Media Conversion Software User Manual

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Preface

Warranty

Miranda Technologies Ltd offer a 24 months free parts and labour warranty on Oxtel Series equipment from the date of the initial invoice, providing there is no evidence of negligence, abuse or failure to reasonably follow instructions given by the Company for its proper use.

During the warranty period, Miranda Technologies Ltd will replace or repair at its cost, Oxtel Series equipment returned to the factory, carriage and duty paid and insured by the sender.

Before returning any item for warranty repair, a valid returns authorisation must be granted by Miranda Technologies Ltd.

All repaired goods will be delivered (as instructed) carriage and duty paid and insured by the sender.

Any warranty, over and above that offered here, is the responsibility of the local Miranda Sales Office or appointed Distributor.

Contact Information

For service, repair and warranty information and for returns authorisation contact:

oxtelsupport@miranda.com

Associated Publications

Description	Part number
Imagestore 2 User Manual	02359
Imagestore 3 User Manual	02954
Imagestore HDTV User Manual	02901
MDS User manual	01184
Textbuilder User Manual	02735
Textbuilder 2 User Manual	02960
Intuition User Manual	03457
Intuition Builder User Manual	03454
Imagestore Media Manager User Manual	03332

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Conventions used in this user guide

The following typestyle conventions are used throughout this user manual:

♦ **boldface** is used for emphasis and button names
♦ *italics* are used for screen titles, references to other parts of the guide and new terms

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Overview

Media Conversion Software (MCS) is a suite of programs which support Miranda Technologies Ltd.'s range of professional broadcast products. This range includes Imagestore, Playstore, Logostore and Intuition. For the purposes of this document, the term *Imagestore* will be used to refer to any products in the range, which are able to playout animations and stills.

The conversions and functions which each MCS tool can perform are listed below.

Animation Builder

The Animation Builder is used to produce both still images and animations for use with Imagestore units. Still images can be imported from several different file types and numbered sequences of images can be used to form animations. Image parameters such as position, title and keying modes can all be viewed and edited. When importing animations, the program can automatically crop images to their associated key and de-interleave field-based images, to produce the highest quality animations using the smallest amount of Imagestore playout memory.

Animation Builder can read the following types of files:

Standard image formats (.BMP, .TGA, .GIF, .TIF, .JPG, .PNG)

Adobe Photoshop file (.PSD)

Quantel VPB images (.VPB)

Miranda Technologies Ltd. OXT still image format (.OXT)

Miranda Technologies Ltd. OXA YUV animated image format (.OXA)

Miranda Technologies Ltd. OXI RGB animated image format (.OXI)

Animation Builder outputs the following kinds of files:

Miranda Technologies Ltd. OXT still image format (.OXT)

Miranda Technologies Ltd. OXA YUV animated image format (.OXA)

Miranda Technologies Ltd. OXI RGB animated image format (.OXI)

Also, images can be copied to the windows clipboard, allowing them to be pasted into any other windows program.

Animation sequences can be built from a series of sequentially numbered images in any of the above formats. For importing animations from graphics workstations, formats which include key/alpha channel information (eg Targa, TIFF, etc.), are the preferred format.

Clock Builder

For units with the Bugclock *in-vision clock* option, digital and analogue clock designs can be constructed from still images for each of the clock components. All still image formats supported by Animation Builder are also supported by Clock Builder. Various parameters associated with the clock can be set using the program. A preview allows immediate testing of the clock being generated. Clock files generated by Clock Builder use Miranda Technologies Ltd. *OXA* format.

Audio Builder 2

WAV files can be converted to Miranda Technologies Ltd. audio files (.OXW) and (.OXE) for use with Easysound/Playsound systems. WAV, OXW and OXE files can also be played on the PC's audio system. Properties of OXW and OXE audio files such as looping control can also be examined and adjusted.

Batch converter

The Batch Image Converter software is a utility to convert industry standard graphical file formats into Miranda Technologies Ltd. .OXT files.

The supported formats are:

1. Standard image formats (.BMP, .TGA, .GIF, .TIF, .JPG, .PNG)
2. Adobe Photoshop file (.PSD)
3. Quantel VPB images (.VPB)
4. Miranda Technologies Ltd. OXT still image format (.OXT)

A further option to resize the image to a user-defined size is also available. This option can also be used to resize existing .OXT files.

Clip Builder

Clip Builder is a utility to transfer MPEG video clips to Clip-on and to create the Imagestore .clp reference thumbnail file.

DVE Editor

The DVE Editor is used to control the playout of the Imagestore DVE options. Animated DVE sequences can be defined and edited.

PC Requirements

The MCS tools runs on a PC workstation using MS Windows 95, 98, XP, 2000 or Windows NT 4.0 operating systems. To use MCS, Miranda Technologies Ltd. recommends a minimum specification of a Pentium 200MMX with 64Mb of RAM.

Installation

To install the software place the compact disc into the CD drive of a networked computer.

A html menu screen will automatically load (index.html) giving options to install software and/or view on-line documentation.

To install the Media Conversion Software click on the Install hyperlink.
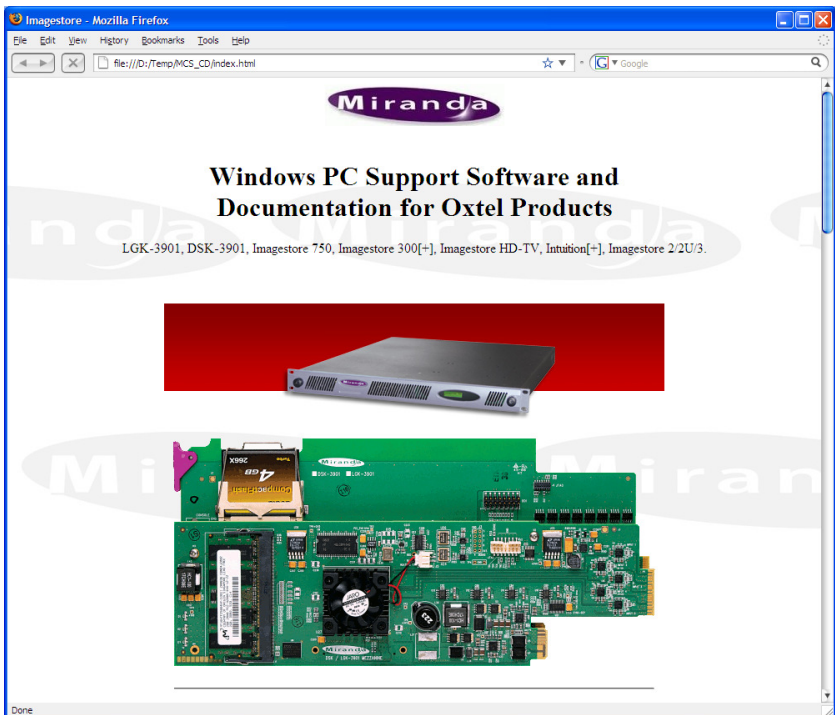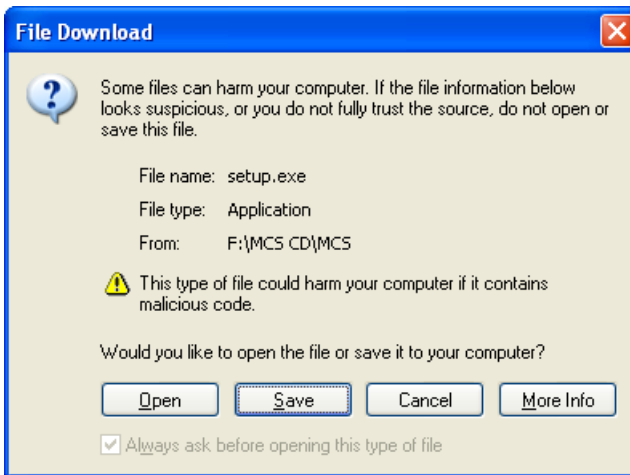
Click the *Open* button to continue.

Follow the on-screen commands to launch the Install Shield Wizard.
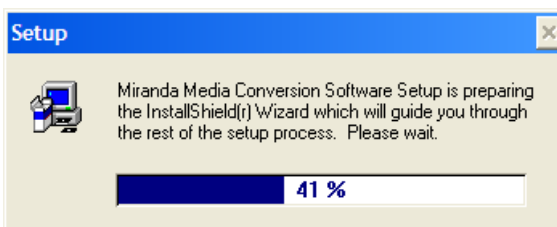
When prompted, add your Name and Company details.
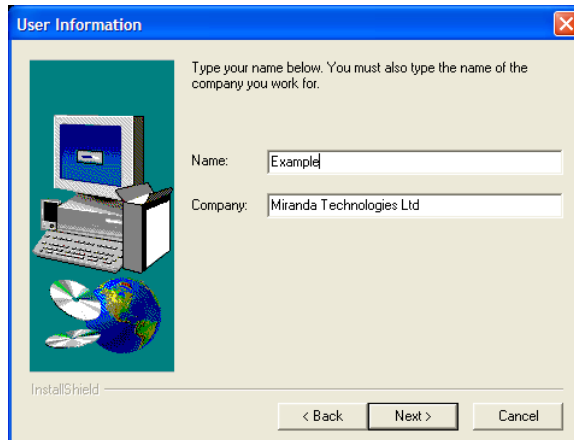
Click **Next** to continue or **Cancel** to abort or **Back** to return to the previous command.

Continue to follow the on-screen commands until the Media Conversion Software is installed.

To run an application, open the **Miranda MCS** menu under the **Start**, **Programs** menu and select a program icon.

Uninstall

To remove the Media Conversion Software from your PC click on **Start, Settings, Control Panel**. Double click on the **Add/Remove Programs** icon.
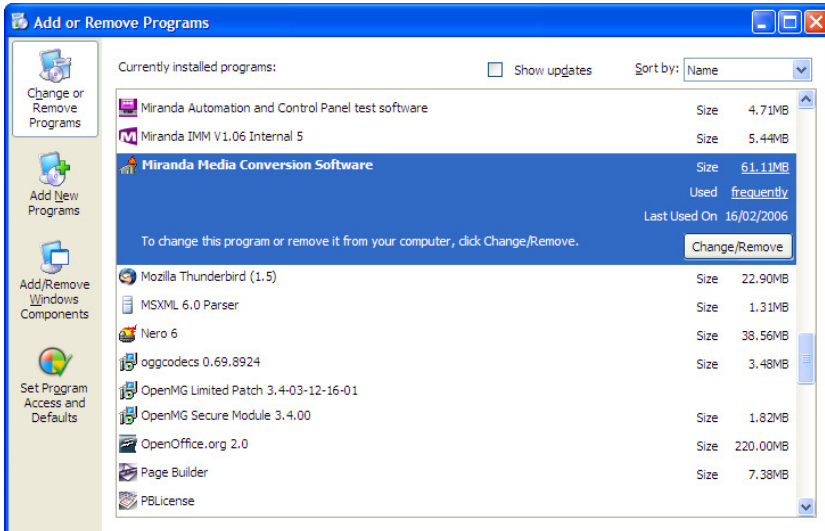
Select Miranda Media Conversion Software then click on the **Add/Remove** button.

The Uninstall wizard will now remove the software from your PC.
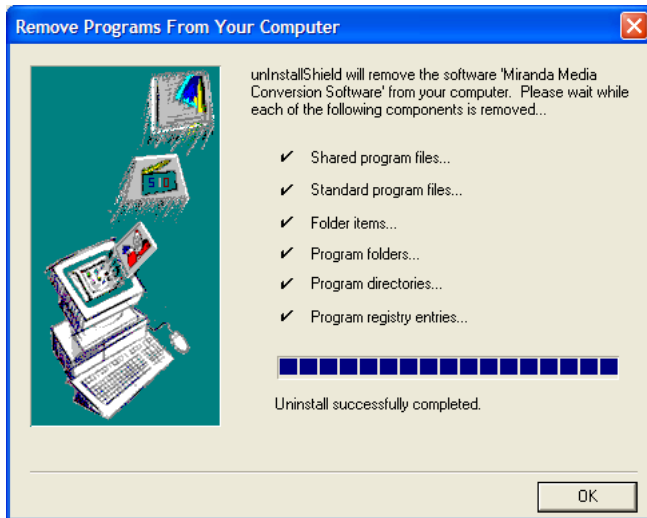
Click **OK** to continue.

Animation Builder

The Animation Builder is the tool used for viewing, converting and modifying both still images and animations for use with Imagestore product range including Imagestore HDTV and Intuition. A variety of file formats can be imported and sequences of numbered images can be assembled into an animation. Keying parameters and other information (such as image titles) can be set up and the resulting files can be transferred (via the Ethernet or floppy disk) directly into the Imagestore units.

Preparing Image Files for Animations

The best animation results will always be obtained using images with separate keys. The most appropriate file formats to use for still images are the 32-bit formats such as Targa and TIFF, which can typically be generated by most 3D animation and paint packages. These files hold RGB channel information and also the Alpha channel information that is essential for broadcast-quality keying. Many 3-D graphics systems and painting tools such as Cinema 4D, Adobe Photoshop™ and Paintshop Pro™ can produce files in the formats described. A number of file conversion utilities are readily available which you can use to convert other image files to the required format.

Animation Builder uses the files extension to determine the file type. For example:

- ♦ .TGA (Targa image files)
- ♦ .BMP (Windows bitmap image files)
- ♦ .OXT (Miranda Technologies Ltd. still images files)
- ♦ .OXA (Miranda Technologies Ltd. YUV Animation/Clock files)
- ♦ .OXI (Miranda Technologies Ltd. RGB Animations)
- ♦ .VPB (Quantel video paint box image files)

The files must be named sequentially, using a series of frame numbers as the ending characters. For example:

my_anim_0001.tga, *my_anim_0002.tga* etc.

Most numbering formats with or without leading zeroes are supported.

No aspect ratio conversion or resizing is performed on the incoming files (one input pixel maps to a single pixel in the resulting animation). Therefore the images should be rendered at the appropriate size and pixel aspect ratio for broadcast video:

- ♦   720 x 576 PAL
- ♦   720 x 486 NTSC.
- ♦   1920 x 1080 HD
- ♦   1280 x 720 HD

Images smaller than full frame can of course be processed.

Windows .BMP files, Quantel VPB files and JPEG files can also all be imported for animation sequences, but they do not support a separate key channel. If key channel data is contained in a separate series of images, this series of images can be imported as key images as a later step.

Fields vs. Frames

PAL Television runs at 25 frames per second and NTSC at 30 frames per second and each frame consists of two separate fields. It is important to remember when making images for animations that each field, 1 and 2, are offset from each other by both Y position (1 line) **and** time (1/50th of a second, for PAL). Animation Builder works internally in fields and emulates the interlacing of the TV by adjusting the position of each field as it is displayed.

Animation Builder supports two ways of importing images to allow smooth, high-quality animations to be produced. Suppose we wish to produce a one-second, full-frame PAL animation of a moving object. When this is broadcast, we need to display 50 distinct fields.

We could render 50 images at 720x576 resolution (each image file will be used to form a single field of the animation). As each image is input, half of the lines must be thrown away to produce fields. To tell Animation Builder to do this, choose **Import Animation Images as Fields** in the *Preferences* dialog. This works quite well, but the rendering of the animation will take twice as long as is required, because of the redundant data being produced.

The second approach is to render 25 frames at 720x576, with each frame containing valid data interleaved for both fields. If one of these images is loaded and viewed as a still, you will typically see *tearing* artefacts on the edges of horizontally moving objects, due to the interleaving. As Animation Builder reads these files, it splits the *frame* image into two separate *field* images. The *interlace emulation* of Animation Builder allows both options to be previewed and the correct one selected without transferring the animation to an Imagestore.

Animation Duration

Imagestore Intuition

Because Intuitions read animations directly from the disk during playout, the duration of an animation is constrained only by the disk space available on the Intuition system. Using the Animation Builder's optional cropping feature is recommended to reduce the size of the animation files.

Other Imagestore systems

The maximum duration of an animated sequence is not determined by the Animation Builder but by the video memory of the Imagestore used for playout. The basic video memory for Imagestore is 2 x 32Mb. – 32Mb for Preview and 32Mb for Programme (or foreground and midground, in cascade mode). 32 Megabytes gives roughly 20 full frames of PAL video (around 0.75 seconds). Animations that use less than the full screen area can have proportionately more frames. An animation of around $1/64^{th}$ (or $1/8^{th}$ by $1/8^{th)}$) of full screen could have a maximum duration of around 48 seconds.

Video memory upgrade options for Imagestore can extend the video memory to 2 x 64Mb, 2 x 256Mb and 2 x 512Mb (HDTV), increasing the maximum animation duration accordingly.

Imagestore units can loop animations to allow them to run continuously. In this case, the video memory needs to hold a single loop of the animation.

Animation Builder can optionally use selective cropping to crop each frame independently to reduce the playout memory requirements.

Because of this and the dynamic nature of the packing algorithms used within the Imagestore, it's not always possible to confirm that an animation will fit into the video memory before loading it on the Imagestore. The *Animation Information* display provides an estimate as to how much video memory will be required in the Imagestore. If an animation is loaded onto an Imagestore which is longer than the Imagestore allows, the animation will simply be truncated.

Starting the program

Double click on the Animation Builder icon or use the
Start, Programs, Miranda MCS option.

Animation
Builder

The main screen will now be displayed.
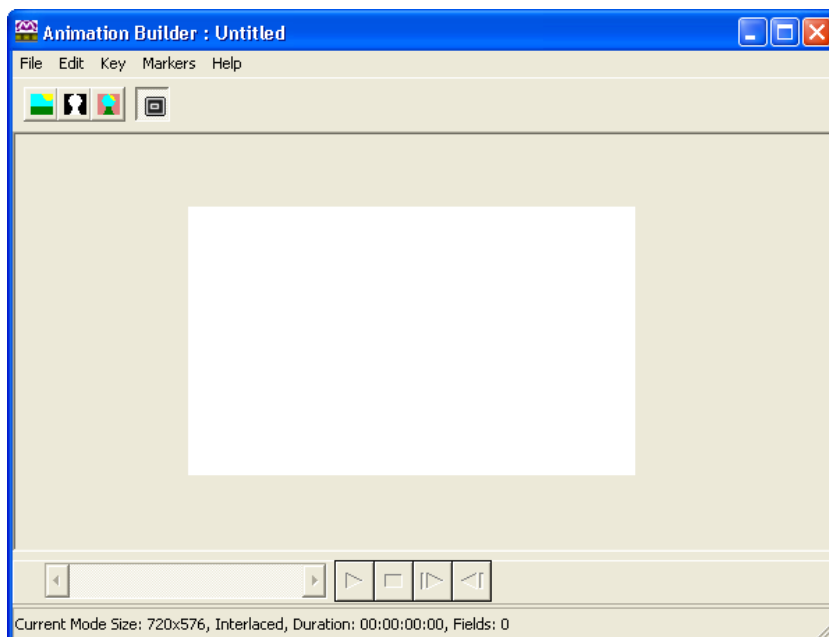
Building Animations

Before loading a sequence of image files into the Animation Builder, check that the preferences have been correctly set up for loading images as fields or frames. See *Preferences* in the *Animation Builder Menus* section for more information.

Loading Sequence Files

Select **Open** from the *File* menu and navigate the PC to locate any one of the series of sequence image files.
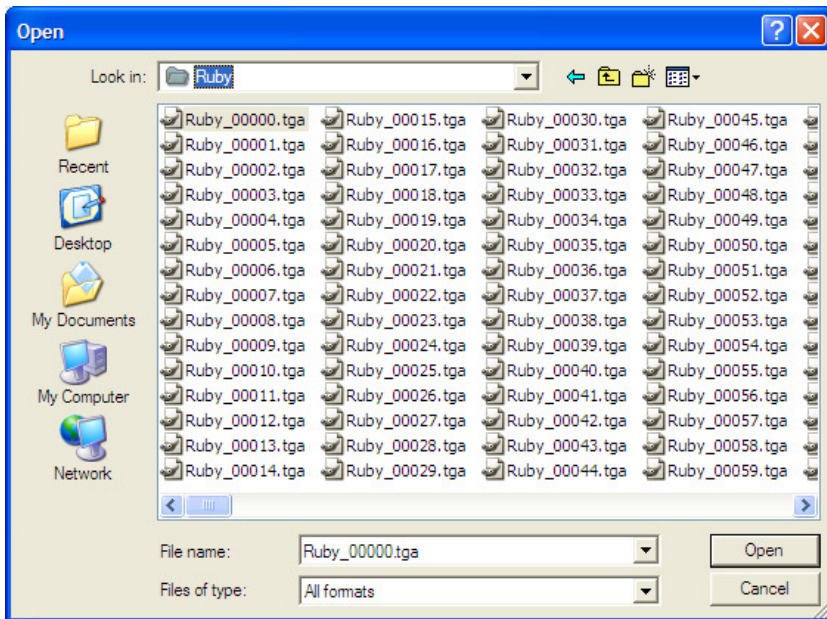
Double clicking on any file within the sequence will bring up a prompt similar to that below. Select **<u>Yes</u>** to initiate file loading.

Load Files

This directory contains 211 numbered files named newNEXT.xxxx.tga. Do you want to load them as a sequence?

[Yes]   [No]
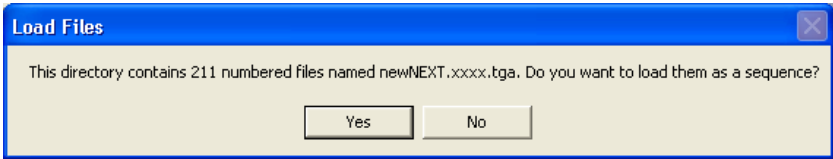
Note: Sequence files must be located in the same directory and must share the same prefix.

