Win/TV-Cinema Pro
Win/TV-Celebrity
Win/TV-HighQ

Installation and Reference Manual

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FCC Statement

Radio Interference Statement:

The Win/TV 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: H90WINTVPLUS MADE IN USA

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.

CE

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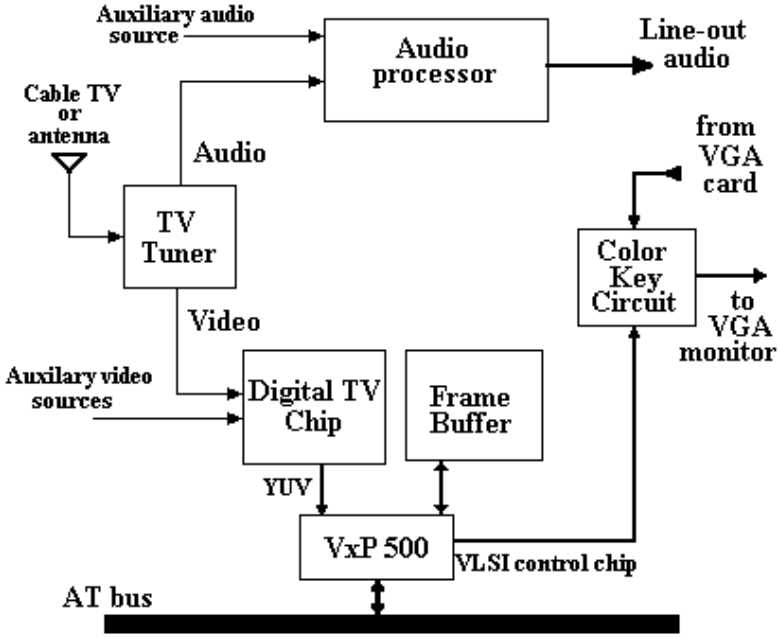
Installing the Win/TV-Celebrity and HighQ

How the Win/TV-Celebrity and HighQ work

The Win/TV-Celebrity and HighQ boards are digital video boards that allows "live video" to be displayed on your PC VGA monitor. The ability to see live video is based on a video mixing technique called color keying, a technique that is used in many every-day television applications such as the weatherman's map on the news and graphics and titles you see on football game broadcasts.

The Win/TV-Celebrity and HighQ use this color keying technique to mix a video signal created by your VGA card with the video signal coming from the selected video source, such as cable TV or a video tape recorder. The following block diagram shows the different functions on the Win/TV-Celebrity and HighQ boards:



In this diagram, the selected video source is digitized by the Digital TV Chip Set.

The digitized video is stored frame by frame in the FrameBuffer RAM, 30 times per second, by the VxP500.

When your Windows application resizes the Win/TV-Celebrity and HighQ window, the VxP500 VLSI Control Chip will scale your TV picture to fit inside the window. This scaling is done by either dropping pixels in a horizontal direction and dropping lines in a vertical direction, or by averaging pixels horizontally and interpolating video lines vertically. The factory default is to drop pixels and lines, but the averaging can be turned on in the Win/TV menu **Options/Vertical Interpolation**. If vertical interpolation is turned on, when the image is either shrunk or zoomed an "averaged" video picture is displayed.

Television is broadcast in a color format called YUV. YUV must be converted into the RGB signal used by VGA cards. The video images are stored in the FrameBuffer in a YUV format, but for display, the conversion from YUV to RGB is done by the VLSI Control Chip. Once the video signal has been converted into RGB, the Color Key circuit then combines this with the output from your VGA card, putting the live video image in a window. A complete VGA compatible video signal is then sent to your VGA monitor!

If the TUNER has been selected as the video source, the tuner will also receive the audio and send this to the Audio Processor. The Audio Processor adjusts the volume of the signal and then sends it to the external audio jacks.

How images are saved

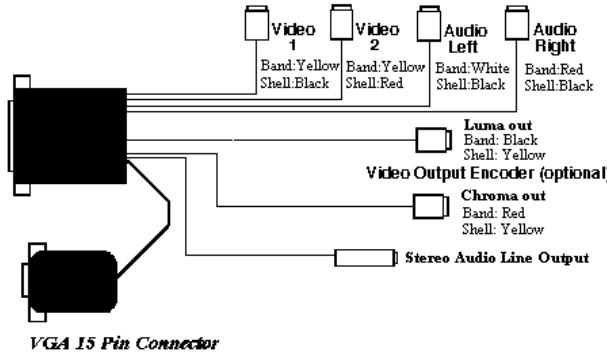
The Win/TV receives digitized video in a format called YUV, where in each pixel, black/white information is separated from the color or chrominance information. This compares to RGB formats, where for each pixel a Red, Green and Blue color value is stored.

The Win/TV-Celebrity and HighQ can "capture" the digitized image and save this image onto your PC's hard disk. When the Win/TV user clicks on freeze (the camera icon), the Win/TV application sends a command to the VLSI control chip, telling the VxP500 to stop storing new video frames into the FrameBuffer. The video image on the screen now appears frozen. When the user clicks on **File/SaveAs**, the Win/TV application reads the data from the FrameBuffer, converts from YUV to one of the popular RGB file formats such as BMP or TIFF, and then saves the video image to disk..

Win/TV-Celebrity & HighQ Technical Overview

The Hauppauge Win/TV-Celebrity and HighQ boards intercept the VGA signal coming from the VGA card in your PC on its way to the VGA monitor. The Celebrity and HighQ boards then merge the video signal from your source into a window created by the Win/TV Windows application software. The Win/TV boards, under the control of the Win/TV application, will shrink or expand the video picture to fit inside the Win/TV window. All the processing of the image takes place on the Win/TV board, and does not affect the performance of your PC. After merging the video signal into the window, the Win/TV-Celebrity or HighQ board then creates a new VGA signal and sends this signal to the VGA monitor.

To make this process work, the Celebrity and HighQ require one cable connection to the VGA card in your PC. The **VGA Loop and Audio/Video Input Cable**, referred to in this manual as the VGA Loop Cable, is a set of cables that: (1) connects the Win/TV card to the the VGA card, (2) provides audio output to a speaker or sound card, (3) provides video & audio input from a video source such as a video taperecoder or camcorder, and (4) optionally provides video output capabilities (with the optional Video Output Encoder module).

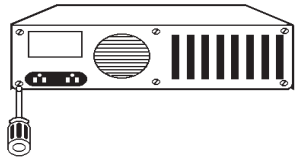


If S-Video is selected as your video source, the luminance signal is brought to the Win/TV board on Auxiliary Video Input 1, while the chrominance (the color signal) is brought to the Win/TV on Auxiliary Video Input 2.

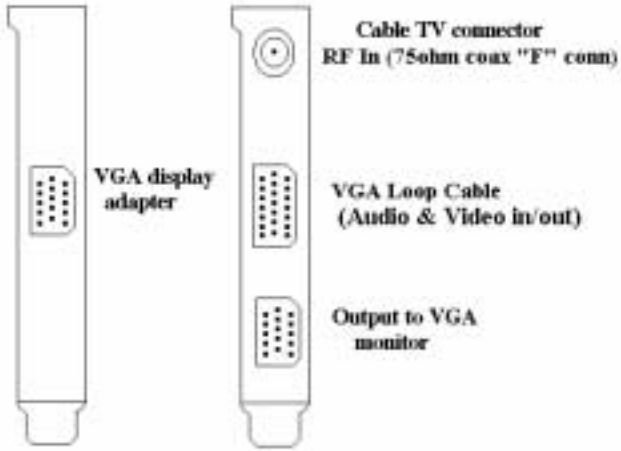
Installing Celebrity and HighQ boards

Before installing the Win/TV-Celebrity or HighQ board, turn off the power to

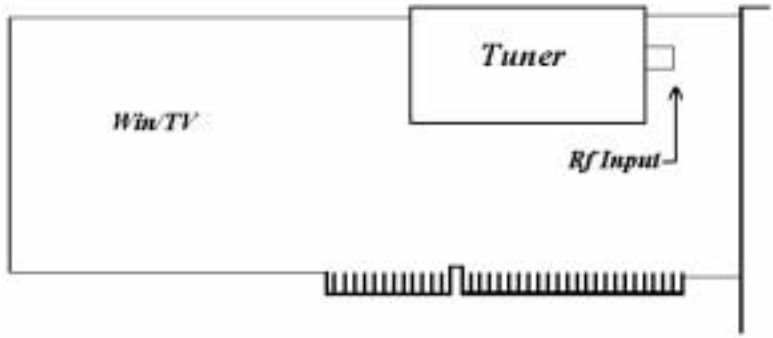
your PC and remove the cover. Since the Win/TV card is sensitive to static electricity, we recommend that before you remove the Win/TV card from its protective anti-static bag, you touch the chassis with your hand to discharge any static electricity.



To connect the Celebrity or HighQ in your PC, we recommend that the Win/TV card be placed in the slot next to the VGA card. The VGA card can be recognized by the cable that goes to your VGA monitor.



The VGA Loop Cable has a VGA-style connector (15 pin D-type) at one end and a 26 pin D-type connector at the other end. The 26 pin D-type connector is plugged into the matching connector on the Win/TV card (second position from top of Win/TV). The 15 pin D-type connector is plugged into the VGA card output.



On the back panel of the Win/TV card there are three more connections that need to be made: the cable TV input (or TV antenna / RF input), sound output and the VGA monitor output connector .

The cable TV coax cable is plugged into the top-most connector on the backpanel of the Win/TV card. The connector supplied will take a 75 ohm F-type coax connector.

The Audio output uses an 1/8 inch stereo jack to output sound to a sound card or amplified speakers. A short adapter cable is supplied (male 1/8" connectors on each end) for connecting to the Line Input of most sound cards.

The VGA monitor is plugged into the bottom most connector (also a VGA style connector).Once these connections are made, you are ready to turn on your PC and load the Win/TV application!

WARNING: The Audio out connector provided with your WIN/TV board is stereo. DO NOT use a monaural plug. The use of a monaural plug could cause damage to your Win/TV board. A Stereo-to-Mono splitter, such as a Radio Shack Cat.#274-375, can be used to adapt the 1/8" stereo jack to fit two 1/8" monaural plugs.

Connecting to a VCR or camcorder

Most VCR's or camcorders have female RCA style push-on connectors labeled "Video Out" and "Audio Out". To connect these jacks to the Win/TV, use shielded video cables with male connectors on both ends, and connect from the "Video Output" jack on your VCR or camcorder to one of the two Aux video inputs on the VGA Loop Cable and from the "Audio Output" jack on the VCR or camcorder to the Auxiliary Audio input on the VGA Loop Cable.

Connecting Win/TV to a sound card

The Win/TV's audio output can be connected to a sound card. Use the supplied male-to-male 1/8" minijack cable, plugging one end into the Win/TV Audio Output jack and the other end into the sound card's **Line Input** jack. Most sound cards, such as the Sound Blaster and Pro Audio Spectrum cards, use 1/8" mini-jacks for the Line Input.

Once the connection is made, adjust the Line Input sound volume in the sound card's **Mixer** program. The Mixer program is normally installed from the sound card installation program, and allows the control of volume from the various sound sources. If you cannot hear sound when running Win/TV, raise the Line Input level in the mixer program and in the Win/TV application.

S-Video Cable Installation (standard on HighQ, optional on Celebrity models)

The S-Video cable will connect between the S-Video output on a high end VCR or camcorder and the two Aux video inputs of the Win/TV board. S-Video is different from the video output provided on most VCRs (called composite video) in that in S-Video, the black/white information and the color information is sent to the Win/TV over two separate cables. With composite video, the black/while information is sent along with the color information on one cable. Composite video quality is lower than S-Video because of the extra steps in combining and then separating the black/white and color information

1) Locate the round 4 pin connector on the S-Video cable and plug it into the S-Video output jack on the camcorder or VCR. Consult the reference manual of your unit if necessary. Please note: Most VCR's and camcorders do not support an S-Video output. Please consult your users manual if you believe your VCR or camcorder should have an S-Video connector and you cannot find it.

2) The remaining two RCA-type phono plugs on the S-Video cable will connect to the VGA Loop Cable. One is for black/white and one is for color. Connect the S-Video Cable jack labeled "1" to the "video input 1" jack on the VGA Loop Cable, and connect the jack labeled "2" to the "video input 2" jack also on the A/V Loop Cable. Please refer to the Auxiliary Video Input connector section under the Jumpers and Connectors chapter for further information.

3) If you need to extend the length of the S-Video connector, you can either use a pair of shielded RCA cables (male on one end, female on the other), or a shielded S-Video extension cable.

Installing the Win/TV-CinemaPro

The Win/TV-CinemaPro is a Plug-and-Play device designed for Windows95. Plug-and-Play (also referred to as **PnP**) is a feature which simplifies the installation and hardware setup of the CinemaPro. This chapter describes how to install the CinemaPro and how the automated Plug-and-Play process works.

Quick hardware installation

1. Turn off your PC and plug the CinemaPro into a spare 16-bit slot in your PC. Connect the **Loop cable** to the CinemaPro, VGA card and the VGA monitor. If needed, refer to the Loop cable diagram on page 2-4.
2. Turn on your PC. If your PC supports Plug-and-Play, after Windows95 is booted a message will appear stating that a new Plug-and-Play device has been found:

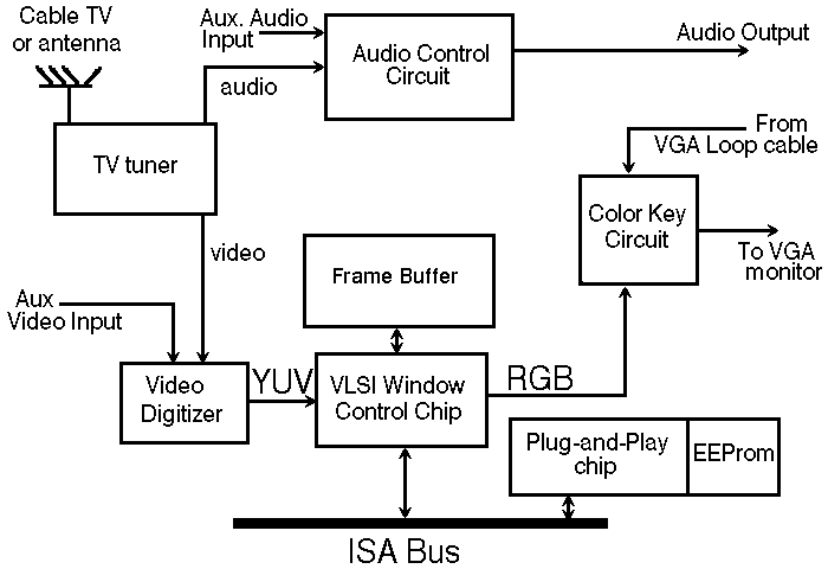
3. Put the **CinemaPro Application diskette 1** in your floppy drive and click **OK**. Windows95 will automatically assign an I/O address and a memory base (needed for video image and clip capture).
4. Now run Setup from the Win/TV Application diskette (Chapter 3).

