Crystal Vision

Clip N Key

HD/SD clip and sting store

Clip N Key is a low-cost clip and sting store and the most convenient way to add extra video sources to a mixer to enhance transitions. Clip N Key is part of the Picturestore product range - Crystal Vision's new area of speciality based on solid-state fast reading and writing DRAM and permanent Flash picture storage.

Ideal for sports or live events programming, it allows a special clip or sting with optional associated key signal to be played repeatedly - for example, the same moving image each time a team scores a goal. Clip N Key can store 30 seconds of moving HD video (15 seconds if it includes a key signal) or six times that length in SD. A number of different clips can be stored dependent on the total length of time used. If a key output is not required Clip N Key can generate two independent video clips from its two outputs.

Clip N Key can be controlled by VTR protocol to record and replay stills or short video clips, allowing any standard VTR controller or mixer with VTR type outputs to automate the operation of the board. Clip N Key has the flexibility to work with both named images and timecode. The timecode can be used as a label for each individual clip. Clips can be created either by VTR control, or can be downloaded over 100 MB Ethernet to the board as a graphics file using Crystal Vision's special drag and drop computer software - and then be assigned a timecode label that will be used by the controller to replay the clip. This makes operation easy: to replay an individual clip the operator simply needs to cue to the relevant timecode and play, while to create a clip he should cue to an unused timecode and record. Memory is automatically assigned to the timecode as it is recorded, making it unnecessary to use a continuous range of timecodes. A clip recorded by RS422 control can be saved for back up or copied to other devices using the PC software. Being a solid-state device, Clip N Key will cue instantly so that any video clip is available to play without the delay that may occur on a disk or tape-based device.

Clip N Key is available in two versions, as the 'double decker' Clip N Key V220 and the single slot Clip N Key V120. The V220 allows the grabbing of a live fill and separate key signal at the same time so that any movement is in synchronisation on the two channels. Both versions are 100mm x 266mm modules which fit in Crystal Vision's standard frames alongside any interface or keying products from the range, allowing either six or 12 clip stores in 2U - ideal for saving space in a sports OB vehicle. Clip N Key also includes relay bypass protection of the main input in the event of power failure or board malfunction or removal.

This space-saving, specialised and affordable product is ideal for people who require short clips or stings for which it is not worth tying up a server port.

- Clip and sting store, available in two versions
- Works with both HD and SD
- Convenient way to add extra video sources to mixer to enhance transitions - without tying up a server port
- Multi-port 4 GB video store with DRAM and Flash memory
- Can store 30 seconds of moving HD video (15 seconds with key signal)
- Can store 150 seconds of moving SD video (75 seconds with key signal)
- Number of different clips can be stored
- Can work with both named images and timecode
- Fast transfer of clips from PC to board over 100 MB Ethernet, with special drag and drop software running on PC
- One (V120) or two (V220) external inputs for live video
- Industry standard software protocols help use with video mixers
- Relay bypass protection of main input
- Space-saving: 100mm x 266mm module allows 12 Clip N Key V120 in 2U (24 in 4U, six in 1U and two in desk top box), while 'double decker' 100mm x 266mm module allows six Clip N Key V220 in 2U (12 in 4U, three in 1U and one in desk top box)

SPECIFICATION

MECHANICAL
Clip N Key V220: 'Double decker' Crystal Vision module 266mm x 100mm (uses two frame slots)
Clip N Key V120: Standard Crystal Vision module 266mm x 100mm
Weight: 300g (Clip N Key V220); 200g (Clip N Key V120)
Power consumption: 16 Watts (Clip N Key V220); TBC (Clip N Key V120)

VIDEO STORE
4 GB multi-port video store
Moving HD video: can store approximately 30 seconds in 50Hz (15 seconds with key signal) and approximately 25 seconds in 59.94Hz (12 seconds with key signal)
Moving SD video: can store approximately 150 seconds (75 seconds with key signal)
Can store any number of clips, dependent on total length of time used
Can read and write multiple images at once
Flash store retains video data when board is unpowered

VIDEO INPUTS
Clip N Key V220: Up to two HD or SD inputs for live clip or sting with optional key signal. (One used as digital reference)
Clip N Key V120: One HD or SD input for live clip or sting. NB: Key signal would need to be input separately
270Mbit to 1.485Gbit serial compliant to EBU 3267-E, SMPTE 259M and SMPTE 292M
HD cable equalisation up to 140m with Belden 1494 or equivalent (approx. 100m with Belden 8281). Cable lengths are for new HD version of frames. SD cable equalisation >250m Belden 8281 or equivalent
Input return loss: - 15dB for 50MHz to 1.5GHz
Auto 525/625 line and video format (HD/SD) selection

VIDEO OUTPUTS
Two HD or SD clip outputs and one key (or second clip) output using RM44 frame rear module (Clip N Key V120) or RM44 and RM34 frame rear modules together (Clip N Key V220). Relay bypass protection of the main input
Serial output: 270Mbit to 1.485Gbit serial compliant to EBU 3267-E, SMPTE 259M and SMPTE 292M. Output follows the input format

GRAPHICS SOFTWARE AND TRANSFER
Special drag and drop software running on the graphics PC will auto-convert most common graphic file formats to the format required by Clip N Key
Clips are named for easy recall
100 MB Ethernet connectivity from the graphics PC straight into the video store on the board for fast transfer of clips and stings

DELAY THROUGH BOARD
Up to one video line. Each input has a one-line TBC to align the input signal timing