As each frame is loaded it is displayed in the main window. The alpha channel of each frame can be used to crop the frame to the minimum area required. Areas where the alpha data is close to zero (black) are removed from the borders of the image leaving a smaller *active picture* area for each frame. This can be set from the *Key Garbage level* field on the *Animation Builder Preferences* screen (see *Preferences* in the *Animation Builder Menus* section below for further details).

As well as selecting a single file from the file open window, it is possible to select several files at once to form a sequence. Press and hold down the **Shift** key or **Ctrl** key and then click on the appropriate files. Regardless of the order of your selection, the images will be loaded in sequence-number order.

If a single *still* image file is selected (or the user selects **No** when asked if a sequence of files is to be loaded), the file is loaded as a still image. The *Field/Frame loading* modes have no effect for single still images, as they are always displayed and treated as frames. Still images can be then saved as .OXT files for use with Imagestores.

Loading Animation Files

Previously created animation files may be reloaded for editing or viewing. These files will have either the file extension .OXA for YUV formatted animations, or .OXI for Intuition RGB animations.

Viewing animations

As each field is loaded, it is displayed in the main application window and, once loading is complete, the player controls take on a colour indicating that they are active. You use these *movie-player* controls at the bottom of the window to run the animation.

From left to right the controls are:

♦   Play the animation sequence.
♦   Stop the animation sequence.
♦   Index forward by 1 Field.
♦   Index backward by 1 Field.

The three buttons on the top bar allow you to view the image fill, the image key and the result of the keying over a matte colour.

From left to right the controls are:

♦   View fill.
♦   View key
♦   View result.
♦   Display Bounding Box.

Appending Files

With an animation sequence loaded, it is possible to append a further series of files to it. Select **Append Frames** from the *File* menu and locate any one of the series of image files to be appended. Double clicking on any file within the sequence will bring up a prompt similar to that above. Select <u>**Yes**</u> to initiate file loading.

Saving an Animation

Select **Save as…** from the *File* menu and navigate the PC to locate the folder in which the animation is to be saved. Enter the file name for the animation at the prompt. If the animation is intended for playout on an Imagestore Intuition system, select the OXI format from the drop-down list. Otherwise, select the OXA format. The default format can be defined in the *Preferences* under the *File* menu.

Building still images

Animation Builder provides all the same facilities for still images including adjustment of keying parameters and viewing aspect ratio adjustments. Still images are saved in Miranda Technologies Ltd. proprietary OXT format.

To load a Fill image select *File* then **Open**. Use the open dialog window to locate the graphics file then click on the **Open** button to load it.

Refer to the *Key menu* section for details of loading key images.

Note: Imagestore Intuition systems provide direct support for loading a variety of the commonly used still file formats so conversion of stills to the OXT format is not necessary.

Animation Builder Menus

This section describes the commands available in all the Animation Builder menus.

File menu
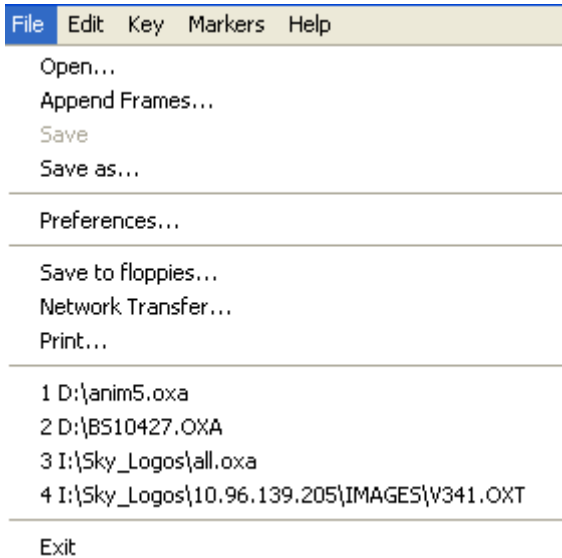
Open

Allows you to open the following types of items.

♦ existing Miranda Technologies Ltd. animations (.OXA and .OXI)
♦ single frame still images in OXT and a variety of popular formats
♦ multiple still images in the above formats to form an animation

Append Frames

Allows you to append more frames to an existing animation sequence. All still image formats supported by *Open* are also supported by *Append*.

Save

Allows you to save the current animation to disk on the PC. If the animation does not yet have a valid name, you will be prompted for one.

Save as

Allows you to save the animation (as Save above) but with a different name or on a different disk or in another directory.

Preferences

When you choose **Preferences** from the *File* menu, the *Animation Builder Preferences* dialog box is displayed. Unlike the animation options, the settings in preferences affect the behaviour of the program for all animations and are automatically preserved between sessions in the Windows registry.

The settings for the animation preferences are only applied when you click the **OK** button or press the **Enter** key.
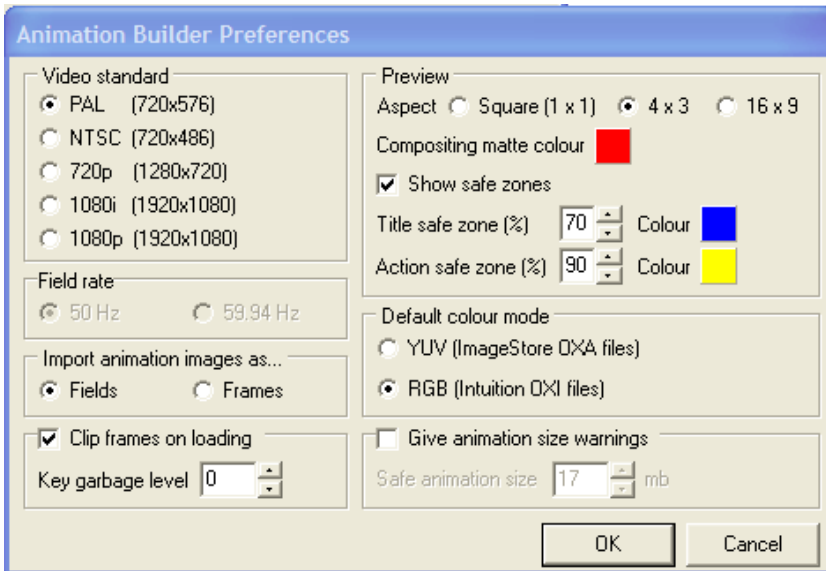
Video Standard

Select the appropriate Video Standard for which you are producing and viewing material. Amongst other things, this affects the viewing aspect ratio when viewing for formats other than square pixels – as described below.

Field Rate

Controls the playout rate for HD Standards.

Import Animation Images as

When you select *Frames*, the Animation Builder will create both fields that comprise a video frame from the single image. If you select *Fields*, the animation will take alternate fields from each successive image and discard the unused lines. See *Fields vs. Frames* in the *Preparing Image Files for Animations* section..

Clip Frames on Loading

When you select C*lip frames on loading*, Animation Builder discards all data outside a bounding box of *active* key pixels. This selection speeds the loading of files and reduces both PC and Imagestore memory usage substantially. When the option is not selected, Animation Builder loads the whole image irrespective of the key data.

When you bring in images with *noisy* key signals, the Key Garbage level (default of 0) should be increased to allow correct key clipping. This is especially important when key images have come from outside the digital domain. Experiment with gradually increasing values for this until the frames are cropped correctly. (0 = black and 255 = white).

Preview

This section controls a variety of preview options that allow you to select how images and animations are viewed on the PC. These settings have no effect on the resulting image files.

Selecting an *Aspect* of anything other than 'Square' causes aspect ratio correction to be applied to images viewed with Animation Builder, compensating for the difference in pixel aspect ratio between the target broadcast system and the PC.

To change the background colour over which images are composited, click on the colour swatch next to the *Compositing matte colour* and select a new colour.

Use the *Safe zone* controls to determine whether you wish the safe zones to be displayed and control their size and colour. Safe zones are shown whenever Animation Builder displays the full screen area ie when *View Positioned* is selected from the *Edit* menu, and when the *Edit Position Graphically* option is used from the *Animation Options* dialog.

Default colour mode

This option determines the colour mode of the animation. For the Imagestore range of products select .OXA (YUV encoded) and for Intuition select .OXI (RGB encoded).

Animation size warning

The preceding section *Animation Duration* described some of the limitations that are applicable to the maximum duration of animations that can be played out. This option can be used to define the maximum animation file size that can be saved. Saving animations larger than the given size produces a warning message.

Save to floppies

For systems where transfer via Ethernet cannot be used, MCS provides a highly efficient means of transferring large animations and images via floppy disk.

Note: All files should initially be saved to the hard disk as .OXA or .OXI files.

A single animation can be saved onto a set of floppy disks, which can then be loaded into the Imagestore unit. An extremely effective lossless compression technique is used, which can substantially reduce the number of disks required to transfer large animations. The resulting disk set can be loaded into the Imagestore in any order, with the Imagestore automatically prompting for the next expected disk. Only the following product software releases support the compressed floppy disk format:

Logostore	all versions
Playstore	version 1.16
Imagestore IS2	version 1.17 or later
Imagestore Solo	version 2.13 or later
Imagestore 3	version 3.13 or later
Imagestore HDTV	version 1.02

Note: Imagestore IS1 units cannot support the compressed floppy format.

Network Transfer

All MCS tools can directly transfer their output files to Imagestore units equipped with Miranda Technologies Ltd. Ethernet interfaces, connected via TCP/IP networking. For example, to transfer an image or animation, choose **Network Transfer** from the *File* menu. A dialog will be shown which allows you to select the destination Imagestore unit.

The 'pull-down' list contains all units listed in the *units.txt* file, described in the section on configuring PC networking for Imagestores. You can transfer

to any other unit simply by typing in the units name (which must appear in the *hosts* file) or its IP address.

Note: Logostore units cannot be fitted with Ethernet, so images and
            animations must be transferred via floppy disks.
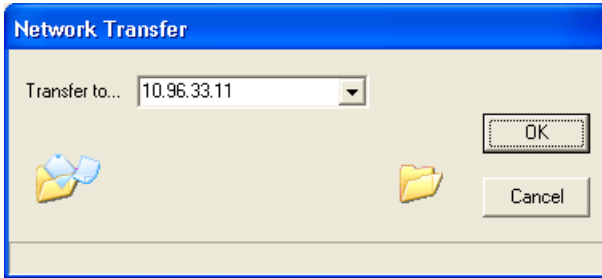
Although it is possible to cancel a transfer, which is already in progress using the **Cancel** button, you can only use this operation with Imagestore version 1.17 or later. Earlier versions of Imagestore may crash and need to be rebooted.

Print

Prints the current image.

1 2 3 4

As with other windows applications the last 4 edited files are listed for ease of access.

Exit

Closes the Animation Builder program. If you have an unsaved animation or image, you will be prompted to save it before exiting.

Edit menu

Cut

This option is unavailable.

Copy

Copies the current animation frame or still image onto the Windows clipboard for pasting into other programs. The **View Fill**, **View Key** and **View Result** buttons determine how the image is copied.

Paste

This option is unavailable.

Animation Options

When you choose **Animation Options** from the *Edit* menu the *Animation Options* dialog box is displayed. You can now set a variety of options relating to the loaded animation.
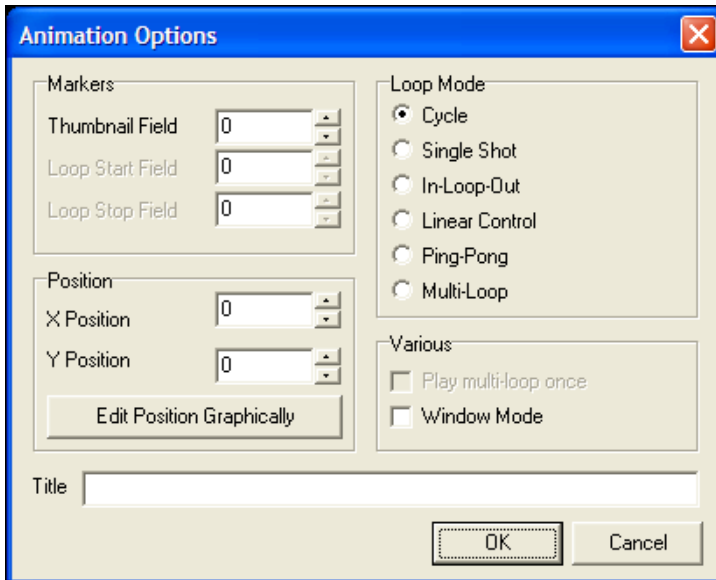
Markers

The thumbnail field allows any single frame of the animation to be nominated as the thumbnail frame. Imagestore or Media Distribution Systems may use this frame to create a still thumbnail image representing the animation.

The *Loop Start Field* and *Loop Stop Field* enable you to specify the start and finish fields of an animation loop. These are only available for use if the *In-Loop-Out* option is selected in *Animation Style*.

Loop mode

There are six animation style options:

- ♦ Cycle
- ♦ Single Shot
- ♦ In-Loop-Out
- ♦ Linear Control
- ♦ Ping-Pong
- ♦ Multi-Loop

To select an option, simply click in the check box next to the appropriate option.

Cycle

When you select **Cycle** and the animation is saved, an Imagestore will continuously repeat this animation sequence when it is taken on-air. When the animation is cut to air, it will begin cycling at the start point of the animation.

Single Shot

When you select **Single Shot** and the animation is saved, an Imagestore will playout the sequence once each time the animation is taken on-air. Once the animated sequence has run its course, the final frame remains on air as a still image until taken off-air. If the last frame of the animation is blank this will give the appearance of the animation disappearing.

In-Loop-Out

When you select **In-Loop-Out**, the *Loop Start frame* and *Loop Stop frame* options become available and are displayed in black. You can now specify the start and end frames for the loop. In this mode, when the animation is displayed the In section will be played through once. The defined Loop section will then be repeated continuously. When the command to take the animation off air is issued, the Out section is played out prior to the animation being taken off.

Linear Control

When you select **Linear Control** and the animation is saved, an Imagestore will take the animation frame either from an automation system or use an analogue fader input to control the frame that is being displayed. This could be used in conjunction with an external fader, T-bar or control.

Ping Pong

When you select **Ping-Pong** and the animation is saved, an Imagestore will cycle the animation sequence forwards and backwards (i.e. when it reaches the end of the sequence it goes backwards through the sequence to the beginning again).

Multi-Loop

Selecting Multi-Loop allows you to add loops (delays) between any frame/field within the animation. This is especially useful for generating countdown or count-up timer applications.
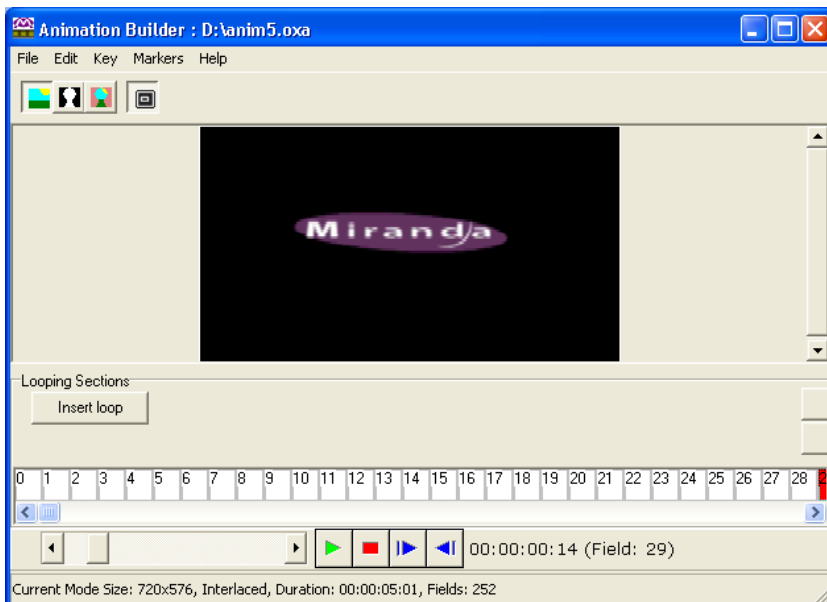
The example shown above is a sequence of frames, converted to fields on loading. When the Multi-Loop option is selected the main screen displays the controls necessary to add loops.

Insert Counters an all Frames

If a loop is required between all frames, click on the appropriate insert button.
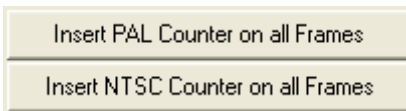
Each individual field counter will now change colour depending on its status.

Yellow = repeated field within a loop.

Green = Loop Start Field

Red = active field
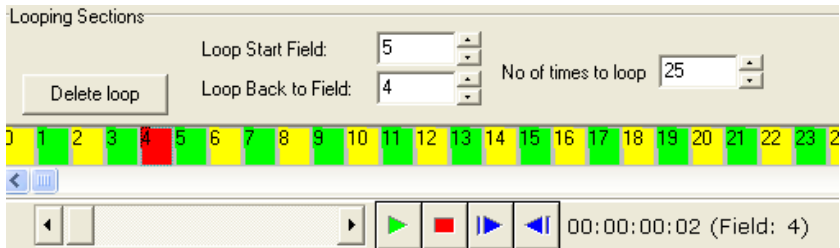
The above screen shows the active field (1), which loops back to field 0, 25 times, i.e. a 1 second delay (PAL).

As the animation plays the red field counter will increment until it reaches the next green field where it will loop back according the parameters set.

Insert Loop

Click on the field where the loop is to start (it will turn red) then press the **Insert loop** button. Use the options to select the **Loop back to Field** and the **No of times to loop**.

Note: Only even fields can be included in a loop.

Deletet Loop

To delete a loop click on any field within the loop the press the **Delete loop** button.

Note: Multi-Loop are only supported from IS2 v2.13 software onwards.

Position

The vertical and horizontal position of the image on-screen is set by the values in the *X position* and *Y position* boxes respectively. The values are in pixels and are the distance from the top left corner of the image to the top left corner of the screen. The original position of a clipped image within its original frame is maintained.

To position the image visually, click on the *Edit Position Graphically* button.
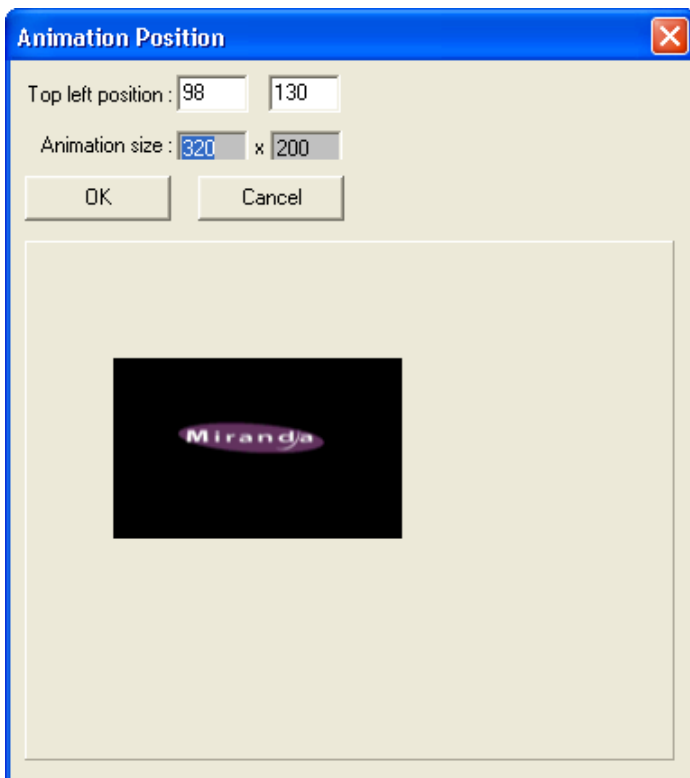
Adjust the values until the desired position is obtained.

Click **OK** to continue or **Cancel** to abort.

Various

Play multi-loop once

Used by Imagestore Intuition only. Without this option selected, multi-loop animations return to the start of the sequence once they finish playing out. With the option selected, the sequence is only played out once and the last frame is held as for single shot animations.

Window Mode

If the still image or animation is saved with **Window Mode** selected, the key image only is used by Imagestore to reveal the Fill input source. This option is not supported by Imagestore Intuition.

Title

The title for an animations and stills can be viewed and edited in this field. When using Imagestores with RCP-200 control panels, the image title can be viewed and used to help locate images within the database.

Animation Info

When you select **Animation Info** from the *Edit* menu, statistical information relating to the current animation loaded in the viewer is displayed.
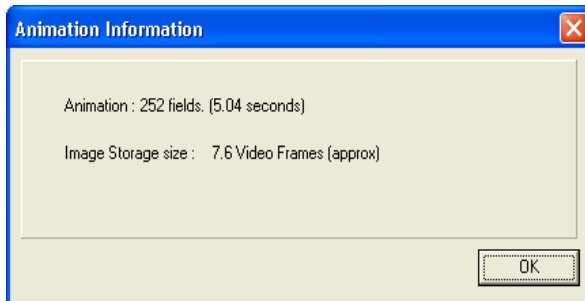
The *Video Frames* data relating to an animation can be used as a guide to the memory requirements of the sequence when loaded in an Imagestore (32Mb of display equals around 20 video frames).

View Positioned

When this option is selected, the image is shown in its on-screen position, as set by the x-y co-ordinates.
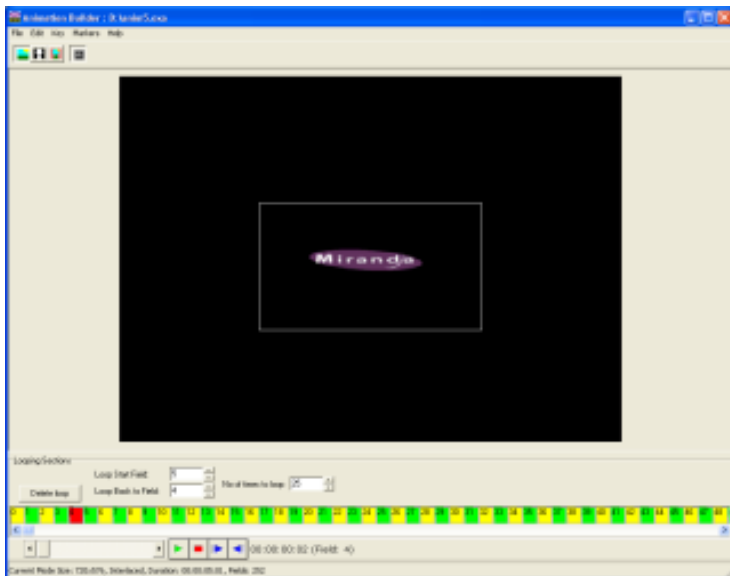
To return to centre screen image deselect the option.