How the Win/TV-CinemaPro Works

To display live video on your PC monitor, the Win/TV-CinemaPro hardware uses a video mixing technique called “color keying”. This technique is used in many everyday television applications such as the weatherman’s map on the new broad-

casts and the graphics overlays you see on football game broadcasts.

Win/TV-CinemaPro uses this color keying technique to mix a video signal created by your VGA card with the video signal supplied by the TV tuner or the external video source. The following block diagram shows the different functions on the Win/TV board to explain how the video and audio outputs are created:



In this diagram, the selected video source is turned into digital form by the Video Digitizer, and is stored frame by frame in the Frame Buffer RAM. When the Win/TV application re-sizes the TV window, the VLSI Control Chip "shrinks" or "scales" your TV picture to fit inside the window. This scaling is done by dropping and filtering pixels horizontally (on each line) and interpolating video lines vertically. The scaled video image is stored in the Frame Buffer, a process that takes place 30 times per second (25 times per second with PAL video sources)

Television (whether it comes from cable TV or from a VCR or video camera) is broadcast using a color "code" called YUV, which must be converted into the RGB (Red/Green/Blue) signals used by VGA cards. The conversion from YUV to RGB is done by the VLSI Control Chip. The RGB video image is then stored in the Frame Buffer.

Once the television signal has been converted into RGB and stored in the Frame Buffer, the VLSI Control Chip then sends the video image to the Color Key circuit. The Color Key circuit combines the scaled video image with the output from

your VGA card. A complete VGA compatible video signal is then sent to your VGA monitor!

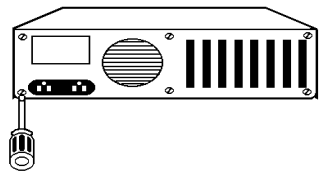
If the TUNER has been selected as the video source, the tuner will "extract" the audio and send this to the Audio Processor. The Audio Processor adjusts the volume of the signal and then sends it to the external audio jack.

The CinemaPro has a Plug-and-Play chip which stores in its EEProm (electrically erasable/programmable read only memory) factory information on the board, such as its serial number, manufacture date and the type of tuner (if any) installed. This PnP chip also provides information which is needed by Windows 95 to decide which resources are used by the CinemaPro.

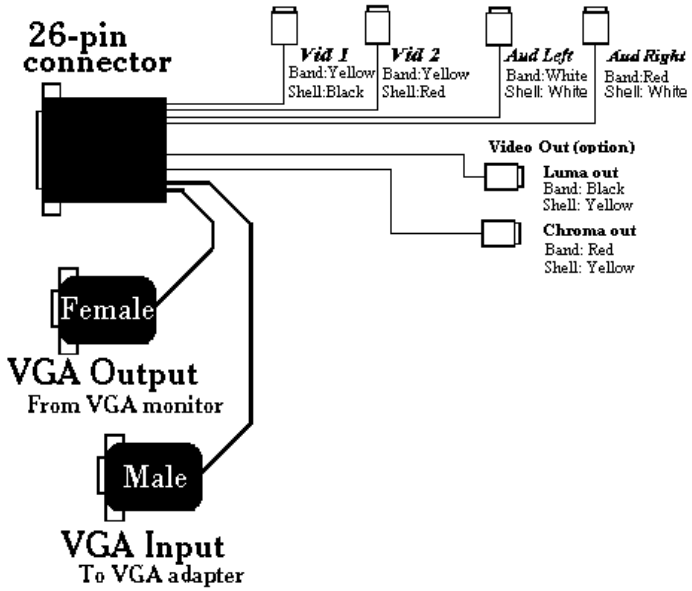
Installing the Win/TV-CinemaPro board

The CinemaPro card comes with two cables: the **Loop cable** and the **Audio cable.** The **Loop cable** is a connection external to your PC which connects the CinemaPro card to the VGA card and to the VGA monitor. This cable also contains the RCA connectors for the auxiliary video and audio inputs: The **Audio cable** is used for optionally connecting the Win/TV card to a sound card. Keep the Loop cable handy for use in this section.

1. Before installing the CinemaPro card, turn off the power to your PC and remove the cover. Since the CinemaPro card is sensitive to static electricity, we recommend that before you remove the CinemaPro card from its protective anti-static bag, you touch the chassis with your hand to discharge any static electricity.



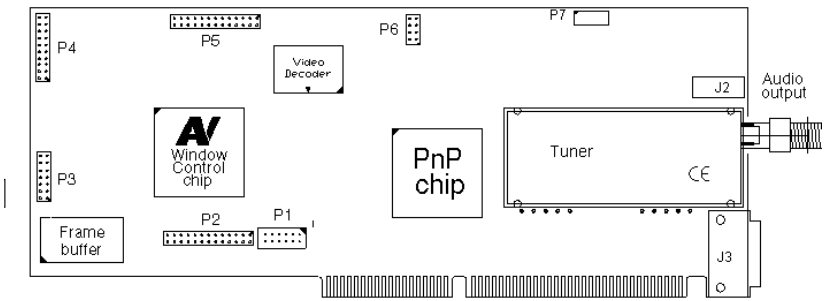
2. Once the cover is removed, plug the CinemaPro into any free 16-bit I/O slot. **The CinemaPro cannot be plugged into a PCI slot!**
3. Now you can connect the VGA cables to the CinemaPro.The following diagram shows the **Loop cable**, which has all of the video connections:



3a. The **Loop cable** has a 26 pin connector at the end. Plug this connector into the mating connector on the CinemaPro board (J3).

3b. Remove the VGA monitor cable from the VGA adapter card and plug it into the Loop cable's female **VGA Output**. Two screws are provided so that this connection cannot pull apart.

3c. Plug the Loop cable's male **VGA Input** into the VGA adapter card. Screw the VGA Input connector into the VGA adapter.



4. If your CinemaPro has a built-in TV tuner, your cable TV is plugged into the **RF Tuner Input** on the backpanel of the CinemaPro board. The connector supplied will accept a standard 75 ohm F-type coax connector.

5. The Audio output connector (J2) has an 1/8 inch mono jack to output sound amplified speakers or a sound card. The male to male **Audio cable** supplied will connect from the CinemaPro to the Line Input on a sound card.

6. Turn on your PC. If your PC supports Plug-and-Play, after Windows95 is booted a message will appear stating that a new Plug-and-Play device has been found:

   Put the **CinemaPro Application diskette 1** in your floppy drive and click **OK**. Windows95 will automatically assign an I/O address and a memory base (needed for video image and clip capture).

7. Now run Setup from the Win/TV Application diskette (see Chapter 3).

Connecting the CinemaPro to a VCR, video camera or camcorder

Most VCR's or camcorders have female RCA style push-on connectors labeled "Video Out" and "Audio Out". Most video cameras simply have one output connection labeled "Video Out". To connect these audio/video jacks to the Win/TV-CinemaPro, use shielded video cables with male connectors on both ends, and connect from the "Video Out" jack on your video camera, VCR or camcorder to the **Auxiliary Video input** on the Audio/Video Input Cable (connected to J4 on the back panel bracket) and from the "Audio Output" jack on the VCR or camcorder to the **Auxiliary Audio input** on the Audio/Video Input Cable.

Connecting Win/TV to a sound card

The Win/TV's audio output can be connected to a sound card. Use the supplied **Audio output** male-to-male 1/8" minijack cable, plugging one end into the Win/TV audio output jack and the other end into the sound card's **Line Input**

jack. Most sound cards, such as the Sound Blaster, use 1/8" minijacks for the Line Input. If your sound card uses another type of connector, then you might need an adapter. Radio Shack, and other electronic stores, carry many different types of audio adapters. If you have any questions, contact one of our technical support offices.

Once the connection is made, the sound card's **Mixer** program is used to adjust the LineInput sound volume. The Mixer program is normally installed with Windows 95 or from the sound card installation program, and allows the control of volume from the various sound sources. If you cannot hear sound when running Win/TV, raise the Line Input level in the mixer program and in the Win/TV application.

Checking the Plug-and-Play Setup

After the CinemaPro has been installed, you can find out what I/O port and interrupt that has been assigned by Windows95 Plug-and-Play by looking at its configuration in the Control Panel. You can also change the interrupt which has been assigned.

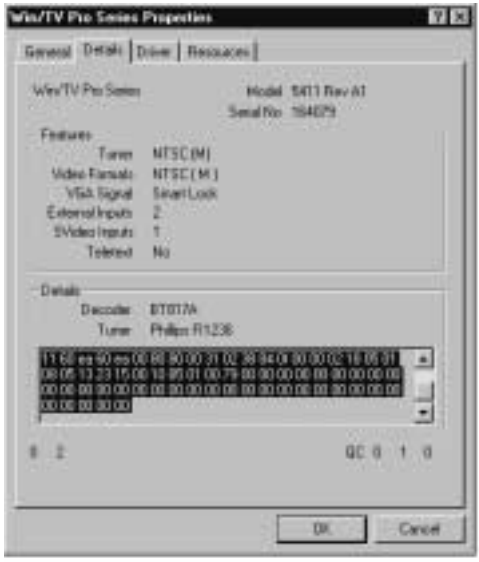
Open up the Control Panel by clicking on **Start/Settings/ControlPanel**. Now open up the **System Properties** setup by double clicking on its icon, then click on the Device Manager folder:

Then select Sound, video and game controllers, then click on Win/TV Pro Series and then Properties:

Click on Resources to see which resources Windows95 has assigned to the CinemaPro:

There are also some specifications which are programmed into the CinemaPro during its production, such as its serial number and tuner type. To see these parame-

ters, click on Details:



Installing the Win/TV Application Software Under Windows

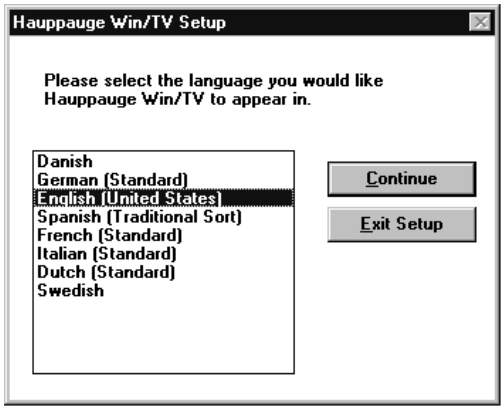
The installation of the **Win/TV Application** software is the same for the Win/TV-Celebrity, HighQ and CinemaPro. Before proceeding with the installation of your Win/TV Application, please make sure your Win/TV card is installed!

Please note the following: You can NOT install the Win/TV software onto a floppy disk!

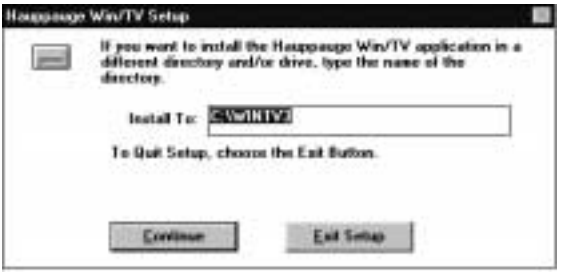
Automatic installation of the Win/TV application

1. Boot Windows
2. Select **File/ Run** under Windows 3.1 or **Start/Run** under Windows95

   Put the Win/TV Application diskette 1 in your floppy disk drive and type A:SETUP.EXE or B:SETUP.EXE (depending upon which drive your disk is in). Hit the Enter key or click on the OK button
3. Select the language you wish to use by clicking on it with your mouse. Then click on the Continue button.



4. After the language window, the next window to appear will prompt you for a location to install the software. Type in the Hard Drive and Directory on which you want the Win/TV Application software to be installed.



Click on the CONTINUE Button to start the installation. If you are using a keyboard, hit TAB until the CONTINUE button is selected, then hit the Enter Key.

5. Select the tuner type (not necessary with the CinemaPro since the Plug-and-Play chip knows what tuner type is installaed):

Win/TV for use in North America, Japan or Taiwan (NTSC). Or in South America (PAL-N or PAL-M).

Win/TV for use in Central and West Europe, Africa or Australia (PAL B/G).

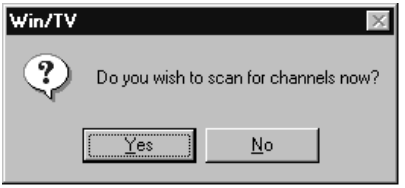
Win/TV for use in the United Kingdom (PAL I) and South Africa.

6. If you have the Teletext option, click on YES to install it. Please note that your television broadcaster must support the transmission of teletext data in order to receive and display teletext:

7. Select the YES button for automatic installation of the Video for Windows driver. If you are not using Video For Windows, select the NO button (unnecessary system resources are used when installing the driver when not using Video For Windows software). For an overview of what you can do with Video for Windows, see chapter 8 “Capturing live video with Video for Windows”.

8. The last driver which can be loaded is the Win/TV MCI overlay driver. This driver allows the Win/TV to be controlled from other multimedia applications such as Macromedia Authorware, Optibase MPEG Player and Gold Disk's VideoDirector and Astound, plus any other program which uses an MCI compatible video overlay device.

9. If you are using the CinemaPro, you will be asked if you would like to automatically scan for TV channels now. If not, you can scan for channels anytime later on in the Win/TV Application.



10. When the installation is completed, the message below will appear thanking you for purchasing Win/TV and announcing the installation complete. The SETUP program will create a Win/TV Group and a Win/TV icon.

To run the Win/TV program, simply double click on the Win/TV icon. This completes the automatic setup procedure!

Manual installation of the Win/TV application

If for some reason you need to install the Win/TV Application Software manually, you may do so as follows:

1. Create a directory for the Win/TV Application Software. Call this directory WINTV3 and copy the WINTV3.EX_ (copy files to hard drive before expanding) file into it. The file extension EX_ is a compressed file and must be decompressed by using the expand utility from DOS.

Example:

EXPAND WINTV3.EX_ WINTV3.EXE

then DELETE WINTV3.EX_

2. Change Directory to your \WINDOWS directory and copy US.IN_(copy UK.IN_ or WEurope.IN_ depending on the Win/TV board your are using) & WINTVSTR.IN_ from the distribution disk to this current directory.

Expand US.IN_ AVWIN.INI

Expand WINTVSTR.IN_ WINTVSTR.INI

Copy Wintvstr.INI from either the DEU (if using German language) or ENU (for English language support) or sub directories to the c:\Windows directory.

