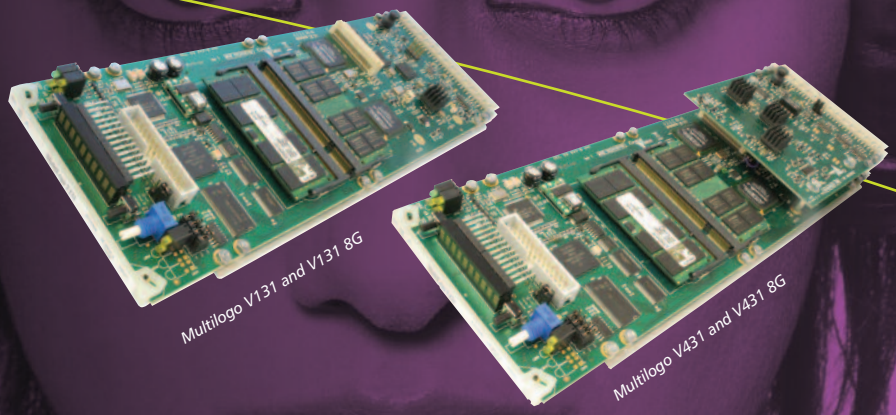
Crystal Vision

MultiLogo

HD/SD Three-Layer Logo Keyer



MultiLogo is the most feature-packed, space-saving and easy-to-use modular solution to HD or SD station branding. The choice of four different versions allows you to select the perfect logo keyer for your application – depending on whether you need to store five or 500 logos and whether you want to use live or pre-prepared sources.

This multi-layer logo keyer offers a real technical advantage to those that want to put three graphics on a screen. It provides three layers of keying from a variety of internal and external sources including an eight-port non-volatile video store.

To create MultiLogo, Crystal Vision has taken the different strengths from solid-state fast reading and writing DRAM and permanent Flash picture storage – and combined them. The size of internal storage is one of MultiLogo's exceptional features. Choose from either a 4 GB video store with MultiLogo V131 and MultiLogo V431 for up to 250 logos, or an 8 GB video store with MultiLogo V131 8G and MultiLogo V431 8G for 500 logos – ideal for you if you're using animated graphics or if you want just one logo keyer to store all of the graphics for your playout area for easy maintenance. The logos are transferred from the graphics PC to the video store over fast 100Mbit Ethernet.

MultiLogo offers varying numbers of video inputs to suit different applications. MultiLogo and MultiLogo 8G are available as either the single slot V131 which provides just one external input source, or as the 'double decker' V431 which gives four external input sources making it ideal for those wishing to use live as well as pre-prepared graphics.

MultiLogo will save you rack space, with up to 12 logo keyers fitting in 2U. The 100mm x 266mm module fits in Crystal Vision's standard frames – available in four sizes – allowing it to be easily integrated with any of the company's interface and keying products. With the logo keyer one of the last pieces of equipment in the chain, relay bypass protection of the main input to the main output is a simple way to keep it – and you – on air.

- Find the perfect logo keyer for your application: available in four versions
- Show up to three graphics at once with three layers of keying
- Store all the graphics you need: eight-port 4 GB (MultiLogo) or 8 GB (MultiLogo 8G) video store with DRAM and Flash memory
- Transfer graphics quickly from PC to the video store over 100Mbit Ethernet
- Suitable for a variety of graphics: logos can have separate key signal or be self-keyed
- Get the best results for your material: choice of additive or multiplicative keying
- Fine-tune until you're happy: keyers have separate gain, offset, opacity, inversion and fade controls
- Flexible use with live video: record fill and key signals from external video inputs, with up to four configurable external inputs on MultiLogo V431/V431 8G
- No problem if your graphic isn't perfect: use the key masks and easily trim any recorded video clips
- Know (and perfect) what's coming next with look-ahead preview
- Avoid transmission problems: lock the output to a Black and Burst or tri-level syncs analogue reference
- Play out audio with your graphic
- Save time: store up to 255 presets, with text labelling for easy identification
- Know you'll stay on air: relay bypass protection of main input to main output
- Easy-to-use PC software for conversion of graphics from any format and control of all functions
- Get complicated effects without advanced planning with flexible GPI control
- Control also available from board edge, front and remote panels, SNMP and Statesman PC software
- Save rack space: 100mm x 266mm module allows 12 MultiLogo V131 in 2U (24 in 4U, six in 1U and two in desk top box), while 'double decker' 100mm x 266mm module allows six MultiLogo V431 in 2U (12 in 4U, three in 1U and one in desk top box)