Key menu
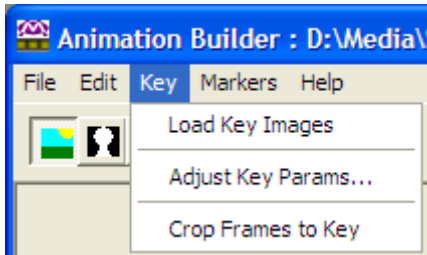
These options are used for loading and adjusting the Key image, which can only be loaded after a Fill image.

Load Key Images

Select **Load Key Images** from the *Key* menu and navigate the PC to locate the key image file. When the key file has been loaded it may be viewed by clicking **View Key** icon.

Adjust Key Params

Select **Adjust Key Params** from the *Key* menu and the Key Adjustments window will appear. Drag the adjustment window to a position where the animation may be viewed whilst making adjustments.

The main area of this window shows a histogram of key levels for the current frame. The key clip and gain values are represented by the red line on the animation luminance display. Clicking and dragging on the red line enables the slope to be modified (the lower half of the line affects the clip, while the upper half affects the gain). As with opacity, the effects of clip and gain level changes can be seen as the adjustment is made. Key polarity can be inverted or restored to normal by clicking against the appropriate option.

As the *Opacity* adjustment is dragged up and down the effect will be clearly visible on the animation.

The key source (separate key, luminance key or no key) and keying algorithm (additive or full) can also be selected from this menu.
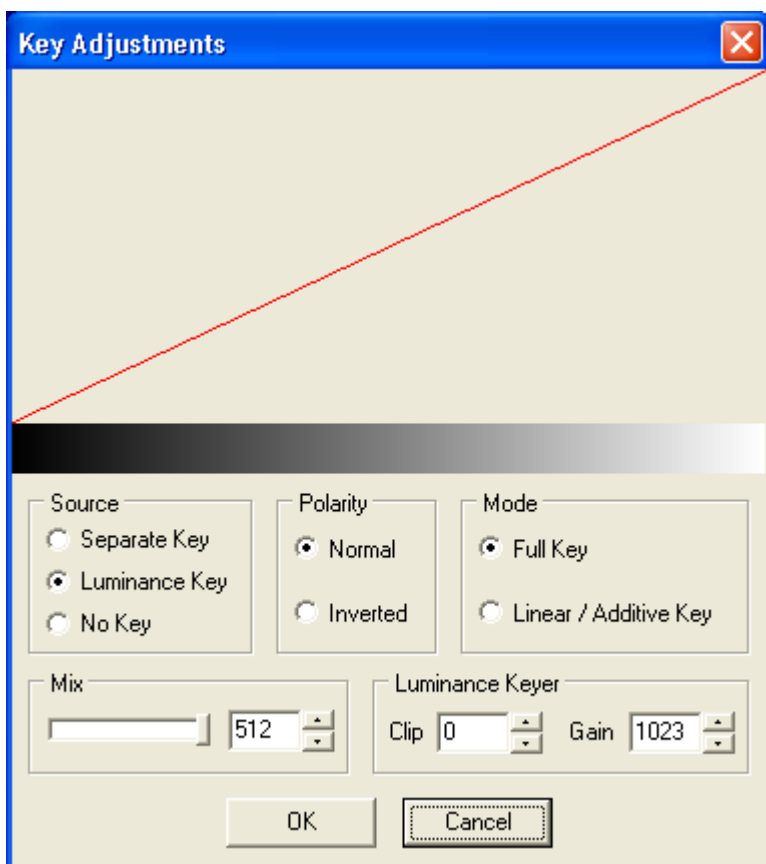
Key Polarity

Normal	white is keyed image/black is transparent
Inverted	black is keyed image/white is transparent (that is, inverse of normal)

Key Source

Separate Key	uses image alpha/key channel (only available if image has key channel)
Luminance Key	uses image-luma signal to generate key
No Key	uses full screen of white as key (unless cropped)

Keying Mode

Full Key	standard keying mode
Linear Key	used to overcome problems with keyed edges (especially when using self keying)

CGT Numbers

Clip	range 0 – 1023 (default is 64) (anything below the displayed value is transparent)
Gain	range 0 – 1023 (default is 940) (anything above the displayed value is fully keyed on)

Clip and gain values can be changed by dragging the line on the graph at the top of the screen.

Transparency/Opacity	512 is completely opaque/0 is completely transparent

The transparency/opacity of an image can be changed by moving/sliding the pointer in the *Opacity* box.

Crop Frames to Key

Occasionally you may wish to load a series of images with cropping disabled via the preferences menu and subsequently crop them to their key. When you select the **Crop Frames to Key** option from the *Key* menu, the image is automatically cropped according to the key garbage level set on the *Animation Builder Preferences* screen. The **Clip Frames on loading** option in the Animation Builder Preferences screen must **not** be selected if you want to crop an image to its key after you have loaded it.

Markers menu
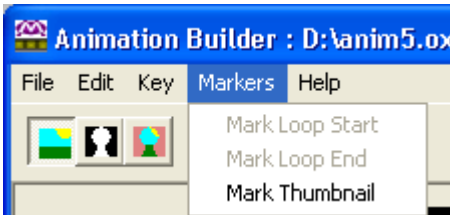
Mark Loop Start

You use the *Mark Loop Start* command to indicate the start frame for an *in-loop-out* animation. This command is only available if you have chosen **In-Loop-Out** on the Animation Options screen. To specify the start of the loop, choose **Mark Loop Start** and then use the animation player controls at the bottom of the screen to mark the start position.

Mark Loop End

You use the *Mark Loop End* command to indicate the end frame for an in-loop-out animation. This command is only available if you have chosen **In-Loop-Out** on the Animation Options screen (see *Loop mode* above). To specify the start of the loop, choose **Mark Loop End** and then use the animation player controls at the bottom of the screen to mark the end position.

Mark Thumbnail

The thumbnail frame is used by Miranda Technologies Ltd. Media Distribution System and Imagestore's Polyphoto display to produce a thumbnail image representing the animation. The frame may be selected either from the *Animation Options* window opened from the *Edit* menu, or from the *Markers* menu. To select a frame from the *Markers* menu, use the animation viewer controls to step through the animation frames until the desired frame is displayed. Select **Mark Thumbnail** from *Markers* menu. The currently displayed frame will be set as the thumbnail frame. After Animation Builder loads an animation, it automatically positions the animation to the chosen frame.

Help menu

About

Select **About** from the *Help* menu to display details about the software version of Animation Builder. This box also contains a link to Miranda Technologies Ltd. web site at www.miranda.com

Command Line Options

Animation Builder provides some command line options that can be used to create automated batch files that do not require user intervention. In order to use these options, you must either open the command prompt within the MCS tools directory or add the directory to your "PATH" environment variable. The default installation directory is "C:\Program Files\Miranda MCS". The executable is called "anim_tester" and the following options are currently supported:

For compatibility reasons, the first argument is not expected to provide an option code, but is expected to be the file path of either an animation, an EasyText template, a clock or the root of an image sequence. The root is the path of the sequence that excludes the numbered part and extension (eg pass

"C:\seq" to load "C:\seq0000.tif", etc). Note that if the path contains spaces, the whole path must be given in double quotes.

Any additional options are expected to provide an option code and can be listed in any order. The square brackets indicate placeholders for command parameters and they should not be included in the command line.

`-o[Path]`
Save an animation to the given path and exit Animation Builder. Note that if the path contains spaces, the whole path must be given in double quotes.

`-t[IP]`
Transfer an animation to the given IP and exit Animation Builder.

`-x[N]`
Set animation's X coordinate to N.

`-y[N]`
Set animation's Y coordinate to N.

`-m[N]`
Set animation's loop mode to N. The modes are 0: loop, 1: single shot, 2: in-loop-out, 3: linear control, 4: ping-pong, 5: multi-loop.

Clock Builder

Clock Builder conforms to all the normal Windows conventions and so if you are already familiar with the MS Windows environment you will find it easy to use.

File Formats

For analogue clocks, images should be designed with square aspect ratio pixels. Conversion to destination aspect ratios is performed by the Bugclock system.

For digital clocks, images should be produced with the appropriate pixel aspect ratio for the target video system. Bugclock performs no aspect ratio conversion on these images.

As with Animation Builder, OXT, VPB and a variety of popular image formats are supported. However, as a key is essential for all clock components (except clock faces), 32-bit Targa or TIFF files are the most useful format for these items.

General Principles

Clocks are built from a series of components. For analogue clocks, these components are the clock face, hour hand, minute hand and an optional second hand. For digital clocks, the components are the clock face, each of the digits, 0-9 and a separator character – typically a colon and/or slash.

Bugclock Limitations

Currently, the Clock Builder can be used to create clocks, which are too large or complex for the Bugclock system to display correctly (this may cause problems with Imagestore). Please bear in mind the clock size limits described in the Bugclock specification. Future versions of Clock Builder will include built-in checking to prevent users exceeding these limits.

Starting the program

Double click on the Clock Builder icon or use the
Start, Programs Miranda MCS option.

The main screen will now be displayed.
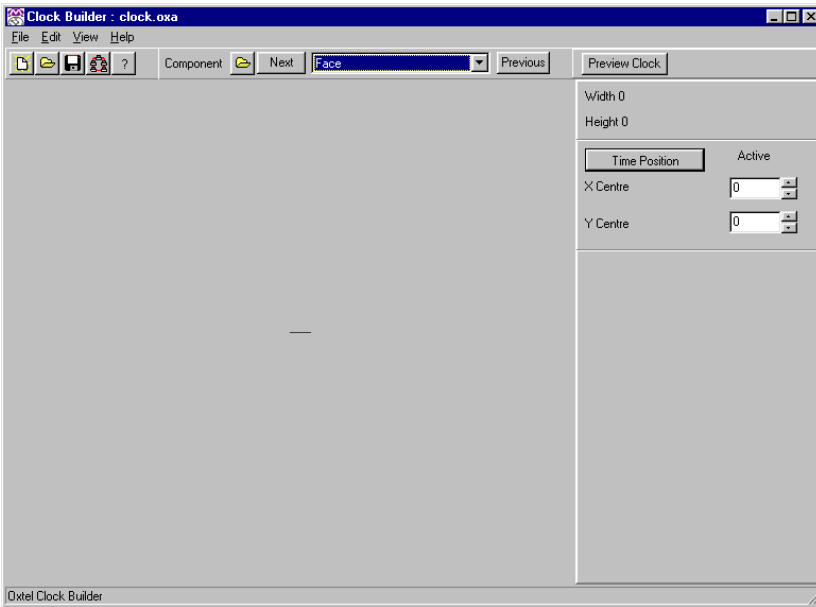
Beneath the standard menu titles there a variety of icons which enable you to:

♦ create a new clock
♦ open an existing clock
♦ save the clock you are currently working on
♦ transfer the clock to Imagestore over the network
♦ get further information (help) about Clock Builder and/or visit the Miranda Technologies Ltd. web site
♦ import (load) an image (component)
♦ move to the next clock component (step forward through all the different components of your clock)
♦ change the component you are currently working with (click on the down arrow and choose a different component from the drop-down list)
♦ move to the previous clock component (step backwards through all the different components of your clock)
♦ look at (preview) your clock

At the right of the window you will see details about:
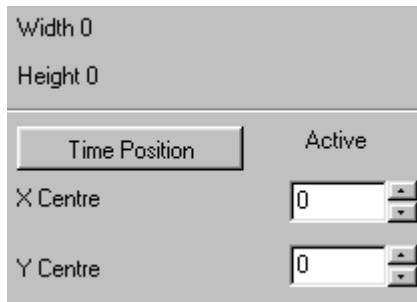
♦ the width and height of the component (this is for information only).
♦ the *Time Position* (the reference point controls allow you to move the reference point of the components around)

The component you are currently working on is displayed in the main area of the window.

The name of the clock you are currently working on is displayed in the title window at the top of the screen.
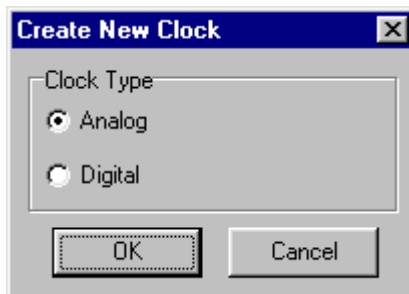
Clock Builder menus

File Menu
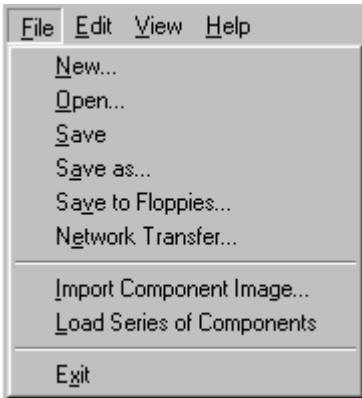
New

Selecting *File* then **New** will open the *Create New Clock* window. Click on the required type then click **OK** to continue or **Cancel** to abort.

Open

Allows you to open an existing Analog or Digital clock saved in Miranda Technologies Ltd. OXA file format. To load a clock select *file* then **Open**. Use the *Open clock file* window to locate the graphics file then click on the **Open** button to load it.

Save

File **Save** will re-save the clock you have opened, with any changes made. If no changes have been made the option will be greyed out.

Save as

File **Save as** will allow you to save the clock you have opened, with or without any changes made to a different location and file name. Use the *Save as* window to locate a directory, adjust the name if necessary then click on the **Save** button to save it.

Save to floppies

For systems where transfer via Ethernet cannot be used, MCS provides a highly efficient means of transferring clock via floppy disk.

Note: All files should initially be saved to the hard disk as .OXA files.

Clock images can be saved onto a set of floppy disks, which can then be loaded into the Imagestore unit. An extremely effective lossless compression technique is used, which can substantially reduce the number of disks required to transfer many images. The resulting disk set can be loaded into the Imagestore in any order, with the Imagestore automatically prompting for the next expected disk.

Only the following product software releases support the compressed floppy disk format:

|	
Logostore	all versions
Playstore	version 1.16
Imagestore IS2	version 1.17 or later
Imagestore Solo	version 2.13 or later
Imagestore 3	version 3.13 or later

Note: Imagagestore IS1 units cannot support the compressed floppy format.

Network Transfer

All MCS tools can directly transfer their output files to Imagestore units equipped with Miranda Technologies Ltd. Ethernet interfaces, connected via TCP/IP networking. For example, to transfer a clock select *File* then **Network Transfer**. A dialog will be shown which allows you to select the destination Imagestore unit.

The 'pull-down' list contains all units listed in the *units.txt* file, described in the section on configuring PC networking for Imagestores. You can transfer to any other unit simply by typing in the units name (which must appear in the *hosts* file) or it's IP address

Note: **Logostore units cannot be fitted with Ethernet, so clocks must be transferred via floppy disks.**
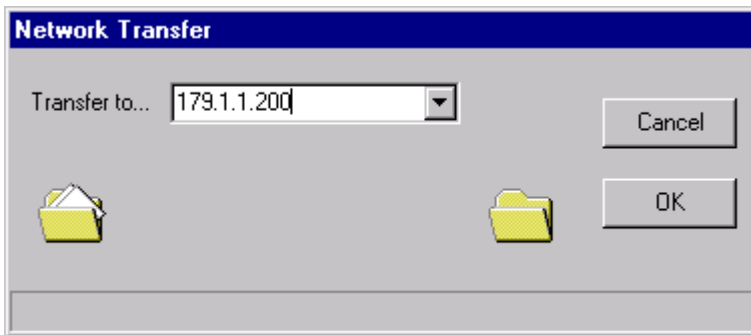
Although it is possible to cancel a transfer which is already in progress using the **Cancel** button, you can only use this operation with Imagestore version 1.17 or later. Earlier versions of Imagestore may crash and need to be rebooted.

Import Component Image

Clocks are constructed from a series of components: face, hour hand, minute hand, second hand, and for digital clocks numbers 0-9 and a time and date separator.

To import a component select *File* then **Import Component Image**. Use the *Import image file for* window to locate the graphics file. The type of component being imported is determined by the entry in the component drop down box, located in the main screen.
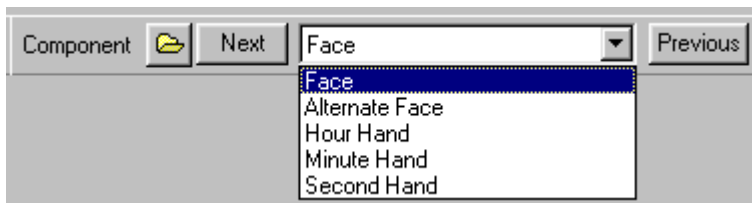
Select each entry in tern then import the image.

Note: Miranda Technologies Ltd. recommends that the face graphic is a 32-bit Targa file with RGB and Fill.

Load Series of Components

If you want to load a series of components for your clock (for example, the face, hour hand, minute hand, second hand etc.), choose **Load Series of**

Components from the *File* menu and then select each image as described
above.

Exit

Closes the Clock Builder program. If you have an unsaved image, you will be
prompted to save it before exiting.

Edit menu

Cut
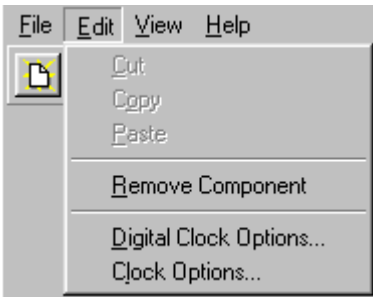
This option is unavailable.

Copy

This option is unavailable.

Paste

This option is unavailable.

Remove Component

Removes the displayed component from the clock structure.

Using **Next**, **Previous** or selecting from the component drop down box displays the component in the main screen. Select *Edit* then **Remove Component** to delete the graphic.
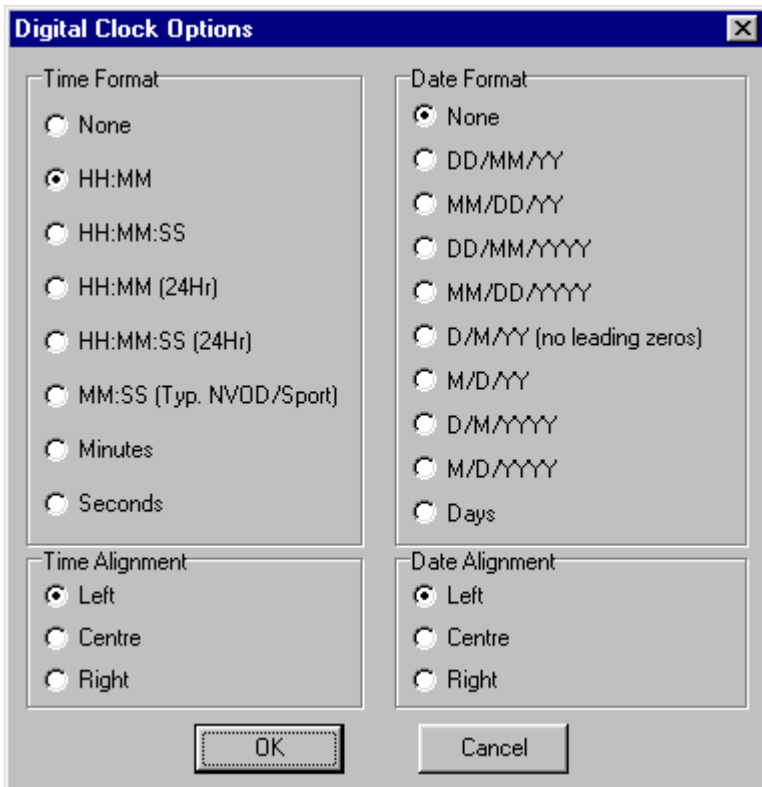
Digital Clock Options

This option is only available when constructing a digital clock.

To display the *Digital clock options* window select *Edit* then **Digital Clock Options**.

A large number of digital clock formats are available. For example:

♦   12 and 24-hour formats
♦   formats with and without seconds displays
♦   several date and time/date formats
♦   different separtor images for time and date (for example, 12/12/00 12:00:45)
♦   time and date strings displayed in separate positions on the clock face
♦   **separate** time and date strings which can be left-, right- or centre-aligned (to allow a fixed reference position on the clock face)
♦   **no** time or **no** date format
♦   a large range of date formats (for example, four-digit year)

Click in the radio boxes next to the required options then click **OK** to continue or **Cancel** to abort.

Digital Clock Options

Time Format
- ○ None
- ⦿ HH:MM
- ○ HH:MM:SS
- ○ HH:MM (24Hr)
- ○ HH:MM:SS (24Hr)
- ○ MM:SS (Typ. NVOD/Sport)
- ○ Minutes
- ○ Seconds

Date Format
- ⦿ None
- ○ DD/MM/YY
- ○ MM/DD/YY
- ○ DD/MM/YYYY
- ○ MM/DD/YYYY
- ○ D/M/YY (no leading zeros)
- ○ M/D/YY
- ○ D/M/YYYY
- ○ M/D/YYYY
- ○ Days

Time Alignment
- ⦿ Left
- ○ Centre
- ○ Right

Date Alignment
- ⦿ Left
- ○ Centre
- ○ Right

[OK]   [Cancel]

Clock Options...

