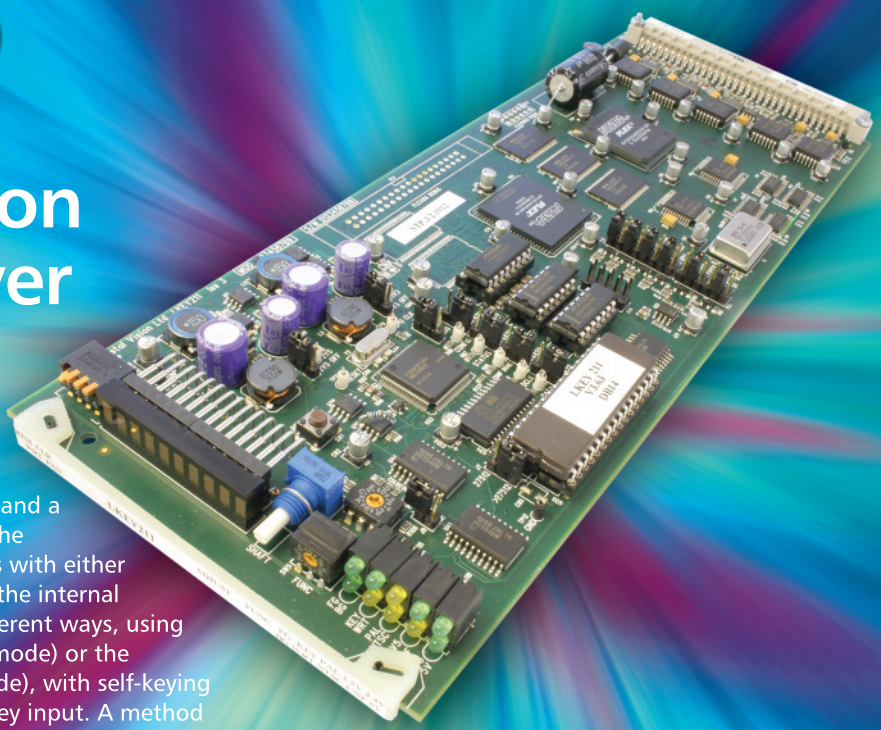
Crystal Vision

LKEY211

Standard Definition Digital Linear Keyer



The LKEY211 is a small, affordable and feature-packed digital linear keyer, designed to key logos, captions, scoreboards and other graphics over Standard Definition video streams.

Taking in Background and Foreground video inputs and a 10 bit external key signal, the LKEY211 cuts a hole in the Background in the shape of the key signal and fills this with either the Foreground video source or a colour produced by the internal matte generator. The key can be generated in two different ways, using either the luminance of a key signal (the external key mode) or the luminance of the Foreground graphic (the self-key mode), with self-keying useful for those who do not wish to use a dedicated key input. A method of keying can be selected to suit the graphics, with both additive and multiplicative linear keying available. Two internal rectangular masks can be used to remove unwanted areas of the fill video, forcing areas to show or limit elements of the Background or Foreground.

The LKEY211 is the natural choice for those doing multi-layer or multi-channel keying. Housed in Crystal Vision's standard frames (available in four sizes) alongside any other board from the range, the 100mm x 266mm module saves you rack space by allowing an amazing 12 linear keyers in 2U.

The keyed graphic can be faded in and out, either manually or as a timed transition, while it is possible to fade to black on the main output. Interesting effects can be created by amplifying, offsetting or inverting the key signal. Mix between the Foreground and Background inputs, or make it a basic mixer with the inclusion of eight simple wipes. Up to ten presets are available to store settings such as lift, gain and fade time for each graphic being used for easy later recall.

There's a choice of three frame rear modules for the LKEY211. Use the single slot high RM01 to get the two main outputs and one auxiliary output or the double slot high RM18 for an extra auxiliary output. Or give the LKEY211 an extra layer of security by using the RM42 frame rear module which provides relay bypass protection of the Background on power failure or board malfunction or removal – maintaining your programme output while maintenance is completed. The main and auxiliary outputs can independently show the video sources, the key or the combined picture.