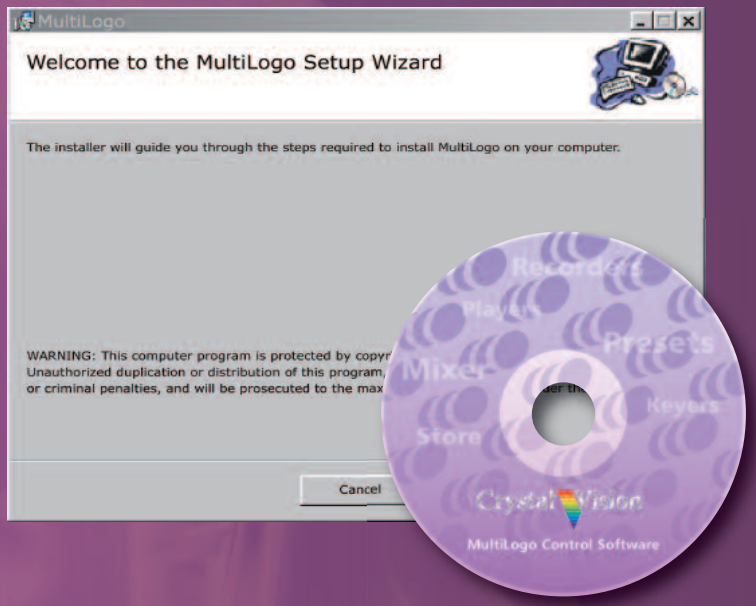
Picturestore

THE EASIEST LOGO KEYER TO OPERATE (HERE'S WHY)

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.

MultiLogo works with both still and animated graphics and supports the BMP, JPG, TGA, PNG, SGI and WAV file formats. Other file formats can be easily 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.

You know you'll always get sophisticated file handling and stability with MultiLogo's uCLinux operating system. MultiLogo offers excellent connectivity with a PC, using 100Mbit Ethernet to transfer the graphics from the PC directly into the video store on the board which allows extensive information to be transported quickly. MultiLogo's industry standard software protocols allow the logo keyer to be used with automation systems, further helped by the dedicated RJ45 connector on the RM52 frame rear module and by the extensive GPI capability.

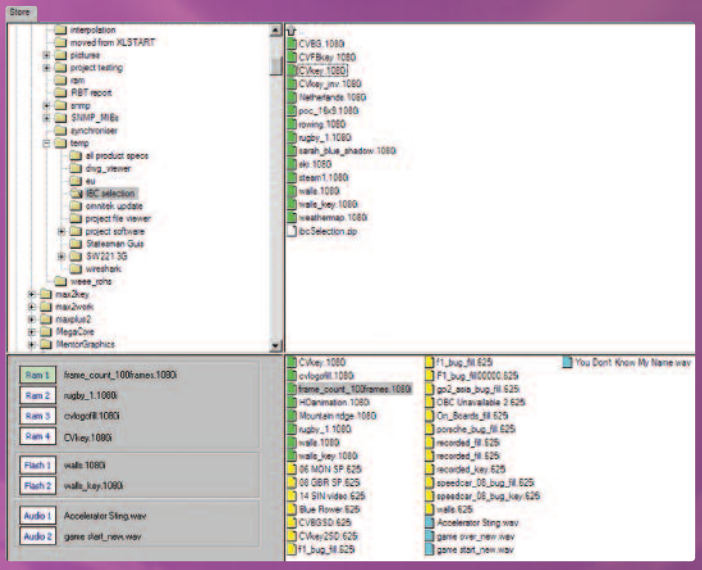


SO MANY SOURCES TO CHOOSE FROM!