This option is available for both Analog and Digital clocks.

To display the C*lock Options* window select *Edit* then **Clock Options**.

From the *Clock Options* window you can:

♦   select a clock type.
♦   position the clock using *x* and *y* coordinates.
♦   adjust the key parameters, clip, gain and transparency levels.
♦   change the key source (separate, self or none)
♦   change the key type (full or linear)
♦   change the key invert (normal or inverted)
♦   change the timing modes (timer rate, timer start time, countdown to and offset)

Clock Types

Time-of-Day

Time-of-day clocks are conventional clocks which show the current time-of-day. In Bugclock systems, this is derived either from an incoming LTC or VITC timecode feed or from the Imagestores internal battery-backed clock.

Timer

Timers are time displays typically controlled from GPI trigger signals. Timer clocks can have rate and duration (Timer Start Time) set in Clock Builder. The rate is positive for count-up timers and negative for count-down timers. Rates can go from 1% to 200% to allow for clocks which count at non-realtime rates. GPI triggers can be used to stop, start and reset timers.

Time-of-day countdowns

Time-of-day countdowns are typically used to display time remaining until a particular event. They could, for example, be used to show hours, minutes and seconds until a particular event or the number of days to Christmas. In the Timing Modes section select the date (Countdown to) and time.

Clock Position

X Position

Sets the on screen x coordinate

Y Position

Sets the on screen y coordinate

Key Parameters

Key Invert

Normal	white is keyed image/black is transparent
Inverted	black is keyed image/white is transparent (that is, inverse of normal)

Key Source

Separate	uses image alpha/key channel (only available if image has key channel)
Self	uses iamage-luma signal to generate key
None	uses full screen of white as key (unless cropped)

Keying Type

Full	standard keying mode
Linear	used to overcome problems with keyed edges (especially when using self keying)

CTG

Clip	range 0 – 1023 (default is 63) (anything below the displayed value is transparent)
Gain	range 0 – 1023 (default is 1023) (anything above the displayed value is fully keyed on)
Transparency	512 is completely opaque/0 is completely transparent

Timing modes

Timer Rate (%)

Set a positive rate for count-up timers and a negative rate for count-down timers. Rates can go from 1% to 200% to allow for clocks which count at non-realtime rates. 100% = realtime.

Timer Start Time

Sets the duration of the timer. To adjust the time, click the mouse on a pair of digits and either type in a value or use the up and down arrows.

A 30 minute timer would be 00:30:00.

Countdown to:

Sets a target date and time for the countdown the timer. To adjust the date, click the mouse on a pair of digits and either type in a value or use the arrow to the right of the field. This will open a calendar window.

To adjust the time, click the mouse on a pair of digits and either type in a value or use the up and down arrows.

This feature is useful for counting down the New Year or other memorable events.

Offset

Offset time for the clock. Useful for inserting delays or dealing with different time zones.

View menu

View Key

Shows the key image of the displayed component.

Preview

Previews the clock taking account of the x-y position and clock option settings.

Help menu

About

Select **About** from the *Help* menu to display details about the software version of Clock Builder. This box also contains a link to Miranda Technologies Ltd. web site at www.miranda.com

Building an Analogue clock

Once you have imported an analogue clock face you must set the reference point. The reference point is the point about which the clock hands rotate and would normally be the centre of the image. You can set the reference point by:

♦ entering numbers in the X and Y centre boxes in the right-hand pane. As you enter numbers or adjust them with the arrows a crosshair will be shown on the face.

♦ dragging the cross hairs into the correct position. Point at the appropriate line (cross hair), press and hold down the left mouse button, drag the line to its new position using the mouse and then release the mouse button.
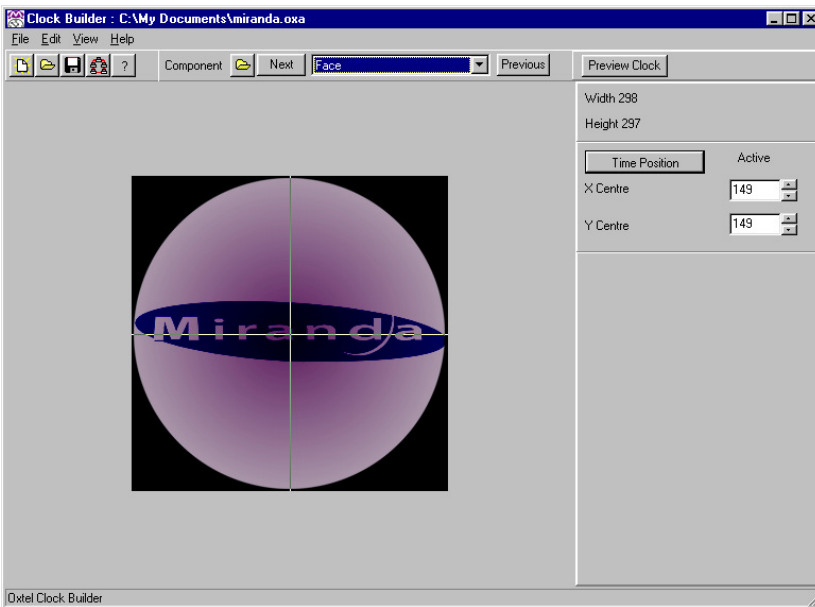
You can now import the remaining components, hour hand, minute hand and an optional second hand. Set the reference point for each component. The reference points for the clock hands should be the point about which the hands rotate.

Note   The clock hands must be drawn in a 12:00:00 (vertical) position and they must have an associated Key layer .

You can view the key of a component by choosing **View Key** from the *View* menu. The image will be transparent where the key is shown as black and opaque where it is shown as white. Anti-aliased *soft* keys with many shades of grey are essential for broadcast-quality images.

At any point the clock can be previewed to check the effect of the keying and alignment. The previewed clock is shown, as it would appear over a white background. For example:

Building a Digital Clock

Digital clocks are constructed in a similar way to analogue clocks, but instead of hands, the additional components are the digits, 0 - 9 and a separator.

When a digital clock is selected, an extra box becomes visible on the main screen showing the digit and time separator widths.
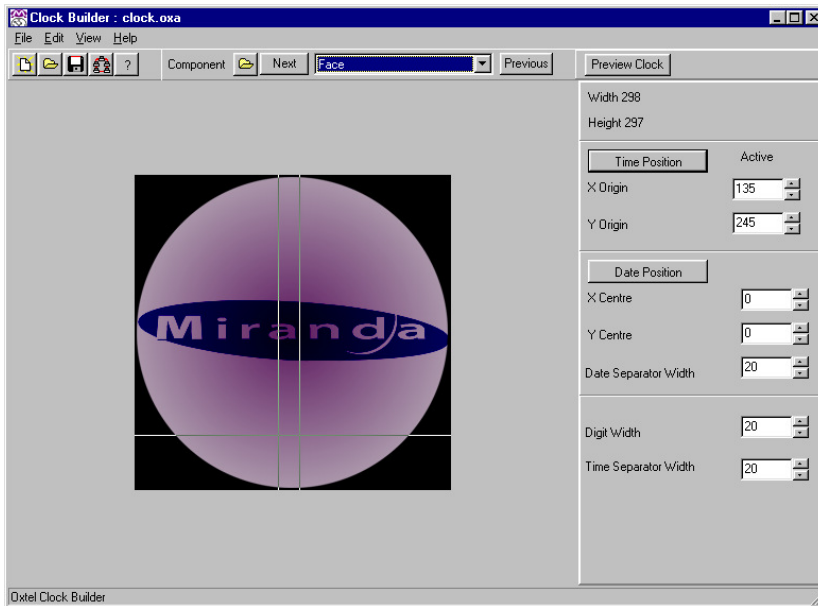
The reference points for each digit should typically be set to the bottom left of the digit. The crosshairs adapt with digital clocks to show the character width as well.

The reference point for the face of a digital clock determines where the digits are aligned. With left alignment the reference point of the first digit will be aligned to the reference point of the clock face.

Special-purpose formats useful for timers and countdown clocks include an MM:SS format and Seconds and Days only.

The alignment options determines how the clock digits are drawn relative to the reference point on the clock face.

Separate date format options (see above) are only supported on the following Imagestore versions:

♦   IS2V1 versions 1.20 and above
♦   IS2V2 versions 2.08 and above

If you select a date format for your clock (see the *Digital Clock Options*), a *Date Position* box is subsequently displayed on the main screen.

Alternate Faces

For digital clocks only, an extra component, the *Alternate Face* is available. If an image is imported for this component, then the *Face* component is used for even-numbered seconds and the *Alternate Face* for odd-numbered seconds. This allows clocks with flashing colons, or other similar features to be produced.

Previewing Clocks

You can display a live preview of the clock you are currently building by:

♦ clicking on the **Preview Clock** button
♦ choosing **Preview** from the *View* menu

Digital and analogue clocks will be previewed fully functioning, showing correct time and display formats, etc. The required video mode can be selected from the options at the bottom of the window. You can also change the colour of the background to the clock by clicking on the **Colour** button.

Note that because the preview is automatically sized to fit the window, the resolution of the preview may be either higher or lower than actual playout.
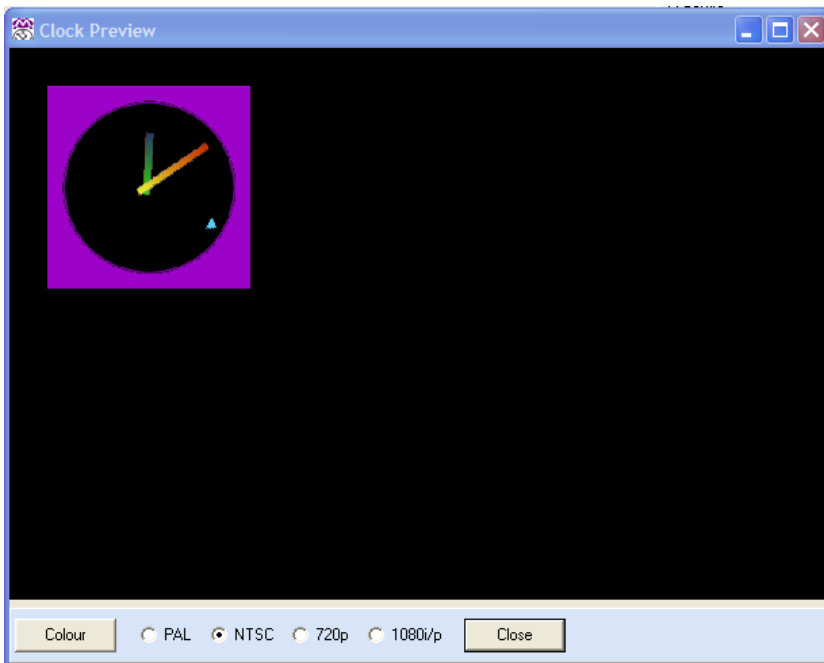
Audio Builder 2

The Miranda Technologies Ltd. Audio Builder 2 software is a MS Windows XP and 2000 compatible program, which allows the user to load, modify and save Miranda Technologies Ltd. audio format wave files.

Once converted to the Miranda Technologies Ltd. audio format, files can be saved to floppy disk or transferred via a network to a Miranda Technologies Ltd. Imagestore fitted with Easyplay or a Playstore fitted with Playsound.

There are two types of audio file which are used on the two different generations of Imagestore. OXW files are 2 channel audio files which work on the Imagestore 2/3 range fitted with Easyplay. OXE files are multi-channel (up to 8) audio files which work on the Imagestore 300/Imagestore HDTV range fitted with Easyplay.

Audio Builder 2 was produced to work seamlessly with both OXW files and OXE files.
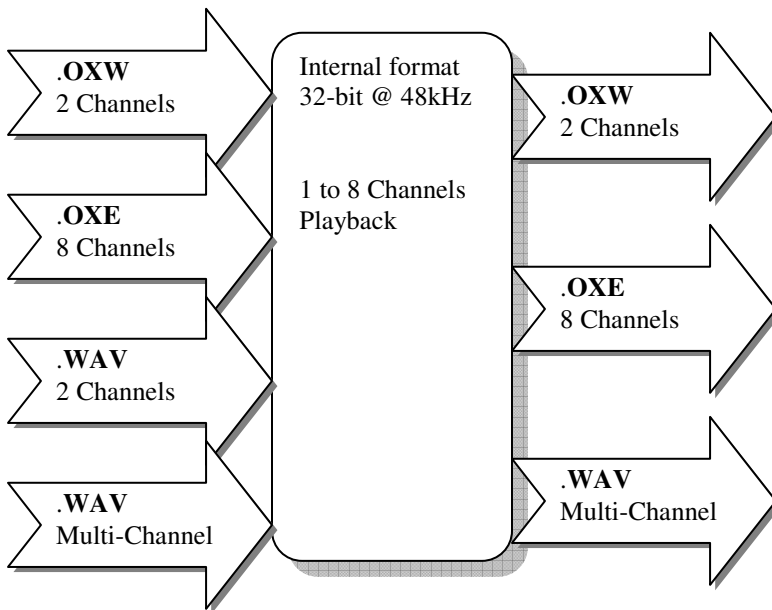
Audio Builder Functions

1. New streaming architecture allows for very long audio clips to be created and played back (up to 7.1 channels).
2. Load .OXW and OXE format audio files
3. Load a wide range of compatible .wav and multi-channel .wav files
4. Save .OXW and .OXE format audio files.
5. Drag and Drop files from outside the application.
6. Save multi-channel .wav format audio files.
7. Modify loop property of .OXW and .OXE Format
8. Play and rewind audio files
9. View the properties of current audio setup.

10. Send Miranda Technologies Ltd. audio files over a network to an Miranda Technologies Ltd. Imagestore or Miranda Technologies Ltd. Playstore

11. Compress Miranda Technologies Ltd. audio files to floppy disks (OXW files only)

Audio Builder 2 file formats

Files it will Import   Files it will Export

.**OXW**
2 Channels

.**OXE**
8 Channels

.**WAV**
2 Channels

.**WAV**
Multi-Channel

Internal format
32-bit @ 48kHz

1 to 8 Channels
Playback

.**OXW**
2 Channels

.**OXE**
8 Channels

.**WAV**
Multi-Channel

The native internal format is 32-bit 48kHz audio. If a .wav file is loaded which does not have a sample rate of 48kHz, the software will attempt to convert it using built in Windows Audio Codec's. Please note that the software will not attempt to convert multi-channel wave files.

Starting the program

Double click on the Audio Builder icon or use the
Start, Programs, Miranda MCS option.

Audio Builder

The main screen will now be displayed.

Channel List


Tick a channel
box to hear during
playback
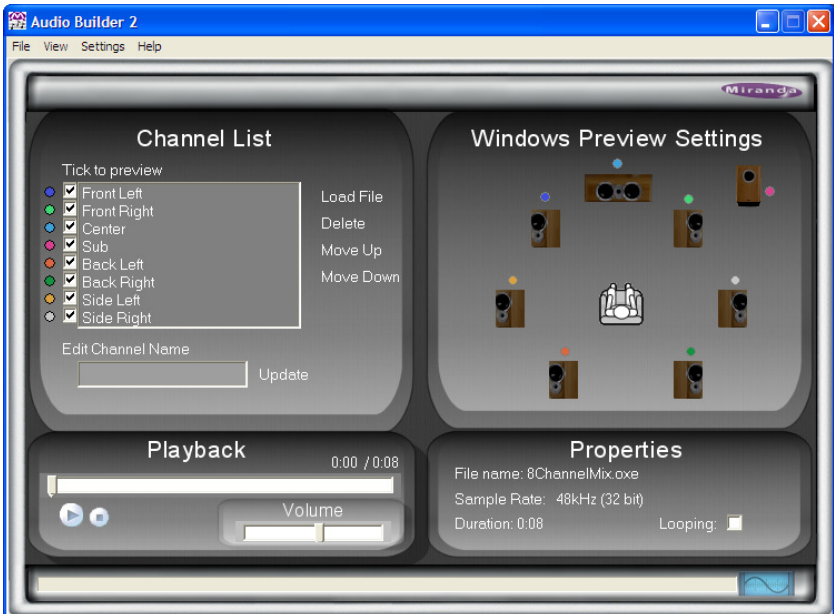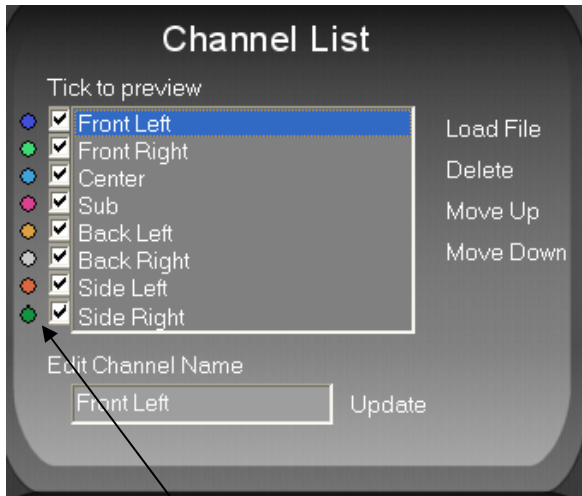
- ♦ Load File
- ♦ Delete
- ♦ Move Up
- ♦ Move Down

The channel list is used to build up an audio file. A maximum of up to 8 channels are allowed in the list. The .OXW file format only supports 2 channels therefore a warning is given to the user if trying to export any more than 2 channels to an OXW file. The order in which the channels are laid out can be modified using the move up, move down and delete buttons. The order specifies the order in which the channels are presented to the Imagestore.

The user can drag and drop files from outside the application into the Channel List as quick way of loading files.

Properties

The properties area shows the total duration of the current audio file. The duration is calculated as the maximum duration of the longest audio channel. The looping option is used for looping the audio clip on the Imagestore and during playout on the PC.
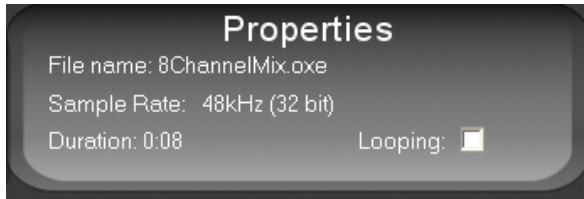
Playback

The Playback section allows you to playback selected channels.

♦ Plays/Pause file (from current playout position)
♦ Stops file (rewind)
♦ Adjust Master Volume
♦ Adjust Playout position

The horizontal slide bar tracks the play-out position of the loaded file. When a file is loaded an adjustment of this bar enables the user to easily review parts of the audio file by dragging the bar to a desired position and pressing play.

The slide bar can also be reposition during playback, however due to buffering of the audio data it may take a few second to seek to that position in the file. Note that the playback position will only be modified when the mouse button is released.

During playback channels can not be modified in any way. The user must pause or stop playback before attempting to modify the channel list. The program can not be exited during playback either.

Windows Preview

Each channel can be dynamically assigned to a speaker destination for previewing under Windows. The speaker assignment has no affect on how the file is played out on the Imagestore; it is purely for preview purposes. When selecting a channel for playback, a single speaker can not be used twice. For example if playing back a 4 channel file, each channel must be assigned to a unique speaker. This means if you have 4 stereo channels, you will only be able to playout one stereo channel at a time. In order to increase playback compatibility the playback bit depth is currently set to 16 bit. If a higher playback resolution is required please send a request to the support staff at Miranda.

File menu
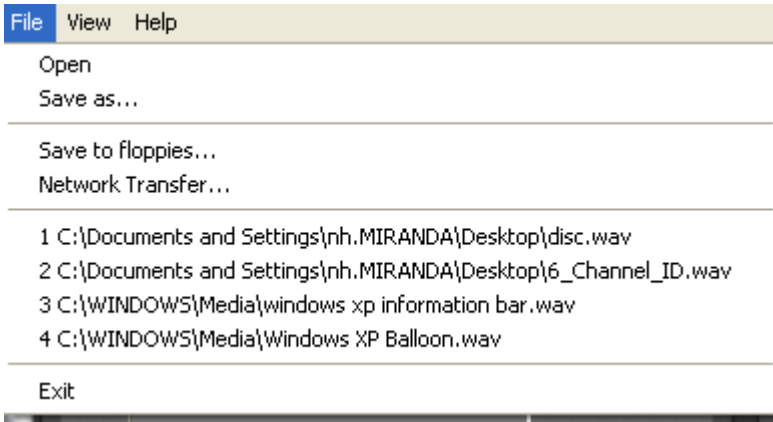
Open

Brings up the *File open* dialog box. The *Files of Type* drop-down box can be used to view available files with the following filters:

1.   All audio files OXW, OXE and WAV.

2.   Imagestore 2/3 files OXW.

3.   Imagestore 300/HD files OXE

4.   all files

Once a file has been selected, pressing **Open** will load it into Audio Builder. All .WAV file formats can be opened for playing.

Save as

Brings up the *File save* dialog box. This can be used to save the file in the desired format. Note that OXW's are only capable of holding 2 channels. If saving to a .wav format regardless if the file is 2 channels or less, it will be saved as a multi-channel wav file. Some old software may not support the

multi-channel wav format, but applications such as the latest Windows Media Player will.

Save to floppies

Stores a compressed audio file to one or more 1.44MB 3 ½' floppy disks. When selected, a dialog box will appear indicating the number of floppy disks required for the save. To initiate the save, click **Start Copy**. A second dialog will appear asking if the destination floppy disk is to be erased before the copy. Clicking **OK** will continue with the save. This function is only available when an .OXW file is loaded (see *File Transfer* below). Please note that the Imagestore 300/HD do not support loading of Easyplay files from Floppy disk.

Network Transfer

Allows the user to send audio files to remote Miranda Technologies Ltd. equipment which is configured on a network. When selected, a dialog box will appear with a drop down box listing all the possible destinations for the file. This list is derived from the *hosts* and *units* text files (see *File Transfer* below). Once a destination is selected, pressing **OK** will send the file.

