MediaReactor™

Installation Manual and User Guide
As of September 2004
Please check www.drastictech.com for updates.

Contents

1 Introduction

This manual is for the Media Reactor Version 2.00 software from Drastic Technologies Ltd.

Please review the *Installation Guide* before installing the software. This guide provides instructions on how to install the software. There is also information on specific configuration issues. In addition, the *authorization* procedure is covered in detail.

The *Quick Start* section of this manual is provided to give a brief overview as well as a tutorial on using the software so you may get started right away.

The *User's Guide* provides in-depth information about the operation of MediaReactor.

The *Reference* section provides information on the individual components of the user interface and the media data files that MediaReactor can process.

The *Glossary* section provides definitions for certain technical terms used within this manual.

Document Conventions

The following conventions are used throughout this manual:

Type Style	Used For
Bold	**Bold** is used for a label on a control in the interface.
Italic	*Italic* is used for a term defined in the manual or the glossary.

2 Installation Guide

Please insure the systems you wish to install the MediaReactor software on meet the minimum requirements. If you are setting up MediaReactor to be run as a standalone application on a workstation use the step by step instructions for local installation. If you wish to use MediaReactor with a network licensing option refer to the section on network installation.

2.1 Requirements

MediaReactor runs on industry standard Pentium/Xeon class single or multiprocessor workstations and servers.

Operating Systems:

Microsoft Windows NT/2000/XP WorkStation or Server

Hardware:

Minimum recommended station – Pentium III 600 MHz, 256MB of RAM

Optimum – Dual Pentium Xeon 3.02GHz or higher with 1GB of RAM

Notes:

1. The performance of MediaReactor's transcoding engine is primarily dependent upon the bandwidth of its storage access. The best performance will be attained when using the highest possible bandwidth to read and write the media.
2. MediaReactor needs to be run on a server version of the operating system if access is required to Apple or SGI systems and the domain controller is not a Windows server.

2.2 Local Installation

The installation process involves two phases, first the MediaReactor software is installed and then MediaReactor must be authorized. You may also have to install third party software either required by MediaReactor or to extend its functionality.

After checking the computer is configured according to the minimum system requirements make sure that you are logged in as a user with administrative privileges. Remove the MediaReactor software CD from its packaging.

1. Place the MediaReactor software CD in the CD-ROM drive.
2. The software will automatically begin the install procedure. If it doesn't, go to your CD-ROM drive and open the SetupMR.exe program. The installation will begin.
3. You will be prompted at each step of the install, and by pressing the '**Next**' or '**Finish**' button you can complete the installation procedure. Carefully read the instructions that are provided.
4. The initial dialogs will confirm your license agreement, installation folder and desktop shortcut. You will now begin the component installation and configuration.

5. You will be prompted to '**Choose a License Server**'. Since this is a local installation leave the Local button selected and press '**Next**'.
6. You will be prompted to choose a video '**Standard**'. This will set the default video format when you are from a series of still image files. (This may be changed after installation through the **Edit|Options** menu.
7. When the installation process is complete you will need to restart the system.

Apple's QuickTime software must be installed before MediaReactor can be installed on your system. The option to install QuickTime is available to you from the installation menu. Windows Media Encoder is the other available option. It is installed to allow you to create and edit profiles.

The Third Party folder on the CD contains setups for media players, encoders and operating system components you may require.

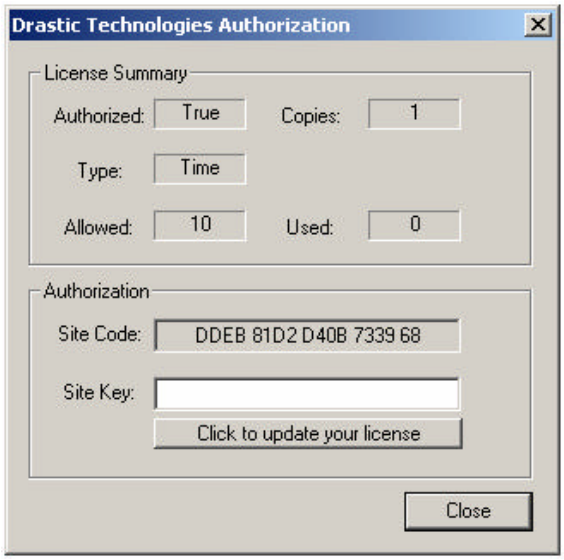
2.2.1 Authorization

MediaReactor uses a software based copy protection system. You will not have to install any additional hardware on your computer in order to run MediaReactor. There are however some issues you need to be aware of when working with MediaReactor and its copy protection system.

When you first install MediaReactor it will be unauthorized and only operate with limited translation features. You will need to authorize your MediaReactor software in order to enable other translations.

To authorize your MediaReactor you will need to provide Drastic Technologies with a Site Code after which you will receive the Site Key to set your authorization. The licensing functions of MediaReactor are all found on the **Edit|License** selection of the menu bar. The software protection uses the system clock so make sure it is properly set.

In order to authorize your copy of MediaReactor select **License Authorization** from the **License** menu. This will open the **Drastic Technologies Authorization** window.



The top of the window provides a summary of your license status. The **Authorization** section of the window is where you will obtain the **Site Code** and input your **Site Key**. Due to its length we recommend you select the whole site code with your mouse and use the *copy* function (Ctrl-C) to put it in the *clipboard*. Paste the *Site Code* into an email message (Ctrl-V) and send it to Drastic Technologies at: authorization@drastictech.com. Please specify the software you wish to authorize.

You will receive a reply from us containing your *Site Key*. We will attempt to respond as quickly as possible but be sure to give yourself a good time margin in requesting your authorization code. Drastic Technologies Ltd. offices are located in the Eastern Standard Time zone of North America and we will only be able to provide you with a code during regular business hours (Monday to Friday, 9am to 5pm).

Once you have received the reply with the **Site Key** select it and copy it to the *clipboard.* Open MediaReactor and go to the **Authorization** section of **Drastic Technologies Authorization** window. Paste the **Site Key** into its box and push the **Click to update your license** button. Your license will then be updated.

MediaReactor must be restarted in order for the authorization to take effect.

2.3 Network Installation

MediaReactor may be installed to run in a network license environment. This lets your facility access MediaReactor from any workstation attached to the network without having to purchase a separate license for each one.

One computer in the network is designated as the license server and it is this server which provides the authorization required to run MediaReactor to all the other client workstations. The server holds the number of licenses you have been authorized to run and distributes them to the client workstations as they are requested. When a client runs MediaReactor a license request is made to the server and if a license is available the client runs as a licensed copy of MediaReactor. When you exit from MediaReactor on the client its license is returned to the server and becomes available for use by another workstation.

To install MediaReactor for network license operation you must first install the license server.

2.3.1 Server Installation

In order to make a network license server you must install MediaReactor on the workstation or server which you have designated as the license server. The folder you install MediaReactor in must be accessible to all the other workstations in your network that you wish to run MediaReactor on. If you are not sure how to do this please contact to your network administrator. (Note: MediaReactor must be installed on a local drive. The licensing will not function if you attempt to install it on a remote drive.)

The installation process involves two phases, first the MediaReactor software is installed and then MediaReactor must be authorized. You may also have to install third party software either required by MediaReactor or to extend its functionality.

After checking the computer is configured according to the minimum system requirements make sure that you are logged in as a user with administrative privileges. Remove the MediaReactor software CD from its packaging.

1. Place the MediaReactor software CD in the CD-ROM drive.
2. The software will automatically begin the install procedure. If it doesn't, go to your CD-ROM drive and open the SetupMR.exe program. The installation will begin.
3. You will be prompted at each step of the install, and by pressing the '**Next**' or '**Finish**' button you can complete the installation procedure. Carefully read the instructions that are provided.
4. The initial dialogs will confirm your license agreement, installation folder and desktop shortcut. You will now begin the component installation and configuration.
5. You will be prompted to '**Choose a License Server**'. Since this is the server installation you leave the Local button selected and press '**Next**'.
6. You will be prompted to choose a video '**Standard**'. This will set the default video format when you are from a series of still image files. (This may be changed after installation through the **Edit|Options** menu.
7. When the installation process is complete you will need to restart the system.

Apple's QuickTime software must be installed before MediaReactor can be installed on your system. The option to install QuickTime is available to you from the installation menu. Windows Media Encoder is the other available option. It is installed to allow you to create and edit profiles.

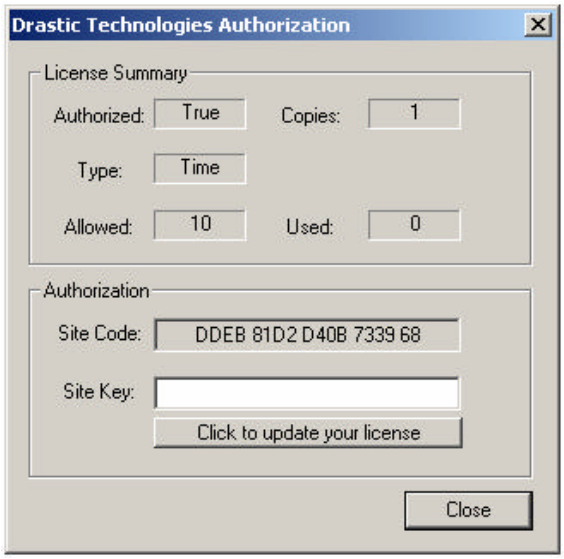
The Third Party folder on the CD contains setups for media players, encoders and operating system components you may require.

2.3.2 Server Authorization

MediaReactor uses a software based copy protection system. You will not have to install any additional hardware on your computer in order to run MediaReactor. There are however some issues you need to be aware of when working with MediaReactor and its copy protection system.

When you first install MediaReactor it will be unauthorized and only operate with limited translation features. You will need to authorize your MediaReactor software in order to enable the translation features you have purchased.

To authorize your MediaReactor you will need to provide Drastic Technologies with a Site Code after which you will receive the Site Key to set your authorization. The licensing functions of MediaReactor are all found on the **License** selection of the menu bar. The software protection uses the system clock so make sure it is properly set.



The top of the window provides a summary of your license status. The **Authorization** section of the window is where you will obtain the **Site Code** and input your **Site Key**. Due to its length we recommend you select the whole site code with your mouse and use the *copy* function (Ctrl-C) to put it in the *clipboard*. Paste the *Site Code* into an email message (Ctrl-V) and send it to Drastic Technologies at: authorization@drastictech.com. Please specify the software options and the number of licenses you wish to authorize.

You will receive a reply from us containing your *Site Key*. We will attempt to respond as quickly as possible but be sure to give yourself a good time margin in requesting your authorization code. Drastic Technologies Ltd. offices are located in the Eastern Standard Time zone of North America and we will only be able to provide you with a code during regular business hours (Monday to Friday, 9am to 5pm).

Once you have received the reply with the **Site Key** select it and copy it to the *clipboard*. Open MediaReactor and go to the **Authorization** section of **Drastic Technologies Authorization** window. Paste the **Site Key** into its box and push the **Click to update your license** button. Your license will then be updated. The **Drastic Technologies Authorization** window will close, and the **Status** window will open to display your new status.

This status varies depending on what you have been licensed for.

2.3.3 Client Installation

The Client installation does not require an authorization step because it gets its authorization from the network license server.

After checking the computer is configured according to the minimum system requirements make sure that you are logged in as a user with administrative privileges. Remove the MediaReactor software CD from its packaging.

1. Place the MediaReactor software CD in the CD-ROM drive.
2. The software will automatically begin the install procedure. If it doesn't, go to your CD-ROM drive and open the SetupMR.exe program. The installation will begin.

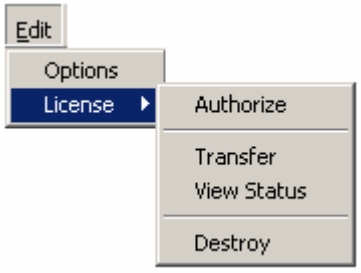
3. You will be prompted at each step of the install, and by pressing the '**Next**' or '**Finish**' button you can complete the installation procedure. Carefully read the instructions that are provided.
4. The initial dialogs will confirm your license agreement, installation folder and desktop shortcut. You will now begin the component installation and configuration.
5. You will be prompted to '**Choose a License Server**'. Since this is the client installation you must select the Network option button. The selector for '**Network License Location**' will appear. Use the Browse button to locate the license server's MediaReactor folder and select it.
6. You will be prompted to choose a video '**Standard**'. This will set the default video format when you are from a series of still image files. (This may be changed after installation through the **Edit|Options** menu.
7. When the installation process is complete you will need to restart the system.

Apple's QuickTime software must be installed before MediaReactor can be installed on your system. The option to install QuickTime is available to you from the installation menu. Windows Media Encoder is the other available option. It is installed to allow you to create and edit profiles.

The Third Party folder on the CD contains setups for media players, encoders and operating system components you may require.

2.4 Other License Options

The **License** menu also provides you with the following options: You may **Transfer** your license to a location on your network, or to a floppy for installation into a system which is not on your attached network. You may **View** the status of your license. You may also **Destroy** the license and revert to the free version of MediaReactor. These options are covered in detail in the *User's Guide* later in this document.



2.5 Technical Issues

There are some technical issues you need to be aware of so you will not damage your license or cause your license to fail.

Disk Failure	After replacing the drive and reinstalling the software contact Drastic to get reauthorized. Please explain the situation in your request.
Clock Change	Changing the clock will be detected and cause your license to fail
Disk compression or de-fragmentation software.	Using a de-fragmentation program like Norton Speed Disk can damage your license. If you wish to use one of these programs make sure you configure them not to move any *.ent, *.rst and *.key files.

3 Quick Start

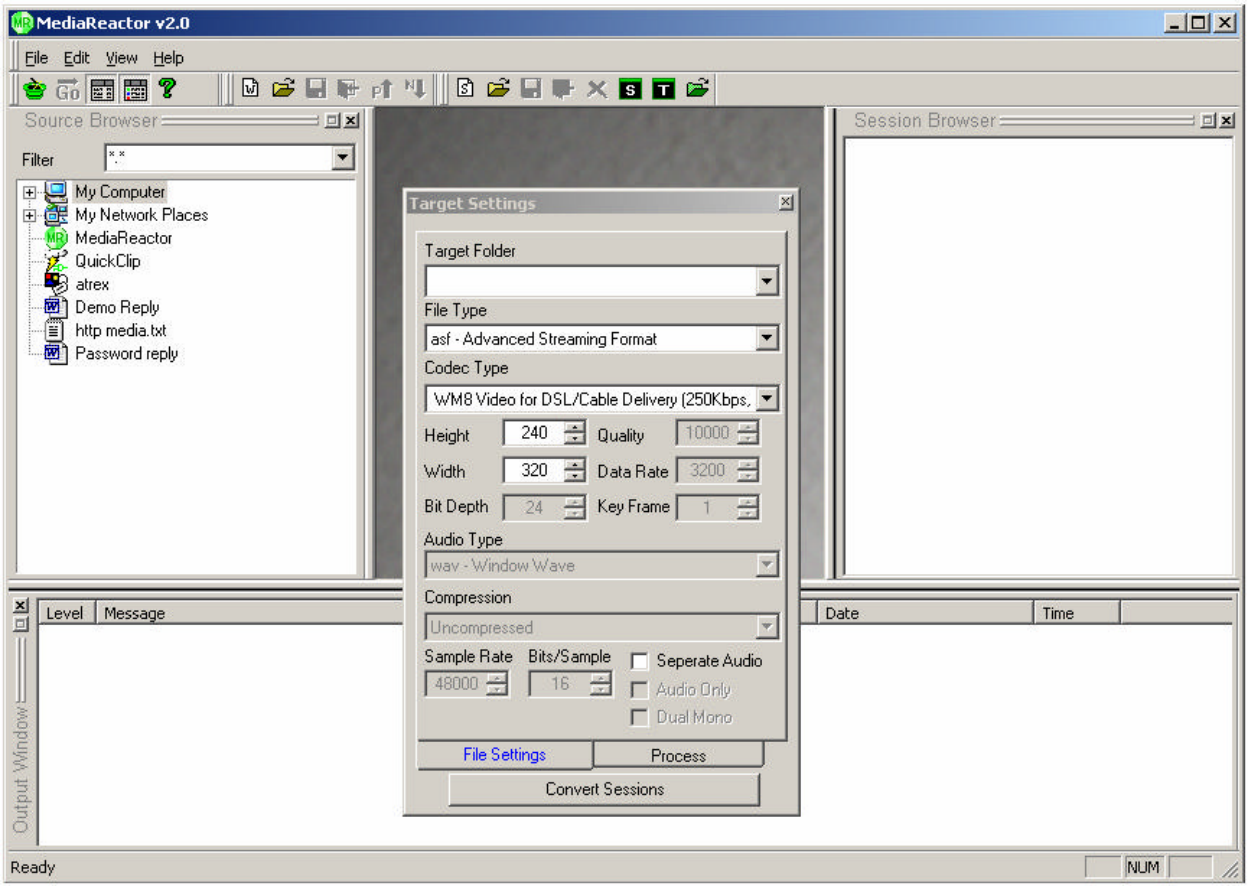
What is MediaReactor?

MediaReactor is a transcoder that can translate between a number of video, audio and still image digital media formats. It takes an existing digital media file and makes a copy of it. During the copying process MediaReactor can change the file type, compression format and other parameters of the source file. MediaReactor supports file formats that are used by digital disk recorders, non-linear editors as well as compositing, effects and animation software. When the computer running MediaReactor is networked to other workstations or dedicated devices then the translations may be performed seamlessly between them.

3.1 Navigating the Graphical User Interface

The *GUI* (Graphical User Interface) of the MediaReactor is straightforward, and we will describe its operation in detail as we go through this section. There are a number of settings to be adjusted before files can be converted. The steps to adjust these settings are defined in the following tutorial. Here is an example of what the MediaReactor interface looks like.

As illustrated in the diagram the interface is made up of a number of components.



In this view, we see the following windows open in the MediaReactor interface: the **Source Browser**, the **Session Browser**, the **Target Settings** and the **Output Window**.

In the *Quick Start* section of this manual, we will take the user quickly through a sample conversion. For a more detailed look at the conversion process, please view the *User's Guide* section of this manual.

3.2 Performing a Media Conversion

This tutorial will demonstrate how to transcode a media file. This process consists of selecting source file, setting the target parameters (including the target filename and location) then running the conversion.

1. Open a **New Session** from the Main Menus, under **File**/**Session**/**New**.

2. The **Session** window opens up between the **Source Bowser** and the **Session Browser**. The first thing to do is select a ***Source*** file. To find a file you have stored either on local or attached/networked storage select the **Browse** button to the right of the box titled "**Source File:**". This opens up a standard Windows "**Open**" dialogue box. You will select a source file from within this box.

3. Double clicking on a drive will show all the folders on it and double clicking on a folder will show all the folders within this directory, and so on through the sub-folders. Navigate through your storage for the file you want to convert. Double-click on an appropriate file or select **Open** to load it into the **Source File** field of the **Session** menu.

4. Once the source file has been selected, you may enter a new name for the target file (the file you are going to create during the conversion process). Highlight the words "**Enter a target name**" in the **Session** dialog box with your mouse and enter a new name using your keyboard.

5. You now need to determine where you want the file to be created. Select the **Browse** button under the "**Target File**" title. This will open a standard Windows "**Browse for Folder**" dialog box. (You may find it is handy to create a dedicated folder in the directory of your choice prior to pressing the **Browse** button to select a target folder.)

