

VX30

VX30 ENCODER

Professional Encoding Software



Jonathan Miller & Eugene O'Neill

12/2006

Table of Contents

Installation	2
System Requirements	2
Install Shield	2
Activation	2
The Wizard Layout	4
Section Three	8
The Expert Mode	14
Adding Source Files	15
Previewing Source Files	15
Encoding Settings	19
Detail Settings	22
Player Settings	24
Encoding Video	27
The Video Package (Java)	28
Output Files	28
Output Files	29
Placing Video in your Web Page	29
Preparing the Server	29
For Java video	30
For Flash video	30

Linking to a VX30 HTML File	30
Placing a VX30 Video into Web Page	30
Java Video	30
Sample Code	30
Flash Video	32
Sample Code	32
Before:	33
After:	34
Sending a Video Email	34
Glossary	37

Introduction

Welcome to VX30, the next generation of video encoding software brought to you by the creators of VX30. VX30 has built upon the capabilities of our previous encoding technologies to include support for Flash Video, “VX30” our next generation HD ready codec and a new Wizard encoding mode. Not only will you stun your audience with crystal clear quality video and sound but you also will be amazed at the time saving speed and features of the new VX30 Video Encoder. VX30 is now being distributed in three different packages, VX30 Personal, VX30 Professional and VX30 Flash Professional.

What’s new for Java?

The VX30 Encoder for Java will be the first product to support the all new VX30 codec. VX30 supports over 35% greater compression than our previous VX30 codec. In addition our patented player-less technology has recently been updated to include support for timeline seeking, smart browser memory management and improved client side CPU performance. VX30 for Java will be offered in two modes, Personal and Professional. Personal will be available to the consumer free of charge and can be downloaded today from www.vx30.com. The Personal edition will display a VX30 bumper at the beginning of every video and you will only be able to encode up to 10 minutes of video. The Professional edition has no time limitations and will not display the VX30 bumper. Basic Support is also included with the Professional edition.

VX30 for Flash!

The all new VX30 for Flash encoder is sold as a plug-in for either the VX30 Personal or VX30 Professional encoders. VX30 for Flash is the first encoder on the market today that creates a flash video player that supports client side bandwidth detection. The VX30 Shockwave player will determine the client’s bandwidth capabilities at the beginning of the video streaming session and then will request the appropriate file from the server. VX30 for Flash utilizes the FFmpeg library to encode video into Flash Video Format. Basic Support is included with purchase.

Two Modes Wizard & Expert

Our new Wizard mode now makes encoding Internet video a simplified 5 step process. From the Wizard mode you can set many of options for both encoding and playback with just a few clicks of the mouse. The VX30 encoder is highly flexible in terms of supported source formats. You can encode files from practically any digital video format, DVDs and from a capture device such as a USB camera or a video capture card. For experienced users there is also an Expert mode where you can fine tune dozens

of options. The VX30 encoder also includes a built-in FTP client so that you can automatically upload your content to your remote server during the encoding process.

Summary

VX30 is the one video encoding tool for all people. Whether you are a casual user who would just like to add a video to their personal website or a professional videographer creating content for a major web portal, VX30 is the most efficient, easy to use system for creating high quality streaming video. In addition our patented playerless system makes viewing your content a seamless process for your clients who will not be bothered with media player or bandwidth selection preferences. Finally our patent pending revolutionary codec, VX30, will improve your bottom line with incredible bandwidth savings.

Installation

System Requirements

Before installing your VX30 Encoder please make sure that your workstation meets the following requirements.

1. A Windows PC running Windows 2000 or Windows XP.
2. A Pentium IV 1.8GHZ or equivalent (2.4GHZ recommended).
3. 256 RAM (512MB recommended)

Install Shield

To begin installation of your VX30 Encoder, simply decompress the zip file you downloaded from the MXS website and navigate to the Encoder_Software folder. Double click the setup.exe file to launch the installation wizard.

Please follow the on screen instructions to complete the installation process. Besides installing the VX30 Encoder application the install shield will also install a driver bundle that will allow your application to interface with nearly any digital file format and hardware device¹.

Activation

The first time you use your VX30 Encoder application you will be prompted to enter your name, company name and the license string provided to you by MXS inc. Please make sure that you enter this information exactly as it appears in your License Information email from MXS inc.

¹ The Encoder interfaces with all hardware devices that support the Video for Windows Driver.

The image shows a software dialog box titled "Enter license information". It has a blue header bar with a close button in the top right corner. The dialog is divided into two main sections. The first section, "Personal Info", contains two text input fields: "Name:" with the value "Jonathan Miller" and "Company:" with the value "Maui X-Stream". The second section, "License information", contains a large, empty text area labeled "License string:" with scroll bars on the right and bottom. At the bottom of the dialog are two buttons: "OK" and "Cancel".

Activation Screen

If you cannot activate your encoder please contact your MXS Sales Agent. After successfully entering your license information you will be redirected to the Encoder's Workspace Area.

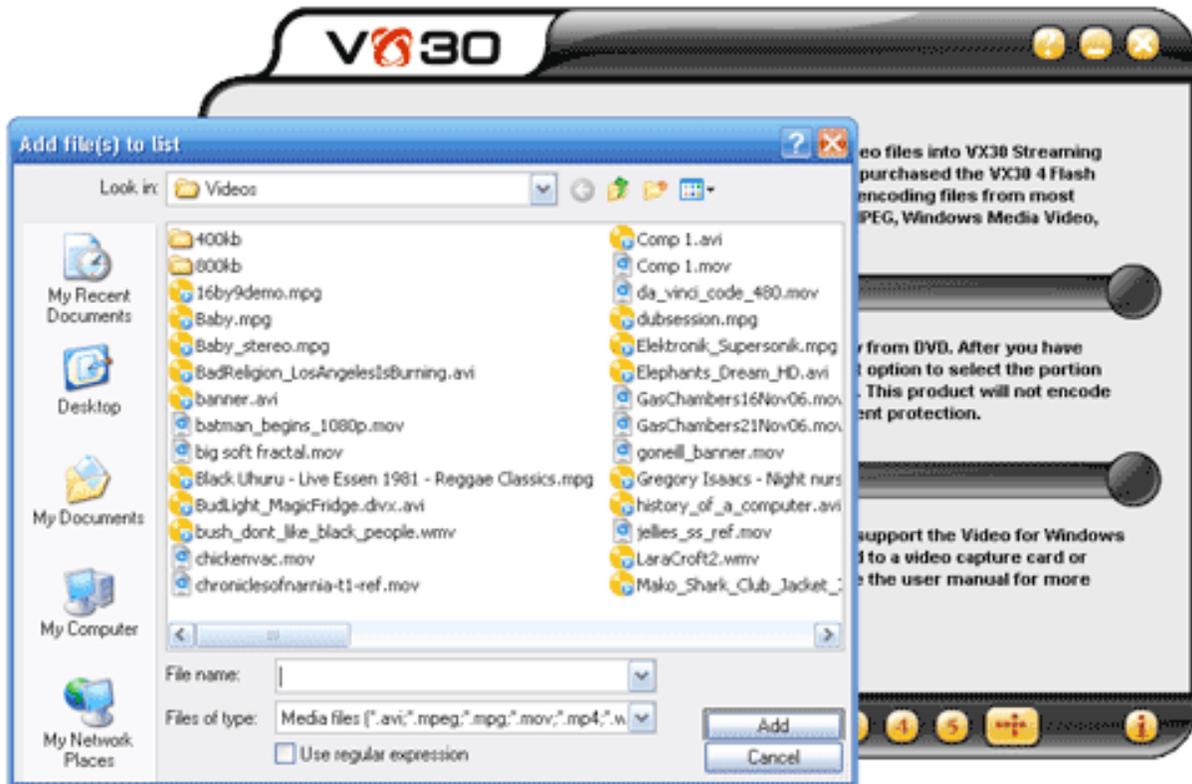
The Wizard Layout

The default layout of the VX30 encoder is a wizard style format. You proceed through five sections to produce a video. To navigate through the wizard you will use the buttons located at the bottom of the wizard. If at any time you choose to explore the expert mode you may do so by selecting the “expert mode” button located on the bottom left of the wizard. To return to the wizard chose File -> Wizard from the top left navigation.



Add file

To add a video file simply select the add file button on the wizard. Now select your video from the windows explorer box. After adding the video or videos select cancel. Now proceed to the next section.



Add DVD

To add a video from an unencrypted DVD select the add DVD button. After the DVD has been added you should be brought to step 2.

Add Device

To add a camera or capture card select the add device button. When the select capture device opens select the appropriate devices and select ok. Now proceed to the next section. Please note that only video for windows devices are supported. You will also only be able to create one stream from a capture device.