1 2 3 4

As with other windows applications the last 4 edited files are listed for ease of access.

Exit

Exits the Audio Builder application, prompting the user to save any unsaved files. Note you can't exit while the application is playing.

View menu
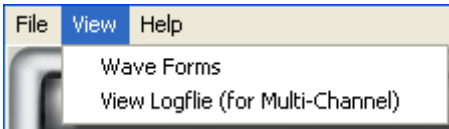
Wave Forms

The wave form view gives a graphical representation of the audio data of each channel. It can be used to check the data is not being 'clipped' which will cause distortion during playback. It can also be a good to check if there is any noise during silent passages. For viewing multi-channel files it will make the user aware of the timing and levels between the different channels.
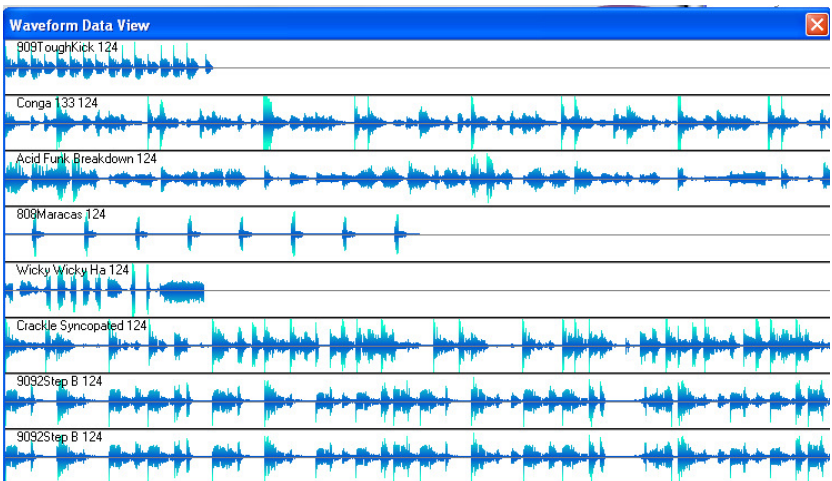

The graphical view is not designed to be a wave editing tool, however you can adjust the level of each channel. This means if one channel is louder than the other channels you can reduce it slightly. The adjustment menu is selected by right clicking on the channel you wish to modify. The

adjustments are done in percentages. You can either increase or decrease the level of the channel. When selecting the level adjustment, it is permanent, there is no undo operation.

View Logfile (for Multi-Channel)

The log view contains information and error messages when processing audio files. If Audio Builder has a problem performing an operation it will log it to the log view.
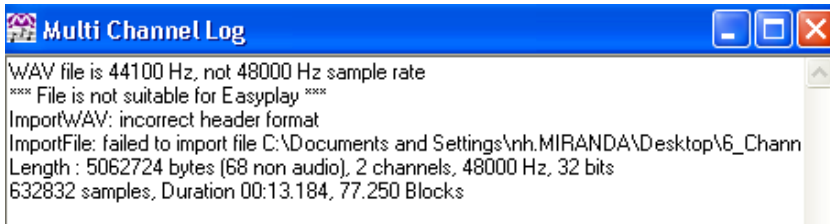
Settings menu

Select Audio Device (Sound Card)

Selecting this option displays the Device Selector window:
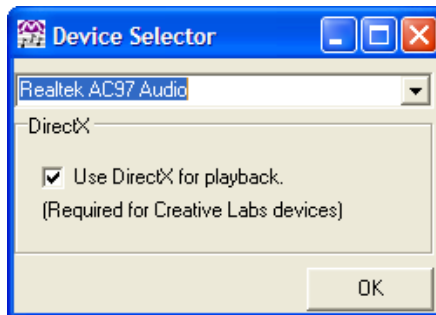
Use this window to select which of your installed audio devices you wish to use for preview playout, and whether you wish to use the DirectX playout option. The latter is required if you are using one of the Creative Labs sound cards.

Help menu

About

Shows the Audio Builder *About* box with a link to the Miranda Technologies Ltd. Home Page at www.miranda.com along with the version number.

Compatibility Issues

If the PC does not have a sound card with multiple outputs then sound card driver may down-mix to a stereo output. Normally when this happens the other channels are played back at a reduced volume (you may not be able to hear them). If you have two sound cards installed, the volume control will only alter the volume on first sound card it finds. If this is a problem it is recommend that you disable the sound card that you are not using.

Previewing using Dolby Digital

Some sound cards support encoding their multi-channel output to a Dolby digital signal. Below is screen shot of an NVIDIA sound card, which does not support Dolby Digital output (the option is greyed out).
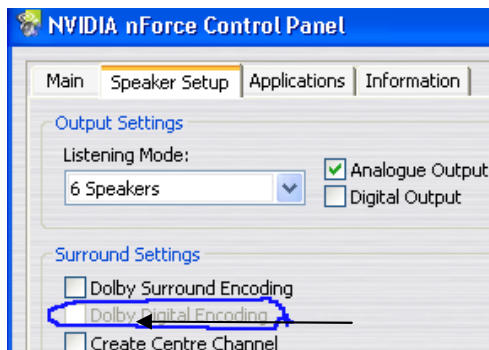
Multi-Channel Playback on Imagestore 300/HD

How each channel gets mapped to groups within the embedded output or the AES outputs is down to the mix-file within the Imagestore. Audio Builder has no way of configuring the mix-file it just lays the channels out in a numbered list 1-8. Also the Meta data contained within the OXE file is unused by the Imagestore.

Batch converter

The Batch Image Converter software is a utility to convert industry standard graphical file formats into Miranda Technologies Ltd. .OXT files.

A further option to resize the image to a user-defined size is also available. This option can also be used to resize existing .OXT files.

Starting the program

Double click on the Batch Image Converter icon or use the Start, Programs, Miranda MCS option.
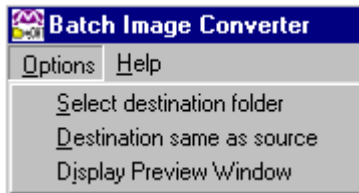
The main screen will now be displayed.
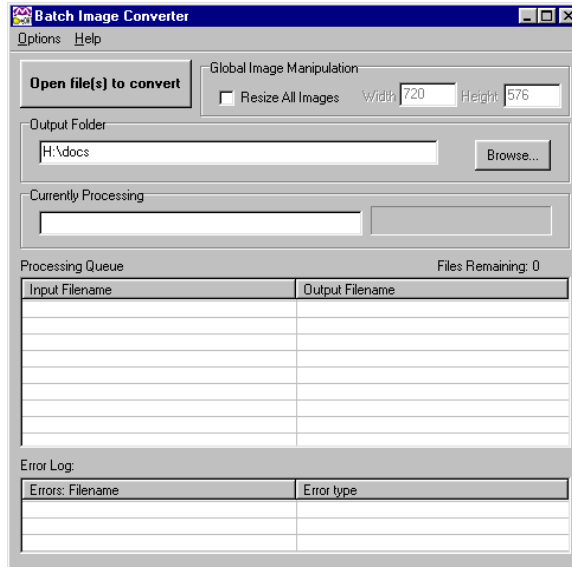
Output Folders

Before selecting files to convert check the entry in the *Output Folder* section of the main screen as this is where all converted files will be stored.

Select Destination folder

To change the output folder either:

♦   click on **Options** then **Select destination folder**, or

♦   click on the **Browse** button.
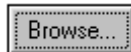
The *Select folder* window will then be displayed.
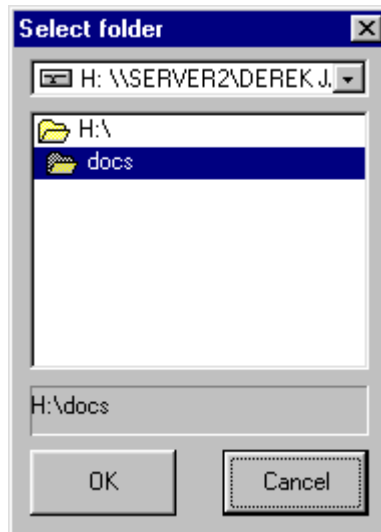
Use the drop down box at the top of the screen to locate and select a different folder.

Press **OK** to continue or **Cancel** to abort.

Note: New folders cannot be created from this window. If you require a new folder generate it in Windows Explorer first.

Destination same as source

If you want the converted files to be stored with the original graphics select **Options** then **Destination same as source**.
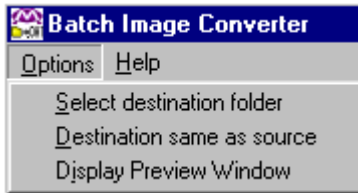
This will automatically set the output folder to match the source. The *Output Folder* section of the main screen will be greyed out indication that this feature is selected. To turn the option off, de-select it from the **Options** window.

Note: This option will only work providing the source folder is NOT write protected. For images supplied on CD's copy them onto your PC first.

Converting Files

Having selected an output folder the next stage is to select the files to convert.

Opening files

To select the files click on the **Open files(s) to convert** button.

Open file(s) to convert

Use the *Select files(s) to convert…* window to locate and select the files.
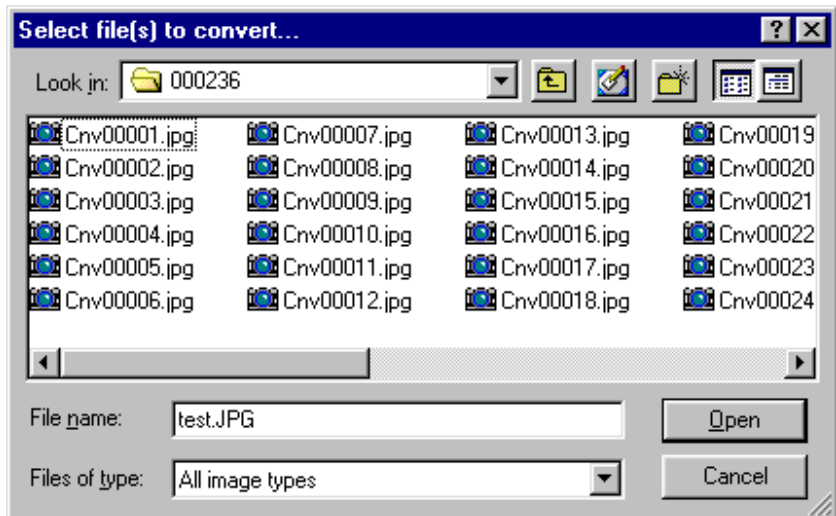
Select the image(s) to be converted then click **Open** to proceed or **Cancel** to Abort.

Processing Queue

The selected images are added to the *Processing Queue* shown in the main
screen and file conversion will begin automatically.
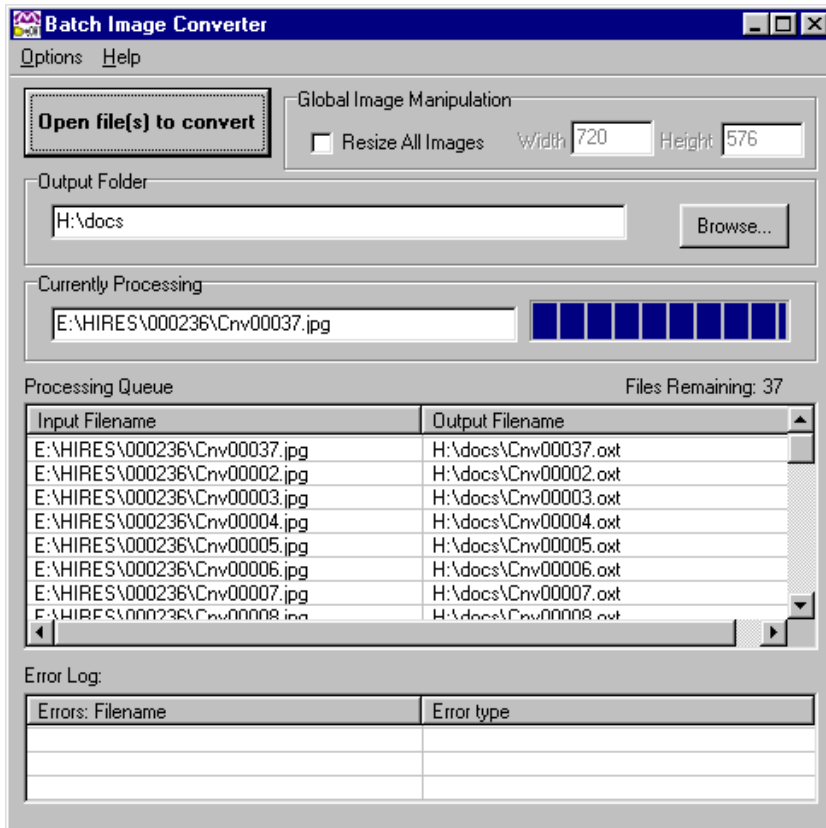
Each file is identified by its source location and filename (input) and
destination location and converted filename (output).

Currently Processing

The file at the top of the processing queue is also listed in the *Currently Processing* section along with a progress bar. When the progress bar reaches the right hand edge of the box the file conversion is complete and the entry is removed from the list. The *Files Remaining* counter will count down as the files are processed.

Error Log

In the event of errors being detected whilst converting a file, a description of the fault will be listed in the *Error Log* section and the conversion will not complete successfully.

Errors: Filename	Error type
H:\manuals\Miranda manuals\Batch Image C...	Error loading source file

Identify and fix the error before converting the file.

Image Preview

To preview a file whilst converting, select **Options** then select **Display Preview Window.**
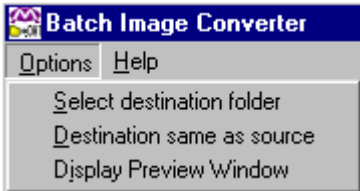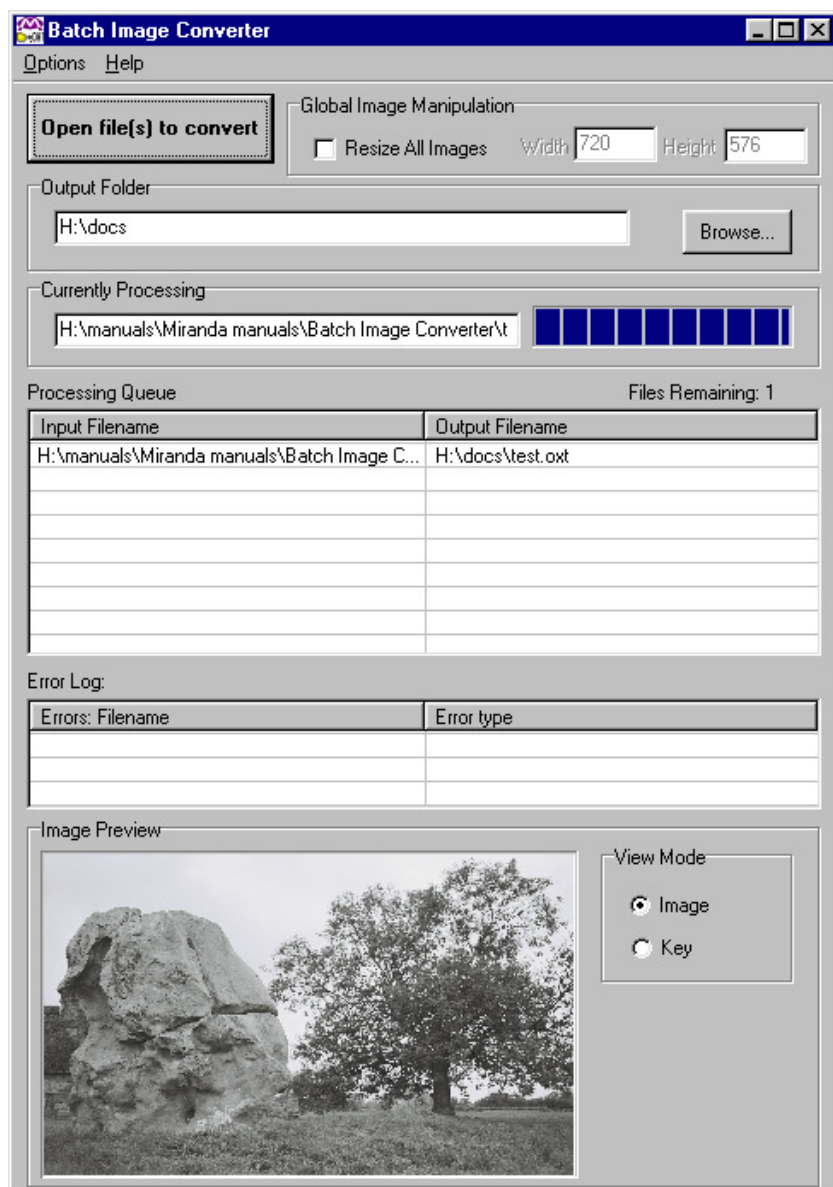

The preview section will now appear at the bottom of the main screen.
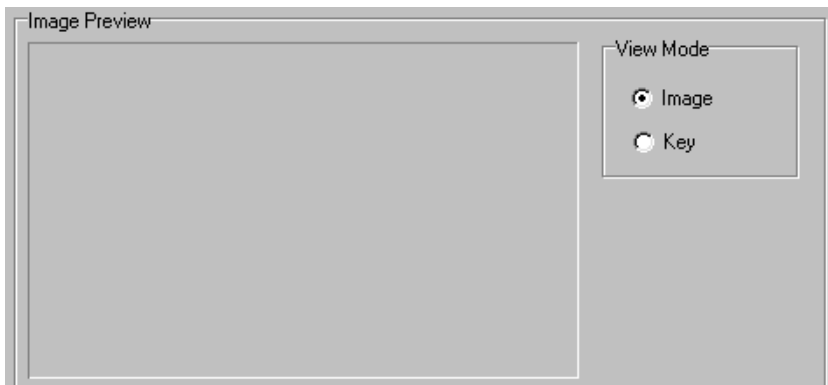
View Mode

Files can be previewed as image or key. The key image can only be viewed providing the file has one.

Global Image Manipulation

The default images size for file conversion is 720 x 576 pixels, which is the default size for PAL broadcast. If your broadcast standard is different you will need to set the pixel size to the following:

Format	Width	Height
PAL	720	576
NTSC	720	486
HD	1280	720
HD	1920	1080

Click in the **Resize All Images** check box then type in the new pixel values before converting the files.

Clip Builder

Clip Builder is a software package supplied on the MCS CD to:

♦   enable transfer of MPEG video clips to Clip-on
♦   create the Imagestore .clp reference thumbnail file

Open MPEG Clip

Click on the **Open MPEG Clip** button to locate the MPEG file on either
your local drive or elsewhere on the network. Once loaded the file details will
be listed below the thumbnail image. These include file name, resolution and
number of frames.

Load Thumbnail

To associate a thumbnail image with the loaded MPEG clip, click on the **Load Thumbnail** button. Use the *Open* window to locate a .bmp on either your local drive or elsewhere on the network. A preview of the selected bitmap will be shown in the preview panel. The thumbnail image is useful for identifying MPEG clips and will be displayed on the Presmaster 100 touchscreen and in Polyphoto mode. If no bitmap is associated the system will use the default cine camera icon as on the previous page.

End Mode

Click on one of the following to select the appropriate End Mode:

Loop

Constantly repeats the clip.

Freeze Frame

Stops the clip on the last frame.

Cut Keyer Down

Cuts the keyer down when the clip finishes.

Fade Keyer Down

Fades the keyer down when the clip finishes.

Call Next Clip

Use this option start another clip when the current one finishes.

To view the clips held on the Imagestore click on the browse button

Black

Ends the clip with a black frame.

Voice Over

Do Not Use Voice Over

Use this option if the clip has no associated audio or you do not wish to hear it.
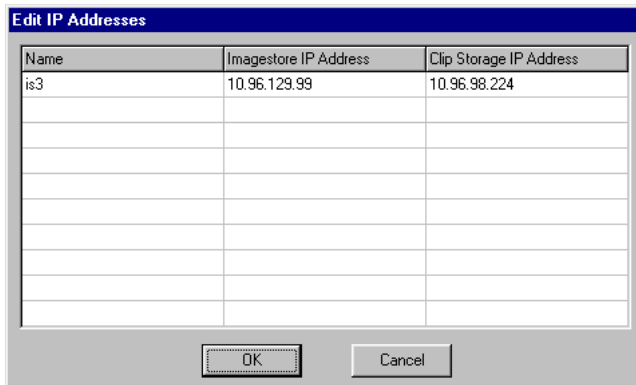
Use Voice Over

Use this option if the clip has associated audio you wish to hear.

Transfer

Before transferring a file, make sure the target machines are selected and the IP addresses are correctly set.

To enter the IP addresses click on **Edit** then **IP Addresses** from the menu bar.

Edit IP Addresses		
Name	Imagestore IP Address	Clip Storage IP Address
is3	10.96.129.99	10.96.98.224

OK   Cancel

Enter the details of the units then click **OK** to continue or **Cancel** to abort.

To transfer both the MPEG clip and the thumbnail image click on the
Transfer button.

To abort the transfer, click on the **Abort Transfer** button.

DVE Editor

The DVE Editor provides the tools to create and control the playout of DVE sequences. The editor connects to the Imagestore via the network and uses automation commands to control it. The automation commands are available on request if the user wishes to implement their own software control panel for it. In order to run the software you will need a networked Windows PC and of course an Imagestore with appropriate hardware and software.

Connecting to the Imagestore

To connect to the Imagestore you will need to type in the IP address of the Imagestore, and click **Connect to Imagestore**. The editor will remember the IP address of the Imagestore so you will not have to re-type it in next time you start the application.

