

QTAKE User Guide

Version 1.3



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ABOUT

QTAKE is the most advanced software application designed and developed for video assist professionals. It is used to log, capture, playback, edit and process video output of the digital cinema cameras as well as traditional film cameras with a video tap. The ability to capture SDI camera metadata makes QTAKE an essential part of the workflow that fills the gap between production and postproduction. In addition to impressive video assist software, QTAKE ecosystem now includes **QTAKE Server** and **QTAKE Monitor** applications that provide unmatched on-set collaboration using independent playback and metadata editing.

Thank you for taking your video assist services to a new level.

QTAKE MODULES

Basic QTAKE system can be used as a simple record and playback system, but it goes far beyond that. You can configure QTAKE to fit all your needs by adding modules for editing, compositing, streaming or any other feature that your next project requires.

BASE

This is the main module of the QTAKE application. It is built on top of a powerful clip database that enables you to manage clips and their metadata. Using BASE module you can set-up any SD or HD resolution project. Capture camera output and instantly playback clips at variable speed in a flexible, custom designed dual-view UI. Use multiple in/out points, chapters and sub-clips to navigate long clips. Quickly access any clip using tree-based visual browser or sortable table browser.

Powerful GPU-driven viewers allow to apply real-time CDL color-correction, 1D and 3D LUTs, image transformation and various image effects. Viewers are capable of displaying any combination of live and disk source, just like using hardware matrix switcher.

BASE module includes SDI metadata readout from ARRI, RED, CANON and SONY professional digital cinema cameras. This allows you to use auto-record and original camera media filenames to improve production workflow.

EDIT

Make sequences of clips to check continuity. EDIT module is a single track editor, capable of inserting, replacing and reordering clips. You can change the speed of clips and use dual-view trimmer to visually adjust each cut for frame-accurate result. Sequence can be exported to 3rd party applications as an EDL.

COMPOSITE

This module provides real-time overlay of any two sources to create VFX shots in no time. Multiple Blend modes, Blue/Green-screen Keyer with Despill, Luma Keyer and Wipe transition will help you fulfil any director's request. Using rendering, you can create composites with unlimited number of layers.

QTAKE offers unique STEREOSCOPY support including industry standard 3D output either in live or playback mode, as well as various 3D alignment modes using PLUS 3D VIEW.

OUTPUT

With OUTPUT module you can output full-screen video to external monitors. It uses secondary port of the graphics card to provide low-latency monitoring solution. Adding a QOD provides four 3G-SDI outputs. For 3D stereo projects, OUTPUT module provides muxed output for 3D monitor.

EXPORT

Using this module you can export your project to Final Cut Pro or AVID with all metadata and bins for recorded scenes and shots. Since QTAKE captures media filenames from digital cinema cameras, you can use captured files for offline editing ready to be conformed using original camera media.

LINK

You can connect 2 or more QTAKE systems using network to provide video assist for multiple cameras. Using LINK module you can capture and playback up to 36 HD-SDI feeds simultaneously by controlling eight slave systems. Playback of all systems is synchronized with frame precision.

X2

This module adds dual camera capture and playback. Each video input can be configured independently to provide recording of two different formats. X2 module also enables Stereoscopy mode with remote HIT control, providing industry standard 3D output in live, capture and playback mode.

MUXER

Record two 3D rigs on a single Mac using 2x dual channel or single four channel video input card. QTAKE will capture two video feeds into side-by-side clip. MUXER module also provides independent convergence settings, de-muxing and re-muxing, without the need for separate 3D box.

STREAM

This module allows you to use Mac OS X and iOS devices as wireless monitors. It provides low latency streaming to up to 16 Macs, iPads or iPhones. In addition, one device can use TALKBACK feature. Using this module you can also capture directly from Teradek Cube over WiFi, without any video card.

SCOPES

You can analyze live or playback image using realtime Waveform, Vectorscope and Histogram tools. Each tool has a selectable mode of operation and adjustable intensity with optional output to external monitor. In addition, SCOPES module provides False Color mode for analyzing image exposure.

X4

With this module you can capture, process and playback four full HD channels using single QTAKE system. In order to provide such amount of image processing, QTAKE HDx4 utilises new Apple MacPro computer. Adding a COMPOSITE module allows you to output two independent composites.

STUDIO

Using new four camera support, we have added live editing mode to QTAKE. This module allows you to seamlessly cut four video feeds on the fly. After recording, you can immediately playback your sequence or easily adjust it using four track timeline. Remote iOS control for live editing is coming soon.

CGI

Import 3D scene and QTAKE will render it in realtime. You can either freely position virtual camera to match video or use MoCo camera to make it follow external positioning data. Using this module, QTAKE can read data from Marc Roberts Motion Control and apply the same camera movement to 3D scene.

GRADE

This module provides sophisticated color-grading effects that can be applied to live signal or playback. In addition to internal QTAKE processing, color correction can be dynamically uploaded to external LUT boxes, such as Fuji IS-mini, Teradek COLR, FSI DM250 or exported as a 3D LUT to a 3rd party application.

4K

This module allows you to record and playback 4K ProRes clips. QTAKE 4K requires new Apple MacPro computer and the compatible four channel 3G-SDI or single channel 12G-SDI video card. Using two half-duplex or single full-duplex card you can perform live image processing in true 4K resolution.

QTAKE SHOP

Modules for QTAKE or entire QTAKE bundles can be rented through the QTAKE Shop. In order to rent modules from the QTAKE Shop you will need to create a QTAKE Shop account and register one or more DONGLE IDs or COMPUTER IDs to your QTAKE Shop account. Once a COMPUTER ID or DONGLE ID is registered to your account you can rent modules through the shop adding additional features and functionality to your QTAKE package with a few simple clicks.

You can also create a QTAKE Shop account and register your dongle or computer directly from QTAKE. See the [LICENSE INFO](#) section for more information.

QTAKE SHOP

To create a QTAKE Shop account, register machines and rent modules visit the QTAKE Shop at:

<http://shop.qtakehd.com>

For instructions on how to use the shop please see:

<https://shop.qtakehd.com/instructions>

SOFTWARE REQUIREMENTS

QTAKE requires OS X **10.10.5** (Yosemite) or higher.

AJA video cards (Io4K, Kona 3G, Kona 4, Kona LHi, IoXT) require driver version **12.5**. We recommend using 4K mode or QUAD firmware on cards that support it.

Blackmagic Design video cards (Decklink Duo, Decklink Quad, Mini Recorder, Ultrastudio Express, Ultrastudio 4K) require driver version **10.8.4**

Deltacast video cards (DELTA-3G-elp 40, DELTA-3G-elp 22, DELTA-3G-elp 20, DELTA-3G-elp 11, DELTA-3G-elp 10) require VideoMasterHD redistributable **v6.00.1**

Recommended versions of QTAKE Monitor and QTAKE Server

QTAKE Monitor iOS **3.0** or later.

QTAKE Monitor OS X **1.2.5** or later.

QTAKE Server **1.3.0** or later.

HARDWARE

The basic structure of a working QTAKE system consists of a computer, a video capture card for input (and optionally output), storage for the recorded material and a GPU output device. Recording, processing and outputting multichannel HD video is taxing these components and while some older computers will work with standard playback requirements, adding image processing, compositing or higher quality codecs will result in dropped frames if the system is not up to the task.

QTAKE works with a multitude of Apple computers, video cards, audio devices and GPU output converters. Listed below are a few recommended hardware configurations for LITE, 4K, HDx1, HDx2 and HDx4.

What is the difference?

You can find a breakdown of the different modules and a side by side feature comparison at:

<http://qtakehd.com/features/>

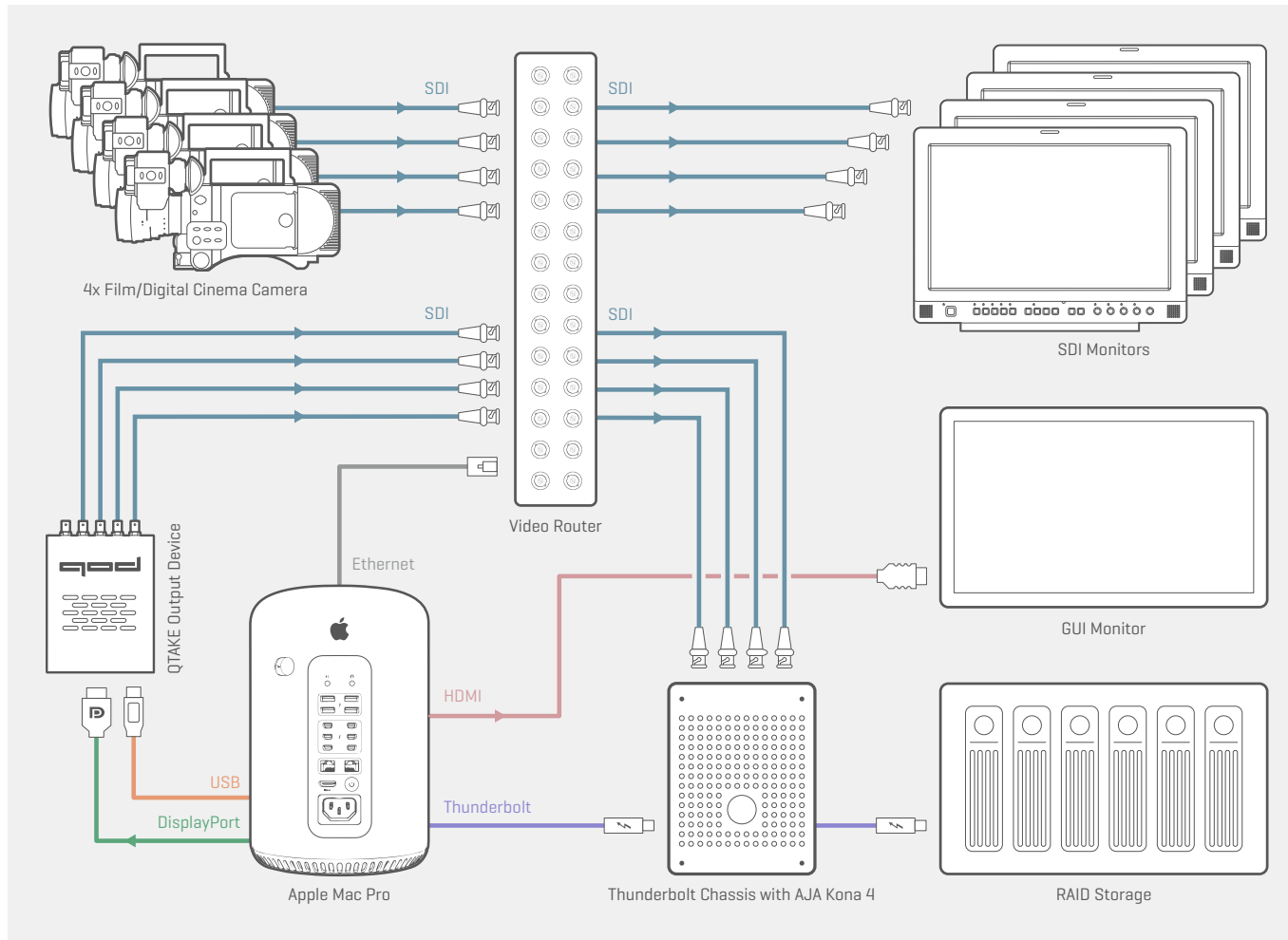
What about this device?