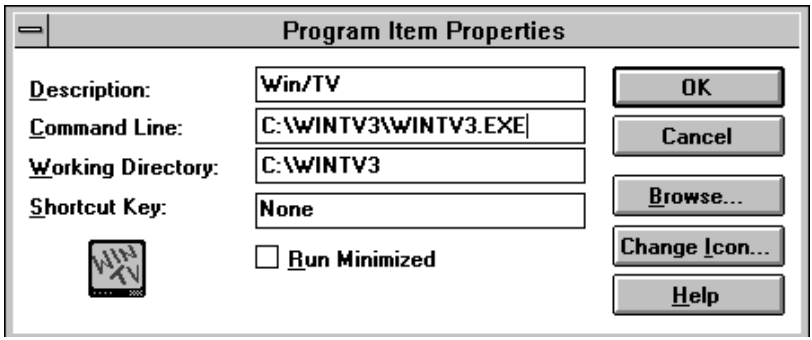
3. Change Directory to your \WINDOWS\SYSTEM directory and copy the following files from the distribution disk to this current directory:

PCVIDEO.DL_ , WINTVACC.DL_, VBRUN200.DLL, CMDIALOG.VB_ , SPIN.VB_ ,THREED.VBX, MSGBLAST.VB_
EXPAND PCVIDEO.DL_ PCVIDEO.DLL
EXPAND WINTVACC.DL_ WINTVACC.DLL
EXPAND CMDIALOG.VB_ CMDIALOG.VBX
EXPAND SPIN.VB_ SPIN.VBX
EXPAND THREED.VB_ THREED.VBX
EXPAND MSGBLAST.VB_ MSGBLAST.VBX

Then delete the compressed files with the following extensions VB_ and DL_.

4. Once the software has been installed, create the Win/TV icon from the Windows Program Manager. Move to the Windows Group where you would like the Win/TV icon to be (usually placed in the Applications Group, but any group is o.k.). Now click on File, New (or Alt-F, N from the key-board), and select New Program Item.

Windows will now ask you to type in the following (use either the tab key or your mouse to move around):



Click on OK and the Win/TV icon will be displayed in the Group selected. The Win/TV application has now been installed and is ready to be run!

Running Win/TV for the first time

Before using Win/TV, use the following procedure to setup Win/TV and make sure all of the connections have been correctly made and the software has been properly installed.

Note: Win/TV requires only a free I/O port for the basic TV and video overlay operation. This chapter sets up the basic operations, requiring only the I/O port, so you should have few problems running through the procedures in this chapter.

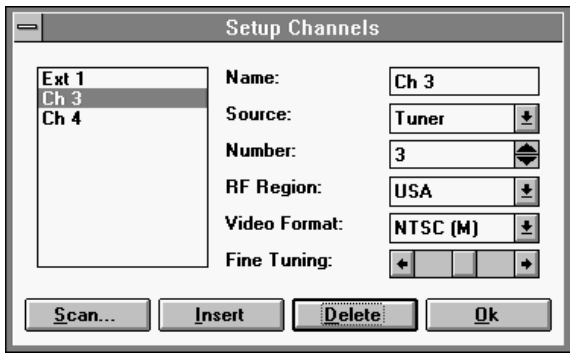
To capture video images to disk, a free memory segment is also required (see **Memory Base** in Chapter 5). To capture video clips, a free interrupt is needed (see **Interrupt Level** in Chapter 5). Both of these are manually set with the Win/TV-Celebrity and HighQ, and are automatically set with the CinamePro.

1. Confirm Windows is running in 640x480, 256 color mode (this is the default setting).

2. Run Win/TV by double clicking on the Win/TV icon.

3. Look for a black box or television "snow" in the middle of the Win/TV window. If the screen is magenta, please see the chapter entitled "Troubleshooting."

4. If your Win/TV board has a built-in TV tuner, you can now set your TV channels. Do this by selecting **Configure/Channels**.

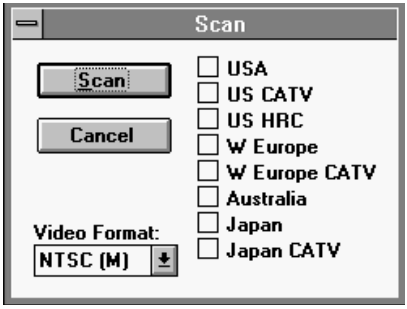


Make sure the RF Region is set for your Win/TV board type:

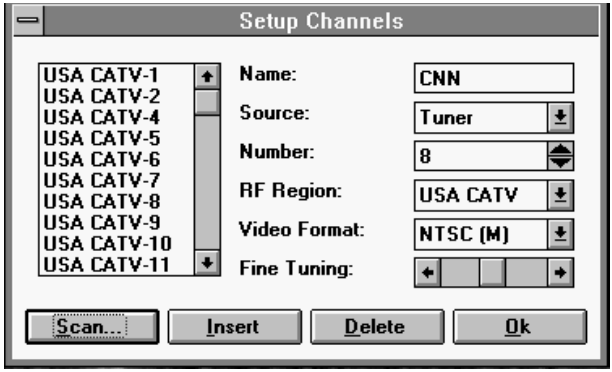
NTSC for use in the U.S. or Japan.
PAL BGHI for use in Central and West Europe, U.K., Africa or Australia
PAL-M or PAL-N for use in South America
SECAM for use in France.

Insert will allow you to add a channel to the selection.

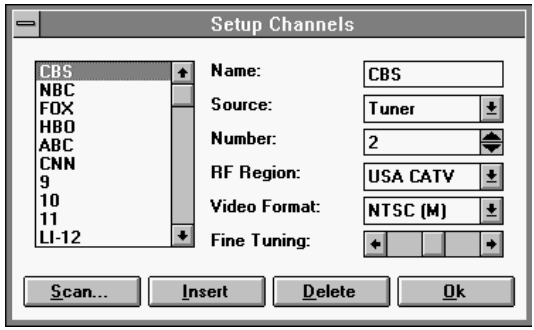
To automatically insert all active TV channels in your area, click **Scan**. The **Scan** button will automatically scan the entire cable or broadcast spectrum and search for active channels. Before clicking on the Scan button select the region you will be using by clicking on the box or name of the region (an "X" should appear indicating the region has been selected - multiple regions can be selected). Select the Video Format associated with your region.



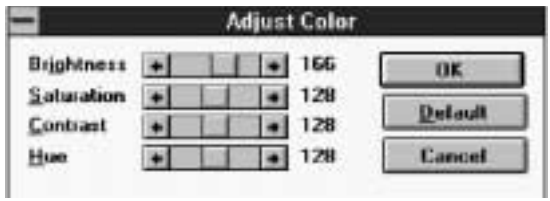
The result of the automatic scan might look like:



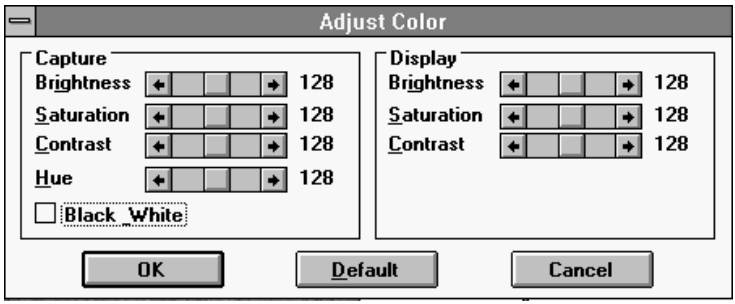
After a channel has been selected click on the Name box and type the name you would like associated with this channel:



5. Click on **Configure/Color** to set the color of the viewed image. If you do not have a TV tuner on the Win/TV board, we recommend connecting a video source to the Win/TV board (camcorder, VCR, video camera, etc.) You can change the Brightness, Saturation, Contrast & Hue. If you are unhappy with these settings, simply click on Default to get the factory defined settings.



The Win/TV-Celebrity and HighQ have an additional set of color adjustments for the front end video digitizer. These controls will allow the setting of the saved image in addition to the displayed image. The black/white switch can be set for higher quality saved images when using black/white video cameras.

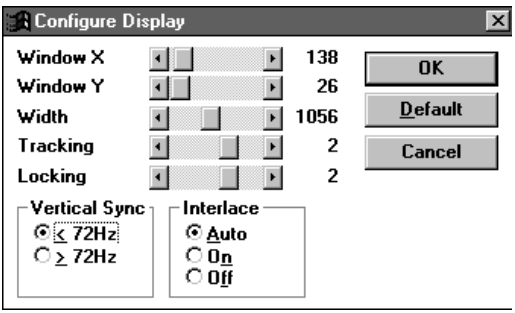


6. At this point with the Celebrity and HighQ, we recommend that you check the Memory Buffer address. Click on **File/Open** and select **WINTV.BMP**. A small picture of a woman in sunglasses should appear. If not, please refer to Chapter 5 "Configure Memory Base" or Chapter 7 "Error Reading Video Buffer" to reconfigure the Memory Base. On the CinemaPro, the Plug-and-Play setup should have automatically configured the Memory Base, making this step unneccessary.

7. Now that Win/TV has been checked for operation and the tuner and color settings have been set, it is necessary to save your settings. Click on **Options/SaveOnExit**. This will save all your Win/TV settings when exiting the program.

8. You can now reconfigure Windows for the display mode you prefer. Win/TV-Celebrity and HighQ can run in 640x480, 800x600, 1024x768 or 1280x1024 modes. The CinemaPro can run in 640x480, 800x600 and 1024x768 modes.

Once the display mode is changed (to perhaps the 800x600, 256 color mode), you may see Win/TV video out of alignment with respect to the ChromaKey color (screen shifted to the right or left or a magenta bar along the top, bottom and side edges of the window). The alignment may be adjusted by selecting **Configure /Display** on the menu bar and adjusting the Window X and Y positions:



Window X- This option eliminates vertical magenta bars along the left and right hand sides of the Win/TV window. Adjust this control to eliminate the magenta bars.

Window Y - This option eliminates horizontal magenta bars along the top and bottom edges of the Win/TV window. Adjust this control to eliminate the magenta bars.

On the bottom of the Align Display screen there are two boxes, Vertical Sync and Interlace.

Vertical Sync - This setting is used to activate special hardware on the Win/TV board when using high-res VGA cards. We suggest setting >72Hz when running the Win/TV in 800x600 or 1024x768 modes.

Interlace - Use this box to select between Interlace or Non-Interlaced modes on your VGA card. The default configuration is Auto; this setting auto detects which mode the VGA video card is in and should not have to be changed (some VGA drivers need to set this option manually).

Using the Win/TV Application

Starting the Win/TV Application

The Win/TV application runs under Windows 3.1 and Windows 95. Using your mouse, double click on the Win/TV icon to bring up your video window.

Keyboard Control

The following keyboard shortcut keys can be used to access Win/TV directly from your keyboard.

Volume Up	=	Page Up
Volume Down	=	Page Down
Channel Up	=	Plus (+)
Channel Down	=	Minus (-)
Print a Frame	=	CTL + P
Copy to Clipboard	=	CTL + C
Copy from Clipboard	=	CTL + V
Freeze Frame	=	CTL + F
Cursor to Menu bar	=	F10

Using the mouse in Win/TV

The Windows mouse is used to move the TV window, resize the Win/TV window, select menu options and make the Win/TV window appear in full screen or adjustable screen size. Win/TV uses the left and right buttons. The middle mouse button (if your mouse has one!) is not used.

Single click TitleMode/NoTitleMode make Win/TV easy to use!

The left button is used for all control and select functions. The right mouse button if clicked inside the Win/TV video window will remove or display the tool and menu bars. These modes are called **TitleMode** and **NoTitleMode.** You can toggle back and forth between **TitleMode** and **NoTitleMode** by simply clicking your right mouse when it is inside the video window.

The Win/TV window is moved in the **NoTitleMode** by clicking and holding your left mouse button down in the middle of the TV window, holding it down

and moving it to the new position. Then let it go! Move the TV window in the **TitleMode** by clicking the left button on the title bar (where it says Hauppauge Win/TV), holding it down and moving it to the new position. Then let it go.

You can set a different size and a different place on your VGA screen for the Win/TV window in both the **TitleMode** and **NoTitleMode**. Then by simply clicking with the right mouse button, then Win/TV window will "pop" into the saved size and place on the screen! Try clicking your right mouse button several times in the middle of the TV window and see what happens.

To set the window size, "grab" a corner of the video window with your mouse (hold down the left mouse button when it is on one of the corners of the Win/TV window) and then drag it to the preferred size, then unclick the mouse button. You can set different sizes for **TitleMode** and the **NoTitleMode**.

For example, if you would like to watch the Win/TV without the tool/menu bars in a small corner of the Windows screen, click the right mouse button inside the Win/TV video window until the tool/menu bars disappear. Then drag the Win/TV window to its preferred size and place on the Windows screen. Now click the right mouse button inside the Win/TV window and the Win/TV application will now save the correct size and place on screen for **NoTitleMode**. Every time you select the **NoTitleMode** by clicking in the Win/TV window, the window will resize and move to the saved position.

To set which bars and indicators are shown when in the **TitleBar** and **NoTitleBar** modes, click on **Display/Preferences**. You can eliminate the status bar and the toolbar in the TitleMode or add the status bar in the NoTitleMode.

Tool Bar

The Win/TV has a tool bar for quick access to the most commonly used functions and a menu bar with five pull-down menus for all of the available functions.

TV Tuner

The first four icons on the Tool Bar are used with the TV Tuner to change and tune in channels. The dash (-) will change channels in descending order. The middle icon will bring the channel selection box on screen. The plus (+) sign will

change channels in ascending order. The surf board icon turns on the “Channel Surf” mode, where the Win/TV software will scan through all active channels, putting a small icon of each channel on the screen in rotation. Double click on any channel to tune to that channel.

Audio

The next three icons are used to change the audio volume. The down arrow will lower the volume, while the up arrow will raise the volume. You can click on these arrows one click at a time or you can hold the left mouse button down until a selected volume is set.

Clicking once on the mute button (between the left and right arrows) will turn the audio on or off.

Freeze Frame & Zoom

The next two buttons on the tool bar are used to freeze or zoom an image. The first button (Camera) is the “freeze frame” icon. This is used to freeze one frame of the Win/TV video. When “zoom” (Magnifying glass) is selected the image is taken out of the “fit” mode and magnified two times.

Video Sources

The last two buttons are used to select the video source. The button which looks like a TV antenna is used to select the tuner. The button labeled “1” is the video input source button, and selects the auxiliary video/audio input from VCR, cam-corder, etc..

The Win/TV-Celebrity and HighQ also have selections for a second video input source "2" and from a S-Video source. The Celebrity and HighQ use video input "1" and video input "2" to connect to the S-Video source. The Win/TV S-Video cable (optional with the Celebrity, standard on the HighQ) is used to connect to source "1" and "2".