6. The remaining series of steps will be to set the file parameters. Confirm that the **Target Settings** window is open. If it is not, use the **View** menu to select it. The **Target Settings** window is the dialog box you will use to set the conversion parameters of the new file you will create.

7. Confirm that the **File Settings** tab near the bottom of the **Target Settings** window is selected. When selected, the tab will be blue. You may now set the following parameters of the target file (the file you are going to create):
    - **Target Folder** Set the location of the newly created file. You may have already set this location in the Session window, but you may adjust it here if needed.
    - **File Type** Select a file type. The available file types offered here depends on the version of MediaReactor you are using.
    - **Codec Type** Compression/Decompression format. Dependent on the file type.
    - **Height** This field sets the height in pixels of the translated image.
    - **Width** This field sets the width in pixels of the translated image.
    - **Bit Depth** This field sets the number of bits per pixel that controls the color resolution of the translated image.
    - **Quality** This field sets the quality factor of the compression scheme of the translated image data.

- **Data Rate** This field sets a target data rate for the compression scheme of the translated image data.
- **Key Frame** Set the interval between key frames for the codec of the target file here.
- **Audio Type** Unless you choose **Separate Audio**, an audio file will be generated in the conversion process that is compatible with the video file type you have selected. If you are creating a separate audio and video file, you will then be able to select an audio file type different than that used by the file type chosen. As well, several of the below choices become active:
- **Compression** Select the level of compression to be applied to the separate audio file. This only becomes active when the user has selected Separate Audio.
- **Sample Rate** Set the Sample Rate applied to the separate audio file. This only becomes active when the user has selected Separate Audio.
- **Bits/Sample** Set the Bits per Sample ratio of the separate audio file. This only becomes active when the user has selected Separate Audio.
- **Separate Audio** Select this to create separate audio and video files from a file that contains audio and video (or a series of still images). Some systems require their audio source material to be in another file. Check in the compatibility section for information about these systems.
- **Audio Only** Select this checkbox to prevent the creation of a new video file during this conversion. This only becomes active when the user has selected Separate Audio.
- **Dual Mono** Select this checkbox to create two "mono" audio files (using the audio from the source video file) in addition to the source video file. This only becomes active when the user has selected Separate Audio.

8. The **Target Settings window – Process Tab** offers certain advanced file processing features and adjustments not present on the File Settings tab. To access these features, confirm that the **Process** tab near the bottom of the Target Settings window is selected. When selected, the tab will be blue. You will then be able to set the following parameters:

    - **Add Process** This check box enables the processing and allows you to select the type of processing from the pulldown menu.
    - **Process Type** Use this pulldown menu to select between the available processes. Choices here include: Blend Fields, De-interlace Blend, De-interlace Interpolate, Duplicate Field 1, Duplicate Field 2, Flip Horizontal, Flip Vertical, and Invert Fields.
    - **Edge** This field sets an edge value for the de-interlace processing. The edge value controls the detection of intra-field artifacts as opposed to actual high frequency content in the image. The greater the value of the edge setting the more likely an edge in the image will be blended. The default value should be adequate for most processing but if you need to adjust it do so carefully.
    - **P3** This feature is not implemented in this version of MediaReactor.
    - **Thres** (Threshold) This field sets a threshold value for the de-interlace processing. The threshold value controls the detection of the intra-field motion of an object. The greater the motion of an object between fields the higher the threshold needs to be set so it will be detected and used in the blending process. The default value should be adequate for most processing but if you need to adjust it do so carefully.

- **2/3 Drop** Select this checkbox to implement the conversion to and from film rate. The **Add**, **Remove**, and **A Frame** fields set the parameters of this conversion to and from film rate.
- **Add** Select Add if you have a film rate file (24 fps) and you need to "Add" frames to convert this file to NTSC or PAL frame rate.
- **Remove** Select this checkbox if you have an NTSC or PAL file generated on a Telecine and you need to remove the "inserted" frames to end up with a 24 fps file.
- **A Frame** The "A Frame" represents the first frame after the inserted video frame generated by a *Telecine*. Setting the A Frame involves stepping though the file by frames to find the first "jittery" frame. This will be the first frame generated by the Telecine. Step forward one frame and note this location by time code. Enter this value into the "A Frame" field. This synchronizes the addition or removal of all of the inserted frames, as they occur at predictable intervals.

9. Click on the **Convert Sessions** button at the bottom of the Target Settings window. Alternately, you may select the "**Go**" button on the toolbar.

10. Selecting this button opens the **Translation Setup** window, offering you a choice of which session to convert. In our Quick Start example, we have set up one conversion. Select this conversion by checking the checkbox to the left of the session name with your mouse.

11. Press the **Convert** button. MediaReactor will begin to convert the file. The **Translation Setup** window will display the conversion parameters you have created, as well as the progress of the conversion.

12. Note the conversion progress bars on the **Translation Settings** window. There is a bar for the progress of the current session, and a bar for the progress of all of the sessions selected for conversion. Clicking on the "**Abort**" button with the mouse, or pressing **Enter** on the keyboard during the conversion will cancel the conversion process at this point.

4 User's Guide

The User's Guide will first introduce the general concepts you need to understand in order to use the MediaReactor software.

The next section takes a *task-based* approach to understanding MediaReactor and provides a step by step description on performing the types of conversions that can be done with the program.

The last sections of this guide provide detailed information about the translation process and techniques for enhancing the *workflow.*

4.1 General Concepts

MediaReactor is a tool for file processing. It works with source files that contain video, audio or still image data and creates a copy of the media contained within them to a target file of any of the file types or formats supported by MediaReactor. The steps involved are:

? Selecting the source material to be converted
? Setting the parameters of the target file
? Specifying the location of the target file
? Naming and saving the session and workplace if required

All of this information defines a translation *Session*. It is this session information that controls the translation process. Once a S*ession* is defined it can be run, saved to disk or be retrieved to run at a later date.

MediaReactor allows you to work with more than one *Session* at a time. *Sessions* are contained in a *Workspace.* The *Workspace* allows you to create a group of translation *Sessions*, save or retrieve them and run them as a batch process.

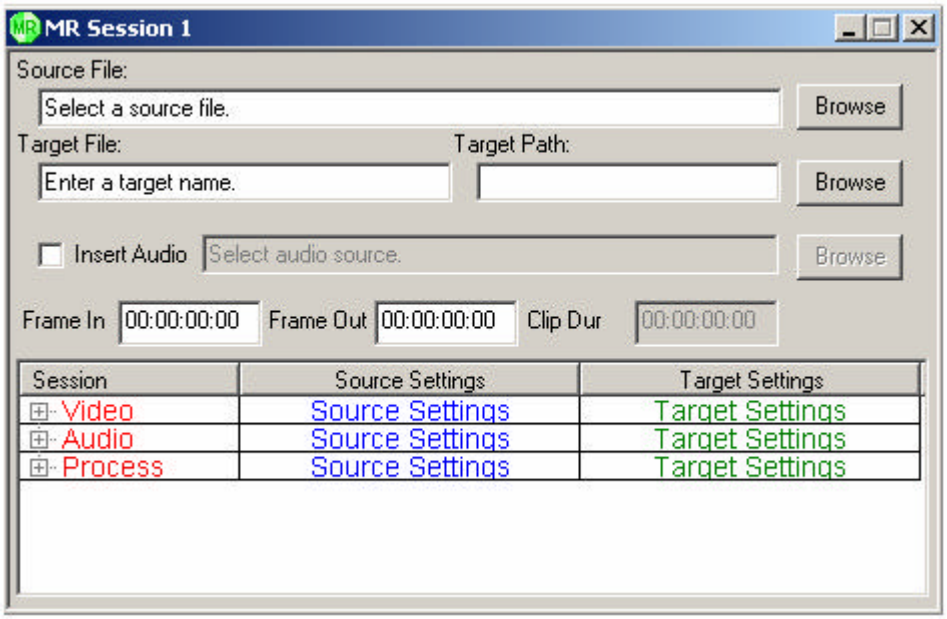
4.2 Performing Conversions

This section will provide a step by step description of performing each of the conversion options that MediaReactor supports.

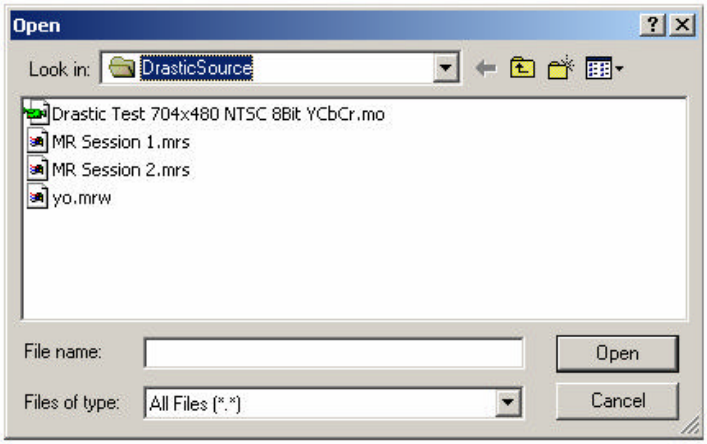
4.2.1 Video to Video ("Full") Conversion

This tutorial will demonstrate how to perform a **Full** conversion. This process consists of selecting a media file containing both video and audio from local or network storage, converting it to another format with all its video and audio intact, saving it to either local or network storage.

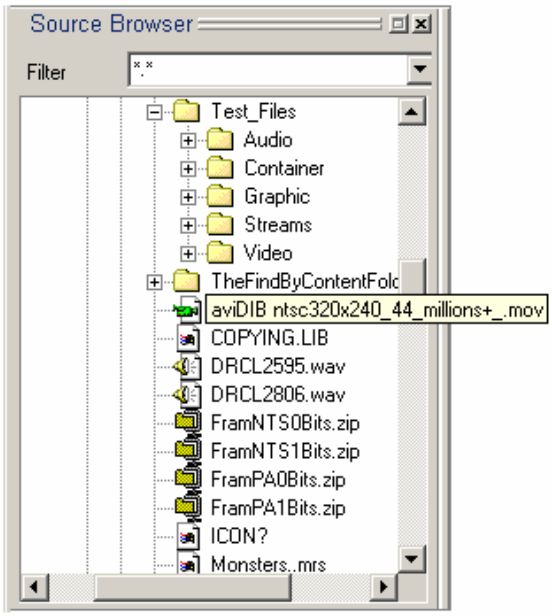
The next few steps will take us through this conversion. Open a **New Session** from the Main Menus, under **File**/**Session**/**New**.



The above window opens up between the **Source Bowser** and the **Session Browser**. The first thing to do is select a Source file. To find a file you have stored either on local or attached/networked storage select the **Browse** button to the right of the box titled "**Source File:**". This opens up a standard Windows browser:

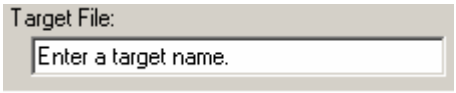


The **Open** dialog box will allow you to browse either the local or any networked storage that has been mapped to the computer. The network mapping should be set up during installation so the operator will be able to find the necessary material and access it for the conversion. Refer to your system administrator for setting up the network. Select a media file by double-clicking on it with your mouse, or select the file and press **Open**.



The **Source Browser** window shows any storage attached to the computer, either fixed or removable media, or network storage that has been mapped to local drive letter or the Network Neighborhood. Any media files selected in the **Source Browser** window will be loaded into the **Source File** field of the Session.

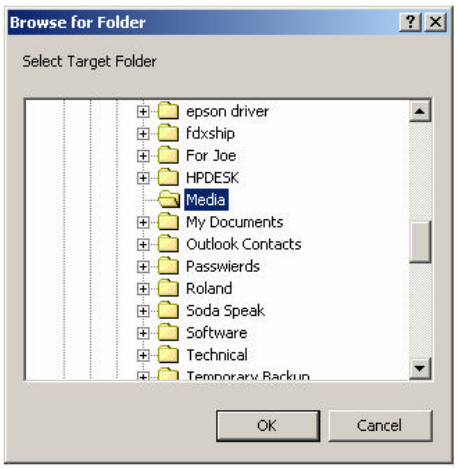
Once the source file has been selected, you may enter a new name for the target file (the file you are going to create during the conversion process).



Highlight the words "**Enter a target name**" with your mouse and enter a new name using your keyboard.

Target Video

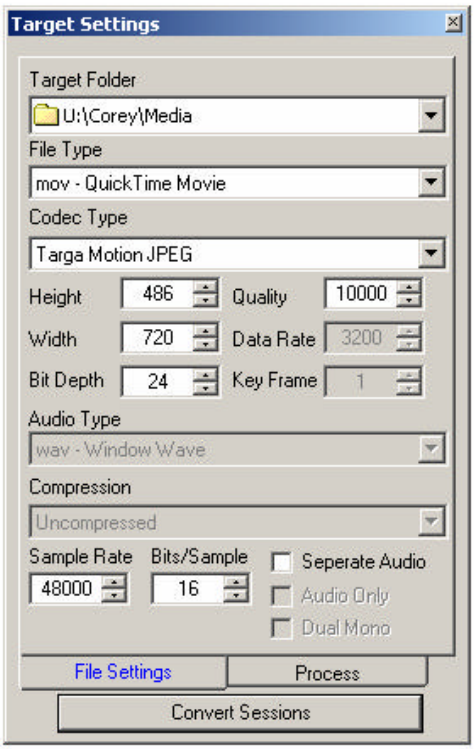
You now need to set the target location for your new file. **Browse** through your storage for an appropriate location in which you want your newly created file to reside. Select the **Browse** button under the "**Target File**" title. This will open the following "**Browse for Folder**" dialog box:



You may find it is handy to create a folder in the directory of your choice prior to engaging the **Browse** button to select a target folder.

Target Settings

The remaining and most important series of steps will be to set the parameters of the file(s) you are going to create. Confirm that the **Target Settings** window is open. If it is not, use the **View** menu to select it.



Target Settings window

Target Settings window – File Settings Tab

Confirm that the **File Settings** tab near the bottom of the **Target Settings** window is selected. When selected, the tab will be blue. The parameters of the file you are going to create may be set in this dialog box.

- **Target Folder** The Target Folder pulldown menu will display the location selected in the Session Manager window. You may have already set the location in the Session window, but you may adjust it here if needed. Select the "down" arrow at the right side of this menu to reveal the network tree for navigation.
- **File Type** The File Type pulldown menu allows the user to select the target file type. Depending on which file type you select in this field, you will see different choices offered in the subsequent fields. The file types displayed in this menu depend on which level of MediaReactor you have installed. Select the "down" arrow at the right side of this menu to reveal the file types.
- **Codec Type** Translate the source media to this compression / decompression (codec) format. This field will give you a drop-down menu of the available codecs. This list will include the codecs built into MediaReactor as well as any other codecs installed on the workstation. Select the "down" arrow at the right side of this menu to reveal the available choices. Select from this list.

? **Height** This field sets the height in pixels of the translated image. Some file types and codec formats may impose these limitations:
    ? a specific vertical size
    ? a minimum vertical size.
    ? a maximum vertical size.
    ? a vertical size that is a multiple of a particular step size.

  Edit the **Height** field to change the value and MediaReactor will accept the change if it is supported or substitute the closest value otherwise. For file types with adjustable sizing, the “up” and “down” arrows increment in steps representing available height choices.
? **Width** This field sets the width in pixels of the translated image. Some file types and codec formats may impose these limitations:
    ? a specific horizontal size
    ? a minimum horizontal size.
    ? a maximum horizontal size.
    ? a horizontal size that is a multiple of a particular step size.

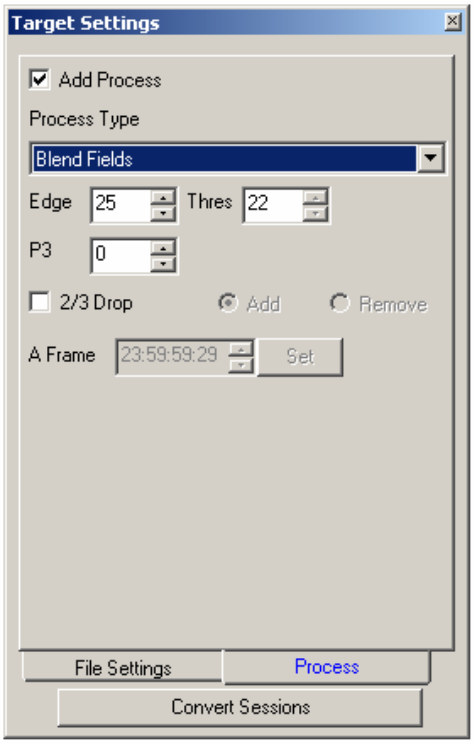
  Edit the **Width** field to change the value and MediaReactor will accept the change if it is supported or substitute the closest value otherwise. For file types with adjustable sizing, the “up” and “down” arrows increment in steps representing available width choices.
? **Bit Depth** This field sets the number of bits per pixel that controls the color resolution of the translated image. Some file types and codec formats may impose limitations on this setting. Edit the **Bits** field to change the value and MediaReactor will accept the change if it is supported or substitute the closest value otherwise. You can also use the up/down arrow buttons to select the from the available bit depths.
? **Quality** This field sets the quality factor of the compression scheme of the translated image data. Some file types and codec formats will support this setting. If it is supported MediaReactor will allow you to edit the **Quality** field to change the value. For file types with adjustable quality, the “up” and “down” arrows increment in steps representing available choices.
? **Data Rate** This field sets a target data rate for the compression scheme of the translated image data. Some file types and codec formats will support this setting. If it is supported MediaReactor will allow you to edit the **Data Rate** field to change the value. This value is expressed as Kilobytes per Second. For file types with adjustable data rates, the “up” and “down” arrows increment in steps representing available choices.
? **Key Frame** This field sets the interval between key frames for the codec of the translated image data. Some file types and codec formats will support this setting. If it is supported MediaReactor will allow you to edit the **Key Frame** field to change the value. This value is expressed as a number of frames. For file types with adjustable key frame intervals, the “up” and “down” arrows increment in one frame steps.
? **Audio Type** The Audio Type pulldown menu becomes available when the user selects “Separate Audio”. Select the type of audio file you wish to create using the pulldown menu. The audio file type choices available depend on the version of MediaReactor you have.
? **Compression** Select the level of compression to be applied to the separate audio file. This only becomes active when the user has selected Separate Audio. Note that some audio file type choices will not offer adjustable compression.
? **Sample Rate** The Sample Rate applied to the target audio is displayed here. This only becomes active when the user has selected Separate Audio. Note that some audio file type choices will not offer adjustable sample rates.
? **Bits/Sample** The Bits per Sample ratio of the target audio file is set here. Note that some audio file type choices will not allow the user to adjust the bits per sample ratio.
? **Separate Audio** Select this to create separate files from a file that contains audio and video, one file for video (or series of still images) and one or more files for audio. Some systems

require their audio source material to be in another file. Check in the compatibility section for information about these systems.

? **Audio Only** Select this checkbox to prevent the creation of a new video file during this conversion. This only becomes active when the user has selected Separate Audio.

? **Dual Mono** Select this checkbox to create two "mono" audio files (using the audio from the source video file) not associated with the source video file. Some systems require their audio source material to be in another file. Check in the compatibility section for information about these systems. This only becomes active when the user has selected Separate Audio.

Target Settings window – Add Process tab



Target Settings window – Process tab

Target Settings window – Process Tab

The Process Tab offers certain advanced file processing features and adjustments not present on the File Settings tab.

To access these features, confirm that the Process tab near the bottom of the Target Settings window is selected. When selected, the tab will be blue.

? **Add Process** This check box enables the processing and allows you to select the type of processing from the pulldown menu.