You can always find up to date hardware recommendations at:

<http://qtakehd.com/hardware/>

CONNECTION DIAGRAM

Below is an example of the full QTAKE HDx4 system configuration based on Apple Mac Pro.



QTAKE HDx1 HARDWARE RECOMMENDATIONS

QTAKE HDx1 can of course also be used with more powerful hardware such as a Mac Pro. See the HDx2 recommendations for an example of such a setup.

QTAKE HDx1 Apple MacBook Pro

15-inch with Retina display
2.5GHz quad-core Intel Core i7
16GB 1600MHz memory
512GB PCIe-based flash storage
AMD Radeon R9 M370X with 2GB GDDR5 memory

MEDIA STORAGE [alternatives]

External USB 3 Drive
External Thunderbolt Drive

1-CH VIDEO CARD INPUT [alternatives]

1x AJA IoXT
1x AJA Io4K

2-CH PROCESSED GPU OUTPUT

IN2CORE QOD

1-CH PROCESSED VIDEO CARD OUTPUT [alternatives]

1x AJA IoXT
1x AJA Io4K

ANALOG AUDIO IO

FOCUSRITE Scarlett 2i2 [or any other external audio card with Core Audio driver]

Smaller Footprint

If you are using an older non-retina MBP you can make the system even faster and smaller by swapping the internal DVD drive for an additional HDD or SSD and use it as a media drive instead of using an external drive.

QTAKE LITE HARDWARE RECOMMENDATIONS

QTAKE LITE is a lightweight version of QTAKE. LITE can of course also run on more powerful hardware such as a MacPro.

QTAKE LITE Apple MacBook Pro

15-inch with Retina display
2.2GHz quad-core Intel Core i7
16GB 1600MHz memory
256GB PCIe-based flash storage
Intel Iris Pro Graphics

MEDIA STORAGE [Recommended read/write speed of 150 MB/s]

External USB 3 Drive
External Thunderbolt Drive

2-CH VIDEO CARD INPUT [alternatives]

1x AJA IoXT [limited to same format, live passthrough requires genlocked signals]
2x AJA IoXT

1-CH PROCESSED VIDEO CARD OUTPUT

1x AJA IoXT

2-CH PROCESSED VIDEO CARD OUTPUT

2x AJA IoXT

ANALOG AUDIO IO

FUCUSRITE Scarlett 2i2 [or any other external audio card with Core Audio driver]

GPU output?

The LITE version is designed to be a simple but powerful 2-channel recorder. It uses the video card to output either processed or unprocessed video. Advanced GPU output is only available in HDx1, HDx2 and HDx4.

QTAKE 4K HARDWARE RECOMMENDATIONS

QTAKE 4K Apple MacPro

3.5GHz 6-Core Intel Xeon E5 processor
16GB 1866MHz DDR3 ECC memory
Dual AMD FirePro D500 with 3GB GDDR5 VRAM
256GB PCIe-based flash storage

MEDIA STORAGE [Recommended read/write speed of 300 MB/s]

External USB 3 Drive
External Thunderbolt Drive

4K VIDEO CARD INPUT [alternatives]

1x AJA Kona 4 in Thunderbolt 2 chassis
1x AJA Kona 3G in Thunderbolt 2 chassis
1x AJA Io4K

4K PROCESSED VIDEO CARD OUTPUT [alternatives]

2x AJA Kona 4 in Thunderbolt 2 chassis
2x AJA Io4K

4K PROCESSED GPU OUTPUT

IN2CORE QOD

ANALOG AUDIO IO

FOCUSRITE Scarlett 2i2 [or any other external audio card with Core Audio driver]

QTAKE HDx2 HARDWARE RECOMMENDATIONS

There are many possible configurations based on hardware platform and version of QTAKE.

QTAKE HDx2 Apple MacPro

3.7GHz Quad-Core Intel Xeon E5 processor
12GB 1866MHz DDR3 ECC memory
Dual AMD FirePro D300 with 2GB GDDR5 VRAM
256GB PCIe-based flash storage

MEDIA STORAGE [Recommended read/write speed of 150 MB/s]

External USB 3 Drive
External Thunderbolt Drive

2-CH VIDEO CARD INPUT [alternatives]

1x AJA IoXT [limited to same format, live passthrough requires genlocked signals]
2x AJA IoXT
1x AJA Io4K [limited to same format, live passthrough requires genlocked signals]
2x AJA Io4K
1x AJA Kona4 in Thunderbolt chassis [limited to same format, live passthrough requires genlocked signals]
2x AJA Kona4 in Thunderbolt chassis

4-CH PROCESSED GPU OUTPUT

IN2CORE QOD

2-CH PROCESSED VIDEO CARD OUTPUT [alternatives]

2x AJA IoXT
2x AJA Io4K
2x AJA Kona4 in Thunderbolt chassis

ANALOG AUDIO IO

FUCUSRITE Scarlett 2i2 [or any other external audio card with Core Audio driver]

Can I reuse the same hardware if i upgrade to HDx4?

System recommendations for HDx4 are similar to those for a MacPro based HDx2 system. If you plan on upgrading in the future you can save some time and effort by following the HDx4 recommendations when building a HDx2 system.

HDx2 supports up to 4 channels of processed GPU output. However using 4 channels requires powerful graphics hardware

QTAKE HDx2 Apple MacBook Pro

15-inch with Retina display
2.5GHz quad-core Intel Core i7
16GB 1600MHz memory
512GB PCIe-based flash storage
AMD Radeon R9 M370X with 2GB GDDR5 memory

MEDIA STORAGE [Recommended read/write speed of 150 MB/s]

External USB 3 Drive
External Thunderbolt Drive

2-CH VIDEO CARD INPUT [alternatives]

1x AJA IoXT [limited to same format, live passthrough requires genlocked signals]
2x AJA IoXT
1x AJA Io4K [limited to same format, live passthrough requires genlocked signals]
2x AJA Io4K
1x AJA Kona4 in Thunderbolt chassis [limited to same format, live passthrough requires genlocked signals]
2x AJA Kona4 in Thunderbolt chassis

4-CH PROCESSED GPU OUTPUT

IN2CORE QOD

2-CH PROCESSED VIDEO CARD OUTPUT

2x AJA IoXT
2x AJA Io4K
2x AJA Kona4 in Thunderbolt chassis

ANALOG AUDIO IO

FOCUSRITE Scarlett 2i2 [or any other external audio card with Core Audio driver]

HDx2 supports up to 4 channels of processed GPU output. However using 4 channels requires powerful graphics hardware

QTAKE HDx4 HARDWARE RECOMMENDATIONS

QTAKE HDx4 Apple MacPro

3.5GHz 6-Core Intel Xeon E5 processor

16GB 1866MHz DDR3 ECC memory

Dual AMD FirePro D500 with 3GB GDDR5 VRAM

256GB PCIe-based flash storage

MEDIA STORAGE [Recommended read/write speed of 300 MB/s]

External USB 3 Drive

External Thunderbolt Drive

4-CH VIDEO CARD INPUT

2x AJA Io4K

2x AJA Kona4 in Thunderbolt 2 chassis

4-CH PROCESSED VIDEO CARD OUTPUT

2x AJA Io4K

2x AJA Kona4 in Thunderbolt 2 chassis

4-CH PROCESSED GPU OUTPUT

IN2CORE QOD

ANALOG AUDIO IO

FOCUSRITE Scarlett 2i2 [or any other external audio card with Core Audio driver]

	AJA IoXT	AJA Io4K	AJA Kona3G	AJA Kona4	BMD Decklink Duo	BMD Decklink Duo	BMD Decklink Quad	BMD UltraStudio Quad2	BMD Mini Recorder	BMD UltraStudio 4K	Deltacast 3G-elp 40	Deltacast 3G-elp 22	Deltacast 3G-elp 20	Deltacast 3G-elp 11	Deltacast 3G-elp 10	
Number of Inputs/Outputs	2/2	4	4	4	1/1	2/2	4/4	4/4	1/1	1/0	1/1	4/0	2/2	2/0	1/1	1/0
Number of Channels in Constant Playout Mode	1	2	2	2	-	1	2	4	-	-	1	-	2	-	1	-
SDI Passthrough	● ^[1]	● ^[1]	● ^[1]	● ^[1]	●	● ^[2]	● ^[2]	● ^[3]	● ^[2]	-	● ^[2]	○	○	○	○	○
3G SDI Input	●	●	●	●	○	○	○	●	○	○	●	●	●	●	●	●
4K Input	○	●	●	●	○	○	○	○	○	○	●	●	○	○	○	○
Independent Inputs	○	● ^[4]	○	● ^[4]	-	●	●	●	-	-	-	●	●	●	●	●
RED SDI Record Flag and CMF	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Arri/Sony Record Flag	●	●	●	●	○	○	○	○	○	○	○	●	●	●	●	●
Arri/Sony/Canon Metadata	● ^[5]	●	●	●	● ^[5]	● ^[6]	● ^[6]	● ^[6]	● ^[6]	● ^[6]	● ^[6]	●	●	●	●	●
Timecode	●	●	●	●	●	● ^[7]	● ^[7]	● ^[7]	● ^[7]	● ^[7]	● ^[7]	●	●	●	●	●
Interface	TB	TB	PCI	PCI	PCI	PCI	PCI	PCI	TB ^[8]	TB ^[8]	TB	PCI	PCI	PCI	PCI	PCI

[1] Multi-channel SDI Passthrough requires Genlocked inputs.

[2] Not possible to mute SDI passthrough audio.

[3] Passthrough video has 2 frames of delay.

[4] Inputs need to belong to same timecode family.

[5] Only Arri Metadata and only with camera set to output psf.

[6] Only available in 10bit mode.

[7] Does not support VITC1 timecode.

[8] Bus-powered device, no loopback TB port.

What if i use more than one video card?

The information in the table is only valid as a comparison between single cards. QTAKE can use multiple video cards to allow for up to 4 inputs and outputs.

“Output”?

The term output in this chart is only referring to SDI output from the video card. GPU output from QOD are independent from video card outputs.

INSTALLATION

The first time you run QTAKE you will be presented with a End User License Agreement. QTAKE will also create a folder called **QTAKE** in the /Applications folder of your system drive. In this folder the following subfolders will be created:

/Applications/QTAKE

- /CDL** [contains CDL color corrections, only created when a CDL correction is saved]
- /Certificate** [contains SSL certificate that ensures secure communication between QTAKE and QTAKE Monitor]
- /Data** [contains database files]
 - /Backup** [QTAKE creates a backup every 20 hours and keeps a total of 5 backups]
- /Defaults** [contains QTAKE project default settings]
- /Docs** [contains QTAKE User Guide]
- /FxPresets** [This folder contains all the CLIP FX PRESETS that have been saved]
- /GPI** [contains GPI settings]
- /Keyboard** [contains keyboard shortcuts]
- /Layout** [contains GUI layouts]
- /License** [contains your QTAKE license files]
- /Log** [contains the Qtake.log file]
 - /ApplicationLogs** [contains log message output from QTAKE]
 - /CrashReport** [temporary storage for crash reports]
- /Logo** [place an image file named Logo.png here to create a custom NO VIDEO INPUT screen]
- /LutDevices** [contains configuration settings for lut devices]
- /Luts** [copy your .cube luts to this folder]
- /Prefs** [contains editable initialization preferences]
- /Projects** [contains Project folders with thumbnails]
- /Tangent** [contains configuration files for Tangent Devices, created when a controller is configured]
- /Videohub** [contains Videohub settings]

BEFORE YOU START

For performance reasons make sure to **UNCHECK** the following features in OS X System Preferences:

Energy Saver - Put hard disk(s) to sleep when possible

Energy Saver - Automatic graphics switching

Also it's recommended to set the **Computer sleep** and **Monitor sleep** to NEVER, as well as to disable any screen saver. Turn off **Spotlight** indexing service for your MEDIA drives in System Preferences, by putting the drive into the PRIVACY section.

