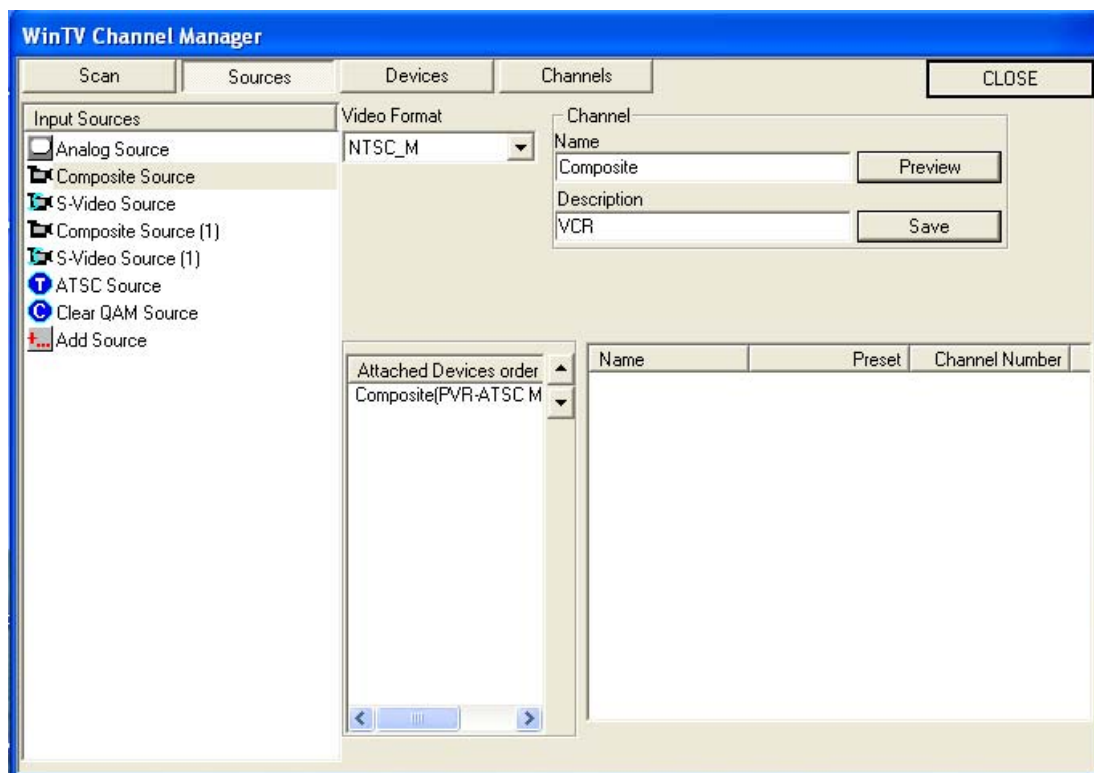
Selecting the composite channel in the channel list

To select the Video Channel that you created <right> click with the mouse button on the TV window and select the channel list. You should see you the channel name you just created at the bottom of the channel list.

Changing the Channel List

Click on the Button MENU and "Suite-Manager" to open the channel manager. Select the <Channels> tab.
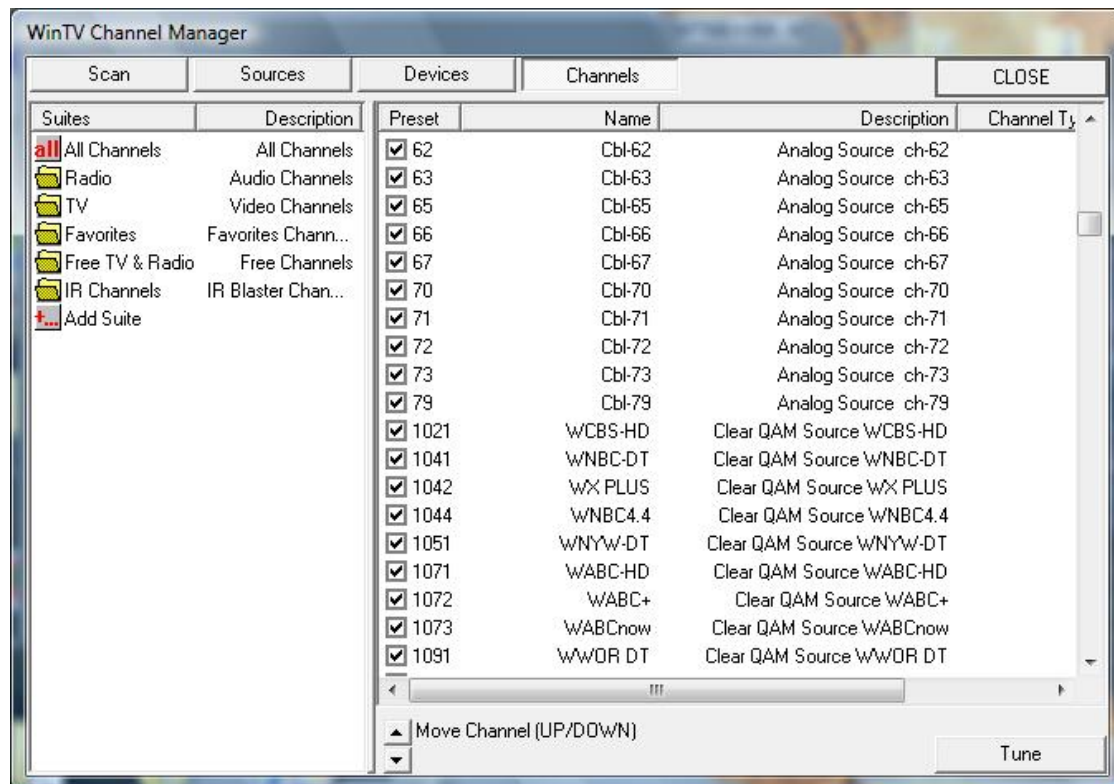
The channel list allows you to see all of the available channels that have been scanned.

Channel-Menu

If you right click on one of the channels on the right hand side you will have some of the following options:
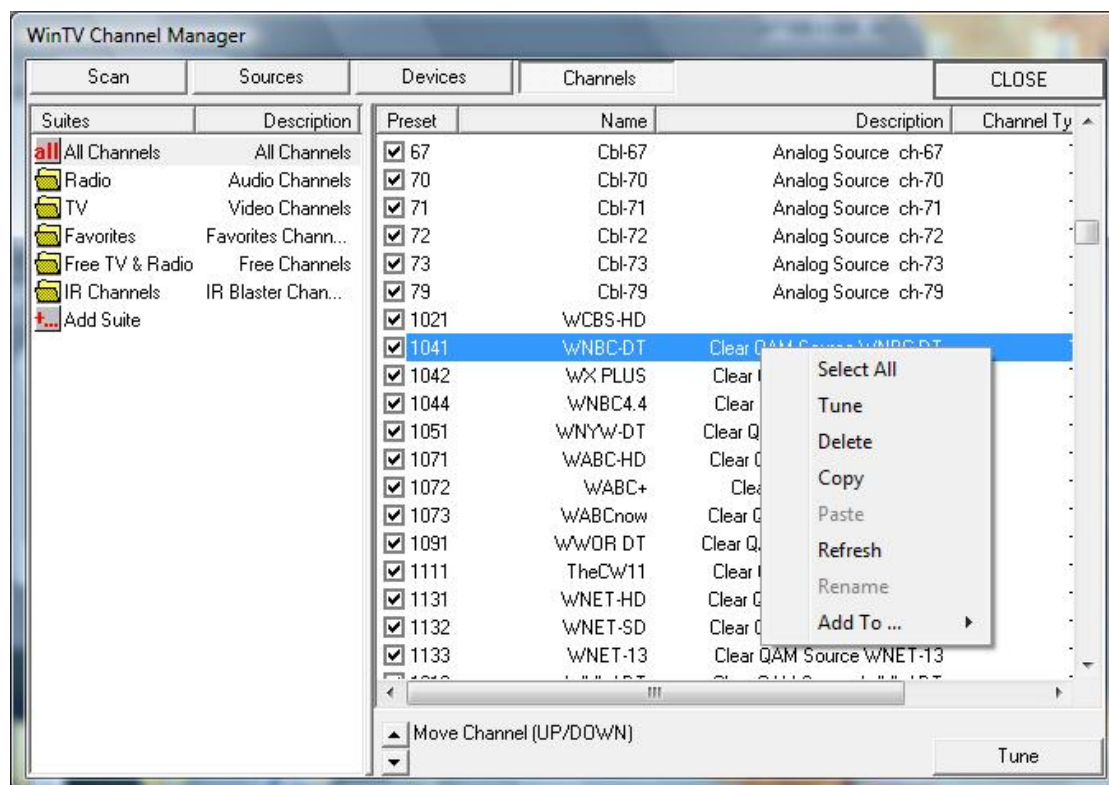
Program Delete

To delete a channel you can either highlight and channel and the right click and select delete or highlight the name of the channel and press the "DELETE" key on your keyboard. In order to delete the full channel list you can <Select All> and then delete.

Program Rename

To rename a channel you have to highlight it and then click on the column "Preferred Name". You can then edit the name of the channel.

Program Number Location

1. Highlight the channel that you want to change in the column "Preferred Number". You can now enter a new number that is not already assigned to another channel.

2. To move a channel up or down the list, highlight the channel and then click on the "Move Channel (UP/DOWN) entry.

Favorite channel list

You have the option of creating a favorites channel list in the order that you want. Simply click on the channel name on the right hand side and drag the channel name to the left on top of the Favorite group on the left hand side window.

Creating a new favorites group

You can also create a new channel suite if you prefer to create a new favorites group. Click on the Add Suite and type in a name for the new suite. If you then highlight "All Channels" you can then drag the channel on the right hand window into the new suite that you have created. This is useful if you only want some channels to be shown in your TV channels list.

Menu Options

Clicking on the "MENU" button will give you the following options:
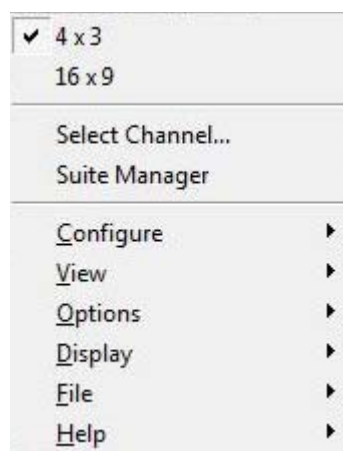
"4 x 3"

Select the TV picture aspect ratio 4 x 3.

"16 x 9"

Select the TV picture aspect ratio 16 x 9.

"Select Channel"

Select the channel that you want to view.

"Suite Manager"

Opens the channel suite manager where you can scan for channels and configure video input.

