Crystal Vision

MultiLogo

HD/SD Three-Layer Logo Keyers

MultiLogo is a feature-packed, space-saving and easy-to-use modular solution to HD or SD video and audio station branding.

Select the perfect multi-layer logo keyer for your application with four different versions available. Store up to 500 still or animated graphics in the 4 GB or 8 GB internal store, and show up to three of these graphics at once with three layers of keying – with the option of using either live or pre-prepared sources. Get the effect you want by tweaking the key processing controls and mixing the audio – and use the look-ahead preview to perfect what's coming next. Get your graphics on screen easily using the instinctive control software – and save rack space by fitting up to 12 of these logo keyers in 2U.

The power of MultiLogo can be harnessed in many different ways – from simply adding logos to a video source to fulfilling the role of a master control mixer at the final point in the broadcast chain.

- **Find the perfect HD/SD logo keyer for your application:** available in four versions
- **Show up to three graphics at once:** six internal players provide a key and fill for three layers of keying
- **Store all the graphics you need:** choice of 4 GB and 8 GB internal stores with DRAM memory, backed up to Flash
- **Flexible use with live video:** key on dynamically changing live graphics or record and store external fill and key signals
- **Fine-tune until you're happy:** keyers have independent gain, offset, opacity, inversion and fade controls
- **No problem if your graphic or clip isn't perfect:** use the key masks and easily trim recorded video clips
- **Easy to insert text:** type in and format text for internal use or for simple graphics
- **Know (and perfect) what's coming next:** with full look-ahead preview
- **Play out audio:** embed up to four audio groups in the video outputs
- **Sophisticated audio mixing:** generate the output audio from a mix of the audio embedded on the video inputs and audio clips sourced from the internal audio stores or an external AES input, with fading, dipping and level adjustments
- **Save time:** select just the variables you want to save and recall using 256 presets
- **Know you'll stay on air:** relay bypass protection of main input to Program output
- **Easy to use:** comes with instinctive MultiLogo Control Software for operation of all functions – with control also available from GPIs, SNMP, software protocols and more
- **Save rack space:** 100mm x 266mm module allows 12 MultiLogo V132/V132 8G in 2U (six in 1U and two in desk top box) or half this number if fitted with ML-GPI8 add-on board, while 'double decker' 100mm x 266mm module allows six MultiLogo V432/V432 8G in 2U (three in 1U and one in desk top box)

WHY SHOULD I CHOOSE MULTILOGO?

Show up to three graphics at once

Six internal players provide a key and fill for three layers of keying

Recall Preset 1

Save time with powerful presets

Save just the variables you want in 256 presets, name them for easy recall and copy preset settings from one MultiLogo to another

1 2 3

Know what's coming next

Use the look-ahead preview to check and adjust your complex transitions before committing them to the main output

STOP

PLAY

Use animated graphics

Choose how to play out your animated graphics, whether you want to show them once, loop them or play them forwards then backwards

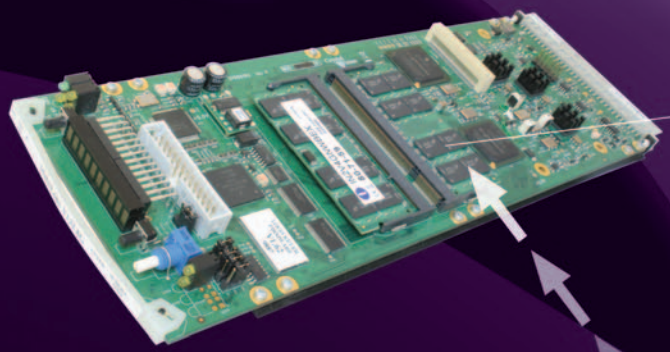
PAUSE

BOUNCE

LOOP

Use it with live graphics

Connect the multi-input V432 to an external graphics machine to key on dynamically changing live graphics, or record and store fill and key signals from the external video inputs with easy trimming



VIDEO

VIDEO

VIDEO

VIDEO

REC ●

Easy transfer of graphics

Use the instinctive drag-and-drop software to copy graphics from your PC to MultiLogo's internal store over 100Mbit Ethernet (and transfer graphics even when you're on air)

"And coming up next..."

Get just the effect you want

Keyers have separate gain, offset, opacity, inversion and fade controls

No problem if your graphic isn't perfect

Use the rectangular key masks to hide any unwanted areas on an image

Sophisticated audio branding

Embed four groups of audio into the video outputs, from a mix of the audio embedded on the video inputs and a voiceover or sound effect sourced from the internal audio stores or external AES input – with fading, dipping and level adjustments

Always get a correctly-timed output

Avoid transmission problems by locking the output to an analogue reference – combined with the one-line TBC

Store all the graphics you need

Multi-port 4 GB or 8 GB internal store provides storage for up to 500 logos, using fast reading and writing DRAM memory backed up to permanent Flash

Add simple text quickly

Use the Quick Text function to type in text and save it as a graphic – perfect for internal use or for simple Coming Next announcements

Choice of control

Controlling MultiLogo is easy – whether you choose the MultiLogo Control Software, very flexible GPIs, SNMP or our ASCII protocol

Simulated pictures

THE BEST SOLUTION TO STATION BRANDING

MultiLogo is an exceptional multi-layer graphics store and keying device.

It provides three layers of keying from a variety of internal and external sources including a multi-port non-volatile video and audio store. MultiLogo is available in four versions meaning you'll find the perfect logo keyer for your application. Which one do you need? The single slot MultiLogo V132 includes a 4 GB internal store and MultiLogo V132 8G an 8 GB store – both feature one external video input. The 'double decker' MultiLogo V432 includes a 4 GB internal store and MultiLogo V432 8G an 8 GB store – both provide four external video input sources, making them ideal for those wishing to use live as well as pre-prepared graphics. The 8 GB versions are perfect for those using animated graphics or who want just one logo keyer to store all of the graphics for a playout area for easy maintenance.

MultiLogo is shipped with a CD containing Crystal Vision's instinctive-to-use drag-and-drop MultiLogo Control Software which runs on the graphics computer and allows easy board control and files conversion. Perfect for setting up applications in advance, the MultiLogo Control Software is a single piece of software which does everything for you and gets your logos on the screen within just a few minutes. The software stores a list of IP addresses at which any MultiLogos can be found, with the user able to easily change the control from one logo keyer to another by selecting from the list.

MultiLogo works with both still and animated graphics and supports the BMP, JPG, TGA, PNG, SGI and WAV file formats. Other file formats can easily be converted to MultiLogo's native file format using the Image Converter program which is part of the MultiLogo Control Software and which can be used to extract either the video, key, or both video and key from image sequences.

MultiLogo's uCLinux operating system results in sophisticated file handling and stability. There is also excellent connectivity with a PC, with the graphics and audio clips transferred over 100Mbit Ethernet from the PC directly into the internal store on the board which allows extensive information to be transported easily.

WHAT CAN YOU USE IT FOR?

MultiLogo is a very flexible device. Here are just some of the ways you could use it...

- Adding up to three layers of graphics on to a single video input – the main application for Multilogo V132.
- Combining stored graphics with dynamically changing live graphics from an external device – one of the main applications for Multilogo V432.
- A flexible playout device for clips.
- Adding additional audio to a video source – whether from an operator with a microphone, an external storage device or stored internally.
- Line identification with video and audio notification.
- With its four external video inputs and full audio capability, MultiLogo V432 can be used as a cost-effective master control mixer, for switching and branding finished programme streams to the transmission system.

SO MANY SOURCES TO CHOOSE FROM!

MultiLogo offers the choice of different sources for your logos – both internal and external.

