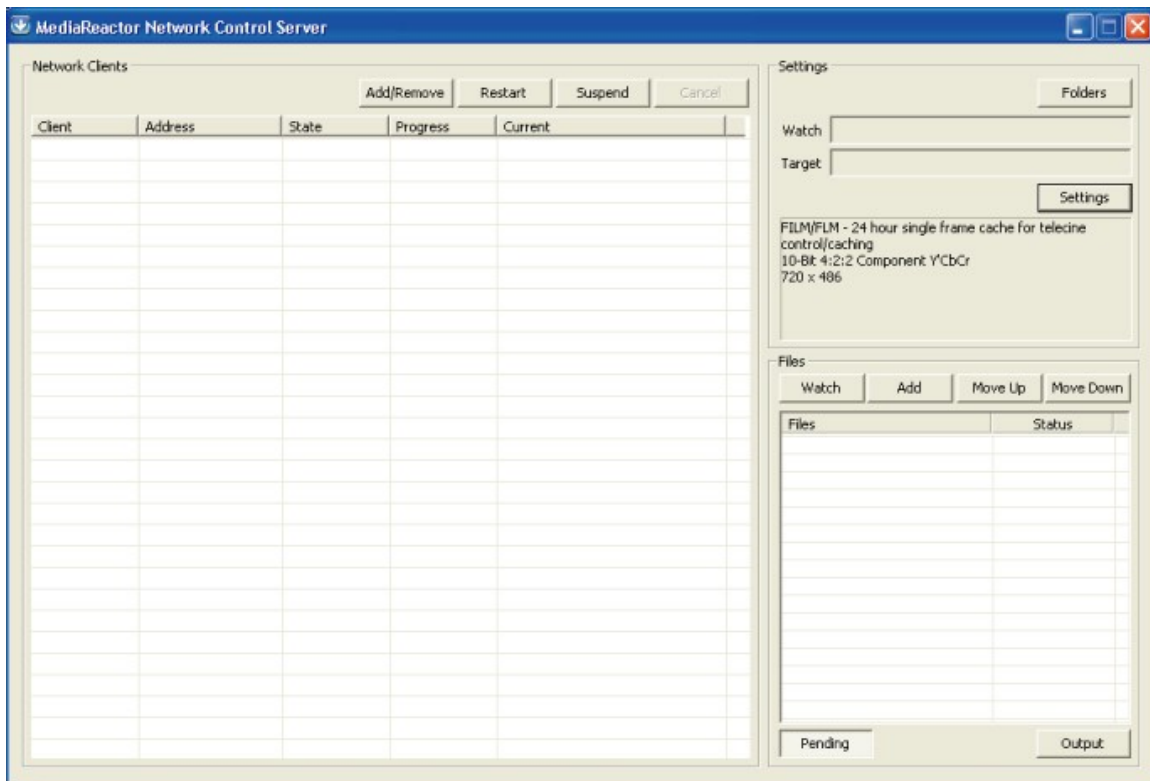# MediaReactor Cluster Control
Automated Watch Folder Based Batch Transcoding Software

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MediaReactor Cluster Control User Guide

The **MediaReactor Network Control Server** window

Introduction

MediaReactor offers the capability to define and perform conversions between digital video file types. Using the network control functionality, you can control multiple computers to perform conversions based on "watch" and "target" folders set up on the client computer. Once in process, a client computer "watches" a specific folder for incoming files. Once it "sees" a file saved in this folder, it will begin a conversion to the file type the user has defined, and save the new file in the folder of the user's choice.

All systems will need to be placed on the same network and made available to each other. Specific firewall or security settings may need to be disabled for the network control to work.

Install MediaReactor Client Software

Each system that will be performing the conversions will be referred to as a Client System. Install **MediaReactor Client Service** on all Client Systems.

MediaReactor Client Service software will be available as an installable program, whether CD or executable file. Run the install program and click through the screens until you are finished, then restart the system.

It would be useful to set the Client Systems up with email capability, in order to send and receive licensing data.

Set up the Client System

You need to define the folder the Client System will watch for incoming files to convert, the destination folder where the converted files will be saved, and the target file type it is going to create.

Create a folder on the Client System to use as the watch folder. Right click on it to open the **Properties** menu for the folder. Select the **Sharing** tab, and click the **Share this folder** button. You can set a share name for the folder and add a comment if desired.

Create a folder on the Client System to use as the target folder. Right click on it to open the **Properties** menu for the folder. Select the **Sharing** tab, and click the **Share this folder** button. You can set a share name for the folder and add a comment if desired.
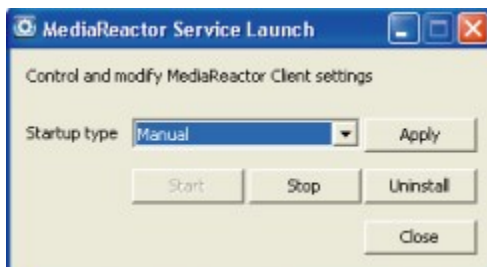
Activate the Client System

Once installed, the **MediaReactor Network Client** service will run on the Client System (as defined in the **MediaReactor Service Launch** window).
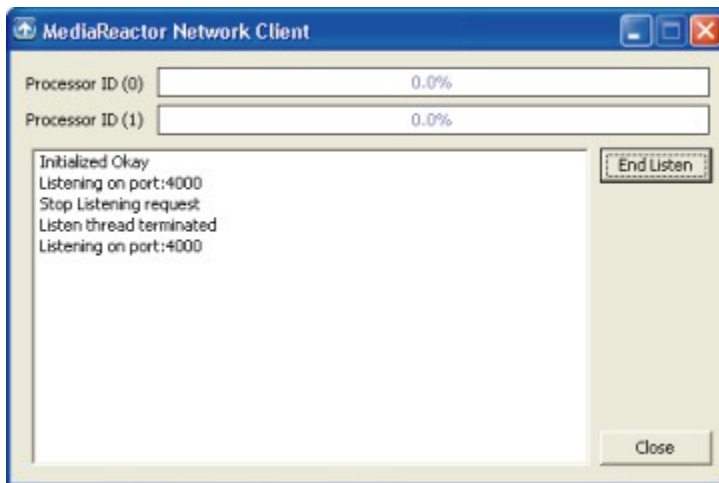
The **MediaReactor Network Client** window

To adjust the settings, go to **Programs|MediaReactor|Modify Client Service** to open the **MediaReactor Service Launch** window.