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

The internal video store is available with either 4 GB or 8 GB of memory. Logos are copied from the graphics PC to both the DRAM and Flash memories on MultiLogo, providing the dual benefits of DRAM's fast reading and writing and Flash's non-volatile storage which retains the data even when the power is off. Each screen in the MultiLogo Control Software indicates how much space you have remaining in the store – another useful feature. For playing out the files, MultiLogo has a total of six video ports – four RAM video streams and two Flash 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.

External sources are also available. MultiLogo V131 has just one HD or SD video input for the main programme, while MultiLogo V431 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 character generator for an emergency message and a key signal for that character generator. The V431 is also ideal for you if want to add the functionality of a 2 x 1 switch for selecting between the main and backup video feeds.



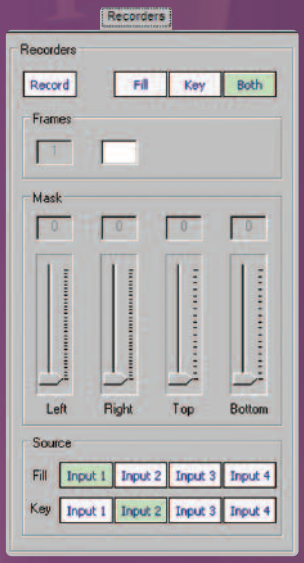
Just drag and drop the files you want to use, then assign them to one of the ports

It's very straightforward to transfer graphics from a PC to the internal video 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 you wish to upload and then drag and drop them into the Multilogo file store in the lower pane...easy! MultiLogo can multi-task, allowing you to transfer graphics from the PC or video input at the same time as outputting the multiple logos.

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 files with a yellow flash were already in the required MultiLogo format, while a white file still 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, while icons with a red corner indicate a file stored in DRAM only which will be lost on power down unless you copy it to Flash – which, of course, is easy to do: just right-click on the file.

Any of the graphics and audio clips held in the internal store can be assigned to one of the eight ports – just select the port then double click the file to assign it to that port. The file name will appear beside the port button – so you'll know whether it's worked successfully.

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 and also set the number of frames to be recorded. Left, right, top and bottom mask controls allow the recorded picture size to contain just the part of the image of interest – and optimise the file size. MultiLogo's storage provides sufficient bandwidth for two video inputs to be recorded while six images are playing out. Any recordings are initially stored in the DRAM memory and need to be copied to the Flash for permanent storage.

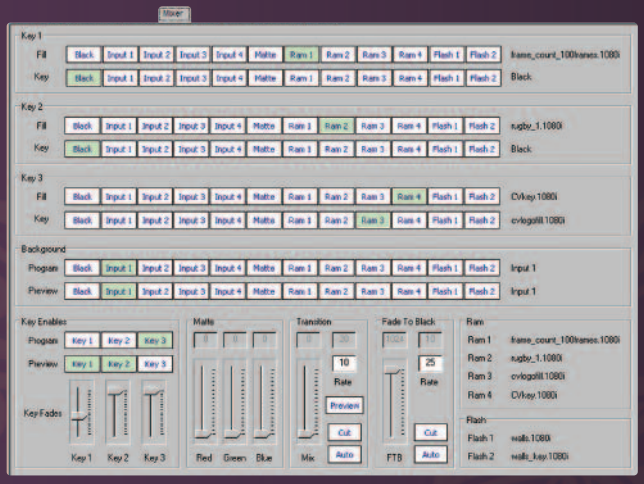


It's easy to take graphics from tape or a live feed

The Mixers tab helpfully lists the names of the graphics assigned to the four RAM and two Flash ports for easy reference, and allows any of these images to be assigned as the fill and key for each of your three levels of keying.

There are numerous options available here. You can select the program, preview or any of the three keys to be black – allowing 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. Alternatively the program, preview and keys can be set as a colour created by the matte generator. This could be useful 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 Mixer tab also includes a Fade to black control, should you need to fade down the complete programme.