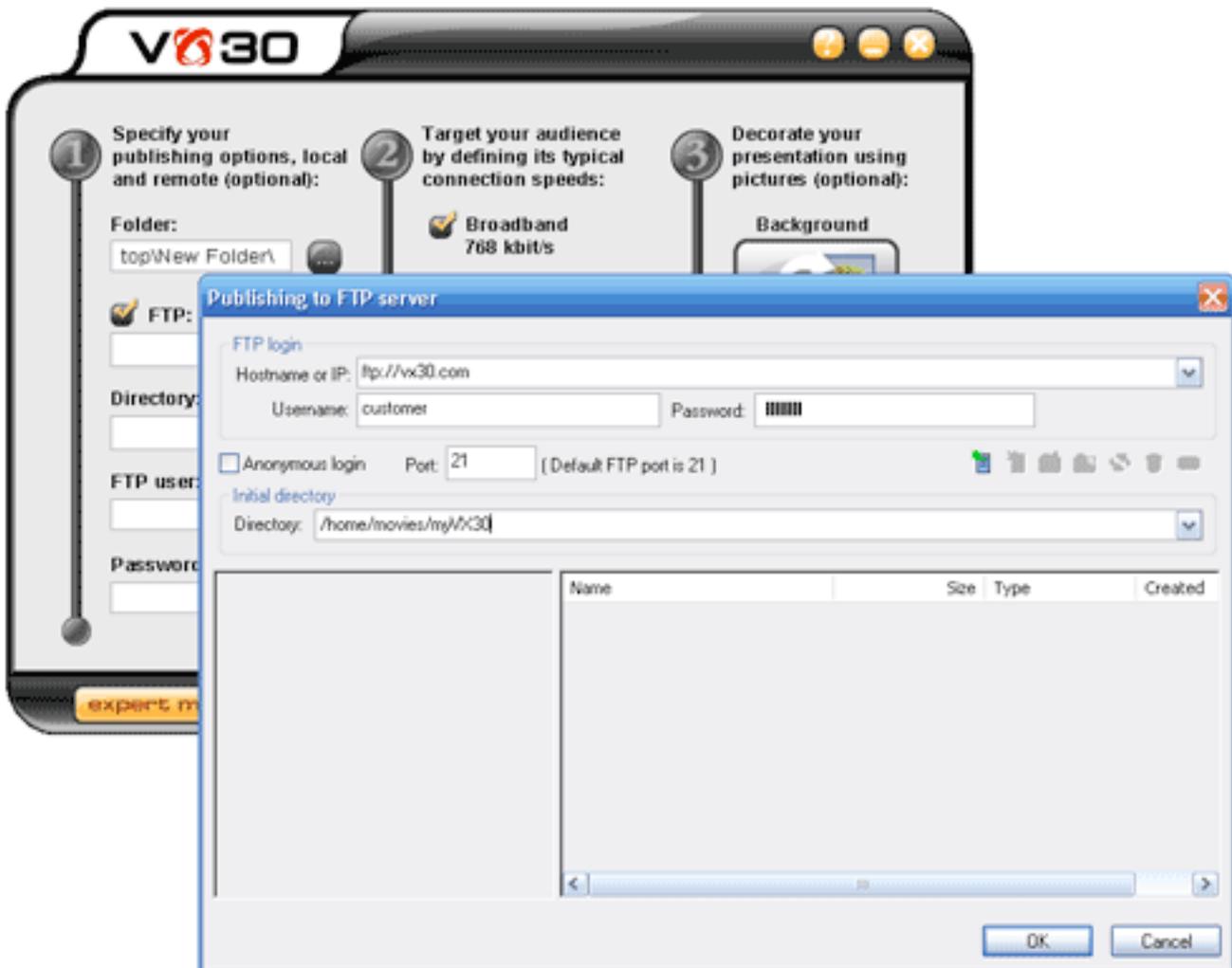
Section Three

The third section offers you the choice to encode the movie to a local folder or send it via FTP to your web server. After making the choice of encoding to a local folder or FTP you will choose what size bandwidth is made available to your clients. Lastly you are given the option of adding background, video title, and video credit images to your movie.

Local or Remote

Choose what folder you want the VX30 files to be placed in after encoding. We recommend that you create separate folders for each batch of videos that you create. While not completely necessary we have found that this is the best way to organize your video clips. You can select the Destination Folder by pressing the button to the right of the input box. This will open up your Windows Explorer - navigate to the desired output location and press OK.

You can also choose to have your VX30 files uploaded to your website by using the built in FTP client. To set up your FTP client click the button to the right of the input box. This will open up a new window where you can input your FTP information.



The ftp client has most of the standard capabilities found in FTP i.e. connect/disconnect, create folder, refresh file list and delete files. All these actions can be performed from the tool bar located just above the directory input box. After entering your hostname, username and password create a connection by pressing by the button on the left hand side of the toolbar. After the client has made connection to the server you will be able to navigate to the location of your desired output. Press OK to exit the window.

Choose your bandwidth

Choose your bandwidth according to what your customers have available to them. Are your customers on cable, dsl, or are they on a dial-up connection? Our recommendation is to choose three- DSL 384 kbit/s, ISDN 128 kbit/s, and Dial-Up 33.6 kbit/s.



Add Images

Adding an Image to your video is as easy as selecting the corresponding button in step 3 of this section. A brief description of these buttons is below.

Video Title - The value of this setting is an image file that will appear before the video starts to play. This can be useful for corporate branding or adding useful static information to the beginning of your video clip.

Video Credits - The value of this setting is an image file that will appear at the end of the video clip.

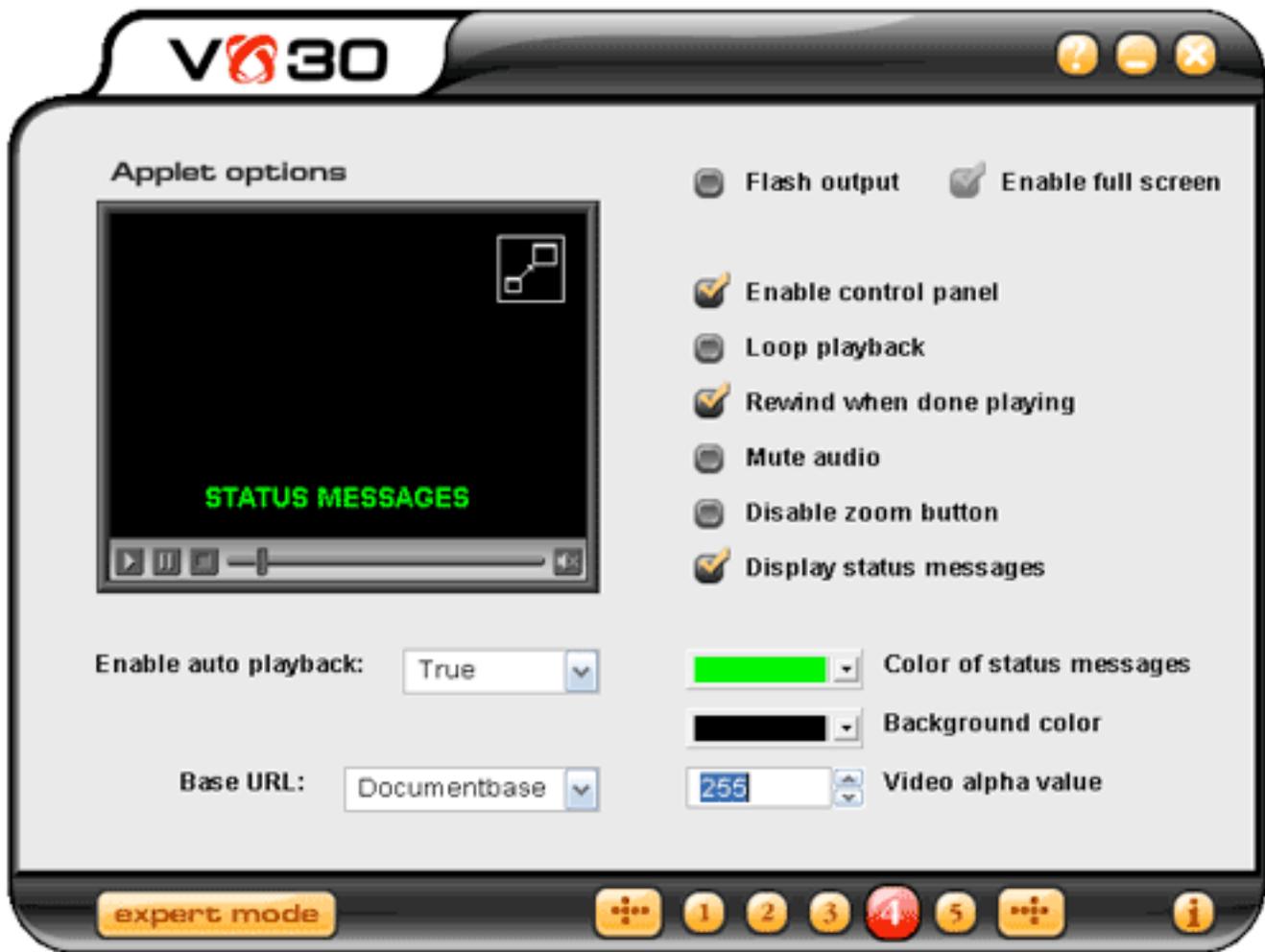
Background Image - The VX30 Video Stream can come in different sizes depending on the settings used to create it and the client's potential bandwidth. For example you may have designed your settings so that the size of the movie will be larger when it is played for a client with a high-speed connection than when it is played for a client on a dial up connection. However even though the video becomes smaller the applet stays the same size. This can be unsightly if the video is embedded into a larger graphic because a border will appear in the space between the edge of the video and the edge of the applet. This problem can be solved with the use of a background image. When the border begins to show you will see the background image instead of the background color of the applet. If you make the background image part of the graphic you will give the illusion that the applet is always the same size as the video.

Choose Flash or Java

If you purchased the Flash component you will have the option to create your VX30 videos in Flash. This is accomplished by selecting the Flash output button at the bottom center of the screen. If this button is checked off no Java streams will be produced.

Applet Options (Java)

The video is rendered on the client's computer by a small program called an applet. An applet is a small highly secure program that uses the Java programming language to operate. Applets are fully integrated into the HTML standard and they can be seamlessly integrated into your website. Applets are highly customizable and from within the wizard you can easily set most of your applet's settings. More of these settings can be accessed via the expert mode. These options are for Java output only.



The Applet Settings are described below:

Base URL - This comes in two forms Documentbase or Codebase. You use the Documentbase if the web page and the video files reside in the same folder on the server. If the web page is going to link to a video that exists in a different folder or server entirely you need to use the Codebase parameter.

Enable auto playback - this determines when the video will start playing. If set to true the video will start playing as soon as it has buffered. If you set it to false the video will start playing when the play button has been pressed. The final option is to set it to Rollover, which sets the video to start when the mouse rolls over the video.

Enable control panel - You can turn on/off the control panel of the applet with this setting. The control panel is the bar that contains the play/pause, stop and mute buttons.

Loop playback - if this is set to true the video will restart playing when it reaches the end. If set to false the video will only play once.

Rewind when done playing - this value is used in conjunction with the title and end images that you specified in the Simple Section. When set to true when the video end it will load the title image. If set to false it will load the End image when done playing.

Mute Audio - determines whether to turn the sound on or off.

Disable zoom button - When the mouse rolls over the video an image of a square in a square appears in the bottom right hand corner of the video. This image is a link that will open the video in its own resizable window. If you want to disable this zoom button set this value to true.

Display status messages - When set to true all buffering and loading messages will be printed to screen at the bottom of the applet. This can be very useful information for the client and we recommend that you set this value to true. However if you prefer you can turn off the status messages by setting this value to false.

Status messages color - This value controls what color the status messages will be. We recommend that you use a color that will be visible against the background color you chose for the applet's background color.

Applet's background color - By default the applet's background color is white. However you can adjust this to another color by clicking on the value box. This will load a color chart in a new window. Choose your desired setting and press OK.