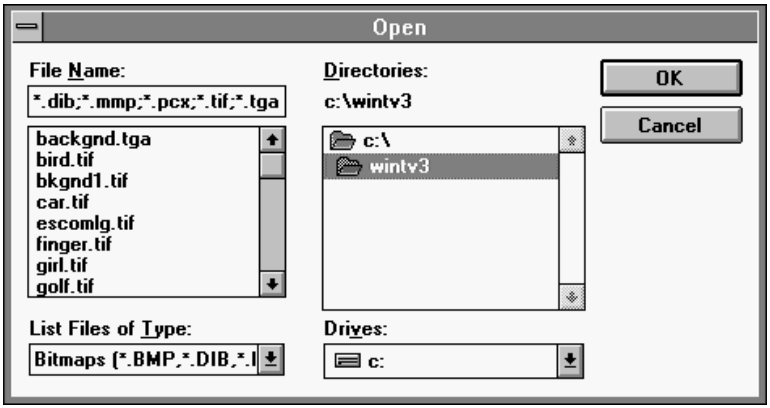
Menu Bar

File function

Allows you to open a saved image, save a captured image, print from Win/TV, copy an image to the clip board and exit the Win/TV application.

File/Open: Loading an image into Win/TV

To load an image into Win/TV click on File, then Open. In the File Name box, type or select the name of the saved frame you wish to open. If you do not see the file you want, change the directory or drive, or change the List Files of Type box. Then click on OK.



File/Save: Saving a video image

With Win/TV, you can save a video image to hard disk for use in desktop publishing, paint programs or word processing applications. This is called "image capture". The frozen video image can be saved in various formats compatible with most graphics programs, including TIFF, BMP, TGA, GIF and PCX as either a gray scale image (great for use in adding images to word processing or desktop publishing applications) or a color image.

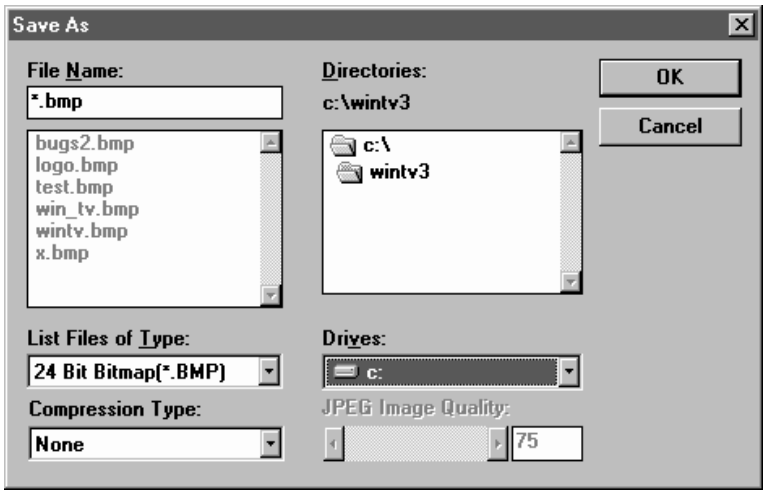
The format that you should use when saving an image depends on where you want to use the image. For example, WordPerfect “likes” an 8-bit per pixel black/white image. Therefore you should use the Gray Scale TIFF format or BMP formats. Windows PAINT uses the BMP file format. Photoshop and Photostyler can use any of the file formats.

If your graphics card can support 24-bits per pixel (called "True Color"), you can use the 24-bit file formats. The Win/TV will create 24-bit TIFF files for PhotoShop, CorelDRAW, Designer, Picture Publisher, Photo Styler, Halo, WinRIX, Paintbrush and others.

To Save an Image:

1. Freeze an image (click on the Camera icon on the Tool Bar).

2. From the File menu, click on **Save/As**.



3. Select one of the image formats - **Save File As Type**.

4. Change to the directory and drive you wish to save to.

5. In the **File Name** box, type or select the name of the image you wish to save.

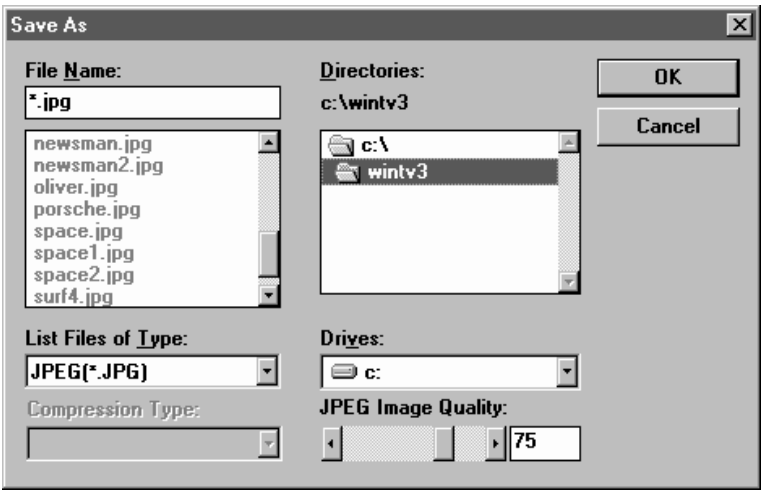
6. Click on the **OK** button. The frozen video image will then be converted from the YUV format into the selected RGB format type. The time it takes to convert an image is related to the image size, the number of bits in the image (an 8-bit image takes longer to convert than a 24-bit image) and the image format selected.

Saving a compressed JPEG image

Full screen images saved in formats like TIF and BMP can take up quite a bit of hard disk space. For example, if you are using Win/TV images for desktop publishing and are creating MaxResSave images in the TIF format, the image will be over 1MByte! To decrease the size of saved video images, Win/TV has a file format called JPEG.

JPEG (which stands for Joint Picture Experts Group) is a technology developed to compress high quality images for the military. Today, JPEG can be used to compress the images which you are using captured from Win/TV. These images can be used in desktop publishing and also to create images for the Internet.

JPEG compression can shrink images from about 1/8 to as little as 1/50 of their original size. The quality of the resultant image will decrease as you compress more, but at 1/8 you will get execellent quality.



The **JPEG Image Quality** is the control over the amount of compression used for JPEG images. This control has numbers from 0 to 100, with a desfualt setting of 75. A setting of 75 gives execellent quality with a compression of about 1/12, while as the number drops the file size gets smaller, but the resultant image wualtiy also drops.

Acceptable quality can be achieved to about 40. The amount of comression will vary from image to image, even at the save compression setting. This is due to the technique used by JPEG compression, where contrasty images will not be able to be compressed as well as images with less contrast.

Printing a video image from Win/TV

Freeze the video image to be printed by clicking on the Camera icon on the tool bar. After the image is frozen, click on Print. The frozen image will be sent to the selected printer (defined in Windows). Anytime during the printing process you can cancel your print request by clicking on the Cancel button which appears in the middle of the screen.

Copy a video image to the Clipboard

Freeze the video image to be copied by clicking on the Camera icon on the tool bar before copying. After the image is frozen choose Copy from the File menu. The mouse pointer will change to an hour glass while the image is sent to the Windows Clipboard.

Exit Win/TV

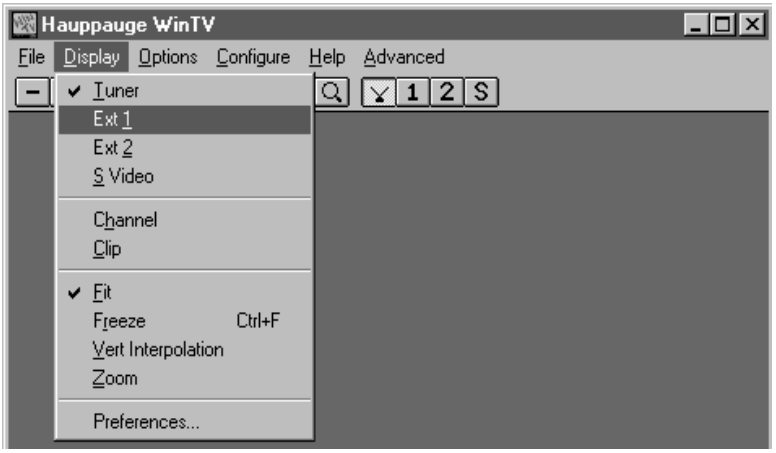
This closes Win/TV. If the Save on Exit option has been selected from the Options menu, any parameters changed during your Win/TV session will be saved. To exit, choose Exit from the File menu.

Display function

In Display functions, you can select the video source, get channel information, see sequential video frames and surf your TV channels. You can also sets Win/TV in the Fit, Freeze, Replicate Field , Zoom modes and set your Preferences.

Selecting a Video Source From the Display Menu

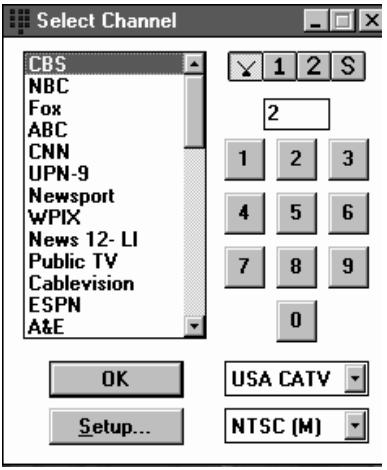
1. To select a video source click on Display



2. Click on Tuner (for Cable TV or Broadcast signals) or Ext1 (for Video input 1). The selected item will then be highlighted with a check mark.

Display/Channel: Selecting Channels

To select channels click on Display then Channel. The Select Channel box will appear. Select a channel by clicking on the number pad (always enter a 3 digit number example: 003 for channel 3) or selecting one of the scanned channels in the Channel box.



Channel setup

By clicking on the Setup button, channels can be configured for different Names, RF Regions, Video Formats and can be Fine Tuned. To configure a new channel click on Insert, then click on Name and type in the name you prefer. To select a channel on the Number box, click on the up and down arrows (do the same for the RF Region and Video Format boxes). To clarify the image select Fine Tuning then click on OK.

Delete a channel

To delete a channel, click on the channel you want to delete in the Channel box. Then, click on the Delete Button. The channel will be removed from the channel box.

Scan cable TV and broadcast channels

Click on the Scan button to automatically scan Cable TV or broadcast channels ranging from 1 to 125.

When the Scan button has been selected, another sub menu will appear called Scan. The Scan button will automatically scan the entire cable or broadcast spectrum and search for active channels. Before clicking on the Scan Button select the region you will be using by clicking on the box or name associated with your location (an X should appear in the box when selected - multiple regions can be selected).

Select the Video Format for your region:

PAL (BGHI) for use in PAL television regions including Europe (except France and Eastern Europe), Hong Kong, Australia, Middle East and Africa.

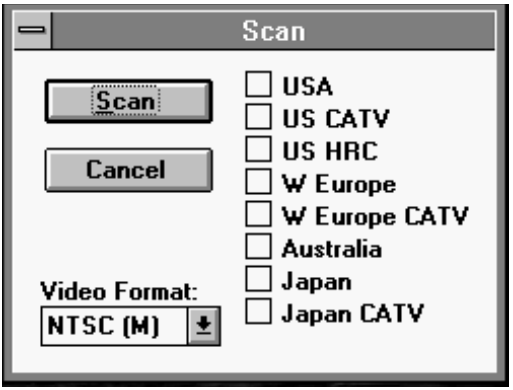
NTSC-M for use in North America, Taiwan, Korea or Japan.

SECAM for use in France and Eastern Europe.

PAL-M for Brazil, and PAL-N for use in some parts of South America.

NTSC 433 is normally not used.

Then click on the Scan button to start the scanning process. While the system is scanning, channels with strong enough signals will be included in the Channel box.



Display/Clip: Capturing video sequences

Click on **Display/Clip** to view sixteen sequential video images in the Win/TV window. To start full motion video and clear the clips being displayed, click the Camera icon on the Tool bar.

Display/Preview: Channel Surf

Click on **Display/Preview**. A continuous loop of TV channels listed from the Channel Display box will be displayed until one of the following conditions are meet.

1) Double click on one of the channel windows to select that channel.

2) Click on the Camera icon to start full motion video.

Channel Surf will only display those channels that have been setup in the Channel Setup box.

Fit Option

By clicking **Display/Fit**, the entire image will be squeezed into a window of any size. If the Fit option is not selected, Win/TV will display the complete image only in full screen mode. If not in the full screen mode, scroll bars are provided to view other portions of the image. To disable Fit , click Fit again.

Freeze an Image

There are two ways to “freeze” an image: click on **Display/Freeze** or use the Camera icon on the Tool bar. Repeat to “unfreeze” image.

Display/Vertical Interpolation

By choosing **Display/Vertical Interpolation**, Win/TV skips every other field in the incoming television signal (normally the even field is skipped and the odd filed is kept). The skipped field is recreated by averaging adjacent lines in the odd field, a technique referred to as Interpolation. Vertical Interpolation lowers the resolution of the image, but creates a softer image and eliminates lines in the video when there is very fast motion.

Zoom an Image

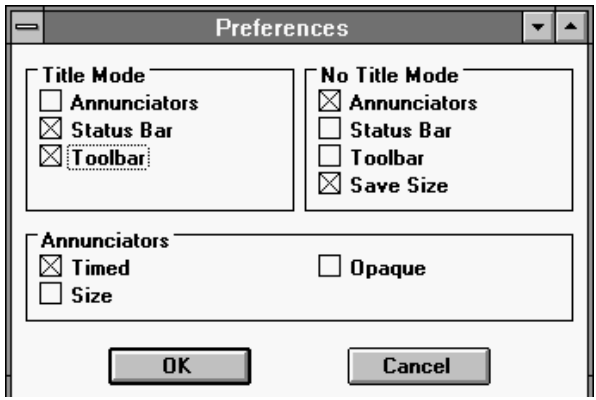
This is used to magnify an image two times for more detail. To zoom an image, click on Zoom under the Display menu or use the Magnifying Glass icon on the Tool bar. Once an image is zoomed, scroll bars are displayed so different portions of the zoomed image can be viewed. Repeat instructions to "unzoom" the image.

Preferences

The Preferences window allows customization of the Win/TV window. It will allow the Toolbar to be displayed or hidden, and the Menu bar to be displayed or hidden.

The right mouse button, if clicked inside the Win/TV video window, will remove or display the tool and menu bars. You can toggle back and forth between the window with and without menu/tool bars by simply clicking your right mouse when it is inside the video window. These modes are called TitleMode and NoTitleMode.

When a check box is enabled (with an X in the box) that item will be displayed when that mode is enabled.