The internal store is available with either 4 GB of memory on MultiLogo V132/V432 for up to 250 graphics or 8 GB of memory on MultiLogo V132 8G/V432 8G for up to 500 graphics. Logos and audio clips are copied from the graphics PC to both the DRAM and Flash memories on MultiLogo over 100Mbit Ethernet, providing the dual benefits of DRAM's fast reading and writing and the Flash's non-volatile storage which retains the data even when the power is off. The graphics are stored in Flash and transferred to DRAM on power up.

External sources are also available. MultiLogo V132 has just one HD or SD video input for the main programme, while MultiLogo V432 provides four external video inputs. The first external input is normally dedicated to the main programme because of its relay bypass protection while the other three external feeds are completely flexible and configurable, and could typically be a backup feed, a graphics machine providing a dynamically changing graphics feed and a key signal for that graphics machine. All four inputs on MultiLogo V432 must be of the same standard and co-timed to within one line. MultiLogo V432 can also provide the functionality of an A/B mixer for selecting between the main and backup video feeds.

MultiLogo can record fill and key signals from any of the external video inputs using the Recorders tab – convenient for those logos that are supplied to you on tape or that you need to take from a live video feed. You can record the fill only, key only or fill and key, set the number of frames to be recorded and trim the recorded video. Mask controls allow the recorded picture size to be reduced to contain just the part of the image of interest – and optimise the file size. Any recordings are initially stored in the DRAM memory and need to be copied to the Flash for permanent storage.

It's easy to take graphics from a tape or live feed

TRANSFERRING FILES FROM A PC TO THE VIDEO AND AUDIO STORES

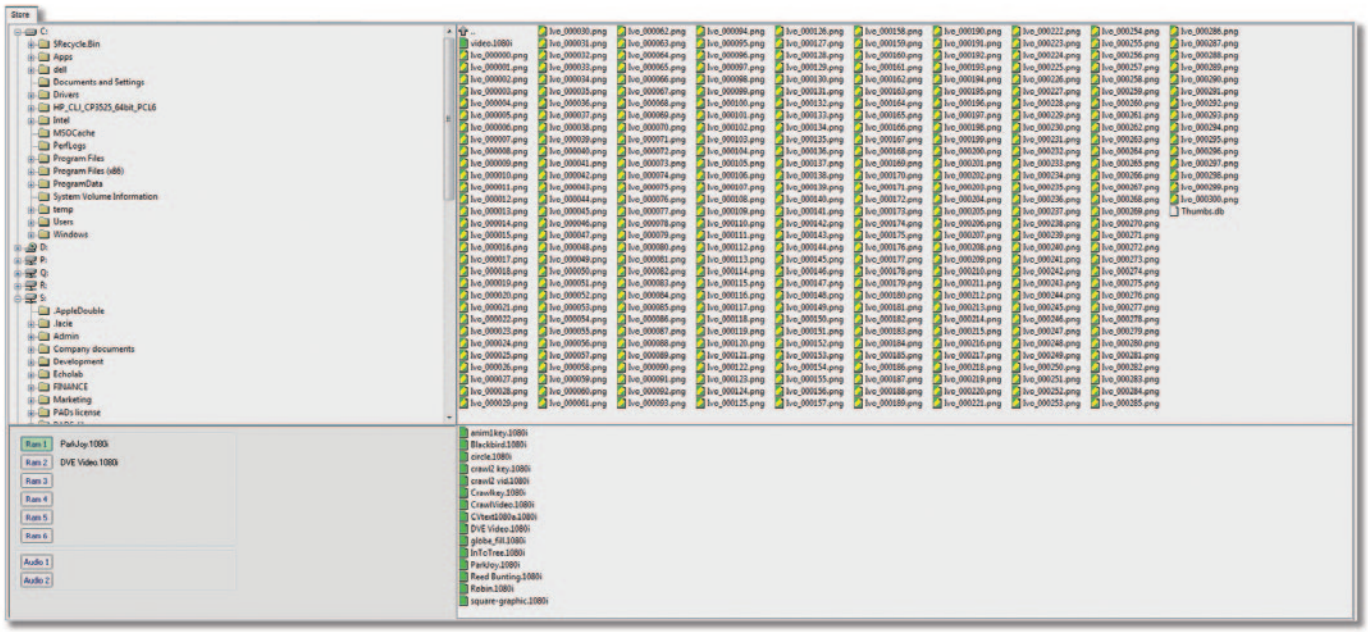
It's very easy to transfer graphics and audio clips from a PC to MultiLogo's internal store using the Store tab on the MultiLogo Control Software, with its familiar-looking directory tree. The upper panes show the PC file structure. Just browse to the folder that contains the images or audio files you wish to upload and then drag and drop them into the MultiLogo file store in the lower pane. Each screen in the MultiLogo Control Software indicates how much space you have remaining in the store – another useful feature.

MultiLogo can multi-task, allowing you to transfer files from the PC or record the video input at the same time as displaying the three graphics on screen – perfect if you need to update your stored graphics while you are on air.

Colour coding makes it easy for you to see at a glance what sort of files you've got in your video store.

Green file icons have been converted to MultiLogo's native format, green with yellow flash files were already in the required MultiLogo format, while a white file needs converting. Audio files are blue. A yellow file warns you that the graphic is in a different format to the output video format and cannot be used.

For playing out files held in the internal store, MultiLogo has a total of six video ports for the six RAM video streams along with two audio ports. These six video ports could be assigned three logos with accompanying key signal or alternatively six self keyed logos – with three of these then selectable for display using the three internal keyers. Simply select a port then double click a file to assign it to that port – the file name will appear beside the port button.



Just drag and drop the files you want to use, then assign them to one of the ports

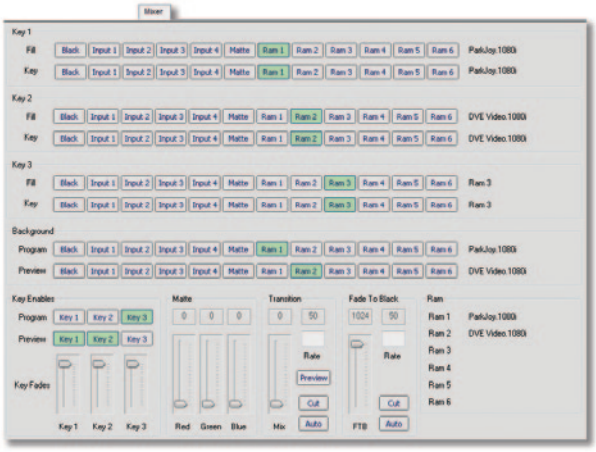
SET UP YOUR THREE LAYERS OF KEYING – WITH FULL LOOK-AHEAD PREVIEW

The Mixer tab is used to assign the fill and key for each of your three layers of keying and to select which keyers are active on the Program and Preview outputs.

In addition to the graphics assigned to the six RAM ports (with the graphics named for easy reference), it is possible to select black, one of the video inputs or the colour matte generator as a source for each fill and key. Selecting black could allow you to use a black background and the three key layers to combine several key images into a single image, either for storage or for use with multiple single keyers downstream. And if you're setting up the graphics at a sports event you could use the matte generator as a video source before the cameras are wired in, allowing you to set up your graphics in good time without waiting for the real sources to be connected.

The transition controls section on the Mixers tab allows for a manual or timed mix transition between the Program and Preview outputs. Full look-ahead preview means you will never have to take a leap in the dark with your more complex transitions. After the logos and keys are set up on the Preview output, the transition can be previewed in full on this output – allowing you to make any necessary changes before committing it to the main output. The proper transition can then be applied by using the Cut button for an immediate effect or the Auto button for a fading effect lasting up to 1024 frames. The transition can alternatively be triggered by pulling down the relevant GPI. By the end of the transition the contents of the Preview and Program outputs will have swapped over and it's time to start setting up your next set of logos on the Preview output.