? **Process Type** Use this pulldown menu to select between the available processes. Choices here include: Blend Fields, De-interlace Blend, De-interlace Interpolate, Duplicate Field 1, Duplicate Field 2, Flip Horizontal, Flip Vertical, and Invert Fields.

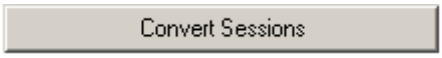
? **Edge** This field sets an edge value for the de-interlace processing. The edge value controls the detection of intra-field artifacts as opposed to actual high frequency content in the image. The

greater the value of the edge setting the more likely an edge in the image will be blended. The default value should be adequate for most processing but if you need to adjust it do so carefully.

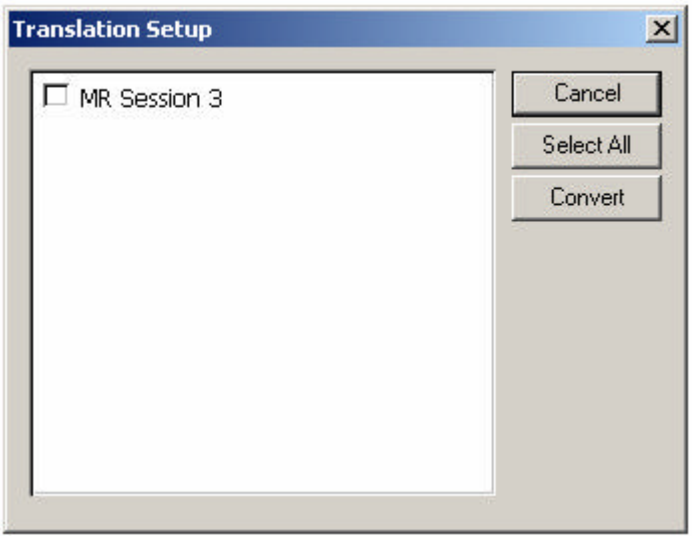
- **P3** This feature is not implemented in this version of MediaReactor.
- **Thres** (Threshold) This field sets a threshold value for the de-interlace processing. The threshold value controls the detection of the intra-field motion of an object. The greater the motion of an object between fields the higher the threshold needs to be set so it will be detected and used in the blending process. The default value should be adequate for most processing but if you need to adjust it do so carefully.
- **2/3 Drop** Select this checkbox to implement the conversion between film rate and NTSC video. The **Add**, **Remove**, and **A Frame** fields set the parameters of this conversion.
- **Add** Select Add if you have a film rate file (24 fps) and you need to "Add" frames to convert this file to NTSC frame rate.
- **Remove** Select this checkbox if you have an NTSC file generated on a Telecine and you need to remove the "inserted" frames to end up with a 24 fps file.
- **A Frame** The "A Frame" represents the first frame of inserted video generated by the Telecine. Setting the A Frame involves stepping though the file by frames to find the first "jittery" frame. This will be the first frame generated by the Telecine. Note its location by time code and enter this value into the "A Frame" field. This synchronizes the addition or removal of all of the inserted frames, as they occur at predictable intervals.

Perform the Conversion

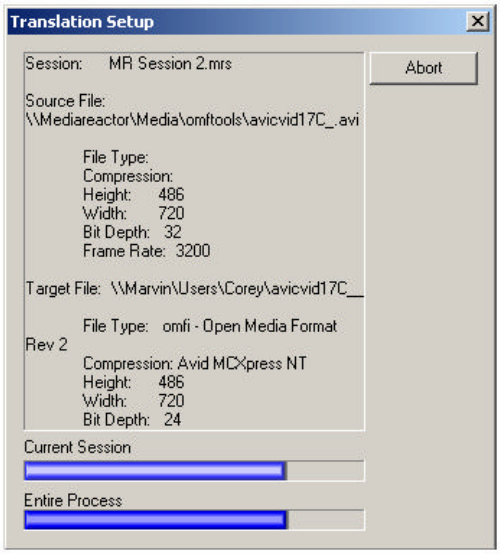
Once you have addressed the above considerations the conversion may be started. This indicates that you have selected the file you are starting with, what type of file it will become, and where the file will be created/stored. Once you have set all the above parameters, performing this conversion is as easy as clicking on the **Convert Sessions** button at the bottom of the Target Settings window. You may also use the "**Go**" button on the toolbar to perform the conversion.



This opens the **Translation Setup** window, offering you a choice between the currently active sessions. Select the session or sessions you wish to perform at this time. Note that the session will have a default name (such as MR Session 3) unless you have saved it.

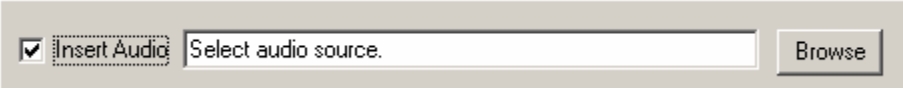


Once you select a session or sessions for conversion and press the **Convert** button, the **Translation Setup** window will display the conversion parameters you have created, as well as the progress of the conversion.



The above diagram shows the conversion progress bars. There is a bar for the progress of the current session, and a bar for the progress of all of the sessions selected for conversion. Note too that this menu contains an **Abort** button. Clicking on this button with the mouse, or pressing **Enter** on the keyboard during the conversion will cancel the process at this point.

4.2.2 Insert Audio Conversion



MediaReactor allows the user to add audio to a video file or replace the existing audio with audio of their choice.

In a **New Session**, select a video file either with no audio, or with audio which you will replace. Determine the target location and rename the file at this time.

Select the "**Insert Audio**" option by checking the checkbox titled **Insert Audio** on the Session window. This will add audio to a video-only file, or replace the audio in an existing file.

Select the **Browse** button just to the right of the Insert Audio checkbox to search through your storage for an audio file. Once you have selected an audio file, it will be displayed in the field to the right of the Insert Audio checkbox. Confirm that all of your other adjustments are correct, and begin the conversion.

4.2.3 Audio File-only Conversion

This option will take an existing audio file and create an audio file of another type. This is like any of the other conversions insofar as a few certain steps must be taken in order to perform the conversion. These steps are as follows:

- Select an appropriate source audio file by browsing either in the **Session** window or the **Session Browser** window. Loading this into the **Source File** field of the **Session** window will grey out the (video) file type and codec fields of the Target Settings window, making them un-selectable. At the same time, the audio settings will now be selectable, allowing the user to determine which type of audio file they are going to create.
- Select the target folder. This may be set either in the **Session** window or the **Target Settings** window.
- Select the type of audio file to convert the source to.
- Rename the file if necessary.
- Perform the conversion.

4.2.4 Inhibit Video Conversion

MediaReactor can be used to create an audio-only file from a file containing video and audio. This means that the new file will be audio-only, in a format selected by the user, and a new video file will not be created during the process.

Select **New Session**. Choose a file containing both video and audio as your Source file. Name the new file. Select a location in which to save the file. On the **Target Settings** dialog box, **select Separate Audio**. Then select **Audio Only**. Now set the audio type, compression, sample rate and bits per sample parameters of the target audio file if necessary.

This will create an audio-only file of your choice in the location you have specified. Go ahead and **Convert**.

4.2.5 Streaming and De-streaming

MediaReactor can be used to create a series of serialized still images from a source video file. This means that the new image files will be named according to an ascending numerical order. MediaReactor uses each frame to create one still image. The number of files that will be created depends on the length of the video. One second of NTSC video will create thirty files.

MediaReactor can also be used to create a source video file from a series of still images. In order to select the entire series of still images, find the first one in the series and select it. MediaReactor will "see" the rest of the files based on the recursive file names.

4.2.5.1 De-streaming files

This process converts a video file (a stream of video) to a series of sequenced still images.

- Select an appropriate source file (in this case, a video stream file).
- Select the target location. It may be useful at this time to create a folder exclusively for the group of still image files you want to create.
- Select the type of still image file to convert the source to and set any other parameters you wish to adjust at this time.

- Rename the file if necessary.
- Perform the conversion. You should see a series of still image files whose default file names appear in ascending numerical order in your storage.

4.2.5.2 Re-streaming files

This process converts a still image file type to a different still image file type.

- Select an appropriate source file (in this case, a series of sequenced still images). In order to select the entire series of still images, find the first one in the series and select it. MediaReactor will "see" the rest of the files based on the recursive file names.
- Select the target location. It may be useful at this time to create a folder exclusively for the group of still image files you want to create.
- Select the type of still image file to convert the source to and set any other parameters you wish to adjust at this time.
- Rename the file if necessary.
- Perform the conversion. You should see a series of still image files whose default file names appear in ascending numerical order in your storage.

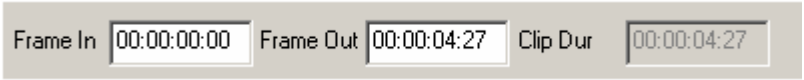
4.2.5.3 Streaming files

The process of streaming, or converting a series of stills into a streaming video file, is accomplished in the following manner: In the **Source Video** window, **browse** to locate the series of stills.

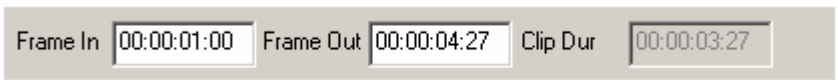
- Select an appropriate source file (in this case, a series of sequenced still images). In order to select the entire series of still images, find the first one in the series and select it. MediaReactor will "see" the rest of the files based on the recursive file names.
- Select the target location. It may be useful at this time to create a folder exclusively for the group of still image files you want to create.
- Select the type of video stream file to convert the source to and set any other parameters you wish to adjust at this time.
- Rename the file if necessary.
- Perform the conversion.

4.2.6 Convert a Portion of a File

You may not need to convert the entire file you have selected. If you wish to convert a portion of the file you have selected for conversion, please view the file length parameters on the bottom of the Session Browser window.



As soon as you have loaded a file into the **Source** field, the **In** and **Out** points are displayed, and the length is calculated and displayed. If for example you don't need the first 30 frames of video converted, simply enter 00:00:01:00 into the **Frame In** field.

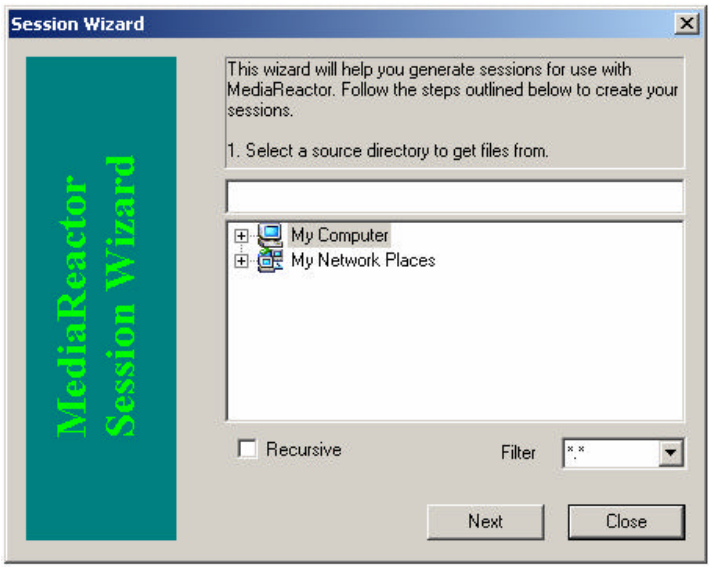


You will note that now the **Clip Duration** has been recalculated to the new length. Converting this file now would omit any video frames found in the first 30 seconds of this clip.

4.2.7 The Session Wizard

The **Session Wizard** offers a way to convert all of the media files located in a specific folder. The user may convert all media files or narrow down the conversion to files of a specific type. Select the **Session Wizard** button from the toolbar.

This button looks like this: 



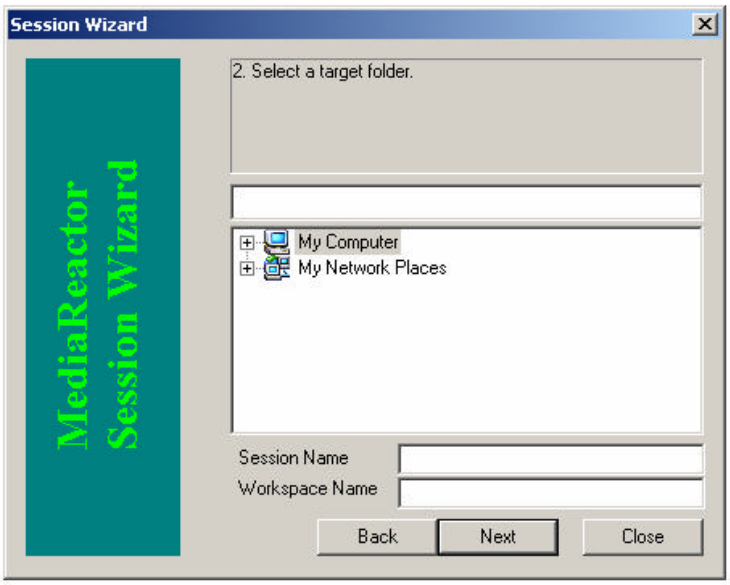
Selecting the **Session Wizard** toolbar button opens up the above dialog box.

You are instructed to navigate through your storage to find a source directory to get files from. Selecting the "**Recursive**" button instructs MediaReactor to look for source files in the folder selected and all sub-directories within that folder. If **Recursive** has not been selected, the **Session Wizard** will only look for files in the folder selected and will ignore the media contained in any sub-directories.

Selecting a file extension type from within the **Filter** pulldown menu instructs MediaReactor to look for files of that specific type only. This would narrow down your search if you are looking for a specific file type. Of course this will also remove all other file types from display within the **Session Wizard** for this session.

Once you navigate through your storage and find the correct directory, select it and the directory path and name will be displayed in the box just above the network tree.

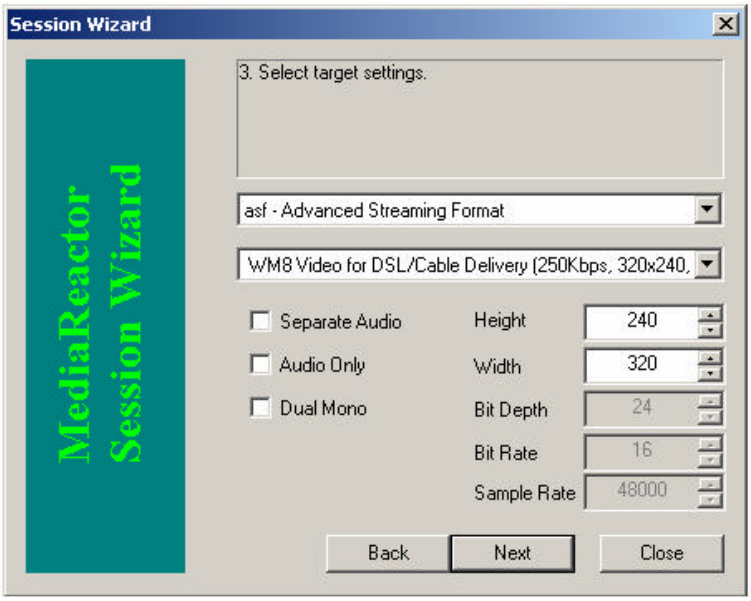
When you are satisfied that your selections are correct, press the **Next** button. Note that the user may select the **Close** button to cancel out of this operation at any time.



The next step will be to select a target folder. This is where the converted files will be created. Once you have selected a target folder, it will be displayed in the box just above the network tree.

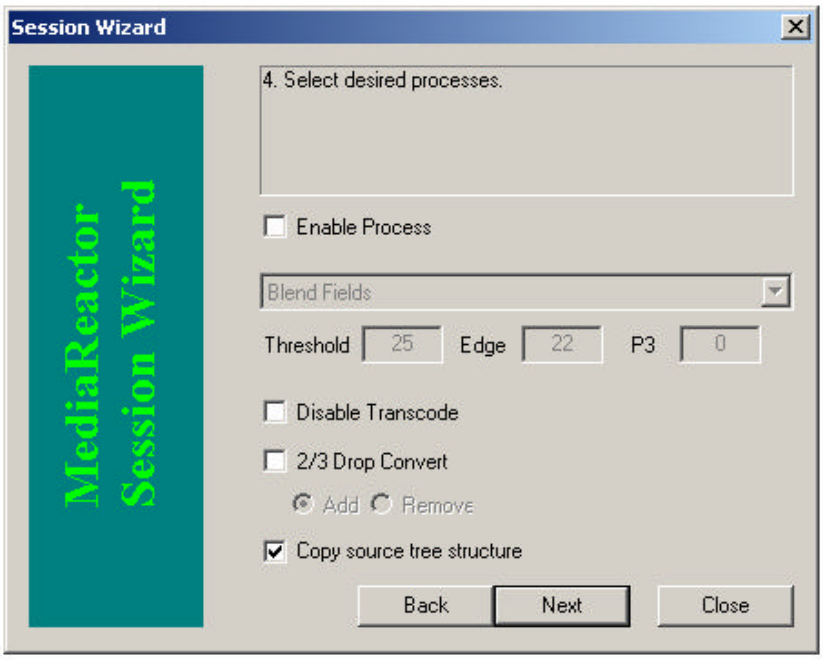
You can also name the session you are creating, as well as the workspace.

When you are satisfied that the session is going to the right place as the right name and in the right workspace, select the Next button. Note that not only may you **Close** to cancel out of this operation, but you may go **Back** and correct any choices you need to in the previous menu. If the parameters you have set are correct for this dialog box, press **Next**.

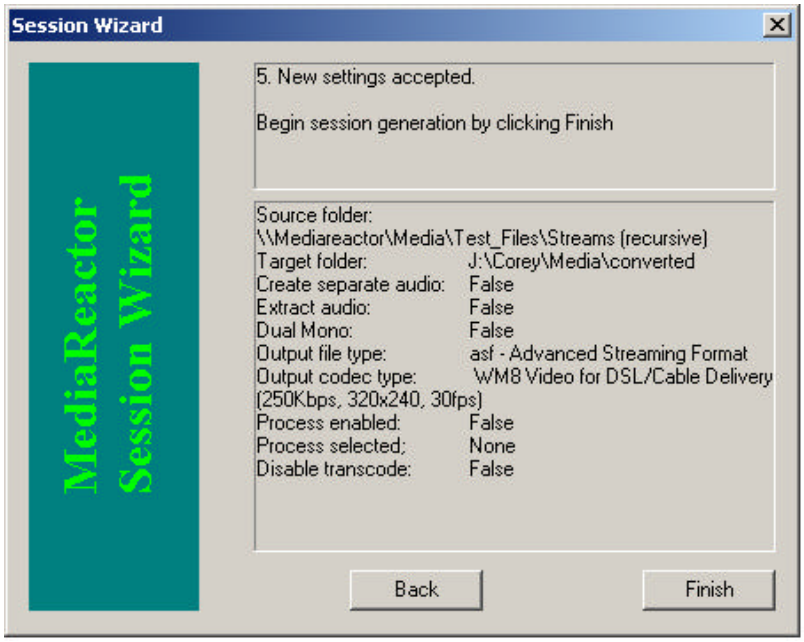


Now you will need to set the file parameters. Adjust the type, codec, size and width, as well as make any choices regarding audio insertion or separate audio conversions in this dialog box.