The **MediaReactor Service Launch** window

Use the **Startup type** pulldown menu to set how the service starts. Select **Automatic** to have the service run upon startup. Select **Manual** to have the user manually start the service on the Client System. In this case, press the **Start** button in the **MediaReactor Service Launch** window to run the service, and press the **Stop** button to stop conversions on this Client System. Select **Disabled** to prevent the service from running and render the Client System unavailable for conversions under Cluster Control. Press **Apply** to have the changes set.

The window can be closed once you have set it properly. You can press the **Close** button to close it. The option to uninstall the **MediaReactor Client Service** software is also available in this window. If you decide to uninstall, press the **Uninstall** button and follow the prompts.

Install MediaReactor Cluster Control Software

The system that will be controlling the conversions is the Cluster Control Server. Install **MediaReactor Cluster Control** software on the Cluster Control Server.

MediaReactor Cluster Control software will be available as an installable program, whether CD or executable file. Run the install program and click through the screens until you are finished then restart the system.

License MediaReactor Cluster Control Software

The Cluster Control Server needs to be licensed. Open the licensing dialog at **Programs| MediaReactor|License MR**.
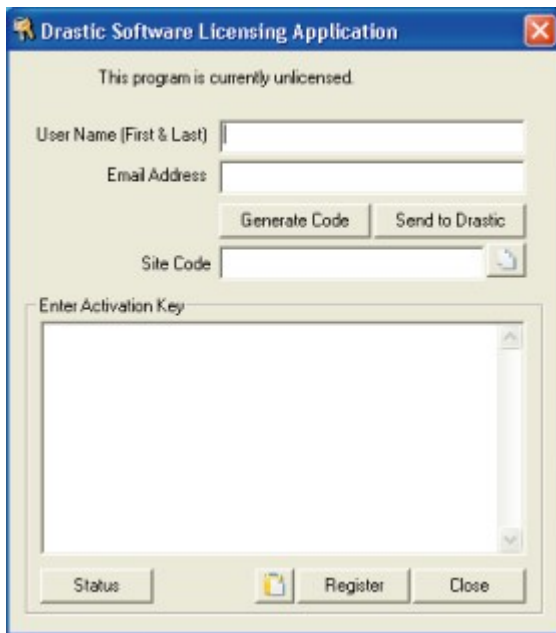
The **Drastic Software Licensing Application** window

Enter your user name and email address into the dialog. Press the **Generate Code** button. Press the **Send to Drastic** button to open an email addressed to Drastic with the site code in the body of the email. Alternately you can select and copy the **Site Code** or press the **Copy** button, and paste this into the body of an email and send it to the following email address: authorization@drastictech.com.

When you receive the reply email it will contain a **Site Key**. Copy this **Site Key** and paste it into the **Enter Activation Key** field. Press the **Register** button.

Press the **Status** button to see which Drastic products you are currently licensed for. The following window will display your status.

The **License Status** window

Press the **OK** button to close this window. Press the **Close** button on the Drastic Software Licensing Application window to close the licensing dialog. You must restart the system to enable the new license status.

Set up the Cluster Control Server

On the Cluster Control Server, go to **Programs|MediaReactor|MediaReactor Cluster Control** to open the **MediaReactor Network Control Server** window.
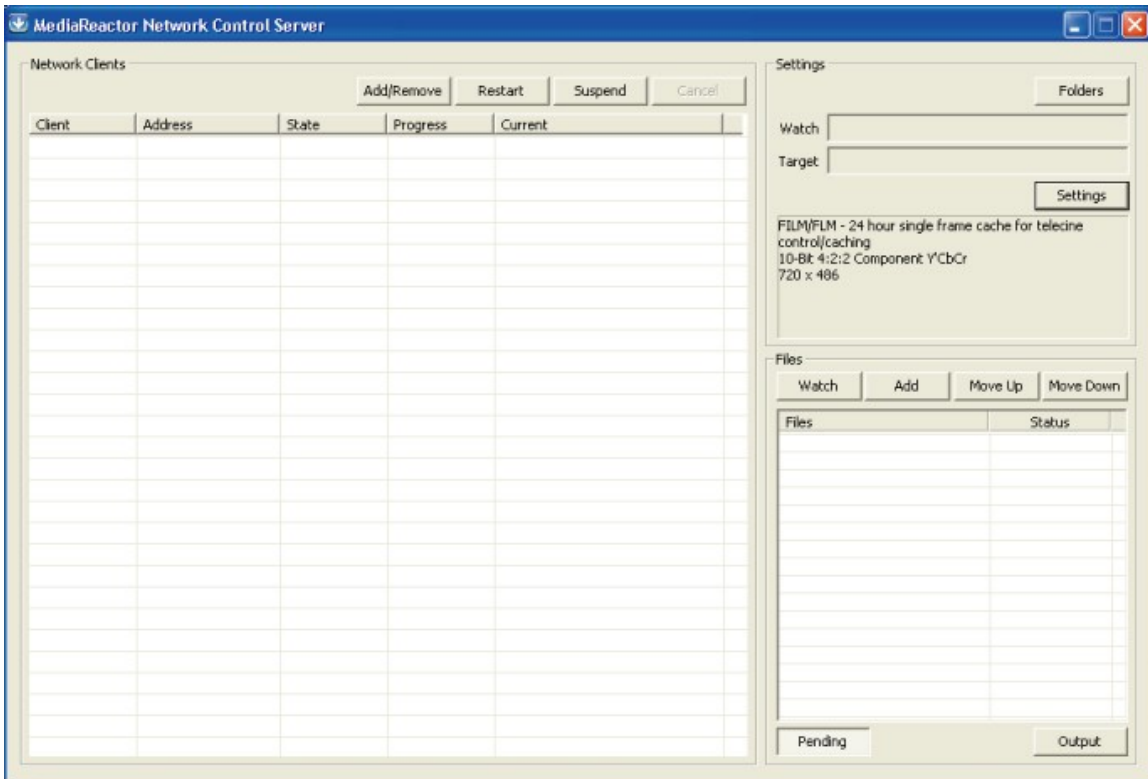
The **MediaReactor Network Control Server** window

The window opens at first with no networked Client Systems being addressed. Client Systems running conversions will need to be added into the above table.