The LKEY211 is effortlessly easy to set up and offers a control method to suit all preferences. GPIs are a popular way to control this product, with the six GPI inputs creating a powerful system for activating the key fades, fades to black, mixes and wipes. Ideal for live use, the hands-on Safire Controller is a dedicated 2U panel which includes a T-Bar for manually activated transitions, while the Statesman software is perfect for those who wish to make their adjustments from any PC on a network. SNMP monitoring and control is also available.

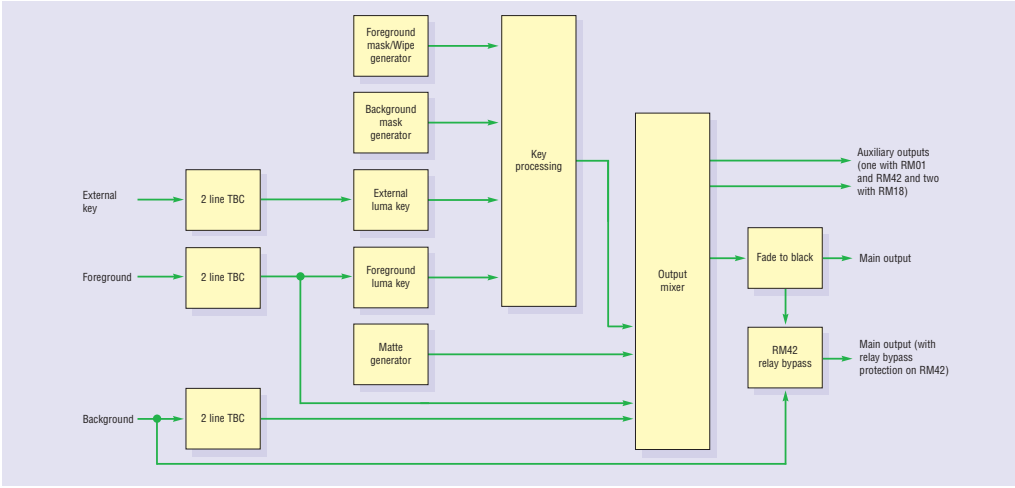
- SDI linear keyer
- Small size makes it ideal for multi-layer keying: 100mm x 266mm module allows 12 linear keyers in 2U (24 in 4U, six in 1U and two in desk top box)
- Additive and multiplicative linear keying
- Self-key from Foreground
- Internal colour matte generator
- Mask generation
- Fade key in and out
- Fade to black
- Key offset, gain and inversion
- Manual or automatic activation of transitions
- Mix between Foreground and Background
- Eight simple wipes
- Main and auxiliary outputs
- Flexible control, including GPIs, board edge, active and remote panels, dedicated control panel, SNMP and PC software

SPECIFICATION

MECHANICAL
Standard Crystal Vision module 266mm x 100mm
Weight: 180g
Power consumption: 9.5 Watts

VIDEO INPUTS
Three SDI inputs (Foreground, Background and Key)
SDI 270Mbit to EBU 3267-E and SMPTE 259M
Cable equalisation >200m Belden 8281 or equivalent
Auto 625/525 line selection
Reference timing can be selected to come from Foreground, Background or Key input
Delay through board: 15us approx.
Max input buffer length two lines (selectable)

VIDEO OUTPUTS
Maximum of two main and two auxiliary SDI outputs (two main and one auxiliary output using the RM01 and RM42 frame rear modules and two main and two auxiliary outputs using the RM18)
Active loop-through output for Background with RM18
The RM42 provides relay bypass protection. An electromechanical relay switch needs power to hold the switch in one state and will revert to the other state (board bypass) on loss of power. It prevents signal loss by mechanically connecting the Background to main output 1 on complete frame power failure or board removal
SDI 270Mbit to EBU 3267-E and SMPTE 259M with EDH
Will drive >200m Belden 8281 or equivalent
Main and auxiliary outputs can be used to show Main Output, Preview Foreground, Background, Key, Processed Key or Matte Generator
Auxiliary outputs can show combined picture when main output has been faded to Background, or faded to black