"Configuration" Menu

Allows you to configure the "Channels...", "Audio", "Snapshots...", "Preferences..." and "MPEG Settings".

"View" Menu
Allows you to set the TV image screen size to a pre-defined size (320 x 240, ..., 800 x 600).

"Options" Menu
To select the option ensure that the tick is selected before the name of the option.

"Select suite"
Allows you to select a specific suite (TV, Radio or favorites), you can also select your own created suite.
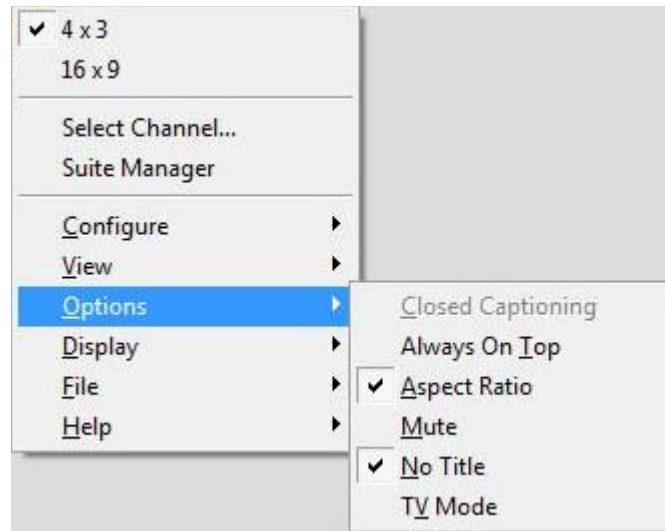
Option - Always on Top
Always on top will always make WinTV be visible on your windows desktop, it will be on top of any application.

Option - Aspect Radio
This option will force the aspect ratio to 4 x 3.

Option - Mute
Will Mute and un-mute the sound.

Option - No-Title
This option will remove the TV applications borders, so you will only have the TV picture.

Option - TV Mode
This option will change the TV picture to Full Screen mode, so the TV picture will cover the whole of the desktop.

"Display" Menu
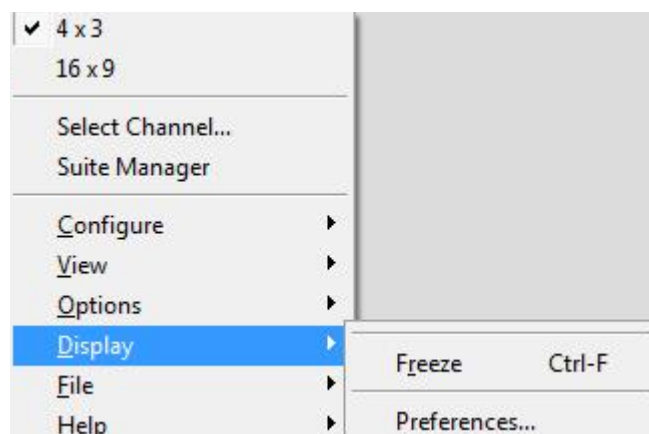
Display - Freeze
Will stop the TV picture from moving. You can also press: <CTRL> + <F>.

Display - Preferences...
Allows you to configure the "WinTV Preferences".

"File" Menu
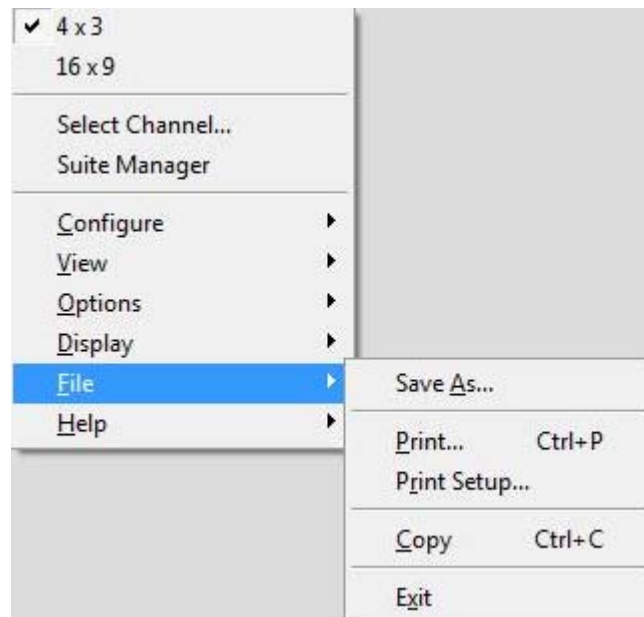
File - Save as
After using the "Snap" button you will be able to save that still image snapshots to different file formats (e.g. Jpeg, BMP etc).

File - Print...
Allows you to print out the still image snapshot.

File - Print setup
Allows you to configure the printer settings.

File - Copy
Allows you to copy the still image snapshots to the clipboard of Windows.

File - Exit
Will close down the TV application. You can also press <Alt> + <F4> on the keyboard.

"Help" Menu

Help - Help Topics
Opens the online help menu.

Help - Tip of the Day
Shows the tip of the day for useful information about the application.

Help - About
Shows information about the application version files and hardware.

WinTV Settings

To configure the WinTV application select the "Spanner" button.

Menu - On Screen Display
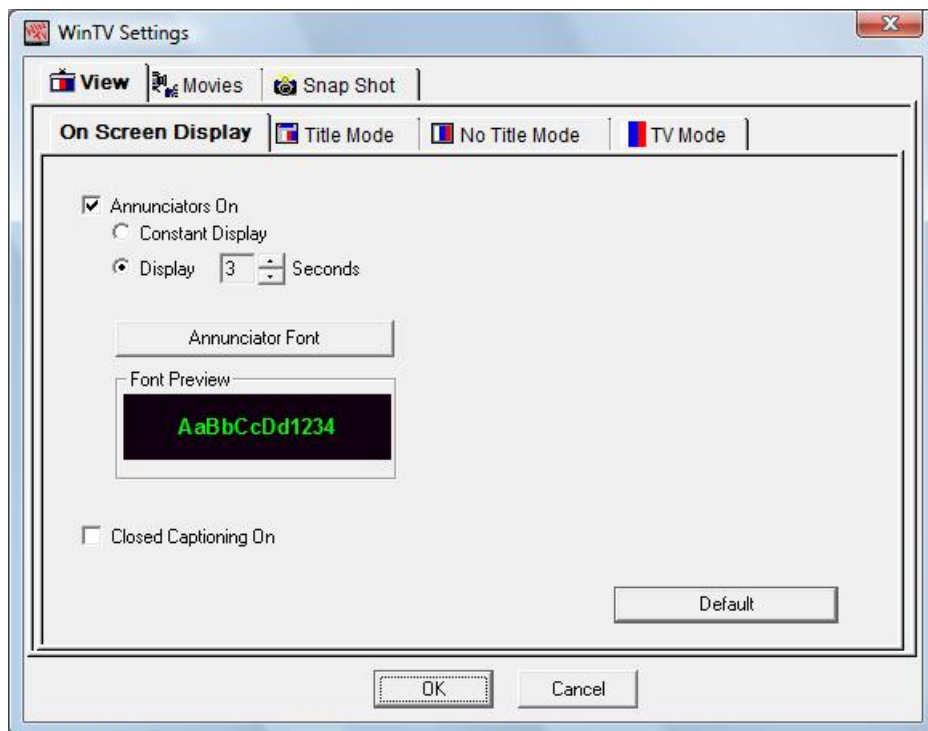
On Screen Display

The "On Screen Display" allows you to set the amount of time the information bar will be displayed on the screen. The annunciator font allows you to change the font type and color that will be used. Where available Closed Captioning (CC) will show subtitles if selected.

Tab - Title mode (TV picture with application Menu)

4:3 Aspect Ratio

The option "4:3 aspect ratio" determines whether this is automatically selected, if you re-size the WinTV window with the mouse.
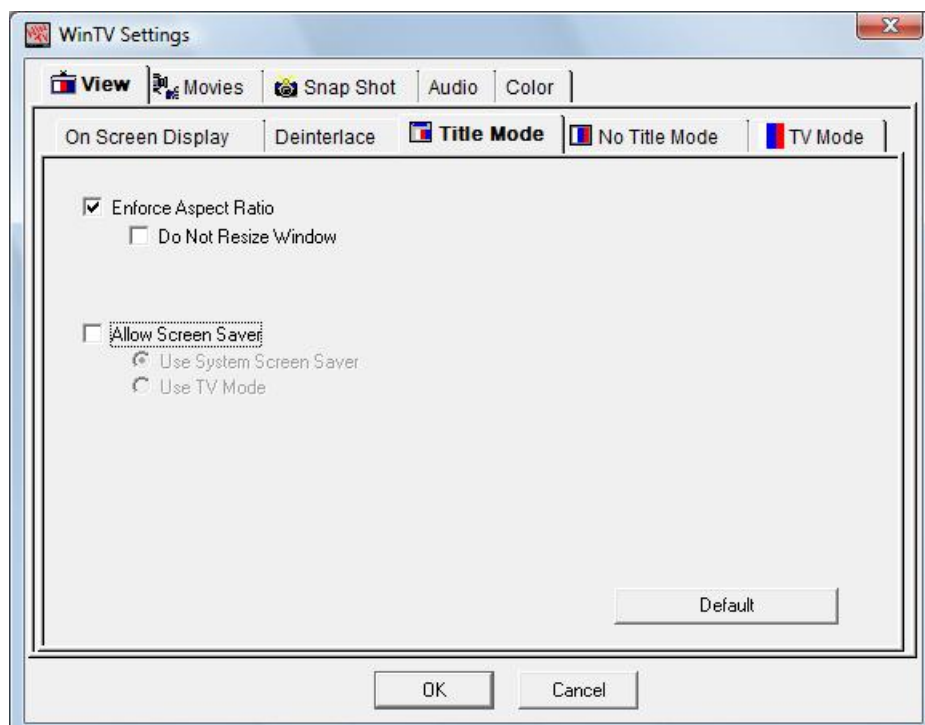
Enforce Aspect ratio

When checked, the image's aspect ratio is preserved as the WinTV window is scaled. Selecting Enforce Aspect ratio will round off the height and width dimensions of the television image in order to maintain the proper aspect ratio.

WinTV can operate as a Screen Saver, or can retain your current Screen Saver. If Allow Screen Saver is checked, choosing the "Use System Screen Saver" option uses any current screen saver configuration on your computer. Choosing TV Mode uses WinTV (in full-screen mode) as the system screen saver.

Tab - No Title mode (TV picture only)

No Title Mode Displays the Television inside the application window, without Title and Menu bars. This configuration dialog provides Aspect Ratio and Screen Saver settings as described in Title Mode (above).

Tab - TV Mode (Full screen TV)

TV Mode displays the television image using the entire height and width available to the monitor screen.