Full look-ahead preview means you will never have to take a leap in the dark with your more complex transitions, cross your fingers and hope that everything is going to be okay. After the logos and keys are set up on the auxiliary 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 aux and main outputs will have swapped over and it's time to start setting up your next set of logos on the auxiliary output.



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

PERFECTING YOUR THREE LAYERS OF KEYING

MultiLogo benefits from Crystal Vision's years of keying expertise, demonstrated in the company's highly successful chroma keyers and linear keyers. The Keyers tab contains all the controls you need to set up MultiLogo's three keyers to perfection.

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

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 internally generates a full frame peak white signal to force the key. 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. Offset is handy for correcting keys that are a level above or below black, or for self-keying applications where you want to establish the fill's luminance level to trigger the keying. The gain control, meanwhile, is useful for self-keyed logos that are not completely peak white – you can increase the key gain to make the key signal strong enough in the graphic's darker areas. Wrong-way-up 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 for a variety of uses. 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.

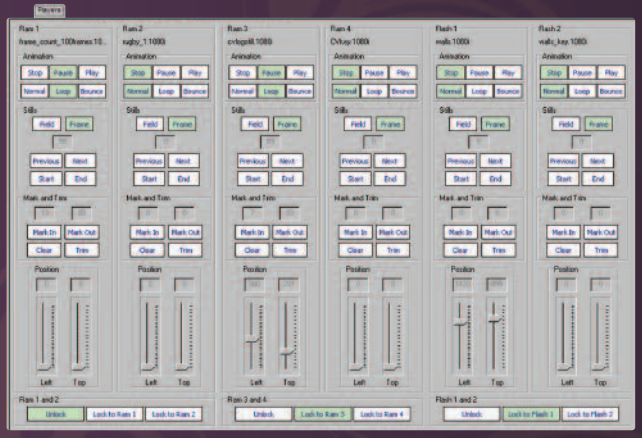
For those who just need one station ident, MultiLogo V431 can be used as a dual channel device – sharing the three keyers between two channels.

GREAT FEATURES FOR PLAYING OUT YOUR GRAPHICS

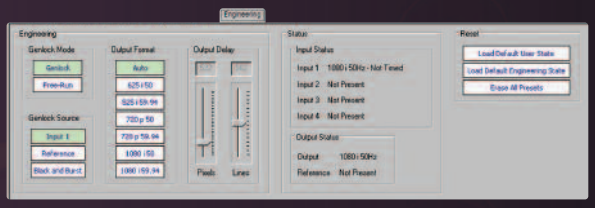
The Players tab contains the animation controls which set the way in which the selected files are played out, and are Play, Pause, Stop, Normal, Loop and Bounce. Normal tells the file to play to the end and then freeze on the final frame. Loop tells the file to play again from the start and is most useful 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 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.

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. You can also lock together a pair of outputs – 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.



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

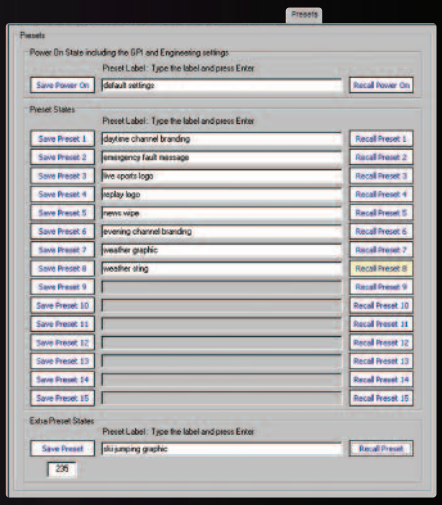


Avoid transmission problems by locking to an analogue reference

MultiLogo can be left to free-run or can be locked to either digital video input 1 or to an external Black and Burst or tri-level syncs analogue 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 – thereby avoiding any transmission problems.

In auto mode the output format will follow either 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 to be used as a standalone video source or test pattern generator. The output delay sliders can be used to add an offset delay 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.