Video alpha value, 0-255- This will set the transparency level of the video with 0 being fully transparent and 255 being opaque.

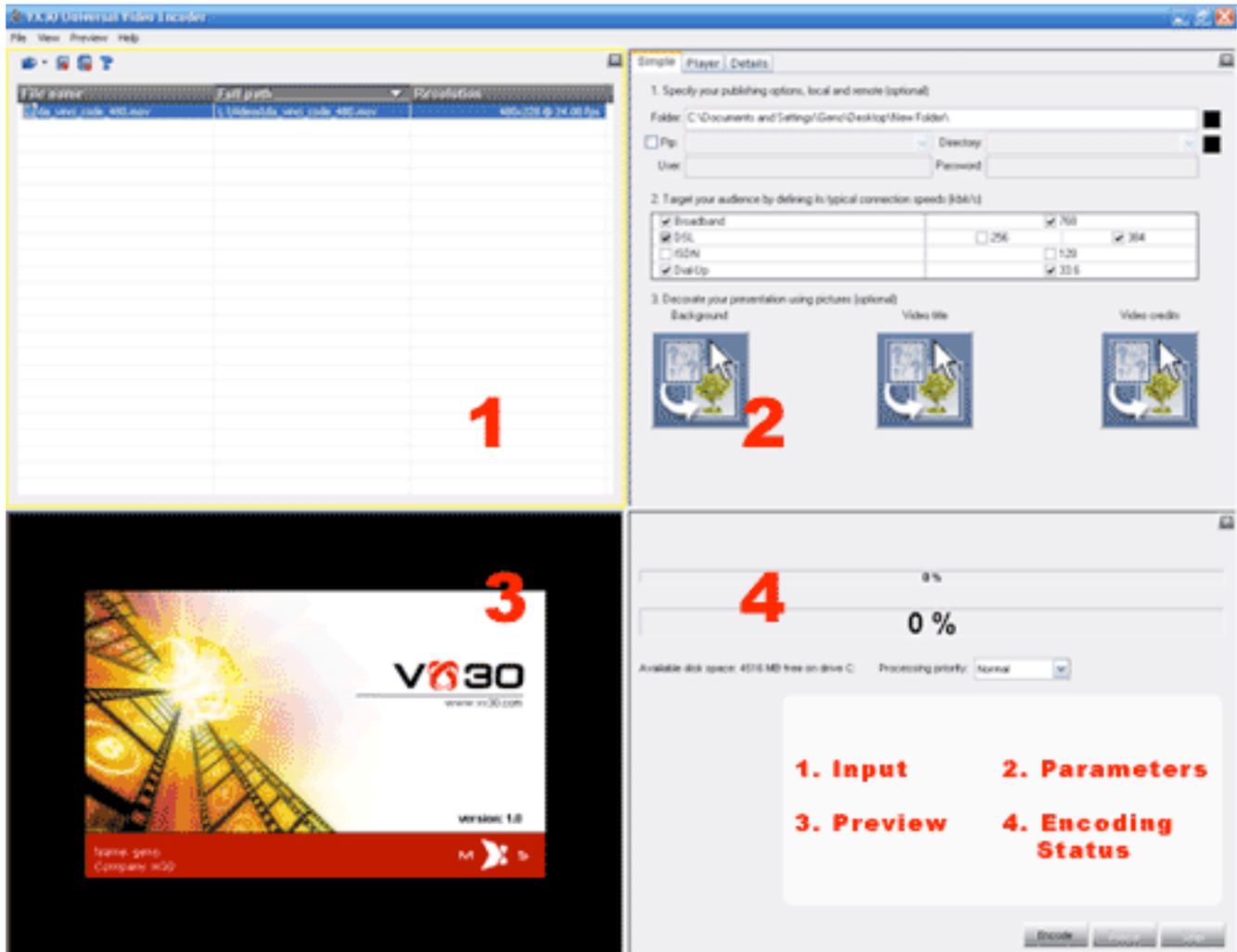
Encoding the video

The last step is to encode your video. This fifth step has two options show input video and processing priority. The show input video option will show your video as it encodes. If you are running a slower system you may want to disable this as it will cause more resources to be used. The processing priority sets the priority of the application in its queue to the CPU. The lower the priority the longer it may take to encode, but you will also be able to use the resources of your computer to do other tasks.



The Expert Mode

The VX30 Encoder's divided into four sections. These subsections can be resized manually. To resize the workspace drag on any of the frame bars that forms a "T" at the center of the workspace area. To make a subsection full screen press the rectangular button at the top right hand corner of each area.



The Four Corners

The four subsections of the workspace area are from left to right, top to bottom are the File/ Device Input area, the Encoding Parameters section, the Preview Player and the Encoding Status Indicator. The VX30 Encoder comes with many tools for producing your streaming video clip(s). In the input area you can set up batch processing, in the encoding parameters section you can do some simple video editing as well as create the run time characteristics of your Player applet. From the preview section you

can watch the original clip as well as create snap shots for later use. All these features will be explained in full detail later in this chapter.

Adding Source Files

The input section (the area in the upper left-hand corner) is where you place your source files that you wish to encode. There are several ways to add files into the input section which should all be familiar to users who are experienced with the Windows Operating System. For those new to Windows the easiest way is to click the yellow folder in the tool bar at the top of the input section and choose **Add File(s)**. This will launch the windows explorer dialog box. Navigate to your files location and then add the appropriate files.

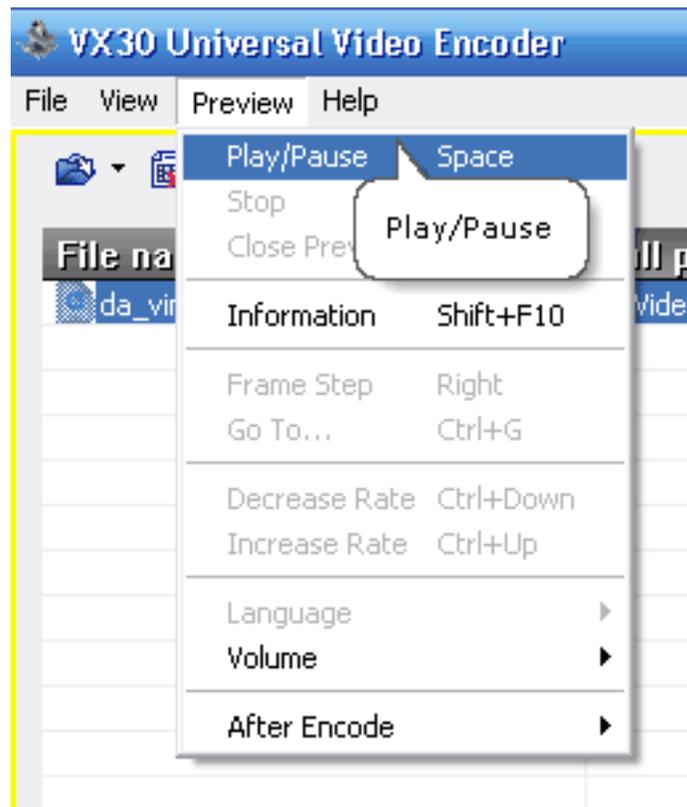
The input section will display the Source File's Name and Path to its location on the local drive. Removing a file is as simple as highlighting it and pressing the **black X** in the toolbar. To remove all files in the input section you can click the **red X** in the same toolbar. You can learn more about a source file by highlighting it and then pressing the **Yellow Question Mark** that appears in the toolbar. A dialog box will appear that contains detailed information on the source video file.

Batch Processing

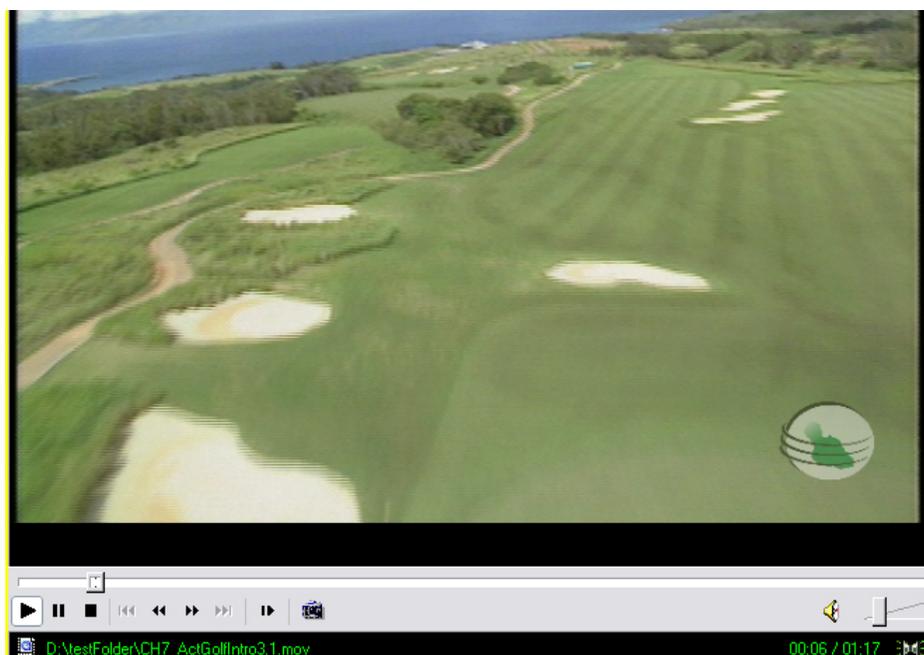
The VX30 Encoder supports batch processing. This can be a convenient feature if you have a number of videos that you wish to encode. To batch process continue to add as many files as you need into the **Input Section**. If you have multiple files that need to have the same encoding parameters first edit one file to have the desired characteristics. To give another file the same attributes highlight the properly configured file and then press the **shift** key on the keyboard and the **arrow** key (up or down) to highlight both files. This will give the second file the same settings as the first. You can continue to press the **arrow** key to include as many files as you require.

Previewing Source Files

The preview section is in the lower left hand side of the workspace area. The preview section is where you can watch your source video files. To view a source file highlight it inside the Input Section and then press **Preview -> Play/Pause** from the Windows Toolbar.