Movies - MPEG Settings
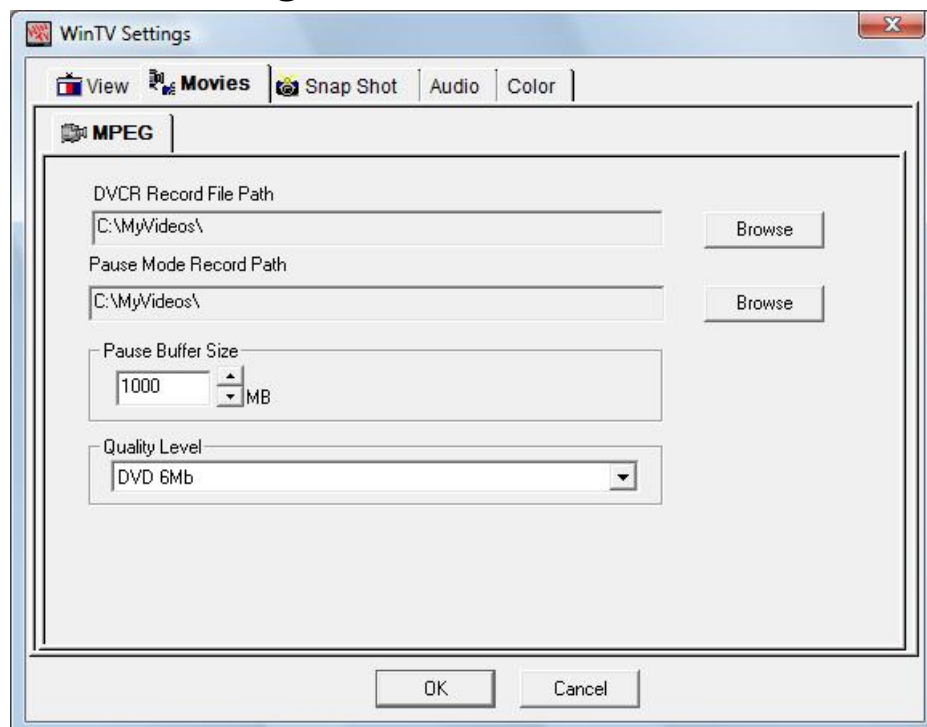
DVCR Record File Path

Refers to the save path of the actual recorded Video files during the record mode.

Pause Mode Record Path

Refers to the temporary path of the file that is buffered during the pause mode.

Pause Buffer

This sets the maximum size of the Pause Buffer..

Quality Level

Allows you to set the quality level of the recorded MPEG files files, example "DVD 6Mb" for analog recordings.

*N**ote: For digital WinTV product the default is "DVD 2048 bytes" and this cannot be changed (native MPEG quality).*

Snap Shot Settings
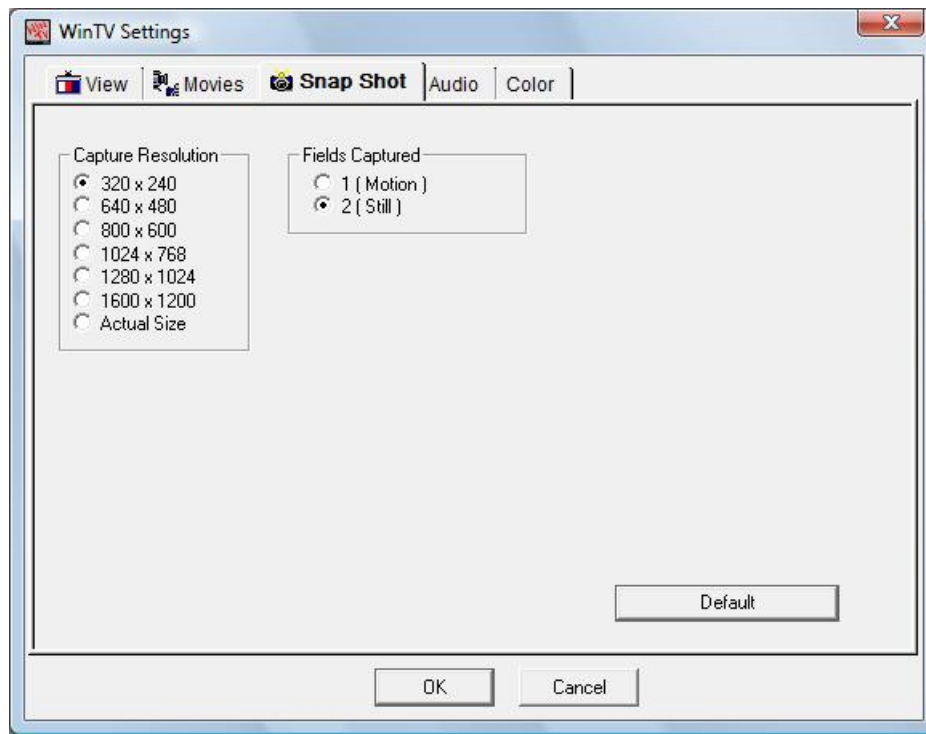
Clicking on the **CFG** icon allows you to configure the Snapshot settings:

Capture resolution
Capture Resolution Images in WinTV are captured at the maximum resolution. When the image is saved to a file name (below), you select a resolution for the snapshot, from 320 x 240 (minimum) to 1600 x 1200 (actual size).

Fields Captured
Fields Captured Broadcast video uses an interlaced format, in which the odd-numbered scan lines and even-numbered scan lines are displayed separately; the eye combines them into a smooth image. On the computer monitor output,, both fields are displayed at once. When taking a snapshot of a video image with little motion, Capture 2 Fields produces the most data and the clearest image. However, when taking a snapshot of a video image containing motion, capturing both fields may result in a blurred image. Therefore, use Capture 1 Field for best results.

Experiment with these settings to achieve the desired results.

Default
Button Resets Snapshot Configuration to factory defaults.

Audio Settings

*N*ote: *This option is only available on a WinTV product that supports this feature and will only be displayed if you are tuned into a channel or video input that supports this feature.*
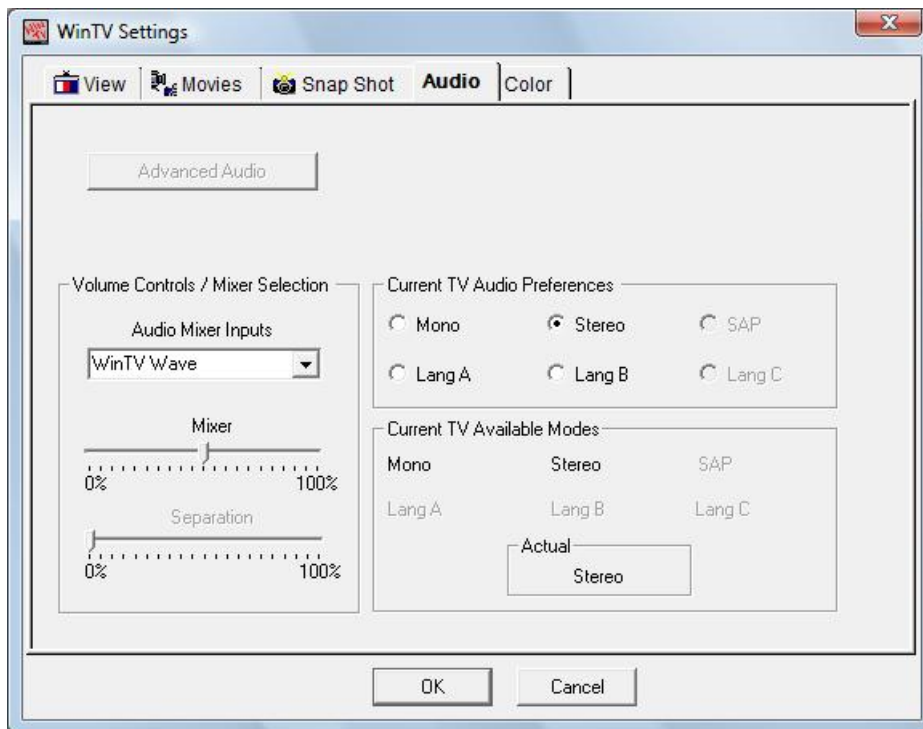
Audio Mixer Inputs

Click on this item to display a list of possible selections: WinTV WAVE should be selected.

Current TV Audio preferences

This area enables you to select audio preferences, from the source dependent Available Modes listing at the bottom of the dialog box.

Current TV Available Modes

The actual (active) setting is highlighted.

Color settings (Analog only)

Note: *This option is only available on a WinTV product that supports this feature and will only be displayed if you are tuned into a channel or video input that supports this feature. Not available for Digital Channels.*
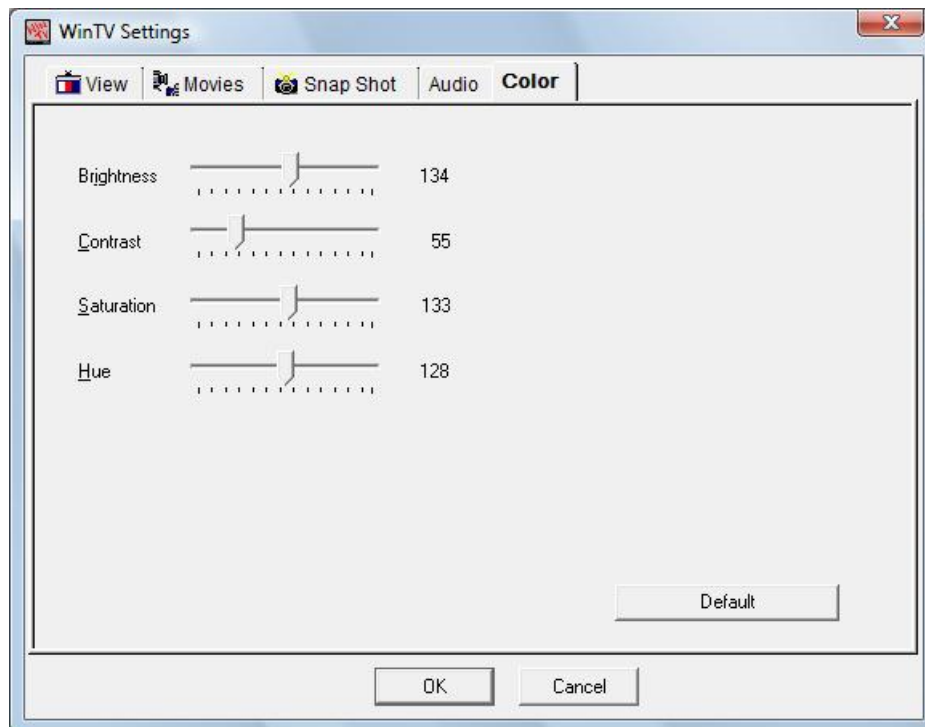
Here the brightness, the contrast, the saturation and chroma can be changed for improving the picture quality for analog sources. Selecting default changes the settings back to default settings.