DON'T SET SYSTEM AUDIO INPUT OR OUTPUT TO AJA DEVICE!

How do I edit QTAKE preferences?

Preferences are located in the subfolder /Prefs. Each version of QTAKE creates its own preference file in order to avoid conflicts. This user guide will use the term Qtake_Prefs to refer to all versions. The Prefs files are created with default values the first time you run QTAKE.

You do not need to add or remove lines, just edit the value after the = [equal] character.

Alternatively you can use the PREFS window inside QTAKE to change the values of the Qtake_Prefs file.

For more details see the [Preferences section](#) of this user guide

The QTAKE application should be used only from one system account. Using multiple accounts will cause file permissions problems. Instead of creating multiple system accounts you should create multiple QTAKE USERS.

Touchscreen UI

USER INTERFACE

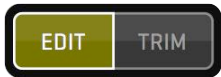
QTAKE is primarily designed for use with a touchscreen monitor. This provides users with high level of interactivity, comfort and speed. However, software can be easily used with standard input peripherals, like keyboard and mouse. Almost every control has it's dedicated **hotkey** to make your work faster using the keyboard. While QTAKE allows you to customize these shortcuts this document will refer to the default values.

The application does not use standard OS controls. We have designed custom, finger-sized controls to accommodate the touch nature of the UI as well as resolution independence.

Touchscreen UI



BUTTON is a basic element of the UI. By pressing and releasing a button you activate a specific command. Some buttons have a secondary function, activated by a “long click” [hold the button depressed for 1 second]. Buttons that contain secondary function are marked by a little dot in their lower right corner.



SEGMENTED BUTTON is the set of buttons used to select single of two or more options. By selecting one segment of this button you automatically deselect previously selected option.



INPUT BUTTON is used to enter numeric or alphanumeric values for various data fields. By pressing this button you invoke on-screen keyboard used to enter characters in touch-screen application. Note that you can also use a physical keyboard to enter values. Some INPUT BUTTONs act as toggle switches where each click cycles through the available options.



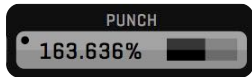
SLIDER is a special purpose button used to adjust numeric values. Dragging this button to the left side decrements value. By dragging to the right side you increment the value. Filled area of the slider bar indicates where the selected value falls within the range of values. Most sliders also have an associated INPUT BUTTON next to it that lets you enter an exact value.

A few SLIDERS can be set into **AUTO** mode. In AUTO mode the slider will transition between the **START** and **END** values without requiring interaction from the user. To enable AUTO mode click on the associated INPUT BUTTON and toggle AUTO to YES. The **LOOP MODE** changes how the SLIDER moves and it can be set to **LOOP** [from START to END], **PONG** [from START to END, then back to START] and **A/B** [alternates between START and END values]. **TIME INTERVAL** sets the interval between transitions.

User interface controls are disabled [greyed out] for the commands that can not be executed in the current context.



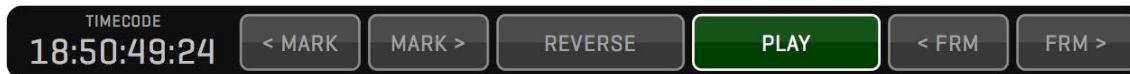
Touchscreen UI



ENHANCED INPUT BUTTON is used to enter numerical values. The button has three separate functions. By pressing the buttons left side [where the value is displayed] you invoke an on-screen keyboard similar to a regular INPUT BUTTON. By long clicking the left side of the button you reset the field to its default value. And finally by pressing and holding the right side of the button you invoke a **RADIAL SLIDER** that lets you input values by moving the cursor or your finger around its center. The RADIAL SLIDER lets you return to the previous value by moving the cursor or your finger to its center.



LABEL is used to display various states/values of the system. By clicking on some labels you can cycle through various display options.



CONTROL BOX is a set of buttons grouped to form a complex function, like **PLAYBACK**.



MENU BUTTONS are used to toggle display of Control Boxes.

Touchscreen UI

SCREEN ZONES

Screen area is divided into seven zones.



Touchscreen UI

1. ROOM BUTTONS ZONE

This is the zone where you choose what part of the application you want to work in.

2. STATUS BAR ZONE

System messages are displayed in this zone.

3. SPECIAL BUTTONS ZONE

FX, LIST and META buttons are used to toggle the respective SIDE BARS. The PREFS button will open a window allowing you to change QTAKE preferences from within the application. TALK toggles QTAKE to QTAKE Monitor talkback. RENDER button will render active View. HIDE button is used to minimize application. FULLSCREEN button is used to maximize image views.

4. UPPER CONTROL BOXES ZONE

This is the zone where control boxes appear when you click MENU buttons.

5. VIEWS ZONE

This zone is used to display video content, as well as LIST BROWSER and CLIP FX.

6. LOWER CONTROL BOXES ZONE

This is the zone where control boxes appear when you click MENU buttons.

7. MENU BUTTONS ZONE

The green and black Menu buttons control what User Interface elements are displayed in each room. The orange LAYOUT button lets you save and recall layouts. MORE will display any additional MENU buttons available and LOCK disables hiding currently active MENU buttons.

QTAKE preferences [**PREFS**] are shown in **GREEN** throughout this user guide. Changes to PREFS can be made either by editing your QTAKE_Prefs file or changing their value in the PREFS window.

See the [Preferences](#) section for more details.

Touchscreen UI

CUSTOM UI LAYOUT

By pressing a Menu button the user enables or disables corresponding Control Box. The Menu button will change its background color from grey to green. If you press the Menu Button again you will hide its Control Box. Users can arrange Control Boxes for each Room simply by displaying them in the correct order.

Control Boxes always appear from left to right. If you hide any Control Box, all other boxes are moved to fill the gap. There is an arrow on top of each Menu title that indicates if the Control Box will appear in the upper or lower zone. You can toggle the arrow direction by a long click on the Menu Button.

Each Room in the application can have its own layout. The orange **LAYOUT** button allows you to save and recall up to eight different layouts. Click the LAYOUT button to reveal the current layout and the eight slots where you can store layouts, by default named LAYOUT 1 - LAYOUT 8. The currently selected LAYOUT is highlighted in orange. The first, - [dash] layout, will become active when you modify a saved layout. To store the current layout long click one of the slots, now you are able to rename your layout and save it. On the right side of the bar you can **CLEAR** or **RESET** the currently configured layout to the rooms default state.



You can prevent Menu Boxes from accidental hiding by pressing the **LOCK** button.

Why did my Layout disappear?

If you load and then modify a layout the layout button will display - [dash] meaning that the current arrangement of menu boxes does not match one of your saved layouts. You can save the current layout by long clicking one of the slots or recall your old layout by clicking it.

You can bind keyboard shortcuts to your layouts for quick access [default shortcuts **Alt+1-8**]

Touchscreen UI

VISUAL KEYBOARDS

Visual keyboards are used for data input. They are displayed by pressing the data input button. Above the input field there is a set of keyword buttons containing commonly used values, words or phrases. These buttons can be customized by entering the desired phrase in the input field and long clicking on the button you wish to change. When using physical keyboard you can disable visual keyboards by turning off the **SHOW KEYBOARD** setting. You still have access to the keywords by right clicking on the field you are editing.



Touchscreen UI

KEYBOARD SHORTCUTS

Hotkeys [or keyboard shortcuts] in QTAKE are configurable and saved per user allowing each user to customize their work environment. Reveal hotkeys for each control element by pressing the **Fn** key on your keyboard. While holding this key each command TITLE is temporarily replaced by it's keyboard shortcut representation.

If you click a button while holding down your **Fn** key a popup window will appear that lets you define a new keyboard shortcut for that button. In this window you also have the ability to **CLEAR** [remove any existing shortcut from that button], **RESET** [set default shortcut for that button] and **RESET ALL** [set default shortcuts for all buttons].



Clicking the control element while holding **Fn** key will let you change its shortcut.

Each rooms menu Layout is independent of the other rooms.

ROOMS

Main menu of the application consists of 5 Rooms:

FILE

This is the initial room, where you create users and projects, adjust system settings and import / export files. Keyboard shortcut is **Shift-1**

SHOOT

This room is used to record and playback clips, enter clip data and adjust various display options. Keyboard shortcut is **Shift-2**

EDIT

Edit room is used to make sequences of clips. Keyboard shortcut is **Shift-3**

COMPOSITE

This room is used to prepare your VFX shots by creating various overlays of two video layers. Keyboard shortcut is **Shift-4**

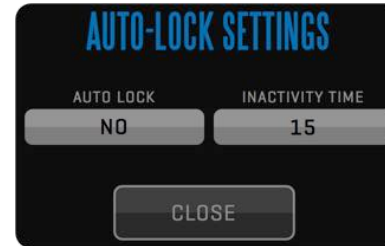
STUDIO

The Studio room allows you to record and cut up to 4 live video feeds. Keyboard shortcut is **Shift-5**

FILE Room

QTAKE

The **QTAKE** menu allows you to quit QTAKE by pressing the **SHUT DOWN** button [Keyboard shortcut **Q**] and lock the screen by pressing the **LOCK** button. Long-clicking the LOCK button brings up the **AUTO-LOCK SETTINGS** window where you can enable automatic screen locking after certain amount of inactivity time. To unlock the screen you will need to enter your password. The menu also displays the amount of storage left on your projects media drive. Clicking the label will toggle between displaying **FREE DISK SPACE TIME** and **FREE DISK SPACE SIZE**. The size value is calculated from the average bitrate of the selected codec times number of inputs supported by the version of QTAKE you are using. A popup will appear warning you when the FREE DISK SPACE is running out



NOTE

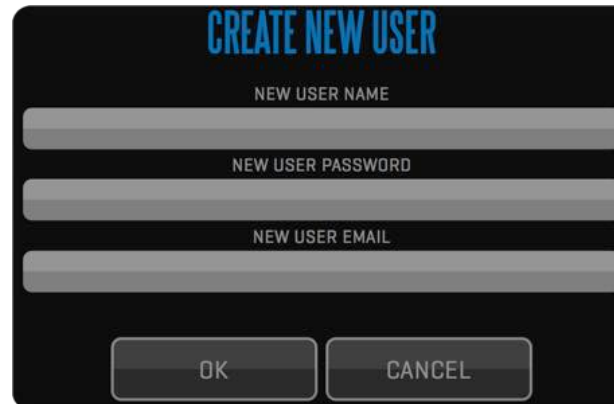
When you delete a USER, every private project he has created is deleted, including those projects' media files!