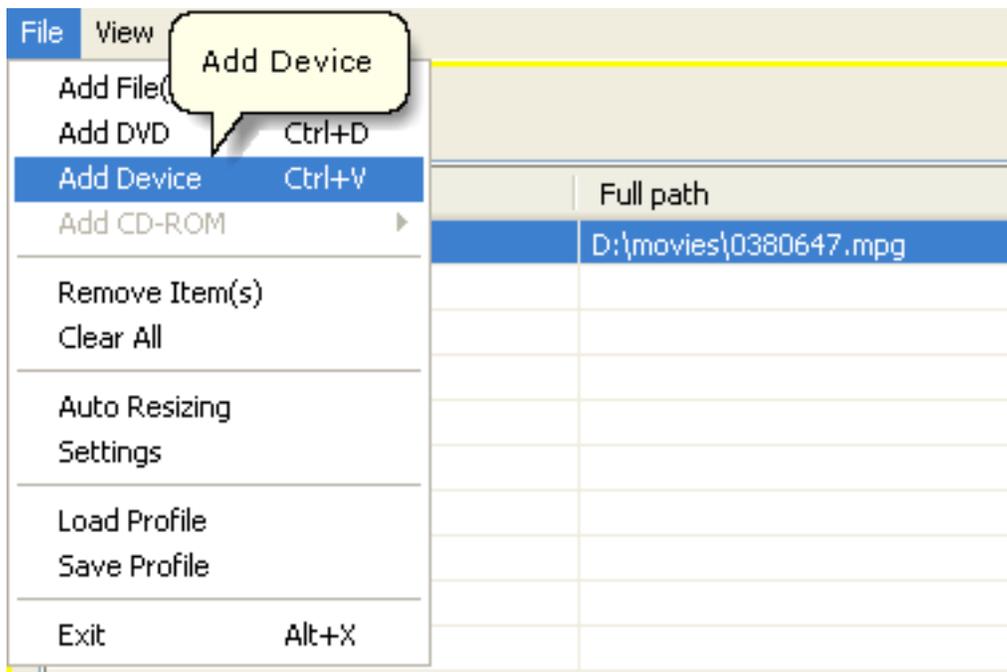


From the player's control bar you have all the standard options for video playback i.e. **play, pause, stop** etc... From the toolbar you can also take snapshots of the video. These snapshots can be used later on as the title, background or end images of your video. To create a snapshot press the **camera** icon in the Player Toolbar. After pressing the camera icon you will be prompted by Windows Explorer for the location of where you would like to save the file.



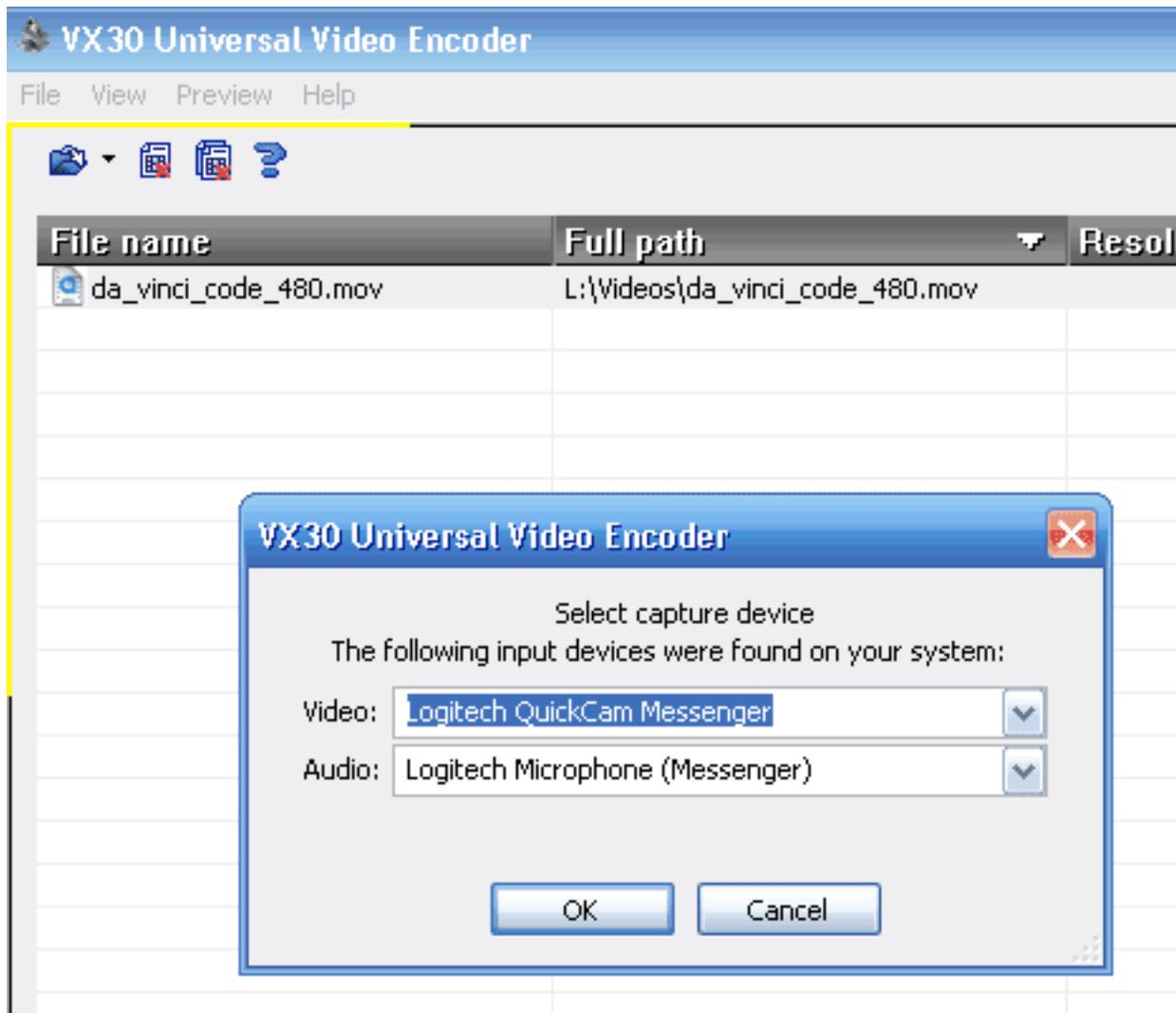
Adding DVD as a Source

The first step in encoding a DVD is to place an unencrypted DVD into your DVD drive. Then choose **File -> add DVD** from the Windows Tool Bar. You are now ready to go to the Parameters section to input your configuration.



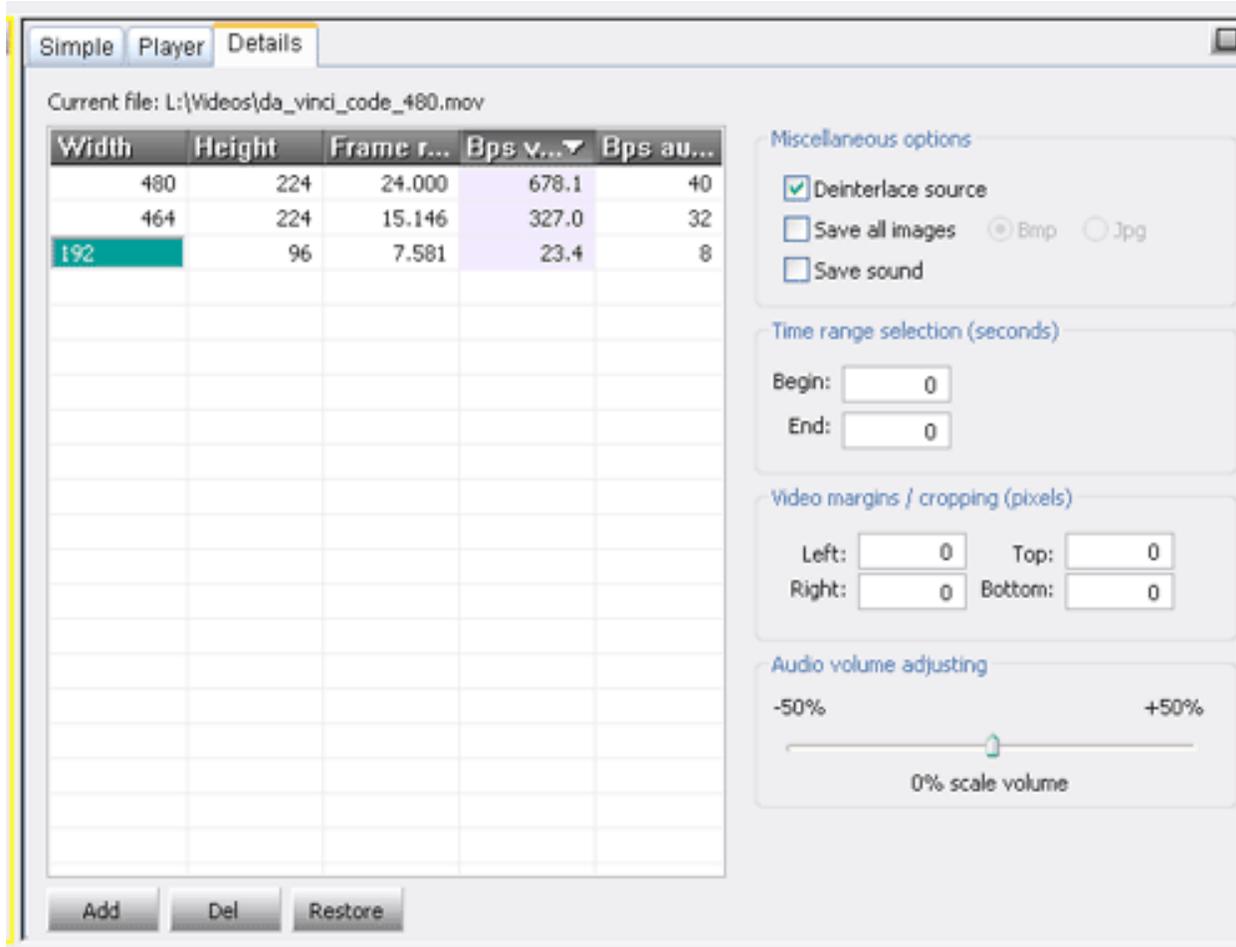
Adding a Capture Device as Source

If you have a Windows approved video hardware device (i.e. a web camera, a video capture card, camcorder etc...) you will be able to capture a live stream from the device directly into VX30 format. The first step in encoding from a device is to make sure that you have properly installed the hardware per the manufacturer's instructions with your PC. After you have successfully installed the device you can initiate it with your VX30 Encoder application by choosing **File -> add Device** from the Windows Toolbar. After choosing to add a device a dialog box will appear with the input devices that were discovered on your system.