Up to 255 presets can be stored, with the presets holding the current state of the MultiLogo including which files have been assigned to the RAM and Flash 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. 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. 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.



Save time: label your presets for easy identification

GIVE YOUR GRAPHICS AUDIO

Choose how you want to play out your audio

It's easy for your logos to have accompanying audio.

Audio data is transferred to and from the board via Ethernet using the MultiLogo Control Software and can then be assigned to the Audio 1 and Audio 2 ports ready for playout. MultiLogo can embed up to four channels of audio into a single group on its output video, with audio routing of the stereo pairs allowing selection of which of the possible sources are embedded. The audio 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.

There are also a number of sources of ancillary data. Ancillary data can be passed directly from the selected input to the outputs, while it is possible to take the picture from one channel and the ancillary data from another. If an audio source is selected the ancillary data will be blanked before the audio insertion.

MORE CONTROL OPTIONS (INCLUDING VERY FLEXIBLE GPIS)

MultiLogo includes extremely flexible GPI control of each key level – facilitating the inclusion of complicated effects from any mixer or automation system.

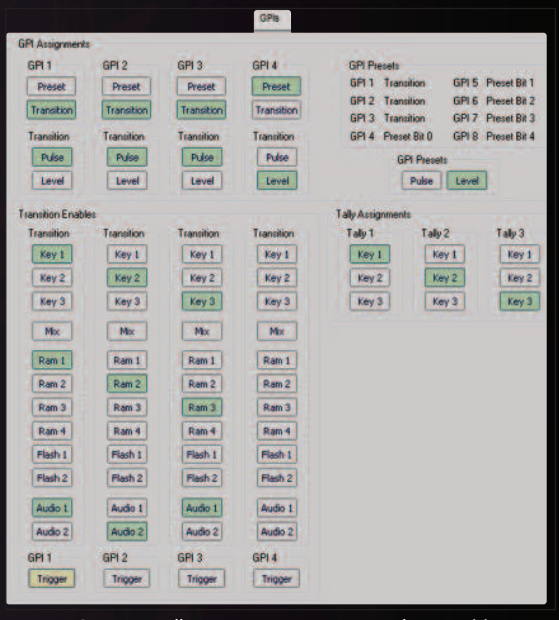
Four fully configurable GPIs can be toggled between recalling presets and transition control. When transition control is chosen, each GPI can be individually selected to control key levels 1, 2 and 3, start any of the video and audio players or do a mix between program and preview. This allows the three graphics to be faded up and down independently and makes it easy to put together a sequence of changes using all three key levels – without the need for advanced planning. MultiLogo V431 includes a further four GPIs available for recalling presets. All versions cope with both pulse and latching GPI levels.

For those that want to drive lights, MultiLogo features up to three tallies (one on the V131 version) to indicate whether any of the key levels are faded up.

The GPIs are perfect for those working with an automation system, where you can either control the key layers directly or bundle all the operations into a preset and recall that.

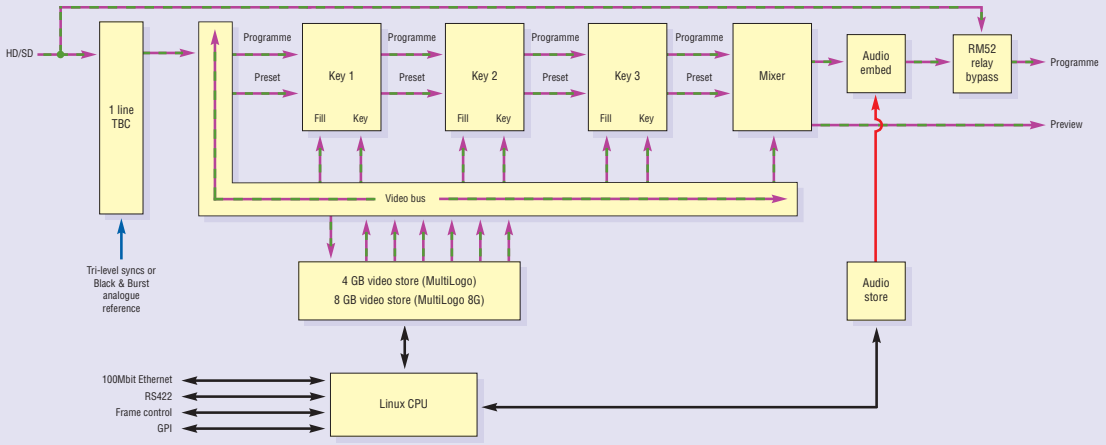
Control is also available from Crystal Vision's usual methods – board edge, front and remote panels, SNMP and the Statesman PC software.