USERS

Before using QTAKE you have to create new user. Users are identified by **NEW USER NAME** attribute, that is why each user name has to be unique. Users can optionally specify a **NEW USER PASSWORD**. Password protected user accounts cannot be opened without entering correct password. The **NEW USER EMAIL** field allows the user to enter his email. The users email and passwords are used as the login credentials of the QTAKE operator when connecting to a **QTAKE Server**. Pressing the **EDIT** button in the OPEN USER window will let you change the users password and tell QTAKE to **REMEMBER PASSWORD**.

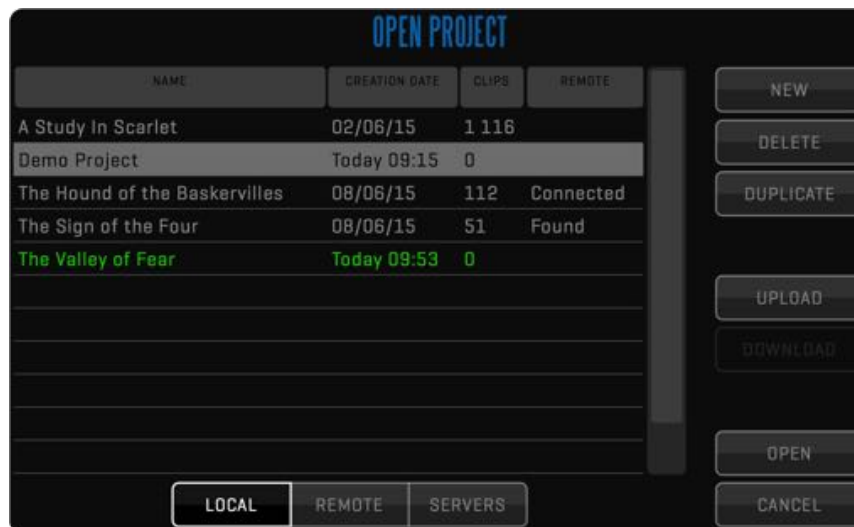
Interface layouts and options are stored as user data when you close the application. This means that each user can have his own menu box layouts and options.



FILE Room

PROJECTS

The **OPEN** button in the **PROJECT** menu opens a list of available projects. On the right there are buttons to create a **NEW** project, **DELETE** the selected project, **UPLOAD** the selected project to a QTAKE Server or **OPEN** the selected project. The segmented button along the bottom controls the contents of the list. **LOCAL** displays projects that exist on your machine. **REMOTE** displays projects that are available to download from QTAKE Server. **SERVERS** will automatically list any QTAKE Servers that are found on the local network. To connect to a QTAKE Server that is not listed you will need to **ADD** it to the list. Enter the **HOST** name of the QTAKE Server and its **Server Password**.



CREATE NEW PROJECT

Each project is identified by its **PROJECT TITLE**. This is also used to create project folder on your **PROJECT STORAGE** volume and therefore has to be unique. You can change the PROJECT STORAGE by clicking the button. Changing **INDEPENDENT H264 PATH** to **YES** lets you set the **H264 PROXY PATH** independently from the PROJECT STORAGE. Toggling the **PRIVATE** button to **YES** will limit access to the project to the user that created it. The **DOWNLOAD REMOTE MEDIA** input button controls when QTAKE will download media from QTAKE Server.

The segmented **INPUT** button lets you configure the settings of your **A/V DEVICE**. **COLORSPACE**, **GENLOCK** source, **AUDIO INPUT**, number of **AUDIO CHANNELS** and **PRIMARY VIDEO FORMAT** [resolution and frame rate] can be set for each input individually. The **TERADEK CUBE** button lets you toggle your input between a Teradek Cube network stream and your video card.

After selecting correct **VIDEO INPUT** and **AUDIO INPUT**, you can use **DETECT** button to set the format based on the input signal. Set **AUTOMATIC CHANGE** to YES to have QTAKE automatically reconfigure your video card based on the input signal format. **COPY TO ALL** button allows you to copy the settings of the current input to all remaining inputs. The **COLOR SPACE** selector lets you switch between **YUV** and **RGB** to match your input format. **TIMECODE** and **TIMECODE TYPE** lets you select

NOTE

Deleting a project will also delete all clips and sequences in that project!

Duplicating a project will copy the project settings to a new project. This allows you to create template projects that can speed up your workflow.

Some video cards limit the formats that can be selected for different inputs of the same card.

When Audio Input is set to something other than embedded audio the setting will carry over to all inputs.

If you have dual video cards you will need to set the following preference in Qtake_Prefs

`Two_Boards_For_Dual_IO=1`

FILE Room

timecode input. If your input signal does not contain timecode you can use wireless timecode from Timecode Buddy by setting **TC BUDDY** to **YES**. QTAKE will automatically find any Timecode Buddy devices on the same network.

The right side of the project window lets you set your **CAMERA MODEL**, **CAMERA LETTER** and recording **CODEC**. If the selected camera supports embedded metadata in the SDI feed you can set QTAKE to **READ SDI DATA** and also choose to name your recorded media by **QTAKE** or **CAMERA MEDIA FILENAME**. For further information see [CLIP NAMING CONVENTION](#).

Enabling **REVERSE PULL-DOWN** means that QTAKE will only record unique (non duplicated) frames from the camera output in order to match the frames recorded by the camera, either in standard camera frame rate or in varispeed and ramps up to the frame rate of the signal format. Project timebase has to match camera project frequency exactly.

If you need to up-convert or down-convert live or playback signal, set the **SECONDARY VIDEO FORMAT** and select which outputs should use it. Settings that are not available in the Project window should be set in AJA Control Panel [such as type of analog output]. This feature is not available on all video cards.

The **SAVE** button will save the current project setup as the default. The default setup will be used as a starting point when creating a NEW project. If you have multiple audio devices connected you can choose what output device QTAKE will use when in LIVE or DISK mode with the **LIVE AUDIO OUTPUT DEVICE** and **DISK AUDIO OUTPUT DEVICE** buttons.

The source for the H.264 file is the content of your VIEWS. This means that the proxy recording will “burn in” any applied effect or LUT, because of this you need to take care to not change the settings while recording.

To simplify navigating the H.264 proxies you can set the following in Qtake_Prefs:

H264_Folder_Structure=1

This will create subfolders for camera letter and roll

H264_Folder_Structure=2

This will create subfolders for camera letter, scene and shot.

To disable OSD burn-in on the H.264 proxies set the following:

H264_Proxy_OSD=0

How to monitor audio?

The PROJECT window lets you set the audio output device for live and playback independently. When using SDI OUT, audio playback is also sent to the video card in addition to the selected device.

RECORD H264 enables QTAKE to record a secondary, highly compressed file, along with your regularly recorded media. This proxy file will be placed in a subfolder of your project folder called **/h264**. With the use of QTAKE Server this enables you to stream recorded clips to iOS devices. The buttons in this sections allows you to set the **H264 MEDIA FILENAME**, **RESOLUTION** and **QUALITY** of these files.

CODEC

QTAKE records clips to Apple QuickTime file format. You can compress video to various codecs during record. Select the codec that best fits your postproduction workflow or make your selection based on space and quality requirements. QTAKE lets you use any of the following codecs: Apple ProRes Proxy, Apple ProRes LT, Apple ProRes, Apple ProRes HQ, Apple ProRes4444. The codec that requires least CPU resources is Apple ProRes Proxy.

You can specify a different capture codec for each input. When creating a new project the default recording codec is controlled by the preference:

`Default_Codec=Apple ProRes Proxy`

AUTO-LOAD

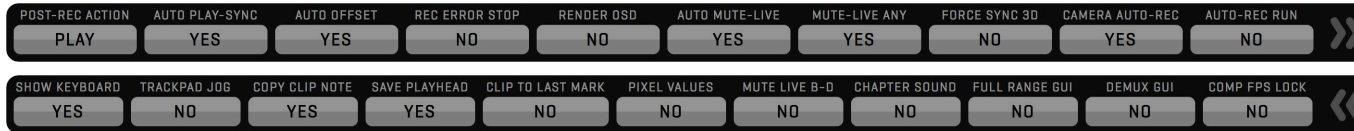
When starting the application, users can use the auto-load feature to automatically load last User and Project. To use this set the following in Qtake_Prefs:

`AutoLoad_Last_User=1`

`AutoLoad_Last_Project=1`

USER OPTIONS

You can use the following user options in this version of the QTAKE application. Options are stored for current USER.



POST-REC ACTION

Used to choose what action QTAKE should perform after recording a clip. LOAD will load the recorded clip into the view. PLAY automatically initiates playback.

AUTO PLAY-SYNC

Turn on to automatically enable PLAY SYNC button with synced recordings.

AUTO OFFSET

Turn on to automatically set a PLAY SYNC offset when two clips are recorded simultaneously or when you are recording a composite.

REC ERROR STOP

Turn on to automatically stop of recording when the input signal is lost.

RENDER OSD

Turn on to burn in OSD information when rendering a clip

AUTO MUTE LIVE

Enable automatic muting of live audio input when none of the VIEWS display LIVE input.

MUTE LIVE ANY

Enable automatic muting of audio input when any VIEW is in DISK mode.

FORCE SYNC 3D

Enable accurate display sync of both VIEWS. You need genlocked cameras to make this work correctly in LIVE.

CAMERA AUTO-REC

Enable automatic record function for supported cameras.

AUTO REC RUN

Enable record trigger by running timecode.

SHOW KEYBOARD

Turn on to enable touchscreen visual keyboard for each data entry.

TRACKPAD JOG

Hold **Fn** key and drag your finger across MacBook Pro touchpad to jog through the clip.

COPY CLIP NOTE

Turn on to copy NOTE from previous take for each new recorded clip.

SAVE PLAYHEAD

Saves the playhead position with the clip after playback.

CLIP TO LAST MARK

Moves the playhead to the last IN mark after clip selection. Setting option to NO moves the playhead to the first IN mark.

NOTE

Use **REC ERROR STOP** setting if you want to stop recording automatically upon signal error.

PIXEL VALUES

Turn on to display AXIAL, GRID and DVE MOVE values in pixels instead of percentage.

MUTE LIVE B-D

Always mutes LIVE audio from camera B-D. This will eliminate slight echo in dual audio input setups.

CHAPTER SOUND

Enable audio beep on chapter marks. Useful as audible signals for action on VFX shots.

FULL RANGE GUI

Does a full to legal range conversion of the views in the GUI [Enabled when Use_Full_Range_Video=1].

DEMUX GUI

Demuxes SBS images in the graphical user interface.

COMP FPS LOCK

Optimizes performance when video card is used to output COMPOSITE room result in view 2.

STATUS BAR

The STATUS BAR is located along the top of the interface, next to the ROOM buttons. This area is used to display information about the current state of QTAKE. The first row contains QTAKE version number, Current date and time and Performance information. The **V1 - V4** numbers correspond to the number of frames processed in each view. **M** corresponds to the number of frames sent to the GUI monitor and **E** corresponds to the number of frames sent to the external GPU output.

The second row contains hardware status information such as the Ambient Temperature [as read by the computers internal sensors] and Fan speeds. **CpuP** and **GpuP** indicate the state of system frequency throttling. Any value other than **OK** indicates that the system is reducing the frequency of the respective component due to risk of overheating. Click the STATUS BAR to show the expanded log message view.



IMPORT QT MOVIES

The **IMPORT** button is used to import QuickTime movie files into QTAKE. Import will create a copy of selected file and stores it in the project folder. When importing multiple clips QTAKE will first add entries into the database and then copy the media. If you shut down QTAKE while the media is being copied QTAKE will resume the copy operation when started. For best results, use the movies that have the same resolution and timebase as your QTAKE project.