Pause, Record and TV-Mode

There are four buttons to control the Watching, Recording and Pausing of TV.

TV-Mode | Pause-Mode | Record mode | Playback mode
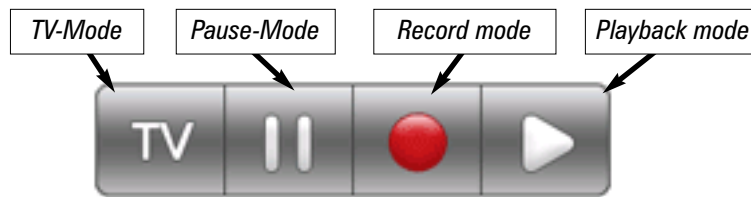
Clicking on the Pause button will cause the Pause menu to roll down from the WinTV application, while clicking on the Record button will cause the Record menu to roll down.

Clicking on the Record will start a recording of the channel that you are watching. If you click on the button once, it will record for 15 Minutes, clicking twice will record for 30 minutes, clicking a third time will record for 45 minutes. Each click will record for another 15 minutes (So 3 clicks will record for 45 minutes).

Record | Pause | Playback slow

Time counter

00:00:19
_RTL Television_20070502_121653.mpg

Open file

Skip back to start | Video-Position | Skip to end | Fast rewind | Stop | Playback | Fast forward

Skip back 10 secs | Skip forward 10 secs
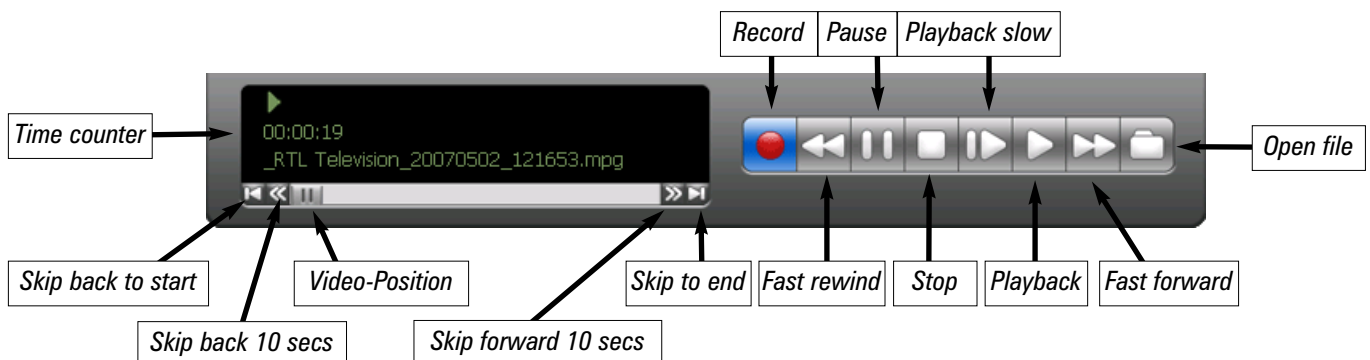
Time counter

The time is specified in a Hour:Minute:Second format..

Record

Clicking the Record button will automatically generate a file name and start recording your audio/video program.

- The Live TV window will be shown in the TV window

- The time counter will indicate the length of recording

- When recording using One Touch Record then length of the recording will be shown.

The quality of the recording and the hard disk space can be specified by clicking the symbol spanner//Movies/MPEG. If you click on "stop", the timer counter is put back to 00:00:00.

Stop

Clicking the Stop button will stop the video you are recording or playing back.

Play

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

Clicking the Pause button while Playing will pause your audio/video.

Rewind

Clicking the Rewind button will play the video file in reverse. Clicking the Rewind button again will continue the playing of the video.

Fast forward

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. Clicking the button again will continue playing back at normal speed.

Slow motion

Clicking the Slow Motion button during playback will cause the video to play in slow motion. Clicking the Slow Motion button again will return the video to normal playback speed.

File

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, 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: Click your right mouse button on the video file once, go down the menu and click Delete.

Pause-Mode

The pause mode allows you to pause the TV or Video window. Clicking the Pause button on the WinTV application starts the Pause mode. The Pause Menu will drop down.

Display counter → Delay - 00:00:06

Rewind | *Slow motion* | *Fast forward* | *Skip forward 10 secs*

Skip back to start | *Video position* | *Skip to end* | *Pause* | *Play* | *Replay last 10 secs*

Skip back 10 secs | *Skip forward 10 secs*
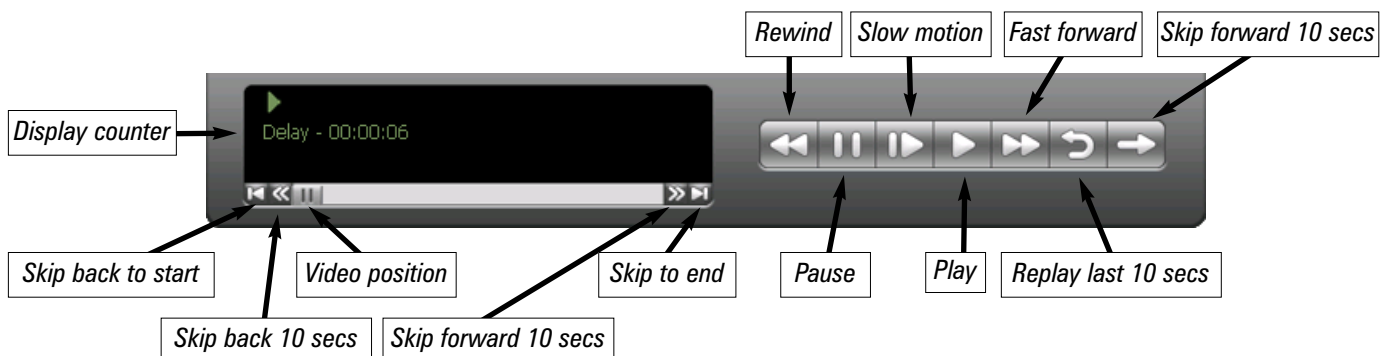
Pause-Buffer

The Pause buffer is space on your hard disk where video is stored during the Pause mode. 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. To change the default pause buffer location click the symbol "tools".

Delay counter

The delay counter indicates the amount of time that the Live video window has been paused. If the delay counter indicates 00:01:23 then the Live video window has been paused for 1 minute and 23 seconds.

Rewind

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

Pause

Clicking the Pause button causes WinTV to start recording into WinTV's Replay Buffer. It takes about 10 seconds for the Replay Buffer to be initialized and for Pause to become effective. Un-clicking the Pause button will cause the audio/video program to start playing from the point where the button was originally clicked.

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. 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 Pause as many minutes as you would like, 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 TV mode.

Slow motion

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

Fast forward

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.

Replay

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.

Skip ahead

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

MPEG compression formats

Note: Only available on supported products (PVR / HVR)

The WinTV supports several formats for MPEG video compression, called Quality Levels. The differences in these formats are:

- The higher the datarate, the better the video quality you see from live TV and your recordings. The higher the datarate, the more disk space which will be required.
- CPU horsepower required during playback and pause mode.
- The compatibility when creating Video CD's or S-VCD's.

To configure the MPEG Quality Level, on WinTV click the PREF button (Preferences menu), then Capture and then the MPEG tab. Here are the video formats and the amount of disk space per hour used:

MPEG1 VCD .65 Gigabytes/hour

MPEG2 2.0MBits/sec (Full D1) .9 Gigabytes/hour

MPEG2 2.0MBits/sec (Half D1) .9 Gigabytes/hour

MPEG2 12.0 MBits/sec (Full D1) 5.4 Gigabytes/hour

MPEG2 12.0 MBits/sec (CBR) 5.4 Gigabytes/hour

DVD Standard Play 8.0Mbits/sec 3.1 Gigabytes/hour

DVD Long Play 6.2Mbits/sec 2.4 Gigabytes/hour

DVD Extra Long Play 2.5 Mbits/sec 1.2 Gigabytes/hour

SVCD Standard Play 2.5Mbits/sec .8 Gigabytes/hour

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

Which record format should you use?

If you would like to burn a DVD, then chose either DVD Standard Play, DVD Long Play or DVD Extra Long Play. DVD formats record at 720x480 using 48.0 kHz stereo audio.

If you want to watch the recorded video on your PC, for the best video quality chose MPEG2 12.0MB/sec or DVD Standard Play. If you do not have much disk apace, try the MPEG-2 2.0MB/sec.

SVCD is a nice compromise between video quality and hard disk space. Video is recorded at 480x480 at a datarate up to 2.5Mbits/sec.

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

Once chosen, the Quality Level format is set for both the Pause and Record modes. The format cannot be changed while Recording or while in the Pause mode.

DVD players which are compatible with CD's and MP3's can also read DVD's burned using MPEG video files created with the WinTV.

Creating a DVD

If you plan to burn a DVD using a authoring software package, you should use either the "DVD Standard Play", the "DVD Long Play" or "DVD Extra Long Play". These formats will allow you to make DVD's with the following recording lengths:

DVD Standard Play: 1 hour 30 minutes on DVD+R/RW disks

DVD Long Play: 1hour 50 minutes on DVD+R/RW disks

DVD Extra Long Play: 4 hours on DVD+R/RW disks

Keyboard shortcuts in WinTV

In Live TV-Mode

Plus (+)	Channel Up
Minus (-)	Channel Down
Page Up	Volume Up
Page Down	Volume Down
0-9	Enter a channel number
Spacebar	Take a snapshot still image capture
Esc	Exit Full screen TV mode
F1	Open online help
CTRL + M	Mute sound on / off
CTRL + F	Freeze TV image
CTRL + C	Copy to clipboard
CTRL + P	Snapshot print
CTRL + S	Video source select
CTRL + T	Re-size the TV window to and from Full Screen
CTRL + I	Show EPG information
Alt + M	Re-size the TV window to default size
Alt + P	Start the Pause-function Timeshift
Alt + R	Start the recording function
Alt + F	Opens the snapshot save options
Alt + F4	Close the application

During recording

Plus (+)	Channel Up
Minus (-)	Channel Down
Spacebar	Take a snapshot still image capture
Esc	Stop recording
F1	Open online help
CTRL + P	Snapshot print
CTRL + F	Freeze TV image
CTRL + C	Copy to clipboard
CTRL + M	Mute sound on / off
CTRL + T	Re-size the TV window to and from Full Screen
Alt + Q	Pause the Live TV window (has no effect on the recording)
Alt + R	Increase record time by 15 min intervals
Alt + P	Start the Pause-function Timeshift
Alt + F	Opens the snapshot save options
Alt + N	Stop recording and return to Live TV mode
Alt + F4	Close the application

In TimeShift-Mode (Pause mode)

Plus (+)	Channel Up
Minus (-)	Channel Down
Spacebar	Take a snapshot still image capture
Esc	Exit pause mode
F1	Online Help
CTRL + P	Snapshot print
CTRL + C	Copy to clipboard
CTRL + M	Mute sound on / off
CTRL + T	Re-size the TV window to and from Full Screen
Alt + Q	Pause the Live TV window
Alt + R	Pause-Mode stops and recording start
Alt + P	Start the Pause-function Timeshift
Alt + F	Opens the snapshot save options
Alt + N	Exit pause mode and return to Live TV mode
Alt + F4	Close the application

WinTV Remote Control

*N**ote: This option is only available on a WinTV product that supports this feature.*

The WinTV remote control allows you to control the WinTV or Radio application, please ensure the following before trying to use this feature:

1. Infrared Remote control - Has batteries inserted

2. Infrared-Receiver, is fully connected to the IR socket of the WinTV-Card

3. Infrared software is started - The IR icon is on the start bar

Before using starting the IR application please ensure that the IR sensor and WinTV hardware is fully installed and insert the batteries into the Remote control handset. Position the IR receiver in a position where the signal from the handset can beam can be seen.