Title Mode

In the Title Mode, the Win/TV window has the Title bar displayed. You can choose to also display the Status bar at the bottom of the window. This will contain the current video channel or source, plus the volume of the audio and the current window size. The Toolbar can also be displayed. With Annunciators chosen, Win/TV will display in the middle of the Win/TV window bars that show the video channel or source chosen plus the audio volume. To choose the Title Mode, click the right mouse in the middle of the Win/TV window. To choose the No Title mode, click the right mouse button in the middle of the Win/TV window.

No Title Mode

In the No Title mode, the title bar will not be displayed. In this mode, you can also choose to display the status bar and toolbar. The size of the No Title Mode window can be saved by clicking Save Size. This is a handy feature that allows two Win/TV window sizes to be used, simply by clicking the right mouse button in the Win/TV window. To choose the No Title Mode, click the right mouse in the middle of the Win/TV window. To choose the Title mode, click the right mouse button in the middle of the Win/TV window.

Opaque

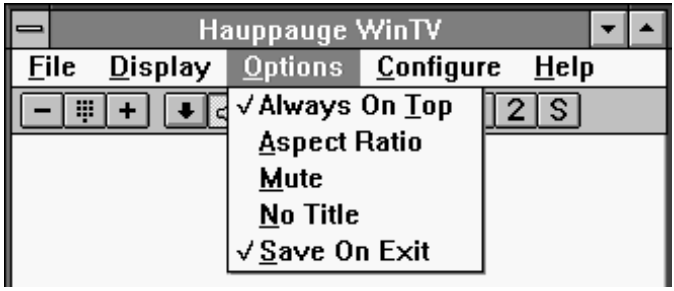
This setting changes the background color on the Annunciators. To enable click on Options, then Opaque. A check mark will appear next to the menu item.

Timed Annunciators

Annunciators are items like the channel designation or volume level display. Click on Options then Timed Annunciators. A check mark will appear next to the menu item. When Timed Annunciators are selected, channel designation or volume level will display over your Win/TV window for only 10 seconds. When Timed Annunciators are turned off, the annunciators will stay on all the time.

Option Function

The Options menu sets Always On Top mode, Aspect ratio, Mute, No Title, Save on Exit.



Always On Top

This feature gives you the ability to view Win/TV while working on another application (the operation is similar to the Always On Top mode in the clock program). To enable this feature click on the Option then click Always On Top. A check mark will appear next to the menu item. Repeat instructions to disable Always On Top.

Aspect Ratio

Aspect ratio sets the Win/TV window to be viewed in a ratio of 4 x 3. This ratio sets the most natural viewing display, but will not allow odd window shapes. To enable, click on Aspect Ratio.

No Title

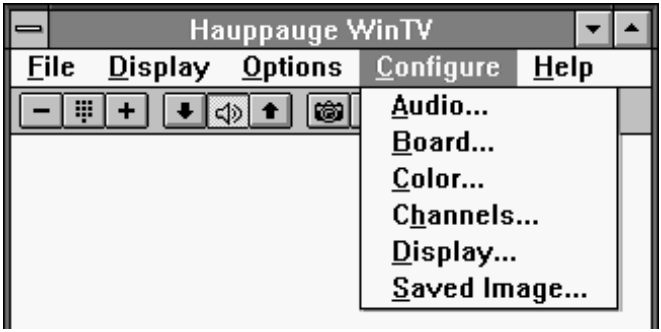
This mode displays Win/TV without a Tool bar, Menu or Title bar. Only the video image is displayed. Click on Option then No Title. A check mark will appear next to the menu item. To enable the Title bar again double click in the Win/TV window.

Save On Exit

When exiting Win/TV, this option will automatically save any changes made during the current session. To enable click on Options then Save On Exit. A check mark will appear next to the menu item.

Configure Menu

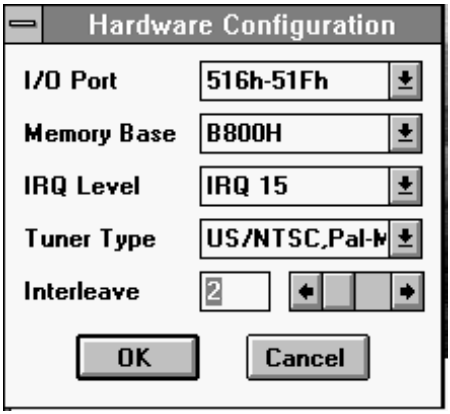
This menu item is used to configure the Board I/O and base memory address, display Color, Channel setup, Display and Saved Image.



Configure/Board: Hardware Configuration

Note: Since the Win/TV-CinemaPro uses the Plug-and-Play functions to set the hardware configuration, this function does not operate. To modify the hardware configuration on the CinemaPro under Windows95, you need to open the **Control Panel** and then select **System**, then select **Device Manager**. Look under **Sound, video and game controllers**. Open up **Win/TV** and look under **Resources**. If you turn off **Automatic Settings**, you can then change the Interrupt, I/O address and other hardware settings which were automatically made by the Plug-and-Play configuration.

The **Configure Board** menu configures the Win/TV hardware to match your PC. You can set the I/O port address, the Win/TV Frame Buffer Address in the range 640k to 16 megabytes, the interrupt number used for capturing video clips and set the type of Win/TV tuner (NTSC or PAL-M/N, PAL B/G or PAL I). To get into this window click on Configure/Board.



I/O Port Address

The I/O port is factory default set for the most common open address in PC systems. Normally, the address will not have to be changed. If it is desired to change the I/O address, select an I/O port address setting, click on OK then File/Exit. Once the I/O address is changed in software, the corresponding I/O jumpers on the Win/TV board must be changed. Refer to the I/O address chart in the "Jumpers and Connectors" chapter.

Memory Base

This is the starting address of the Frame Buffer (video memory) on the Win/TV card. The size of the video memory window on the Win/TV board is 32K. The Frame Buffer is used when the Win/TV software needs to save and load video images to/from disk. If your system contains memory or I/O devices at the same address, there will be problems with saving or loading images. There are several conflicts with the Memory Base which could cause problems:

EMM386 overlapping with the Memory Base

BIOS caching the Memory Base

Another device such as a LAN card or SVGA card using the same Memory Base

The following procedure is used to test if Memory Base is correctly set:

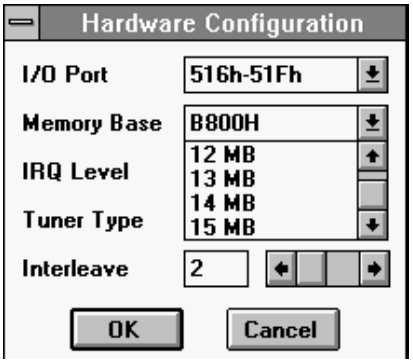
- click on **File/Open** and load the file named WINTV.BMP A small picture of a woman in sunglasses should be displayed.

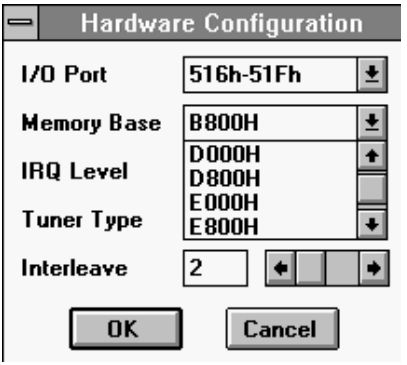
- click on **File/Save** with a name of TEST.BMP

- start the live video by clicking on the camera icon or by typing Control-F

- click on **File/Open** and load the file named TEST.BMP The picture of the woman in sunglasses should reappear.

The Memory Base can be set to addresses between 640k & 1024k (1Meg), and between one megabyte and sixteen megabytes. The factory default Memory Base address is B800, an address not normally used in 486 PC's. If, when saving/loading an image, the image is not correct, an address conflict is normally the cause and you must change the Memory Base to another address.





If your PC has less than 16MBytes of RAM, then select Memory Base of 15.

If your PC has more than 16MBytes of RAM, choose between Memory Base address D000, D800, E000 or E800.

After changing the Memory Base address, you must open a "hole" for the Win/TV's Memory in the memory space used by EMM386.EXE Modify the "device = c:\widows\emm386.exe" statement in your CONFIG.SYS file, then reboot your PC. For example:

Memory Base	Edit the EMM386.EXE statement to read:
D000	EMM386.EXE noems **x = D000-D7FF**
D800	EMM386.EXE noems **x = D800-DFFF**
E000	EMM386.EXE noems **x = E000-E7FF**
E800	EMM386.EXE noems **x = E800-EFFF**

If, after changing the Memory Base and changing EMM386.EXE, the WINTV.BMP image still cannot be saved and loaded, there might be a conflict with either your PC's BIOS or with another board in your PC. Try another Memory Base address by following the above procedure.

Some BIOS's use memory caching which cache all of memory between 640K and 1MByte, the area used for Memory Base D000, D800, E000 and E800. To open a "hole" for the Win/TV's Memory, you should refer to your PC manual for instructions on disabling the BIOS memory caching.

IRQ Level

The interrupt used by the Win/TV is factory set to level 15. To change the IRQ to another level, the setting in the Configure Board must be changed, and the corresponding IRQ jumper on the Win/TV board must be changed. Please refer to the "Jumpers and Connectors" chapter on the position of the IRQ jumper.

Tuner Type

The Win/TV is available in three tuner types: NTSC, PAL B/G and PAL I. This setting is normally set in during the installation of the Win/TV software:

NTSC, PAL-N or PAL-M: Win/TV for use in North America, Japan or Taiwan. Also for PAL-M/N in South America.

PAL B/G: Win/TV for use in Central and West Europe, Africa or Australia

PAL I: Win/TV for use in the United Kingdom.

Interleave

The Interleave affects the performance of the Win/TV's Frame Buffer and determines how many memory "banks" the frame buffer is organized in to. The interleave is 2 on the Celebrity and Cinema, and is 3 on the HighQ. When the High Performance option is installed on the Celebrity, the interleave is set to 3.

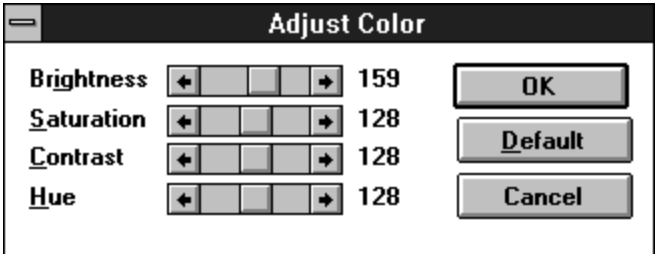
Color Configuration

Click on **Configure/Color**. The Adjust Color window allows the changing of Brightness, Saturation, Contrast and Hue. Like an actual color TV set, these settings can be used to create a more realistic visual image. If you are unhappy with the settings, start again by clicking on **default**.

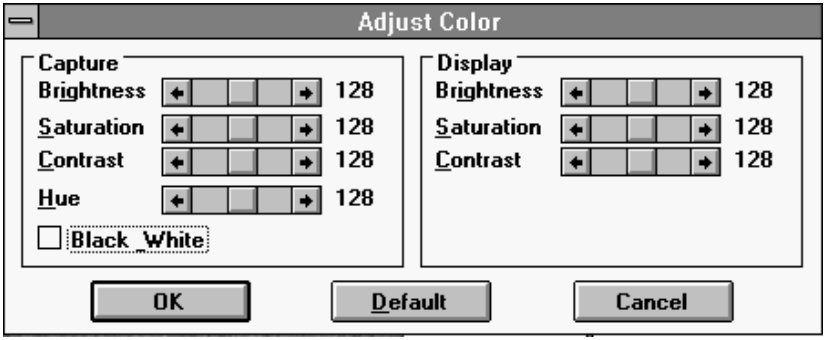
The Win/TV-Cinema has controls to adjust only the viewed image. Corrections to the saved image must be made by using an image editor such as Adobe PhotoShop, Corel Draw or Aldus PhotoStyler.

The Win/TV-Celebrity and HighQ have the ability to adjust the front end video digitizer. This allows the user to make color corrections to the saved image, in addition to the viewed image.

The Win/TV-Cinema color controls look like this:



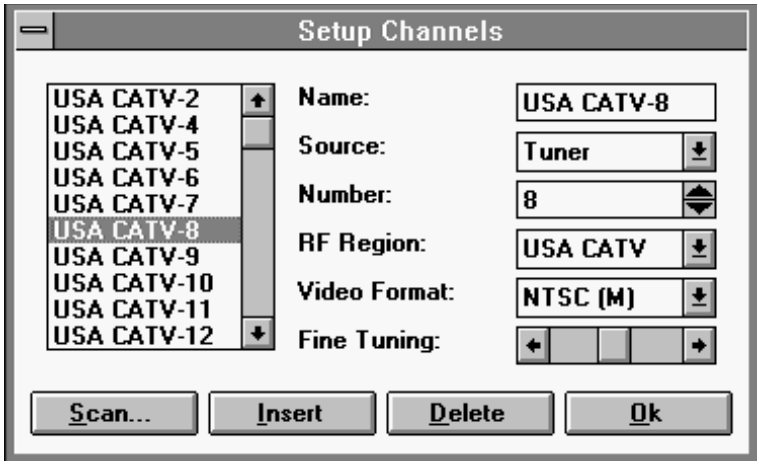
The Win/TV-Celebrity and HighQ have controls which look like:



The Black/White setting in the Celebrity and HighQ Color Adjust menu turns off the color separation circuitry in the front end digitizer. This allows a higher bandwidth image (higher quality) to be captured if the source is black/white. This feature is useful for medical and industrial imaging where the source is a high quality industrial camera.

Channel Setup

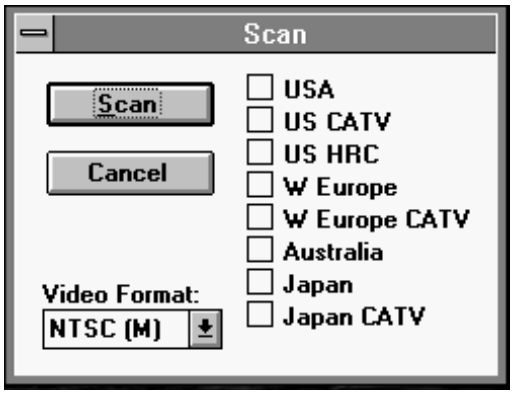
Click on **Configure/Channels then** click on **Insert** to enter a new channel (or Scan - explained in the next paragraph). At this point select a channel by clicking on either the up or down arrows located on the Number Box. After a channel has been selected (for example channel 3) click on the Name Box and type the name you would like associated with this channel. Select the RF Region and Video Format (RF transmission type or Video protocol) that best suits your configuration.



Example: all of North America is Video Format NTSC(M), most of Europe is PAL(BGHI).