The Mixer tab also includes a manual or automatic Fade to Black control, should you need to fade down the complete programme.



Set up your three layers of keying, then preview and trigger your transitions

PERFECT YOUR THREE LAYERS OF KEYING

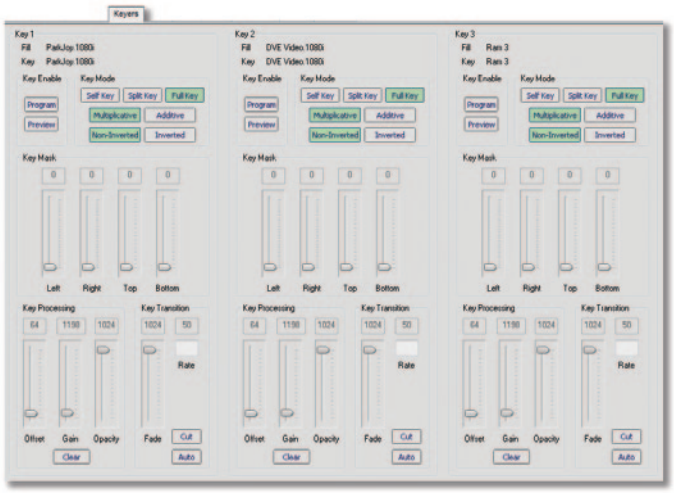
MultiLogo benefits from Crystal Vision's years of keying expertise and the Keyers tab contains all the controls you need to set up MultiLogo's three keyers to perfection.

MultiLogo can be used either with graphics that have a separate key signal or with self keyed graphics, with the key mode selectable as Self Key, Split Key or Full Key. For logos already on a black background Self Key is the simplest method, using the luminosity in the fill signal to generate the key information – while presenting no issues with keeping graphics in sync during animation. The highly-favoured Split Key uses both the fill and key signal to generate the key. Finally, Full Key forces the graphic to be full frame. Both additive and multiplicative keying is available, allowing you to choose a method to suit the graphics you're working with.

The key processing controls on each of the three keyers allow you to achieve just the effect you need.

Key offset and gain can be used to correct key signals or for self keying. Logos can be inverted, while a semi-transparent effect can be achieved with the opacity control. The regularly-used key transition control allows you to fade the key on and off.

A user-definable rectangular mask is available and forces the background video through the key layer. It can be used to hide unwanted areas of a graphic. Alternatively you could use it to pick the logo you need from a stored image featuring several logos. It also allows you to Full Key and force the entire area inside the mask to key.

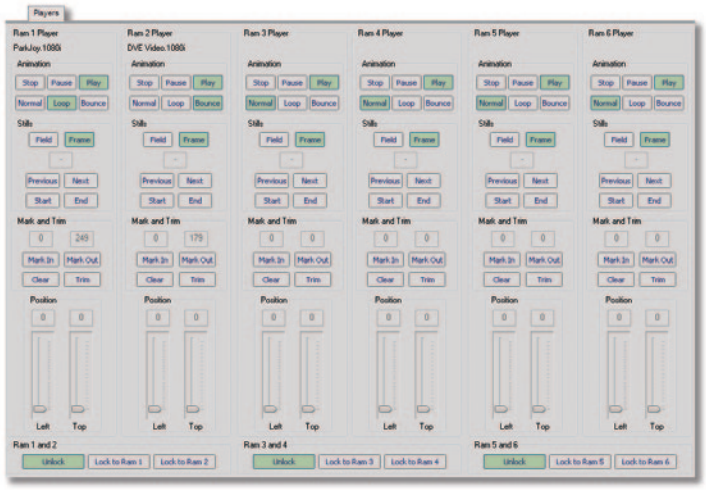


Adjust your three keyers until you've got the effect you want

POSITIONING YOUR GRAPHICS

The position of the graphics on screen can be controlled – ideal if you have a less than full screen graphic, as you can place it exactly where you need it to be within the active picture area by moving it horizontally and vertically.

PLAYING OUT ANIMATIONS AND VIDEO CLIPS



Play out your multi-frame graphics – or trim them to remove any unwanted sections

The Animation section of the Players tab controls how a stored multi-frame video such as an animated graphic or captured video is played. Normal tells the file to play to the end and then freeze on the final frame. Loop tells the file to play again from the start and is most useful for animated graphics that stay on the screen for an extended period. If you're short of time to make your graphic loop cleanly, then you can have the last frame identical to the first with the Bounce control, which plays the clip forwards then backwards repeatedly.

The ability to trim any recorded video clips makes it easy to transfer a clip and key supplied on tape – perfect for those OB and studio applications where this is often the case. Simply step through the clip frame by frame using the Next and Previous controls in the Stills section and set your Mark in and Mark out points. The graphic will then run from these points, and you can either trim the clip to get rid of the unwanted sections or alternatively cancel the selection and return to the original.

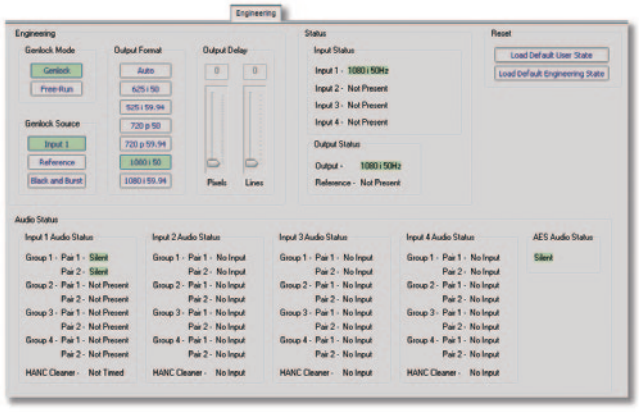
You can also lock together a pair of outputs (RAM 1 with RAM 2, RAM 3 with RAM 4 and RAM 5 with RAM 6) – perfect for when you're doing animated 'split' keying as it ensures your fill and key signals play out at the same time and are at the same position on the screen.

ALWAYS GET A CORRECTLY-TIMED OUTPUT

MultiLogo can be left to free-run or can be locked to either the video input or to an external Black and Burst or tri-level syncs reference using the Genlock source buttons on the Engineering tab. This analogue reference combined with the one-line TBC means that MultiLogo always gives out a correctly-timed, uninterrupted output even after a hot cut from an upstream switch – therefore avoiding any transmission problems.

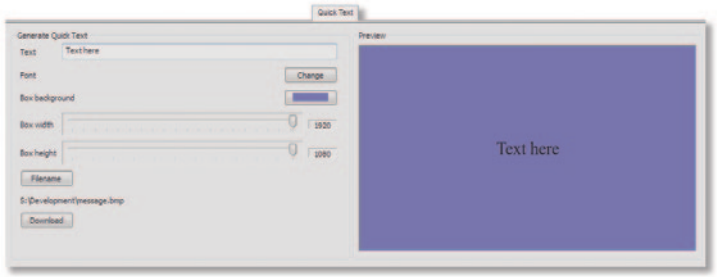
In auto mode the output format will follow the input format or the format of the external reference. Should this not be desired, MultiLogo can be forced to cross-lock by selecting the output video standard, which also allows the logo keyer to be powered without an input and used as a standalone video source or test pattern generator.

The output delay sliders can be used to add an offset delay of up to one video line between the input or external reference and the output – allowing you to time the MultiLogo output into the rest of your system and align your pictures perfectly.