Click to make the connection

You can find the IP address of the Imagestore by looking under the 'Set-up->System Information' option on the front panel of the Imagestore.
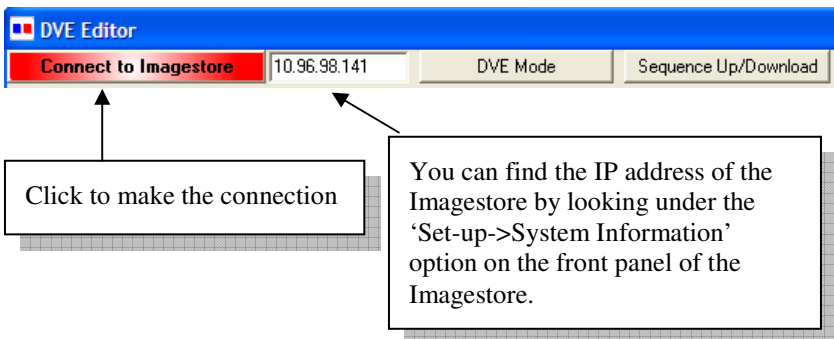
The Connect button changes colour to indicate the current connection state:
>   Red – Not connected to an Imagestore
>   Yellow – Attempting a connection
>   Green – Connected to an Imagestore

DVE Modes

Imagestores can be operated in several different modes which affect how the
video is routed through the system. An appropriate mode must be selected in
order for the DVE to be visible on the output. The modes can either be set
from the editor or from the Imagestore's front panel. For details of using the
front panel, please refer to your Imagestore manual. To set the mode from the
editor, press the **DVE Mode** button. This will bring up the mode options that
are appropriate to the Imagestore model you have connected to.

Imagestore 2 / 300 DVE Modes

In order for the DVE to operate, the Imagestore has to be in Cascade mode
and not the Swap-Preview mode. You can check what mode it is in by using
the front panel and going to 'Setup -> System Setup -> Cascade/Swap-Pvw'.
It should display 'Cascade'. If it is not in Cascade mode, the DVE options
will not operate or appear on the front panel menu.

DVE Bypass

The DVE is not enabled and no delays are added to either video or audio.

DVE None
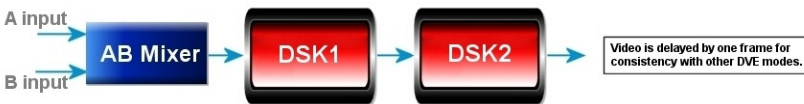
Although the DVE is not enabled, both video and audio are delayed by one
frame.

DVE(A + B) over DSK1
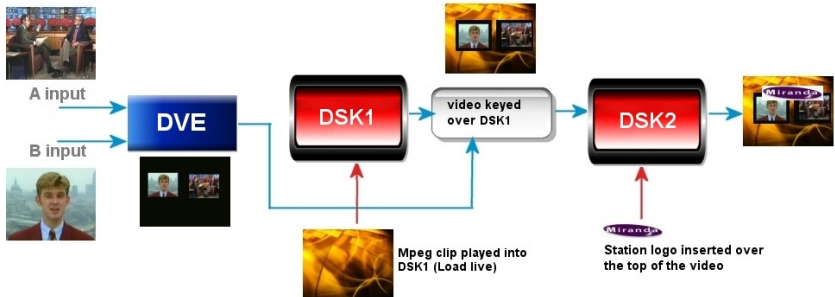
The DVE uses the A and B inputs and is keyed over DSK1. On the front panel, this mode is "A B over DSK1".

DVE(ABMix + B) over DSK1

The DVE operates on AB mix and the B input and is mixed over DSK1. On the front panel, this mode is "AB Mix B over DSK1".
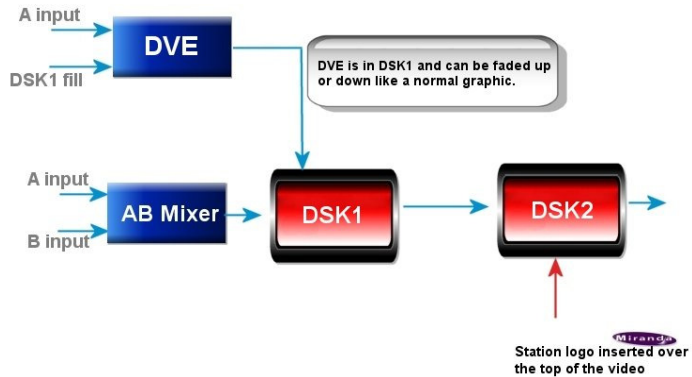
DVE(A + B) into DSK1
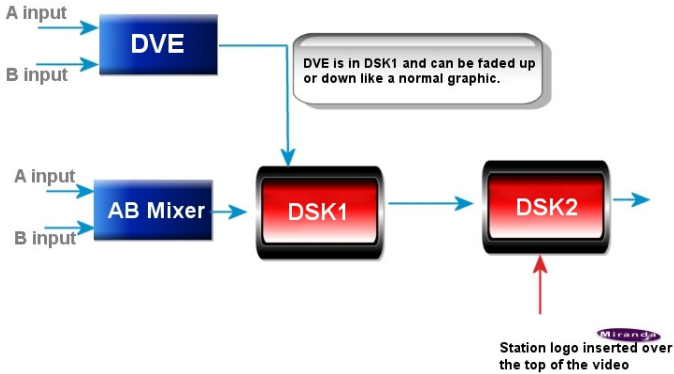
The DVE operates on the A and B inputs and is keyed as DSK1. On the front panel, this mode is "DSK1: A B".
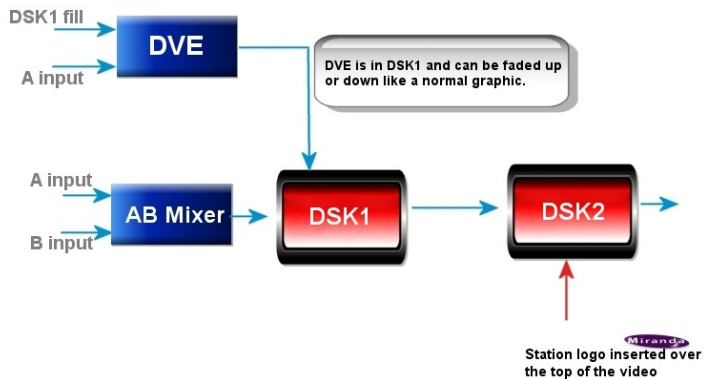
DVE(B + A) into DSK1
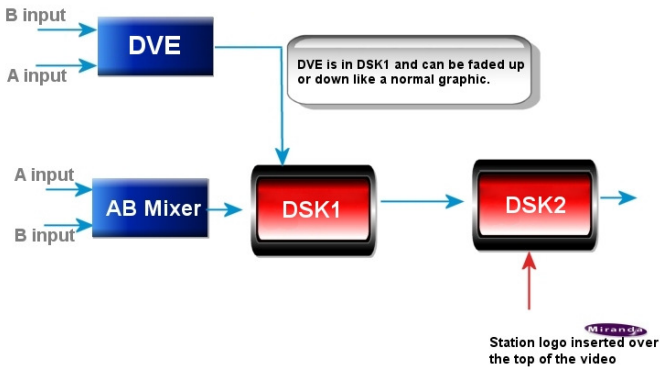
The DVE operates on the B and A inputs and is keyed as DSK1. On the front panel, this mode is "DSK1: B A".

DVE(A + DSK1) into DSK1

The DVE operates on the A input and DSK1 fill and is keyed as DSK1. On the front panel, this mode is "DSK1: A DSK1".

DVE(DSK1 + A) into DSK1

The DVE operates on DSK1 fill and the A input and is keyed as DSK1. On the front panel, this mode is "DSK1: DSK1 A".

DVE(A + B) behind DSK1

The DVE operates on the A and B inputs it replaces the AB Mixer. On the front panel, this mode is "Behind".

Imagestore HD DVE Modes

Imagestores HD currently provide 4 different modes. Over time more modes may get added so it is worth checking the Miranda website for Imagestore HD software updates.

Bypass

In Bypass mode no DVE circuitry is used and the video passes straight though the input router to the AB mixer.

DVE None

In this mode the DVE is in circuit but no video processing takes place. This mode simply delays the video and audio by one frame. The delay in this mode is exactly the same delay as for the DVE modes which perform video rescaling. The idea being that the modes which require video scaling can be switched to and from DVE None without the video/audio jumping by a frame.
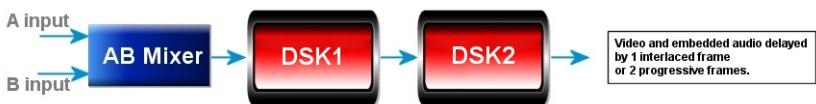
DVE over DSK1

In this mode both A and B video can be resized over the top of DSK1 Fill, from store or fill input. The processing delays the video and audio by one frame. Unlike the Imagestore 2/3, a separate audio processing board is not required to delay the embedded audio. This mode is ideal for having a dual squeeze back over an Easytext template or a full screen still.
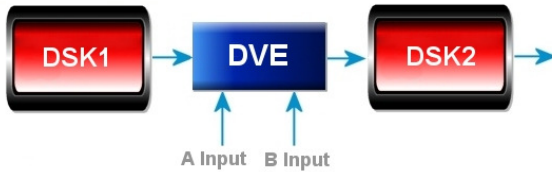

AB Mixer (A over B or B over A)

The DVE replaces the AB Mixer. In this mode the DVE can resize the A and B video channels and place them on top of each other. The layering of the video is controlled via the DVE editor.

Imagestore 750 DVE Modes

The IS750 has two separate DVEs, so as well as setting the appropriate DVE mode, it is important to select which of the DVEs the editor should control. The editor can control both simultaneously as well each one individually. Use the radio buttons at the top of the window to chose your required setting.
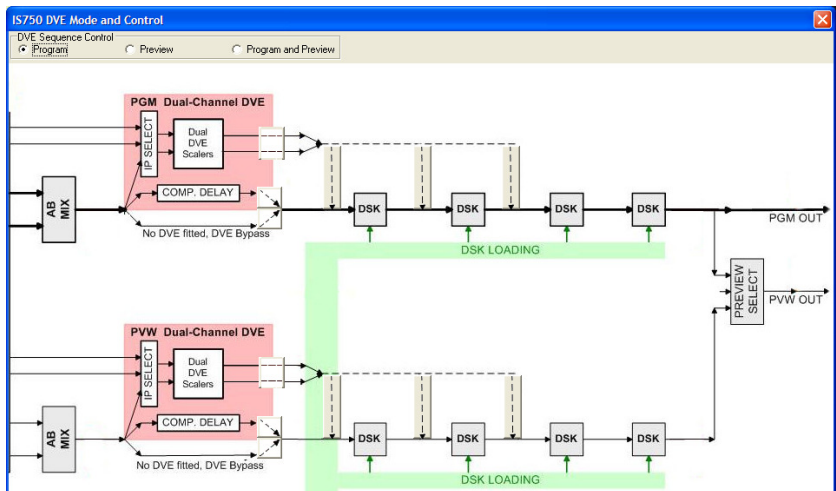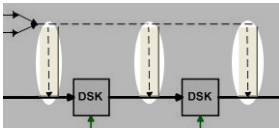

The DVE mode is combination of two separate settings:
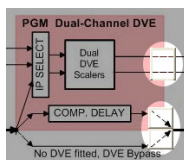
Use the three highlighted boxes to switch between:

- Bypass - the DVE is disabled and neither video nor audio are delayed.
- None (Delay) - the DVE is disabled, but both video and audio are delayed by 1 frame.
- Enabled - allows normal DVE processing. Video and audio are delayed by 1 frame.

 When the DVE mode is set to Enabled, you can use the three highlighted boxes to control the layering of the DVE output with the DSKs. The leftmost option puts the DVE behind all four DSKs, the next option puts the DVE above DSK 1, and the rightmost option puts the DVE above DSKs 1 & 2, but behind 3 & 4.
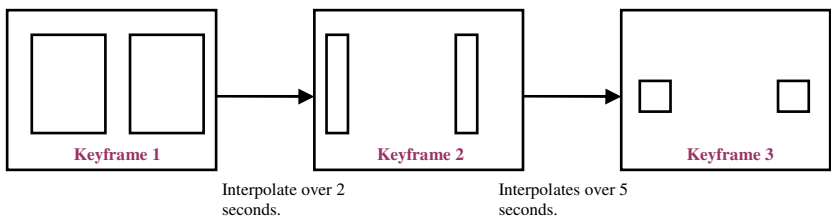
Sequences

To load a sequence for editing, simply click one of the numbered buttons. To play a sequence backwards or forwards you can use the arrow buttons. The Imagestore 2 / 300 DVE option comes with 70 built in sequences. The Imagestore HD and 750 DVE comes with 20.

> Sequence 0 is reserved for playing a sequence backwards. For example you could set up a GPI to play sequence 72, then another GPI to recall sequence 0 to play the sequence backwards.

What is a Sequence?

The DVE presets represent timelined sequences of user defined keyframes. Each keyframe contains all the information for that particular frame e.g. size of video, position, border information, etc. The DVE interpolates (morphs) between the keyframes over a user defined number of frames. Another term for this is *tweening*, because the card calculates the 'in-between' frames. There is a limit of a total of 25 keyframes which are shared between both channels of video. The following is an example of a 3 keyframe sequence which lasts over 7 seconds.

Keyframe 1   **Keyframe 2**   **Keyframe 3**

Interpolate over 2   Interpolates over 5
seconds.   seconds.

Saving the Sequence
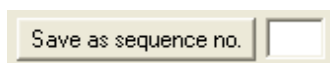
Whilst working with a sequence, all your changes are saved in a 'workspace'. If you load a new sequence or power off the unit, the workspace will be reset. Pressing either the play forward arrow or play backwards arrow plays the sequence stored in the current workspace. In order to commit the changes permanently you have to type in the desired sequence number and click the '**Save as sequence no.**' button.

Play Only Mode

☐ Play only   If you wish to use the editor purely to control the playout of sequences rather than editing them, then select the **Play Only** option. In this mode, clicking on a sequence number will immediately play the selected sequence.

Note that if this option is turned off, selecting a sequence automatically displays the first keyframe, so enabling this option is the only way to ensure continuous playout of DVE sequences.
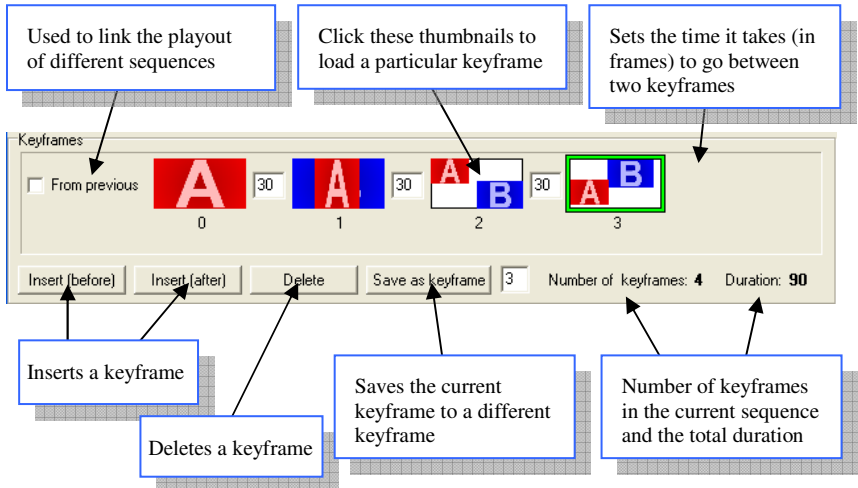
Saving and Loading From Disk

Load from disk   Save to disk   Using these options you can create sequences offline when you don't have access to an Imagestore, and later load them when an Imagestore becomes available. You can create and edit sequence keyframes in the usual way (see sections on "Keyframe Control" and "Keyframe Editing") and then use the **Save to disk** option to store it on your local hard drive or networked drive. If you then use the **Load from disk** option when connected to an Imagestore, the previously created sequence will be downloaded to the Imagestore and displayed for editing.

These options are currently only available when using HD and 750 models of Imagestores.

Keyframe Control

The Keyframes control panel gives you the ability to create, delete and save keyframes. After loading a sequence, the editor retrieves how many keyframes are in the current sequence and displays them.

Used to link the playout of different sequences

Click these thumbnails to load a particular keyframe

Sets the time it takes (in frames) to go between two keyframes

Inserts a keyframe

Deletes a keyframe

Saves the current keyframe to a different keyframe

Number of keyframes in the current sequence and the total duration

Thumbnails are currently only available when using HD and 750 models of Imagestores.

Keyframe Preview

This option is currently only available when using HD and 750 models of Imagestores.

On the right hand side of the editor is a preview window of the currently selected keyframe. Any changes to the keyframe will be reflected in the preview. In order to save the changes made you have to click the **Save** button. This will save the keyframe, but it won't be permanently saved until the sequence itself is saved (using the **Save as sequence** button).

The scaler is responsible for resizing the video.

The mask is used to mask off the video. Usually the mask is linked with the scaler. However it can be controlled independently for performing wipes.

Border position.

This window shows the combined output from the mask and the scaler. Any part of the scaler outside the mask, will masked off.

Selecting a Channel

When modifying various parameters such as video position/size you can specify which channel is affected.
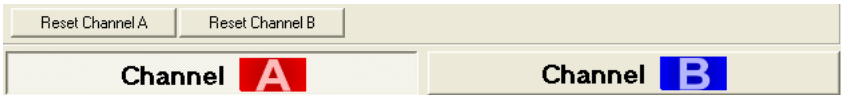
The '**Reset Channel**' buttons will reset the video to full screen and use default settings for other DVE options. Note that if both channels are full screen then one will be placed on top of the other depending on the layering.

Keyframe Editing

The following panel allows you to position, rotate (not applicable to all configurations), crop, re-size, layer the video, etc. The available options will vary depending on the model of the Imagestore that your are using. You can drag the slider bars to adjust each parameter. For fine adjustment use the up/down arrow boxes or type in required values directly. Reset option is also provided to restore each setting to its default value.
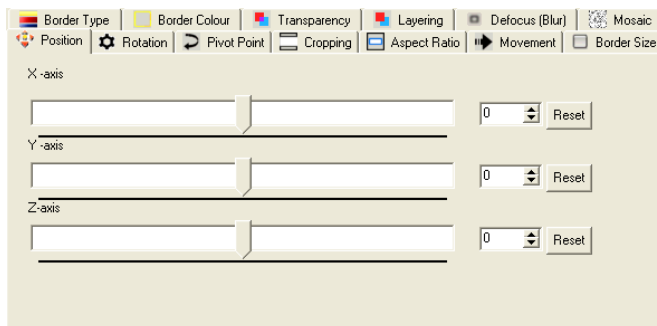
Imagestore 2 / 300 Panels

The following options are available when using Imagestore 2 or Imagestore 300 DVE options.

Position

You can position the video either along 3 axis. The following diagram should give you an idea of which direction the video will move when modifying the position. The best way to understand how it works it to use it in practice.
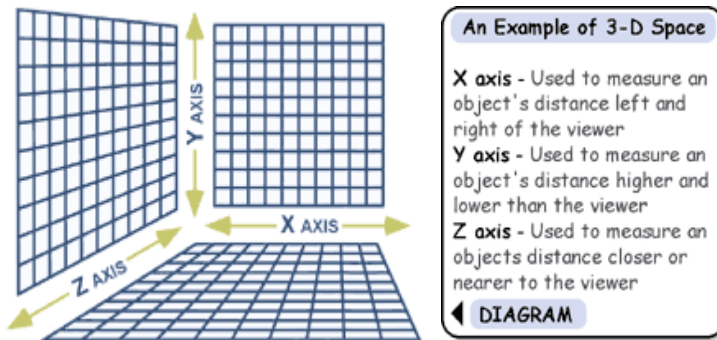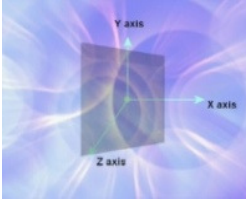
Rotation

The rotation panel work in the same manner as positioning. You adjust the sliders and the video will rotate in real time. The following screen grabs from the DVE show it rotating video around the three different axis.
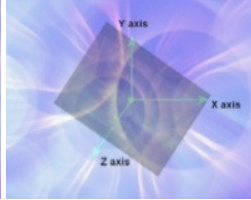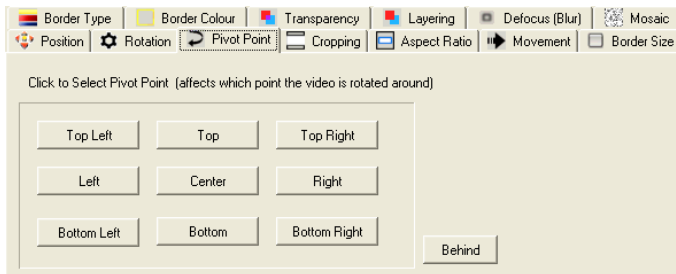
*Rotating around the **x-axis***   *Rotating around the **y-axis***   *Rotating around the **z-axis***
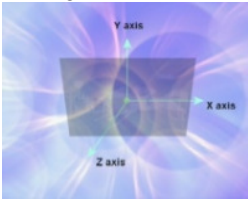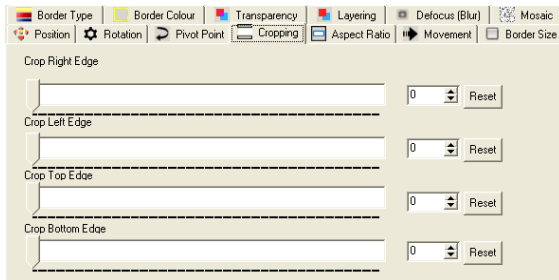

Pivot Points

The following panel allows you to select a point over which the video is rotated around. The default for the pivot is the Center point.
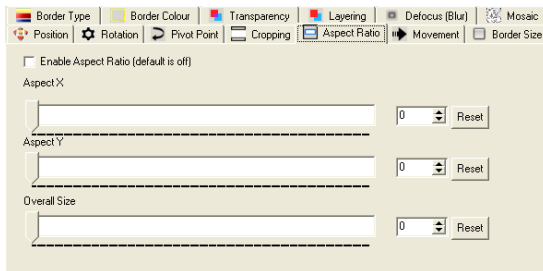
Cropping

You can crop the video 4 ways. When the sliding bars are full extent, the video will be fully cropped in that direction.
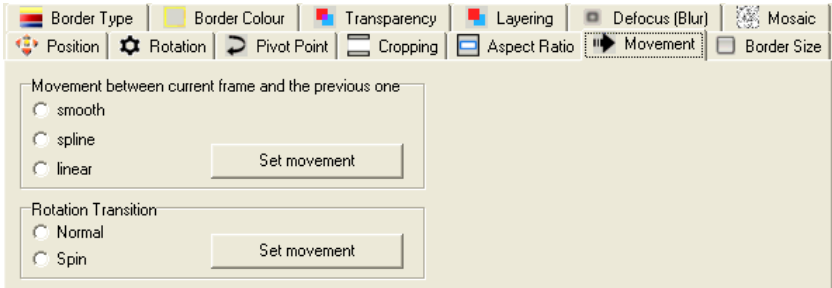

Aspect Ratio

If you wish to adjust the aspect ratio of the video or the overall size use the following panel:

An alternative to using this panel to adjust the size of the video is to position the video closer/further away on the z-axis.

