



complianceSuiteFC

for Final Cut Studio and Final Cut Express



eyeheight

08/10



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Overview

The eyeheight complianceSuiteFC is a set of filter and generator plugins compatible with Apple Final Cut Studio and Final Cut Express. complianceSuiteFC empowers Final Cut users to take advantage of eyeheight's extensive experience of delivering leading hardware based broadcast compliance solutions directly within Final Cut. complianceSuiteFC enables true file-based work-flows from concept to playout by enabling users to verify and conform their footage prior to submission to any file-based QA system, all from within their familiar Final Cut environment.

legalEyesFC

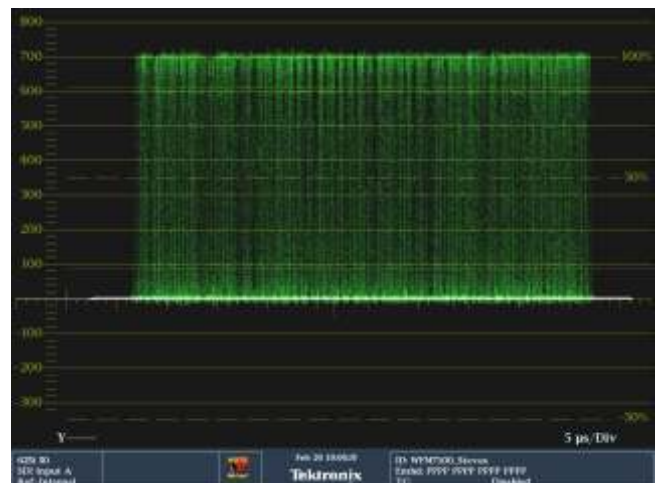
A high precision fully vectorised floating-point video legaliser plugin optimized for use with high end video source files used by professionals and able to take full advantage of the floating-point 4rfl and floating-point RGB render formats used by Final Cut. legalEyesFC supports any combination of file formats and source colour-space available in Final Cut.

Based on over a decade of specialization in broadcast, legalisation legalEyesFC offers composite, RGB, RGB +Y and simultaneous composite & RGB legalisation all with user adjustable soft clipping on high and low thresholds. The high precision colour-space conversions in legalEyesFC allow for accurate limiting to ensure gamut compliance while keeping the full gamut available to the user maximising their creative options.

legalEyesFC supports SD, HD and beyond, PAL and NTSC (0 or 7.5 IRE setup) composite domains, limit entry in either IRE or mV and includes eyeheight's proprietary clobbering functionality, an advanced non-linear predictive filtering process which further reduces visible luminance overshoots common on computer generated or highly graded footage, such as Motion output or stylized video, and significantly reduces the risk of content rejection.



A typical title produced in Motion legalised using the built-in "Broadcast Safe" filter.



Using the legalEyesFC filter incorporating eyeheight's proprietary clobbering image processing, The overshoots are almost completely removed.