COMING SOON... The MultiLogo Controller is a 2U control panel ideal for live operation. It's perfect as a backup if the automation system fails or you want to bring the MultiLogo under manual control in an emergency situation.

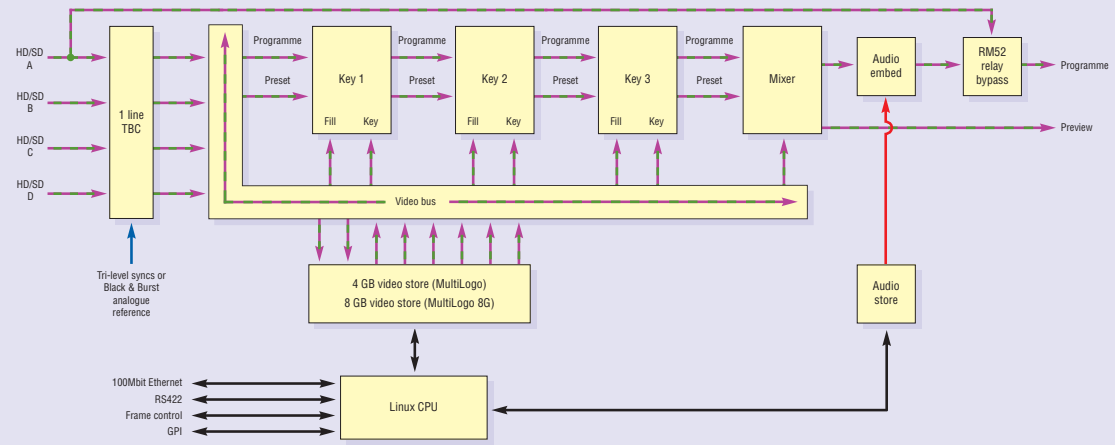


Use GPIs to recall presets or to set up complex transitions

MULTILOGO V131 AND MULTILOGO V131 8G



MULTILOGO V431 AND MULTILOGO V431 8G



CHOOSING THE RIGHT LOGO KEYER FOR YOU

FEATURE	MULTILOGO V131	MULTILOGO V131 8G	MULTILOGO V431	MULTILOGO V431 8G
Suitable for HD	●	●	●	●
Suitable for SD	●	●	●	●
Size of internal video store	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 output streams from internal video store (DRAM and Flash)	6 video and 2 audio	6 video and 2 audio	6 video and 2 audio	6 video and 2 audio
Number of external video inputs	1	1	4	4
Number of video outputs	2 (programme and preview)	2 (programme and preview)	2 (programme and preview)	2 (programme and preview)
Record sections of live feeds	● (from programme input only)	● (from programme input only)	●	●
Use with still and animated graphics	●	●	●	●
Three layers of keying	●	●	●	●
Use separate key signal or self-keyed graphics	●	●	●	●
Lock to analogue reference	●	●	●	●
Look-ahead preview	●	●	●	●
Play out audio from store or video inputs	●	●	●	●
Use as dual channel device			●	●
Relay bypass protection	●	●	●	●
Number of GPI inputs	4	4	8	8
Number of GPI tallies	1	1	3	3
Number of boards fitting in 2U	12	12	6	6
Rear modules used	RM52	RM52	RM52 + RM34	RM52 + RM34