Map Network Client Drives

On the Cluster Control Server navigate through the network and map the drives of each Client System to the Cluster Control Server. To do this, navigate through the network to the location of the Client System and select the "watch" drive, or the drive in which files will arrive to be converted. Right click on this drive and select **Map Network Drive**. Now when you press the **Folders** button, the browser will look at the drives which have been mapped to the system and you will be able to select them.

Add Network Clients

In the **Network Clients** section, press the **Add/Remove** button to open the **Add Network Clients** window.

The **Add Network Clients** window

All systems detected on the network will be displayed, and their IP addresses will appear as they are detected. Click in the checkbox to select each system upon which you want to run conversions.

The **Add Network Clients** window

In the above example two systems have been selected. Press the **OK** button to accept this choice and close this window.

The **MediaReactor Network Control Server** window

In the above example the two systems appear in the **Network Clients** section, and their status is indicated. One system is connected (the client software is not enabled on the other client system).

Click on its row to select the connected Client System. This activates the choices for this Client System. You will need to select the watch and target folders for the Client System. Press the **Folders** button. This opens a browser which allows you to choose the watch folder on the Client System from the drives mapped to the Cluster Control Server. Once you find and select a watch folder, press the **Folders** button again to select a target folder on the Client System from the drives mapped to the Cluster Control Server. If these drives have not been mapped to the system, see the **Map Network Client Drives** section of this manual for information on how to do this.

Pressing the **Restart** button will restart the service on the client system. Pressing the **Suspend** button will cease conversion activity on this client system. Pressing the **Cancel** button will stop any conversions in progress - this button only becomes active where there is a conversion in progress that is possible to cancel.

Set the File Type to Convert to

Press the **Settings** button to open the **MediaReactor Output Settings** window.
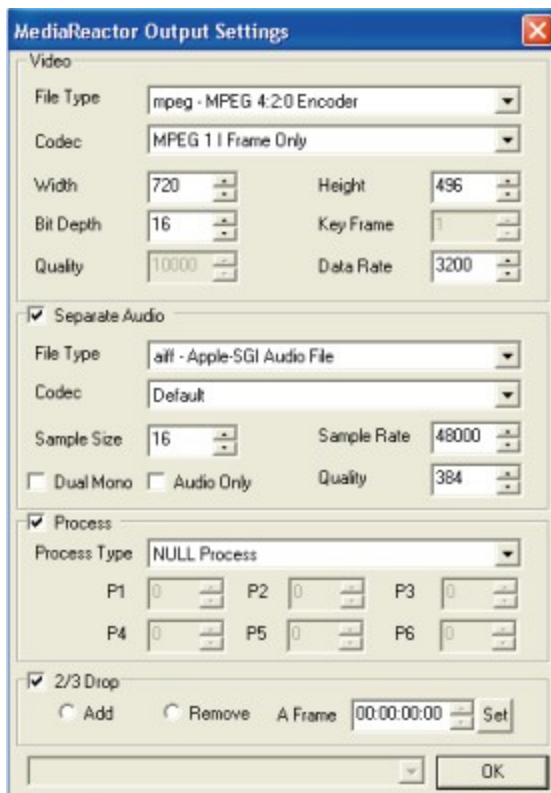
The **MediaReactor Output Settings** window

Video Type Settings

In the **Video** section use the **File Type** pulldown menu to set the file type you are going to create. Use the **Codec** pulldown menu to set the codec for this file type.

Depending on the file type selected you may be able to adjust the **Width**, **Height**, **Bit Depth**, **Key Frame**, **Quality** and **Data Rate** settings for this file type as well.

Separate Audio Settings

To create an audio file type (other than the default audio associated with the video file type) during the conversion click in the **Separate Audio** checkbox. This activates the audio file type settings controls. Use the **File Type** pulldown menu to set the audio file type you are going to create. Use the **Codec** pulldown menu to set the codec for this audio file type.

Depending on the audio file type selected you may be able to adjust the **Sample Size**, **Sample Rate** and **Quality** settings as well. If you select **Dual Mono**, two external mono audio files will be created during the conversion. **Caution**: If you select **Audio Only**, no video file will be created during the conversion.

Process Settings

There are a number of processes which may be applied during the conversion. Click in the **Process** checkbox to activate the controls for this section.

Use the pulldown menu to select a process to apply.

Select **Flip Horizontal** to create files which have been inverted horizontally, with the top at the bottom.

Select **Flip Vertical** to create files which have been reversed vertically, with the left at the right.

Select **Blend Fields** to create files in which both fields of every frame have been blended together. This setting avoids the jitter associated with still frame display.

Select **Invert Fields** to create files in which the field order has been reversed.

Select **Duplicate Field 1** to create files in which the second field of every pair is replaced with a copy of the first field.

Select **Duplicate Field 2** to create files in which the first field of every pair is replaced with a copy of the second field.

Select **Deinterlace Blend** to create files in which blended fields will be deinterlaced.

Select **Deinterlace Interpolate** to create files in which blended fields will be deinterlaced with motion estimation to interpolate between frames.

Select **Invert Temporal Order** to create files where the sequential order of the frames has been reversed, playing last to first.

Select **Invert Temporal and Field Order** to create files where both the sequential order of the frames and the fields of those frames have been reversed, playing last to first with inverted fields.