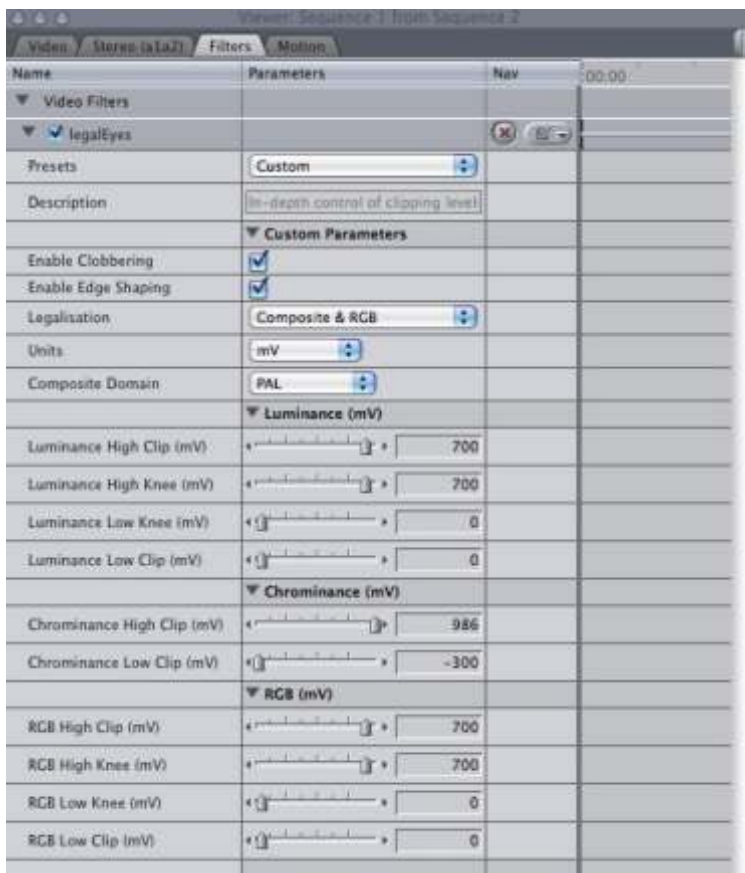


legalEyesFC control

legalEyesFC is all about control and users can choose from any of the extensive built-in presets or work in custom mode allowing full access to the 15 parameters that provide customization. Facilities administrators can configure which built-in presets are available to users, create new presets, and even disable the custom option to ensure that users only use approved configurations.



By default only the built-in or administrator configured presets are available to users make legalEyesFC easy and safe even for users with a limited understanding of broadcast compliance.



Where enabled by system administrators, the custom mode allows access to the full set of parameters to allow total customization.

legalEyesFC includes soft clipping controls to preserve shadow details as well as highlights, unlike the built-in "Broadcast Safe" filter, as users can easily create illegal shadow values inadvertently when working with broadcast quality floating-point formats in Final Cut.