LINK QT MOVIES

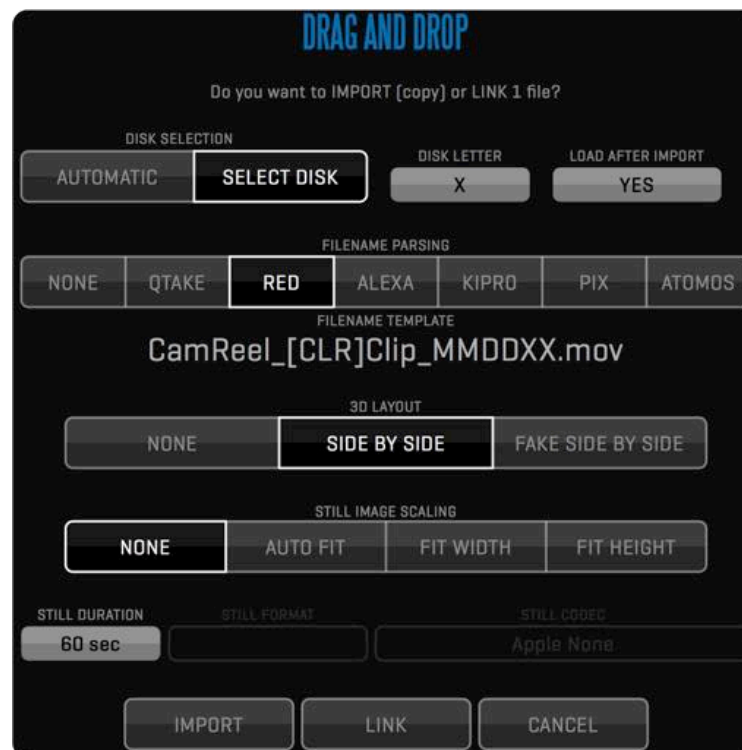
LINK command is used for the same purpose as Import, but linking does create a copy of the selected files in your media folder. This makes linking much faster than importing. The downside is that the media resides in its original location and you can easily loose the link to these clips if you disconnect the drive or move the media.

DRAG AND DROP IMPORT AND LINK

Both LINK and IMPORT can be performed by hiding QTAKE and dragging the files to the QTAKE dock icon. In addition to QuickTime movies you can also use this to import still images, audio files and CDL color corrections. When dragging a media file to the QTAKE dock icon the **DRAG AND DROP** window will appear, letting you set options such as **FILENAME PARSING**, **STILL IMAGE SCALING**, **STILL IMAGE DURATION**. Importing a still image can for example be useful for reference frames or background images for vfx shots.

DISK SELECTION

QTAKE can mark imported files with a specific CAMERA LETTER by clicking **SELECT DISK** and specifying the desired DISK in the **DISK LETTER** input box. Selecting **AUTOMATIC** will assign a DISK LETTER according to FILENAME PARSING.



When importing images?

Still images are imported Quicktime movies. Select desired scaling and duration in the import dialog.

Imported and Linked files will automatically be sorted and assigned Qtake IDs based on the creation date of the files.

Importing a Look Up Table (LUT)

To import a LUT place it in the /Luts subfolder of the application directory and restart QTAKE.

You can import per clip xml files generated by the preference:

`Generate_XML_Per_Clip=1`

by drag and dropping them on the QTAKE dock icon. This will import the clip and all metadata [similar to IMPORT FROM QTAKE XML].

FILE Room

FILENAME PARSING

When using drag and drop import QTAKE has the ability extract metadata from the filename of the imported material but the user has to select the correct parsing filter.

NONE

The NONE filter will mark the imported clips as belonging to a scene called Import.

QTAKE

The QTAKE filter uses the native QTAKE naming convention. Files will be organized in the same way as they were created.
Scene_Shot_Take-Sbtk_CamReel_[Rt]_IDx.mov

RED

The RED filter will import media with RED filenames to a scene called RED [magazine number], The Camera position will be used as shot and clip number as take.
CamReel_[CLR]Clip_MMDDXX.mov

ALEXA

The Alexa filter will import Alexa files to a scene called Alexa [reel number].
CamReelCClip_DDMMYY_CamID.mov

KIPRO

The Ki Pro filter will use Scene and Take numbers as entered.
SCSceneTKTake.mov

PIX

The PIX 220 or 240 needs to be set to Reel_Scene_Take naming. QTAKE will then use those values.
Reel_Scene_Take.mov

ATOMOS

The Atomos filter uses Scene, Shot and Take numbers.
UnitName_SceneNum_ShotNum_TakeNum.mov

3D LAYOUT

When Importing stereoscopic footage, recorded as muxed side by side, set the segmented button to **SIDE BY SIDE**. Non-muxed footage can be imported as **FAKE SIDE BY SIDE**. This can be useful when using 2D footage as a background plate for a stereoscopic chroma key.

Some external recorders have the ability to read Camera Media Filename and rename files accordingly. When importing files that are named by camera filename use the appropriate camera import filter even if they were recorded on one of the devices in the list.

NOTE

When importing or linking non-muxed stereoscopic footage [separate files for left and right eyes], use A-B or L-R as the last character of the filename and QTAKE as the import filter

STILL IMAGES

QTAKE can import various still image formats. On import the image is converted to a QuickTime movie. Adjust the duration of this movie by entering the desired number of seconds in the **STILL DURATION** input button. To adjust the scaling of the imported image in relation to the VIEW use the **STILL IMAGE SCALING** segmented button. QTAKE will preserve the transparency of imported images.

IMPORT CDL

Dragging to the QTAKE dock icon can be used to import CDL color correction settings in XML format. QTAKE supports both single corrections [.CDL] and color correction collections [.CCC]. Imported CDL color corrections will be placed into the **COLOR CORRECTION LIBRARY**. This library can be accessed from the **CDL COLOR CORRECTION** section of the **CLIP FX** sidebar.



IMPORT/LINK FROM QTAKE

Import/Link from QTAKE is used to import clips and associated metadata [that were **EXPORTED TO QTAKE XML**]. This is useful when you need to transfer your clips and data from one QTAKE system to another QTAKE system. Select the storage volume by pressing **IMPORT STORAGE** field. Then select the project and export session to **IMPORT** or **LINK** clips and metadata. If you select **IMPORT**, clips will be copied to your local project storage.



EXPORT

Export Menu allows you to export your project to **FINAL CUT PRO XML**, **AVID ALE** or to another QTAKE system. You can also Export individual sequences as **EDL** files.



EXPORT TO FCP

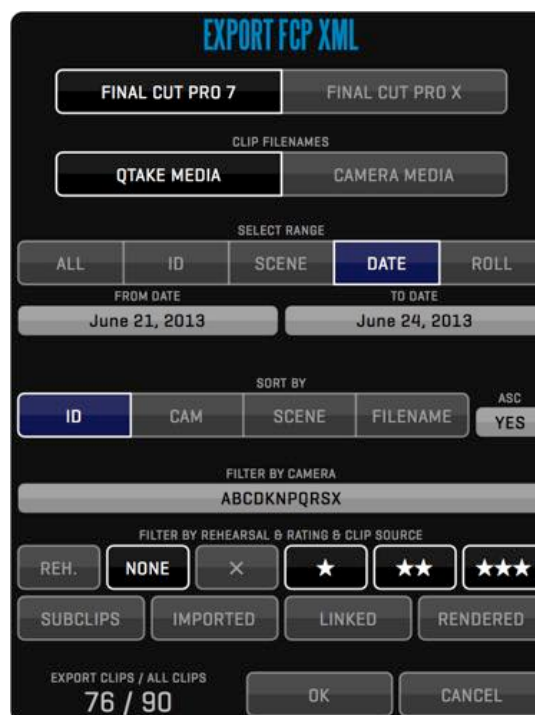
QTAKE can export the current project to Final Cut Pro 7 or Final Cut Pro X. The exported XML file is located in your project folder [Volumes/YOUR PROJECT STORAGE VOLUME/QTAKE Projects/YOUR PROJECT TITLE/Export FCP[X]/]. This XML can then be imported into FCP[X].

Final Cut Pro 7

Bins are created for each scene/shot/take to help you navigate through the footage. All clips are linked to QTAKE media files. Optionally you can select to export the FCP XML with **CAMERA MEDIA** filenames to make it easier to reconnect to the original footage. Metadata is exported with each clip and mapped into FCP data fields that can be accessed in the Bin. Any sequences created in the EDIT room will also be exported.

Final Cut Pro X

To help you organize the material each clip is exported with all the metadata entered into QTAKE including chapters, notes and multiple IN/OUT points. Once imported into Final Cut the clips can be sorted and grouped by Scene/Shot/Take or original filenames. Optionally you can select to export the FCP XML with **CAMERA MEDIA** filenames to make it easier to reconnect to the original footage. The metadata that Final Cut supports is mapped into the corresponding fields within the application. Other metadata, including custom fields can be accessed from the **QTAKE Metadata View** in Final Cut. Any sequences created in the EDIT room will also be exported.



EXPORT TO AVID ALE

QTAKE can also export the current project to an **AVID ALE** file. The exported ALE file is located in your project folder [Volumes/YOUR PROJECT STORAGE VOLUME/QTAKE Projects/YOUR PROJECT TITLE/Export ALE/]

When exporting you are presented with a setup dialog. From here you can choose whether to export with **CAMERA MEDIA** filenames, if you plan on reconnecting with the original camera media, or **QTAKE MEDIA** filenames, if you plan on using QTAKE media for your offline.

You can also select what **RANGE** to export, either by dates, Roll numbers, Scene or Id. How you want the ALE sorted and if you would like to filter out takes based on various criteria.

The resulting ALE file will contain many of the metadata fields available to you in QTAKE, ensuring that the editor can pickup where the onset production left off.

Some columns, like Scene and Take might not be displayed in the default bin column layout. These will have to be enabled manually in AVID Media Composer.

The exported ALE will contain the values of the first CDL correction applied to each clip.

ALE export does not support sequences. Please use EDL export for that purpose.

EXPORT ALE
CLIP FILENAMES

QTAKE MEDIA CAMERA MEDIA

SELECT RANGE

ALL ID SCENE DATE **ROLL**

FROM ROLL TO ROLL

- S

SORT BY

ID **CAM** SCENE FILENAME ASC YES

FILTER BY CAMERA

ABCDKNPQRSX

FILTER BY REHEARSAL & RATING & CLIP SOURCE

REH. NONE X ★ ★★

SUBCLIPS IMPORTED LINKED RENDERED

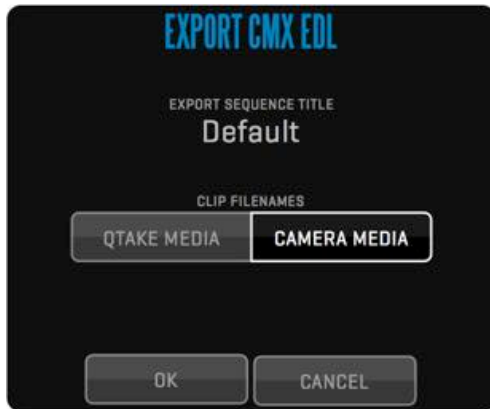
EXPORT CLIPS / ALL CLIPS
79 / 93

OK CANCEL

FILE Room

EXPORT EDL

Exports the current Sequence to CMX3600 Edit Decision List. You can choose between **QTAKE MEDIA** filenames or **CAMERA MEDIA** filenames. Exported EDL will be saved to your project folder **/EDL** subfolder.