Select HD ->SD + Afterburn Timecode/Keycode to downconvert HD files to SD during the conversion, and to superimpose time code and keycode information over the converted image, which may be useful for editing reference.

Select **Burnin Timecode/Userbits** to superimpose time code and User Bits information over the converted image, which may be useful for editing reference.

Press the **OK** button to accept the choices you have made. Or if you decide you do not want to apply any processing, leave the pulldown menu set to **NULL Process** and deselect the **Process** checkbox.

2/3 Drop Settings

The user may add or remove frames from a file during the conversion to accommodate telecine-generated files, or film rate to broadcast rate standards issues. Click in the **2/3 Drop** checkbox to activate the controls in this section.

Click in the **Add** checkbox to add **2/3 Drop** frames to a file which has been generated at film rate and needs to have frames inserted to reach broadcast frame rate.

Click in the **Remove** checkbox to remove **2/3 Drop** frames from a file. To set the "A frame" – this is the frame that has been inserted, step through the file frame by frame to find the first frame that is noticeably imperfect - this is the A frame. Note the time code location of this frame and use the selector to set this time code location as the A Frame. Press the **Set** button to enter these changes into memory.

Press the **OK** button to accept the choices you have set.

Cluster File Conversion

In the **Files** section, press the **Watch** button to start file conversions and view their progress in the field below. Once pressed, this button turns into a **Stop** button to allow you to stop all conversions in progress. Pressing the **Watch** button also deactivates the **Folders** and **Settings** sections, so they should be correctly set before pressing the **Watch** button. If folders are not set, the following warning will appear when you press the **Watch** button.
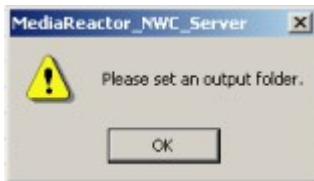
The **MediaReactor_NWC_Server** "**Set Output Folder**" error window

Media may be added to the list of files to be converted. In the **Files** section, press the **Add** button and select **Media**. This opens the B**rowse for Folder** window. Browse to the location of the media you want to add and have converted and select it. Press the **OK** button.

Batch lists of media may be added to the list of files to be converted. Here is how to add batch lists. In the **Files** section, press the **Add** button and select **Batch List**. This opens a standard browser window. Browse to the location of the media you want to add and have converted and select it. Press the **Open** button.
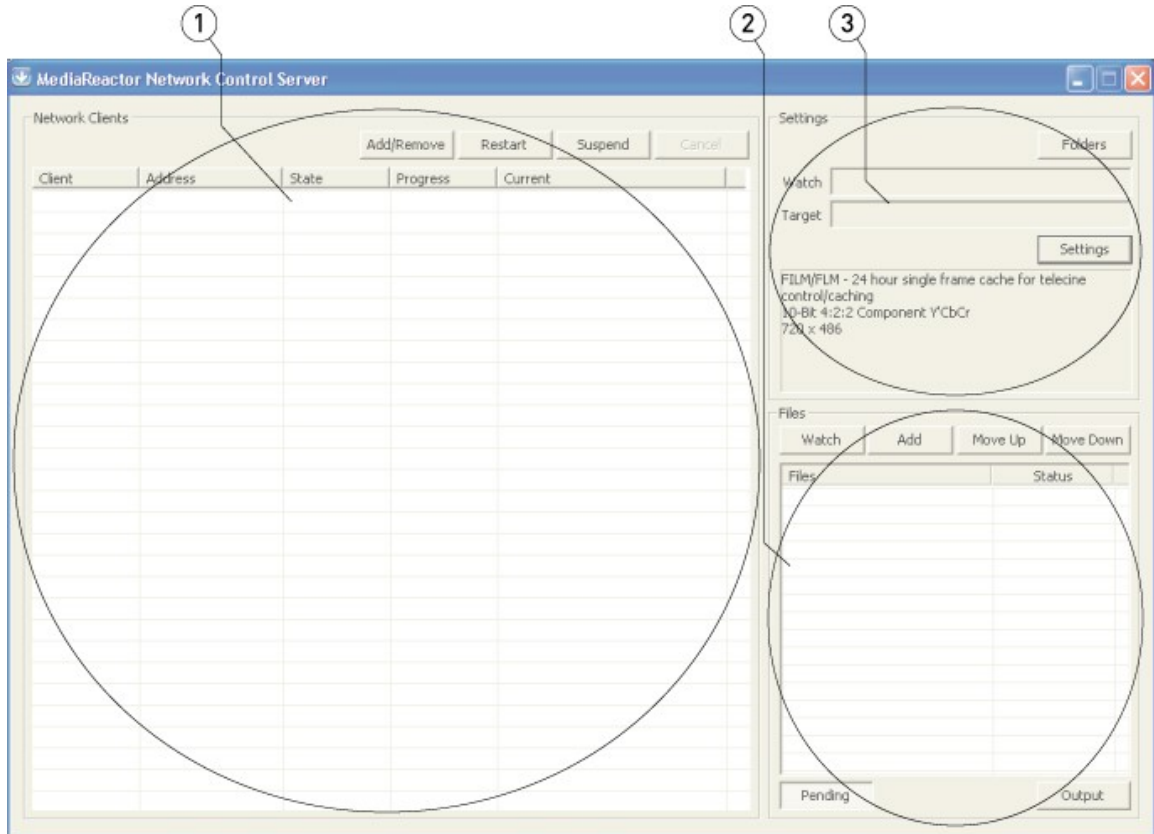
Files in the queue to be converted will each be looked at in turn (files nearer the top are converted first). If you decide that a particular file has greater importance than the others and you want it to be promoted in the queue, select it and press the **Move Up** button. If you decide that a particular file has less importance than the others and you want it to be demoted in the queue, select it and press the **Move Down** button.

To simply watch the output of file conversions, press the **Output** button. To start and stop conversions, add media or batch lists, or promote/demote conversions, press the **Pending** button.

Reference

The following section contains detailed diagrams specifying the controls and displays available in **MediaReactor Cluster Control** software.

