



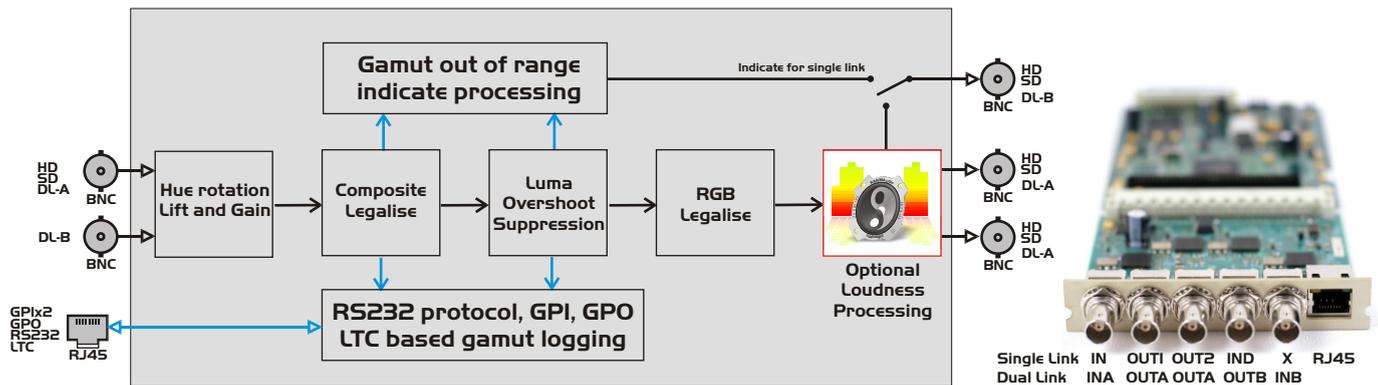
Overview

The LE-2U will auto detect whether the incoming video is SD-SDI, HD-SDI or dual link (4:4:4) and switch into the appropriate format.

The unit legalises the incoming signal in the colour space that the user selects, RGB, YUV, composite (PAL or NTSC) or RGB and composite combined. The unit also provides eyeheight's clobbering luma overshoot and undershoot suppression, gain, lift and hue controls. All common worldwide legalisation standards can be corrected.

The LE-2U also has an indicate output (IND) which will show the user where, on the picture, any correction of the signal is being carried out.

Block diagram detail



Key features

Description

Provides legalisation of the SD-SDI, HD-SDI or dual link (4:4:4) input signal with full 10 bit processing throughout.

NOTE: Indicate output is NOT available in dual link mode.

Features

- Composite, YUV and RGB colour spaces and combined RGB+composite with two independent outputs for "Legalise" and user controllable "Legal/Indicate".
- Adjustable clipping levels and soft clipping knee levels.
- Integral luma and chroma gain, black level adjustment & hue rotation.
- EBU-R103 legalisation settings and 7.5 IRE or 0 IRE pedestal with 6 user memories and common presets.
- Log output with timecode and PC viewer programme. Automation port using simple protocol for presets/memories
- Unique severity display mode on monitoring output.
- Firmware and software fully updatable by file upload*
- Mechanical relay bypass option available.
- Optional web based java softPanel and specific "web app" available.*

Formats

- 1080i/50/59.94, 1080p 23.976/24/25/29.97, 720p/50/59.94, 625/50, 525/59.94, Dual link 4:4:4 *Only on FB-9E chassis



LE-2U



Multi-rate and dual link 4:4:4 legaliser module with composite, RGB and YUV gamut correction and optional loudness control

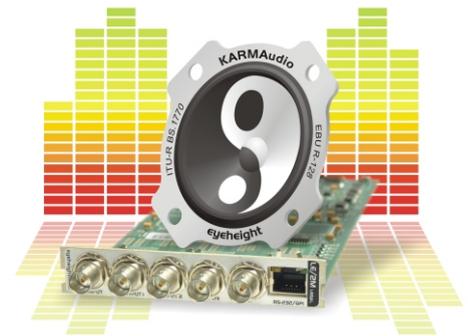
eyeheight

KARMAudioRT option

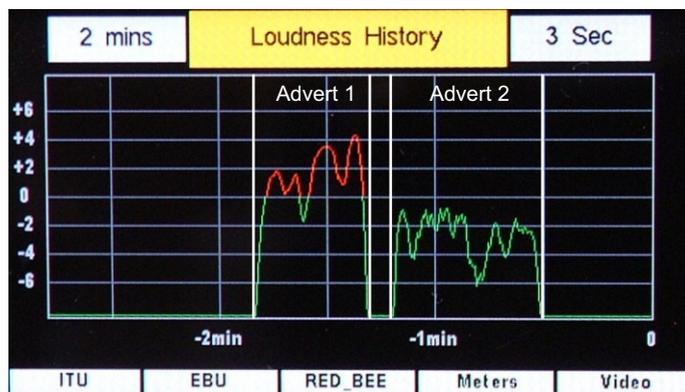
KARMAudioRT provides automatic real-time control of perceptual loudness and true-peak using ITU-R BS.1770 multi-channel loudness and true-peak estimation algorithms coupled with proprietary correction algorithms to ensure compliance with loudness and peak-program level requirements.

KARMAudioRT continuously monitors embedded stereo or surround audio loudness and seamlessly adjusts system gain across all channels to maintain the loudness limit while preserving the audio imaging.