Avoid transmission problems by locking to an analogue reference

INSERT SIMPLE TEXT – EASILY



Use Quick Text to type in simple text

Quick Text is MultiLogo's simple text insertion feature.

Perfect for applications such as creating a studio ident for internal use or a simple text graphic, it allows the operator to use the MultiLogo Control Software to type in text and then convert that text to a graphic format which is saved in the Flash store on the MultiLogo board. This graphic can then be displayed on screen by using one of the key layers.

Defaulting to centre alignment, Quick Text can be used with an unlimited number of characters and with any available Windows font. Multiple lines of text can be displayed – simply type \n to put text on a new line. The text box background can be any 24 bit colour and can be sized up to full screen 1080p.

THE MOST POWERFUL AUDIO BRANDING

Many broadcast engineers select MultiLogo because of its sophisticated audio capabilities, which make it the perfect device for powerful audio branding applications.

MultiLogo can embed up to four audio groups into its video outputs, with an audio router allowing selection of exactly which sources are embedded. Audio mixing allows the output audio to be generated from a mix of the background audio plus up to three audio clips which can be inserted over the top, and will cross-fade when switching between audio streams to ensure a smooth transition with no audio clicks.

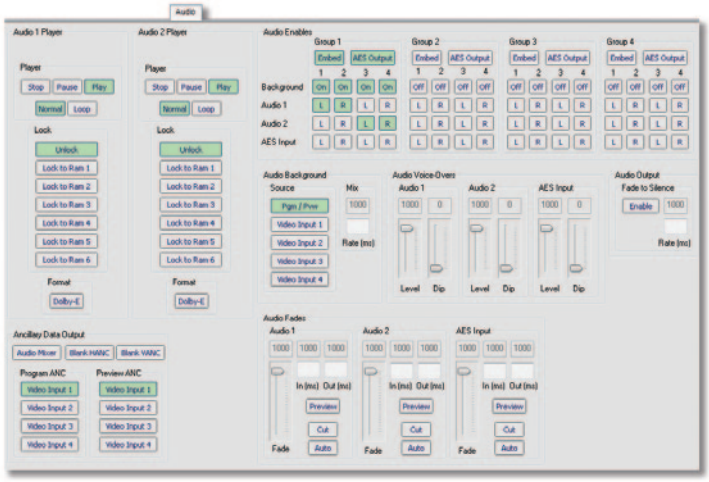
On MultiLogo V132 the background audio can be sourced from the audio embedded in the video input. On MultiLogo V432 the background audio can be sourced either from the audio embedded in the chosen video input (1 to 4) or alternatively from the video Program/Preview selections should you require the audio to follow the video when transitioning from one video source to another.

Audio clips such as a voiceover or sound effect can be sourced from 32kHz, 44.1kHz or 48kHz sampled PCM WAV files held in two audio stores on MultiLogo (perfect for pre-determined audio) and – on MultiLogo V432 – additionally from an external AES input (ideal for live voiceovers).

The audio clips can be faded in and out either manually or automatically and have their level adjusted, while the background audio can be partially or fully dipped allowing it to be mixed with or be replaced by the audio clips. The audio clips chosen for embedding will be common to both the Program and Preview outputs.

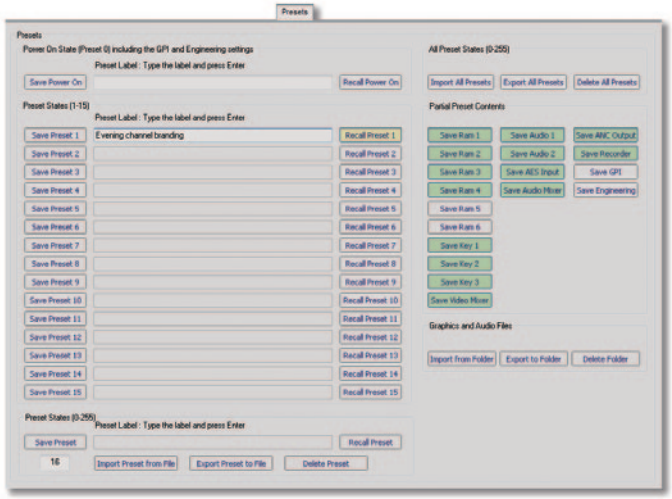
The audio clips can be played out separately, or alternatively the audio and video ports can be locked together so that the files can be played out at the same time, with the option to loop the audio or just play it once – perfect for giving a graphic or animation accompanying audio. If a player's audio was recorded in Dolby E, then selecting 'Dolby E Format' will disable audio level control and fading for that player. Audio can be set to fade to silence during a fade to black. MultiLogo V432 additionally provides two external AES outputs which can be used for audio monitoring.

There are also a number of sources of ancillary data. Ancillary data can be passed directly from the selected input to the outputs, or can be set to follow the video mixed to the Program and Preview outputs. On MultiLogo V432 it is possible to take the picture from one channel and the ancillary data from another.



Configure your output audio

THE POWER OF PRESETS



Save time by using presets

Up to 256 presets can be stored, with the presets holding the current state of the MultiLogo including which files have been assigned to the DRAM memory, the position of the keys and the key gain settings. You can choose whether a preset plays a clip or transition or simply cues it.

Partial presets allow complete versatility in how you construct your presets and help make MultiLogo a true on air device. Partial presets let you select the individual parameters that are to be saved and then recalled – meaning you don't need to store a preset for every combination of logos you might ever want. Using partial presets you can change one key layer without affecting a second keyer that may be on air.

Identifying text can be assigned to each numbered preset, such as giving the programme name or logo name and its purpose – making it quicker for the operator to select the correct preset.

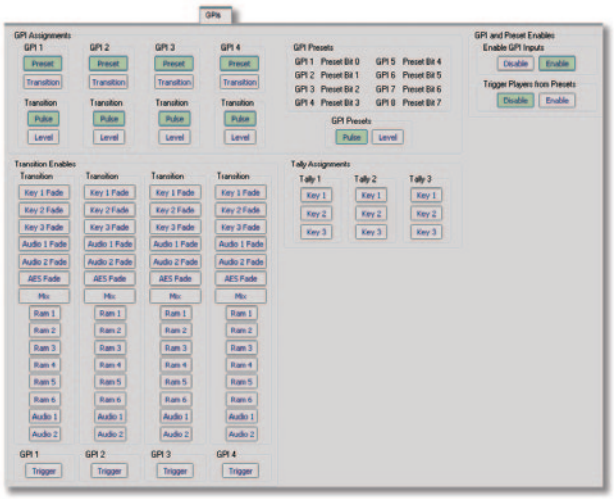
The Preset Import/Export feature allows the operator to easily copy settings from one board to another and is perfect for those systems involving multiple logo keyers. You can choose to import/export either all presets or an individual one, while presets can also be deleted. The current control state of the board is always saved and exported with the presets. The presets are copied to a file on

the PC, and this file can then be downloaded to another MultiLogo, giving the same controls and presets as the original.

The Preset Import/Export feature is ideal for those who have multiple MultiLogos that they want to set up the same way and allows boards to be interchanged. For example, you might want to simplify your system by putting every logo and associated presets in every MultiLogo so that any board can be used for any channel, but this means that every logo keyer would need to be set up for every possible usage with potentially hundreds of presets needing to be configured. Here the Preset Import/Export feature means only one board has to be set up and then the presets can be copied on to the rest. Or you might have every logo keyer different and containing only the files and presets it needs. If a board dies, the Preset Import/Export feature provides a quick way to put in a different board and make it look the same as the original in terms of operation.