Network Cluster Server

MediaReactor Network Control Server window

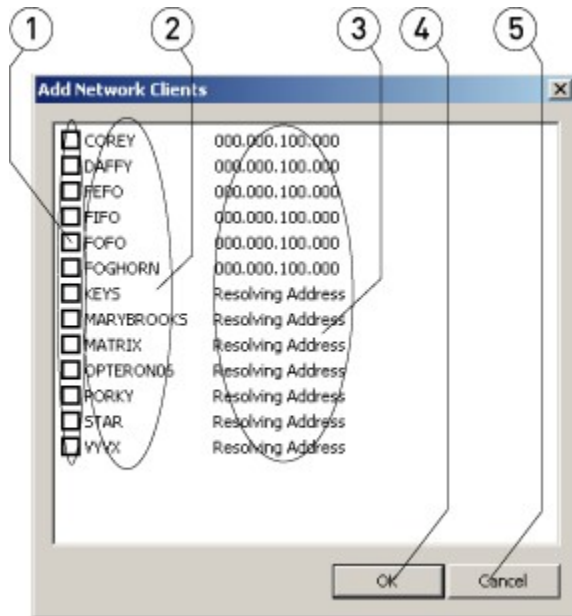| 1	**Network Clients** section	Displays all Client Systems that have been added and provides controls to **Add** Client Systems, **Restart** and **Suspend** Client Systems and **Cancel** any conversions in progress.
2	**Files** section	Displays the conversions that have been added to the queue and provides controls to **Add** media or batch lists, or to move specific files up or down in the queue, and allows you to switch between viewing pending conversions or viewing the output, or completed conversions.
3	**Settings** section	Provides controls to specify the "from" and "To" folders on the Client System, and set the conversion parameters.

Network Cluster Server – Network Clients Section
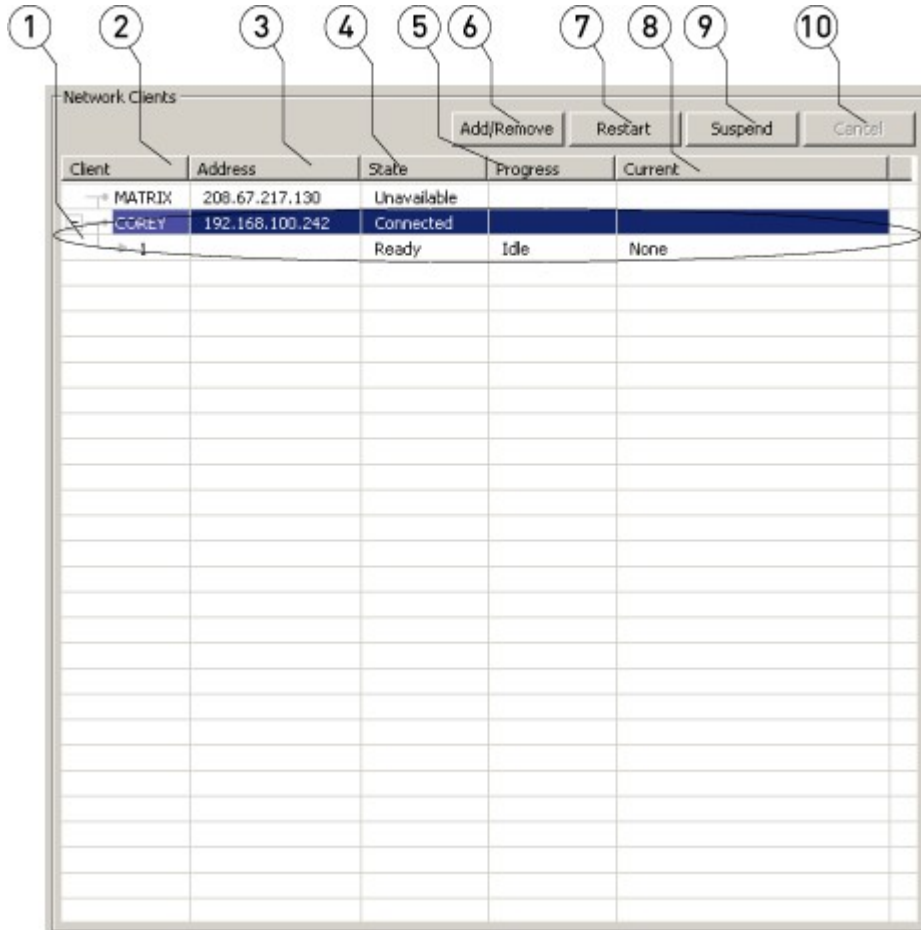
MediaReactor Network Control Server window

|		
1	**Connected** Client System display	Each connected Client System will display its details, including the number of processors available to perform conversions, and the status of any current conversion activity.
2	**Client** column	Displays the name of the Client System.
3	**Address** column	Displays the IP Address of the Client System.
4	**State** column	Displays the state of the Client System, whether it is ready to perform conversions.
5	**Progress** column	Displays the progress of any conversions being performed.
6	**Add/Remove** button	Press the **Add/Remove** button to open the **Add Network Clients** window, which allows you to specify which systems on the network are connected via the network as Client Systems.
7	**Restart** button	Press the **Restart** button to cause the selected Client System to restart any conversion in progress.
8	**Current** column	Displays the current conversion being performed.
9	**Suspend** button	Press the **Suspend** button to suspend conversion activity on any Client System yet leave it connected.
10	**Cancel** button	Press the **Cancel** button to stop the current conversion being performed on the selected Client System.