KEYING MODES
Foreground and Background can be mixed, wiped or keyed
Wipes include: horizontal, vertical, horizontal blind, vertical blind, left corner, right corner, box and cross. Can be triggered manually or automatically
Key processing can be additive or multiplicative. Additive keying is only required with some caption generators where the Foreground is already processed
Separate Foreground Force and Background Force internal rectangular masks can be combined with external keys in multiplicative (standard) keying
Internal colour matte generator can be used as a fill for keying
Self-key is available from Foreground input
Adjustable key gain, offset and inversion
Key fade function, to fade Foreground in and out. Manual or automatic – auto key fade time can be set to take from 0 to 100 fields
Main outputs have fade to black, available in all modes. Manual or automatic – auto fade to black time can be set to take from 0 to 100 fields

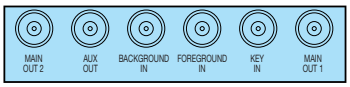
ANCILLARY DATA/EMBEDDED AUDIO
Ancillary data and embedded audio is taken from Background input and inserted to main outputs

LED INDICATION OF:
Power supplies
625/525 input detected
Inputs present

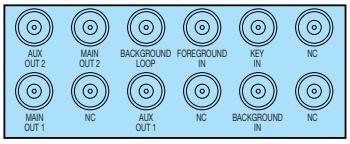
GPI INPUT LEVELS
Electrically: Will tolerate 0V to 30V, pulled up to +5V through 1 kohm

GPI INPUTS
Up to four momentary or two level control GPI inputs available (or first four can alternatively be link selected to be RS422 for use with the Safire Controller, for example)
First four are momentary control and will do the following:
GPI0: Fade key up or fade key down
GPI1: Mix from Foreground to Background or from Background to Foreground
GPI2: Wipe from Foreground to Background or from Background to Foreground
GPI3: Fade to black or fade from black
GPI4 and GPI5 are level control GPIs:
GPI4: When level is zero the key will fade down. When level is high the key will fade up
GPI5: When level is zero will fade to black. When level is high the normal programme will be output

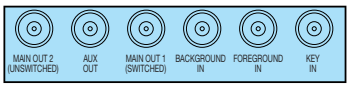
REMOTE CONTROL
RS485 multi-drop 19200 baud, 8 bits, no parity
Safire Controller control panel operates up to seven LKEY211 modules
Statesman software allows control from any PC on a network
SNMP monitoring and control available as a frame option
Up to ten presets may be stored and recalled



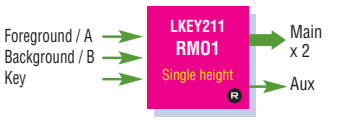
RM01

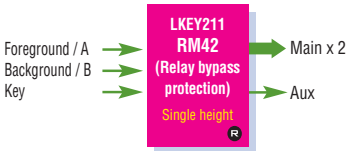


RM18



RM42





ORDERING INFORMATION

LKEY211	Standard Definition digital linear keyer
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
RM01	Single slot frame rear module. Allows maximum number of LKEY211 in frame (24 in 4U, 12 in 2U, six in 1U, two in desk top box). Gives access to the Foreground, Background and Key inputs, two main outputs and one auxiliary output
RM18	Two slot frame rear module. Allows 12 LKEY211 in 4U, six in 2U, three in 1U and one in desk top box. Gives access to the Foreground, Background and Key inputs, two main outputs and two auxiliary outputs
RM42	Single slot frame rear module. Allows maximum number of LKEY211 in frame (24 in 4U, 12 in 2U, six in 1U, two in desk top box). Provides relay bypass protection. Gives access to the Foreground, Background and Key inputs, two main outputs and one auxiliary output
REMIND	19" remote control panel
REMIND-E	19" Ethernet remote control panel
Safire Controller	2U remote control panel for up to seven LKEY211 modules
Statesman	PC Control System
SNMP	SNMP monitoring and control

Crystal Vision

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