Movement

Selecting the various movement options will change how the current
keyframe will be morphed from the previous keyframe. Experiment with the
values until get the desired result.

Border Size
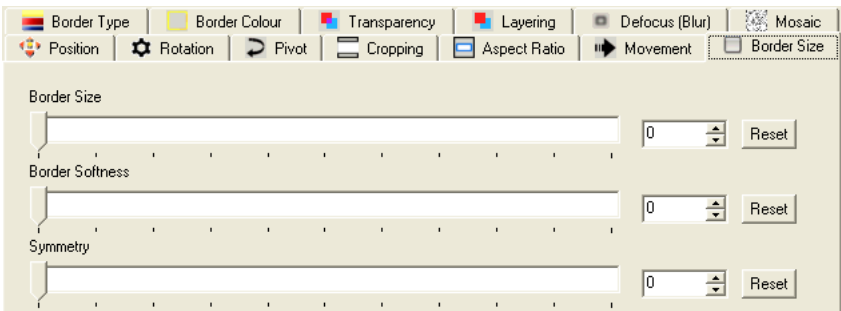
Use these options to enable the border effect and set its softness and
symmetry. Symmetry controls how the softness is applied to the border. If the
slider is at 0, the softness is applied to the outer edge. If the slider is at
maximum, the softness is only applied to the inner edge. The softness is
applied equally to both edges when the slider is in the middle.

Border Type
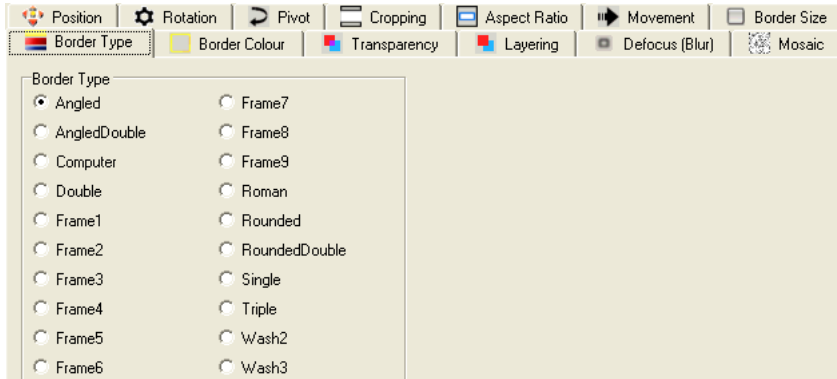
The DVE option comes with a number of predefined border effects. Use this panel to go through them and select the required option. To see the effects of the different presets more clearly, ensure that you select three different colours for the border. You can adjust the colours later to fine tune the effect.

Border Colour
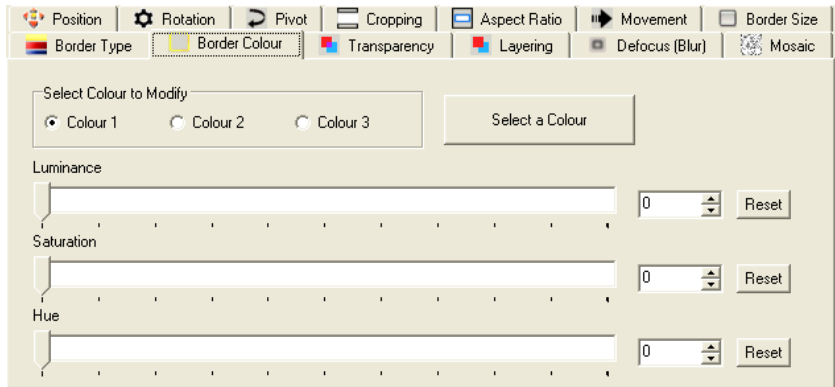
Borders can use up to three individual colours to create the effect. The number of colours used depends on the type of border you have selected, so if you selected **Single** then only the first colour is used, but if you selected **Triple** then all three colours will be visible. The results of choosing different colours are best seeing through experimentation. You can either defined each colour using the given sliders, or you can select a colour using the standard Windows colour picker.
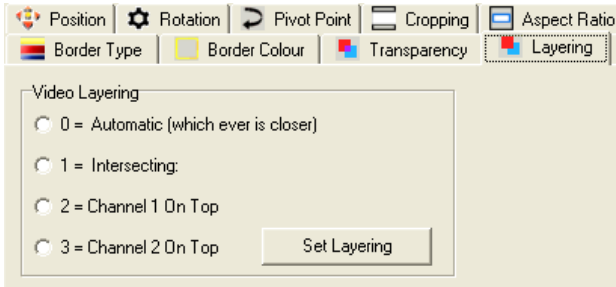
Transparency
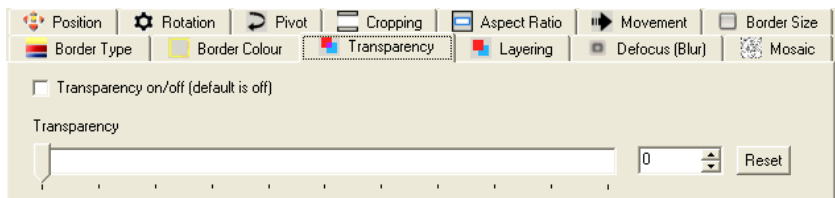
To make the video transparent, use this panel to enable transparency and then use the slider to adjust it.

Layering

Using the panel below you can change the order in which Channel 1 is displayed with reference to Channel 2.

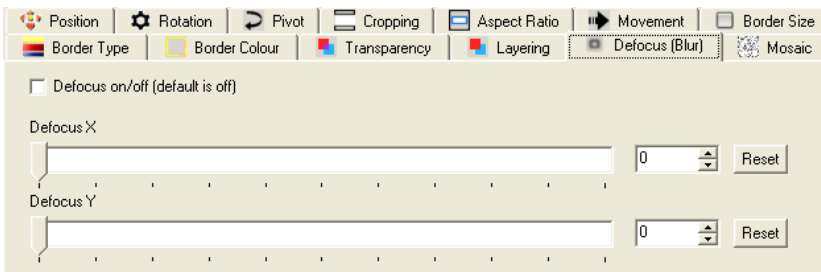*Channel 1 on top*   *Intersecting*   *Channel 2 on top*
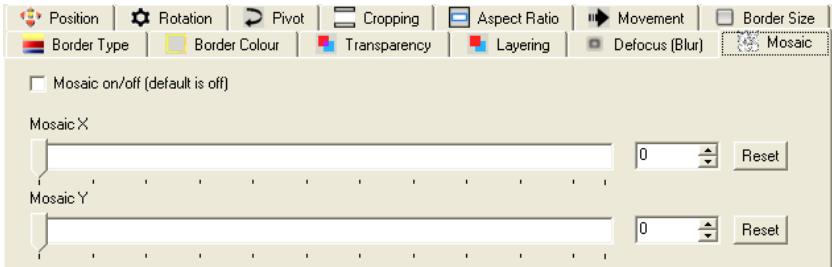
Defocus (Blur)

Use this panel to enable the defocus effect. You can then use the sliders to adjust the amount of blur applied in the X & Y axis.

Mosaic

Use this panel to enable the mosaic effect. You can then use the sliders to adjust the coarseness of the effect applied in the X & Y axis.

Imagestore HD / 750 Panels

The following options are available when using Imagestore HD or
Imagestore 750 DVE options. The DVE allows independent control of the
video scaler, cropping and borders. The independent control of these three
units has been done so the user can achieve not just standard DVE squeezes,
but wipes as well.

Scaler

The scaler control is responsible for resizing the video. You can resize the
video along 2 axis – X & Y. The best way to understand how it works it to
use it in practice.
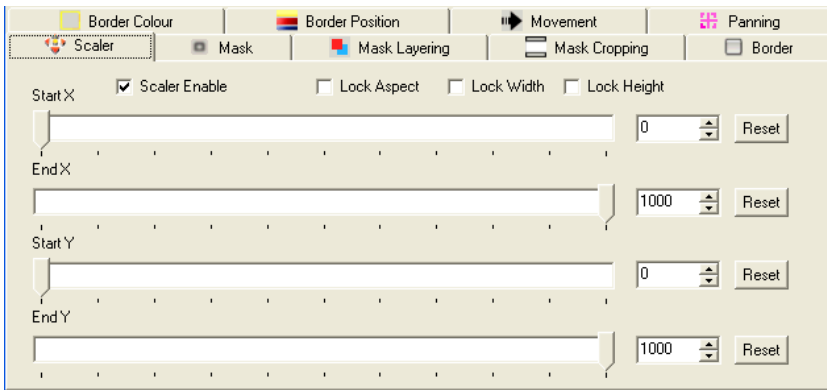
The position of the video is specified by controlling the top left hand co-
ordinates and the bottom right co-ordinates. This has been done to make it
easier to perform wipes. Example:
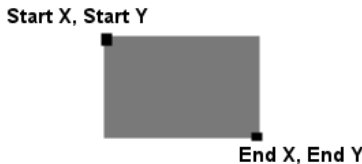
Mask

The **Mask Enable** check box allows the user to enable or disable the mask. When it is disabled no video will be seen on the chosen channel. The mask soft edge sliders allow the user to increase the size of the soft edge. The mask transparency is used to change the transparency of the video.
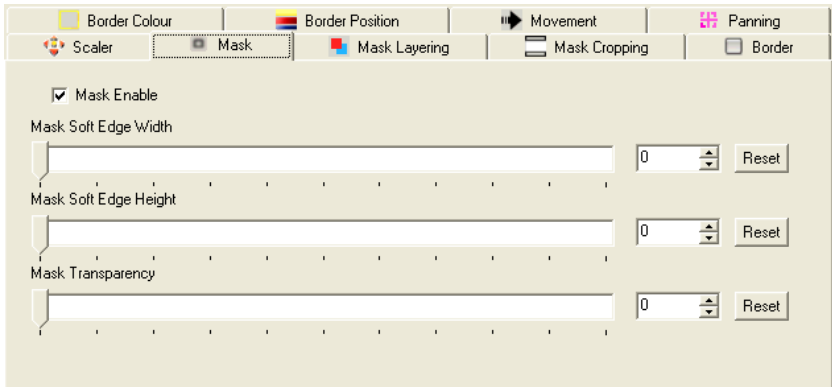
Mask Layering

Using the panel below you can change the order in which Channel 1 is displayed with reference to Channel 2.
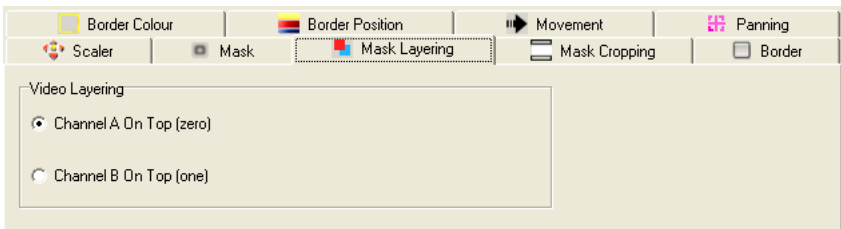
Mask Cropping

You can crop the video 4 ways. When the sliding bars are at full extent, the video will be fully cropped in that direction. The panel has a check box which allows you to link the cropping with the scaler size.

When the mask is not linked to the scaler it can be used to perform transition effects such as wipes. Below is a screen grab which shows the mask being used.

Border

Use this panel to enable and disable the border effect. If the effect is enabled, the sliders can be used to define the thickness of the borders.
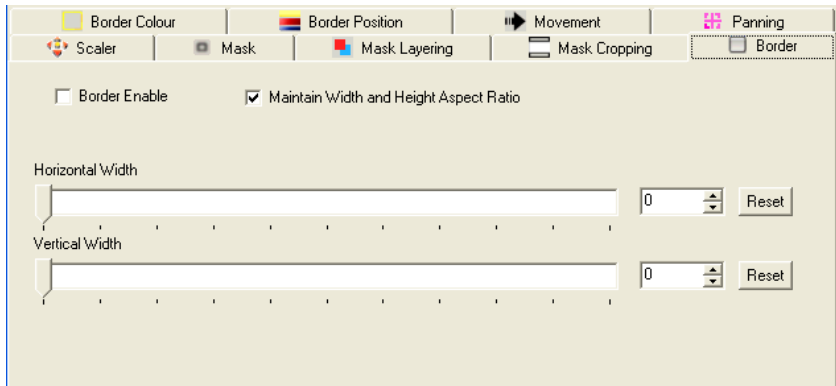
Border Colour

Use this panel to define the border colour. You can either use the sliders to define the colour using the YUV colour space, or select a colour using the standard Windows colour picker.
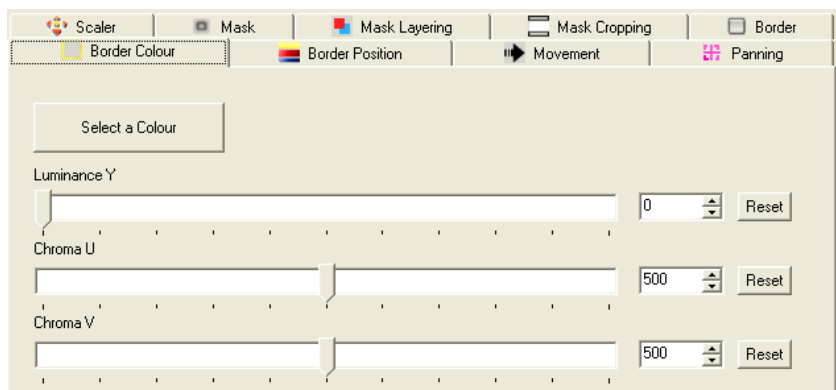
Border Position

Borders can be independently controlled regardless of the position size of the scaler. To link the border position to that of either the scaler or the mask, click the appropriate **Lock** option.
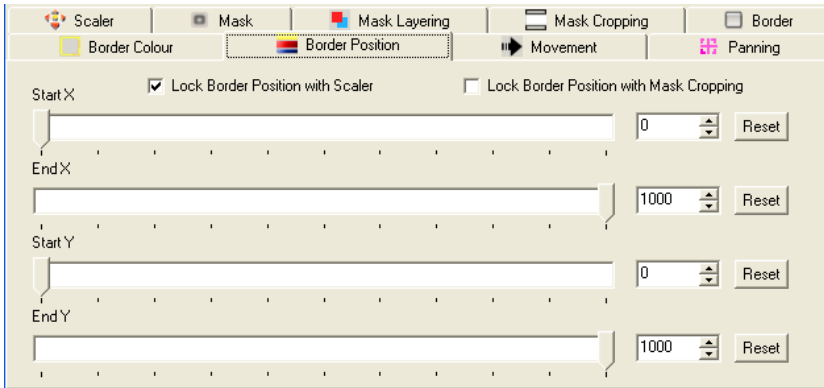
Movement

Selecting the various movement options will change how the current keyframe will be morphed from the previous keyframe. When settings these always ensure you load a keyframe first. Experiment with the settings until you get the desired result.
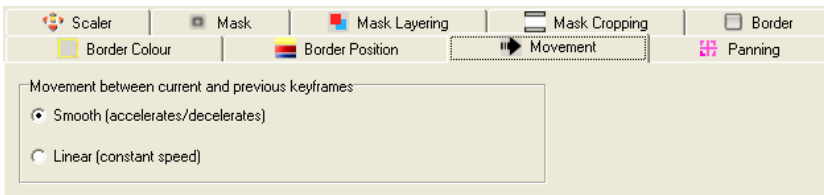
Panning

Use this panel to pan either the video or the border effect.
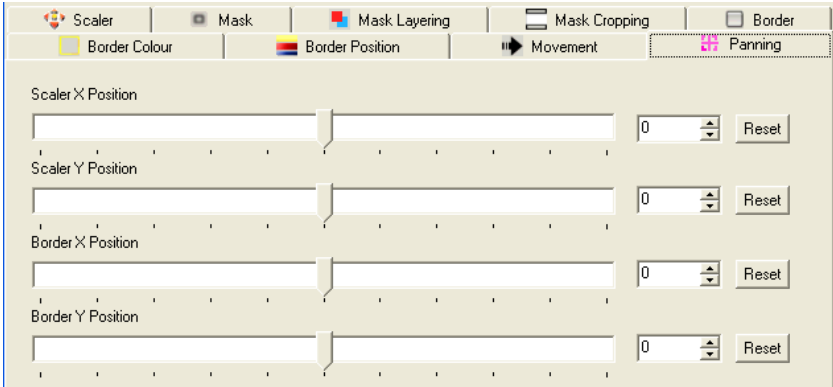
Saving Keyframe Changes

To save the current keyframe, press the **Save** button in the keyframe preview panel.

Note that saving a keyframe only saves it to a temporary workspace, to store the changes permanently the user must save the sequence as well.

Tutorial: A over B squeeze back

This tutorial will show you how to design and save a sequence from scratch
to perform an A over B squeeze move. Once your sequence is designed, you
can then go back and modify it as many times as you like and generate more
sequences from it. Although the example is designed for using the DVE
option for Imagestores 2 and 300, the same principles apply to using the HD
and 750 Imagestore models.
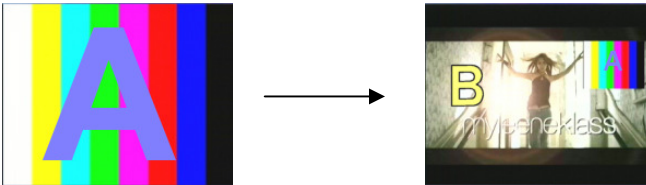
1. Ensure you are connected to the Imagestore (check the colour of the
    Connect button).

2. Now find an unused sequence slot in the higher sequence numbers.
    If the slot is unused, it should contain no keyframes so that the
    Keyframes panel is left blank.
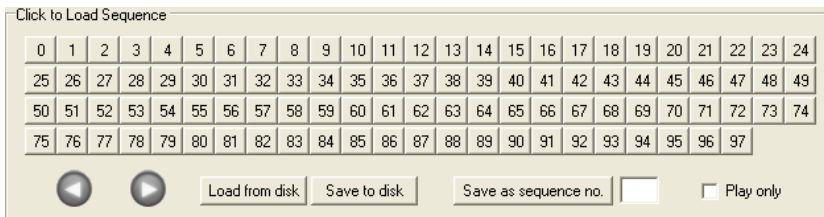
3. Now reset both video channels so we know we're starting full
screen.

Click both of the following

Reset Channel A   Reset Channel B
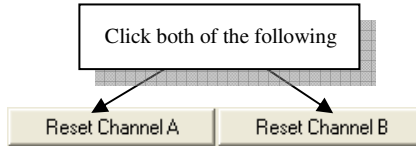
4. You should now see either channel A full screen or channel B full
screen. Toggle the video layering a few times to see the affect it has
on the output. When you've finished set the layering to 'Channel A
on top'.

Video Layering

○ 0 = Automatic (which even
○ 1 = Intersecting
○ 2 = Channel A on top
○ 3 = Channel B on top

Toggle between Channel A on top, and
Channel B on top to see how it affects the
output.
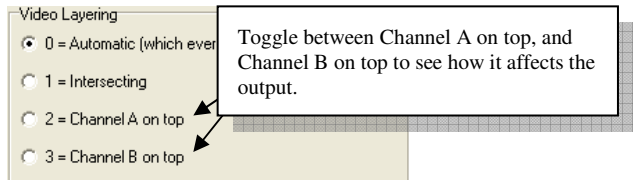
5. You should now have channel A full screen, and channel B should
also be full screen, but just behind it.

6. For this sequence we will need two keyframes. Click on either of the **Insert** buttons twice and two keyframes should be added. The panel should now look like this:
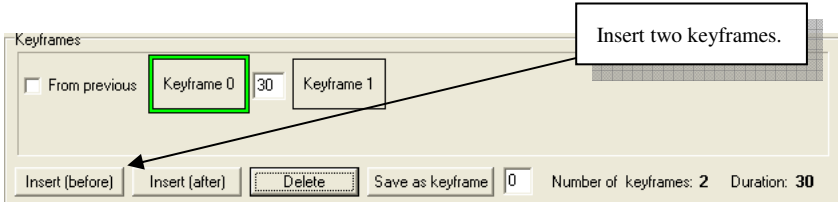
7. We now have a sequence which looks like this:

Keyframe 0   *Keyframe 1*
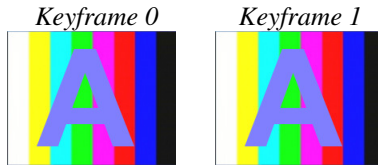
8. Set the duration between the two keyframes to 50. This means the sequence will start and take 2 seconds to go to Keyframe 1.