Add Network Clients

Add Network Clients window

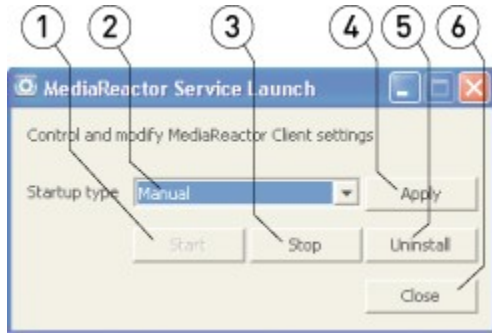| 1	**Client System Selection** checkbox	Click in the checkbox to select a system to connect to for **MediaReactor Cluster Control** conversions.
2	**Client System Name** display	Displays the name of each system on the network.
3	**Client System IP Address** display	Displays the IP Address of each system on the network.
4	**OK** button	Press the **OK** button to accept the choices made in this window.
5	**Cancel** button	Press the **Cancel** button to close the **Add Network Clients** window without changing the selected Client Systems.

Network Client - Listen
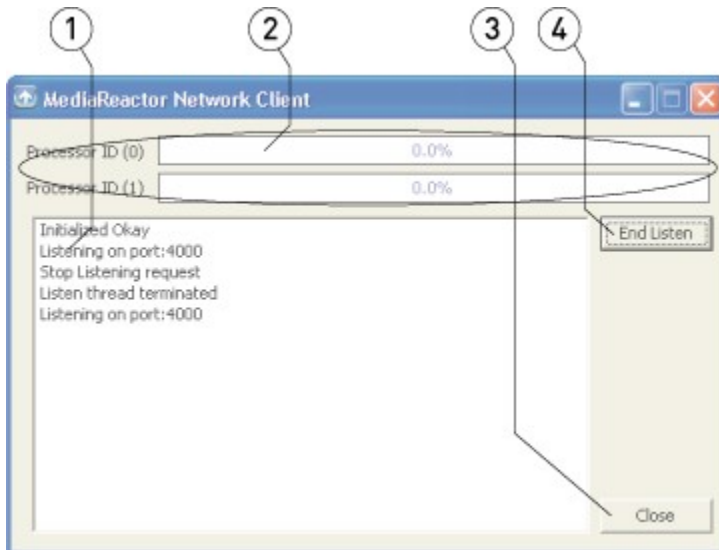
MediaReactor Network Client window

| 1	**Client Status** window	Displays the status of any MediaReactor Network Client-related activity taking place on the client system.
2	**Processor** progress bars	Displays a separate progress bar for each processor available for conversions, and the percentage of completion of any conversions taking place.
3	**Close** button	Press the **Close** button to close the **MediaReactor Network Client** window. Note: if the service is running, the window will re-open each time you close it.
4	**Listen** toggle button	While in "listen" mode, displays **End Listen**, allowing you to stop waiting for files to convert. When not waiting for files to convert, displays **Listen**, allowing you to enter "listen" mode.

Network Client - Configure


MediaReactor Service Launch window

1	**Start** button	When the **Startup type** is set to **Manual**, press the **Start** button to start the MediaReactor service, and wait for files to arrive in the source folder.
2	**Startup Type** pulldown menu	Use the **Startup type** pulldown menu to set the conditions to launch the **MediaReactor Network Client** service. Select **Automatic** to have the service run once the system is started. Select **Manual** to start and stop the service using the **Start** and **Stop** buttons. Select **Disabled** to stop the service.
3	**Stop** button	When the **Startup type** is set to **Manual**, press the **Stop** button to end the MediaReactor service, and close the **MediaReactor Network Client** window.
4	**Apply** button	Press the **Apply** button to implement any change in startup type.
5	**Uninstall** button	Press the **Uninstall** button to uninstall the **MediaReactor Network Client** service on this system.
6	**Close** button	Press the **Close** button to close the **MediaReactor Service Launch** window.

Network Cluster Server – Settings Section
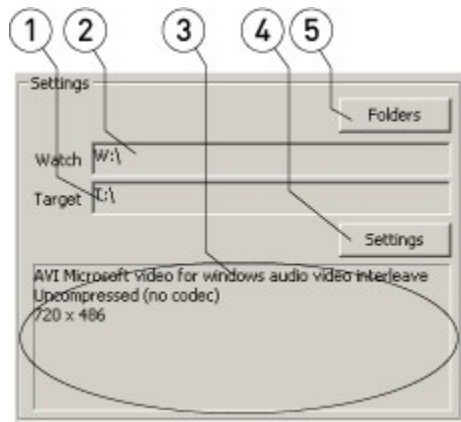
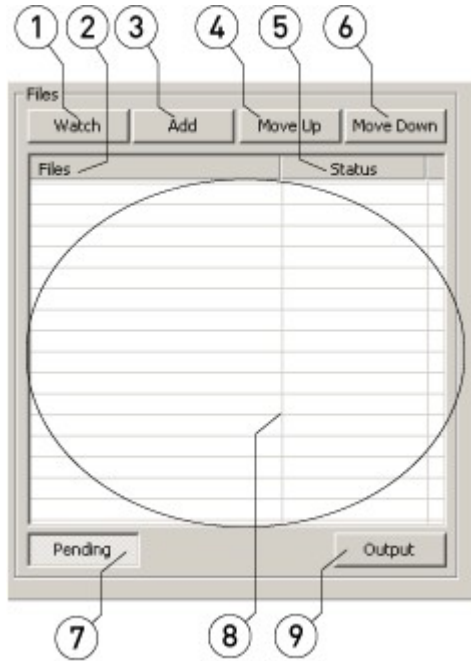| 1	**Target** field	Displays the current "watch folder" for the selected Client System.
2	**Watch** field	Displays the current "target folder" for the selected Client System.
3	**File Type** field	Displays the current file type setting for the selected Client System.
4	**Settings** button	Press the **Settings** button to open the **Output Settings** window, which allows you to set the file type you are going to create during the specified conversion.
5	**Folders** button	Press the Folders button to set (1st press) the "watch folder", then (2nd press) the "target folder".