Choose the appropriate device from the drop down boxes provided for both the audio and video devices. After initializing your device you should test the device, by pressing **Play** from the Windows Toolbar. After you have verified that the device is playing properly you can move on to the parameters section.

Capturing from device is slightly different than standard encoding. The difference being for capturing you will need to set a length for the amount of time that you wish to encode. Under the **Details** tab in the Encoding Parameters section you will need to enter an integer value that represents the number of seconds that you need to capture. In the subsection **Time Range Selection (seconds)** set the **End** value to be the length of time that you need to encode. Another important difference from live capture and standard encoding is that with live capture you can only record for one profile setting. When setting up your parameters in the **Details** section make sure that you have removed all the profiles except the one you wish to encode.



Encoding Settings

The Encoding Parameters section is where you input the configurations for the VX30 movies that will be created by the encoder. The VX30 movies are highly configurable and you have many options on the size, quality, presentation and characteristics of your video clips. At first you may wish to keep the production of your clips simple but as you grow in familiarity with the program we invite you to try the more advanced features. You will be glad that you did!

The Encoding Parameters section comes in three sub-sections that are navigated by the three tabs at the top of the section named **Simple**, **Player**, and **Details**. We will describe each section in full detail but generally they are associated this way.

Simple - By only using this section you can create a complete VX30 Movie. However for best results we recommend that you also learn to use the **Details** sections. This section does include a few options that are important to every level of experience which will be outlined later.

Player - Here you are given the choice to use Flash or Java for your VX30 movie. This section has a number of parameters that control the characteristics of the player applet. This section includes many

options that you may wish to explore and will be essential for the Professional who wishes to make their applet a natural part of their web site.

Details - This section is where you can completely control the physical properties of your movie. This section is absolutely essential for professional results. We strongly recommend that you have a close look at this section before you place video onto your server. Do not be apprehensive this section is not that complicated and once you understand its purpose it will make creating professional results easy.

Target Bandwidth

You are also given the option of selecting one of the pre-set movie settings. These settings will create a bitrate and image size in accordance to the level of bandwidth chosen

The screenshot shows a software window with three tabs: 'Simple', 'Player', and 'Details'. The 'Details' tab is active. It contains the following sections:

- 1. Specify your publishing options, local and remote (optional):**
 - Folder: L:\
 - Ftp: [dropdown] Directory: [dropdown]
 - User: [text box] Password: [text box]
- 2. Target your audience by defining its typical connection speeds (kbit/s):**

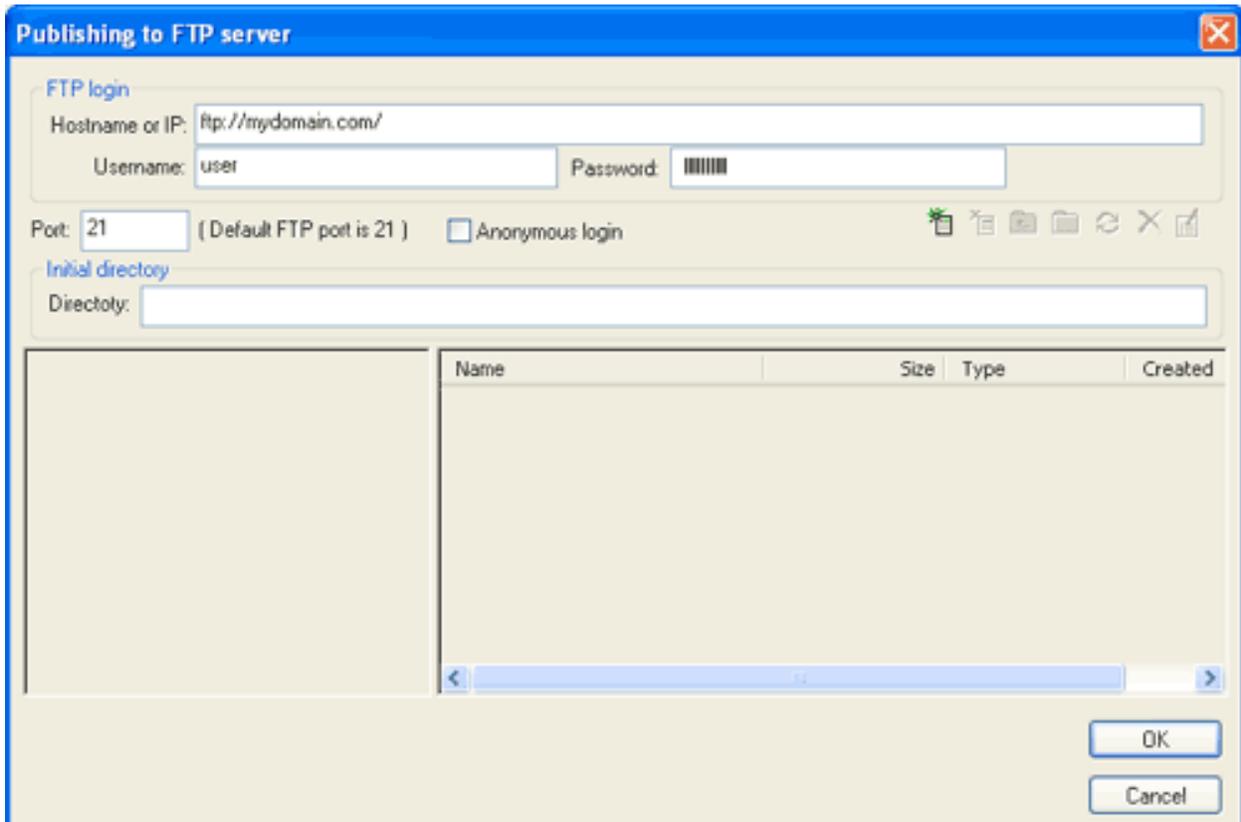
<input checked="" type="checkbox"/> Broadband	<input checked="" type="checkbox"/> 768
<input checked="" type="checkbox"/> DSL	<input type="checkbox"/> 256 <input checked="" type="checkbox"/> 384
<input type="checkbox"/> ISDN	<input type="checkbox"/> 128
<input checked="" type="checkbox"/> Dial-Up	<input checked="" type="checkbox"/> 33.6
- 3. Decorate your presentation using pictures (optional):**
 - Background: [icon]
 - Video title: [icon]
 - Video credits: [icon]

Destination Folder and FTP

The **Destination Folder** is where your VX30 files will be placed as they are created. We recommend that you create separate folders for each batch of videos that you create. While not completely necessary we have found that this is the best way to organize your video clips. You can select the **Desti-**

nation Folder by pressing the button to the right of the input box. This will open up your Windows Explorer - navigate to the desired output location and press **OK**.

The VX30 Encoder comes with a built in FTP client. Should you desire to place your videos directly onto your server you can configure your FTP client to do this automatically. To set up your FTP client click the button to the right of the input box. This will open up a new window where you can input your FTP information.



The ftp client has most of the standard capabilities found in FTP i.e. connect/disconnect, create folder, refresh file list and delete files. All these actions can be performed from the tool bar located just above the directory input box. After entering your hostname, username and password create a connection by pressing by the button on the left hand side of the toolbar. After the client has made connection to the server you will be able to navigate to the location of your desired output. Press OK to exit the window.

Images and the Applet

The VX30 player applet can make use of three types of images. These images are title, end and background. Please find a quick description of each below.

Title Image - The value of this setting is an image file that will appear before the video starts to play. This can be useful for corporate branding or adding useful static information to the beginning of your video clip.

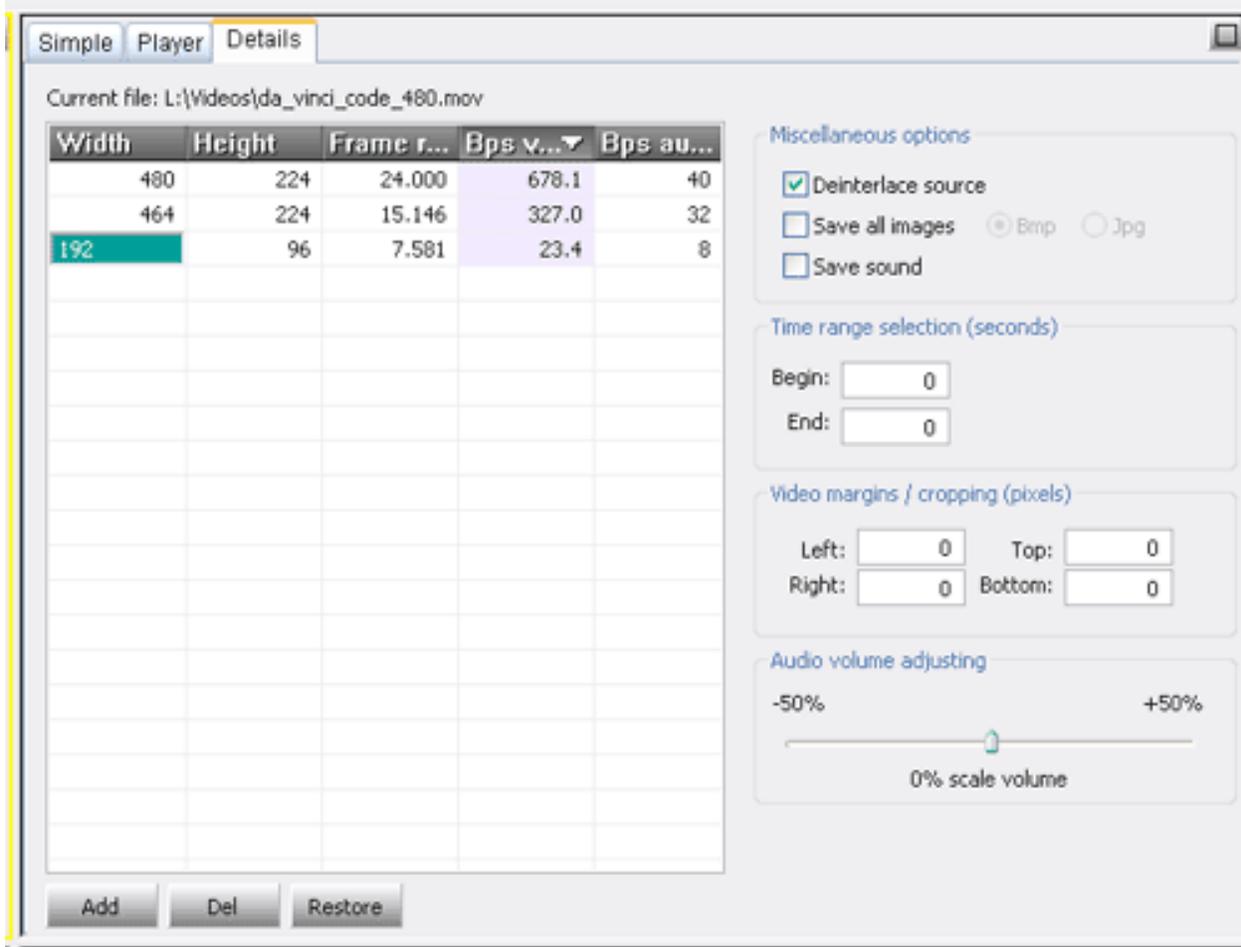
End Image - The value of this setting is an image file that will appear at the end of the video clip.