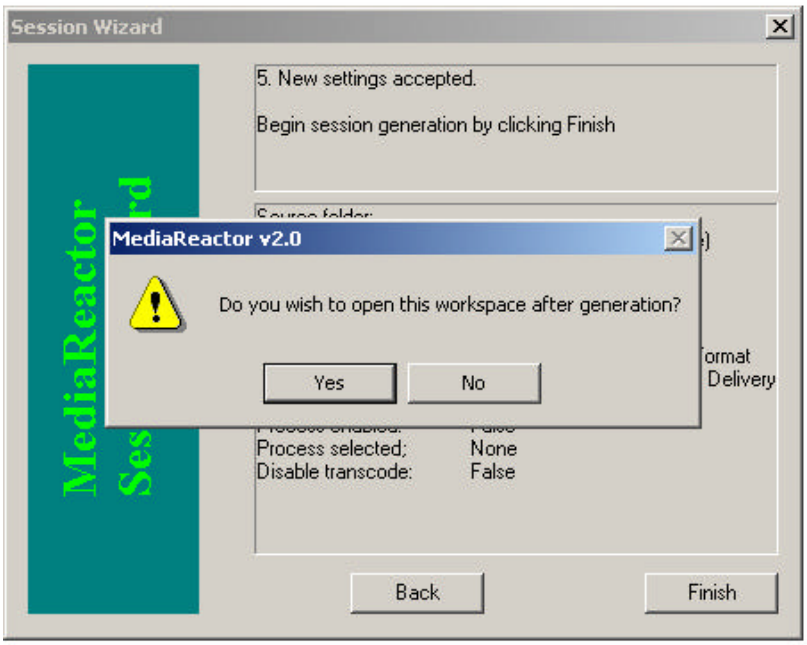
Once you have determined that all of your choices are valid and useful, press the **Next** button to enter the **Process** section of the Session Wizard.



Now you will need to set any processing parameters you wish to apply to the files you are going to create. These are the same options as on the **Target Settings** dialog box, so you may have some familiarity with them. If you have selected "**Recursive**" earlier in the Session Wizard, the option to "**Copy source tree structure**" is selectable. Select this to not only convert all the files in the directory and sub-directories, but to also copy the folders and subfolders in which the digital media files are contained.



Now you see the result of all of the choices you have made in the previous windows in the Session Wizard. If all of these parameters are correct, press the Finish button to convert your files.

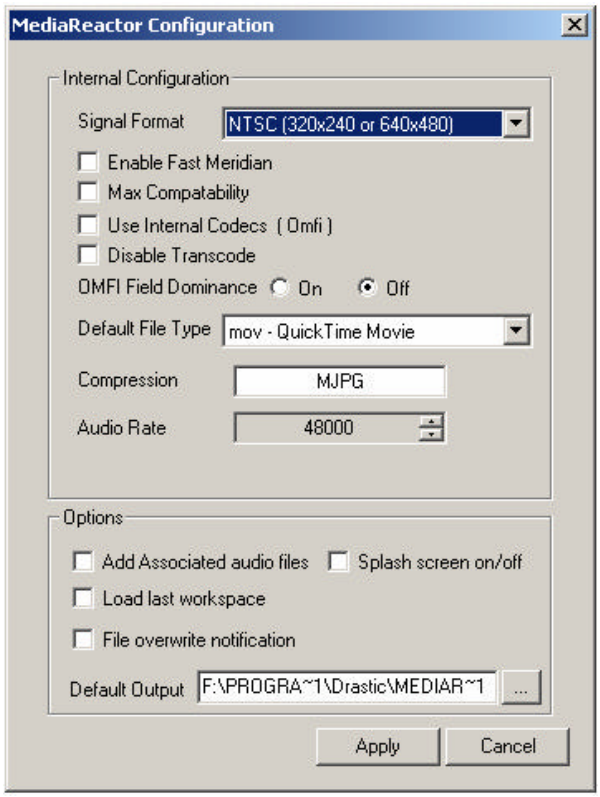


The above prompt will open, offering you the choice to either open the workspace you have just created after it is generated, or to simply perform the conversion and not open the workspace.

4.3 Options

The options menu offers an interface wherein the user can set certain default settings specific to MediaReactor.

Select the **Options** menu, in the main menus, under **Edit**. The following window will open:



The following **Configuration** settings are offered here:

Signal Format This represents the default video standard that MediaReactor will use when creating a video stream from a series of still images.

Enable Fast Meridien Enable the use of Fast Meridien file types.

Max Compatibility Enable use of DigiSuite MAX?

Use Internal Codecs (Omfi) Use internal library….

Disable Transcode Disable use of transcoding in MediaReactor file conversions.

OMFI Field Dominance (on/off) When converting between OMFI file types, some types switch the dominance of the fields between even and odd-numbered fields. When files are created with incorrect field dominance, there is a noticeable flicker as two fields from different

frames are being merged visually. Use this option to reverse the field dominance and correct the problem.

Default File Type This represents the default file type that MediaReactor will create unless another file type has been selected.

Compression This represents the default compression type that will be applied to target files unless another compression type has been selected.

Audio Rate This represents the default sample rate of the audio file being created.

The following **Options** settings are adjustable here:

Add Associated Audio Files Some file types have their audio located in associated files separate from the video file. Select this option to have MediaReactor find the associated audio files and use those audio files in the conversion.

Splash Screen on/off Select this option to remove the splash screen from display or return it.

Load Last Workspace Select this option to have MediaReactor load the last workspace saved upon opening MediaReactor.

File Overwrite Notification Select this option to have MediaReactor notify you with an error message if you are about to engage in an activity which will overwrite your existing files.

Default Output Set the location where files will be created if the user does not select a target folder in MediaReactor.

Apply Select this button to keep the changes you have just entered in this window.

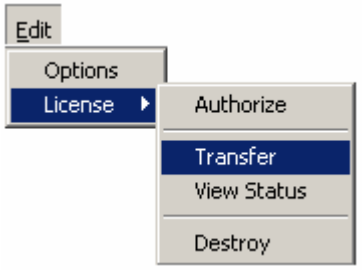
Done Select this button to close this window. If you have selected "**Apply**" your changes will be retained.

4.4 License Options

As detailed in the Installation section of this manual, we have demonstrated how to authorize your license for use. There are other licensing options which will allow you to transfer or destroy your license.

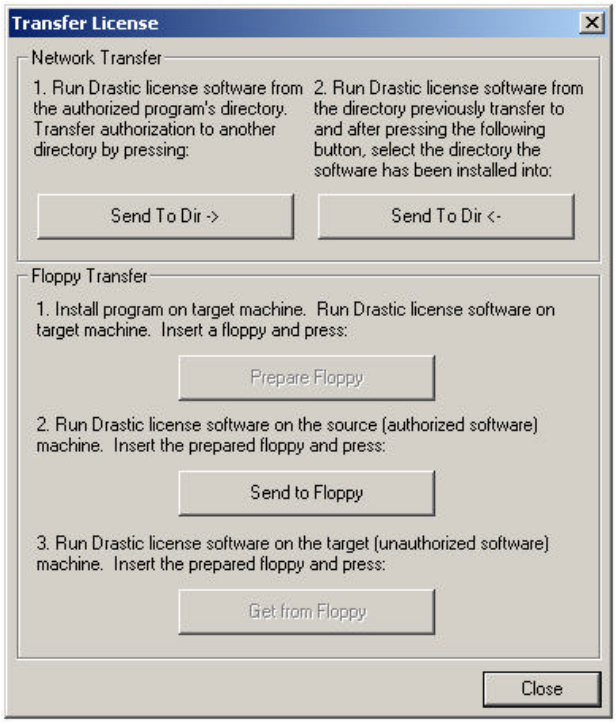
4.4.1 Transfer License

In the main menus, under **Edit/License**, select **Transfer**.



This opens up the **Transfer License** dialog box, offering the following options:

Transfer Select Transfer to open the following window:

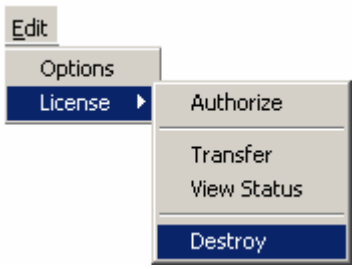


The **Network Transfer** section allows the user to pull the authorization out of their installation of MediaReactor and send it to a directory of folder on the network, or to another system residing on the same network.

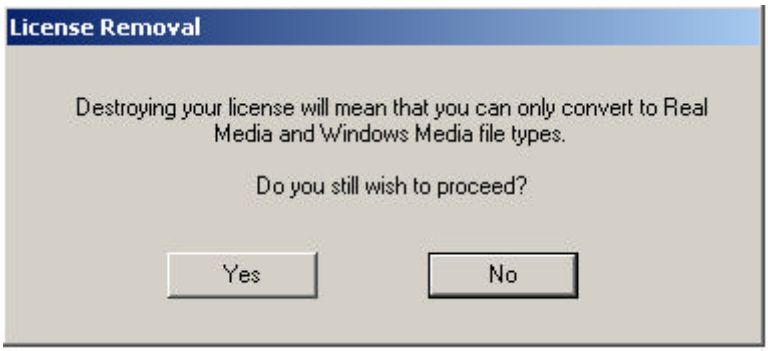
The **Floppy Transfer** section allows the user to send the authorization for the installation of MediaReactor to a floppy disk, for the purpose of transferring the license to another system, or where there is no network connection.

4.4.2 Destroy License

The option to **Destroy** a license is available in the **License** section of the main menus, under Edit/License. It may be necessary to destroy a license if the user is experiencing problems with their MediaReactor software. WARNING: the user should not select this procedure without a recommendation from Drastic Technical staff.

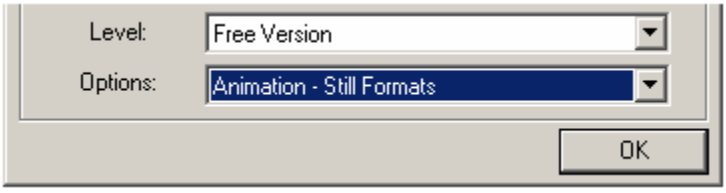


When the user selects the **Destroy** command, the following window is opened:

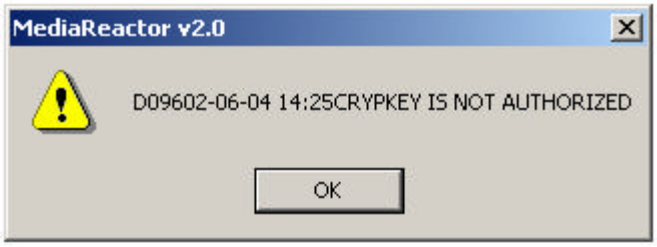


This warning message alerts the user to the fact that if the license is destroyed, the software will revert to "free" mode, with limited conversion options. If the user selects "**Yes**", the options granted in the authorization procedure will be revoked, and the user will now only be able to convert the supported formats to Real Media and Windows Media file types.

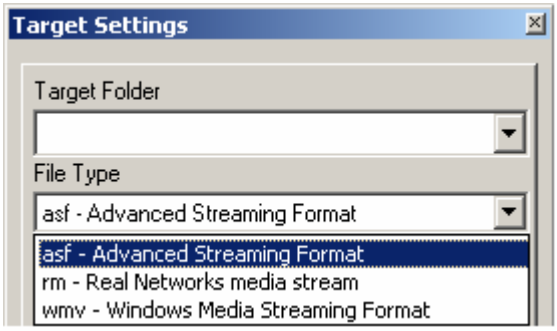
If the user selects **Yes**, the license status dialog box will open to display the new status of their license.



If the user tries to destroy the license on a free version, the following dialog box will open, alerting the user to the fact that this license has not been authorized for any options.



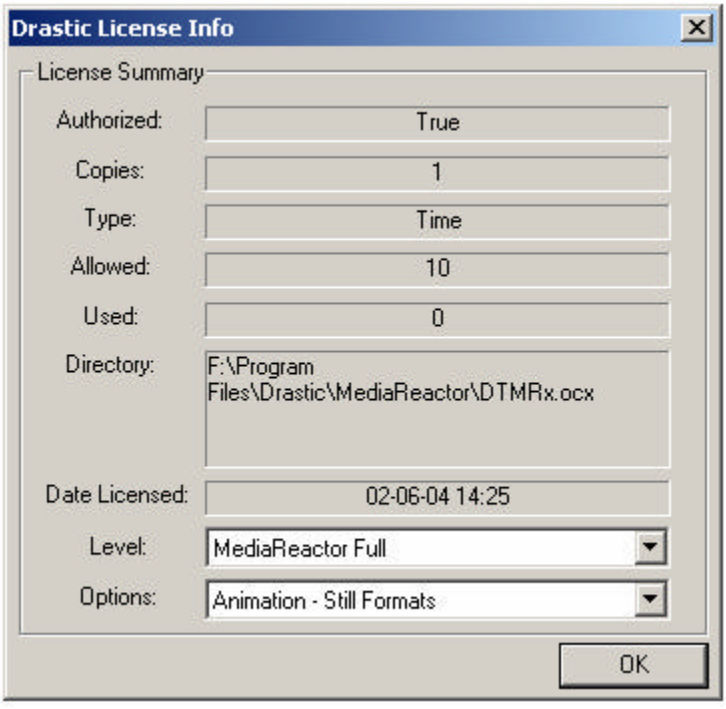
Note that the **Destroy License** procedure will not complete its removal of the license until you restart the MediaReactor software.



Once the license has been destroyed, the user will now see a reduced list of target file types.

4.4.3 License Status

Select **License Status** to open the following window:



License Status displays the various parameters of the current license status. Following are the fields appearing in this dialogue box, and a brief explanation of their function.

- Whether you are **Authorized** (True or False)
- How many **Copies** you are licensed for (this will typically be 1 or 0)
- The **Type** of license you have, (whether limited by time or unlimited)
- If limited by days, the **Allowed** number of days
- The number of days **Used** in a time-limited license
- The **Directory** into which MediaReactor software has been installed
- The **Date Licensed** (and the time).
- The **Level** of MediaReactor licensed for use
- The **Options** pulldown menu, listing all of the supported options enabled by this license

4.5 Sessions

A *Session* is all the information that defines an individual translation. When you are converting files with MediaReactor you will need to have at least one *Session* open. A translation can be performed from the *Session* itself or as part of a set of translation *Sessions* being run in a *Workspace*.

The following sections will explain how to work with *Sessions* and give detailed information about translation parameters that the *Session* may contain.

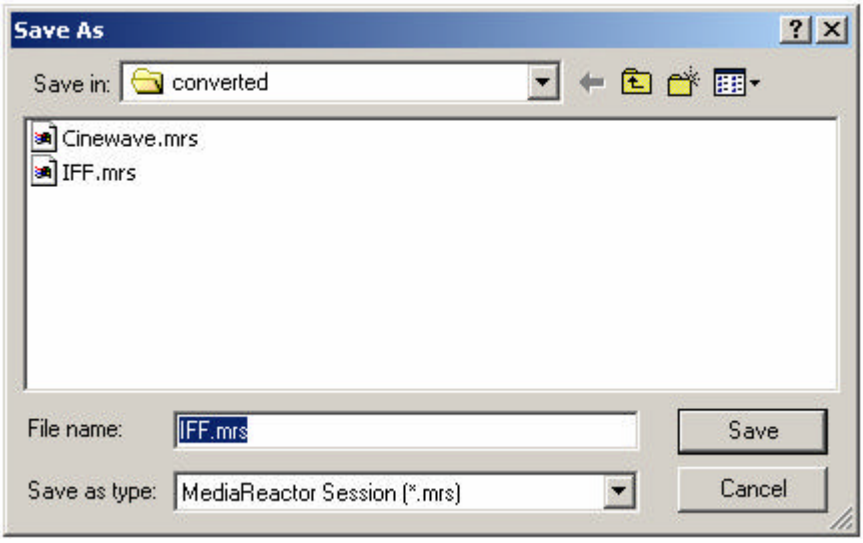
4.5.1 Working with Sessions

When a *Session* is set up in MediaReactor, the parameters of a conversion are being defined. A Session retains information regarding the source file location, the target folder, and the target file parameters set up in the **Target Settings** window.

To begin new sessions select the **File** menu. Choose **File/Session/New**.

You may also open an existing *Session*. MediaReactor will load the parameters defined in the selected *Session*. Choose **File/Session/Open** from the **File** menu and browse to select a saved *Session* file.

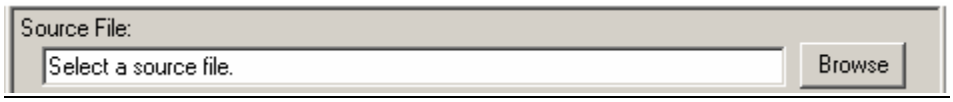
Once you have set up a **Session** that you want to use again, you will need to save it. In the main menus, under the File menu, select **Session/Save As**. This will let you save the active **Session**.



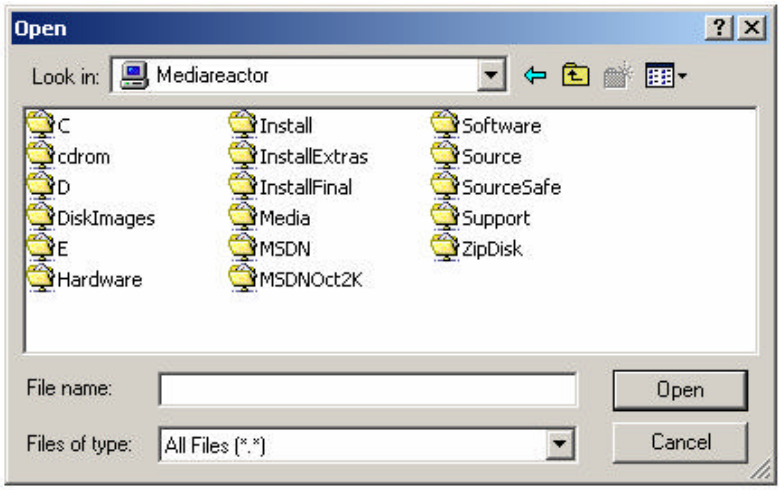
Selecting Save As opens up the **Save As** dialog box. Navigate through your storage for a location in which to store your sessions. Note that the file type MediaReactor Session file type is selected.

4.5.2 Selecting Source Files

The first step in setting up a translation *Session* is to locate and select your source material. In the **Session Window** select the **Browse** button to browse through your storage for a source file.



Selecting the Browse button offers the following "Open" dialog box. Navigate through your storage to select an appropriate file.

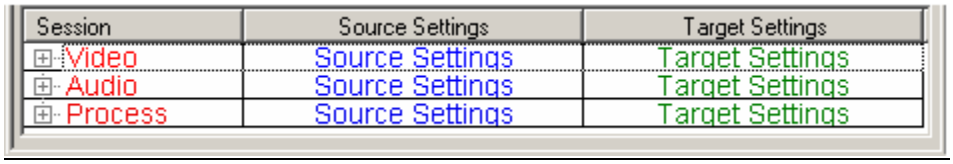


If there are many file types within the storage, it may take longer than necessary to find the file for conversion. Narrow down the range of files displayed by selecting from the pulldown menu at the head

of the **Source Files** window. Simply select the down arrow at the right of the **Files of Type:** field. The pulldown menu will appear, and all applicable file types will be displayed. Choose from among these to display only that file type.