Installation of the Remote control software

The WinTV's remote control software is installed automatically during the installation of the WinTV applications. The installation will add the shortcut "AutoStart IR" to the Start-up group and a IR icon next to the time on the windows start bar. If this is not the case, you can manually install the WinTV's remote control software from the installation CD-ROM / IR32 folder. Double click on IR32.exe.

Remote Control Buttons

Go:	Open the "Open the "WinTV Remote" menu or launch MCE
Power:	Exit the WinTV application
TV:	Start WinTV (as the Red button) / Full screen TV mode on/off
Videos:	No Function (reserved to the MediaMVP)
Music:	No Function (reserved to the MediaMVP)
Pictures:	No Function (reserved to the MediaMVP)
Guide:	Show/Hide the Now/Next EPG (DVB-T channels only)
Radio:	Start and Stop WinTV-Radio application (if available)
Arrows & OK:	Select and confirm options in the WinTV Remote menu or the Windows task list.
Back/Exit:	Stop a recording / Exit pause mode and close the PVR tray (as the Stop button)
Menu:	Brings up the Windows task list. Use the left and right arrows to change to other Windows tasks, and click OK. i-Menu is an always active button.
Vol:	Control the audio volume
Prev. Ch:	Swap to last viewed channel
Ch:	Select the next/previous channel
Mute:	Audio on/off
REC:	Open the PVR tray & start a recording. See section Remote Control Buttons during a Recording
Stop:	Stop a recording / Exit pause mode and close the PVR tray (as the Back/Exit button)
<<:	Rewind or Volume down
Play:	Open the PVR tray & play back the last recording. If you didn't record any TV shows recently, it will open the MyVideos folder.
>>:	Fast forward or Volume up
Replay:	Swap to previous channel (as the Prev.Ch button)
Pause:	Open the PVR tray & pause live TV (pause mode). Clicking again will play from the point where the button was originally pushed
Skip:	Surf Mode on/off
0-9:	Direct access to channel number
text (*):	Start VTPlus teletext application
Sub/CC (#):	Sub-titles / Closed Caption on/off - if available on the channel
Red Button:	Start the WinTV application (as the TV button)
Green button:	Close the WinTV application (as the Power button)
Yellow button:	No function
Blue button:	Make a Snapshot still image capture

Note: The WinTV remove will only work when the WinTV application is the active application, press the RED button to make it the active application.

Remote Control Buttons during a Recording

Note: Most WinTV functions and remote buttons are disabled when recording

Record button: Set the duration of the recording, by steps of 15 minutes up to 2 hours, then by steps of 30 minutes up to 4 hours (like the OTR button). Clicking again will disable recording duration. This information is displayed in the PVR tray.

Stop button: Stop recording and close the PVR tray (as the Back/Exit button)

Pause button: Freeze the video. Press the Play or Pause button again to un-freeze the video. The Pause button has no effect on the recording itself. While the video is frozen, the recording is continued in the background, there is no Rewind, Forward, Skip, Replay function.

Remote Control Buttons when Pausing TV or Playing a Video

Note: You cannot change channels when Pausing TV

Record button: Stop current action and start a recording

Stop button: Stop playing or Exit pause mode and close the PVR tray (as the Back/Exit button)

Play button: Play the recorded TV or TV from the pause buffer (if PVR tray opened). Play and Pause button have alternatively the same function.

<< (Rewind): Play backwards at 8x speed. Clicking again will play paused TV or recorded TV at 1x

>> (Forward): Play forward at 2x speed. Clicking again will play forward at 8x, then back to 1x

Pause button: Start Pause-Mode (TimeShift). Press Play or Pause again to continue watching from where you left off

>I (Skip): Skips ahead in the Pause buffer by 10 seconds per click. Holding the Skip button will auto-repeat, and advances the video about 10 minutes per 15 seconds the button is depressed

I< (Replay): Skips backward in the Pause buffer by 10 seconds per click. Holding the Replay button will auto-repeat, and advances the video about 10 minutes per 15 seconds the button is depressed Quick Jump 0 to 9 buttons: When playing a video, you can quickly skip through the video by pressing the 0-9 buttons. When you press one of these buttons, you will skip to, for example, 10% of the video file when you press '1', 20% of the video file when you press '2' and so forth (% of the length of the file).

During Pause-Mode, any key skips ahead in the Pause buffer to -2 seconds.

WinTV-Scheduler

WinTV-Scheduler allows you to schedule the 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.

After installation, WinTV-Scheduler can be found by going to Start / Program files / Hauppauge WinTV.

In order to Schedule a recording click on the "**Add Program**" button:
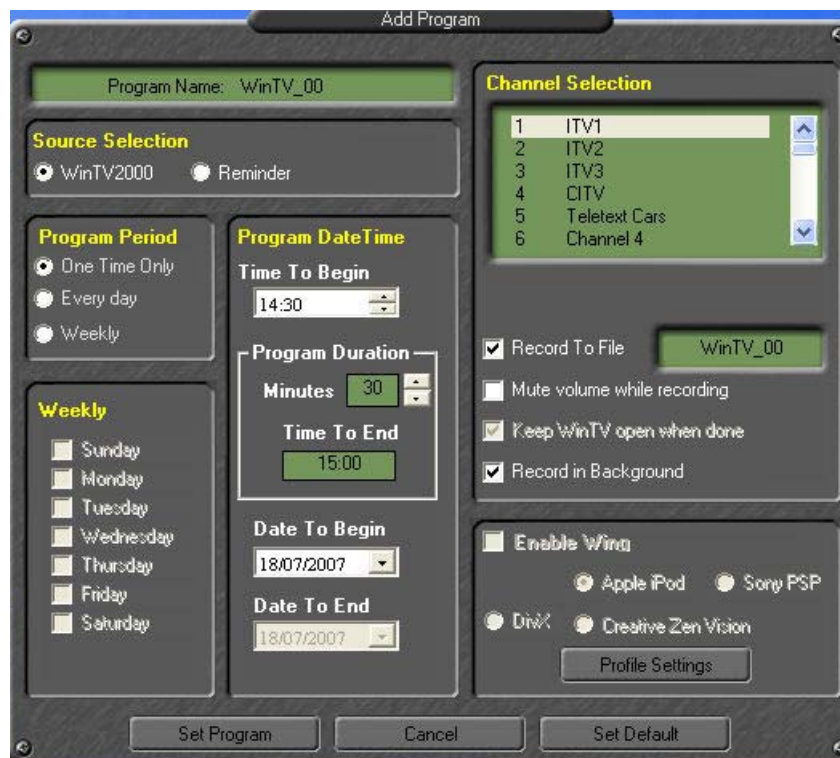
The items that need to be set for each event are:

Time to Begin Program: Set the start 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 second to start the program.

*N**ote: It takes about 10 seconds to launch the WinTV and set up for recording, so set the Time to Begin Program to 1 minute before the time your TV show actually starts.**

Time to End Program: Set to the time to end this event.

*N**ote: you need to leave at least 1 minute between scheduled programs to give the recorder time to set up its disk buffers.**

Program Period: One time, daily, weekly

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.

Channel selection: Choose 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.

Record in background: The background recorder (BG recorder) allows you to record your program with out the WinTV application running. If you have a Dual Tuner product you can record from 1 channel while watching another.

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 Schedular to work. If WinTV is not running, it takes about 10 seconds to start Scheduler and to start the recording of TV.

You must make sure Windows Task Scheduler is running properly:
For both Windows 2000 and XP, you must have the Windows task scheduler started and running correctly, or WinTV-Scheduler will not work. For XP, you must also have a password assigned to log into Windows, which is a requirement for Windows task scheduler.

To be sure Windows task scheduler is running, go to Start/Run and enter services.msc, click ok. when the Services window appears, find Task Scheduler in the right column and be sure it is set to started and automatic. If it is not started, you can start it manually. If it is started, and scheduler is still not working correctly, you can try stopping the service, and restarting it.

You must have a password set to log into Windows XP:
WindowsXP will not run any scheduled events without a username and password the first thing you should do is create them. You may want refer to the following Microsoft Knowledge Base article regarding this issue:
http://support.microsoft.com/default.aspx?scid=kb;en-us;316434&Product=winxp

If you Schedule something and it doesn't run at specific time check the following:
Make sure that your time and time zone are correct. If you are in the East coast you could have the correct time but wrong time zone. If you are running Windows XP Home or Pro, and Windows 2000, please make sure that you have given your User account a password to log in. According to Microsoft, Services require that a user must have a logging password to start.

If you already have a password and it still won't work, please double check the Task Scheduler service and restart it. Do the following to do this. Go to Start/Run and type services.msc and click ok. The Services window will open. Search for the Task Scheduler service. Right click on the Task Scheduler and click on stop. Then, right click on the Task Scheduler and click on start to restart the service, and then restart your computer to take effect. After all this try WinTV-Scheduler again.

You should also make sure that you have all Microsoft WindowsXP updates applied to your system as this can also correct issues with the task scheduler in WindowsXP.

Also, make sure your system is not set to go into hibernate or sleep mode as the scheduler cannot wake up Windows to start the recording.