MediaReactor Output Settings
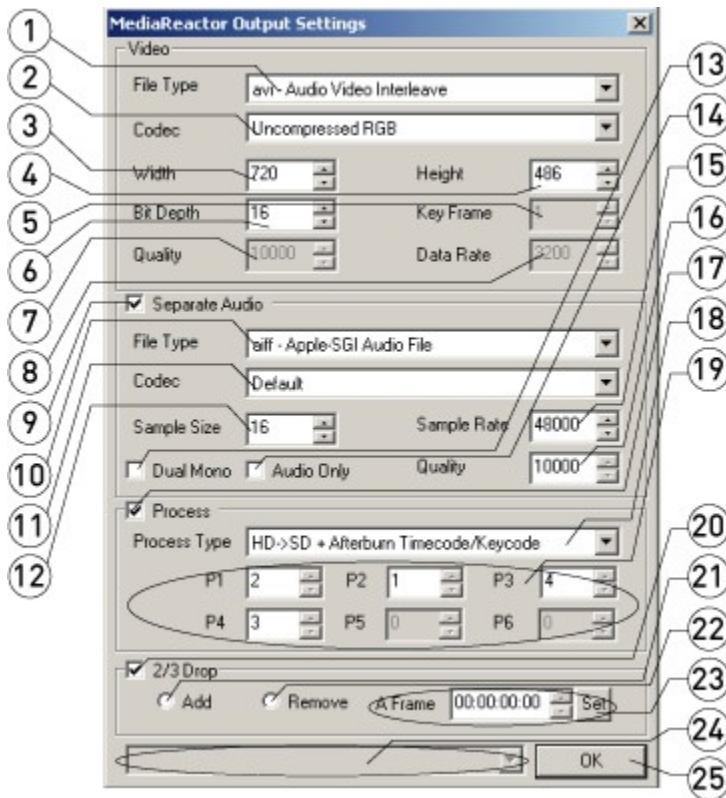
MediaReactor Output Settings window

1	**File Type** pulldown menu	Use the **File Type** pulldown menu to select the file type you are going to create during the conversion.
2	**Codec** pulldown menu	Use the **Codec** pulldown menu to select a codec to use for the conversion.
3	**Width** selector	Use the **Width** selector to select a supported width.
4	**Height** selector	Use the **Height** selector to select a supported height.
5	**Key Frame** selector	Use the **Key Frame** selector to select a key frame, if applicable.
6	**Bit Depth** selector	Use the **Bit Depth** selector to select a supported bit depth for the selected file type.
7	**Quality** selector	Use the **Quality** selector to select a supported quality setting, if applicable.
8	**Data Rate** selector	Use the **Data Rate** selector to select a supported data rate for the selected file type, if applicable.
9	**Separate Audio** checkbox	Click to select the **Separate Audio** checkbox to activate the **Separate Audio** section, which allows you to set up creation of audio files other than the default settings for the selected file type.
10	**Audio File Type** pulldown menu	This control becomes active once the user has selected **Separate Audio**. Use the **Audio File Type** pulldown menu to select an audio type other than the default audio type associated with the video file type selected.
11	**Audio Codec** pulldown menu	This control becomes active once the user has selected **Separate Audio**. Use the **Audio Codec** pulldown menu to select the codec other than the default codec

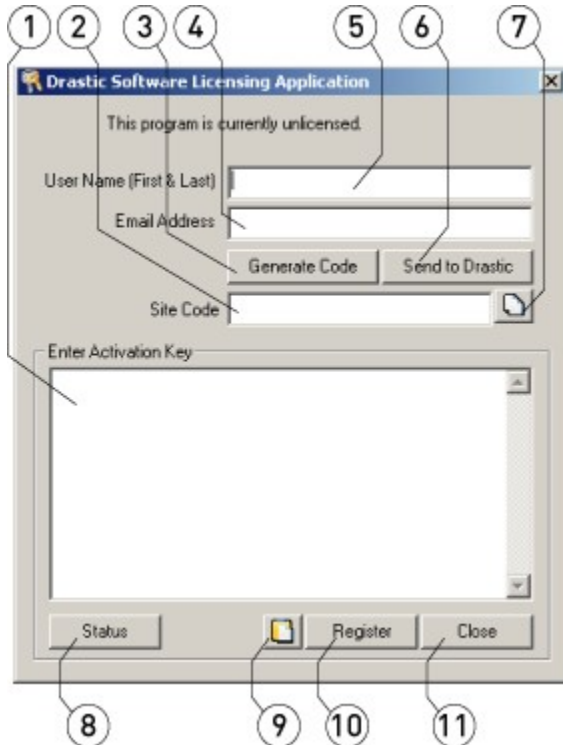|		associated with the audio file type selected.
12	**Audio Sample Size** pulldown menu	This control becomes active once the user has selected **Separate Audio**. Use the selector to set the audio sample size – choices displayed depend on the audio settings selected.
13	**Dual Mono** checkbox	This control becomes active once the user has selected **Separate Audio**. Click to select the **Dual Mono** checkbox to create two external mono audio files during the conversion.
14	**Audio Only** checkbox	This control becomes active once the user has selected **Separate Audio**. Select **Audio Only** to only create audio files during the conversion. **Caution**: *If you select **Audio Only**, no video file will be created during the conversion*
15	**Audio Sample Rate** selector	This control becomes active once the user has selected **Separate Audio**. Use the **Audio Sample Rate** selector to set the audio sample rate for the audio files that will be created during the conversion.
16	**Audio Quality** selector	This control becomes active once the user has selected **Separate Audio**. Use the **Audio Quality** selector to set the audio quality level for the audio files that will be created during the conversion.
17	**Process** checkbox	Select the **Process** checkbox to activate all the controls in the **Process** section of the **Output Settings** window. This allows you to apply specific processing to the video files during the conversion.
18	**Process Type** pulldown menu	This control becomes active once the user has selected **Process**. Use the **Process** pulldown menu to select the type of processing to apply to files being converted. Processes available are: **Flip Horizontal**, **Flip Vertical**, **Blend Fields**, **Invert Fields**, **Duplicate Field 1**, **Duplicate Field 2**, **Deinterlace Blend**, **Deinterlace Interpolate**, **Invert Temporal Order**, **Invert Temporal and Field Order**, **Select HD ->SD + Afterburn Timecode/Keycode**, and **Burnin Timecode/Userbits**.
19	**Parameters** selectors	These controls become active once the user has selected **Process**. Specific parameters of some processes can be adjusted in increments to provide a custom setting. Contact Drastic if your requirements suggest that you should investigate custom settings for any of the processes. Normally these controls should not be adjusted.
20	**2/3 Drop** checkbox	Select the **2/3 Drop** checkbox to activate all the controls in the **2/3 Drop** section of the **Output Settings** window.
21	**Add** radio button	This control becomes active once the user has selected **2/3 Drop**. Select **Add** to insert frames into a film rate video stream to bring the frame rate to a broadcast standard frame rate.
22	**Remove** radio button	This control becomes active once the user has selected **2/3 Drop**. Select **Remove** to remove frames that have been inserted (say, by a telecine) into a formerly film rate video stream to bring it to a broadcast rate.
23	**A Frame** selector and **Set** button	This control becomes active once the user has selected **2/3 Drop**, and either has the **Add** or **Remove** radio button checked. Use the **A Frame** selector to set the location of the first frame that will be inserted or