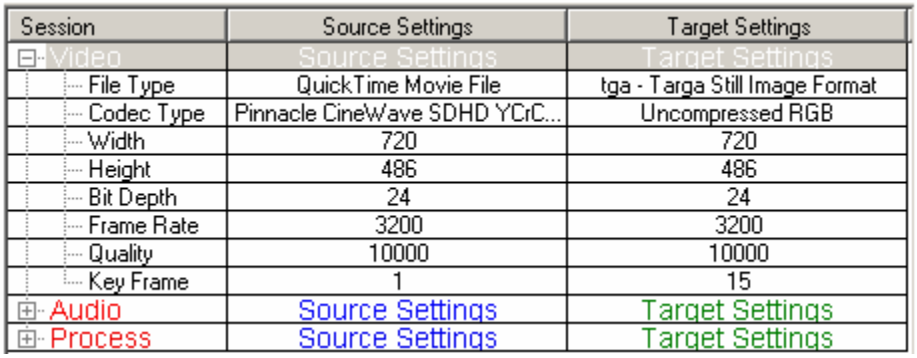
4.3.2.1 Source File Parameters

In the Session window you may view information regarding the files you have selected. Double-clicking on any one of the banners within this window (**Video**, **Audio** or **Process**) will open a chart for each of these categories of interest displaying information about the **Source** and **Target** files.



Session	Source Settings	Target Settings
⊞ Video	Source Settings	Target Settings
⊞ Audio	Source Settings	Target Settings
⊞ Process	Source Settings	Target Settings

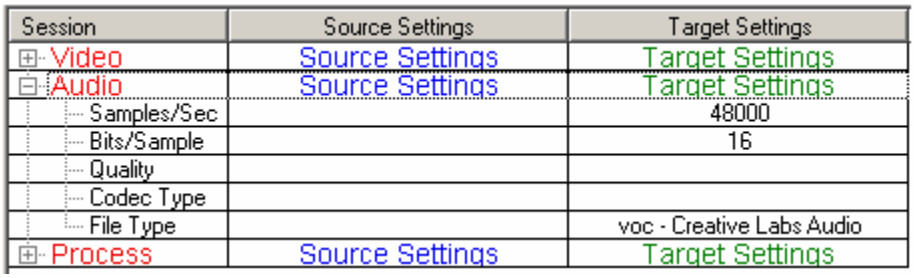
Double-click on the **Video** tab to display the following information regarding the video portion of the **Source** and **Target** files:



Session	Source Settings	Target Settings
⊟ Video	Source Settings	Target Settings
File Type	QuickTime Movie File	tga - Targa Still Image Format
Codec Type	Pinnacle CineWave SDHD YCrC...	Uncompressed RGB
Width	720	720
Height	486	486
Bit Depth	24	24
Frame Rate	3200	3200
Quality	10000	10000
Key Frame	1	15
⊞ Audio	Source Settings	Target Settings
⊞ Process	Source Settings	Target Settings

Video:

File Type:
Codec Type:
Width:
Height:
Bit Depth:
Frame Rate:
Quality:
Key Frame:

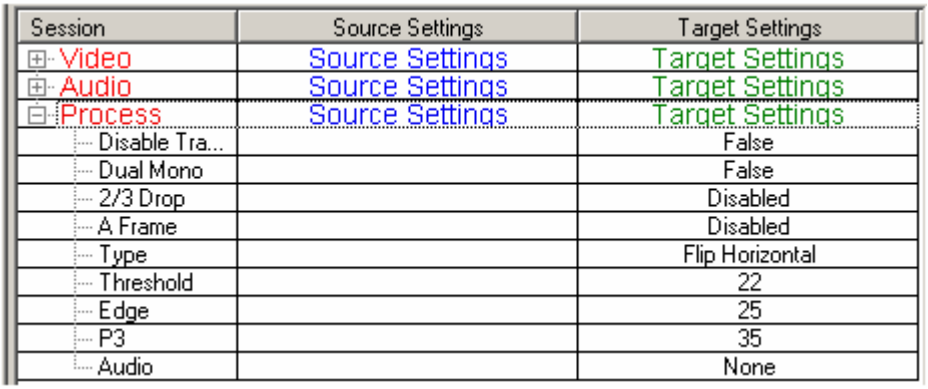


Session	Source Settings	Target Settings
⊞ Video	Source Settings	Target Settings
⊟ Audio	Source Settings	Target Settings
Samples/Sec		48000
Bits/Sample		16
Quality		
Codec Type		
File Type		voc - Creative Labs Audio
⊞ Process	Source Settings	Target Settings

Double-click on the **Audio** tab to display the following information regarding the audio portion of the **Source** and **Target** files:

Audio:

Samples/Sec:
Bits/Sample:
Quality:
Codec Type:
File Type:



Session	Source Settings	Target Settings
⊞ Video	Source Settings	Target Settings
⊞ Audio	Source Settings	Target Settings
⊟ Process	Source Settings	Target Settings
Disable Tra...		False
Dual Mono		False
2/3 Drop		Disabled
A Frame		Disabled
Type		Flip Horizontal
Threshold		22
Edge		25
P3		35
Audio		None

Double-click on the **Process** tab to display the following information regarding the process portion of the **Source** and **Target** files:

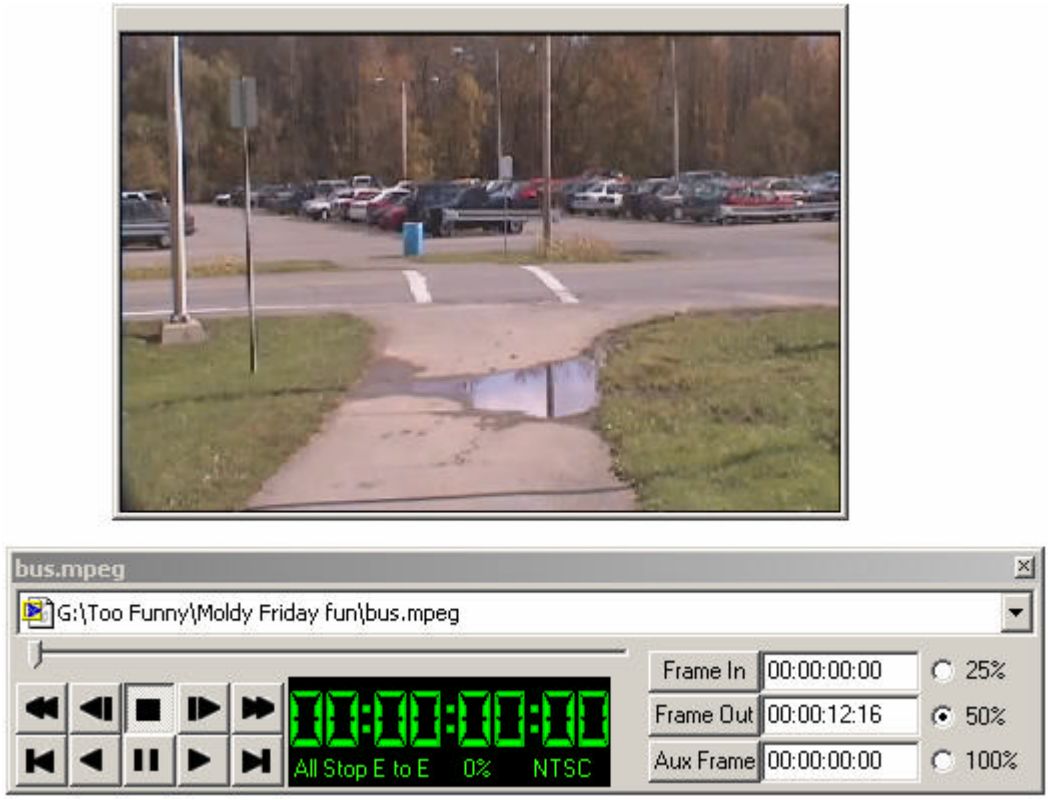
Process:

Disable Transcode:
Dual Mono:
2/3 Drop:
A Frame:
Type:
Threshold:
Edge:
P3:
Audio:

4.5.3 Previewing Source Files

Once you have selected a Source File, it is possible to use the built-in viewer to preview this file and confirm that it is the correct file. With a Session loaded, and a file selected in the Source File field, go to the toolbar.

Select the Preview Source  button. This opens the viewer and allows you to preview your file.



The user may re-size the viewer to one of three sizes. This allows the user to compensate for differing visual monitoring requirements.

In the preview window, the user will see a set of transport controls analogous to a home VCR. Play, stop, pause, fast forward and so on are all present on the viewer. Use this viewer to confirm the veracity of your source file selection.

4.5.4 Previewing Target Files

Once you have selected a Target File, it is possible to use the built-in viewer to preview this file and confirm that it is the correct file. With a Session loaded, and a file selected in the Target File field, go to the toolbar.

Select the Preview Target  button. This opens the viewer and allows you to preview your file.

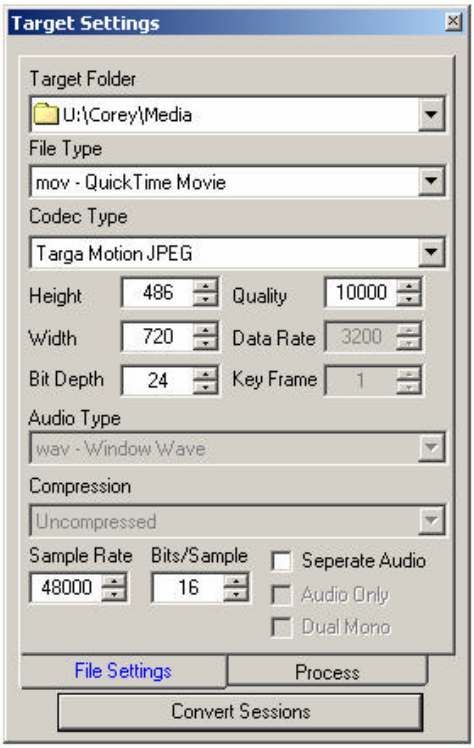
The user may re-size the viewer to one of four sizes. This allows the user to compensate for differing visual monitoring requirements.

In the preview window, the user will see a set of transport controls analogous to a home VCR. Play, stop, pause, fast forward and so on are all present on the viewer. Use this viewer to confirm the successful completion of your target file adjustments.

4.5.5 Setting up the Target Files

Target Settings

Once you have selected the source file, you will need to set the parameters of the target file (the file you are going to create). Confirm that the **Target Settings** window is open. If it is not, use the **View** menu to select it.



File Settings

Target Settings window – File Settings Tab

Confirm that the File Settings tab near the bottom of the Target Settings window is selected. When selected, the tab will be blue.

? **Target Folder** The Target Folder pulldown menu will display the location selected in the Session Manager window. You may have already set the location in the Session window, but you

may adjust it here if needed. Select the “down” arrow at the right side of this menu to reveal the network tree for navigation.

? **File Type** The File Type pulldown menu allows the user to select the target file type. Depending on which file type you select in this field, you will see different choices offered in the subsequent fields. The file types displayed in this menu depend on which level of MediaReactor you have installed. Select the “down” arrow at the right side of this menu to reveal the file types.

? **Codec Type** Translate the source media to this compression / decompression (codec) format. This field will give you a drop-down menu of the available codecs. This list will include the codecs built into MediaReactor as well as any other codecs installed on the workstation. Select the “down” arrow at the right side of this menu to reveal the available choices. Select from this list.

? **Height** This field sets the height in pixels of the translated image. Some file types and codec formats may impose these limitations:

  ? a specific vertical size
  ? a minimum vertical size.
  ? a maximum vertical size.
  ? a vertical size that is a multiple of a particular step size.

  Edit the **Height** field to change the value and MediaReactor will accept the change if it is supported or substitute the closest value otherwise. For file types with adjustable sizing, the “up” and “down” arrows increment in steps representing available height choices.

? **Width** This field sets the width in pixels of the translated image. Some file types and codec formats may impose these limitations:

  ? a specific horizontal size
  ? a minimum horizontal size.
  ? a maximum horizontal size.
  ? a horizontal size that is a multiple of a particular step size.

  Edit the **Width** field to change the value and MediaReactor will accept the change if it is supported or substitute the closest value otherwise. For file types with adjustable sizing, the “up” and “down” arrows increment in steps representing available width choices.

? **Bit Depth** This field sets the number of bits per pixel that controls the color resolution of the translated image. Some file types and codec formats may impose limitations on this setting. Edit the **Bits** field to change the value and MediaReactor will accept the change if it is supported or substitute the closest value otherwise. You can also use the up/down arrow buttons to select the from the available bit depths.

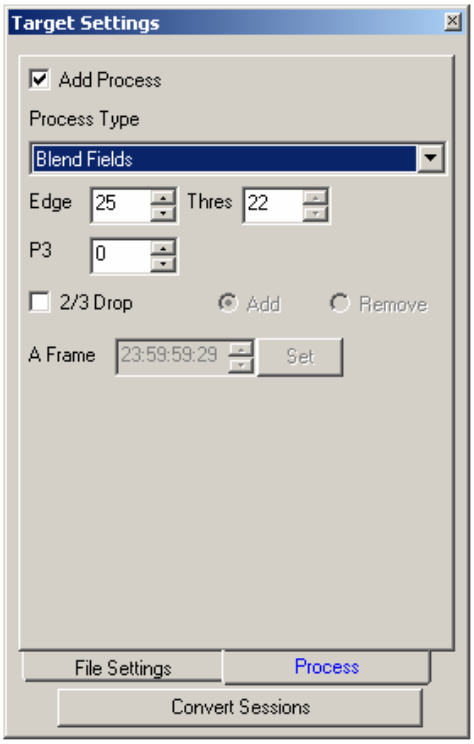
? **Quality** This field sets the quality factor of the compression scheme of the translated image data. Some file types and codec formats will support this setting. If it is supported MediaReactor will allow you to edit the **Quality** field to change the value. For file types with adjustable quality, the “up” and “down” arrows increment in steps representing available choices.

? **Data Rate** This field sets a target data rate for the compression scheme of the translated image data. Some file types and codec formats will support this setting. If it is supported MediaReactor will allow you to edit the **Data Rate** field to change the value. This value is expressed as Kilobytes per Second. For file types with adjustable data rates, the “up” and “down” arrows increment in steps representing available choices.

? **Key Frame** This field sets the interval between key frames for the codec of the translated image data. Some file types and codec formats will support this setting. If it is supported MediaReactor will allow you to edit the **Key Frame** field to change the value. This value is expressed as a number of frames. For file types with adjustable key frame intervals, the “up” and “down” arrows increment in one frame steps.

- **Audio Type** The Audio Type pulldown menu becomes available when the user selects "Separate Audio". Select the type of audio file you wish to create using the pulldown menu. The audio file type choices available depend on the version of MediaReactor you have.
- **Compression** Select the level of compression to be applied to the separate audio file. This only becomes active when the user has selected Separate Audio. Note that some audio file type choices will not offer adjustable compression.
- **Sample Rate** The Sample Rate applied to the target audio is displayed here. This only becomes active when the user has selected Separate Audio. Note that some audio file type choices will not offer adjustable sample rates.
- **Bits/Sample** The Bits per Sample ratio of the target audio file is set here. Note that some audio file type choices will not allow the user to adjust the bits per sample ratio.
- **Separate Audio** Select this to create separate files from a file that contains audio and video, one file for video (or series of still images) and one or more files for audio. Some systems require their audio source material to be in another file. Check in the compatibility section for information about these systems.
- **Audio Only** Select this checkbox to prevent the creation of a new video file during this conversion. This only becomes active when the user has selected Separate Audio.
- **Dual Mono** Select this checkbox to create two "mono" audio files (using the audio from the source video file) not associated with the source video file. Some systems require their audio source material to be in another file. Check in the compatibility section for information about these systems. This only becomes active when the user has selected Separate Audio.

Target Settings window – Add Process tab



Target Settings window – Process tab

Target Settings window – Process Tab

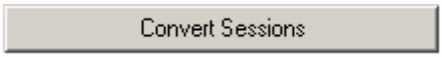
The Process Tab offers certain advanced file processing features and adjustments not present on the File Settings tab.

To access these features, confirm that the Process tab near the bottom of the Target Settings window is selected. When selected, the tab will be blue.

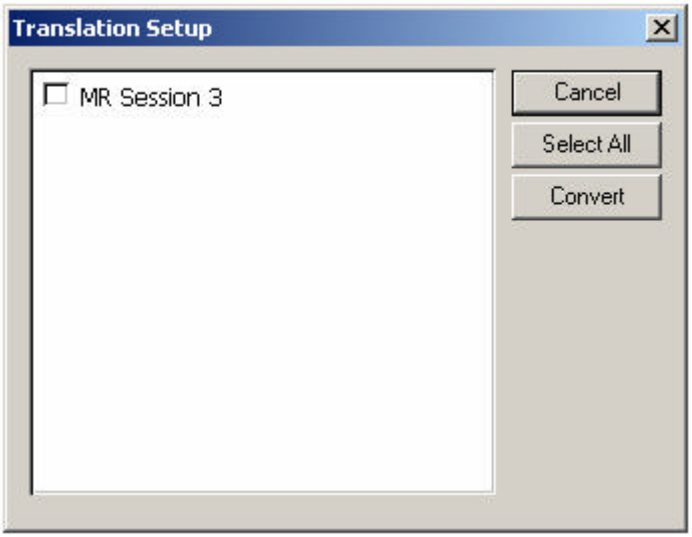
- **Add Process** This check box enables the processing and allows you to select the type of processing from the pulldown menu.
- **Process Type** Use this pulldown menu to select between the available processes. Choices here include: Blend Fields, De-interlace Blend, De-interlace Interpolate, Duplicate Field 1, Duplicate Field 2, Flip Horizontal, Flip Vertical, and Invert Fields.
- **Edge** This field sets an edge value for the de-interlace processing. The edge value controls the detection of intra-field artifacts as opposed to actual high frequency content in the image. The greater the value of the edge setting the more likely an edge in the image will be blended. The default value should be adequate for most processing but if you need to adjust it do so carefully.
- **P3** This feature is not implemented in this version of MediaReactor.
- **Thres** (Threshold) This field sets a threshold value for the de-interlace processing. The threshold value controls the detection of the intra-field motion of an object. The greater the motion of an object between fields the higher the threshold needs to be set so it will be detected and used in the blending process. The default value should be adequate for most processing but if you need to adjust it do so carefully.
- **2/3 Drop** Select this checkbox to implement the conversion between film rate and NTSC video. The **Add**, **Remove**, and **A Frame** fields set the parameters of this conversion.
- **Add** Select Add if you have a film rate file (24 fps) and you need to "Add" frames to convert this file to NTSC frame rate.
- **Remove** Select this checkbox if you have an NTSC file generated on a Telecine and you need to remove the "inserted" frames to end up with a 24 fps file.
- **A Frame** The "A Frame" represents the first frame of inserted video generated by the Telecine. Setting the A Frame involves stepping though the file by frames to find the first "jittery" frame. This will be the first frame generated by the Telecine. Note its location by time code and enter this value into the "A Frame" field. This synchronizes the addition or removal of all of the inserted frames, as they occur at predictable intervals.

Performing the Conversion

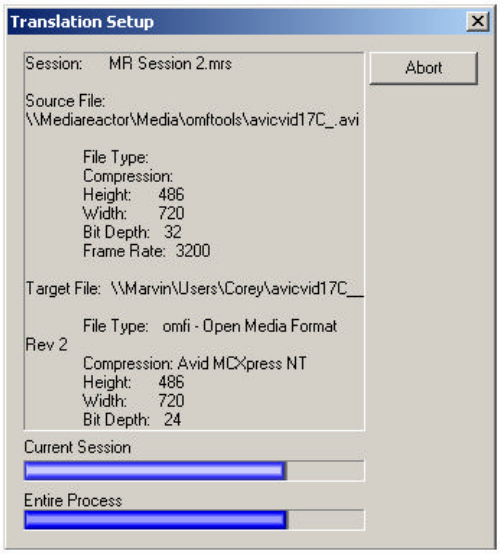
Once you have addressed the above considerations the conversion may be started. This indicates that you have selected what type of file you are starting with, where it is located, what type of conversion is taking place (what type of file it will become), and where the files are going. Performing this conversion is as easy as clicking on the **Convert Sessions** button at the bottom of the Target Settings window.