The Scan button will automatically scan the entire cable or broadcast spectrum for active channels. Before clicking on the Scan Button select the region you will be using by clicking on the box or name of the region (an "X" should appear indicating the region has been selected - multiple regions can be selected). Select the Video Format associated with that region.

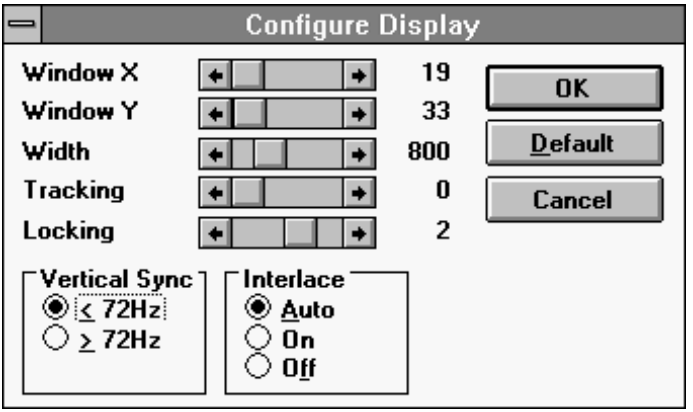
Example: If USA is set then the default of NTSC (M) is correct.



Align Display Window

This option brings up a menu which sets the framing of the video within the win-

dow. Sometimes you may see the Win/TV screen out of alignment (screen shifted to the right or left, a magenta bar along the top, bottom and side edges of the window).



Click on **Configure/Display**. Use the following to align the video window:

X Window - Helps eliminate vertical magenta bars along the left and right hand sides of the Win/TV window. On the Celebrity and HighQ, there will always be a narrow magenta vertical line on the left hand side of the video window. After adjusting the x window, move the live video window to the left and right hand side of the monitor to check the alignment.

Y Window - Helps eliminate horizontal magenta bars along the top and bottom edges of the Win/TV window.

Tracking - This adjustment is normally left in the default mode of 0. It controls the chroma-key circuit.

Locking - This adjustment is normally set to 2. It controls the chroma-key circuitry.

On the bottom of the Align Display screen are two boxes: Vertical Sync and Interlace.

Vertical Sync - This setting is used to activate special hardware on the Win/TV board when using high-res VGA cards. If your VGA controllers refresh rate is set to 60hz, select < 72hz.

Interlaced - Use this menu to select between Interlace or Non-Interlaced VGA modes. The default configuration is Auto, which autodetects the mode the video

card is in and should not have to be changed (some VGA drivers need to set this option manually).

Configure Saved Image

Click on **Configure/Saved Image**. Configure Saved Image offers the option of saving a Win/TV image with different window sizes and image qualities. Default settings are Best Save and Window Size.

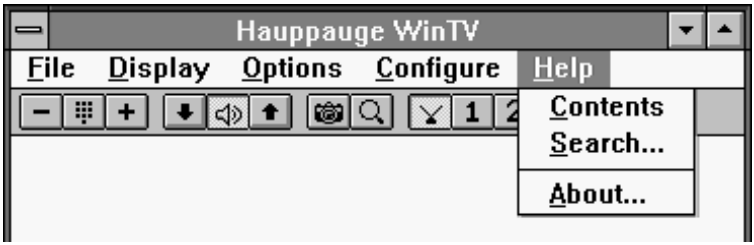
The Resolution settings control the size and resolution of captured images. The size of a captured image may be set to the current Win/TV window size, the maximum capture resolution, or scaled to a user specified size. Maximum resolution will capture all digitized video pixels and video lines into the frame buffer. The Window size setting will scale the number of captured pixels to equal the width (in pixels) of the current window size, and drop lines to equal the number of lines in the current window size. The user specified image size will scale the video image by dropping video pixels and video lines to fit the specified image size.

The Quality settings control a captured image's quality when saved. The Best Save setting gives the highest quality image saves: all video pixels digitized from the video source will be saved. The Win/TV, in the Best Save mode, switches the frame buffer from a window to maximum image size the moment the camera icon is clicked. This allows the maximum number of video pixels from the frozen image to be saved. However, Best Save will cause the frozen image to appear "blown up" or stretched and truncated in the horizontal direction. This is an indication that the frame buffer is in the "maximum image size" mode.

The Viewable Freeze setting eliminates the "blown up" image but results in lower saved images.

Help Menu

Gives the user information about the system memory and video configuration, software version and setup parameters of Win/TV.



Contents

This displays the Help functions and how to learn more about Win/TV menu items.

Search

Search lists key words for the user to easily access procedures or functions associated with a key word.

About

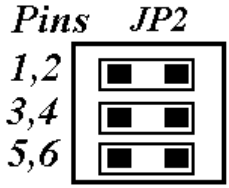
By clicking About the user can access the Software Version number, copyright information, and system configuration information.

Jumpers and Connectors

Jumpers and Connectors on the Win/TV-Celebrity and HighQ

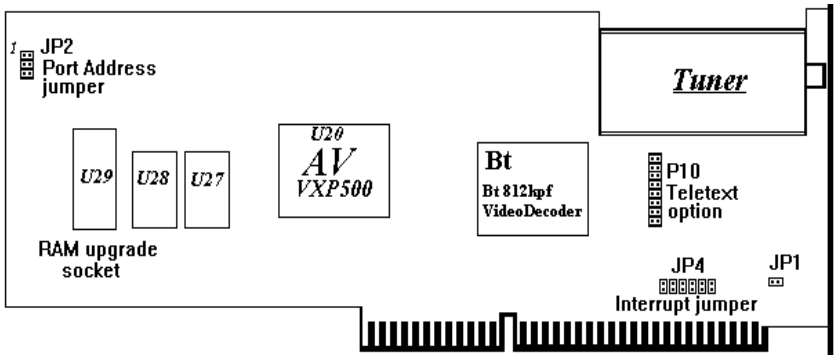
I/O Address Jumpers

The Celebrity and HighQ can be set for one of 8 different I/O locations between 500 - 5FF. The default Port Address is 51C. To change the Port Address, use the 6 pin jumper labeled JP2. After changing the Port Address jumper, run the **Win/TV CONFIG** program (in the Win/TV group) and change the **I/O Port** setting.



Instead of running **Win/TV CONFIG**, you can manually edit the PCVIDEO.INI file, which can be found in the Windows directory. Under the section **[AVSettings]**, change the **Port=** setting to the new address. The default is **Port=51Ch**. See chart below for the PCVIDEO.INI Port Address setting for each address range.

	PCVIDEO.INI	Jumper pins on JP2		
Port Address	Addresses	5,6	3,4	1,2
516-51F hex	51Ch	on	on	on
536-53F hex	53Ch	on	on	off
556-55F hex	55Ch	on	off	on
576-57F hex	57Ch	on	off	off
596-59F hex	59Ch	off	on	on
5B6-5BF hex	5BCh	off	on	off
5D6-5DF hex	5DCh	off	off	on
5F6-5FF hex	5FCh	off	off	off

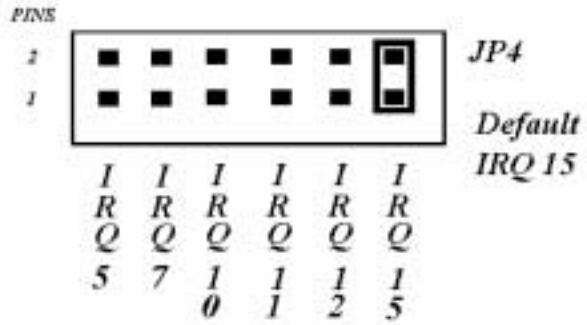


Interrupt (IRQ) Jumper JP4

An interrupt is not required to operate Win/TV-Celebrity or HighQ, but programs such as Video for Windows need an interrupt for capturing full motion video. The default IRQ position is IRQ 15.

An interrupt conflict can cause several problems such as the inability to boot your hard disk (many disk controllers reserve but do not use IRQ 15) or inability to capture video in a Video for Windows Capture program.

If IRQ conflicts occur, if you are not capturing video disable the Win/TV interrupt by removing the jumper. If you are capturing video with Video for Windows, set the IRQ to another number. Interrupt jumper matrix JP4 has 6 sets of 2 pin jumpers; move the jumper the the IRQ number desired.



Note: after changing the IRQ number, make sure you also change the IRQ Level that is specified in **Configure/Board** in the Win/TV Application.

Other Jumpers, Sockets and Connectors

JP1 Wait state jumper. Jumper off = 1 wait state, Jumper on = 0 wait state Default position is on. In general, this jumper should not be moved.

P10 Teletext module

U29 Optional RAM upgrade socket (High performance option)

Video Loop and A/V Cable

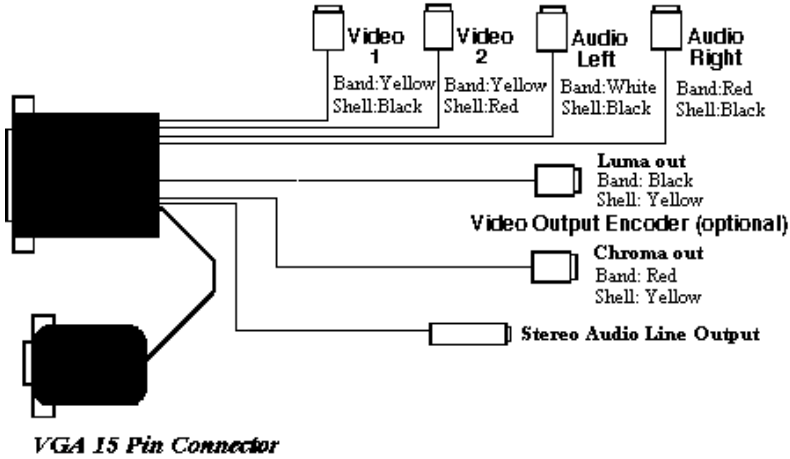
Black shell with Yellow band - Video input 1 (Luma for s-video)

Red shell with Yellow band- Video input 2 (Chroma for s-video)

Black shell with Red band - Audio input 1 - Right side

Black shell with White band - Audio input 1 - Left side

Black shell with Silver band - Stereo line output (for connection to sound card line inputs, stereo amplifier inputs, headphones)



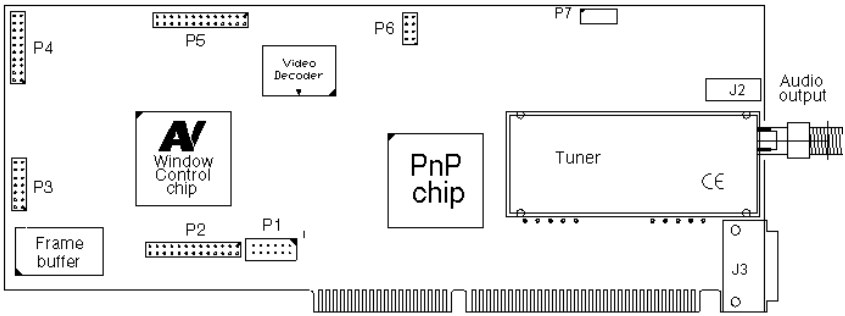
Video Output Encoder cabling (optional)

The **Luma Out** and **Chroma Out** cables are present only when the **Video Output Encoder** option is installed on the the Win/TV-HighQ or Celebrity.

Yellow shell with Black band - Luminance/Composite output

Yellow shell with Red band- Chrominance output

Win/TV-CinemaPro Jumpers and Connectors



Jumpers & Connectors

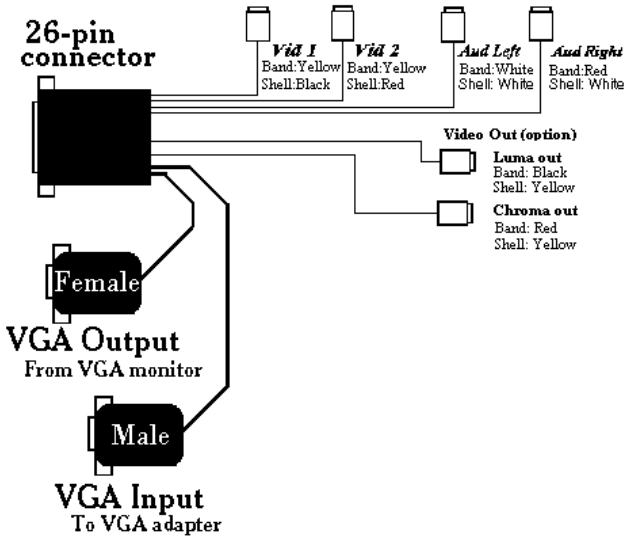
J2 Audio line level output (1/8” audio jack)

J3 26-pin Loop cable connector

P7 Internal Line out audio (to sound card; not normally used)

P6-P11 Optional hardware MPEG decoder connectors

Video Loop Cable



Troubleshooting

Here are some problems that may occur after the Win/TV board and application software are installed.

Most problems are caused by connecting the Win/TV cables incorrectly. Please recheck your cables to ensure they are properly connected.

Problem: No video

A completely black screen after turning on the PC after installing the Win/TV board could occur when:

1. The VGA monitor cable is not plugged into the Win/TV connector, or
2. The Win/TV Audio/Video Input Cable is loose or not plugged into the Win/TV card.

Solution: Plug the VGA monitor cable into the Win/TV Card, or plug the Audio/Video cable into the Win/TV card.

No sound can be heard from the Win/TV when connected to a sound card

The Win/TV's audio output can be connected to a sound card. Use the supplied male-to-male 1/8" minijack cable, plugging one end into the Win/TV audio output jack and the other end into the sound card's **Line Input** jack. Most sound cards, such as the Sound Blaster and Pro Audio Spectrum cards, use 1/8" minijacks for the Line Input.

Once the connection is made, adjust the Line Input sound volume in the sound card's **Mixer** program. The Mixer program is normally installed from the sound card installation program, and allows the control of volume from the various sound sources.

1. If you cannot hear sound when running Win/TV, raise the **Line Input** level in the mixer program and in the Win/TV application.
2. Check to make sure the **Mute** button in the Win/TV application is not clicked.
3. Sometimes a weak TV broadcast channel is selected. The Win/TV automatically mutes weak TV channels. If so, click on **Confgure/Channels** and then

FineTune until the sound comes on If the sound still does not come on, it might be necessary to use an antenna booster to raise the strength of the TV signal.

Problem: Purple (or magenta) window after running Win/TV

This occurs when:

1. The VGA monitor cable is plugged into your VGA card instead of the Win/TV board.
2. The video mode of the VGA card is not compatible with the Win/TV.