KARMAudioRT also performs 8x over-sampling true-peak estimation and instantaneous correction to all stereo or surround channels to ensure that peak-program level limits are adhered to.

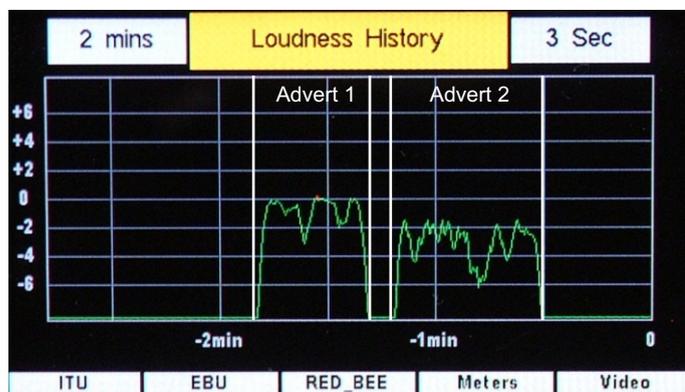


Real-time loudness correction



This loudness history shows the short-term perceptual loudness (using ITU-R BS.1770) of two adverts leveled using a traditional peak-program level measurement of PPM6.

Despite both hitting PPM6 it can clearly be seen that the first advert has substantially higher perceptual loudness and far exceeds the defined perceptual loudness limit of 0LU (-18LUFS in this case)



By contrast this loudness history shows the short-term perceptual loudness (using ITU-R BS.1770) of the same two adverts once they have been processed in real-time by KARMAudioRT.

The first advert now conforms to the 0LU loudness limit and the majority of the dynamics have been maintained. The second advert is untouched as it does not exceed the 0LU loudness limit.

As a result of the KARMAudioRT processing viewers will now experience much more consistent loudness between individual adverts and between adverts and program material.



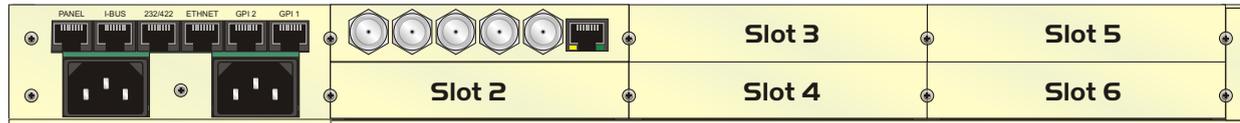
LE-2U



eyeheight

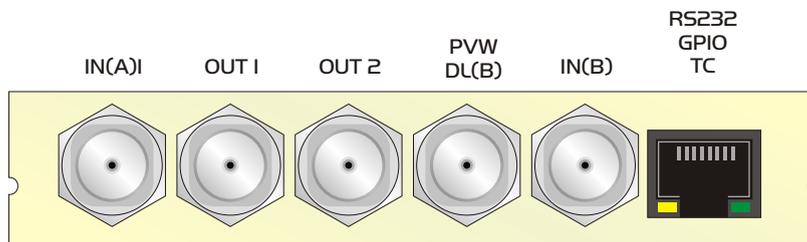
Multi-rate and dual link 4:4:4 legaliser module with composite, RGB and YUV gamut correction and optional loudness control

Chassis view



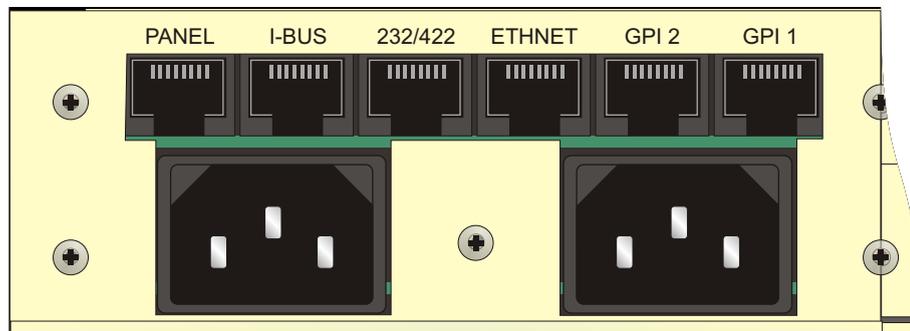
The LE-2U is plug in module for the etherBox FB-9E 1RU chassis. The basic unit takes ONE slot enabling a density of 6 units per 1RU.

Module connections



- 1 x SDI input (SD/HD SDI, dual link A)
- 1 x SDI input (Dual link B)
- 2 x SDI output (SD/HD, dual link A)
- 1 x SDI gamut error indicate output or dual link B
- 1 x RS232 automation port
- 2 x GPI selects user memory 1,2
- 1 x GPO indicates processing

Chassis connections



The card connections are supplemented by the chassis connections which provides GPI inputs and outputs, an Ethernet connection which can be used for browser based chassis monitoring and optional Java control applications and an RS-232/422 automation interface.

Ordering information

Order code format: LE-2U-K-R-J

K option for KARMAudioRT loudness and true-peak control
 R optional mechanical relay bypass for both links. (Leave blank for no relay bypass).
 J optional Java web softPanel control license. (Leave blank for no option).
 For example:
 LE-2U-K-R is a LE-2U module (SD-SDI/HD-SDI and dual link), with KARMAudioRT and mechanical relay bypass.