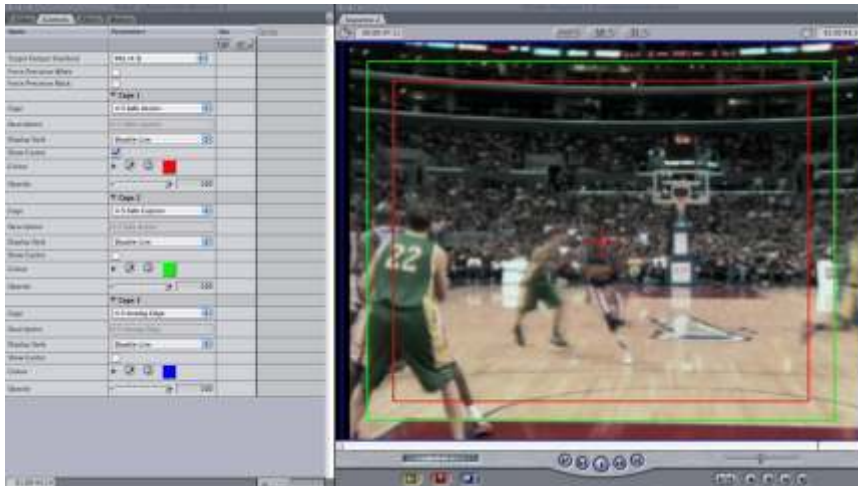


safeEyesFC

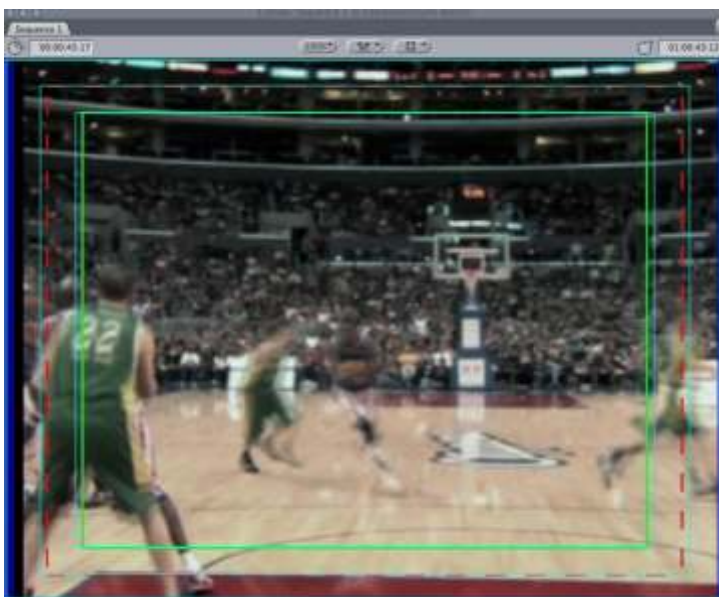
safeEyesFC is a safe area generator plugin for Final Cut and Motion which provides an extensive range of broadcast safe area markers covering all the requirements for SD, HD and 2K including 16:9 and 14:9 requirements in SD. Because of our long history of making hardware broadcast safe area generators you can have confidence that our markers are in the right place unlike the built-in "Show Safe Title" function.

The display mode of each safeEyesFC marker can be independently configured for optimum comprehension and all cursors are also displayed on any external monitor. Each marker can include a centre marker.

safeEyesFC is provided with over 60 marker configurations but even then there may be times when you need something a little unusual so administrators can modify the set of safeEyesFC markers available to users, adding new custom markers or restricting access to some to avoid confusion.



A typical safeEyesFC output and the display options. Each cursor is independently configurable for maximum clarity and can include a centre marker.



A comparison of safeEyesFC ITU markers and the built-in "Show Safe Title" markers. The built-in "Show Safe Title" markers (faint cyan) fall outside of the ITU broadcast safe areas (green and red) more commonly used outside of the U.S.

Titles positioned in accordance with the built-in markers may fail a compliance check by broadcasters using the ITU recommendations.



safeEyesFC measurement tool

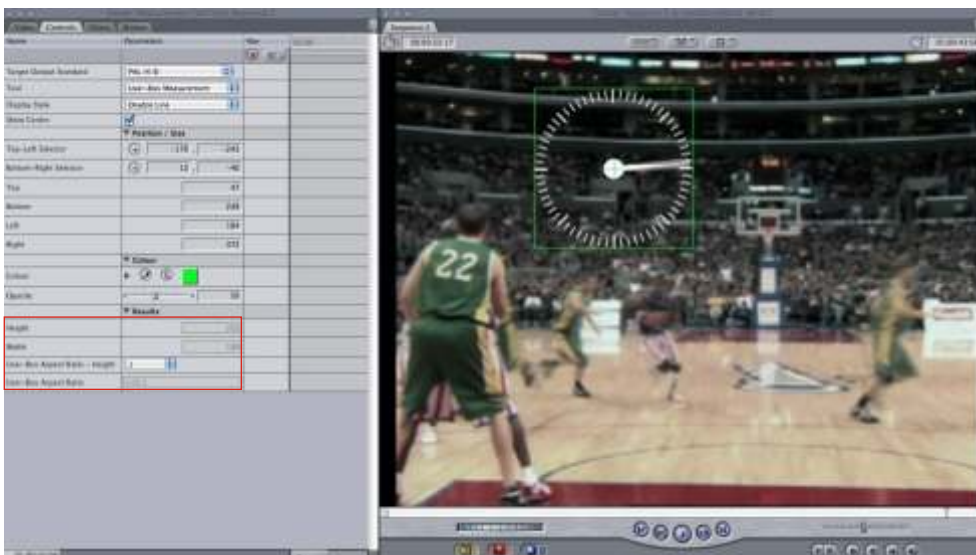
The safeEyesFC measurement tool provides a point a click tool for conducting text height measurements for advertising compliance and a generic box measurement and indication function.