Solution: Plug the VGA monitor cable into the Win/TV card. In the case of the video mode incompatible with the Win/TV, try changing to another video mode. For example, if Win/TV cannot work with the VGA card in 1024x768 with 64,000 colors, try the 16 million color mode or the 256 color mode.

4. If the PC system bus clock is greater than 8MHz, the Win/TV may not get the correct initialization commands and will exhibit a magenta screen. The magenta screen may be erratic: it may come and go if the system clock speed is slightly above the speed required by the Win/TV.
5. With the Win/TV-Celebrity or HighQ, if your VGA card has "hot" colors (higher than normal voltage levels for the Red, Green and Blue colors), the color keying circuit may not see the correct color key color. There is an Advanced menu (accesed by hitting the Ctrl/Alt/D key at the same time) which allows the setting of the color key color. Click on **Advanced/Win/TVPlus**. The set the Upper Limit for Green at 45 instead of 15.

Problem: "Error Reading Video Buffer." frame capture problem, or Cannot load an image. Saved images are bad.

This occurs when: The Win/TV's **Memory Base** address (the address of the Frame Buffer) is set to an address that conflicts with memory in your PC., or there is an overlap between the Frame Buffer and either an I/O card, EMM386's upper memory or the system BIOS cache area.

Solution: Start Win/TV, click on **Configure/Board**. Then change the **Memory Base** address to one suitable for your system. For example, if your sys-

tem has less than 16MBytes of RAM, set the Memory Base to 15M. If you have more than 16MBytes of RAM, try setting the Memory Base to D800h. After changing the Memory Base to one of the regions in lower memory (D000h, D800h, E000h or E800h), you must also exclude this region in EMM386.EXE (see **Memory Base** in Chapter 5).

In some PC's, the system BIOS caches all of memory between 640K and 1MByte. If this is the case, you must disable the caching in the area that the Win/TV uses for its Frame Buffer. First, set the Memory Base to D800h (as an example). Then run the BIOS setup program (you will need to refer to your PC manual to find out how to run the BIOS setup). Disable BIOS caching starting at D800h, with a size of 32K bytes. This only an example. You might have to try to disable the address at D000h, D800h, E000h or E800h.

In Packard Bell Pentium PC's, when in the BIOS select Advanced Setup then Plug-and-Play options. Select address D000 with a size of 32K.

Note: When using Win/TV with some PCI or VESA Local Bus VGA cards, the buffer address must be set to D000, with this region excluded in EMM386.SYS or QEMM386.SYS. Otherwise saving and loading images may not be possible.

Problem: Black window after running Win/TV

This occurs when:

1. An external video source is not connected to the Win/TV Audio/Video Input Cable, or
2. Audio Out from your VCR is connected to the video input of the Win/TV Audio/Video Cable, or
3. Your video source is turned off.

Solutions:

a. Connect an external video source to your Audio/Video Input cable.

b. Use "Video Out" from your VCR.

c. Turn on your VCR.

Problem: Black and white picture from TV

This occurs when the Video Format is incorrect. For example, if the Video Format in **Configure/Channels** is set to NTSC when you have a PAL video source, the video picture will be black/white.

This may also occur if the video source connected to your Win/TV-Celebrity or HighQ is an S-Video source, and the S-Video cable is not used.

Solution: See the Channel Setup section, page 4-1.

Problem: The Win/TV Application does not start

This occurs when:

1. The Win/TV application is already running and is hidden behind another window, or
2. The Win/TV card is not plugged in all the way, or
3. The Win/TV application was last terminated by Ctrl-Alt-Del.

Solution:

a. Press Alt/Tab to find your Win/TV window.

b. Plug the Win/TV card in correctly.

c. Turn the power off, then on again to get the Win/TV card to reset.

d. The Win/TV application may have to be reloaded. Sometimes an illegal entry is made in the Win/TV initialization file which could result in getting an error message when starting the Win/TV application.

Problem: Bad colors when loading an image into a drawing program.

This occurs when: you are loading this image into a Paint program which is in 16 color VGA mode when the image was saved in 256 color or greater format.

Solution: Change Windows or your Paint program to 256 color mode.

Problem: Image that is printed from WordPerfect is "grainy."

This occurs when:

1. An image is printed in “Graphics Quality Medium.” instead of “Graphics Quality High”, or
2. An image was saved in a format that is not readable by WordPerfect, or
3. The image was printed using Word Perfect for Windows.

Solutions:

a. Print in “Graphics High Quality” mode. To set this mode, press Shift-F7, then G, then 4.

b. Save images in the “8 bit TIFF format”, either black/white or color.

c. Print using Word Perfect for DOS. Word Perfect for DOS prints a higher quality picture than Word Perfect for Windows.

Problem: Incorrect colors on the display.

This occurs when:

1. There is a broken or missing pin on one of the VGA Loop Cable connectors, or
2. There is a bent pin on the VGA monitor cable.

Solution: Check cables for missing or bent pins - have repaired or replaced.

Problem: Page Fault Error

This occurs when: Loading or saving files while running in Windows standard mode.

Solution: Run Win/TV in enhanced mode only.

Possible Conflicts on Installation

Before installing the Win/TV card please check your system for any possible conflicts with I/O ports, memory locations & IRQ settings. The following is a list of the default I/O port, memory and IRQ settings.

I/O Port - 500

Win/TV uses 12 bit address decoding for the I/O port, while some I/O cards decode only 10 bits. This may lead to a possible I/O conflict with other boards

set to I/O address 100-11f.

Example:
12 bit address 500 - 0101 0000 0000
10 bit address 100 - 01 0000 0000

Memory Base - B000

The Memory Base specifies the base address of the Win/TV Frame Buffer. The Frame Buffer is used when grabbing frames and saving them in an image file format to the disk. To reconfigure the Memory Base address, see the section Memory Base in Chapter 5.

IRQ 15 Win/TV Default Interrupt

IRQ 15 is not set permanently and can be changed to any one of 6 different selections: IRQ 15, 12, 11 10, 7 or 5. Win/TV does not normally need an IRQ; it is only used when running Video for Windows to do full motion capture. When setting the Win/TV IRQ, see **chapter 6: Interrupt Jumper**.

An Interrupt conflict can result in the following problems when capturing video clips:

- Error message from the capture program: "No frames captured. Check vertical interrupts"

- the PC hangs while setting up for the capture or while capturing

- an error message saying "Audio not captured" occurs indicating there is a conflict with your sound card.

Capturing live video with Win/TV-Capture and Video for Windows

Overview of Video Clip Capture

Live video, which is digitized and passed through the Win/TV Frame Buffer (see Chapter 1 and 2: "How the Win/TV works"), can be "captured" to disk by using the **Win/TV-Capture** program. This program is provided on the **Win/TV Accessories diskette** and uses Microsoft's Video for Windows capability which is built into Windows 95 (and is available as a free option to Windows 3.1).

Win/TV-Capture creates a file type called AVI (Audio/Video Interleaved) on your hard disk. This file contains a digitized version of the live video and audio.

After the video and audio are digitized and stored on the hard disk in the AVI file, you can edit this file. You can cut, paste, add special effects, change the coloring, etc. by using video editing packages such as U-Lead's MediaStudio and Adobe's Premiere.

Win/TV was designed to give high quality captured video by using a lossless compression method called **Hauppauge YUV 4:1:1 Compressed** to store digitized video in an AVI file. Lossless compression means that the digitized video is compressed, but the image quality is not degraded during the compression process. This compares with compression methods such as JPEG and MPEG, where some loss of video quality is accepted in order to reduce the amount of data stored.

To create the best quality digital videos, use the following steps:

- Capture raw audio/video with **Hauppauge YUV 4:1:1 Compressed**.
- Edit the raw video. Add special effects, cut, paste, etc.
- After editing the video, compress the video for the playback target. For example, if you are creating a multimedia CD-ROM, compress with either Intel's Indeo or Supermac's Cinepak. If you are creating a CD-Video, use MPEG compression to get up to 74 minutes of video on a CD-ROM.

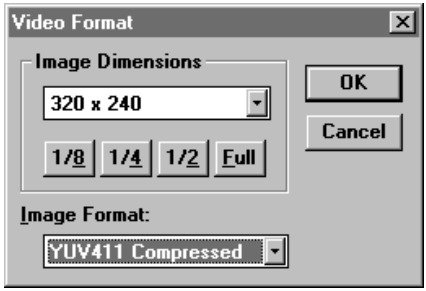
Using Win/TV-Capture

The Win/TV-Capture program is an easy to use program that previews live video, captures AVI files to disk, and then plays back the AVI file to your VGA screen through the Win/TV card.

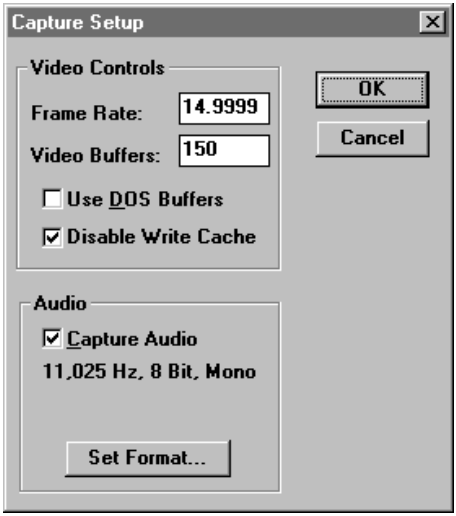
You can set the number of frames per second that are captured and the size of the video image. You need to do some experimentation to determine how much video your PC can store to the disk (in terms of image size and frames per second) because capturing video clips is very CPU and hard disk intensive.

Here is the **Win/TV-Capture** window:

To set the image size, click on **Options/VideoFormat**:



To set the number of frames per second captured, click on **Capture/CaptureSetup**:



The following chart shows the recommended maximum capture rate (Frames per Second) for the different Win/TV boards:

	Maximum image size	maximum FPS
Win/TV-Celebrity	320x240	15
Win/TV-HighQ	320x240	24
Win/TV-CinemaPro	320x240	15

The number of video buffers will depend upon how much RAM you have in your system. The maximum number of buffers is 1000.

After setting the video format, the number of frames per second and possibly creating a new file name (by clicking on **File/SetCaptureFile**), you can start captur-

ing video by clicking on the CaptureVideo icon.

Using Audio with Win/TV-Capture

To capture audio along with video, the Win/TV must be connected to a sound board capable of saving sound clips. To connect Win/TV to a sound board do the following:

a) Run the audio output of the Win/TV card into the **LineInput** of the sound board by using an 1/8" male jack to 1/8" male jack cable - available at most electronic stores.

b) For further details on capturing audio please refer to chapter 2 of Microsoft's VFW manual entitled Using Vidcap, subheading Connecting Audio Sources and Setting Audio Options.

Note: capturing audio along with video puts a greater strain on your PC then capturing video alone. If your PC drops many frames while capturing audio and video together, then capture the audio separately with the audio capture utility from Windows. The audio can be merged with video later on during the video edit stage.

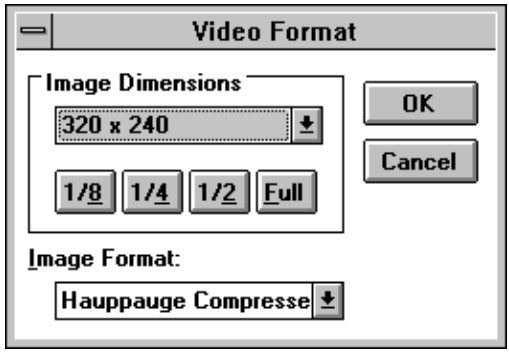
Preview Video

To preview live video, select Preview Video under Options in the menu bar. This selection shows how your saved video clips will look after it has been captured. The video image is palettized and displayed on the VGA screen, rather than through the Win/TV frame buffer. The colors will be limited to the number of colors used by your VGA display driver. For example, if your VGA display driver is in a 256 color mode, you will only see 256 colors in the Preview window, even though the Win/TV is actually capturing a 16-million color AVI file.

This mode **should not** be used for capturing AVI files.

Suggestions on Using Video for Windows

Captured image sizes can range from 40 x 30 pixels up to 320x240 pixels. For the best trade off between image size and captured frames per second, use a 320 x 240 image. With a 486/66MHz processor and a reasonably fast hard disk drive, you should be able to capture 15 frames per second with the Hauppauge YUV 4:1:1 Compressed format. This format uses a 4:1 compression ratio. The Hauppauge YUV Compressed 4:2:2 uses a 2.5:1 compression ratio, and requires a higher system throughput.



The disk drive data rates, without capturing audio, would be 864Kbytes/sec. If your hard disk drive is not fast enough, a RAM cache (using Microsoft's Smartdrive) will reduce the number of dropped frames when capturing video. Also, selecting Capture to Memory in the capture setup will improve the frames per second rate.

Practical tips on capturing AVI files

Choose **overlay video** from the Video Capture Options menu will allow the video image to be displayed during capture. This mode also allows VFW to run faster during capture. Choosing preview video will show what the captured image will look like when played back through the VGA adapter, but should not be used for capturing video.

Do not use DoubleSpace or any other disk compression scheme! This severely slows down your hard disk.

Most professionals capture video and audio separately. This allows them to "lay down" the audio track on top of the video tracks while editing. Capturing video separately will increase the performance or your video captures.

There are several hard disks on the market which are designed for higher performance video captures. These drives use 1:1 interleaving and track caching to eliminate gaps caused by a hard disk drive seeking to the next track. They are available with both IDE and SCSI interfaces.

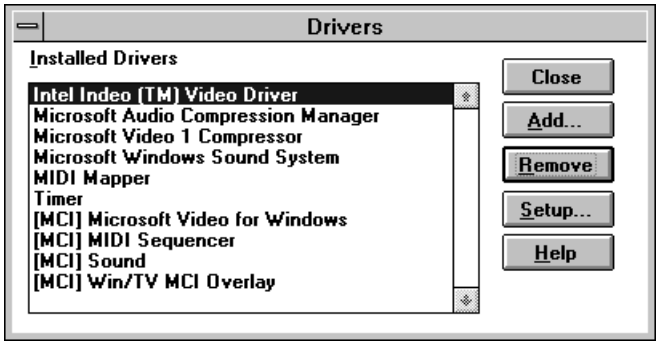
VFW Driver Installation

The Win/TV Video for Windows Capture driver is normally installed during the installation of the Win/TV Application (see Chapter 3). If you did not install the Video for Windows capture driver during the installation of the Win/TV Application, you can use the following steps:

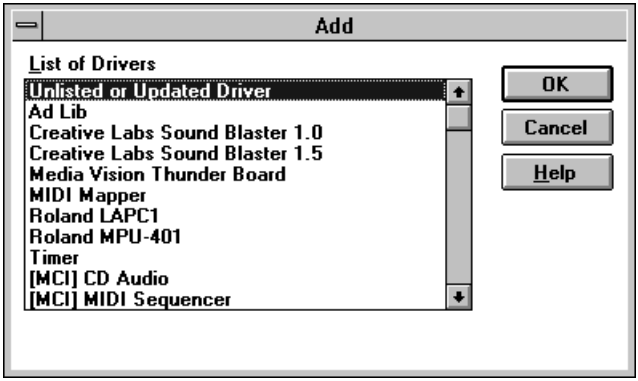
a) Place the **Win/TV Application** diskette in drive A:

b) Double Click on the Control Panel icon in the main group.

c) Double Click on the Drivers icon.