You can also save time with the Save Power On control which allows you to save the state of the MultiLogo after power up and then recall it using the Recall Power On control.

MORE CONTROL OPTIONS (INCLUDING VERY FLEXIBLE GPIS)



Use GPIs to recall presets or to set up complex transitions

The MultiLogo Control Software offers the most complete control of MultiLogo. However it's not the only option available.

MultiLogo includes extremely flexible GPI control of each key layer, where you can either control the key layers directly or bundle all the operations into a preset and recall that – which facilitates the inclusion of complicated effects from any mixer or automation system.

Four fully configurable GPI inputs can be toggled between recalling presets and transition control. When transition control is chosen, each GPI can be individually selected to control key layers 1, 2 and 3, start any of the video and audio players or do a mix between Program and Preview. This allows the three logos to be faded up and down independently and makes it easy to put together a sequence of changes using all three key layers – without the need for advanced planning. MultiLogo V432 includes a further four GPIs available for recalling presets. All versions cope with both pulse and latching GPIs.

For those that want to drive lights, MultiLogo features up to three GPI outputs (one on the V132) which act as tallies to indicate whether any of the key layers are faded up.

More GPIs are available on the MultiLogo V132 by fitting an ML-GPI8 add-on board. The ML-GPI8 is designed for engineers to build simple push button control panels and ideal for broadcasters who work by recalling presets and who want a manual backup in case the automation system fails. The ML-GPI8 provides eight GPI inputs for recalling eight presets along with eight GPI outputs which act as a tally and show which of the eight presets was recalled most recently via the GPI input.

Crystal Vision's own ASCII protocol can be easily implemented for simple button box type control, offering a short, simple message structure with no handshaking or error recovery. Supporting both Ethernet and RS422, it provides a method to get and set the value of controls, with MultiLogo's XML file describing all the extensive controls available. MultiLogo also supports VDCP and Sony VTR for those that wish to use these industry standard protocols for operating the logo keyer using an automation system.

Basic control is also available from Crystal Vision's usual methods – board edge switches, an integrated control panel on the AE frame, the VisionPanel remote control panel, the SBB-4 smart button box, SNMP, the Statesman Lite PC software and the VisionWeb Control web browser software.

SAVE RACK SPACE – AND PROTECT YOUR OUTPUT

MultiLogo will save you rack space, with up to 12 MultiLogo V132 or six 'double decker' MultiLogo V432 fitting in 2U. The 100mm x 266mm module is housed in Crystal Vision's Indigo frames – available in 2U, 1U and desk top box sizes – allowing it to be easily integrated with any of the company's interface and keying products.

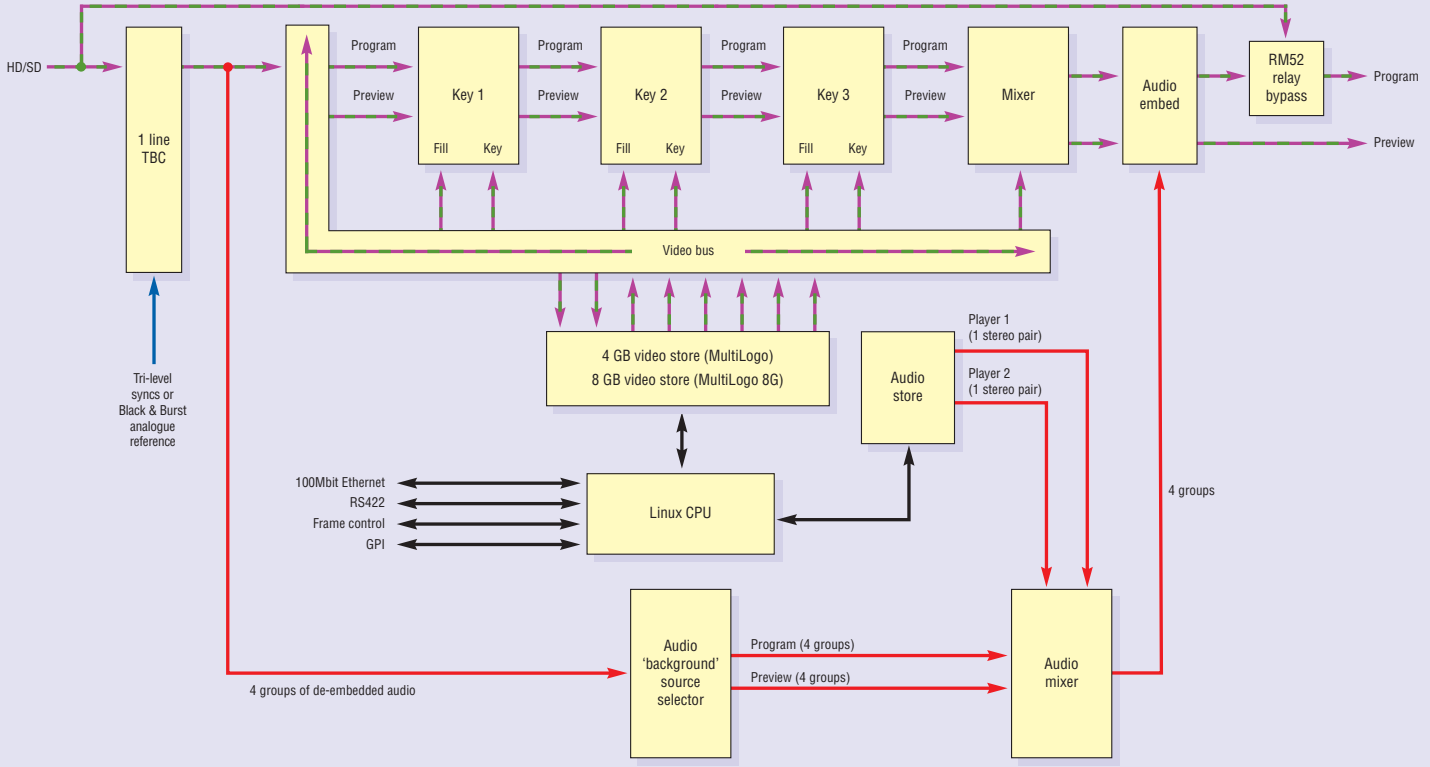
MultiLogo V132 can be used with two different frame rear modules to access the inputs and outputs: either the RM52 or the RM52 + RM33 if the ML-GPI8 add-on board is fitted. MultiLogo V432 is always used with the RM52 + RM34. There are two RJ45 connectors on the RM52: one allows the MultiLogo Control Software to communicate with the board via Ethernet, with the other allowing RS422 control.

With the logo keyer one of the last pieces of equipment in the chain, the RM52 rear module provides relay bypass protection of input 1 to the Program output in the event of power failure or board removal, and is a simple way to keep it – and you – on air.