9. We now have a sequence which looks like this:

Keyframe 0   *Keyframe 1*

2 seconds (PAL)
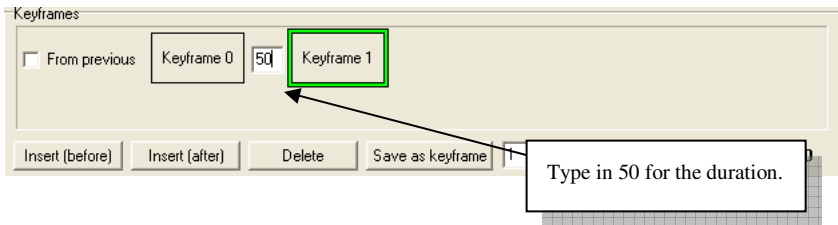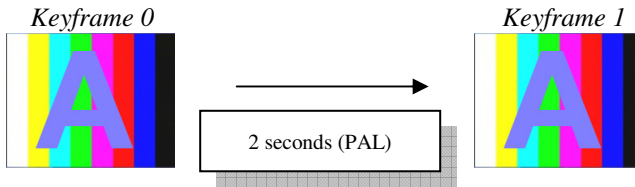
10. The sequence is almost completed now, we just need to resize the A video on the second keyframe to reveal channel B. To do this, ensure that the second keyframe is selected and use the positioning panel to resize channel A.

Ensure this is selected so that when altering the position, it changes channel A.

Reducing the position on the z-axis will make channel A smaller
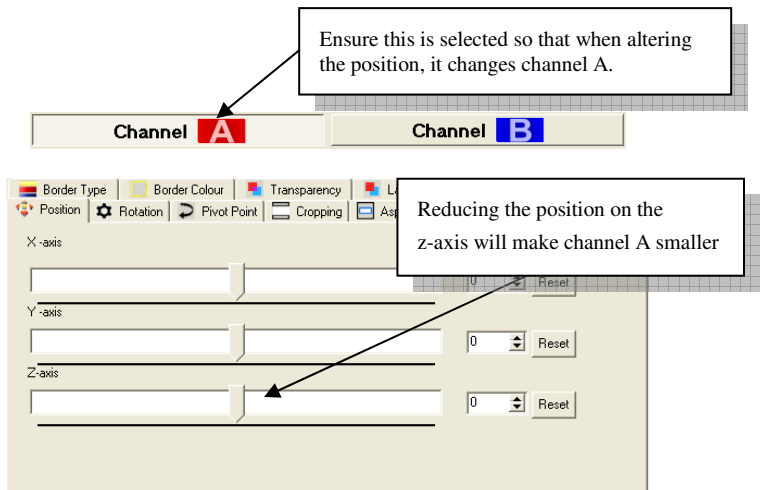
Adjust the position of channel A, until it achieves the desired look, e.g.:

11. Now save this keyframe by selecting the **Save** option.
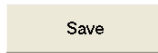
12. Press the play arrow button and your sequence should now do the following move over 2 seconds:
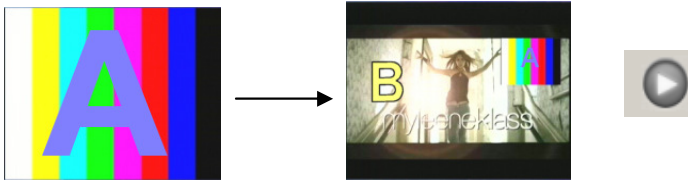
To play the sequence in reverse, press the reverse button:
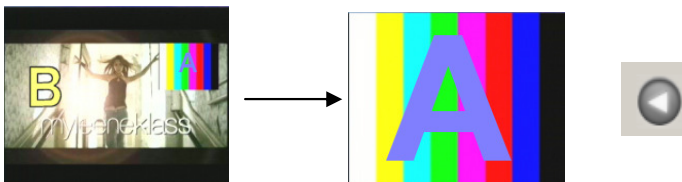
13. The final stage is to save the sequence:

Working offline

This option is currently only available when using HD and 750 models of Imagestores.

The DVE editor can be used to create sequences without having access to an Imagestore. The sequences can be saved to the local hard drive and later downloaded to the Imagestore. To use this feature, select the either the **ISHD** or **IS750** option in the top-right corner of the application:

That will display the options to load and save sequences to and from disk:
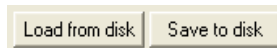
You can now create a sequence in the usual way and use the Preview area to get an idea of how your sequence will look. You can then save it to your local disk or networked drive.

At a later stage when an Imagestore becomes available, connect to it and select a sequence that you would like to overwrite with your new sequence. Then select the Load option and your sequence will be downloaded to the Imagestore.

Managing Sequence files

Using the editor it is possible to upload and download sequence files between multiple Imagestores and the PC.

Imagestores
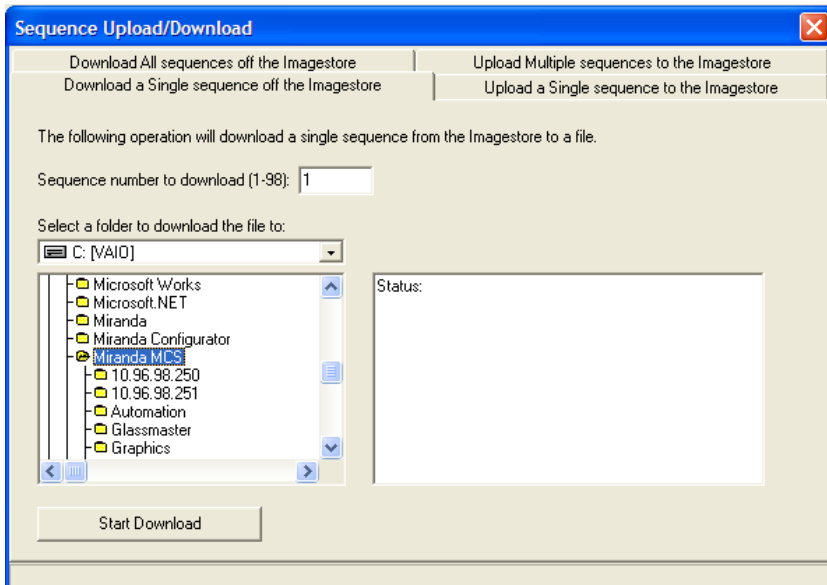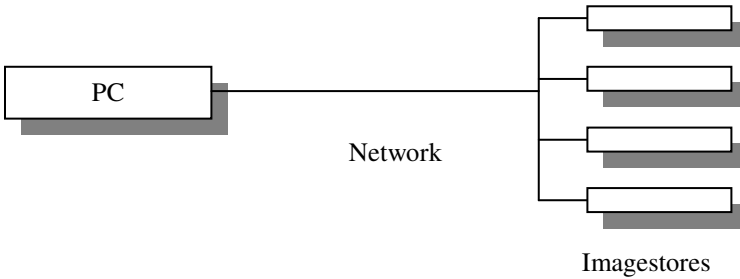
Using the above form you upload/download single sequences or multiple sequences in one go.

Configuring TCP/IP Networks

This section describes how to set up PCs running Microsoft Windows operating systems for networking with Miranda Technologies Ltd. Imagestores.

There are four components requiring correct setting up of networking.

- The Ethernet cabling
- The Miranda Technologies Ltd. Imagestores
- The TCP/IP networking on the Windows PC
- The Miranda Technologies Ltd. software (MCS or MDS) running on the PC.

The configuration of each of these areas is described separately.

Ethernet cabling

The PC communicates with the Imagestores over an Ethernet network. Ethernet networks can be large and complex and the final configuration will probably come down to personal preferences or corporate policy.

Imagestore units can operate with either 10Base2 (Thin Ethernet) or 10BaseT (Twisted pair Ethernet). Imagestore IS2 and Playstore units can automatically sense which connection is in use, while Imagestore IS1 and Imagestore Upstream require factory reconfiguration to be switched to 10BaseT (the default is 10Base2).

10Base2 networks have the advantage of requiring fewer active components. No *hubs* are required and the coax cabling can make daisy-chaining multiple units easy. However, a cable fault anywhere in the chain can cause the entire network to fail. In addition, confusion can occur between 50 Ohm cabling, tee-pieces and terminators required for 10Base2 and 75 Ohm ones used for broadcast video.

10BaseT networks require additional multi-port hubs to join units together. However, the cabling is usually cheaper than coax and individual units can be

removed or added to the network without interrupting the network cabling. Individual cable faults will usually only cause small areas of the network to fail, are more easily located. Also, use of Cat. 5 twisted pair cabling means the network can be more easily upgraded to 100 Megabit Ethernet at a later date.

The ideal configuration for large installations may well be a mix between the two different technologies.

Miranda Technologies Ltd. recommends keeping your PC and Imagestore network separate from any other corporate networks you may have. If you do need to join them together – for example to transfer graphics into the PC system from graphics department PCs, then an intelligent bridge/router should be installed between the two networks to reduce unnecessary network traffic.

Miranda Technologies Ltd. recommends keeping the number of passive hubs and repeaters between your Windows computers and the Imagestores to the minimum necessary. Failure to do this can lead to degradations in network performance.

Imagestore Configuration

Imagestore units must be fitted with the Ethernet option available from Miranda Technologies Ltd. Units fitted with this are easily distinguished by the presence of the Ethernet Coax (and optionally, RJ45) connectors on the rear of the unit, just to the right of the AC power connector. For Imagestore IS2 and Playstore units, a license code must be installed on the unit to enable use of the Ethernet.

IP Address and submask

Each Imagestore is allocated a network identifier (IP address). A unique IP address is allocated at the factory. This may need changing to conform to local networks and should only ever need altering in the field if the network were reconfigured or joined into other corporate networks.

If you are required to change the IP address or submask values, consult the manual for the unit in question.

10-BASE2 and 10-BASET Cabling

Unless requested otherwise, Imagestore IS1 units with Ethernet options are set up to use 10-BASE2 (Thin Ethernet) connections.

Imagestore IS1 systems (white front) typically require factory re-configuration to allow use with 10-BaseT (Twisted Pair) Ethernet.

Imagestore IS2 and Playstore systems have auto-sensing network cards, which automatically switch between the 10Base2 and 10BaseT ports.

Configuring Windows TCP/IP Networking

The MCS software is designed to run on a Personal Computer running Windows NT 4.0 or Windows 95/98/2000. The network protocol used is TCP/IP, which may need to be installed and configured to run on the Windows system.

Installing an Ethernet card in your PC

Because of the range of different cards available, this is outside the scope of this document. Consult your IT department or other Networking specialist for assistance.

IP Address

The IP address of the MDS computer is specified by Miranda Technologies Ltd. the factory and should not need to be changed. If you are installing MDS software on your own computer, then your network administrator should provide you with an IP address and submask value.

Installing the TCP/IP Network Protocol Software

Due to the complexities involved and the wide range of possible set-ups, this document can only give a broad view of the procedures to follow. Your IT department or other Networking specialist should be your first point of contact for assistance.

From the **Start** button, select **Settings**, then **Control Panel**. From *Control Panel* select **Network**. The following dialog box will appear:
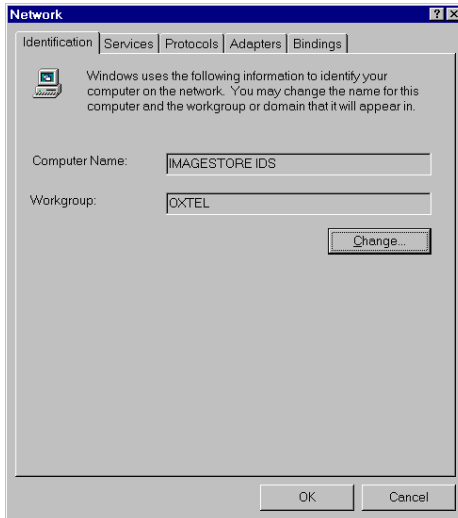
Click on the **Protocols** tab to display the following dialog box:

Now click the **Add** button to display the following dialog box:
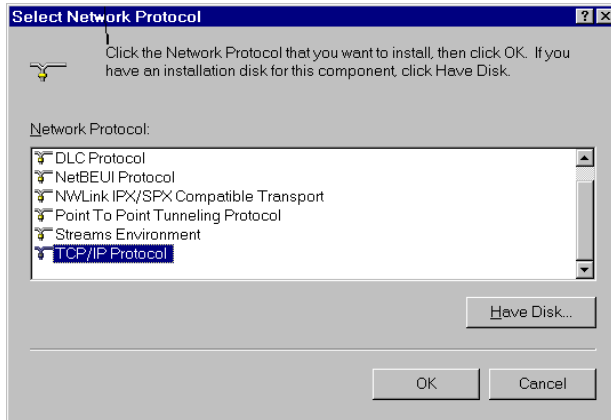
Choose **TCP/IP Protocol** from the above screen to display the following screen:
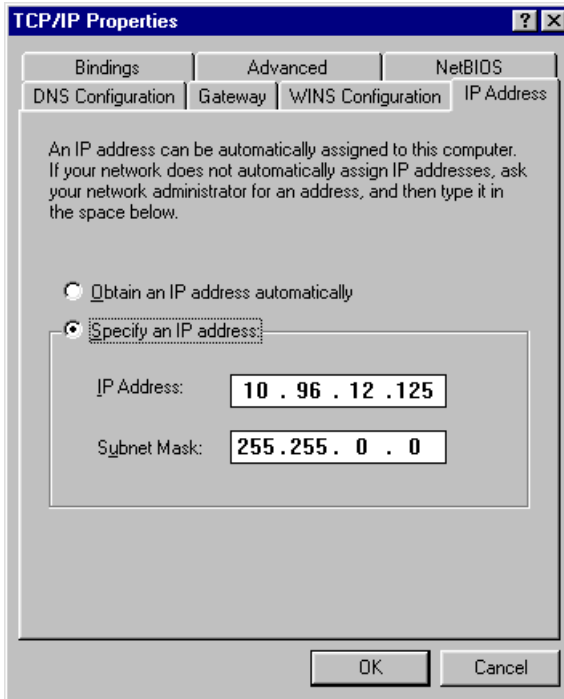
Select the network adapter from the list, click next to **Specify an IP address** and then add the *IP Address* and *Subnet* Mask. The values given above are merely examples, since the values are specific to a particular installation. However, for a stand-alone network of Miranda Technologies Ltd. units based on factory-set IP addresses, the IP address should be in the range 10.96.xxx.xxx or 179.1.xxx.xxx for older systems with the Subnet mask shown above of 255.255.0.0.

The hosts file

Windows NT provides the TCP/IP network services used in image file interfacing on the MDS computer. Each Miranda Technologies Ltd. unit connected to the MDS system via the network has its own identification number known as an *IP* Address. The MDS system also requires an

identifying IP address. The allocation of IP addresses to particular Miranda Technologies Ltd. units is typically made at the factory.

Since IP addresses are not particularly user-friendly (hard to read and remember, easy to mistype), there is a text file used by Windows NT and the TCP/IP software which contains lists of IP address numbers with corresponding textual names. These names may be specified by the user - to better reflect the kinds of units used on the MDS network - by editing the 'hosts' file. (The file is called *hosts*, since a host is synonymous with computer in TCP/IP terminology).

Example of a 'hosts' file entry:

176.1.1.23 CHAN9_STILLS # C9's Still Store

where:
1. *176.1.1.23* is the IP address
2. *CHAN9_STILLS* is the unit name (in this case based on the chassis number) and
3. *# C9's Still Store* is a comment, since it starts with the hash (#) symbol.

The hosts file is located in the drivers\etc subdirectory under the Windows NT system directory. The full path is typically:

c:\winnt4\system32\drivers\etc\hosts

There should be an individual entry for each Imagestore on the network.

MCS System Configuration

Introduction

The environment for the MDS system is determined by the contents of three files
1. The hosts file
2. The units.txt file
3. The Miranda Technologies Ltd.ini file

The hosts file

The 'hosts' file is described in the section above. The MDS application software makes use of this file to find the corresponding IP addresses from the user's textual unit names.

The units.txt file

The names of the Imagestores on a network are held in a file called *units.txt* which is plain, editable text that can be modified by the user.

The *units.txt* file is located in the drivers\etcsubdirectory under the Windows NT system directory, along with the hosts file. The full path is typically:

c:\winnt4\system32\drivers\etc\units.txt

This file may be edited by using the *notepad* application, or any other simple text editor.

Example of a *units.txt* file contents:

```
KEYER_1
KEYER_2
STILL_STORE_1
STILL_STORE_3
GRAPHICS_UNIT_1
```

The following restrictions apply to the format and contents of the *units.txt* file:

1. Only one unit name per line
2. No spaces allowed in unit names
3. No blank lines
4. The very last unit name must have a return at the end, otherwise it will not be seen

The network addresses of the Imagestores are linked to their names using the hosts file. That means that for every unit name given in units.txt, there must be a corresponding entry in the hosts file.

Support

Product Support

Miranda Technologies support desk exists to provide timely help and advice to users and telephone support is available for the entire life of the product. The support desk may be contacted at any of the following locations.

Americas
Telephone: +1-800-224-7882
techsupp@miranda.com

Asia
Telephone: +81-3-5730-2987
asiatech@miranda.com

Europe, Middle East, Africa, UK
Telephone: +44 (0) 1491 820222
eurotech@miranda.com

France (only)
Telephone: +33 (0) 1 55 86 87 88
francetech@miranda.com

Where the query relates to a specific product, make a note of the unit's serial number (on the rear panel) and the software version (displayed on the front panel at boot-up).

Warranty and Non-Warranty Repairs

Miranda Technologies Ltd provides all products that are sold new with a two-year, return-to-base warranty. Products that are purchased as "ex-demo" may have a limited warranty and reference should be made the original acknowledgement of order or the Product Certificate for warranty details.

A repair service for warranty and non-warranty products provides a typical turnaround time of ten working days. The procedure for returning a unit to Miranda Technologies Ltd is given later in this section.

Obsolescence

Obsolete products will be supported for a minimum of 3 years from the date of obsolescence. Miranda Technologies Ltd will continue to provide support beyond this period, but will not replenish service stock and is therefore unable to guarantee the availability of every component used.

Upgrades

Software upgrades are regularly available as part of a continuing commitment to product improvement. Most software upgrades can be performed remotely and customers are kept informed of software and hardware upgrades via Release Notes that are e-mailed to the nominated contact.

Hardware upgrading is normally carried out at Miranda Technologies Ltd's factory and involves full re-testing and QA checks. Refurbishment can also be performed where required but these are not covered by the standard warranty.

Service Visits

On-site assistance from a Miranda Technologies Ltd Field Service Engineer will be provided assuming adequate notice is given. Service visits are normally chargeable and are not covered by the standard warranty.

Equipment Loans

A variety of loan agreements are possible and can be arranged with the Engineering Support department through the helpdesk although it is not always possible to fulfil loan requests at short notice.

Training

Customer training can be provided to match individual requirements. Training can be carried out either at customer premises (preferred option) or at Miranda Technologies Ltd's facility in Oxfordshire where a dedicated demonstration room is available.

Courses can be tailored for either technical or operational staff and these courses can be ordered at the same time as the equipment or at any subsequent time.

Web Page

Miranda Technologies Ltd's web page can be found at **www.miranda.com**.

Returns Procedure

Should there be a need to return any Miranda Technologies Ltd product for upgrade or repair, telephone the Helpdesk and request a "return number".

The helpdesk will ask for details of the return including the unit's serial number, reason for return and any fault information. Make sure that these details are to hand when contacting the helpdesk.

Mark the "return number" clearly on any packaging as well as on the return paperwork. Any subsequent correspondence should reference this "return number".

Transit Packaging

When returning equipment ensure that it is adequately packaged using good quality materials. Particularly ensure that the unit is tightly packed within a strong carton (preferably the original) and avoid common polythene or polystyrene chips, since the product may contain static sensitive devices.

Some components, such as hard drives, may be susceptible to damage by physical shock and caution is required when removing the equipment from racks.

Units received at Miranda Technologies Ltd with obvious damage, not described on the accompanying documentation, or not notified to Miranda Technologies Ltd by the customer, are assumed damaged in transit and this is chargeable. Customers are strongly advised to insure the equipment against damage in transit when returning it to Miranda Technologies Ltd. Should a unit be received from Miranda Technologies Ltd in a damaged state (either new or repaired), this should be reported to both the courier and Miranda Technologies Ltd immediately

Appendix A – 10Base2 Network Cabling and Installation

1. IEEE 802.3 10Base2, 10 Megabits per second
2. Cable type is 50 Ohm coaxial, also known as Thin Ethernet (RG58, Belden 9907 type or equivalent)
3. Daisy-chain cable connection via 50 Ohm BNC connectors and a 'T'-piece.
4. Allow at least 0.5m of coax cable between 'T'-pieces.
5. Up to 30 units on a network segment
6. Maximum length of cable per segment is 185 metres
7. Fit exactly two 50 Ohm BNC terminators per network segment, one at either extreme of the segment cable run.
8. Maximum number of segments is 5
9. Maximum total length of cable over all segments is 925 metres

PARAMETER	Value
Taps per segment	30
Maximum Node Separation	5 segments, 4 repeaters
Maximum Segment Length	185m
Network Span	925m
Min. Separation Between Transceivers	0.5m

Appendix B – Windows 95/98 Installation

MCS software can run under Windows 95/98. Because of the lack of security within the Windows 95 environment, Windows XP and 2000 are preferred.

Installation is broadly similar to the Windows 2000 and XP configuration, but file locations will change as follows.

The *hosts* file must be in the directory C:\WIN95.

The *units.txt* file must be in the C:\WIN95\SYSTEM\DRIVERS\ETC directory. Create the subdirectories shown, as they will not normally exist on a standard Windows 95 installation.