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

SPECIFICATION

MECHANICAL
MultiLogo V131: Standard Crystal Vision module 266mm x 100mm
MultiLogo V431: 'Double decker' Crystal Vision module 266mm x 100mm (uses two frame slots)
Weight: 200g (MultiLogo V131); 300g (MultiLogo V431)
Power consumption: 12.5 Watts (MultiLogo V131); 16 Watts (MultiLogo V431)

OPERATING SYSTEM
MultiLogo runs the uCLinux operating system

VIDEO AND AUDIO STORE
Non-volatile eight-port video store for pre-prepared still or animated graphics
Video store is duplicated in RAM and Flash
MultiLogo V131/V431: 4 GB store for up to 250 graphics
MultiLogo V131 8G/V431 8G: 8 GB store for up to 500 graphics
DRAM store has four video output streams and Flash store has two video output streams
DRAM store also has two audio output streams
Can read six and write two images at once
Flash store retains video and audio data when board is unpowered, with data then copied to RAM on power up

VIDEO INPUTS
MultiLogo V131: One HD or SD input (for main programme)
MultiLogo V431: Up to four HD or SD inputs can provide external live sources for logo keyer
Sections of the live feeds 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
270Mb/s or 1.5Gb/s serial compliant to EBU 3267-E, SMPTE 259M and SMPTE 292M
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

VIDEO OUTPUTS
One HD or SD main output and one HD or SD preview output using RM52 (MultiLogo V131) or RM52 and RM34 frame rear modules together (MultiLogo V431). 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 259M and SMPTE 292M
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
Main, 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)
Can be used as a simple dual channel device, with three keyers shared between two channels (MultiLogo V431)

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 animation controls set the way the selected files are played out and are Play, Pause, Stop, Normal, Loop and Bounce
The position of the graphics on screen can be controlled
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
Aux output can be used to preview the next state and the transition to that state before it is applied to the main output. After the logos and keys are set up on the aux output, the full transition can be previewed on the aux 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 aux and main outputs will have swapped over

AUDIO
Audio can be played out from the store or can be taken from one of the video inputs
Audio data is transferred to and from the board via Ethernet using the MultiLogo Control Software
MultiLogo can embed up to four channels (two stereo pairs) of audio into a single group on its output video
Audio routing of the stereo pairs allows selection of which of the possible sources are embedded
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 graphic to have accompanying audio
Audio can be played once or be looped

ANCILLARY DATA
Ancillary data can be taken from one of the inputs. 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. If an audio source is selected the ancillary data will be blanked before the audio insertion

PRESETS
Up to 255 presets can be stored and recalled from the MultiLogo Control Software or GPI. MultiLogo V131 can recall up to four presets by GPI. MultiLogo V431 can recall up to eight presets by GPI
Presets store the current state of the MultiLogo including which files have been assigned to the RAM and Flash memory, the position of the keys and the key gain settings
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

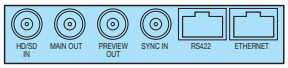
GPI INPUTS
MultiLogo V131: Four GPI inputs
MultiLogo V431: Eight GPI inputs (last four are dedicated to recalling presets)
The first four GPI inputs can be toggled between recalling presets and transition control, providing extremely flexible GPI control of each key level and making complicated effects from any mixer or automation system easy
When transition control is chosen, each GPI can be individually selected to control key levels 1, 2 and 3, start any of the video and audio players or do a mix between main and preview, allowing the three graphics to be faded up and down independently
One tally (MultiLogo V131) or three tallies (MultiLogo V431) available to indicate whether any of the key levels are faded up
Active: pull to ground, pulled up to +5V through 10 kohm
Works with pulse or latching GPI levels

GPI OUTPUTS
One GPI output
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

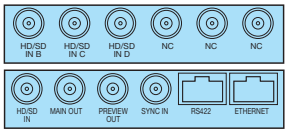
LED INDICATION OF:
Power supplies okay
Main input present
SD/HD input