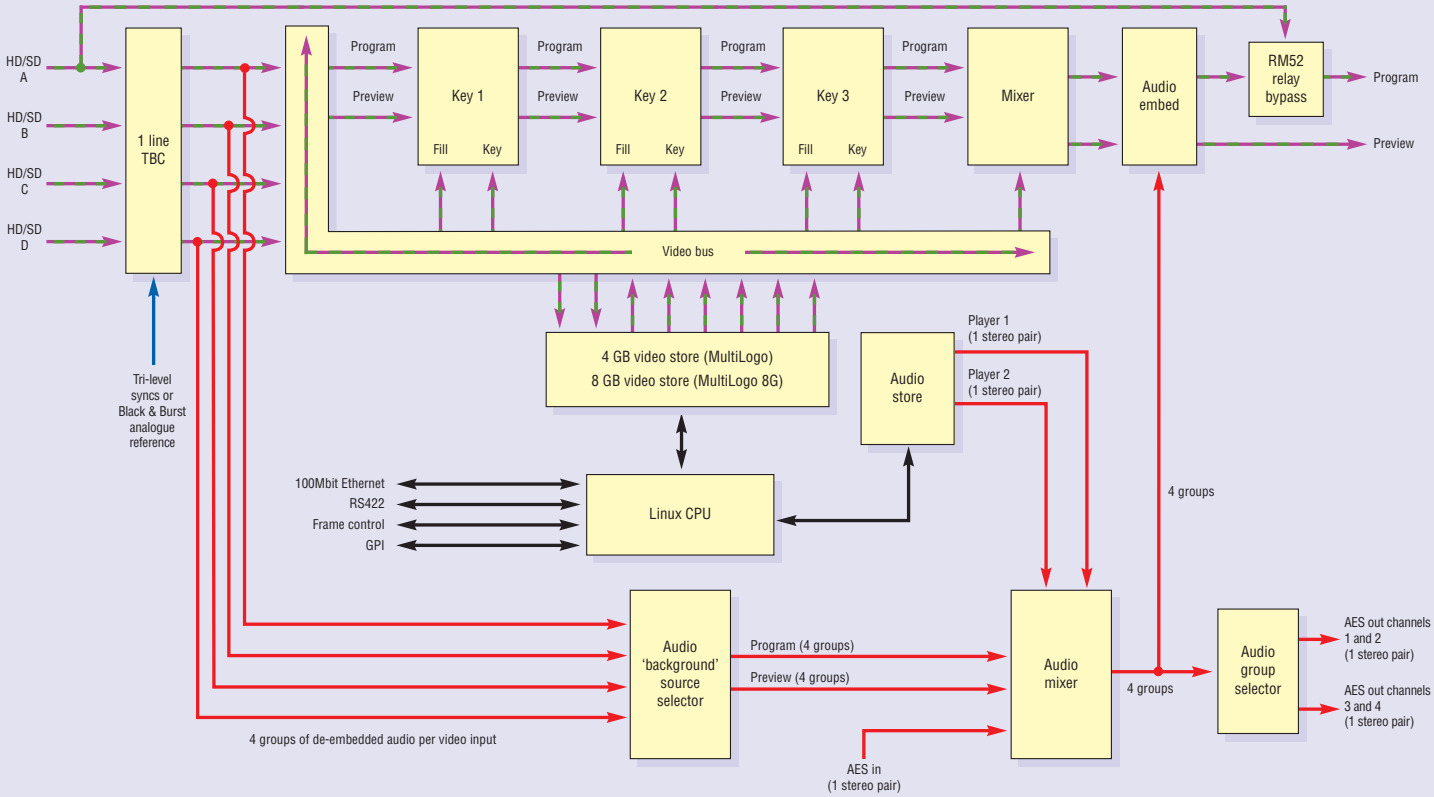
CHOOSING THE RIGHT LOGO KEYER FOR YOU

FEATURE	MultiLogo V132	MultiLogo V132 8G	MultiLogo V432	MultiLogo V432 8G
Suitable for HD (720p50, 720p59.94, 1080i50, 1080i59.94)	●	●	●	●
Suitable for SD (625i, 525i)	●	●	●	●
Size of internal video store (DRAM, backed up to Flash)	4 GB (up to 250 graphics)	8 GB (up to 500 graphics)	4 GB (up to 250 graphics)	8 GB (up to 500 graphics)
Number of external video inputs	1	1	4	4
Number of video outputs	2 (Program and Preview)	2 (Program and Preview)	2 (Program and Preview)	2 (Program and Preview)
Key on live graphics from external graphics machine			●	●
Record sections of live feeds, with trimming	●	●	●	●
Use with still and animated graphics	●	●	●	●
Three layers of keying	●	●	●	●
Use separate key signal or self keyed graphics	●	●	●	●
Key processing controls (gain, offset, opacity, inversion and fade)	●	●	●	●
Fade main output to black (manual or timed)	●	●	●	●
Rectangular mask for each key layer, adjustable for size and position	●	●	●	●
Simple text insertion	●	●	●	●
Reference timing from input 1 or from SD Black and Burst or HD tri-level syncs, with one-line TBC	●	●	●	●
Look-ahead preview	●	●	●	●
Use as master control mixer			●	●
Output four groups of embedded audio	●	●	●	●
Background audio source, with audio dipping	From video input	From video input	From selected video input (1 to 4) or video Program/ Preview selections	From selected video input (1 to 4) or video Program/ Preview selections
Mix in voiceover/sound effects, with level adjustments and fade in/out controls	From audio store	From audio store	From audio store or external AES input	From audio store or external AES input
AES outputs for audio monitoring			●	●
Cross-fade audio between video inputs			●	●
Relay bypass protection	●	●	●	●
Number of presets	256 (16 recallable by GPI)	256 (16 recallable by GPI)	256 (256 recallable by GPI)	256 (256 recallable by GPI)
GPI inputs and outputs	4 GPI inputs and 1 GPI output – plus additional 8 GPI inputs and 8 GPI outputs if ML-GPI8 fitted	4 GPI inputs and 1 GPI output – plus additional 8 GPI inputs and 8 GPI outputs if ML-GPI8 fitted	8 GPI inputs and 3 GPI outputs	8 GPI inputs and 3 GPI outputs
Number of boards fitting in 2U	12 (6 if ML-GPI8 fitted)	12 (6 if ML-GPI8 fitted)	6	6
Rear modules used	RM52 or RM52 + RM33 (if ML-GPI8 fitted)	RM52 or RM52 + RM33 (if ML-GPI8 fitted)	RM52 + RM34	RM52 + RM34

MultiLogo V132 and MultiLogo V132 8G



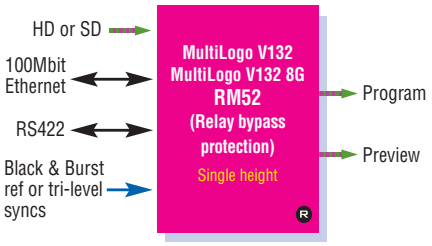
MultiLogo V432 and MultiLogo V432 8G

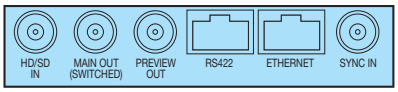


REAR MODULE CONNECTIONS

MultiLogo V132 and MultiLogo V132 8G

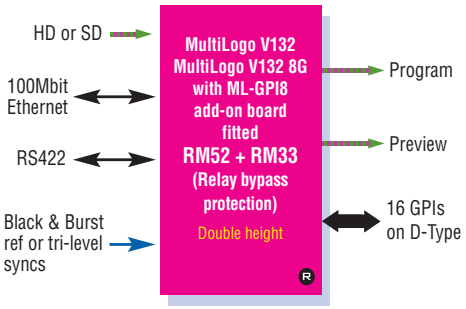
For standard applications

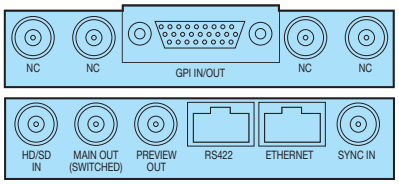




RM52 used with MultiLogo V132 and V132 8G

For applications when an ML-GPI8 add-on board is fitted

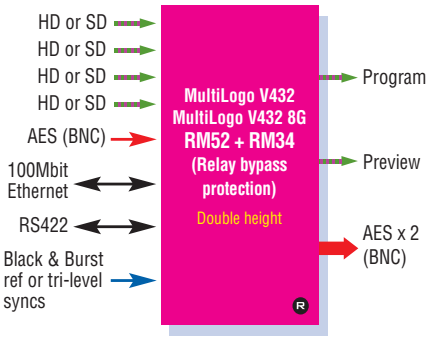


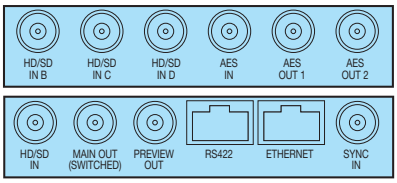


RM52 + RM33 used with MultiLogo V132 and V132 8G (when fitted with ML-GPI8)