The text height function allows the user to place markers for the top and bottom of the text, see the text area highlighted as a visual check and read off the text height in video lines for direct comparison with the requirements.

The user box operates similarly but adds an aspect ratio readout for the box corrected for the format pixel aspect ratio with support for 4:3 and 16:9 PAL and NTSC pixel aspect ratios and square pixel formats such as 720 and 1080.



The safeEyesFC measurement tool provides a simple and reliable way to check text height for regulatory compliance. The measurement area is clearly indicated with user selectable colour and opacity and the text height in video lines is easily read.



The safeEyesFC measurement tool enables users to measure arbitrary screen areas and provides a pixel aspect ratio corrected aspect ratio for the selected area. The colour, opacity and display mode are user configurable.



Legalisation feature comparison

complianceSuite	Final Cut Built-in	
Composite domain support		
✓	✓	Supports SD, HD and beyond
✓	✓	Configurable NTSC composite clipping (7.5IRE setup)
✓		Configurable NTSC composite clipping (0IRE setup)
✓		Configurable PAL composite clipping
Hard / soft clipping support		
✓	✓	Configurable hard / soft clipping of luminance highlights
✓		Configurable hard / soft clipping of luminance shadows
✓		Configurable hard / soft clipping of RGB highlights
✓		Configurable hard / soft clipping of RGB shadows
Advanced legalisation options		
✓		Native EBU-R103 compliant legalisation
✓		Advanced luminance overshoot suppression (Clobbering)
User interface		
✓	✓	Constraint entry in IRE
✓		Constraint entry in mV
✓		Default user interface is non-technical
Customisation		
✓		On-the-fly customisation based on existing presets
✓		User defined legalisation presets
Administration		
✓		Administrative restriction of available presets
✓		Administrative restriction of user customization



Composite domain support

Broadcasters may specify gamut levels based on composite (modulated) domain levels. In the USA these are generally based on NTSC modulation with a 7.5 IRE setup but elsewhere in the world composite levels are often based on PAL (e.g. Europe) or NTSC with 0 IRE setup (e.g. Japan). The built-in Final Cut Broadcast safe filter only supports NTSC with 7.5 IRE and will not correctly limit gamut levels specified in either of the other composite domains. Material destined for outside of the USA may fail gamut checks and be rejected. Alternatively, using inappropriate composite clipping may unnecessarily restrict the gamut, reducing creative freedom.

Using appropriate composite clipping in combination with RGB clipping is beneficial even when gamut levels are specified in the RGB domain. Composite clipping maintains the original hue whilst limiting the gamut resulting in better hue retention. This enables you to maintain your creative vision or a client's corporate branding whilst ensuring technical compliance.

Hard / soft clipping support

Soft clipping helps to retain image detail in regions that require gamut limiting. Final Cut's built-in Broadcast Safe filter provides soft clipping for luminance highlights only resulting in the loss of shadow and colour detail. legalEyesFC provides soft clipping of highlight and shadow detail both for luminance and RGB channels to retain the maximum detail of your original footage.

The built-in Broadcast Safe filter lacks any shadow clipping controls but with the increasing use of automated compliance checks the ability to trim the shadow gamut can pay significant dividends in reducing false gamut rejections. legalEyesFC provides hard and soft shadow clipping.

Advanced legalisation

legalEyesFC includes native EBU-R103 (the dominant legalisation requirement in Europe) support and proprietary processing such as clobbering, based on over a decade of specialisation in compliance. These features help to reduce rejection and save you time and money.

Customisation & administration

Final Cut's built-in Broadcast Safe filter provides a couple of presets based on NTSC composite clipping. These presets are of little use to anyone wishing to legalise in any other domain. As a consequence users must manually configure appropriate settings each time the filter is applied, allowing for considerable operator error.