Selecting this button opens the Translation Setup window, offering you a choice of the available sessions you have saved. Select the session or sessions you wish to perform at this time.



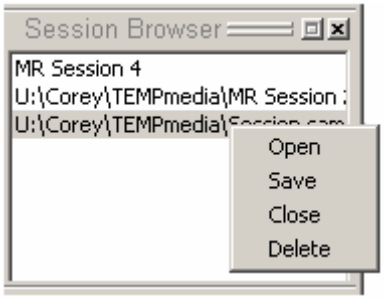
Once you select a session or sessions for conversion and press the **Convert** button, the **Translation Setup** window will display the conversion parameters you have created, as well as the progress of the conversion.



The above diagram shows the conversion progress bars. There is a bar for the progress of the current session, and a bar for the progress of all of the sessions selected for conversion. Note too that this menu contains an **Abort** button. Clicking on this button with the mouse, or pressing **Enter** on the keyboard during the conversion will cancel the process at this point.

4.5.6 The Session Manager

An important feature of the MediaReactor software is the ability to handle a number of sessions within one workspace. To select between active sessions, select the session you want using your mouse. If you right click on the session name, the following dialog box will open:



Selecting **Open** will allow the user to browser through their storage to find a session to open. This will add a Session to the existing workspace.

Selecting **Save** will save the Session upon which the user has right-clicked. A Save As dialog box will open, and the file type "MediaReactor Session" will display in the File Type field.

Selecting **Close** will close the Session upon which the user has right-clicked. If any changes have been made since the user opened the Session, the user will be prompted either to Save the file or close it.

Selecting **Delete** will delete the Session upon which the user has right-clicked.

4.6 The Workspace

The MediaReactor *Workspace* acts as a manager for your translation Sessions. A Workspace may be used as an organizational tool by acting as a container for related translation Sessions.

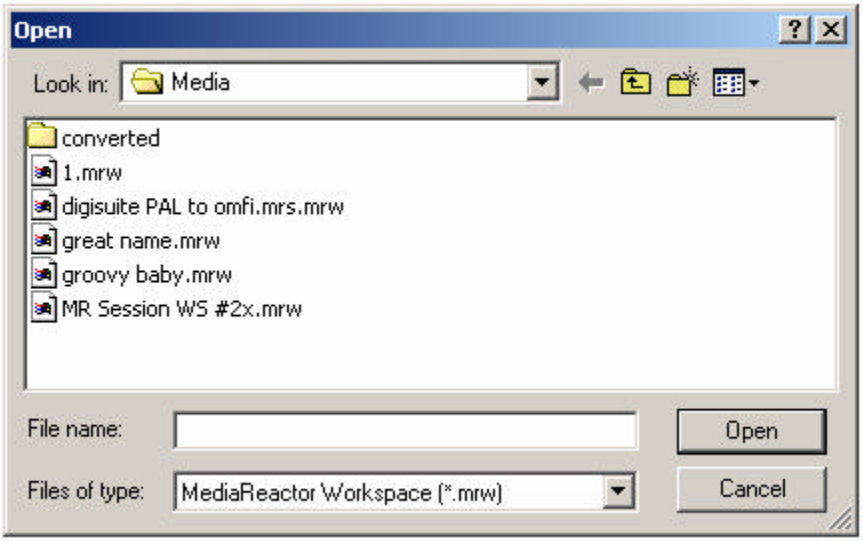
When MediaReactor is first started it is working within a new Workspace. You will not however see a window entitled Workspace. If you close MediaReactor, you will be prompted to Save (any open Sessions and then) the Workspace you are working within. From then on MediaReactor will load the last *Workspace* you saved upon opening.

4.6.1 Creating a Workspace

You do not need to do anything to create the initial **New Workspace**. As soon as you open MediaReactor, you are working within a Workspace. Any Session you create will be saved within this workspace. Once you try to close any unsaved Sessions, you will be prompted to save them, and then to save the workspace. You can only have one Workspace open at a time. If you try to open a second Workspace by pressing "**New Workspace**", you will be prompted to save any sessions you have open, and to save the current workspace.

4.6.2 Open a Workspace

If you have saved any workspaces, they may be opened as needed. Each workspace will load any sessions contained within them and all of their associated file parameters. Go to the main menus, under File/Workspace/Open. The following dialog box will open:



This is a standard Windows browser, which allows you to navigate through your storage to find the workspace you need. Once you find the workspace file you want, select **Open** to open it.

4.6.3 Adding Sessions to and Removing Sessions from a Workspace

You may add sessions to a workspace. Once you have a workspace open, whether it is saved or not, select Open Session. Browse through your storage to find the Session you want to load into this workspace. You may also open a saved Session using the right click "Open" option in the Session Manager window.

4.6.4 Working with Multiple Sessions

When working with multiple *Sessions* the **Session Browser** window is used to display any open *Sessions*. You may also select which *Session* is active in this window.

To change the settings of a *Session* make it active by double clicking on it in the **Session Browser** window or select the session by clicking on its window in the MediaReactor interface. The **Session** window will load the *Session's* parameters and allow you to edit them.

The ability to work with a number of *Sessions* in the same *Workspace* allows MediaReactor to automate the conversion of a group of files. You can create new or add existing *Sessions* to a *Workspace* then have all or some of those translations executed one after another. The conversions will start at the *Session* at the top of the *Workspace* and work down the list.

4.7 Customizing the User Interface

The MediaReactor user interface allows you to configure it to best suit your preferences. Contained within the main window of the program you may choose the components to be displayed, where they are placed and what size they are according to your needs. MediaReactor conforms to the Microsoft Windows guidelines for designing a user interface. If you are familiar with other Windows applications then the controls of MediaReactor should be familiar to you.

The MediaReactor interface components that you can customize are:

? the Toolbar (can be opened/closed)
? The Status Bar (can be opened/closed)
? The Source Window (can be opened/closed, undocked from the interface and re-sized)
? The Target Settings (can be opened/closed – cannot be docked with the interface)
? The Session Manager/Session Browser (can be opened/closed, undocked from the interface and resized)
? The Output Manager (can be opened/closed, undocked from the interface and resized)

4.7.1 Display Visibility

The MediaReactor windows and toolbars can be displayed to suit either your preferences or the organizational requirements of your working environment. The View menu lets you select what windows or toolbars will be visible. All the windows and any toolbars that are not docked also provide buttons that allow them to be closed.

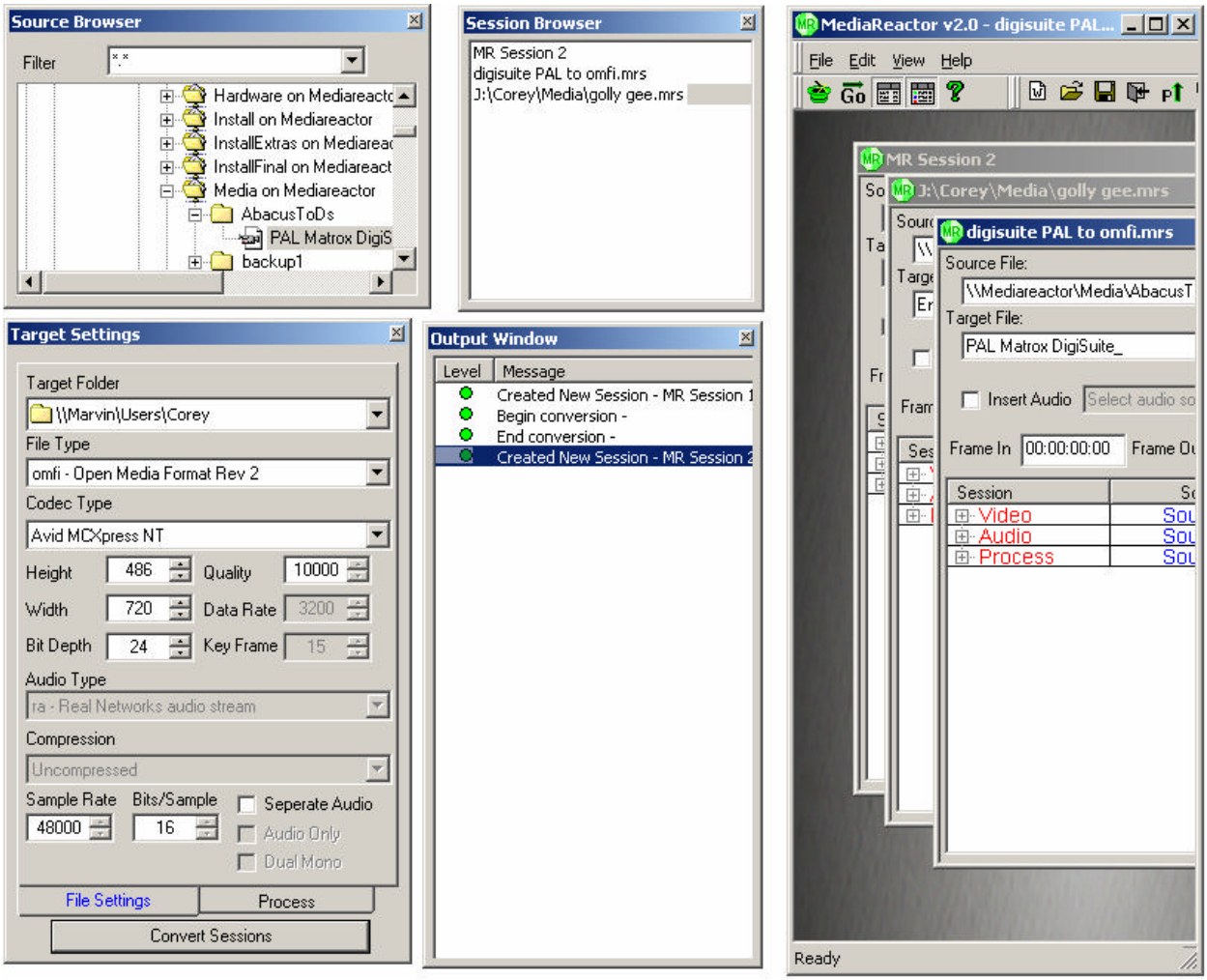
4.7.2 Display Sizing

The MediaReactor windows and toolbars can be re-sized to suit either your preferences or the organizational requirements of your working environment. All the windows and any toolbars that are not docked provide the means to be scaled to the size you require. To control sizing MediaReactor has the standard Windows functions i.e. the mouse pointer becomes a scaling arrow, indicating that the border of a window can be moved to resize it.

4.7.3 Display Location

The MediaReactor windows and toolbars can be located to suit either your preferences or the organizational requirements of your working environment. The windows and toolbars may be moved to

any position you prefer by dragging their title bar with mouse. You can also have any of the toolbars and windows except for the Target Settings window dock with the interface.



In the above layout, the Source Browser, the Session Browser and the Output Window are undocked and on the desktop. They have been re-sized to optimize use of the available desktop space and the organizational requirements of the user.

The Session windows are “cascaded” to show a corner of each session except for the active session on top, shown in its entirety.

The Target Settings window is never docked with the MediaReactor interface and may not be resized.

5 Reference Guide

This guide provides information about the MediaReactor user interface, the file types and formats that MediaReactor supports and a glossary of terms used in this manual.

5.1 User Interface

This section gives a description of each component that make up the MediaReactor user interface. If you need to determine what a component is or its function use this section to look it up.

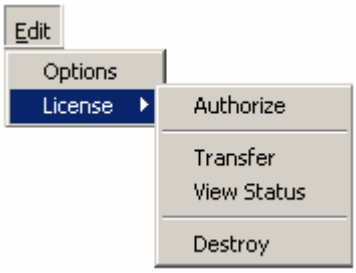
5.1.1 Main Menus

Following are the main menus and their functions. A number of these functions are duplicated elsewhere, and this redundancy is built in for the convenience of the operator.

5.1.1.1 The File Menu

Session	**New** – opens a new session **Open** – opens a saved session **Save** – save the active session **Save As** – save the active session in the user-selected folder with a new name.
Workspace	**New** – open a new workspace **Open** – opens a saved workspace **Close** – close the current workspace **Save** – save the current workspace **Save As** – save the active workspace in the user-selected folder with a new name.
Recent Sessions	Displays the list of sessions recently saved. Select a session here to load it into this workspace, or to select this session as the active one in the current workspace if it is already contained in the active workspace.
Recent Workspace	Displays a list of recently saved workspaces. When you select a workspace here other than the active workspace, you will be prompted to save any open sessions and to save the active workspace.

5.1.1.2 Edit Menu



Options – opens the **Options** menu

License

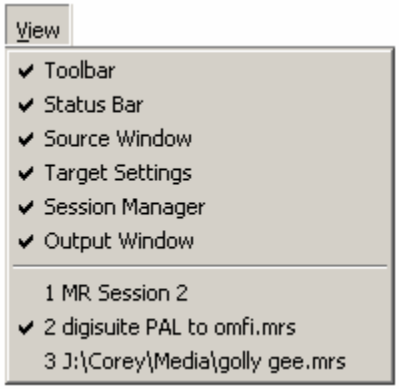
Authorize – opens the Authorization dialog box, allowing the user to authorize their software for use, upgrade or destroy their authorization.

Transfer – allows the user to transfer their license authorization to a system on the network or to a floppy either for backup purposes or to perform system maintenance which might engage the software protection.

View Status – opens the Drastic License Info box, displaying the particulars of this installation and what the software is licensed for in this instance.

Destroy – permanently destroys the license and causes the software to revert to "free" mode, offering limited translation features.

5.1.1.3 The View Menu



Toolbar – toggles the toolbar on or off

Status Bar – toggles the status bar on or off

Source Browser – toggles the source window on or off

Target Settings – toggles the target settings window on or off

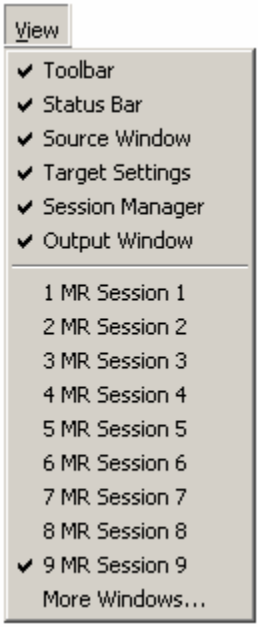
Session Manager/Browser – toggles the session manager/browser window on or off

Output Window – toggles the output window on or off

List of open sessions – displays a list of open sessions – not necessarily all of the sessions in the workspace

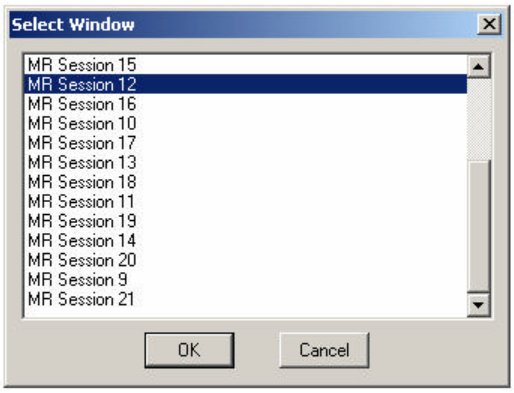
View More Windows

If you have more sessions open than your View menu will list, the last option on the View menu list will be the "**More Windows…"** option. Selecting this option allows the user to enter the **Select Window** dialog box, with a list of currently open sessions.



Select Window

Choosing the More Windows option in the View menu offers up the below **Select Window** dialog box, allowing the user to browse through a list of open session windows to select the one they wish to view.



5.1.1.4 Help Menu

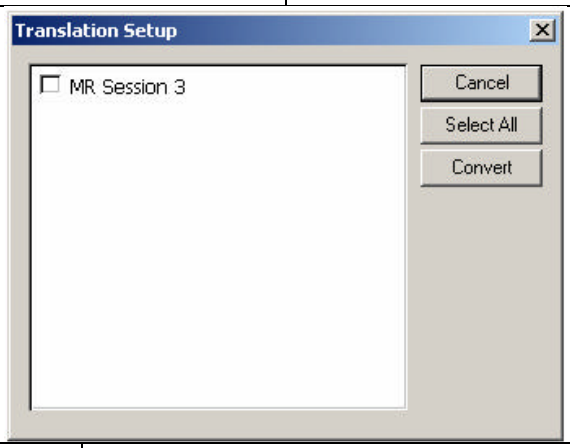
About MediaReactor v2.0… Select this to open the "splash" screen, listing the version number of MediaReactor you are working with.

5.1.2 The Toolbars

A number of menu functions are duplicated on the **Toolbar** for quick one-button access.

The **Toolbar** consists of the several icons below the main menus, and may be displayed or removed by toggling its display in the main menus within the pulldown menu under **View.** The functions of these buttons are as follows:

Session Wizard	The **Session Wizard** allows the user to select a folder or set of folders and convert all the media within them to a specific format. The user may convert the files and drop them into one folder, or convert all the files and maintain the folder/directory structure of the selected items.
Go (Convert)	This is the same as the **Convert Sessions** button. Selecting this button brings up the **Translation Setup** window, allowing the user to select a session or sessions to convert



Source Browser	toggles the Source Browser on or off
Target	toggles the Target Settings window on or off
Help	Opens the "splash" screen, which displays the version number of MediaReactor you are working with.
New Workspace	This opens a new workspace. The user will be prompted to save any changes made in the workspace before closing.
Open Workspace	Opens a saved workspace. If the user does not close their existing workspace, they will be prompted to do so before they will be able to open a new workspace. They may also save any sessions and workspaces or choose not to save any changes.
Save Workspace	Save the active workspace. If the workspace has not been saved before, the user will be prompted to select a location for the workspace and a file name.

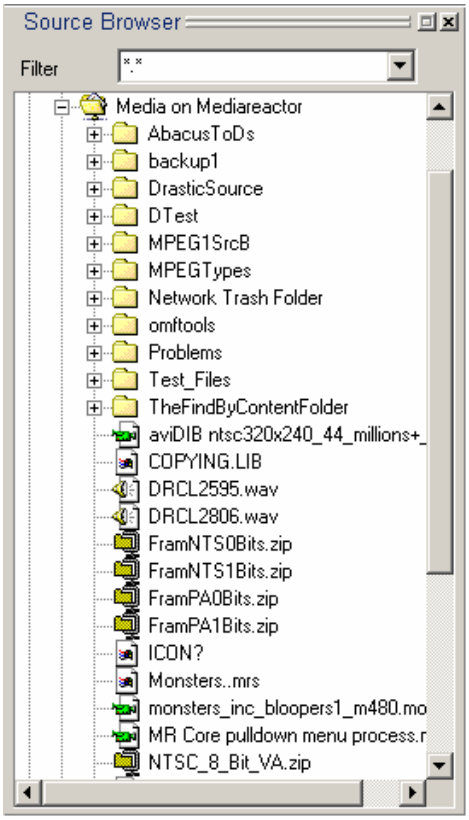
Close Workspace	Close the active workspace. If the user has not done so already, they will be prompted to save any sessions they have made changes to. Also, if the workspace or any files in it have changed, the workspace will need to be saved.
Previous Session	Use this arrow to move up though the list of open sessions. Selecting previous will de-activate the current session and shift the focus to the session immediately above (previous to) that session.
Next Session	Use this arrow to move down though the list of open sessions. Selecting next will de-activate the current session and shift the focus to the session immediately below (after) that session.
New Session	Open a new session.
Open Session	Open a session that has been saved. Opens a Windows "Open" dialog box, allowing the user to navigate through their storage for a session. Note that the "Files of Type" field has been narrowed down to the type: MediaReactor Session [*.mrs]. This allows the user to only "see" session files within this dialog box.
Save Session	Save the active session.
Close Session	Close the active session. If any changes have been made to the session since the last time it was saved, the user will be prompted to save the session.
Delete Session	Deletes the active session. Note that all session information associated with this session will be lost. This activity will not delete any media files.
Preview Source	If you have a source file selected in the Source Browser, you may select this button to preview it on your VGA monitor. If the selected file is an audio file, it will still play (provided you have audio hardware installed) using the transport controls on the preview interface.
Preview Target	If you have converted a file and wish to view it to confirm the file has been properly processed, you may preview it on your VGA monitor using this button
Browse	Browse for media to preview using this button. If you are unsure about what you are looking for and wish to view a few files before loading them into the Source Browser, use this button to preview the files.