MultiLogo V432 and MultiLogo V432 8G

For standard applications





RM52 + RM34 used with MultiLogo V432 and V432 8G

NB. The rear module labels shown here are designed to indicate the functionality of the connectors and do not necessarily reflect the real-life label

SPECIFICATION

Specification applies to both 4 GB and 8 GB versions of MultiLogo unless otherwise stated

MECHANICAL

MultiLogo V132: Standard Crystal Vision module 266mm x 100mm

MultiLogo V432: 'Double decker' Crystal Vision module 266mm x 100mm (uses two frame slots)

Weight: 200g (MultiLogo V132); 300g (MultiLogo V432)

Power consumption: 12.5 Watts (MultiLogo V132); 16 Watts (MultiLogo V432)

OPERATING SYSTEM

MultiLogo runs the uCLinux operating system

VIDEO AND AUDIO STORE

Non-volatile multi-port internal store for pre-prepared still or animated graphics and audio files

Internal store is duplicated in DRAM and Flash

MultiLogo V132/V432: 4 GB store for up to 250 graphics

MultiLogo V132 8G/V432 8G: 8 GB store for up to 500 graphics

DRAM store has six video output streams and two audio output streams. Flash store is used to preserve all video and audio data when the board is powered down, with data then copied to RAM on power up

MultiLogo can read six and write two images at once

All three keying layers can be used while graphics are being transferred to the MultiLogo board

VIDEO INPUTS

MultiLogo V132: One HD or SD input (for main programme)

MultiLogo V432: Up to four HD or SD inputs can provide external live sources for logo keyer. All inputs must be of the same standard and co-timed to within one line

Sections of the live HD or SD input can be recorded. Number of frames to be recorded can be selected and whether to record fill only, key only or fill and key. Mask controls can be used to reduce the recorded picture size to the area of interest only. All six RAM video players remain fully operational during recording

270Mb/s or 1.5Gb/s serial compliant to EBU 3267-E, SMPTE 259 and SMPTE 292-1

HD cable equalisation up to 140m with Belden 1694A or equivalent (approx. 100m with Belden 8281). SD cable equalisation >250m Belden 8281 or equivalent

Input return loss: -15dB for 50MHz to 1.5GHz

Auto 50/59.94Hz and video format selection

ANALOGUE REFERENCE AND DELAY THROUGH BOARD

The output can be locked to an SD Black & Burst or HD tri-level syncs analogue reference

Each input has a one-line TBC to align the input signal timing

SD delay: 6.5us min – one line plus 6.5us max

HD delay: 1.7us min – one line plus 1.7us max

Output timing can be from either an analogue reference or input 1, with a user offset of up to one video line. When locked to an analogue reference, the relative timing will be 0.0us plus any user set delay. Using input 1 as the reference source will give the minimum delay plus any user set delay

Input to output embedded audio processing delay: 4 lines

VIDEO OUTPUTS

MultiLogo V132: One HD or SD Program output and one HD or SD Preview output using RM52 frame rear module, or RM52 + RM33 rear modules together if ML-GPI8 add-on board is fitted

MultiLogo V432: One HD or SD Program output and one HD or SD Preview output using RM52 and RM34 frame rear modules together

Relay bypass protection of the main input to the main output

Serial output: 270Mb/s or 1.5Gb/s serial compliant to EBU 3267-E, SMPTE 259 and SMPTE 292-1. In auto mode MultiLogo will default to outputting either the input standard or the external reference standard. When the output required is HD and the reference is SD Black and Burst, MultiLogo can be forced to cross-lock as long as the output format selected and external reference share the same frame rate. The output video standard can be fixed so that the MultiLogo can be powered without input and used as a standalone video source

KEYING

Three keyers can independently bring up three graphics and associated keys from the internal or external sources

Graphics can either have separate key signal or be self keyed (options are Self Key, Split Key and Full Key)

Key processing can be additive or multiplicative

The three keyers have separate gain, offset, opacity and inversion controls

Key fade control to fade graphics in and out Fade to Black

Program, Preview and keys can be set as black or as a colour from the matte generator

User-definable rectangular mask available to hide unwanted areas of graphic (with left, right, top and bottom adjustable sliders)

PLAYING OUT GRAPHICS

The supported file types are BMP, JPG, TGA, PNG, SGI and WAV (32, 44.1 and 48kHz PCM audio). Other file formats can be converted to the required MultiLogo format using the included Image Converter program and then transferred from a PC to the board using the MultiLogo Control Software

The position of the graphics on the screen can be controlled

The animation controls set the way the selected multi-frame video files are played out and are Play, Pause, Stop, Normal, Loop and Bounce

Recorded video clips can be easily trimmed: go through clip frame by frame using Previous and Next controls and select Mark in and Mark out points. The clip will then run from the new Mark in and Mark out points and can be either trimmed to permanently remove the unwanted sections or cancelled to return to the original

For animated 'split keying', outputs can be locked together to ensure fill and key signals play out at the same time and are same screen position

LOOK-AHEAD PREVIEW

Preview output can be used to preview the next state and the transition to that state before it is applied to the Program output. After the logos and keys are set up on the Preview output, the full transition can be previewed on this output. The proper transition can then be applied by using the Cut button (immediate) or Auto button (up to 1024 frames), or by pulling down the relevant GPI. By the end of the transition the contents of the Preview and Program outputs will have swapped over

QUICK TEXT

Simple text insertion feature which is part of the MultiLogo Control Software

Allows operator to type in text for internal use or simple text graphic, and then convert the text to a graphic format which is saved in the Flash on the MultiLogo board. The text will need to use one of the key layers to be displayed

Can be used with an unlimited number of characters and any available Windows font

Text box background can be any 24 bit colour and can be sized up to full screen 1080p

Text defaults to centre alignment

Type \n to put text on a new line

AUDIO

MultiLogo can embed up to 16 channels (eight stereo pairs) of audio into four groups on its output video. Audio routing of the individual channels allows selection of which of the possible sources are embedded. Audio cannot be shuffled between the embedded input and output

On MultiLogo V132/V132 8G the background audio can be sourced from up to four groups of audio embedded in the video input

On MultiLogo V432/V432 8G the background audio can be sourced from up to four groups of audio embedded in the selected video input (1 to 4) or from the video Program/Preview (PGM/PVW) selections where the audio cross-fade can be set to follow the video when transitioning from one video source to another, without the output being disrupted in data structure or content. The audio auto transition rate can be set between 1ms and 5000ms. It is possible to only select audio from one video source to be the background audio

Up to three audio clips such as a voiceover or sound effect can be sourced from 32kHz, 44.1kHz or 48kHz sampled PCM WAV files held in two audio stores on MultiLogo and from (V432 only) an external AES input

Audio mixing allows the output audio to be generated from a mix of the background audio and voiceover/sound effect clips

The background audio can be partially or fully dipped between 0% and 100% allowing it to be either mixed with or be replaced by the voiceover/sound effect clips. Dipping automatically begins as soon as an audio player starts or when the external AES input passes a threshold level. If multiple voiceover/sound effect clips are enabled, the background signal will be dipped to the lowest level set. A value of zero means the background audio will be fully faded out during the voiceover