Background Image - The VX30 Video Stream can come in different sizes depending on the settings used to create it and the client's potential bandwidth. For example you may have designed your settings so that the size of the movie will be larger when it is played for a client with a high-speed connection than when it is played for a client on a dial up connection. However even though the video becomes smaller the applet stays the same size. This can be unsightly if the video is embedded into a larger graphic because a border will appear in the space between the edge of the video and the edge of the applet. This problem can be solved with the use of a background image. When the border begins to show you will see the background image instead of the background color of the applet. If you make the background image part of the graphic you will give the illusion that the applet is always the same size as the video.

Image files can be any of the standard formats i.e. jpeg, gif, bmp etc... When the video is finished encoding all the selected image files will be included in the destination folder with your VX30 files. Selecting the image to be used for each of the above values is done by clicking the button to the right of the corresponding input box. Navigate to the files location on your local or network drive and press **O.K.**

Detail Settings

The **Details Section** is where you can specify the exact physical dimensions of your VX30 video clips. In the main table section you can specify how many **Profiles** you are going to create. Each row constitutes one profile, which you should think of as it's own separate video clip. You create as many of these **Profiles** as you would like to make available for your customers. Typically for streaming video on the Internet you will need to create three types of profiles which can be characterized as small, medium and large. Each of these profiles will have its own audio and video file. The vxm Player Applet determines which of these **Profiles** to make available to the customer depending on the speed of their Internet connection. For example if someone is on a dial-up connection they would receive the small **Profile**.



From within the **Details Table** you can add, edit or delete profiles. There are three buttons at the bottom of the table for major actions. To edit a column in a profile use the mouse to click on the column and then add in the new value using your keyboard. Once you have highlighted a column within the table you can navigate it using your arrow keys. Below you will find a table for the recommended settings for creating video clips for the web. You can create your own settings based upon your needs and experience but this is an excellent starting point and will produce the same high quality clips that you see on the www.vx30.com website. Please note that the widths and heights given in the example are for videos that come in the standard NTSC 4 x 3 format. If your video comes in a different format i.e. wide screen, you will need to adjust your width to height ratio accordingly.

Recommended Settings

WIDTH	HEIGHT	FRAME RATE	BPS VIDEO	BPS AUDIO
240	180	10	40	8
320	240	13	112	16
320	240	15	268	32

Note that you can add more profiles or adjust any of these settings to your own requirements. However these settings are an excellent starting ground for professional results. They cover a variety of bandwidth potentials, they will not take up an inordinate amount of hard drive space and the physical size/frame rates will guarantee that the video will play on older slower computers.

Additional Settings

To the right of the table area are some additional settings. These settings have some basic editing tools that can be used if you need to make some simple changes to your video. A quick description of each section is provided below:

Deinterlace - Commonly when video is prepared for television it is *interlaced*. This is the process by which “alternate raster lines of a frame are displaced vertically by half the scan line pitch and displaced temporarily by half the frame time, to form an odd and an even field.”² When displayed on a computer screen interlace can make the video look like it is segmented horizontally. To solve this problem choose the deinterlace option when encoding.

Save All Images - If you choose this option every frame that is encoded will be saved as a jpeg or bmp image. This can be useful if you need to analyze every frame of motion i.e. sports training.

Save Sound - If you choose this option the sound will be saved as an audio track.

Time Range - If you wish to encode only a portion of the original file you can use this section to set beginning and end points. The points are set in seconds. So for example if you wish to only encode the first 15 seconds of a clip you would set **Begin** to 0 and you would set **End** to 15.

Video Margins - if your clip has unwanted margins you can set these crop marks to remove them. The measurement is done in pixels. Typically if your video suffers from “over-scan” you will need to set all your margins to 16.

Audio Volume - this slider bar will adjust the volume of your audio track.

Player Settings

The video is rendered on the client’s computer by a small program called an *applet*. An applet is a small highly secure program that uses the **Java** programming language to operate. Applets are fully integrated into the HTML standard and they can be seamlessly integrated into your website. Applets are highly customizable and from within the encoding application you can easily set all your applet’s settings. These settings can be found under the third tab in the **Parameters Section** called **Player**. Each of the Applet Settings are described below:

² Taken from www.sun.com
Maui X-Stream Inc.

Base URL - This comes in two forms **Documentbase** or **Codebase**. You use the **Documentbase** if the web page and the video files reside in the same folder on the server. If the web page is going to link to a video that exists in a different folder or server entirely you need to use the **Codebase** parameter.

OnClick URL - This value when left blank has no effect on the applet. However if you place a web address as the value, when a user clicks on the video it will redirect them to the value specified.

OnClick URL target window - This value when used in conjunction with **OnClick URL** determines which web window will be used to load the URL. This uses the HTML standard code for determining which window will be opened.

`_blank` = new window

`_parent` = parent window

`_self` = this window

Enable auto playback - this determines when the video will start playing. If set to **true** the video will start playing as soon as it has buffered. If you set it to **false** the video will start playing when the play button has been pressed. The final option is to set it to **Rollover**, which sets the video to start when the mouse rolls over the video.

Loop playback - if this is set to **true** the video will restart playing when it reaches the end. If set to **false** the video will only play once.

Rewind when done playing - this value is used in conjunction with the title and end images that you specified in the **Simple Section**. When set to **true** when the video end it will load the title image. If set to **false** it will load the End image when done playing.

Mute Audio - determines whether to turn the sound on or off.

Applet's background color - By default the applet's background color is white. However you can adjust this to another color by clicking on the **value** box. This will load a color chart in a new window. Choose your desired setting and press **OK**.

Video alpha value, 0..255 - This will set the transparency level of the video with 0 being fully transparent and 255 being opaque.³

Disable zoom button - When the mouse rolls over the video an image of a square in a square appears in the bottom right hand corner of the video. This image is a link that will open the video in its own resizable window. If you want to disable this **zoom button** set this value to **true**.

Use ascetic popup - When a user right (pc)/ctrl (mac) clicks the player applet a dialog box will appear. If you want the dialog box to contain a full properties window you set this value to **false**. However if you want the window to only have a link to VX30 appear set this value to **true**.

Display status messages - When set to **true** all buffering and loading messages will be printed to screen at the bottom of the applet. This can be very useful information for the client and we recommend that you

³ Not supported by all Java Virtual Machines - not recommended to use for public web streaming.

set this value to **true**. However if you prefer you can turn off the status messages by setting this value to **false**.

Status messages color - This value controls what color the status messages will be. We recommend that you use a color that will be visible against the background color you chose for the **applet's background color**.

Enable control panel - You can turn on/off the control panel of the applet with this setting. The control panel is the bar that contains the play/pause, stop and mute buttons.

Controls layout string - This setting can be broken down to two parts separated by a colon. The first two letters determine where the control panel will appear on the applet. Use the chart below to position your buttons.

Horizontal Alignment

	LEFT	CENTER	RIGHT
TOP	tl	tc	tr
BOTTOM	bl	bc	br

Vertical Alignment

	TOP	CENTER	BOTTOM
LEFT	lt	lc	lb
RIGHT	rt	rc	rb

The letters that appear after the colon determine which buttons will appear and in which order. You have four options with button on the horizontal control bar and three options with the vertical control bar. Your options are as follows

p - play/pause

s - stop

m - mute

b - timeline indicator⁴

The default setting for the **Controls layout string** is `bc:psbm` which would put the controls at the bottom center with the layout being: **play/pause - stop - timeline indicator - mute**.

Static Control Panel - If set to **true** the control panel will always appear in the location specified by **Controls layout string**. If set to **false** the control panel will hide until the mouse rolls over the video.

Panel show delay, ms - If **static control panel** is set to **true** this value (in milliseconds) will control how long the panel will be visible once the mouse has moved away from the video. After the delay has expired the control panel will disappear.

Encoding Video

Now that you have set up your **profiles** and **applet settings** encoding the video is just a click away. In the **Encoding Area** simply click the **Encode** button to start the process. After you have started the encoding the **Encoding Area** will go full screen and will show the progress of your job. The progress is stated in two color progress bars that appear at the top of the window. The top bar shows the progress on the current profile that is being created while the bar beneath shows the progress for the total job. Beneath the lower bar is an indicator on the amount of time the job has been encoding for and estimated length of the entire job. You can control the processing priority of your job from the select box. You may also choose to watch the source file as it is being encoded by checking the corresponding box. At any time you can pause or stop the job by using the corresponding buttons at the bottom of the window.

If you are using the ftp function as soon as the first file has completed encoding the application will connect to the server and begin to transfer the files. This will continue until all the files have been uploaded. When the job has been completed the **Encoding Area** will minimize back to the lower right hand corner.

⁴ When using the vertical alignment you cannot have a time line indicator.
Maui X-Stream Inc.

The Video Package (Java)

Output Files

To see what kind of files the VX30 Encoder (Java) creates lets go to one of your **Destination** folders. The VX30 Encoder creates several types of files a brief description of each is given below.