5.1.3 Windows

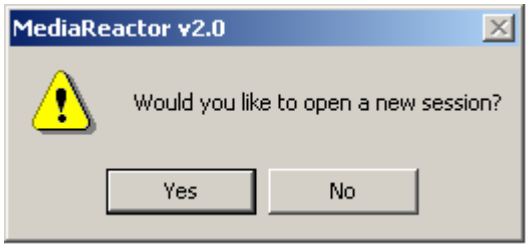
The windows contained within the MediaReactor interface are where all your work will be done. The most important window is the Session window as that is where file translations are set up and executed. The Session manager window helps you organize and execute multiple translations. The other windows provide information about the operation of MediaReactor and the files which it is working on.

5.1.3.1 The Source Browser

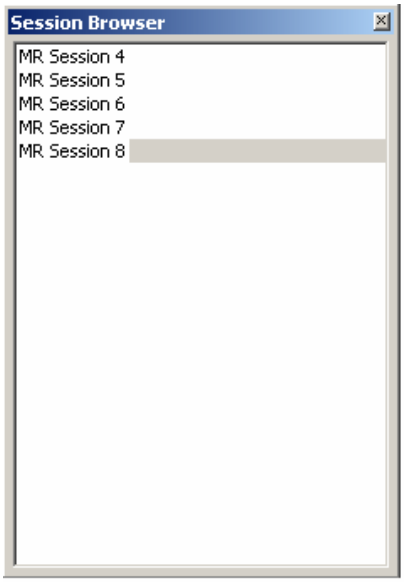
The Source Bowser displays the navigation tree associated with the source file selected in the current or active session. If no source file has been chosen or if there is no session opened, this will display the navigation tree with the folders all closed.



If there is no session opened and the user selects a source file, a prompt will open and ask the user if they want to open a new session.

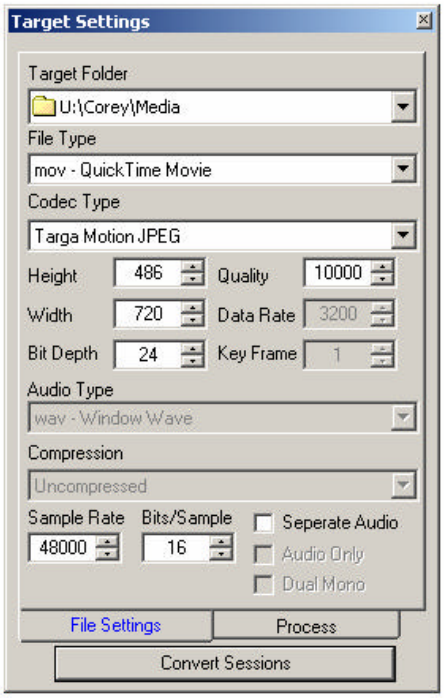


5.1.3.2 The Session Browser



The **Session Browser** window shows at a glance which sessions are open, and what their names are. De-selecting this window (in the main menus under **View**) will cause it to disappear, which will leave room for other, possibly more important things.

5.1.3.3 Target Settings window



The Target Settings window displays the target file settings associated with the current or active session. Use this window to determine what type of file you are going to create during the conversion process.

The various parameters you can adjust in this window are as follows:

- **Target Folder** The Target Folder pulldown menu will display the location selected in the Session Manager window. This target folder menu allows the user to change the folder assignation of the target file if necessary. Select the “down” arrow at the right side of this menu to reveal the network tree for navigation.
- **File Type** The File Type pulldown menu allows the user to select the target file type. Depending on which file type you select in this field, you will see different choices offered in the subsequent fields. The file types displayed in this menu depend on which level of MediaReactor you have installed. Select the “down” arrow at the right side of this menu to reveal the file types.
- **Codec Type** Translate the source media to this compression / decompression format. This field will give you a drop-down menu of the available codec formats. This list will include the formats built into MediaReactor as well as any other codecs installed on the workstation. Select the “down” arrow at the right side of this menu to reveal the available codecs. Select from this list.
- **Height** This field sets the height in pixels of the translated image. Some file types and codec formats may impose these limitations:
    - a specific vertical size
    - a minimum vertical size.
    - a maximum vertical size.
    - a vertical size that is a multiple of a particular step size.

  Edit the **Height** field to change the value and MediaReactor will accept the change if it is supported or substitute the closest value otherwise. For file types with adjustable sizing, the “up” and “down” arrows increment in steps representing available height choices.
- **Width** This field sets the width in pixels of the translated image. Some file types and codec formats may impose these limitations:
    - a specific horizontal size
    - a minimum horizontal size.
    - a maximum horizontal size.
    - a horizontal size that is a multiple of a particular step size.

  Edit the **Width** field to change the value and MediaReactor will accept the change if it is supported or substitute the closest value otherwise. For file types with adjustable sizing, the “up” and “down” arrows increment in steps representing available width choices.
- **Bit Depth** This field sets the number of bits per pixel that controls the color resolution of the translated image. Some file types and codec formats may impose limitations on this setting. Edit the **Bits** field to change the value and MediaReactor will accept the change if it is supported or substitute the closest value otherwise. You can also use the up/down arrow buttons to select the from the available bit depths.
- **Quality** This field sets the quality factor of the compression scheme of the translated image data. Some file types and codec formats will support this setting. If it is supported MediaReactor will allow you to edit the **Quality** field to change the value. For file types with adjustable quality, the “up” and “down” arrows increment in steps representing available choices.
- **Data Rate** This field sets a target data rate for the compression scheme of the translated image data. Some file types and codec formats will support this setting. If it is supported MediaReactor will allow you to edit the **Data Rate** field to change the value. This value is expressed as Kilobytes per Second. For file types with adjustable data rates, the “up” and “down” arrows increment in steps representing available choices.
- **Key Frame** This field sets the interval between key frames for the compression scheme of the translated image data. Some file types and codec formats will support this setting. If it is supported MediaReactor will allow you to edit the **Key Frame** field to change the value. This

value is expressed as a number of frames. For file types with adjustable key frame intervals, the "up" and "down" arrows increment in one frame steps.

? **Audio Type** The Audio Type pulldown menu becomes available when the user selects "Separate Audio". Select the type of audio file you wish to create using the pulldown menu. The audio file type choices available depend on the version of MediaReactor you have.

? **Compression** Select the level of compression to be applied to the separate audio file. This only becomes active when the user has selected Separate Audio. Note that some audio file type choices will not offer adjustable compression.

? **Sample Rate** The Sample Rate applied of the source audio is displayed here. This only becomes active when the user has selected Separate Audio. Note that some audio file type choices will not offer adjustable sample rates.

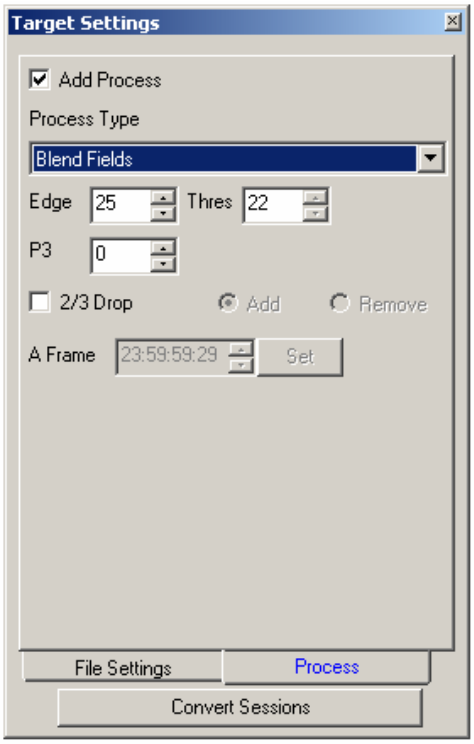
? **Bits/Sample** The Bits per Sample ratio of to the source audio file is displayed here. Note that some audio file type choices will not allow the user to adjust the bits per sample ratio.

? **Separate Audio** Select this to create two separate files from a file that contains audio and video, one file for audio and one file for video (video or still image stream). Some systems require their audio source material to be in another file. Check in the compatibility section for information about these systems.

? **Audio Only** This only becomes active when the user has selected Separate Audio. Select this checkbox to prevent the creation of a new video file during this conversion.

? **Dual Mono** This only becomes active when the user has selected Separate Audio. Select this checkbox to create two "mono" audio files (using the audio from the source video file) not associated with the source video file. Some systems require their audio source material to be in another file. Check in the compatibility section for information about these systems.

Target Settings window – Add Process tab



Target Settings window – Process tab

Target Settings window – Process Tab

The Process Tab offers certain advanced file processing features and adjustments not present on the File Settings tab.

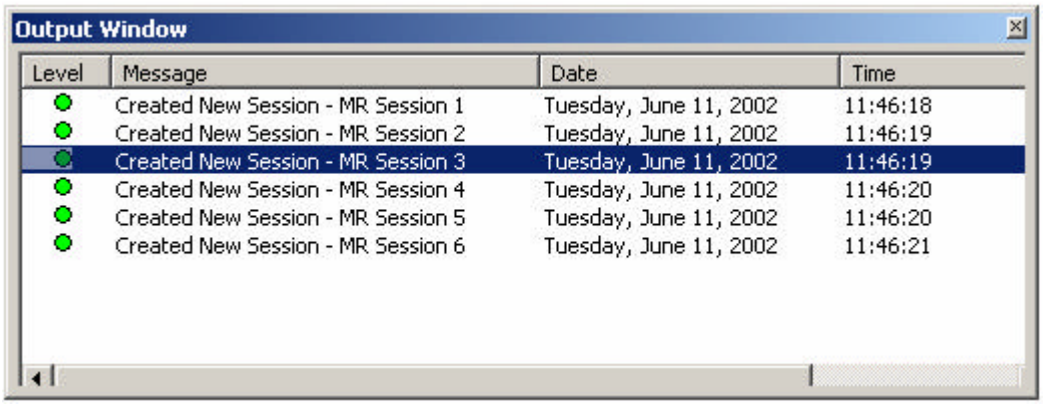
To access these features, confirm that the Process tab near the bottom of the Target Settings window is selected. When selected, the tab will be blue.

- **Add Process** This check box enables the processing and allows you to select the type of processing from the pulldown menu.
- **Process Type** Use this pulldown menu to select between the available processes. Choices here include: Blend Fields, De-interlace Blend, De-interlace Interpolate, Duplicate Field 1, Duplicate Field 2, Flip Horizontal, Flip Vertical, and Invert Fields.
- **Edge** This field sets an edge value for the de-interlace processing. The edge value controls the detection of intra-field artifacts as opposed to actual high frequency content in the image. The greater the value of the edge setting the more likely an edge in the image will be blended. The default value should be adequate for most processing but if you need to adjust it do so carefully.
- **P3** This feature is not implemented in this version of MediaReactor.
- **Thres** (Threshold) This field sets a threshold value for the de-interlace processing. The threshold value controls the detection of the intra-field motion of an object. The greater the motion of an object between fields the higher the threshold needs to be set so it will be detected and used in the blending process. The default value should be adequate for most processing but if you need to adjust it do so carefully.
- **2/3 Drop** Select this checkbox to implement the conversion between film rate and NTSC video. The **Add**, **Remove**, and **A Frame** fields set the parameters of this conversion.
- **Add** Select Add if you have a film rate file (24 fps) and you need to "Add" frames to convert this file to NTSC frame rate.
- **Remove** Select this checkbox if you have an NTSC file generated on a Telecine and you need to remove the "inserted" frames to end up with a 24 fps file.
- **A Frame** The "A Frame" represents the first frame of inserted video generated by the Telecine. Setting the A Frame involves stepping though the file by frames to find the first "jittery" frame. This will be the first frame generated by the Telecine. Note its location by time code and enter this value into the "A Frame" field. This synchronizes the addition or removal of all of the inserted frames, as they occur at predictable intervals.

All of the settings adjusted within the **Target Settings** window are saved within the **Sessions** themselves.

5.1.3.4 The Output Window

The Output window lists all activities that take place within MediaReactor. If you save a file or create a file, it is noted in the Output window. Any errors are listed in this window as well as any actions stopped etc.



The activities display the following fields: **Level**, **Message**, **Date** and **Time**. The user may not re-sequence these messages by category title. For example, selecting the "Time" heading above the messages does not re-sort the messages by the time of creation.

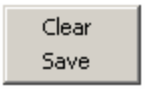
The **Level** category shows three categories of level. There are green messages, noting events only with no level of alarm. There are yellow messages, such as a user-initiated Abort conversion command. These indicate that the user may wish to examine the event to determine if there is a problem. The last level of error messages is red, indicating a problem that the user should definitely address in order to attain proper functionality from MediaReactor.

The **Message** category details the activity documented in this window. File creation/deletion, Conversions and so on will be detailed here.

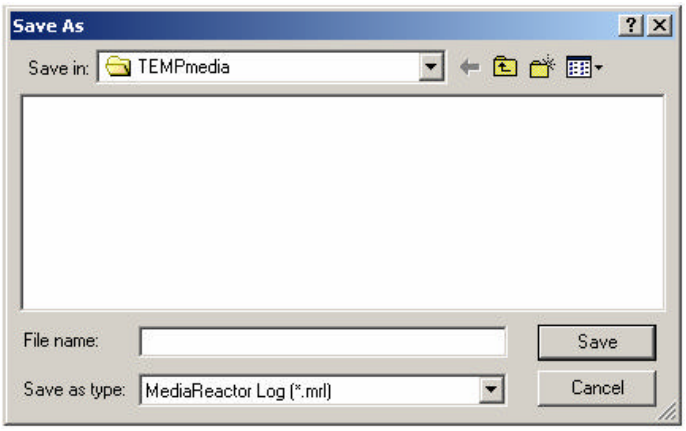
The **Date** category details the date the message was generated.

The **Time** category details the time of day the message was created.

The user may save the list of events generated in the Output window. Right Click on any event in the **Output Window**.

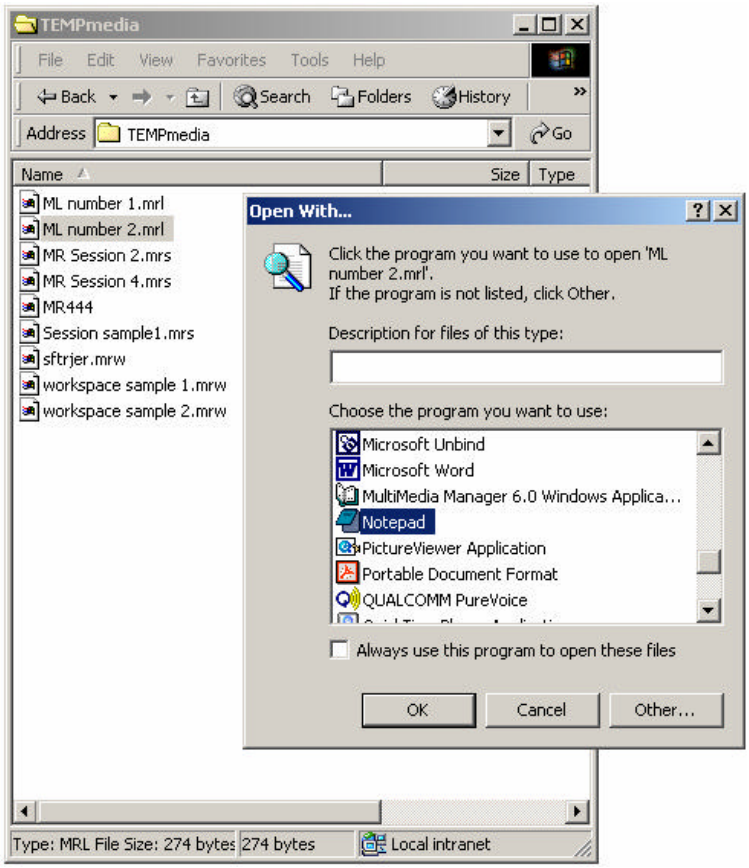


This opens the right click options, allowing the user to clear the events detailed here, or to save the list of events detailed here as a "**MediaReactor Log**". Selecting **Clear** will remove all of the events from the Output Window. Selecting **Save** will open the following **Save As** dialog box, allowing the user to save their Output Window events as a MediaReactor Log file.



Navigate to a folder in which you want to store this log file. Name the file by entering a name in the field to the right of the words "**File Name:**" using your keyboard. Select "**Save**" and the file will be saved in this location.

If you want to open the log file, navigate to the folder in which you have stored the log file. Select the log file. Right click on it and select **Open With**. Choose the **Notepad** software and view the messages as a text file.

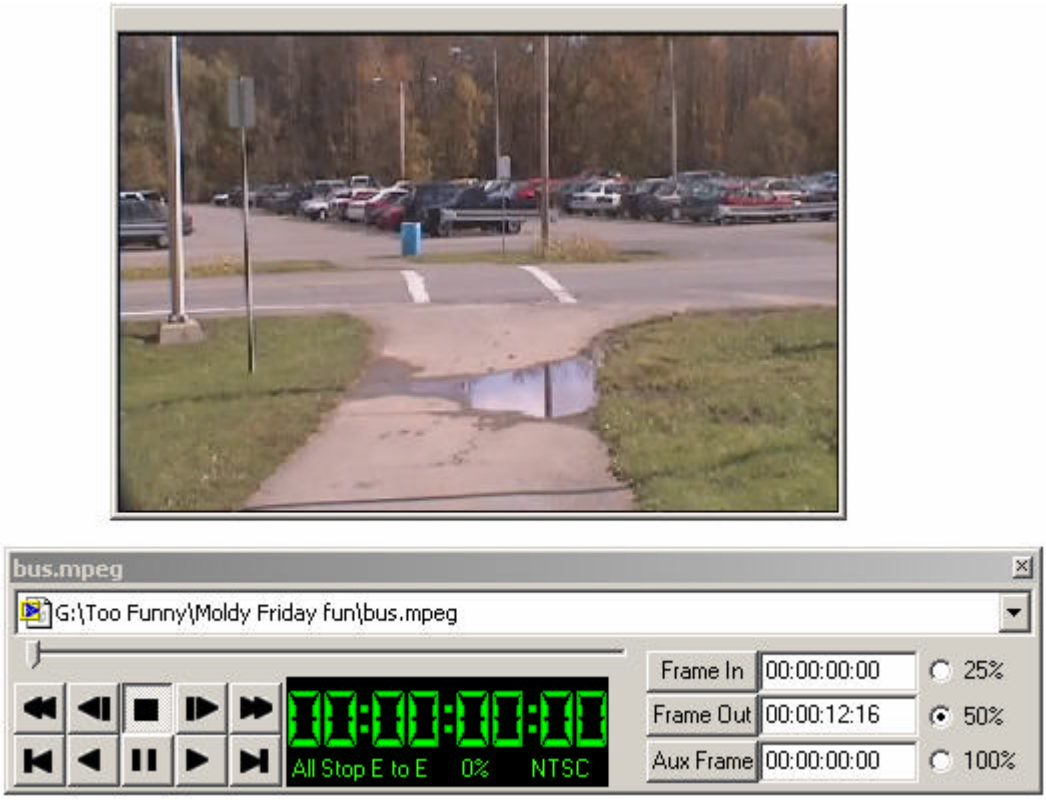


5.1.3.5 The Status Bar

The **Status Bar** is shown below, and displays the current status of MediaReactor.