The exported EDL will contain the values of the first CDL correction applied to each clip in the sequence.

FILE Room

EXPORT TO QTAKE XML

This function will let you export clips and metadata to another QTAKE system [such as 2nd unit].

Select **EXPORT STORAGE** [usually external drive volume] and choose if you want to **COPY MEDIA** or **DATA ONLY**. The latter is used to export data to some Asset Management Systems or some other forms of production database.

Select **ALL** clips or range of clips you want to export based on **ID**, **SCENE**, **DATE** or **ROLL**. You can further filter your selection based on **CAMERA** and **RATING** and clip origin (**IMPORTED**, **LINKED**, **RENDERED**).

QTAKE will generate an XML file with all metadata for selected clips. After the XML file is generated, the process of copying media will start in the background, this enables you to continue to work while the media transfer is in progress. Since the format is standard XML it can easily be parsed by third party applications such as Colorfront On-Set Dailies.

The copy process uses your media drive, so you may not have sufficient speed for recording if your raid is not fast enough to handle both tasks at the same time.

Developers who are interested in learning more about the XML structure can request a copy of the specification at office@in2core.com

The screenshot shows the 'EXPORT TO QTAKE' dialog box with the following settings:

- EXPORT STORAGE:** /Volumes/RAID
- EXPORT TYPE:** COPY MEDIA (selected), DATA ONLY
- SELECT RANGE:** ALL, ID, SCENE, DATE (selected), ROLL
- FROM DATE:** June 21, 2013
- TO DATE:** June 24, 2013
- FILTER BY CAMERA:** ABCDKNPQRSX
- FILTER BY REHEARSAL & RATING & CLIP SOURCE:** R, NONE, X, ★, ★★, ★★★
- CLIP ORIGIN:** IMPORTED, LINKED, RENDERED
- EXPORT CLIPS / ALL CLIPS:** 76 / 90
- Buttons:** OK, CANCEL

LICENSE INFO

You can view your application license information by clicking the **LICENSE** button in the **INFO** Menu. Along the top of the window there is a segmented button that lets you alternate between listing **MODULES** and **MACHINES** in the LICENSE window. The **SHOP ACCOUNT** label will show the account name that is saved with your current QTAKE USER. You can **EDIT** the credentials if you would like to log in to the QTAKE Shop with a different account. Use the **CREATE ACCOUNT** button to create a new QTAKE Shop account if you do not have one already. The CREATE ACCOUNT button text will change to **GO TO SHOP** once you have entered account credentials in the SHOP ACCOUNT. The **UPDATE** button will connect to the QTAKE Shop and download all rental licenses belonging to your **DONGLE ID** and **COMPUTER ID**.

The **MACHINES** tab lists the COMPUTER ID of your computer and DONGLE ID if you have a dongle connected. You can **REGISTER** a COMPUTER ID or DONGLE ID to your QTAKE Shop account. Registering a DONGLE ID or COMPUTER ID to your QTAKE Shop account will allow you to rent licenses for that particular computer or dongle through the QTAKE Shop.

You can also review the end-user license agreement by clicking **SHOW EULA**.

NAME	START DATE	END DATE	VALIDITY	STATUS
BASE	01/01/16	01/01/17	Expires in 290 days	Ready
EDIT	01/01/16	01/01/17	Expires in 290 days	Ready
COMPOSITE	01/01/16	01/01/17	Expires in 290 days	Ready
OUTPUT	01/01/16	01/01/17	Expires in 290 days	Ready
EXPORT	01/01/16	01/01/17	Expires in 290 days	Ready
LINK	01/01/16	01/01/17	Expires in 290 days	Ready
X2	01/01/16	01/01/17	Expires in 290 days	Ready
MUXER	01/01/16	01/01/17	Expires in 290 days	Ready
STREAM	01/01/16	01/01/17	Expires in 290 days	Ready
SCOPES	01/01/16	01/01/17	Expires in 290 days	Ready
X4	01/01/16	01/01/17	Expires in 290 days	Ready
CGI	01/01/16	01/01/17	Expires in 290 days	Ready
COPRA	01/01/16	01/01/17	Expires in 290 days	Ready

LICENSES

A QTAKE license can either be tied to a DONGLE ID or a COMPUTER ID. If a license is tied to a DONGLE ID you can move that dongle and license file to a different computer at will. If a license is tied to a COMPUTER ID it will only work on that particular computer but then you do not have to worry about misplacing the dongle.

QTAKE SHOP

To create a QTAKE Shop account, register machines and rent modules you can also visit the QTAKE Shop directly at:

<http://shop.qtakehd.com>

For instructions on how to use the shop please see:

<https://shop.qtakehd.com/instructions>

PROJECT INFO

The **PROJECT** button opens the project window this allows you to adjust any settings to the project. Note that changing the format will have impact on sequences. New sequence is derived from the current project settings.

Clicking the **PROJECT STORAGE** input button will let you choose a new storage volume for your project. QTAKE will record subsequent media to the project folder on your newly selected volume. Disconnecting your old storage volume will cause any media residing on that volume to be marked as offline [purple outline] in the browser.

BIT DEPTH

Video is usually recorded in YCbCr mode. You can choose to record in either 8bit or 10bit mode. 10bit mode will store video in a higher quality, but it also requires more disk space and more processing power.

This is controlled using the preference:

`Use_10bit_Capture_Mode=1`

FULL RANGE VIDEO

When processing YCbCr frames, they are converted into RGB format. Standard YCbCr conversion uses SMPTE levels, but some cameras use FULL RANGE levels to store higher luminance range. QTAKE supports conversion to RGB using full range to avoid clipping super-blacks and super-whites. This is controlled using the preference:

`Use_Full_Range_Video=1`

When using FULL RANGE VIDEO, you may need to set DisplayPort to SDI converter to accept full range input levels in order to perform correct conversion.

PDF REPORT

QTAK can generate PDF Reports with thumbnails and metadata for each clip. You can specify the range of clips and filter clip selection by various attributes. PDF files are saved to a subfolder of your project folder called **/Reports**. PDF Reports are generated based on a template. You can create new templates by clicking the **EDIT TEMPLATE** button. This allows for custom reports for different departments.

EDIT TEMPLATES

QTAK comes with two pre-made PDF Report templates. Project Report and Camera Report. To create a new PDF report template first select the report you would like to base your new report on and click DUPLICATE.

The left half of the template editor controls what metadata fields are included and the sorting order of the clips in the report. Use the segmented button to choose whether the fields should be added to the page header or the individual clip entries in the report. To add a field select it from the **Available Fields** list and use the arrow button [>] to add it. When the report is in Flow Layout both the Page Header and the clip entries have a heading and a data section. These are separated by a horizontal line in the **Included Fields** list. Drag the field to move it between the data section and the heading. Each field in the Included Fields list also has a drop-down menu to define its relation to the next field. The options are **No Space**, **Slash**, **Space** and **New Line**.

Fields added to the Page Header will show up in the gray section of the preview. The Page Header will be repeated at the top of each page in the report. The header would normally be populated with fields from the Project Data group but you can optionally add fields from other groups. If fields with multiple values are added the header will show all values separated by commas.

The **Sort Order** tab lets you control the sorting of clips and the page breaks of the report. Clips in the report are sorted, in order from top to bottom, by the fields in the Included Fields list. There is a horizontal bar dividing the Included Fields list into two sections just like in the Clip and Page Header. Fields added above this line will cause the report to be divided into sections separated by page breaks based on their values.

Report Layout

The right half of the template editor contains a preview of the report, and controls for the page layout of the report. A segmented button near the top lets you choose between a Flow Layout and a Table Layout for the report. Click **TEMPLATE** and select the Camera Report for an example of a report in table layout. You can add the name of the template and the date when the report was generated to the report header by setting **Show template title in page header** and **Show date in page header** to YES. Setting **Full header on first page only** to YES will remove fields below the horizontal line in the Page Header tab on all pages of the report except for the first.

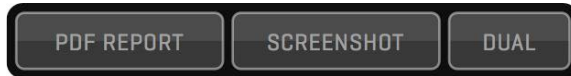


The bottom row of controls allows you to change the layout of the clip entries. Setting **Begin each group on a new line** to NO allows for more compact layout by putting the metadata groups closer together. **Use fixed field positions and sizes** will make sure the fields stay in the same place in each clip entry by adjusting the size of the field in the report to accommodate the clip with the largest amount of characters in that field. **Use full-width clip headers** will adjust the thumbnail to allow more information in the header. **Skip empty fields** will remove fields without data from the report. You can also adjust the thumbnail position and row decoration for the clips.

SCREENSHOT

Use **SCREENSHOT** button in **REPORT** Menu to store the current frame of the active VIEW to jpeg file. Screenshots are saved to current Project folder into **/Screenshots** subfolder using clip filename and timecode.

When PLUS 3D is enabled the screenshot will depict the PLUS 3D view.



DUAL SCREENSHOT

The **DUAL** button in the REPORT menu creates a PDF file with screenshots and metadata for the two clips loaded into VIEW 1 and VIEW 2. DUAL screenshots are saved to the **/Dual Screenshots** subfolder of the current Project folder.

CREW

Use the **CREW** menu to specify name of the various members of the production as well as the camera operators for each camera. The camera operator names can be displayed in OSD for each camera.



CAMERA METADATA COMPARISON TABLE

This is a comparison table detailing what embedded metadata QTAKE can read from various cameras.

	RED	ALEXA	SONY	CANON
TIMECODE	YES	YES	YES	YES
RECORD START/STOP	YES	YES	YES	YES
FILE NAME	YES	YES*	YES*	YES*
INDEX	YES	YES*	YES*	YES*
ROLL	YES	YES*	YES*	YES*
SHUTTER	-	YES*	-	-
FPS	-	YES*	-	-
LENS DATA	-	YES*	YES*	-

* Blackmagic Design video cards will only receive marked metadata when Qtake is set to capture in 10bit

RED CAMERA SUPPORT

RED Digital Cinema Cameras provide some exciting workflow features. QTAKE is able to use special flags implemented into camera SDI feed. The following features are enabled:

AUTO-RECORD

You can enable auto-record for RED ONE, EPIC or SCARLET camera in User Options Menu. Make sure you have the corresponding input set to the correct camera type.

REVERSE PULLDOWN (RED ONE ONLY)

RED ONE camera outputs 720p50 or 720p59.94 video signal. This means that some frames in output are duplicated. QTAKE can identify duplicated frames and record only “valid” frames. This feature supports regular camera frame rates as well as varispeed and ramps up to 60fps!

R3D FILENAME READOUT

QTAKE can read the filename of the clip being recorded on RED cameras through the SDI. Editorial can link clip data from QTAKE media to actual R3D files, using matching timecode. QTAKE will also parse the filename and derive **CAMERA LETTER** and **ROLL** number.

To disable recording of these parameters set one or more of the following to =0 in your Qtake_Prefs.

Use_Camera_Index=1

Use_Camera_Roll=1

To enable advanced RED camera support, you first have to set the correct camera type in the project window and then enable **READ SDI DATA** for that input. The project window is also where you choose if you want your media named by QTAKE standard convention or as the camera media.