LOCAL CONTROL
Board edge with ten character alphanumeric display

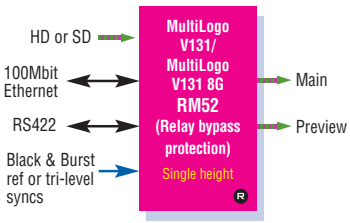
REMOTE CONTROL
RS422/485
Port 1: 19200, 8 bits, 1 stop no parity
Port 2: 38400, 8 bits, 1 stop no parity
100Mbit Ethernet connectivity from the graphics PC straight into the video store on the board, via the rear module, for fast transfer of images
MultiLogo Control Software is included on a CD with MultiLogo and allows advanced control of the logo keyer
Basic control from frame active panel and remote panel
Statesman allows basic control from any PC on a network
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
RM52 frame rear module includes dedicated RJ45 connector for RS422 control

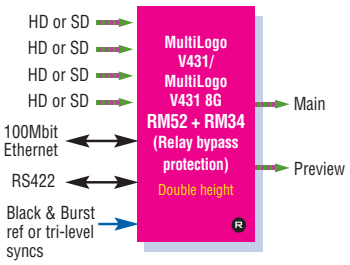


RM52 used with MultiLogo V131/ MultiLogo V131 8G



RM52 + RM34 used with MultiLogo V431/ MultiLogo V431 8G





ORDERING INFORMATION

MultiLogo V131	Modular logo keyer with three layers of keying and 4 GB video store. One HD/SD input
MultiLogo V131 8G	Modular logo keyer with three layers of keying and 8 GB video store. One HD/SD input
MultiLogo V431	Modular logo keyer with three layers of keying and 4 GB video store. Includes four HD/SD inputs providing external live sources
MultiLogo V431 8G	Modular logo keyer with three layers of keying and 8 GB video store. Includes four HD/SD inputs providing external live sources
Indigo 4	4U frame with passive front panel for up to 24 Crystal Vision modules
Indigo 4SE	4U frame with passive front panel fitted with Statesman CPU for up to 24 Crystal Vision modules
Indigo 2	2U frame with passive front panel for up to 12 Crystal Vision modules
Indigo 2AE	2U frame with active front panel for up to 12 Crystal Vision modules
Indigo 2SE	2U frame with passive front panel fitted with Statesman CPU for up to 12 Crystal Vision modules
Indigo 1	1U frame with passive front panel for up to six Crystal Vision modules. Power supply redundancy available with Indigo 1-DP
Indigo 1AE	1U frame with active front panel for up to six Crystal Vision modules. Power supply redundancy available with Indigo 1AE-DP
Indigo 1SE	1U frame with passive front panel fitted with Statesman CPU for up to six Crystal Vision modules. Power supply redundancy available with Indigo 1SE-DP
Indigo DT	Desk top box with passive front panel for up to two Crystal Vision modules
Indigo DTAE	Desk top box with active front panel for up to two Crystal Vision modules
Indigo DTSE	Desk top box with passive front panel fitted with Statesman CPU for up to two Crystal Vision modules
RM52	Single slot frame rear module for MultiLogo V131 and MultiLogo V131 8G. Allows maximum number of boards in frame (24 in 4U, 12 in 2U, six in 1U, two in desk top box). Provides relay bypass protection of the main input to the main output. Gives access to one HD or SD input, a Black and Burst or tri-level syncs analogue reference, one HD or SD main output and one HD or SD preview output
RM52 + RM34	Two single slot frame rear modules used together for MultiLogo V431 and MultiLogo V431 8G. Allows 12 boards in 4U, six in 2U, three in 1U and one in desk top box. Gives access to four HD or SD inputs, a Black and Burst or tri-level syncs analogue reference, one HD or SD main output and one HD or SD preview output
Statesman	PC Control System
SNMP	SNMP monitoring and control

Performance and features are subject to change. Figures given are typical measured values. MULTILOGO0410

Crystal Vision

Crystal Vision Ltd. Lion Technology Park, Station Road East, Whittlesford, Cambridge CB22 4WL, England.
Tel: +44 (0)1223 497049 Fax: +44 (0)1223 497059 E-mail: sales@crystalvision.tv www.crystalvision.tv