Simply toggling the selection of the Status Bar to remove it from the View can save a good third of an inch**.** If the **Status Bar** disappears, however, and it is used often enough to miss it, its display selector is located in the **View** menu. The check mark under the **View** menu next to each of these windows indicates whether these windows are opened or not

5.1.3.6 The Preview Display



The Preview Display offers a way for the user to preview files on the VGA monitor (if they are video files) and through their audio hardware if they are audio files. This utility is opened though the toolbar.

Select **Preview Source** to find and play the source file (the file you need to convert).

Select **Preview Target** if you have converted a file and you need to view it to confirm the results.

Select **Browse Preview** if you need to view some files you have on storage.

5.2 Media Formats

MediaReactor supports the reading and writing of digital media files containing video, audio and still image data. The following section lists the supported file types and codecs that are available for use with them.

There are also notes relating to topics such as application support and resolution.

5.2.1 Video for Windows (AVI)

Media Reactor supports Microsoft's Video for Windows file type. It provides a set of custom codecs that support specific hardware standards. It also supports third party software codecs.

The custom compression / decompression modules appear with the other codecs that are installed in the system but they are built into the Media Reactor software. These codecs provide the access to the hardware specific translation capabilities of Media Reactor.

Codec	**Notes**
Drastic VVW 1x00 series Native Format	1000 series Drastic Technologies Digital Disk Recorder
Drastic VVW 3x00 series Native Format	3000 series Drastic Technologies Digital Disk Recorder
Matrox – DigiSuite Open DML Motion JPEG	Matrox DigiSuite and DigiSuite LE hardware. These platforms are used in systems running IMC – Incite, Discreet – edit*, in-sync- Speed razor and Adobe Premiere RT
Matrox – Rainbow Runner MJPEG	Matrox 's Rainbow Runner. This is a cost effective Motion JPEG solution from Matrox.
Matrox – M-JPEG Lossless	
Pinnacle / Miro – DC30 / DC50	Pinnacle's DC30 and the DC50. These platforms are used in systems running Adobe Premiere and After Effects.
Pinnacle Reeltime	Pinnacle Reeltime hardware. This platform supports Adobe Premiere and in-sync Speed Razor
Targa RTX Motion JPEG – Edit Option 2	Pinnacle TARGA 2000. These platforms are used in systems running Discreet – edit* , in-sync Speed Razor and Adobe Premiere RT
Uncompressed (no codec)	RGB uncompressed video

Video for Windows uses software codecs. These modules may come from a number of manufacturers. For maximum compatibility, Media Reactor will attempt to use any software codecs that are installed on the system.

MediaReactor will also install some software codecs to provide compatibility with hardware that is not in your system. These codecs will be available for any other application that can use Video for Windows.

The following is a list of codecs that MediaReactor will install.

Codec	**Notes**
Matrox DV / DVCAM	Matrox Digiserver DTV.
Matrox DVCPRO	Matrox Digiserver DTV.

Codec	Notes
Matrox DVCPRO50	Matrox Digiserver DTV.
Matrox MPEG 2 I-frame	Matrox Digiserver DTV.

The following is a list of third party codecs that have been tested with Media Reactor.

Codec	Notes
Cinepak	Cinepak codec from Radius
DivX - DIV3	
DivX - DIV4	
Intel 263	
Indeo® video 5.0	
Intel Indeo® Video R3.2	
Intel Indeo® Video R4.5	
Microsoft Video 1	(CRAM)
MS-MPEG4 V1	
MS-MPEG4 V2	
MS-MPEG4 V3	This codec does not encode files.
MS-RLE	

5.2.2 Open Media Framework Interchange (OMF)

Media Reactor supports the Open Media Framework Interchange file type. This is used by a number of products from Avid Technology Inc. Media Reactor has software codecs that support Avid's NuVista, ABVB and Meridien compression hardware. MediaReactor provides software codecs to support the Targa compression hardware used in the MCXpress NT systems. MediaReactor also supports uncompressed YUV 4:2:2, TIFF RGB and RGBA video in the OMFI container.

MediaReactor is capable of working with either OMF Interchange Specification Version 1.0 or 2.1 files. All the supported video formats are available in both of these versions.

Codec	Notes
AVR 1	NuVista 320 X 240 (288PAL) 1 Field
AVR 12	ABVB 720 X 243 (288PAL) 2 Field
AVR 1e	NuVista 320 X 240 (288PAL) 1 Field
AVR 2	NuVista 320 X 240 (288PAL) 1 Field
AVR 25	NuVista 640 X 240 (288PAL) 2 Field
AVR 26	NuVista 640 X 240 (288PAL) 2 Field
AVR 27	NuVista 640 X 240 (288PAL) 2 Field
AVR 2e	NuVista 320 X 240 (288PAL) 1 Field
AVR 2m	ABVB 352 X 243 (288PAL) 1 Field
AVR 2s	ABVB 720 X 243 (288PAL) 1 Field
AVR 3	NuVista 640 X 240 (288PAL) 1 Field
AVR 3e	NuVista 320 X 240 (288PAL) 1 Field
AVR 3m	ABVB 352 X 243 (288PAL) 1 Field
AVR 3s	ABVB 720 X 243 (288PAL) 1 Field
AVR 4	NuVista 640 X 240 (288PAL) 1 Field
AVR 4e	NuVista 640 X 240 (288PAL) 1 Field
AVR 4m	ABVB 352 X 243 (288PAL) 1 Field

Codec	Notes
AVR 4s	ABVB 720 X 243 (288PAL) 1 Field
AVR 5	NuVista 640 X 240 (288PAL) 1 Field
AVR 5e	NuVista 640 X 240 (288PAL) 1 Field
AVR 5m	ABVB 352 X 243 (288PAL) 1 Field
AVR 6e	NuVista 640 X 240 (288PAL) 1 Field
AVR 6m	ABVB 352 X 243 (288PAL) 1 Field
AVR 6s	ABVB 720 X 243 (288PAL) 1 Field
AVR 70	ABVB 720 X 243 (288PAL) 2 Field
AVR 71	ABVB 720 X 243 (288PAL) 2 Field
AVR 75	ABVB 720 X 243 (288PAL) 2 Field
AVR 77	ABVB 720 X 243 (288PAL) 2 Field
AVR 8s	ABVB 720 X 243 (288PAL) 1 Field
AVR 9s	ABVB 720 X 243 (288PAL) 1 Field
JFIF 15:1s	Meridien 352 X 243 (288PAL) 1 Field
JFIF 2:1	Meridien 720 X 243 (288PAL) 2 Field
JFIF 2:1s	Meridien 352 X 243 (288PAL) 1 Field
JFIF 20:1	Meridien 720 X 243 (288PAL) 2 Field
JFIF 3:1	Meridien 720 X 243 (288PAL) 2 Field
JFIF 4:1s	Meridien 352 X 243 (288PAL) 1 Field
Uncomp422	Uncompressed YUV 720 X 243 (288PAL) 2 Field
TIFF RGB Uncompressed	Uncompressed RGB 720 X 243 (288PAL) 2 Field
Uncompressed RGBA	Uncompressed RGB with Alpha 720 X 243 (288PAL) 2 Field
MCXpress NT	Targa 720 X 486 (288PAL) 2 Field

5.2.3 QuickTime (MOV)

Media Reactor supports Apple's QuickTime file type. It provides a set of custom codecs that support specific software and hardware standards. It also supports third party software codecs.

The custom compression / decompression modules appear with the other codecs that are installed in the system but they are built into the Media Reactor software. These codecs provide the access to the hardware / software specific translation capabilities of Media Reactor.

Codec	Notes
Final Cut DV NTSC	Apple's Final Cut software.
Final Cut DV PAL	Apple's Final Cut software.
Media 100 Macintosh	
Media 100 and Finish NT	
Targa RTX Motion JPEG	
Motion JPEG A	Apple's Motion JPEG A
Motion JPEG B	Apple's Motion JPEG B
Avid AVR 1	NuVista 320 X 240 (288PAL) 1 Field
Avid AVR 12	ABVB 720 X 243 (288PAL) 2 Field
Avid AVR 1e	NuVista 320 X 240 (288PAL) 1 Field
Avid AVR 2	NuVista 320 X 240 (288PAL) 1 Field
Avid AVR 25	NuVista 640 X 240 (288PAL) 2 Field
Avid AVR 26	NuVista 640 X 240 (288PAL) 2 Field

Codec	Notes
Avid AVR 27	NuVista 640 X 240 (288PAL) 2 Field
Avid AVR 2e	NuVista 320 X 240 (288PAL) 1 Field
Avid AVR 2m	ABVB 352 X 243 (288PAL) 1 Field
Avid AVR 2s	ABVB 720 X 243 (288PAL) 1 Field
Avid AVR 3	NuVista 640 X 240 (288PAL) 1 Field
Avid AVR 3e	NuVista 320 X 240 (288PAL) 1 Field
Avid AVR 3m	ABVB 352 X 243 (288PAL) 1 Field
Avid AVR 3s	ABVB 720 X 243 (288PAL) 1 Field
Avid AVR 4	NuVista 640 X 240 (288PAL) 1 Field
Avid AVR 4e	NuVista 640 X 240 (288PAL) 1 Field
Avid AVR 4m	ABVB 352 X 243 (288PAL) 1 Field
Avid AVR 4s	ABVB 720 X 243 (288PAL) 1 Field
Avid AVR 5	NuVista 640 X 240 (288PAL) 1 Field
Avid AVR 5e	NuVista 640 X 240 (288PAL) 1 Field
Avid AVR 5m	ABVB 352 X 243 (288PAL) 1 Field
Avid AVR 6e	NuVista 640 X 240 (288PAL) 1 Field
Avid AVR 6m	ABVB 352 X 243 (288PAL) 1 Field
Avid AVR 6s	ABVB 720 X 243 (288PAL) 1 Field
Avid AVR 70	ABVB 720 X 243 (288PAL) 2 Field
Avid AVR 71	ABVB 720 X 243 (288PAL) 2 Field
Avid AVR 75	ABVB 720 X 243 (288PAL) 2 Field
Avid AVR 77	ABVB 720 X 243 (288PAL) 2 Field
Avid AVR 8s	ABVB 720 X 243 (288PAL) 1 Field
Avid AVR 9s	ABVB 720 X 243 (288PAL) 1 Field
Avid JFIF 15:1s	Meridien 352 X 243 (288PAL) 1 Field
Avid JFIF 2:1	Meridien 720 X 243 (288PAL) 2 Field
Avid JFIF 2:1s	Meridien 352 X 243 (288PAL) 1 Field
Avid JFIF 20:1	Meridien 720 X 243 (288PAL) 2 Field
Avid JFIF 3:1	Meridien 720 X 243 (288PAL) 2 Field
Avid JFIF 4:1s	Meridien 352 X 243 (288PAL) 1 Field

QuickTime uses software codecs. These modules may come from a number of manufacturers. For maximum compatibility, Media Reactor will attempt to use any software codecs that are installed on the system.

MediaReactor will also install some software codecs to provide compatibility with hardware that is not in your system. These codecs will be available for any other application that can use QuickTime.

The following is a list of codecs that MediaReactor will install.

Codec	Notes
10 Bit Y'CrCb	Viewgraphics VideoPump
8 Bit Y'CrCb	Viewgraphics VideoPump

The following is a list of third party codecs that have been tested with Media Reactor.

Codec	Notes
Apple Animation	

Codec	Notes
Apple BMP	
Apple Cinepak	
Apple Component Video – YUV 422	
Apple DV NTSC	
Apple DV PAL	
Apple Graphics	
Apple H 261	
Apple H 263	
Apple None	
Apple Photo JPEG	
Apple Planar RGB	
Apple PNG	
Apple TGA	
Apple TIFF	
Apple Video	
Intel Indeo Video 4.4	
Sorenson Video ™ Compressor	

5.2.4 Audio Files

Media Reactor supports a number of audio file types. It currently just works with PCM audio and does not support any compression formats.

File Type	Notes
aiff – Apple – SGI Audio	
au – Sun Audio	
Wav – Window Wave	
Wma – Windows Media	

5.2.5 Still Image Files

Media Reactor supports a number of still image file types.

File Type	Notes
bmp - MS Windows Bitmap	
dib - Device Independent Bitmap	MS Windows
icb - TGA Still Image Variant	Truevision Image Capture Board
jpg - JPEG Still Image	Joint Photographic Experts Group format
pbm - Portable Bitmap	
pcx - Paintbrush Image	ZSoft
pgm - Portable Graymap Format	
pic, pct – Pict Still Image File	
png – Portable Network Graphic	
pnm – Portable Anymap Still Image	
ppm - Portable Pixmap Still Format	
psd – PhotoShop File	Adobe PhotoShop

File Type	Notes
ras - Sun Micosystems Raster	
rgb Raw RGB image file	
rgba Raw RGB with Alpha	
sgi – SGI Still Image	
sun - SUN Raster image	
tga – Targa Still	Truevision raster graphic
tiff - Tagged Image Format	
vda - TGA Image variant	
vst - Targa Vista Image Format	
yuv - Raw YUV Image	

Glossary

2/3 Drop The technique used to convert NTSC (30 frames per second) video generated by a Telecine to 24 frames per second (fps) film rate. A Telecine scans the film frames and digitizes them into frames of video. It must then add generated frames in so that the user may view the resulting video at a frame rate of 30 fps. The 2/3 Drop process removes only the frames generated by the Telecine.

The 2/3 Drop process may also add generated frames of video into a 24 fps video file in much the same way as a Telecine.

API Application Programming Interface

Authorization MediaReactor uses a software-based copy protection system, which as part of its authentication of user privilege, generates a site code and requires a site key based on that site code. When the proper site key is input, the software will be authorized for use.

Bandwidth This refers to the amount of information that can be passed through a given circuit in a given time. In the case of MediaReactor, the greater the storage bandwidth (the speed at which the storage medium can read and write files), the faster the conversion or set of conversions can be accomplished.

Bit Depth This refers to the number of bits per pixel that controls the color resolution of the translated image. Some file types and codec formats may impose limitations on this setting.

CD-ROM Compact Disk Read-Only Memory. (Also: **CD**)

Clipboard A temporary file that is created when the user copies a file or information within a file. If the user selects the paste command, anything on the clipboard will be pasted into the location selected by the user.

Codec Compression/Decompression format. For each File Type used in MediaReactor, there is an associated list of applicable codec types.

Copy Copy an item to the clipboard. In Windows, the user may select a line of text using the mouse and copy it to the clipboard by pressing (Ctrl+C).

CPU Central Processing Unit.

Data Rate This refers to the rate of data transfer between systems (especially between data generating devices and the attendant storage), expressed in Megabytes per second (MB/sec). A higher data rate will mean that the files you create within MediaReactor will be created faster. A lower data rate will slow conversions, or even make certain operations unsustainable.

Direct X This refers to third party software that enhances the functionality of MediaReactor.

Edge This field sets an edge value for the de-interlace processing. The edge value controls the detection of intra-field artifacts as opposed to actual high frequency content in the image. The greater the value of the edge setting the more likely an edge in the image will be blended.

Field One half of a complete interlaced video picture containing either all of the odd or all of the even scanning lines of a picture.

File Type This refers to the nomenclature for media files having a particular extension and conforming to certain file specifications as used in MediaReactor.

Fps Frames per Second.

Frame A complete interlaced video picture containing two fields, one field with all the even-numbered lines and one field with all the odd-numbered scanning lines of a picture.

"Free" Mode When MediaReactor is first installed, it is in "free" mode. In free mode the user may access a limited range of supported read and write file types.

GUI Graphical User Interface.

Height This refers to the size of the video image, from top to bottom, in scanning lines. A line is one pixel in height.

Insert Editing operations that do not lay down a new control track. In digital-based (non-tape-based) media, this refers to an editing operation that inserts either audio or video into a existing file (or a portion of that file), replacing the audio or video present at that location.

Installation Guide A tutorial detailing the installation and authorization of MediaReactor software.

Intel Indeo This refers to third party software that enhances the functionality of MediaReactor.

Interlace A process in which the picture is split into two fields, sending all the even numbered lines to field one and all of the even numbered lines to field two.

Key Frame This refers to the interval between key frames for the codec of the translated image data. Some file types and codec formats will support this setting.

LAN Local Area Network.

Line One entire horizontal row of pixels.

MS Media Players This refers to third party software that enhances the functionality of MediaReactor.

Paste Enter the item or items on the clipboard into the specified location. In Windows, the user may select a location on the screen using their mouse, and paste the contents of the clipboard to that location using (Ctrl+V).

Pixel Picture element. This is a location on the screen having a given color and brightness value. This is also the smallest subdivision of the video image. For example, an NTSC frame of video has a resolution of 640 x 480 pixels.

Quality This refers to the quality factor of the compression scheme of the translated image data. Some file types and codec formats will support this setting.

QuickStart The point-by-point tutorial detailing a conversion in brief contained in this manual.

RAM Random Access Memory.

Reference A section of this manual detailing the interface, the file types supported by MediaReactor and containing a glossary of terms used within MediaReactor.

SAN Storage Area Network.

Session A set of conversion parameters for a specific type of conversion.

Site Code A sequence of numbers and letters generated by the MediaReactor software-based copy protection. Generate this sequence in the MediaReactor license section and send it to Drastic Technologies in order to receive your Site Key, which will license your copy of MediaReactor for use.

Site Key A sequence of numbers and letters generated by the MediaReactor software-based copy protection. Enter this sequence into your license dialog box to license your copy of MediaReactor for use.

Source The file the user selects for conversion within MediaReactor.

Standard Video standard. MediaReactor handles specific file types based on a number of video standards but does not perform standards conversions. MediaReactor will convert video files generated by equipment using differing video standards but the video will retain its original frame rate.

SVGA Super video graphics adapter. This refers to the hardware adapter for the computer monitor.

Target File The file created during the conversion process within MediaReactor.

Target Folder This refers to the folder in which the new file created by the user in the MediaReactor conversion process will be located. This may be set in the Session Window as well as the Target Settings window.

Task-based A set of instructions oriented toward achieving a specific task or set of tasks.

Telecine A device that creates video from motion picture film, generating frames of video to compensate for the discrepancy between film and “video” frame rates.

Third Party This refers to a product not manufactured by Drastic Technologies which is used as part of the integrated product that the customer receives. The customer is the First Party and Drastic Technologies is the Second Party of this business interaction.

Threshold This refers to a threshold value for the de-interlace processing. The threshold value controls the detection of the intra-field motion of an object. The greater the motion of an object between fields the higher the threshold needs to be set so it will be detected and used in the blending process.

Transcode An efficient way of copying files which performs certain operations in parallel, realizing an increase in processing speed.

User's Guide A detailed tutorial on the functionality of MediaReactor.

WAN Wide Area Network.

Width This refers to the size of the video image, from left to right, in pixels.

Workspace A container for a session or set of sessions.