The scheduler writes a command line to Windows Scheduled Task so if the WinTV is failing to launch at the specified time you may want, go into Windows Scheduled Tasks (Start, Programs, Accessories, System Tools, Scheduled Tasks) and see if you can schedule any event to occur at a specific time. If you cannot get any other program to begin at a specific time then the problem is with Windows Scheduled Tasks. You can also check to see if the command line is being written correctly to Scheduled Tasks. Create a schedule recording in the WinTV-Scheduler. Then go into Windows Scheduled Tasks and find the job file for the recording you created. Right mouse click on it and go to Properties. In the Run field you will see the command line for the recording, it will look something like this:

C:\PROGRA~1\WinTV\WinTV.EXE -c7 -ntod -startr: WinTV_(0).mpg -qdef -limit:3600 -mute

"C:\PROGRA~1\WinTV\WinTV.EXE": Obviously the path to the WinTV application.

"-c#": The channel number you want the WinTV to open up on.

"-ntod": No tip of the day dialog window.

"-startr:": The name you want for the recorded file.

"-qdef": MPEG quality of the recorded file. Currently there are only two choice here, current default level (-qdef) and VCD quality (-qvcd).

"-limit:": Length of time in seconds you want the recording to be. This can only be in intervals of 60 seconds.

"-mute": Mutes the application upon starting the recording.

So the above command line will start the WinTV application on channel 7, will mute and record for one hour at the default MPEG quality setting the application is currently set for. This recording will be named WinTV_0.mpg.

If you copy the command line and then paste it in the Run program field (Start, Run) and click on Okay it should start your recording on the channel you specified. If it does it means that the job is being created properly and again indicates that the problem is with Windows Scheduled Tasks.

The WinTV-Radio application

Depending on which WinTV product you have will depend on if you can listen and record FM radio on your PC. Please ensure that the FM Radio antenna is connected to the FM connection on the back of the of the WinTV product.

To start the WinTV-Radio application, click the "Start" / "Programs" / "Hauppauge WinTV" and the "Radio" application shortcut or click on the "Radio" icon.

The 1st start

When you start the radio application for the 1st time the Radio icon will be displayed in the task bar of Windows (e.g. "87,00 - WinTV radio") while it searches for radio stations, this may take some time. If no FM antenna is attached no channels will be found. Once it has finished scanning the radio window is opened.**Content Menu**

Operational features

Volume:	For controlling the volume level.
Tune:	Fine tune the current radio channel.
Seek:	Search for the next active FM radio channel.
Mem:	Sets an FM radio channel preset. To assign the current station to a preset, click on MEM and then on one of the Preset buttons (1-30).
Mute:	Turns the sound off and on.
Mono:	Force mono reception. Default is stereo.
Scan:	Searches for new stations until you click "Stop". Click the Right mouse button anywhere on the WinTV-radio window to set the Scan mode.
Min:	Minimizes the WinTV-Radio window.
CD:	Starts your systems Audio CD-player for playing back Audio-CD's.
TV:	Closes the radio application and starts the WinTV application.
OFF:	Closes the radio application.
1 to 10:	Preset 1 - 30 Stations list (1..30)

Keyboard shortcuts

To select a radio preset using the keyboard you must:

1. Search for the radio station you want to select

2. Click on the "Mem" button.

3. Click on a number where you want to save the radio station to (1-10).

Each Preset button holds up to 3 presets each. Press the button to go to the next preset. The Mem button cycles through FM1, FM2, and FM3 bands to specify where to save a new preset.

Entering station names

When the radio is tuned to a preset the user can assign a name by clicking the mouse on the frequency display and typing in a name that does not begin with a number. You can use leading spaces to "center" the name in the display. Hit Enter/Return to finish.

Minimize to tray

Left click restores app, right click accesses context menu

If you click and hold the right hand mouse button on the Radio window then a menu will appear:
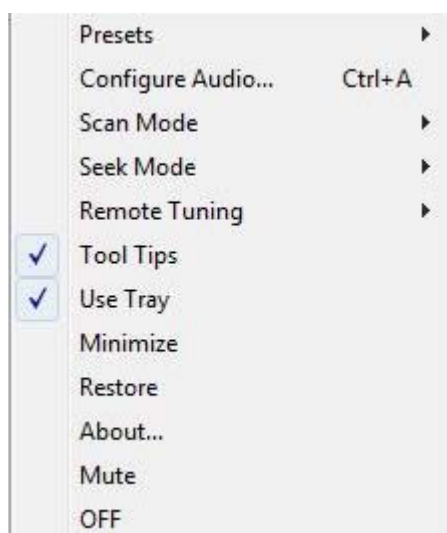
Presets: Allows you to select the preset that you have created.

Configure audio...: Select the audio properties.

Scan mode: Allows you to select between preset mode list and all channel list.

Seek mode: Allows you to search for strong signal station or weaker (longer distance)

Remote Tuning: If you select "Use Channel Seek", the keys "CH+"/"CH -" on the remote control has the same function as the key "Seek" in WinTV radio. If you select "By frequency", the keys "CH+"/"CH -" has the same function as the "Tune" option.

Tool tips: Opens some tips (Tool Tips).

Use Tray: When "Use Tray" is select the application is minimized onto the system tray.

Minimize: Minimize to system tray.

Restore: Restore the application to full screen.

About: Displays information about the radio application

Mute: Sound on / off.

OFF: Turns off the radio application.

Keyboard shortcuts in WinTV-Radio

F1-F10	Preset 1-10
0 to 9	Preset 1-10
F11/12	une Up/Down as defined by Remote Tuning Mode
INS	Add current station as preset if not already defined as preset
Pg Up/Dn	Volume Up/Down
+/-	Tune Up/Down
Home	Seek Up
End	Seek Down
O	Toggle Mono/Stereo Mode
M	Toggle Mute
N	Minimize Radio
T	Close Radio and go to WinTV
C	Close Radio and go to CD Player
E	Exit Radio (OFF)
S	Toggle Scan Mode (Preset or All channels)
R	Toggle Mem state
Space	Scan to next Preset or Station as defined in Scan Mode
F11/12	Tune Up/Down as defined by Remote Tuning Mode
DEL	Remove existing Preset

Troubleshooting:

If you are having problems using WinTV or Media Center then we firstly recommend updating the drivers for your sound card, graphics card and the operating system. To get the latest driver versions available for the sound card and graphics card visit the respective manufacturer's websites.

IMPORTANT! If you have a laptop you will not need to go to the individual manufacturers websites for the latest software, instead go to the website of the manufacturer of your laptop and search their downloads section for your laptop, updated drivers and software are typically available for it there.

For updating the operating system go to the Http://www.microsoft.com website and select Microsoft Update and follow the on screen instructions (If prompted select the "Custom" option and then install all of the updates that it finds, including software optional and hardware).

HcwDriverInstall gives "INF File Open Failed" error

Symptoms
When you run HcwDriverInstall.exe to install drivers, they fail to install and you receive the following error message: Drivers have NOT been updated. INF File Open Failed. <>

Cause
This error occurs when the INF files to install the drivers are not where HcwDriverInstall.exe expects them. The most common cause for this is from the user attempting to run HcwDriverInstall without extracting all files from the .zip archive.

Resolution
All Hauppauge drivers that are packaged within a zip archive must be extracted before you do anything with them. You can either use the built in zip handling in Windows XP (but Extract, do not just view) or use a dedicated utility such as WinZip, WinRAR or Zip Genius (other zip utilities exist).

No digital channels found

Symptoms
When you scan for digital channels, either:

      A: The scanner runs for several minutes and returns no channels

      B: The scanner runs for less than 5 seconds and returns no channels

It is important to identify the amount of time that scanning takes because the troubleshooting methods differ for each. The time is measured from the point that the "Scan" button changes from displaying "Stop" back to it's original "Scan" state.

Cause
A: If the scanner runs for several minutes:
      A1: Signal problem

      A2: Bad driver state

      A3: Windows Region Wrong

      A4: Poor USB controller

      A5: USB 2.0 not used

      A6: Faulty WinTV hardware

B: If the scanner runs for less than 5 seconds:
      B1: Software configuration issue

Resolution
A1 - Signal problem
A2 - Bad driver state
Some software can leave the card's driver in an invalid state. Try rebooting Windows and rescan, and if the WinTV is a USB device, disconnect and reconnect. In some rare cases for PCI cards it is necessary to completely power off the PC at the mains and then back on again.

**A3** - Windows Region Wrong
A4 - Poor USB Controller
Some USB controllers have serious compatibility issues with certain devices.

A5 - USB 2.0 not used

In some cases a motherboard will "decide" to connect a USB 2.0 device at USB 1.x speeds. This may just be a glitch with the motherboard, but can also occur when using a non-USB 2.0 compliant cable. Older USB cables will not operate at USB 2.0 speeds.

To verify whether your device is running at USB 1.x or USB 2.0 speeds, you can check through Device Manager:

1. Click on the Windows Start button
2. Select Run and type: devmgmt.msc
3. Device Manager will open. Go to View and then Device by connection
4. Now try to locate the USB controllers in the device hierarchy. They will be located somewhere on a PCI bus, but the location depends on the chipset of your motherboard.
5. When you find them, expand them and their Root Hubs to locate the Hauppauge device.
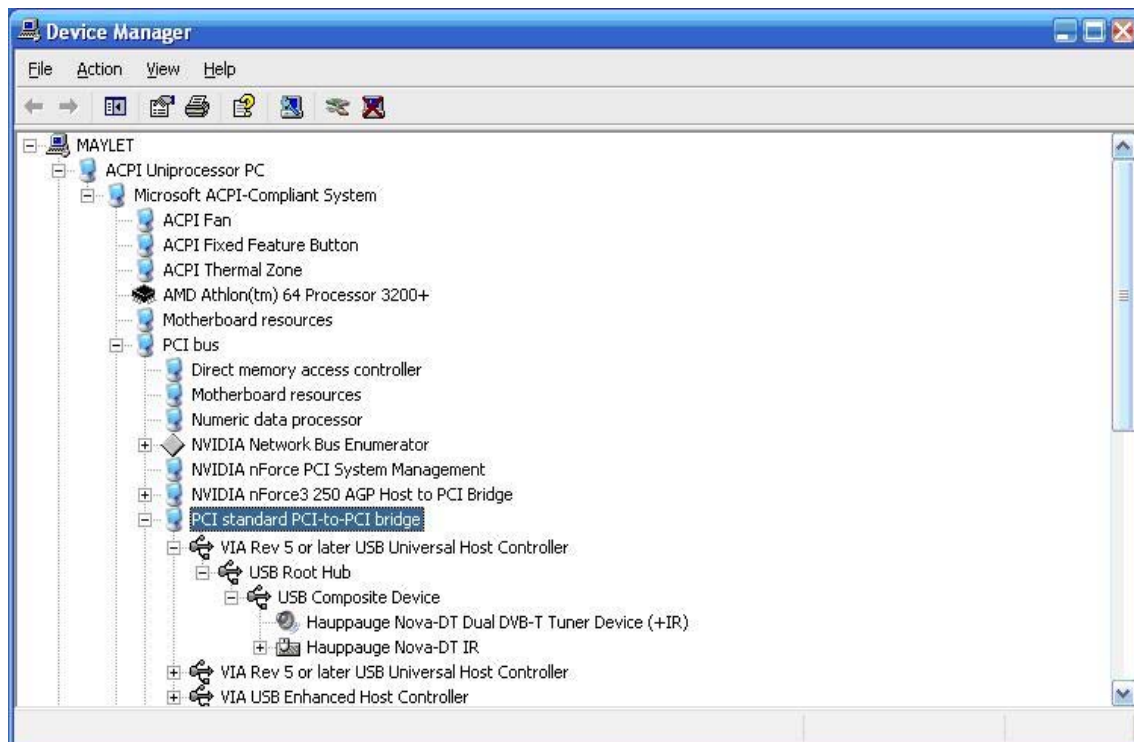
USB 1.x - Universal Host Controller (UHCI) or Open Host Controller (OHCI)
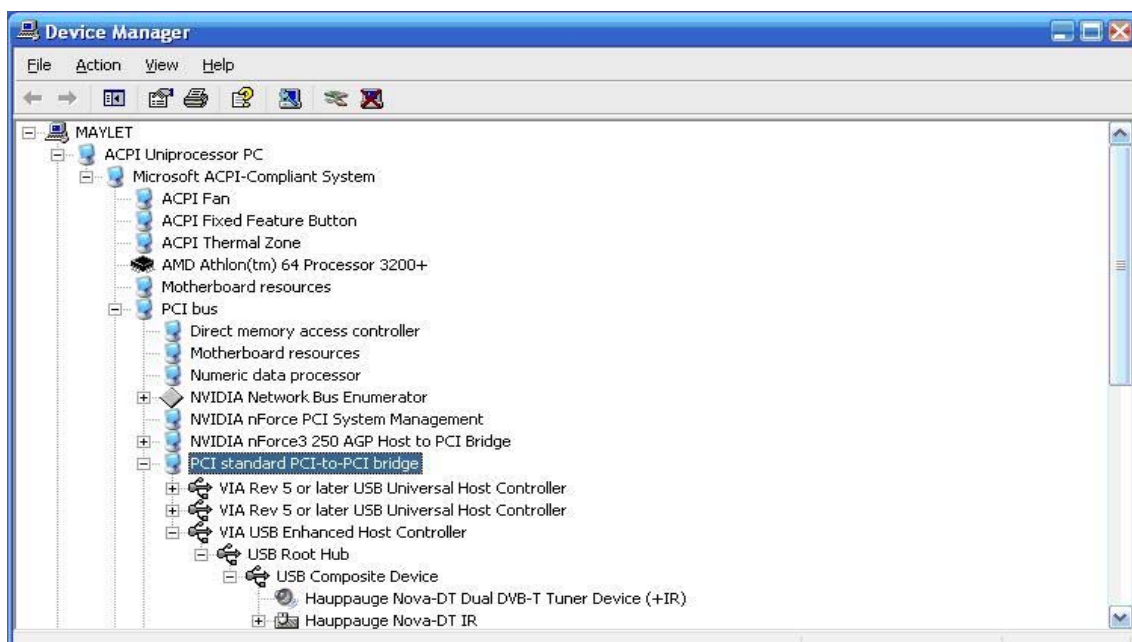
USB 2.0 - Enhanced Host Controller (EHCI)

All USB devices should be under an Enhanced Host Controller. If they are not you will not be able to view any channels.

A6 - Faulty WinTV hardware

One unlikely possibility is that the tuner on the card is physically faulty but this is the least common cause and you should explore all other avenues first.

B1 - Software configuration issue

When the WinTV doesn't start properly, it can appear to work but not find any digital channels. Please refer to thesupport section on the website for installing the latest version of the software.

How-to connect a satellite/cable set top box, VCR or games console
Summary

This article explains how to connect any one of the following to your Hauppauge WinTV card:

- Satellite set top box

- Cable set top box

- Terrestrial set top box

- Video Cassette Recorder

- Games console

Definition of video types
In this article, the "source" is the device used to provide the signal you want to feed into the WinTV card, such as a set top box, games console or VCR. These sources can output in a number of interfaces, which are described below.

RF (coaxial cable)
RF is the type of output that the majority of VHS VCRs will have. An RF modulator inside the VCR modulates the video/sound onto a spare frequency. This is then transferred over regular coaxial cable (the same type of cable used for a TV aerial). RF will only provide mono sound, and the image quality is not as good as with the other methods. It can also be complicated because you need to be aware which channel your source (e.g. VCR) is set to output on.

Composite
Composite is a step up from RF, but it is still not an ideal solution. Luma (brightness) and chroma (color) are put onto the same cable, and these can interfere with each other, leading to poor quality. Composite cables only carry video, and so for audio a separate cable is required.

S-Video
S-Video (sometimes incorrectly referred to as S-VHS) is superior to Composite, and is the best quality available with Hauppauge WinTV cards. S-Video separates the luma and chroma onto separate wires inside the cable. As with Composite, you need to run a separate audio cable.

Video/Audio inputs
Hauppauge WinTV cards can have a number of video inputs, which you need to be familiar with.

Antenna-In
- Used for RF inputs

- Recognizable as: Standard TV coax connector, accepts Belling-Lee plug (Europe)
 F-connector, accepts screw-on plug (US)

- Selected in WinTV as "Tuner"

Composite In
- Used for Composite video sources

- Recognizable as a yellow phono connector

- Selected in WinTV as "Composite" or "Composite-1"

S-Video In
- Used for:

- S-Video on WinTV cards which have a separate Composite connector (see above)

- S-Video or Composite on WinTV cards which don't have a separate Composite connector (see above)

- Recognizable as a black, round DIN connector with several pins

- Selected in WinTV as either: Discrete "S-Video" or "S-Video-1" source
 Combined "Composite" source, and ticking the "S-Video" box
 if using S-Video

Line-In (3.5mm mini-jack)
- Used to provide the audio when using Composite or S-Video

- Recognizable as a standard 3.5mm mini-jack (similar to a headphone jack)

- Retail cards use a 3.5mm mini-jack for line-in

Line-In (2x Phono connectors)
- Used to provide the audio when using Composite or S-Video

- Recognizable as a pair (red and white) of phono connectors

- MCE (OEM) cards use the pair of phono connectors for line-in

Software Configuration

Once the hardware is all setup, all you need to do is configure the S-Video or Composite input as a new "channel" in WinTV.

WinTV HVR Channel Manager

1. Start WinTV
2. Click on MENU
3. elect Suite Manager
4. Click on the Sources tab at the top
5. Select either Composite Source or S-Video Source as appropriate
6. Click Preview to verify you have selected the correct source
7. Click Add
8. Close the WinTV Channel Manager

Media Center Notes

Be aware that Media Center (MCE2005 and Vista MCE) has limitations in setting up TV channels. It is not possible to mix and match source types, in other words you can have it configured for terrestrial TV OR satellite OR cable. Media Center doesn't make any provision for

adding an auxiliary/external source such as a VCR. If you are using MCE2005 it is recommended that you install software such as WinTVin order to use a VCR or games console, outside of the MCE interface.

My external input connected by S-Video is black and white
Symptoms
When you connect an external source such as a games console, VCR or cable/satellite set top box via S-Video, the picture is in black and white.

Cause
- Simple to S-VIDEO adapters (unpowered) do not convert the signal to S-Video at all as they just rewire the pins

Resolution
If you want to get higher quality than Composite, then it will be necessary to use a mains powered RGB to S-Video converter. If it doesn't require power then it isn't a converter - it is just a simple adapter and will not do the job.

Games console slow response
Symptoms
When you connect a games console to the WinTV card, you find that the action on screen responds to button presses slowly - up to 2 seconds after you press a button on the controller.

Cause
The cards above use hardware MPEG encoders, and the encoders are used for live TV too. The MPEG-encoded stream must be decoded before it can be displayed, and this introduces a delay.

Resolution
Enable Live Preview mode.

WinTV PVR-150/500
1. Click on the Windows Start button
2. Click on Run
3. Type Regedit in the box and click OK
4. Browse to HKEY_LOCAL_MACHINE\ SOFTWARE\Hauppauge\hcwTVWnd
5. Set LivePreview to 1

Vista switches to Basic UI when starting WinTV
Symptoms
When you start WinTV on Vista, it switches from the Aero UI to Basic.

Cause
Aero cannot be enabled at the same time as Video Overlay.

Resolution
Set WinTVv6 to use the VMR renderer rather than Overlay:
1. Click on the Windows Start button
2. Go to All Programs, Hauppauge WinTV
3. Open Primary
4. Select Allow VMR

What are the options in WinTV Primary?
Answer
WinTV Primary is a small utility which sets the preferred video renderer using by the WinTV software. It will not change the video renderer for any other software.

There are four main ways to display a video window on the computer screen:

1. Overlay surface
2. Primary surface
3. VMR surface
       VMR7
       VMR9
4. DIB Draw
5 DXVA

Overlay and Primary work by transferring the image directly from the TV Tuner card to the memory of your PC's graphics card via the AGP or PCI-e bus.
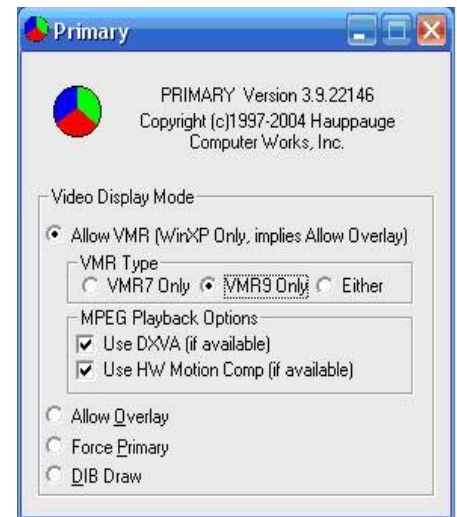
1) Overlay Surface
With an overlay surface, the video signal is transferred into an invisible part of the graphics card's memory. The graphics card will then take care of the image and make sure that it gets transferred to the correct area of the visible memory (i.e. visible screen). This allows certain things to be done in the graphics card hardware, without using up CPU cycles, which equals lower CPU usage overall, and potentially better quality. Most graphics cards have high quality multiple-tap scalers for resizing video, as well as features such as deinterlacing and hardware color space conversion.

Some older graphics cards lack support for video overlay, and as such might not allow an overlay surface to be created. Occasionally, there are cases where the graphics card (or it's driver) tells the software/Windows that it can do an overlay surface but then either does not do so or starts to draw incorrect buttons or destroy other desktop elements.

There are also limitations with regards to overlay such as screen resolution and the number of overlay surfaces. Most graphics cards (even the latest high-end models) only have ONE overlay surface. This means that only ONE application can display ONE video via overlay at any one time. You cannot therefore, have Windows Media Player displaying an AVI file or DVD with overlay, at the same time as WinTV is displaying TV via overlay.