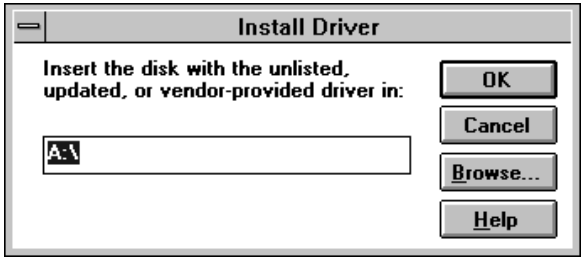


d) Click on Add

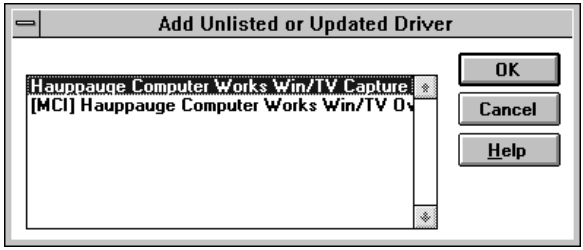


e) Select - Unlisted or Updated driver then click OK.

f) Enter the drive and directory of your Win/TV driver.



g) Click OK.



h) Select the Hauppauge capture driver then click OK.

i) Restart Windows

Notes:

The Win/TV hardware Interrupt is factory set to IRQ15. The interrupt, base memory address of the frame buffer and the I/O address are changeable. If you receive “No frames captured. Check vertical interrupt” error message when trying to capture with the Win/TV-Capture program, your interrupt is most likely conflicting with another device.

Teletext Data Reception using VTPlus for Win/TV

Teletext is used in Europe and other parts of the world to transmit digital data along with a television picture. Teletext data is transmitted in an invisible part of the TV picture called the "Vertical Blanking Interval" or VBI.

Teletext data is normally formatted into pages. A master index is also transmitted which lists the various categories that can be received, and which Teletext page they are being transmitted on. Teletext data must be inserted into the VBI by your TV broadcaster, and can only be received on the Win/TV boards if the Hauppauge Teletext decoder is installed.

An example of a Teletext page follows. Each Teletext page has a page number, a date and the current time in the right hand corner:

VTPlus for Win/TV is a sophisticated Teletext software application which runs exclusively on the Hauppauge Win/TV card. VTPlus allows you to view multiple Teletext pages, save or print Teletext pages and create Dynamic Data Links so that Teletext data can be used in other Windows applications. The Win/TV application does not have to be active while the VTPlus Teletext application is running.

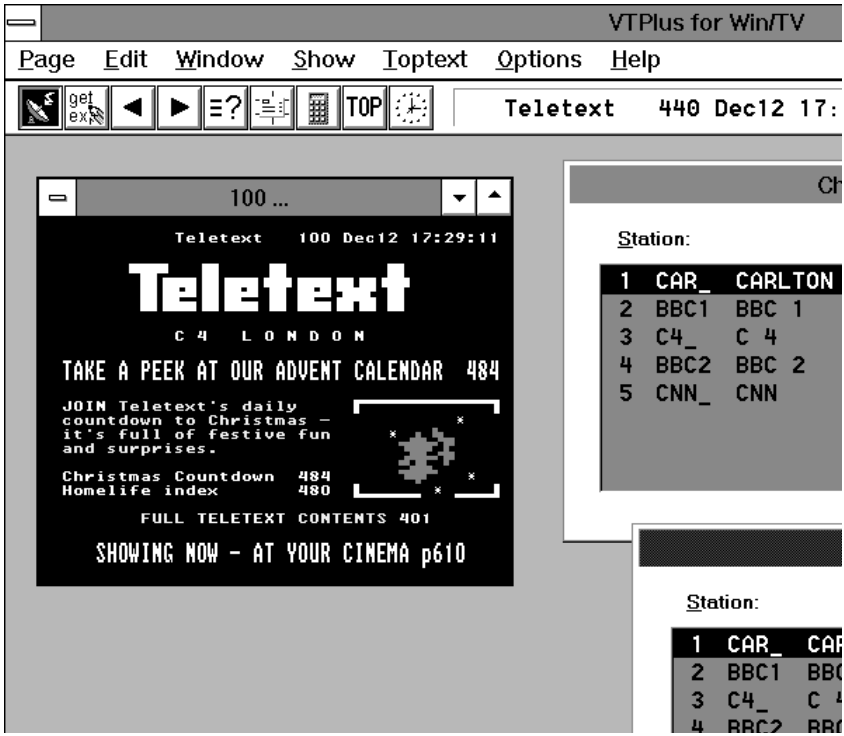
Installation of the VTPlus software

To install VTPlus for Win/TV, go to File Manager, click on **File/Run** and then type: A:\VTSETUP.EXE The program will install in the default directory c:\VTPLUS. The installation creates a group headed **VTPlus for Win/TV 2.2** and three icons will be created. The main icons are:

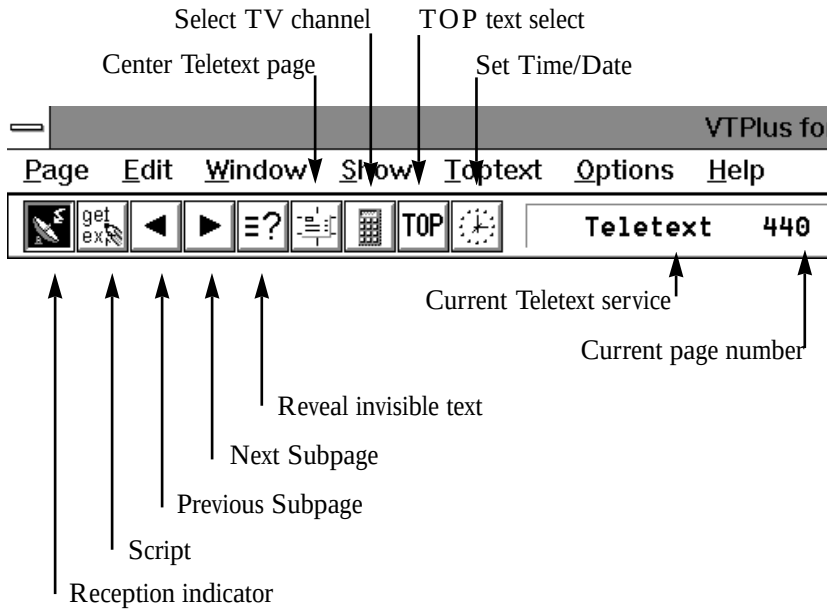
VTPlus program: 

VTPlus On line help: 

VTPlus window



VTPlus toolbar



1. **Reception indicator:** when this symbol is red, your requested page is being received.
2. **Script:** shortcut for **Options/Script**. See **Help** for information on programming the Script.
3. **Select previous Subpage:** indicates, when dark, that there are subpages before the current subpage. When a light grey, there are no subpages before the current page.
4. **Select next Subpage:** indicates, when dark, that there are subpages after the current subpage. When light grey, there are no subpages after the current page. For example, if the current page is 100 and there are no subpages in page 100, the **Select next Subpage** icon will be light grey.
5. **Reveal button:** shortcut for **Show/HiddenCharacters**. When you use this button you might see hidden text, such as VPS time codes or answers from a Quiz.

6. **Arrange in Center:** shortcut for **Window/ArrangeInCenter**. When you click on this button, the actual page will be positioned full size in the center of the Window. The centralized page will return to its original position as something else is activated.

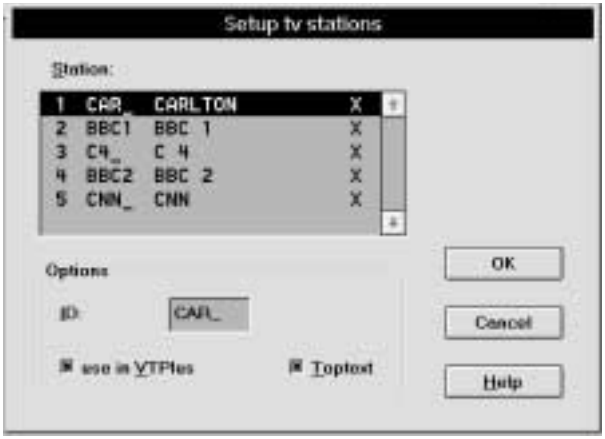
7. **Channel Selection:** shortcut for **Options/Change TV Station**.

8. **Toptext window:** shortcut for **Toptext/ToptextWindowVisible**. When you click the TOP button, the Toptext window will appear. Toptext is also being received with invisible Windows. Toptext is a protocol being used in Germany by TV stations like ZDF/ARD to help the user get a clear, fast overview of the available information being transmitted and to give the user fast access to this transmitted information.

9. **Set System Clock:** shortcut for **Options/SetSystemClock**. Click on this button with your mouse and the received Time from the Teletext channel will be used by the System clock of your PC.

Setting up VTPlus TV channels

By double clicking on the **VTPlus for Win/TV** icon, the VTPlus Teletext application will be launched. The channels that have been previously tuned in by the Win/TV application now have to be selected for VTPlus. To do this, select **Options/ChangeTVstatio**n:



A menu will pop up called **Setup TV stations**. Now select all the stations required and click **use in VTPlus** box for each station desired. Up to three letters

can be used as the channel ID, to allow you to identify which channel you are viewing.

Quickselect Teletext pages

By using the **Ctrl** + **N** key a Create and Receive page pops up requesting a page number. Type the requested page number. If this page is to be received continuously (every time the page is received, the page is automatically updated), click the **Update Continuously** box.

Many Teletext pages have a reference to other pages. For example, the TV guide section has a number of page referrals to movie background information which is being transmitted in other pages. Quickselect allows you to select these pages directly. Double click the left mouse button on the desired page number in the current Teletext page, and a new Window appears with the selected page.

If you do not want to open a new Window, but simply change to the new page, push the **Shift-Key** while double-clicking on the page number in the current Teletext page, and the new selected page will appear in the original window.

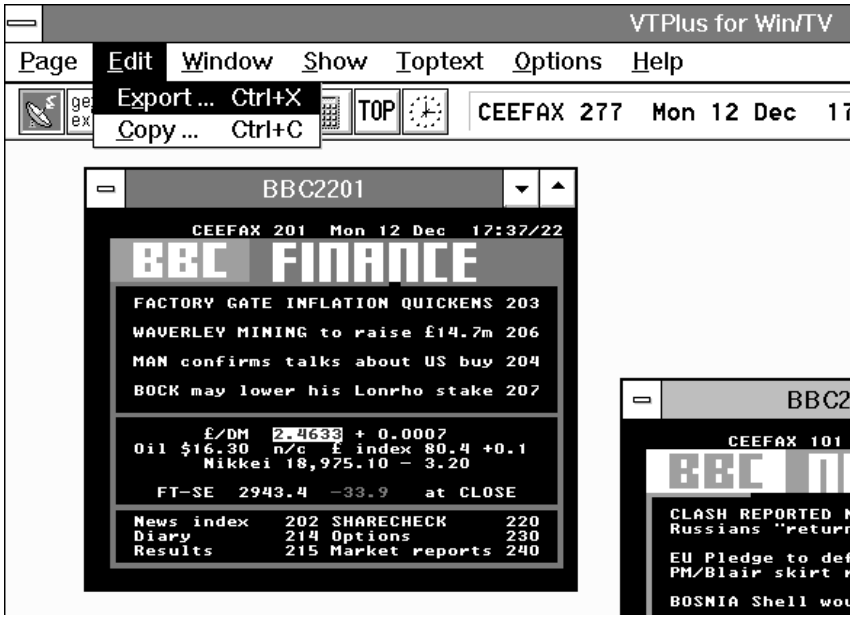
With Quickselect, several pages can be called at once. If a Teletext page refers to a page sequence such as "Share Prices: 500-505", mark the first page number with a single mouse click, click a page number and start the reception with a left Doubleclick on the end page. The distance between the selected pages may not be more than 11.

Example: "News from Page 300-303" are selected with by a single click on 300 and a Doubleclick on 303. The multiple page reception will open individual windows for each of the pages within the selected page numbers.

Dynamic Data Exchange with Teletext

DDE links can be created between the Teletext pages and any Windows program supporting DDE. Programs supporting a live DDE link from a Teletext page include the Microsoft EXCEL spreadsheet and Microsoft WORD.

To create a link, use your mouse to highlight the section of the Teletext page of interest. For example, if the current Teletext page has financial data, highlight with the mouse the financial item of interest by click on the beginning of the field on the Teletext page, holding your mouse button down, and releasing the mouse button at the end of the field.



Then click on **Edit/Copy** option from the Edit menu and click the left button mouse. The information is now in the PC memory. To create a link to the DDE supported applications (such as your spreadsheet), select “edit past link” in your application. VTPlus will now create a direct link to your program.

When the data changes in the selected field on the Teletext page, VTPlus will deliver the data automatically to your DDE supported program. Updates through the DDE occur when all subpages are being received and at every update, when the option **Update Continuously** is marked.

Technical Support

Technical support telephone

If you have questions regarding installation or compatibility, please contact our technical support staff at:

(516) 434-3197
(516) 434-3198 Fax

Service

If you should need assistance with the installation, operation, or application of your Hauppauge Win/TV board, there are several options available to you. Your primary source for information and problem assistance is always your dealer. Should the need arise, contact your dealer for on-site or repair service.

Hauppauge's Technical Support and Customer Service staff can aid in solving many problems. Our service department is available to repair any Hauppauge product. For completion of repair, the product must be returned to our factory.

If this Win/TV board is not in working order, your only recourse is repair or replacement, as described above. UNDER NO CIRCUMSTANCES will Hauppauge be liable for consequential damages, including any lost savings, lost profits, or any other damages, caused by the use of the Win/TV board or inability to use it, even if the dealer or Hauppauge has been advised of such liability or other claims.

The Hauppauge Limited Warranty

Warranty

Hauppauge Computer Works, Inc. warrants the Win/TV board to be free from defects in material and workmanship for a period of 1 year 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 Form inserted in this manual. To obtain service under this warranty, contact Hauppauge Computer works at (516) 434-1600. Please see the return procedure in the "Technical Support" chapter.