		removed during the 2/3 Drop process.
24	**Reserved** pulldown menu	This inactive menu is reserved for future development.
25	**OK** button	Press the **OK** button to apply the current settings of the **Output Window** to the selected conversion.

Network Cluster Server – File Section

| 1	**Watch/Stop** button	The **Watch/Stop** button toggles between stop mode and watch mode. In stop mode no conversions are being performed, the user may adjust the folders and settings, and the button displays **Watch**. In watch mode, conversions on the list are being performed in sequence, the **Folders** and **Settings** buttons become inactive, and the button displays **Stop**.
2	**Files** column	Displays the file names for files being converted.
3	**Add** button	Press the **Add** button reveals the choices **Media** or **Batch List**. Select **Media** to add an existing file to the list of files to be converted. Select **Batch List** to insert a list of media, which are then added to the list as a batch file conversion.
4	**Move Up** button	Select a conversion and press the **Move Up** button to promote a file closer to the top of the list of files to be converted.
5	**Status** column	Displays the status of conversions in progress.
6	**Move Down** button	Select a conversion and press the **Move Down** button to demote a file closer to the end of the list of files to be converted.
7	**Pending** button	With the **Pending** button pressed, the **Output** button is deactivated, and you can view the list of conversions that have not been performed.
8	**File List** field	Displays the list of files to be converted (press the **Pending** button), or the list of converted files (press the **Output** button).
9	**Output** button	With the **Output** button pressed, the **Pending** button is deactivated, and you can view the list of file conversions that have been completed.

Drastic Software Licensing Application

Drastic Software Licensing Application window

1	**Activation Key** field	Copy the **Activation Key** (also known as the Site Key) and either use the **Paste** button or alternate **Paste** command to paste a valid **Activation Key** into this field.
2	**Site Code** field	The **Site Code** field is where the Site Code will appear if you have input a user name and an email address in the proper fields, and pressed the **Generate Code** button.
3	**Generate Code** button	If you have input a user name and an email address in the proper fields, press the **Generate Code** button to populate the **Site Code** field with a Site Code.
4	**Email Address** field	The **Email Address** field is where the user will type in an email address in order to generate a Site Code. **Warning**: *the license status is updated by the Activation Key, which will be contained in the reply email – make sure you input a valid email address where you can receive the reply. It is best if the system being licensed is set up for email, as it will make copy and paste easier..*
5	**User Name** field	The **User Name** field is where the user will type in a user name in order to generate a Site Code.
6	**Send to Drastic** button	Once you have generated a Site Code, press the **Send to Drastic** button to generate an email (on the default email client) addressed to Drastic with the Site Code contained in the body of the email.
7	**Copy** button	Once you have generated a Site Code, press the **Copy** button to copy the Site Code onto the Clipboard.

8	**Status** button	Press the **Status** button to open the **License Status** window, which allows you to view the current license status.
9	**Paste** button	Once you have copied an Activation Key to the clipboard, press the **Paste** button to paste the contents of the clipboard into the **Activation Key** field.
10	**Register** button	Once a valid Activation Key has been input into the **Activation Key** field, press the **Register** button to register the new license status. The system will need to be restarted in order to enable the features of the new license status.
11	**Close** button	Press the **Close** button to close the **Drastic Software Licensing Application** window.

License Status
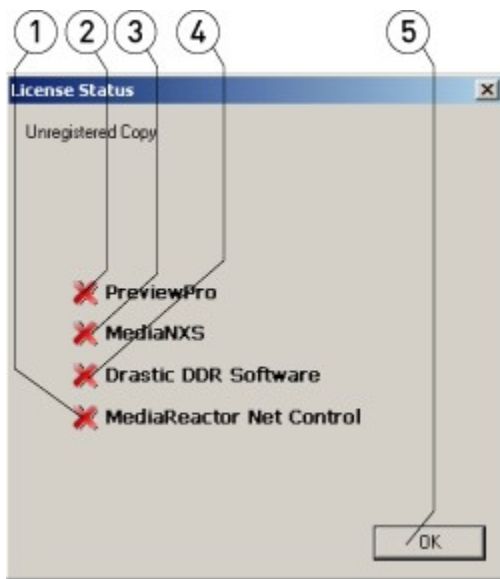
License Status window

1	**MediaReactor Net Control** license status indicator	Indicates the status of the **MediaReactor Net Control** license. A red "X" means the license is not registered. A green check mark indicates the license has been registered.
2	**PreviewPro** license status indicator	Indicates the status of the **Preview Pro** license. A red "X" means the license is not registered. A green check mark indicates the license has been registered.
3	**MediaNXS** license status indicator	Indicates the status of the **MediaNXS** license. A red "X" means the license is not registered. A green check mark indicates the license has been registered.
4	**Drastic DDR Software** license status indicator	Indicates the status of the **Drastic DDR Software** license. A red "X" means the license is not registered. A green check mark indicates the license has been registered.
5	**Close** button	Press the **Close** button to close the **License Status** window.

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