For 100% timecode accuracy please use JAM SYNC option in RED ONE and an external timecode reference.

ARRI CAMERA SUPPORT

Just like with RED cameras, QTAKE can read Alexa metadata flags from the SDI feed. To enable this feature you will need to set the correct **CAMERA MODEL** for the corresponding input in the project window and set **READ SDI DATA** to **YES**.

AUTO-RECORD

You can turn on auto-record for the Arri Alexa camera in the OPTIONS menu. Make sure you have the corresponding input set to the correct camera type.

ARRI METADATA

QTAKE can read several aspects of the Alexa settings. Camera filename, camera letter, FPS, magazine roll number and shutter speed. These camera settings are transferred to QTAKE and corresponding input buttons are filled automatically.

To disable recording of these parameters set the appropriate line in your Qtake_Prefs to =0.

```
Use_Camera_Index=1
Use_Camera_FPS=1
Use_Camera_Roll=1
Use_Camera_Shutter=1
```

NOTE regarding AJA Kona LHi

To enable metadata readout please set the Alexa monitor output (MON OUT) to psf (23.98, 24 or 25).

Blackmagic Design video cards needs to be set to 10bit mode in order to read Arri Alexa metadata.

SONY CAMERA SUPPORT

QTAKE can also read Sony metadata flags from the SDI feed. To enable this feature you will need to set the correct camera model for the corresponding input in the project window and set **READ SDI DATA** to **YES**.

AUTO-RECORD

You can turn on auto-record in the OPTIONS Menu. Make sure you have the corresponding input set to the correct camera type.

SONY METADATA

QTAKE can read the filename of the clip being recorded on Sony cameras through the SDI. QTAKE will also parse the filename and derive **CAMERA LETTER** and **ROLL** number from the **CAMERA MEDIA FILENAME**.

To disable recording of these parameters set one or more of the following to =0 in your Qtake_Prefs.

Use_Camera_Index=1

Use_Camera_Roll=1

CANON CAMERA SUPPORT

QTAKE can also read Canon metadata flags from the SDI feed. To enable this feature you will need to set the correct camera model for the corresponding input in the project window and set **READ SDI DATA** to **YES**.

AUTO-RECORD

You can turn on auto-record in the OPTIONS Menu. Make sure you have the corresponding input set to the correct camera type.

CANON METADATA

QTAKE can read the filename of the clip being recorded on Canon cameras through the SDI. QTAKE will also parse the filename and derive **CAMERA LETTER** and **ROLL** number from the **CAMERA MEDIA FILENAME**.

To disable recording of these parameters set one or more of the following to =0 in your Qtake_Prefs.

Use_Camera_Index=1

Use_Camera_Roll=1

Kona LHi is not able to read RECORD START/STOP flag from Sony Cameras.

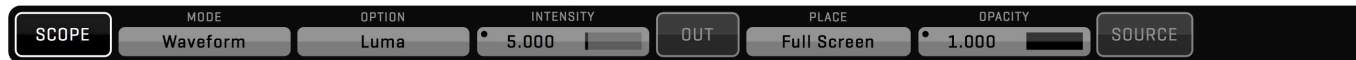
Blackmagic Design video cards needs to be set to 10bit mode in order to read CAMERA MEDIA FILENAME from the SDI metadata. RECORD START/STOP flags are not read on Blackmagic Design video cards.

Kona LHi is not able to read RECORD START/STOP flag from Canon Cameras.

Blackmagic Design video cards needs to be set to 10bit mode in order to read CAMERA MEDIA FILENAME from the SDI metadata. RECORD START/STOP flags are not read on Blackmagic Design video cards.

SCOPES

The SCOPES menu lets you analyze the incoming video signal with the help of realtime **Waveform**, **Vectorscope**, **Histogram**, **Focus Peaking** or **False Color**. Scopes can be turned on [with **SCOPE** button], output [with the **OUT** button], positioned [with the **PLACE** button] and adjust the **OPACITY** of the analysis individually for each VIEW. In False Color mode you have the ability to customize the values for the LOW, MID and HIGH zones individually. The analysis is by default performed after any VIEW FX and CLIP FX are applied. The **SOURCE** button allows you to analyze the “clean” video input.



The following **MODE**s and **OPTION**s are available:

Waveform [Luma, Chroma, YCbCr Parade, Red, Green, Blue, RGB Overlay RGB Parade]

Vectorscope

Histogram [Red, Green, Blue, RGB Overlay RGB Parade]

False Color

Focus Peaking

TERADEK CUBE SUPPORT

QTAKE can record RTSP stream from Teradek CUBE over wifi, without the need for additional video input hardware. To enable the Teradek CUBE's video input you will need to enter the RTSP address in the project window. The Teradek CUBE has a Bonjour enabled web interface that is used to setup the device and update its firmware.

Step by step for connecting Teradek CUBE to QTAKE

1. **Connect to the Cubes admin interface.** Click the Show All Bookmarks item in Safari's Bookmarks toolbar and select your Cube device from the devices listed under the Bonjour heading. For troubleshooting your connection refer to the Teradek Cube manual.
2. **Make sure Teradek Cube is running the latest Firmware.** Note that the text on the bottom of the Info > About window in the admin interface should say "your device firmware is up to date."
3. **Set your Compression profile.** Go to Video Setup > Encoder Settings and set it to **Baseline**.
4. **Disable Quickview.** You will need to disable Quickview for proper operation of the Teradek Cube in 1080 resolution. Go to Video Setup > Stream Settings, then click on the QuickView Stream tab and set the radio button to disabled.
5. **Make note of Cube settings.** Write down your Primary (RTSP) address and your Output Resolution from the Dashboard section of the admin interface.
8. **Set up QTAKE.** Start QTAKE and set Teradek Cube option to YES in your project window. You will need to enter your Primary stream address and set the video format with the format selector.

Please refer to the Teradek CUBE manual for more information regarding setup.

CUBE video reception is dependent on wi-fi signal strength. Using a router with external antennas can improve performance.

Only hardware that supports VDA decoding of H.264s can use other Profiles than Baseline.

QTAKE uses "LIVE555 Streaming Media" software licensed under LGPL.

Live Networks, Inc.

<http://www.live555.com/>

FILE Room

NET LINK

The NET LINK feature is used to control two or more QTAKE systems.



Follow these steps to start network job:

1. Make sure every machine is on the network.
2. Run QTAKE on all machines you wish to NET LINK, open user and project.
3. Press **MASTER** button on master machine [displays “Master Active” in Connection Status].
4. Press **SLAVE** button on slave machine [“SLAVE #: OFF”, where # is the number of the slave - in order of connection].
5. To activate slave press **NUMBER** button on master machine [turns green] - now the slave can accept commands.
6. Repeat steps 4,5 for each slave.

You can activate/deactivate slave machines by clicking their number buttons on the master QTAKE.

Following functionality is supported through NET LINK:

- Select ROOM (File room or Shoot room, Edit and Composite are disabled on slaves when active)
- Entering CLIP DATA (scene, shot, take, rating) that is common to every camera
- RECORD, RECORD SYNC, RECORD ABORT
- All PLAYBACK commands
- Selecting ACTIVE VIEW, DUAL VIEW
- BROWSE CLIP (based on clip data, so make sure you don’t have two clips with the same data)

How it works?

Master machine is advertising its presence on the network using MASTER button. Slave machine uses SLAVE button to find the master on the network and make a connection. Master confirms connection and activates the slave. You can control up to 8 slave systems. If you choose HDx1 to be master, then you can control only HDx1 slaves. QTAKE LITE can only control a single slave unit.

You will find the NET Menu in the FILE Room.

GPI

General Purpose Interface is used for simple communication with external devices. Most commonly this is used with Motion Control Rigs. QTAKE uses **Softtron GPI Commander 2** to receive and send GPI signals via USB.

By short-clicking **GPI INPUT** or **GPI OUTPUT** button, you can enable or disable GPI input or output.



GPI INPUT

You can access GPI input settings by long clicking **GPI INPUT** button. Each of the 24 inputs allows you to select a QTAKE command. The commands will execute when the corresponding GPI INPUT becomes active. Currently GPI triggering is supported by **RECORD**, **FRAME RECORD**, **PLAYBACK**, **CHAPTERS** and **STUDIO** commands. Each command can be further controlled by selected **MODE** (**START**, **STOP**, **TOGGLE**, **HOLD**). Note that some commands are one-shot only, such as **Inc Frame INPUT X**. These commands will trigger as soon as the input is active regardless of MODE selected.



Record INPUT 1-4

Add Frame INPUT 1-4

Add Chapter INPUT 1-4

Play VIEW 1-4

Inc Frame VIEW 1-4

Dec Frame VIEW 1-4

Studio Cut To INPUT 1-4

Studio Cut To NONE

Changes record state of the selected INPUT.

Adds a frame to the recording when the INPUT is set to FRAME REC mode (one-shot).

Adds a chapter when the INPUT is recording (one-shot). Ignored if the INPUT is not recording.

Changes the playback state of the view. Ignored when the view is patched to LIVE.

Moves the playhead one frame forward (one-shot). Ignored if view is patched to LIVE.

Moves the playhead one frame back (one-shot). Ignored if view is patched to LIVE.

Cuts to the selected INPUT. Command is ignored outside of STUDIO room.

Cuts to NONE. Command is ignored outside of STUDIO room.

MODE

Start: Start the selected command on received pulse.

Stop: Stop the selected command on received pulse.

Toggle: Changes state of the command on received pulse.

Hold: Starts the command while the GPI is active, Stops when the GPI becomes inactive.

GPI OUTPUT

Enter the GPI output settings window by long-clicking the **GPI OUTPUT** button. Each output can be set to trigger when a command or event occurs in QTAKE.

GPI OUTPUT triggering is supported by **RECORD** and **PLAYBACK** commands as well as **CHAPTERS 1-5** on each view. Each output can be further controlled by setting its MODE (**START**, **STOP**, **TOGGLE**, **HOLD**).

GPI	COMMAND FOR GPI OUTPUT	MODE GPI
GPI 1	-	-
GPI 2	-	-
GPI 3	-	-
GPI 4	-	-
GPI 5	-	-
GPI 6	-	-
GPI 7	-	-
GPI 8	-	-

OK CANCEL

OUTPUT MODES

Start: The output will pulse when command or event starts.

Stop: The output will pulse when command or event stops.

Toggle: The output will pulse when command or event either starts or stops.

Hold: The output will remain active for duration of the command or event.

FILE Room

VIDEOHUB

The VIDEOHUB menu enables direct control of Blackmagic Design videohubs [up to the Smart Videohub 40x40] and AJA KUMO SDI routers from within QTAKE. Pressing a **GROUP** button in the left segmented button will show the 10 **PRESETS** in that GROUP on the right. Press **SETUP** to configure your routing, groups and presets. See VIDEOHUB SETUP below.