AUDIO
Audio storage and processing available early 2009

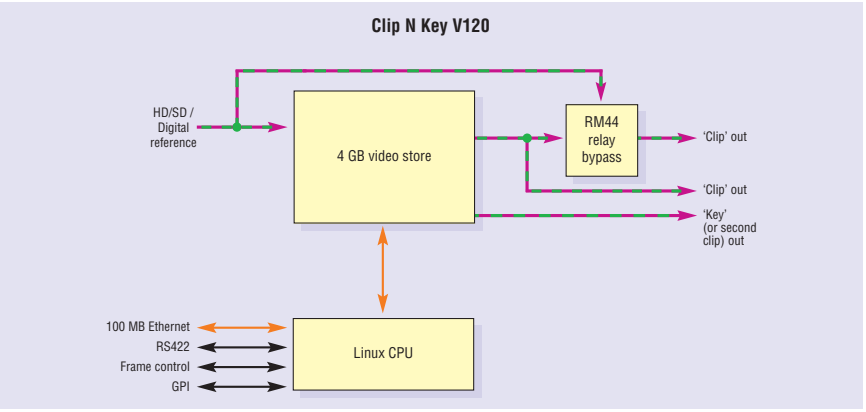
GPI INPUTS
Seven GPI inputs (Clip N Key V220) or four GPI inputs (Clip N Key V120). Functions still to be fully defined
Active: pull to ground, pulled up to +5V through 10 kohm
The three top board GPI inputs are always available. The four on the main board are shared with the second serial port (link selection)

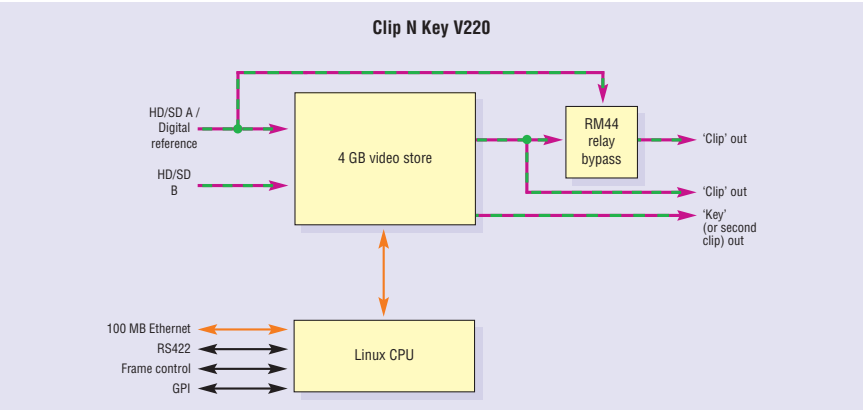
GPI OUTPUTS
One GPI output
Other GPI output connection is used to control the bypass relay
Electrically: Open collector transistors 48V, 270 ohm current limit resistors. Pulled up to +5V through 68000 ohm

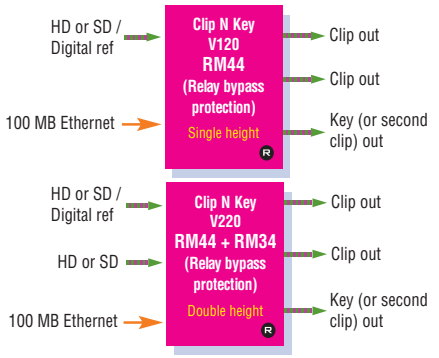
LED INDICATION OF:
Power supplies okay
Main input present
SD/HD input

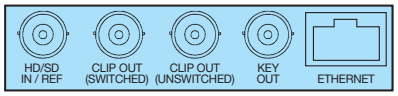
REMOTE CONTROL
RS422/485
Port 1: 19200, 8 bits, 1 stop no parity
Port 2: 38400, 8 bits, 1 stop odd parity
Basic control from frame active panel and remote panel
Statesman allows basic control from any PC on a network
VTR protocol can be used to record and play clips using timecode labels
Clip N Key runs the uCLinux operating system
Second serial port (link select instead of GPI inputs) allows connection to control panels and automation systems
Industry standard software protocols help it to work with automation systems and video mixers

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

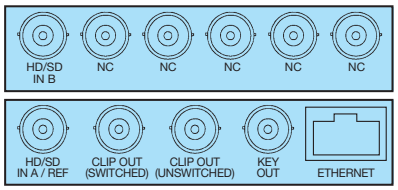








RM44 used with Clip N Key V120



RM44 + RM34 used with Clip N Key V220

ORDERING INFORMATION

Clip N Key V220	HD/SD clip and sting store, with two HD/SD inputs
Clip N Key V120	HD/SD clip and sting store, with one HD/SD input
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
RM44 + RM34	Two single slot rear modules used together for Clip N Key V220. Allows 12 boards in 4U, six in 2U, three in 1U and one in desk top box. Provides relay bypass protection of the main clip input. Gives access to two HD/SD inputs, two HD/SD clip outputs and one HD/SD key (or second clip) output
RM44	Single slot frame rear module used for Clip N Key V120. 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 clip input. Gives access to one HD/SD input, two HD/SD clip outputs and one HD/SD key (or second clip) output
REMIND	19" remote control panel
REMIND-E	19" Ethernet remote control panel
Statesman	PC Control System

Performance and features are subject to change. Figures given are typical measured values. CLIPNKEY-P1208