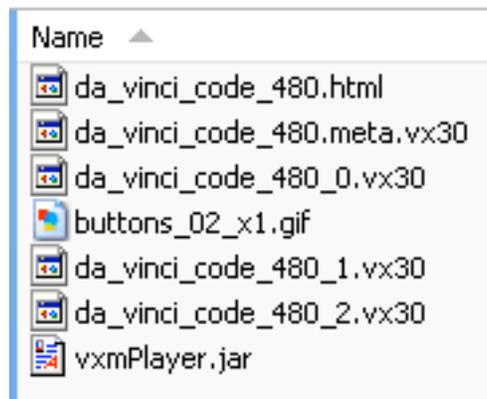
vxmPlayer.jar - this file contains all the code that is required to render the video on the client's computer. You can consider it a **video server** in a file. You will require only one **vxmPlayer.jar** file per directory.

xxxx.meta.VX30 - this file acts as a table of contents for the video package. The jar file reads this file to determine what kind of audio and video files are available for streaming. There exists exactly one meta file per VX30 video. This file cannot be altered.

xxxx_0.VX30 - this is a VX30 audio/video file. There may be multiple audio/video files - depending on the settings you used for encoding the video.

xxxx.html - this is an auto-generated web page. You can preview your VX30 video by opening this file with your web browser. You can link to this file from your web page(s) or you can copy and paste the applet code contained within into your web page.

buttons.gif - this is the default control panel that is used with the encoder.



You cannot alter the meta.VX30 file nor can you remove a video or audio file from the package. For the package to operate correctly it must remain intact the way it was created. However you may edit your HTML file. By editing the parameters within you can change the characteristics of the applet. If a patch is released on the encoder you may replace the jar file with a newer one as long as it is not part of a major version upgrade.

The Video Package (Flash)

Output Files

To see what kind of files the VX30 Encoder (Flash) creates lets go to one of your **Destination** folders. The VX30 Encoder creates several types of files a brief description of each is given below.

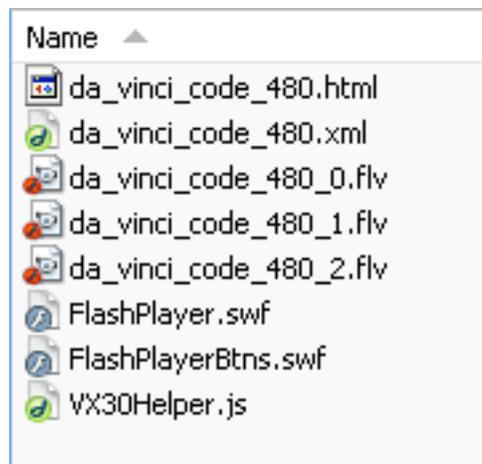
xxxx.xml - this file contains the parameters of your flash video. You can manually change these parameters here. These parameters are similar to those in the java video.

FlashPlayerBtns.swf - this file contains the buttons used in the flash player.

FlashPlayer.swf – this is the flash player that is responsible for the playback of the .flv files.

xxxx.html - this is an auto-generated web page. You can preview your VX30 video by opening this file with your web browser. You can link to this file from your web page(s) or you can copy and paste the object code contained within into your web page.

xxxx_0.flv – this is the flash video.



Placing Video in your Web Page

Preparing the Server

Windows - To stream video from your IIS server you will first need to configure the server to recognize VX30 as an accepted mime type. To configure mime types on your IIS server you need to open your Web Sites Properties. To open Web Site Properties first open the Internet Services Manager which can be found in **Start -> Administrative Tools -> Internet Information Services (IIS) Manager**. In Internet Services Manager, in the console tree, expand SERVERNAME (your local computer), and then expand Web Sites. In the console tree, right-click **Default Web Site**, and then click **Properties**. When the Web

Site Properties box open click on the tab **HTTP Headers**. Click the **File Types...** button in the **MIME Map** section. When prompted please enter the following values in the appropriate fields.

For Java video

Extension = .VX30

Mime-Type = VX30

For Flash video

Extension = .flv

Mime-Type = flv

Unix, Linux, OS X - Unix based servers do not require any configuration or installation of additional software.

Linking to a VX30 HTML File

The first step in placing your video on your website is to place the VX30 Video Package onto your web server. If you used the FTP client included with the Encoder your video files are already on your server. Otherwise use your favorite FTP/SFTP client to transfer the files to your web server. Once the files are on the server you can place a link in your web page to the HTML file created by the encoder.

Placing a VX30 Video into Web Page

Java Video

You may also embed your Java video in your pre-existing web page. This is done by doing two things:

Place the applet Code into your web page.

Configure your applet Code to know the location of your VX30.

You can find the applet code within the HTML file created by the encoder. Simply open the HTML file with your favorite text editor (i.e. notepad, Dreamweaver, etc...) and locate the line that contains the opening **<applet>** tag. Then scroll down the page until you find the closing **</applet>** tag. Then copy all the lines contained within including the applet tags (the green text shown below).

Sample Code

```
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN">
```

```
<html>
```

```

<head>
<meta http-equiv="Content-Type" content="text/html; charset=Windows-1252">
<title></title>
</head>
<body>
<applet name="vxmPlayer" archive="vxmPlayer.jar" code="vxmPlayer.class" width="352" height="288"
mayscript>
<param name="MetaURL" value="25sec.meta.VX30">
<param name="VideoTitle" value="25sec">
<param name="UrlBase" value="documentbase">
<param name="OnClickUrl" value="http://www.VX30.com/">
<param name="OnClickUrlTarget" value="_blank">

<param name="AutoPlay" value="true">
<param name="RepeatForever" value="false">
<param name="RewindWhenDonePlaying" value="true">
<param name="MuteAudio" value="false">

<param name="BackgroundColor" value="000000">
<param name="VideoAlphaValue" value="255">
<param name="DisableZoomButton" value="false">
<param name="AsceticPopup" value="false">
<param name="ShowStatusMessages" value="true">
<param name="StatusMessagesColor" value="00FF00">

<param name="EnablePanel" value="true">
<param name="PanellImagesURL" value="buttons.gif">
<param name="PanelButtonsWidths" value="15,15,15,7,6,1,6,15">
<param name="ControlsLayout" value="bc:psbm">
<param name="MaxReplayTimes" value="0">
<param name="PanelAlwaysOn" value="true">
<param name="PanelShowDelay" value="3000">
<a href="http://jdk.sun.com/webapps/getjava/BrowserRedirect?locale=en&host=www.java.com:80"
alt="Java Download" target="_blank"></a></applet><br>

<br>
</body>
</html>

```

After you copy the code the next step is to paste it into your web page where you would like the video to appear. However, this code will not properly function until you configure the applet to know where your VX30 video package is found. To do this first alter the URLBase parameter, found within the applet tags, to equal **Codebase**. The final step in setting up your VX30 movie is to add a parameter inside the first applet tag called codebase. The value of the codebase parameter should equal the location of your VX30 video package. Please see the sample given below.

```

<applet name="vxmPlayer" codebase="http://www.mydomain.com/pathtovideo"

```

```
archive="vxmPlayer.jar" code="vxmPlayer.class" width="352" height="288" mayscript>
```

Test your video by opening the web page. If instead of the video you see an error ***java.lang.ClassNotFoundException: vxmPlayer.class*** - than you have not properly configured the codebase parameter in your applet code.

Flash Video

You may also embed your Flash video in your pre-existing web page. This is done by doing two things:

Place the Object Code into your web page.

Configure your .xml file to know the location of your .flv files.

You can find the object code within the HTML file created by the encoder. Simply open the HTML file with your favorite text editor (i.e. notepad, Dreamweaver, etc...) and locate the line that contains the opening **<object>** tag. Than scroll down the page until you find the closing **</object>** tag. Than copy all the lines contained within including the object tags (the green text shown below).

Sample Code

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

<html xmlns="http://www.w3.org/1999/xhtml" xml:lang="en" lang="en">

<head>

<meta http-equiv="Content-Type" content="text/html; charset=koi8-r" />

<title>25sec</title>

</head>

<body bgcolor="#ffffff">

<object classid="clsid:d27cdb6e-ae6d-11cf-96b8-444553540000"

codebase="http://fpdownload.macromedia.com/pub/shockwave/cabs/flash/swflash.cab#version=7,0,0,0"

id="FlashPlayer"

width="600"

height="400"

align="top">

<param name="allowScriptAccess" value="always">

<param name="swLiveConnect" value="true">
```

```

<param name="movie"      value="FlashPlayer.swf">
<param name="quality"    value="high">
<param name="bgcolor"    value="#ffffff">
<param name="FlashVars"  value="metaUrl=25sec%2Exml&urlBase=Documentbase">
<embed src="FlashPlayer.swf"
      FlashVars="metaUrl=25sec%2Exml&urlBase=Documentbase"
      quality="high"
      bgcolor="#ffffff"
      width="600"
      height="400"
      swLiveConnect="true"
      id="FlashPlayer"
      name="FlashPlayer"
      allowScriptAccess="always"
      type="application/x-shockwave-flash"
      pluginspage="http://www.macromedia.com/go/getflashplayer" />
</object>
</body>
</html>

```

After you copy the code the next step is to paste it into your web page where you would like the video to appear. This code will properly function if all files produced by the encoder are in the same web directory. If you would like to place your .flv files in another directory or on a different server you will need to update the .xml file. To do this first open the .xml file with a text editor and edit the location of the .flv files. Please see the sample given below.

Before:

```

<stream
  bitrate="456989"
  fps="15"
  totalTime="25.0"

```

```
URL="25sec_0.flv"
```

```
>
```

```
</stream>
```

After:

```
<stream
```

```
bitRate="456989"
```

```
fps="15"
```

```
totalTime="25.0"
```

```
URL="http://mxsinc.com/flv_folder/25sec_0.flv"
```

```
>
```

```
</stream>
```

Sending a Video Email

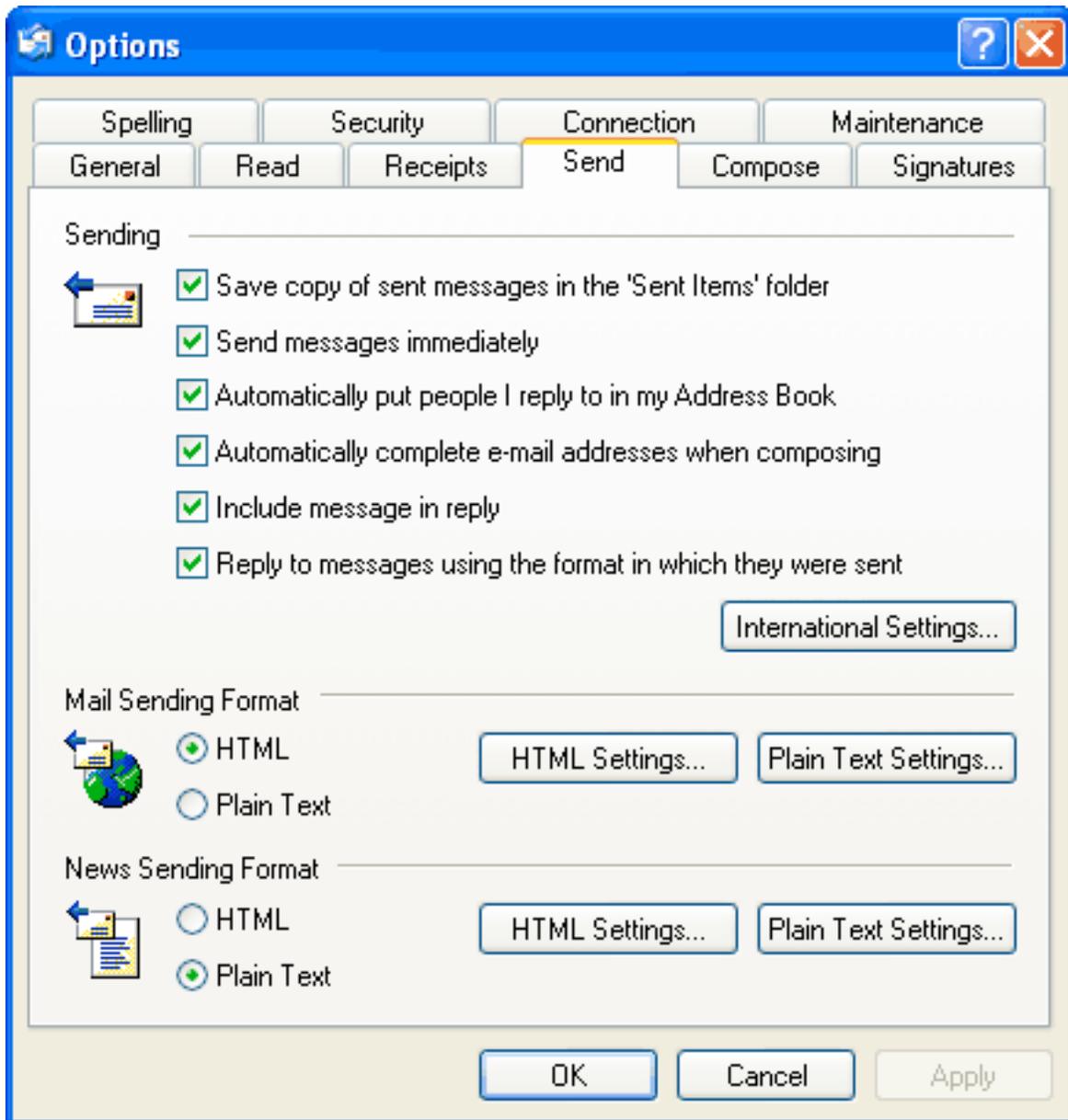
Many Email Client's today support Java technology. Hence it is possible to send a VX30 video embedded within a HTML email. When the client opens up their email the video will play right there inside their email client. If the email client does not support Java than a hyperlink link will appear instead. If the client clicks on that link their web browser will launch and the video will play through the browser. An important aspect of VX30 video email is that the video *is not* sent as an attachment. When the video email is opened in the email client the java code contained within will initiate a streaming video session with your web server. This is important because you do not want to fill up your client's mailbox with a large attachment. In addition if you are sending a high volume of video emails you will take the load off of your mail server and place it on your web server where it belongs. Finally you will only pay for bandwidth that is actually used. If you send a video file to someone who does not receive or view the video than you have wasted the bandwidth is transmitting that message.

The requirements for sending a video email are very similar to placing a video in your web page. You will need to encode the video and place it on your web server. Next you will need to create a HTML page that will be the email. Place your video inside the HTML in the same way you placed the video inside your web page. Make sure you copy and paste all of the applet code and that you use the all important codebase parameter⁵. Test your HTML by viewing it in your web browser. Once you are satisfied with the look of your HTML and the video is playing properly you are ready to send your message.

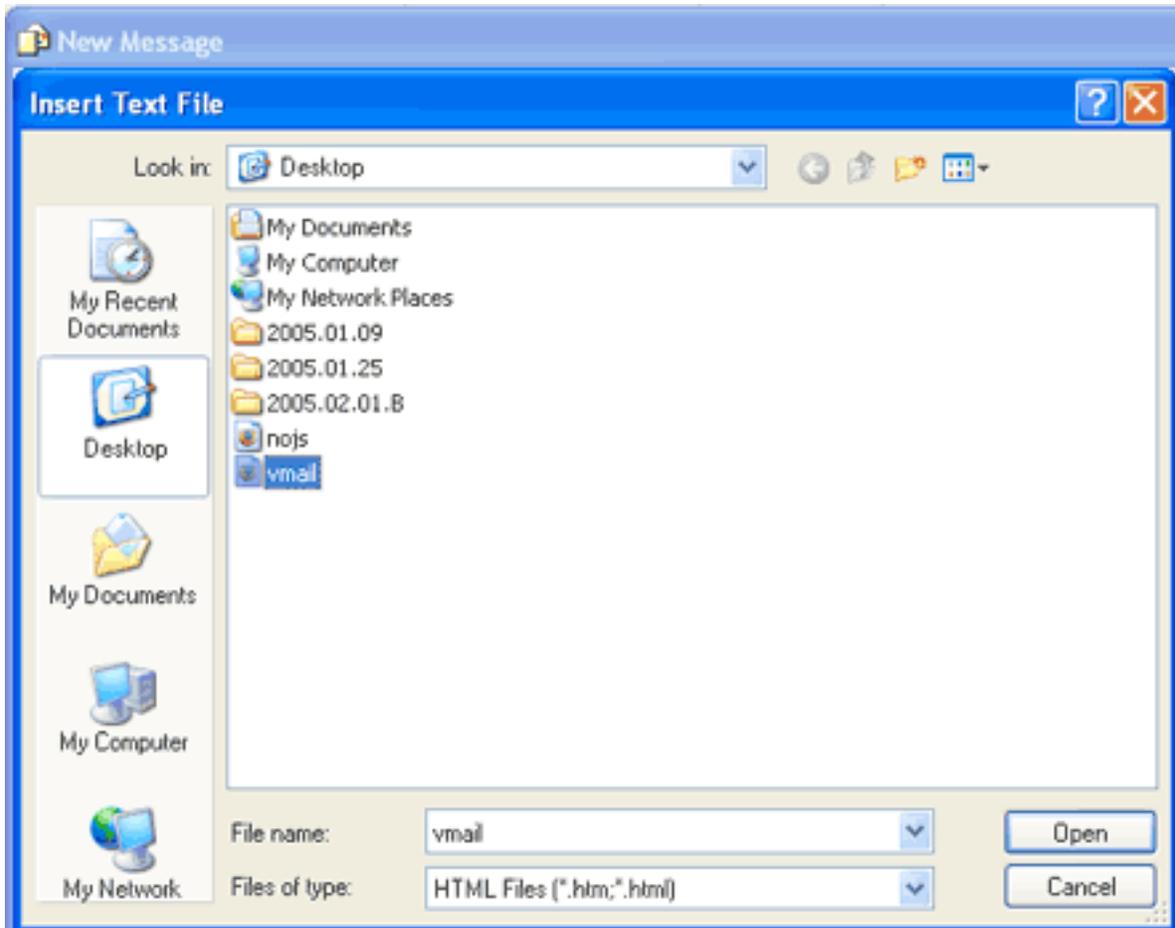
Using Outlook Express to Send HTML Email

⁵ Please see the section above title *Placing a VX30 Video Into Your Web Page*
Maui X-Stream Inc.

To configure Outlook express to send HTML email open up your **Options** window, **Tools -> Options**. In the window that opens click on the **Send** tab. In the section **Mail Sending Format** make sure the radio button titled **HTML** is selected. Press **OK** to save your changes and to exit out of this window.



Now create a new mail message. After filling in the recipients name and the subject line place your cursor into the text area and than choose **Insert -> Text From File...** In the window that opens up change the drop down menu for **Files of type:** from **Text Files (*.txt)** to **HTML Files (*.htm, *.html)**. Than navigate to the location of your HTML email and than click **Open**.



Glossary

A) Applet

A java applet is a little application. Prior to the World Wide Web, the built-in writing and drawing programs that came with Windows were sometimes called "applets." On the Web, using Java, the objected-oriented programming language, an applet is a small program that can be sent along with a Web page to a user. Java applets can perform interactive animations, immediate calculations, or other tasks without having to send a user request back to the server.

B) Bit

A bit is an electronic signal, which is either on (1) or off (0). It is the smallest unit of information the computer uses.

C) Byte

A byte is a group of 8 bit, strung together.

D) Codec

Short for compressor/decompressor, a codec is any technology for compressing and decompressing data. Codecs can be implemented in software, hardware, or a combination of both. Some popular codecs for computer video include MPEG, Indeo and Cinepak.

E) Encoder

A facility that encodes data for the purpose of achieving data compression. Frequently, the data to be encoded is video data, but other types of data, including audio, can be compressed as well. Contrast with decoder. See also cell encoding, data compression, entropy coding, H.261 encoding, hierarchical encoding, predictive encoding, run-length encoding, sequential encoding.

F) Jar File

(Java ARchive file.) A file used for aggregating many files into one file.

G) Mono

Designating sound transmission or recording or reproduction over a single channel.

H) Sample Rate

Sample rate describes how frequently an analog audio signal is sampled as it is converted into a series of numbers. 44.1 kHz is the standard sample rate for compact disks; 48 kHz is often used with digital audio tape (DAT) recording. 22.050 kHz is frequently used for games and multimedia. A higher sample rate allows a higher frequency response. In order to accurately reconstruct a sound, the sample rate must be at least twice the highest frequency in the sound.

I) Stereo

A method of producing sound where the audio is mixed in two different channels. This is so that the human ears can detect direction that the sound is coming from. Usually it is used with music to give a fuller, more natural sound. It has two separate audio channels.