

COMPONENT, ILLEGAL COLOUR DETECTOR

Cat 405: Low cost accessory for CAGE-2K
(When working in Y, Cr, Cb mode)

CLUE DOT (Option)

When operating in the Component YUV environment most users know, to their cost, just how easy it is to generate the out of gammut signals that result in Illegal colours.



CLUE-DOT is an optional feature that may be added to the CAGE-2K that will indicate the presence of illegal colours instantly, thereby enabling the Artist/Operator to manually rectify the error(s) indicated on the screen. NO ARTIFACTS are ever generated on the picture by this process, unlike those produced by a number of the so-called legalisers, which are often responsible for more picture degradation than that caused by the error in the first instance. The manual correction removes 100% of the error, and the colours seen by the Artist and Director on the monitor are EXACTLY as they will appear on the final output.



Simple, and of course, fiendishly (cost) effective!
Error indication may be selected on or off on the viewing monitor, as required. When enabled, the zebra stripe type indication may be selected as either a steady state indication or flashed for maximum visibility.

VISUAL INDICATION of the operation of the CLUE-DOT detectors is available on the front panel of the CAGE-2K by means of a triple-coloured display indicator. Where only a small section on the picture is deemed to be out of gammut, the front panel indicator will illuminate to be the same colour as the colour in error making correction a trivial task. Where multiple errors extend over a larger area, the on-screen indication ensures that systematic correction is both thorough and complete.

Nuisance triggering, a common defect on out of gammut detectors, is reduced to the lowest level possible by the use of signal filters that conform with the EBU's recommendation for horizontal signal filtering, as specified in EBU R103-2000. The significant processing delay, which is inherent when specialised filters of this nature are used in the CLUE-DOT error detector, is compensated for by the use of low distortion full bandwidth delay lines in the CAGE-2K's main video signal path. The result of this careful matching of filters and delays, is to ensure that the on-screen indication of an error, is precisely co-incident with the error itself, rather than significantly displaced to the right hand side, as can be the case with some other Manufacturer's equipment.

Clue-Dot: Illegal colour detector

Clue-Dot be added to existing CAGE-2Ks, but a brief return to Murraypro will be required for the upgrade to be installed.

Clue-dot may be supplied with an SDI input option, when the demodulated Y, Cr, Cb signals are available on the rear panel for display on a conventional baseband TV monitor.

Clue-Dot displays the colour of a small area defect on a front panel poly-colour LED. This unique device contains red, green and blue emitters, and can emulate the illegal colour.



The detector Low Pass Filter removes fine picture detail from the measurement channel (bottom trace), preventing nuisance triggering by high frequency picture components. The CAGE channels' bandwidth (input, top trace) is not altered passing signals, to output (centre) unaffected.



This special test signal exceeds the maximum permitted signal excursion limits, shown by the horizontal "Shelf" near the sawtooth maximum and minimum. Only signals that exceed these maximum legal excursions are permitted to activate the detector, inserting Clue-Dot at these danger points, which is clearly visible on the photo.

SPECIFICATION Cat: 405

Input impedance:	75 ohms .
Output impedance:	75 ohms .
Frequency response:	- 0.5dB at 5.5MHz, nominal.
Insertion gain:	± 0.2 dB, nominal.
Signal delay:	300nS nominal
Delay matching:	± 20 nS maximum, nominal Cr, Cb wrt Y.
Detector LPF:	-3dB @ 1MHz, no significant ripple.
d.c. blocking:	± 4 V maximum, with local 75 ohm termination present. ± 50 V absolute max, with input termination disabled .

This Specification is offered in good faith, and represents typical performance, but is not guaranteed. Murraypro will certify parameters to special order.

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