The voiceover/sound effect clips can be faded in and out independently, either manually or automatically. A fade in and fade out auto transition rate can be set between 1ms and 5000ms

The voiceover/sound effect clips can have their level adjusted between 0% and 100%

Audio can be played out separately, or audio and video ports can be locked together so files can be played out at the same time allowing a graphic or animation to have accompanying audio

Audio player controls are: Play, Stop, Pause, Normal (play once), Loop (play continuously), Lock to RAM (follow selected video store), Unlock, and Dolby E (select if audio recorded as Dolby E; this will then disable audio level control and fading). The audio player controls are inactive when an audio file is locked to a video port

Two external AES outputs are available on MultiLogo V432 for audio monitoring

Audio can be set to fade to silence during a fade to black. The fade rate can be set between 1ms and 5000ms

ANCILLARY DATA

Ancillary data can be taken from one of the inputs. On MultiLogo V432 it is possible to take the picture from one channel and the ancillary data from another

Ancillary data can be passed directly from the selected input to the outputs

Ancillary data can be set to follow the video mixed to the Program and Preview outputs

PRESETS

Up to 256 presets can be stored and recalled from the MultiLogo Control Software or GPI. MultiLogo V132 can recall up to 16 presets by GPI. MultiLogo V432 can recall up to 256 presets by GPI

Presets store the current state of the MultiLogo including which files have been assigned to the RAM memory, the position of the keys and the key gain settings

Partial presets allow the user to select the individual parameters that are to be saved and then recalled

Select whether a preset plays a clip or transition, or simply cues it

Identifying text can be assigned to each numbered preset

State of MultiLogo after power up can be saved using Save Power On control and recalled using Recall Power On control

The Preset Import/Export feature allows settings to be easily copied from one board to another. Using the MultiLogo Control Software, either all presets or an individual preset can be imported/exported. Presets can also be deleted. The current control state of the board is always saved and exported with the presets. The presets are copied to a file on the PC, and this file can then be downloaded to another MultiLogo, giving the same controls and presets as the original

GPI INPUTS

MultiLogo V132: Four GPI inputs

MultiLogo V432: Eight GPI inputs (last four are dedicated to recalling presets)

The first four GPIs can be toggled between recalling presets and transition control, providing extremely flexible GPI control of each key layer

When transition control is chosen, each GPI can be individually selected to control key layers 1, 2 and 3, start any of the video and audio players or do a mix between Program and Preview, allowing the three graphics to be faded up or down independently

Active: pull to ground, pulled up to +5V through 10 kohm

Works with pulse or latching GPI levels

GPI OUTPUTS

One GPI output (MultiLogo V132) and three GPI outputs (MultiLogo V432)

The GPI outputs act as tallies to indicate whether any of the key layers are faded up (showing the state of key layer 1 on MultiLogo V132 and key layers 1, 2 and 3 on MultiLogo V432)

Other GPI output connection is used to control the bypass relay

Electrically: Open collector transistors 30V, 270 ohm current limit resistors. Pulled up to +5V through 6800 ohm

ADDITIONAL GPIS WITH THE ML-GPI8 ADD-ON (V132 AND V132 8G)

The ML-GPI8 add-on board provides additional eight GPI inputs for recalling the first eight presets and eight GPI outputs which act as a tally and show which of the eight presets was recalled most recently via the GPI input

Makes MultiLogo V132 a 'double decker' board which uses two frame slots. The 16 GPI connections are accessed through the 26-way high density D-Type on the RM33 frame rear module which is used in combination with the standard RM52

LED INDICATION OF:

Power supplies okay

Input present

SD/HD input

LOCAL CONTROL

Board edge with ten character alphanumeric display

REMOTE CONTROL

100Mbit Ethernet connectivity from the graphics PC straight into the video store on the board, via the RJ45 connector on the RM52 rear module, for easy transfer of images and audio files

RM52 frame rear module includes a dedicated RJ45 connector for RS422 control

Software:

MultiLogo Control Software is included on a CD with MultiLogo and allows advanced control of the logo keyer

MultiLogo Control Software stores a list of IP addresses at which any MultiLogos can be found, with the user able to easily change the control from one logo keyer to another by selecting from the list

Statesman Lite allows basic control from any PC on a network

VisionWeb Control is available via the web server on the frame and allows basic operation using a standard web browser on a computer, tablet or phone

SNMP monitoring and control available as a frame option

Industry standard protocols help MultiLogo to work with automation systems. Second serial port (link select instead of GPI inputs) allows connection to automation systems and video mixers

Crystal Vision's ASCII protocol can be easily implemented for simple button box type control

Hardware:

Basic control from integrated control panel on Indigo 1AE-DP frame

Basic control from VisionPanel 3U remote panel

SBB-4 smart button box connects to the frame via Ethernet and provides four programmable LCD switches (which are configured for each order). The SBB-4 uses information from VisionWeb for settings. Uses Power over Ethernet so must be used with PoE enabled switch

ORDERING INFORMATION

MultiLogo V132	HD/SD three-layer logo keyer with 4 GB internal store and one video input for main programme
MultiLogo V132 8G	HD/SD three-layer logo keyer with 8 GB internal store and one video input for main programme
MultiLogo V432	HD/SD three-layer logo keyer with 4 GB internal store and four video inputs providing external live sources
MultiLogo V432 8G	HD/SD three-layer logo keyer with 8 GB internal store and four video inputs providing external live sources
ML-GPI8	Add-on board for MultiLogo V132 and V132 8G which provides additional eight GPI inputs and eight GPI outputs, designed for recalling presets (NB. Makes MultiLogo V132 a 'double decker' board which requires two frame slots)
Indigo 2SE	2U frame with active front panel featuring smart CPU for up to 12 Crystal Vision modules
Indigo 1AE-DP	1U frame with active front panel featuring smart CPU and integrated control panel for up to six Crystal Vision modules, with included power supply redundancy
Indigo 1SE-DP	1U frame with active front panel featuring smart CPU for up to six Crystal Vision modules, with included power supply redundancy
Indigo DT	Desk top box with passive front panel for up to two Crystal Vision modules
Indigo DTSE	Desk top box with active front panel featuring smart CPU for up to two Crystal Vision modules
RM52	Single slot frame rear module used for MultiLogo V132 and V132 8G. Allows maximum number of boards in frame (12 in 2U, six in 1U, two in desk top box). Provides relay bypass protection of the input. Gives access to one HD or SD input, one HD or SD Program output and one HD or SD Preview output
RM52 + RM33	Two single slot frame rear modules used together for MultiLogo V132 and V132 8G when ML-GPI8 add-on board is fitted. Allows six boards in 2U, three in 1U and one in desk top box. Provides relay bypass protection of the input. Gives access to one HD or SD input, one HD or SD Program output, one HD or SD Preview output and an additional eight GPI inputs and eight GPI outputs
RM52 + RM34	Two single slot frame rear modules used together for MultiLogo V432 and V432 8G. Allows six boards in 2U, three in 1U and one in desk top box. Provides relay bypass protection of input 1. Gives access to four HD or SD inputs, one HD or SD Program output and one HD or SD Preview output
VisionPanel	3U Ethernet remote control panel with touch screen
SBB-4	Smart button box with four programmable LCD switches. It is powered by PoE (Power over Ethernet) and therefore needs to be connected to a PoE enabled switch
VisionWeb Control	VisionWeb web browser control included within frame software
Statesman Lite	PC Control System
SNMP	SNMP monitoring and control

Crystal Vision

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