By contrast legalEyesFC not only includes a range of common presets but administrators can customize, remove and add presets as required. Administrators can provide individual presets for specific broadcasters or even restrict users to a single "house" preset and disable user adjustment of the legalisation settings to ensure that the correct settings are always applied and eliminate user error.



Safe area feature comparison

complianceSuite	Final Cut Built-in	
Format support		
✓	✓	Supports SD, HD and beyond
Available markers		
✓*	✓*	Display of SMPTE safe caption and title markers
✓		Display of ITU-R safe caption and title markers
✓		Display of EBU safe caption and title markers
✓		Display of ARIB safe caption, title and important information markers
✓		Display of advanced markers e.g. analogue edge, "acquire to protect"
✓		Display of film aspect guides e.g. 16mm, Cinemascope
Marker display options		
✓		Per marker style, colour and opacity setting for enhanced visibility
✓		Optional per marker centre mark
✓		More than two markers displayed at once
✓		Markers visible on external monitor
Measurement tools		
✓		Point and click text height measurement
✓		Point and click area measurement tool with optional centre mark
✓		Size and aspect ratio readout for area measurement
Customisation		
✓		User defined marker presets
Administration		
✓		Administrative restriction of available markers

*SMPTE markers fall outside of the ITU-R recommended safe areas common in Europe



Licensing

complianceSuiteFC is available as either an SD only version (maximum source image width of 1000 pixels), as a multi-definition version (maximum source image width of 2000 pixels) or as an unlimited version.

Any version can be licenced in one of three licensing modes...

SL licencing - complianceSuiteFC is locked to a specific OS X / hardware installation via a software licence key.

HL licencing - complianceSuiteFC is locked to a USB hardware licence key. This mode is ideal for users who use a MacBook for field work and a Mac Pro for non-field editing.

NL licencing - multiple instances of complianceSuiteFC are locked via floating network licences to a USB hardware licence key installed on a networked licence server.

System requirements

complianceSuiteFC requires Mac OS X 10.5.0 (Leopard) or higher.

complianceSuiteFC requires Final Cut 6.0.2 or higher or Final Cut Express 4.0.1 or higher

complianceSuiteFC requires Motion 3.0.1 or higher

SL licencing requires Intel based Mac hardware running in 32-bit kernel mode

Ordering information

Order code: CS-FCX-YY

Replace X with S for an SD version, M for a multi-rate (SD & HD) version and U for the unlimited version.

Replace YY with SL, HL or NL depending on the preferred licencing mode.

Examples:-

CS-FCS-SL is an SD only version locked to a specific machine via a software licence key.

CS-FCM-SL is a multi-rate version locked to a specific machine via a software licence key.

CS-FCM-HL is a multi-rate version locked to a USB hardware key.

CS-FCU-NL is an unlimited version with a floating network licence.



About eyeheight

Eyeheight was founded in 1992 by Steve Crocker and Martin Moore, both BBC trained broadcast engineers working as chief engineers in the post production industry. From its inception eyeheight focused on the digital broadcast equipment market and began supplying innovative solution to broadcast and post production industries.

Eyeheight developed a modular range of products called Unibox which could support two units in a 1RU chassis and which included an RGB legaliser and safe area generator. In 1999 Simon Pegg joined eyeheight with a background in reconfigurable high speed digital processing and development began on a second generation of modular products called geNETics. Once again eyeheight focussed on compliance producing the highly successful BL-1 legaliser and SA-1 safe-area generator, many of which are still in use today.

Today the geNETics systems supports over 50 products and has seen the development of eight generations of increasingly sophisticated hardware legalisers and the development of eyeheight's proprietary "Clobbering" overshoot suppression technology, which pro-actively reduces the incidence of tape rejection. Similarly, there have been six generations of safe area/cursor generators adding enhanced features and support for emerging formats such as dual link 4:4:4 and 2K1080.

Eyeheight operates its R&D centre, eyeheight labs, and its production, support and service departments out of its main facility in Watford and international sales from its offices in south west London.

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