Overlay may also not work on multiple monitors or on a graphics card TV-Out. Where clone mode is used, you may find that the secondary output simply has a black rectangle where the video should be displayed. Please consult your graphics card driver documentation for furt-her information on dealing with overlay and multiple monitors.

2) Primary Surface
With Primary surface (and in contrast to the overlay surface), the video signal is transferred directly into a visible part of the graphics board memory - right where you will see it.

The drawback of a primary surface is that your graphics board has to be set to at least 16-bits per pixel color depth. Primary surface also requires more bandwidth on the PCI bus and we have occasionally seen some graphics boards showing distortions of the video display, espe-cially when using 32 bits per pixel color depth. And finally, a menu or other window covering the primary surface video display may get overwritten under certain circumstances.

Overlay versus Primary
To help you in troubleshooting and deciding which display mode to use, here are some of the limitations of primary and overlay surface. In general, we recommend to use the overlay surface - if your graphics board supports it.

Primary Surface
  Primary surface requires that the graphics board is set to 16, 24 or 32 bits per pixel color depth.
  Primary surface requires a higher bandwidth on the PCI/AGP bus. This may result in flashing lines on the video image, especially at 24 or 32 bits per pixel color depth. Switch back to 16-bits per pixel.
  When using primary surface, both fields of the video will get displayed on the PC screen. This may show as "feathering" and is due to the interlaced nature of the signal.

Overlay Surface

Some graphics boards do not support overlay surface at all. The overlay option will then not be available.

Some graphics boards report that they support overlay surface, but they do not. If you select overlay surface, and your VGA card does not support Overlay, it will default to Primary surface.

Overlay surface mode uses a keying color to indicate where on the screen video is being displayed. Placing a window with this keying color above the video will result in the video showing through.

With an overlay surface, the graphics board participates in manipulating the video before it gets displayed. This may change the brightness or colors of the image. Some graphics boards have tools ("gamma correction" etc.) that permit you to adjust this.

Main differences

The difference between Primary Surface and Overlay Surface is that Overlay Surface requires special hardware on the graphics card. You need a graphics card with one of these processors along with drivers that support DirectDraw and DirectX in order to take advantage of the Overlay Surface feature. Cards with Overlay Surface have an additional video buffer called an Overlay buffer in addition to the Primary video buffer.

If you use a graphics card that does not have this support, you can use Primary Surface type of Overlay. Primary Surface still requires Direct Draw and Direct X support, but the overlay will be processed in the primary video buffer since the card does not have an Overlay buffer.

The other issues are related to performance due to the fact that Overlay Surface has it's own Overlay buffer and Primary Surface does not. If you move a window while using Primary Surface the entire computer screen will refresh as the window is moved. This does not cause any functional problems but to some users the refreshing of the screen may be annoying. The other issue is that Primary Overlay may not work at the higher screen resolutions and color depths that your graphics card may allow.

3) VMR

VMR (Video Mixing Renderer) was initially introduced on Windows XP as VMR7 but as of DirectX 9 it has been available for Windows 2000 too. The two main forms of VMR are VMR7 and VMR9, which use DirectX7 and DirectX9 (and later) hardware respectively. The use of VMR requires support in the graphics card driver, which will then either allow the use of hardware accelerated features (e.g. when using VMR9 on a DX9-class graphics card) or by partial hardware acceleration and partial software emulation (e.g. when using VMR9 on a DX8-class graphics card with DX9-compatible drivers).

Generally, VMR (7) shouldn't be used on anything older than a GeForce2-era card, and VMR9 shouldn't be used on anything older than an nVidia GeForce FX or Radeon 9xxx card. If you do attempt to use them on older hardware, then one of two things may happen:

1. You will get no video at all (and WinTV will fail to function correctly)
2. You will get poor performance such as slow refresh of the screen, jerkiness or generally poor quality (blocky etc.)

All VMR renderers make use of the graphics card's 3D engine to render the video, and so video performance with VMR is dependent upon the 3D gaming performance of the card. In addition to displaying the video on a 3D surface, additional processes are done via the graphics card hardware including high-quality scaling, deinterlacing and color control. The quality and availability of these again depends upon the graphics card in use.

4) DIB Draw

DIB Draw is a fallback method of displaying video in case of lack of overlay, primary surface and DirectX support. DIB Draw does not make use of any hardware acceleration at all, and uses the system CPU to render frames and draw them directly to an area of the screen. Without any assistance from the graphics card this method is extremely slow and should only be used for testing. Additionally you cannot use DIB Draw on cards which make use of software MPEG2 decoders such as the PVR, HVR and Nova range of cards, since these

If you do have to use DIB Draw, then you have something seriously wrong with the setup of your system. Some of the possibilities are:

- You don't have graphics card drivers installed, and you are instead using the default fail-safe VGA mode driver

- You don't have DirectX installed, or your DirectX installation is damaged

- You do have graphics card drivers installed, but they are out of date, or incorrectly installed

- You have a hardware conflict between the graphics card and another component

- Your graphics card has some faulty memory, which only becomes apparent when using overlay/VMR

- Your graphics card has a faulty GPU, which only becomes apparent when utilizing certain hardware acceleration features

- You have graphics card hardware acceleration turned all of the way down

5) DXVA

DXVA (DirectX Video Acceleration) is a standardized way of allowing software to make use of hardware MPEG2 video acceleration/decoding on a graphics card. For example, as most graphics cards on the market today can do hardware motion compensation, hardware iDCT and hardware adaptive deinterlacing, DXVA provides a way for the MPEG decoder software to offload these aspects of decoding, from the main CPU, to the graphics card. The result of this is lower CPU usage when viewing MPEG2 content (such as DVDs or streams from digital TV or PVR TV cards), as well as potentially higher visual quality from more refined and powerful deinterlacing methods.

In WinTV Primary, the Use DXVA box determines whether a DXVA connection will be attempted. DXVA can be used for VMR and Overlay renderers. If DXVA is not supported, no harm will come from ticking this box. However, be aware of older graphics cards such as the nVidia TNT2, since their drivers report that DXVA is supported, when it isn't, and this can result in some serious video display issues. As a rule of thumb, DXVA can usually be enabled on GeForce 4MX and Radeon 9200 and higher graphics cards.

TV becomes jumpy while recording

Symptoms
When viewing TV live, there is no problem, but while recording, there are problems such as stuttering, pausing and jumping.

Cause
The two main causes of this are:

1. Hard drive controllers that are PCI based
Some SATA and RAID controllers integrated onto motherboards, are PCI-based (this can be the case even if they are not in a physical PCI slot). There is a finite amount of band width on the PCI bus (<133MB/s) and additionally there is something called latency to deal with (in simple terms it affects how long a particular device can demand the attention of the CPU). You can test whether a SATA device is causing the problem by viewing live TV (not recording) and then doing a disk defrag from the affected drive. If this is the problem then you will likely find that running defrag causes the same stuttering problems on live TV as you normally see with recorded TV.

2. Anti-virus software scanning the recorded file as it's being written
Most anti-virus software will scan MPG files for viruses on both read and write to the disk drive. While recording, you are doing a disk write. Some antivirus software will attempt to scan the file for viruses as it's being written by the recording thread of WinTV2000, and may also attempt to scan for viruses as it's being read for the viewing thread of WinTV2000. This can be CPU intensive and also cause delays to the reading/writing.

Resolution
1. Hard drive controllers
The only solution to this is to record to a hard drive that is located on a controller connected directly to the motherboard's south-bridge. This problem will affect any PCI card from any manufacturer. The other option would be to use a USB-based device instead. Please see below for a list of common motherboards with PCI-based SATA controllers.

2. Antivirus software
Set the recording directory/folder (by default, C:\MyVideos) to the on-access/real-time scanner's exclusion list. This will prevent the recordings from being scanned for viruses without compromising the security of your system, as would be the case with completely disabling the anti-virus software.

Problems with the IR remote control

Symptoms
The infra-red remote control doesn't work correctly or intermittently.

Cause
See resolution section below.

Resolution
On some system cases, the IR connector may be too close to the edge, and cause the IR plug to either not make adequate contact, or fall out of the input. Be sure that the IR plug is connected firmly to the WinTV board, and try holding the connector in, while using the remote to be sure good contact is being made.

Be sure that the batteries are installed in the remote properly, and that the batteries are fresh.

Re-install the Remote software by double clicking the IR32.EXE file located on your WinTV CD rom (in the IR32 folder).

Go to start/programs/Hauppauge WinTV/Restart IR. Clicking "Restart IR" will reinitialize the remote software. It is placed in the Startup Group and will initialize after each reboot, in the event that it was turned off.

Windows and NT 4.0 may experience some issues with the Remote working properly. If you are having issues with the remote working in these OS', simply copy the WinTV shortcuts (from the desktop) to the Windows start menu, and reboot the system.

"No Tuner Avilable" message when starting Live TV in MCE / Vista

Symptoms
When you attempt to view Live TV in Media Center, the following message appears:
"No Tuner Available"

Cause
This message can appear if:
1. You don't have a TV tuner card installed
2. You have installed non-MCE drivers for the TV card
3. The TV card is not functioning
4. The Media Center services are not running
5. Wrong MCE file versions are installed

Resolution
- You don't have a TV tuner card installed
- You have installed non-MCE drivers for the TV card
- You will not be able to use Live TV in Media Center unless you have installed an MCE-compatible TV card. To check whether your TV card is compatible with MCE, please see the links in See Also at the bottom of this page.

The TV card is not functioning
This may be caused by hardware compatibility issues (e.g. BIOS settings) or incorrectly installing the drivers. Please consult the See Also links at the bottom of this page for troubleshooting these problems.

The Media Center services are not running
The Media Center Receiver service is essential for Live TV to be functioning in Media Center. If you believe that you have disabled this service, please re-enable it as follows:
1. Click on the Windows Start button
2. Go to Control Panel
3. Go to Performance and Maintenance
4. Go to Administrative Tools
5. Launch Services
6. Find Media Center Receiver Service in the list and check that it's current status is "Started". The Startup Type should be "Automatic".

Hauppauge Warranty Information

Warranty

Hauppauge Computer Works, Inc. warrants the WinTV board to be free from defects in material and workmanship for a period of 2 years from date of initial retail purchase. We will, at our option, repair or replace a defective product. The limited warranty does not cover any losses or damage that occur as a result of:

- Improper installation

- Misuse or neglect or operation with faulty equipment

- Repair or modification by anyone other than Hauppauge Computer Works or an authorized repair agent

Please complete and return the Warranty Registration Form inserted in this manual. To obtain service under this warranty, contact Hauppauge Computer Ltd