SETUPGLOBALDirectorAgencyClientDPFujiCAM 1+2CAM 3+4AJA Out 1+2Preset F4Preset F5Preset F6Preset F7Preset F8Preset F9Preset F10ENABLE LIVE PASS

LABELSTAGSENABLE LIVE PASS

INPUT 1 LABELCAM 1IN 1

INPUT 2 LABELCAM 2IN 2

INPUT 3 LABELCAM 3IN 3

INPUT 4 LABELCAM 4IN 4

INPUT 5 LABELAJA Out 1IN 5

INPUT 6 LABELAJA Out 2IN 6

INPUT 7 LABELQOO Out 1IN 7

INPUT 8 LABELQOO Out 2IN 8

INPUT 9 LABELQOO Out 3IN 9

INPUT 10 LABELQOO Out 4IN 10

INPUT 11 LABELFuji Out 1IN 11

INPUT 12 LABELFuji Out 2IN 12

INPUT 13 LABELIn 13IN 13

INPUT 14 LABELIn 14IN 14

INPUT 15 LABELIn 15IN 15

INPUT 16 LABELIn 16IN 16

VIDEOHUB SETUP

OUT 1DIRECTORS Monitor 1LOCKDirector

OUT 2DIRECTORS Monitor 2LOCKDirector

OUT 3Agency Monitor 3LOCKAgency

OUT 4Agency Monitor 4LOCKAgency

OUT 5Client Monitor 5LOCKClient

OUT 6Client Monitor 6LOCKClient

OUT 7DP Monitor 7LOCKDP

OUT 8DP Monitor 8LOCKDP

OUT 9AJA In 1LOCK-

OUT 10AJA In 2LOCK-

OUT 11Fuji In 1LOCKFuji

OUT 12Fuji In 2LOCKFuji

OUT 13Out 13LOCK-

OUT 14Out 14LOCK-

OUT 15Out 15LOCK-

OUT 16Out 16LOCK-

VIDEOHUB IP192.168.2.93

PORT80LOCATE

PREPEXEC

10.0.0.1

Preset A1

Preset A2

Preset A3

Preset A4

Preset A5

Preset A6

Preset A7

Preset A8

Preset A9

Preset A10

GLOBALDirectorAgencyClientDPFuji

LOCK ALL

CLOSE

VIDEOHUB SETUP

Set the correct **VIDEOHUB IP** address and **PORT** number in the appropriate input buttons. You can alternatively press the **LOCATE** button to list any videohubs on the local network. Routing is performed by clicking the output node first and then selecting the input. Linking two Inputs/Outputs is done by long clicking the button associated with that Input/Output and then selecting an Input/Output to link. Linked Inputs/Outputs are routed together. The **PREP** and **EXEC** buttons let you first PREPare multiple routes and later EXECute the actual routing all at once. Press the **RESET PREP** button to revert any changes made during PREP. The segmented button top left corner of the VIDEOHUB SETUP window lets you change between editing **LABELS** and **TAGS**. When set to LABELS you can customize the labels for inputs and outputs to help you organize your videohub routing. Pressing TAGS lets you assign what inputs and outputs are connected to your video card. Tagging the videohub inputs and outputs in this way is necessary to be able to use LIVE PASS functionality.

LIVE PASS

QTAKE can perform context aware videohub routing in order to bypass the video card for selected outputs when a view is patched to LIVE. This is useful to avoid having to manually re-route the videohub when you want a low latency camera feed during record and video card output during playback. You can assign what outputs should bypass the video card by enabling the LIVE PASS button next to the TAG. The ENABLE LIVE PASS button lets you enable or disable the LIVE PASS behavior globally. Outputs that have the LIVE PASS button enabled will show two routes. One green and one orange, representing the DISK route and the LIVE route. The non-dotted line indicates the outputs' current routing.

PRESETS AND GROUPS

The current routing can be saved into a **PRESET**. Long click one of the PRESET buttons to save the current routing. Load a PRESET by clicking on the associated button. When loaded you can change the **PRESET NAME**. Along the bottom of the window are six **GROUP** buttons. Each GROUP can have a subset of the videohubs outputs assigned to it and can have up to 10 PRESETS saved. The **GLOBAL** group is the exception to this, the PRESETS in this group apply to all outputs. To assign videohub outputs to one of the other GROUPS, select the GROUP and press the button next to the **LOCK** button.

DEFAULT PORT NUMBERS

AJA Kumo default port: 80

BMD videohub default port: 9990

The **LOCK** button will lock an output to an input. While locked the route is not available for routing.

FILE Room

QTAKE OUTPUT DEVICE USB CONTROL

QTAKE can change settings and control the QOD via USB connection. Settings can be changed from the **QOD** menu in the **FILE** room. See [APPENDIX C - QTAKE Output Device](#) or the QOD User Guide for more information. The QOD menu displays the following information:



SERIAL NUMBER

Serial number of the QOD.

QOD RESOLUTION

Current input resolution of the QOD.

TEMP

Internal temperature of the QOD.

QOD AUDIO

This button controls the audio input and embedded audio output of the QOD. Your options are:

- None** No audio is embedded on the output.
- Audio In** The analog line audio input is embedded on all SDI outputs.
- DisplayPort 2/8** Each SDI output uses 2 of the 8 audio channels available from the DisplayPort input. This allows each view to have independent embedded audio.
- DisplayPort 8/8** All 4 SDI outputs uses all of the 8 audio channels available from the DisplayPort input.

FIRMWARE

Use this button to update firmware of the QOD. Select DisplayPort 1.1 firmware when using QTAKE HDx1 or HDx2. In case you are using QTAKE HDx4 or QTAKE 4K, please select DisplayPort 1.2 firmware. After updating firmware, you need to quit QTAKE and power-cycle QOD. After QOD is detected by the operating system, you can start QTAKE HD application.

RESET

Performs a soft reset of the connected QOD.

QOD

More information can be found in the QOD User Guide. It can be downloaded from:

http://in2core.com/download/docs/QOD_User_Guide.pdf

REMOTE CONTROL

Using REMOTE Menu, you can enable **REMOTE CONTROL** of QTAKE using custom UDP protocol based on XML. The REMOTE CONTROL button also enables bonjour network advertising, allowing devices to discover and connect to a computer running QTAKE. Enabling the REMOTE CONTROL button also allows QTAKE Monitor to connect to QTAKE.

Currently you can use the **QTAKE Monitor** or the **QTAKE 3D Control** apps for iPhone and iPad to connect to QTAKE. QTAKE Monitor allows you to use an iPad or an iPhone as a wireless wifi monitor. See [Appendix A - QTAKE Monitor](#) for more information about the app. The QTAKE 3D Control app is used to control post-convergence [HIT] and PLUS 3D VIEW. See [Appendix B - QTAKE 3D Control](#) for more information.

You can control the name of the machine running QTAKE as it appears in the apps by going to System Preferences - Sharing and changing the Computer Name field.



The sixteen numbered buttons [1-8 on the first page and 9-16 on the second page] in the REMOTE menu allows you to grant or deny access to any connecting devices. You can also enable TALKBACK from a single QTAKE Monitor app by long clicking its button. Long clicking the REMOTE CONTROL button opens the **REMOTE CONTROL SETUP** window.

MONITOR

The MONITOR menu lets you control the layout of the TALKBACK assigned QTAKE Monitor client. Setting LOCK SCREEN to YES will prevent accidental inputs from the QTAKE Monitor user.

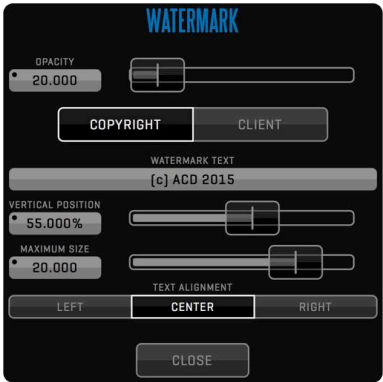


FILE Room

REMOTE CONTROL SETUP

This window lists all clients running **QTAKE Monitor** or **QTAKE 3D Control**. You can **APPROVE** clients, enable the ability to take **SCREENSHOT**, enable **TALKBACK** and disable the watermark overlay [**NO WATERMARK**] for each client individually. the setup window also allows you to set an easy to remember **CLIENT TITLE** for each connected client and manually **DISCONNECT** devices that are no longer wanted to free up slots in the list.

ASSIGN 3D HIT VIEW selects what view or views the QTAKE 3D Control application will control. The **STREAM VIEW** buttons allows you to disable streaming of each view individually. Long click the **WATERMARK** button to configure the Copyright and User Name watermarks' text, position and size.



Remote control can be enabled by default on each startup by using the preference:

`Enable_Remote_Control=1`

Use **FORCE TALKBACK** to automatically enable **TALKBACK** on the client when it is enabled from the **REMOTE** menu or **REMOTE CONTROL SETUP** window.

TALKBACK

Qtake supports bi-directional TALKBACK to and from QTAKE Monitor. The **TALKBACK** menu lets you select a TALKBACK OUTPUT device and a TALKBACK INPUT device to use with the TALKBACK feature. The output and input devices cannot be set to the same device that is set as your **LIVE OUTPUT AUDIO DEVICE**, **DISK OUTPUT AUDIO DEVICE** or **AUDIO INPUT** respectively. See the [PROJECTS](#) section for more information on audio output and input devices.

The segmented button lets you select source between **TALK** for



talkback only, **MAIN** for live and playback audio only and a **MIX** between the two. **TALK LEVEL** and **MAIN LEVEL** lets you set the volume of the two sources. **MUTE** allows you to mute all audio output from the **TALKBACK AUDIO DEVICE**. The second page of the TALKBACK menu lets you select a **TALKBACK INPUT** device and set the **INPUT LEVEL**.

CONTROL SURFACES

In addition to keyboard, mouse and touchscreen control. The software can also be controlled by various third party hardware controllers. Any controller that emulates keyboard key presses will work in QTAKE. See the section called [KEYBOARD SHORTCUTS](#) for more information on assigning button functionality. Native support also exists for the following devices:

C-MOTION

QTAKE supports the use of C-Motion hand units to control 3D HIT. To connect the hand controller to QTAKE you will need a Serial to USB converter. To enable C-Motion control use the following preferences:

`Serial_Port_1=`

`Serial_Port_2=`

`Serial_Type=cmotion`

TANGENT DEVICES - ELEMENT

QTAKE supports the element-Tk for CDL color corrections and the element-Mf for playback control, Jog and Shuttle transport as well as 24 customizable keys [12 + 12 with the use of the A modifier key]. To enable the use of either of these element control surfaces use the following preference:

`Use_Tangent_Surface=1`

Bi-directional talkback requires QTAKE Monitor version 2.5 or later.

AVID ARTIST TRANSPORT

QTAKE now supports AVID Artist Transport Control Surface to improve user interface control - mainly playback control using dedicated Jog and Shuttle wheels. You can use AVID Control software to customize functionality of this hardware controller. To enable AVID Artist Transport support, use following preference:

Use_Avid_Surface=1

AVID

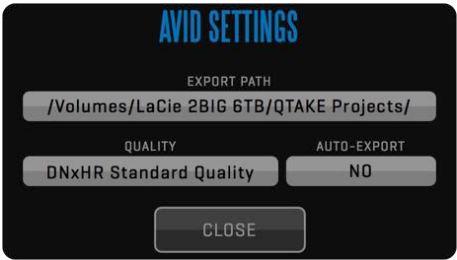
The **AVID** menu lets you export DNxHD files in AMT format to be used in AVID software. The **AVID STATUS** will display the number of clips exported out of the total number of clips in your project. Clicking **EXPORT** will start exporting clips. QTAKE will place exported clips into a subfolder of your media folder called **/AVID Export**. Clicking the **SETTINGS** button will bring up the **AVID SETTINGS** window. Here you can adjust the compression **QUALITY** of the exported files and turn on **AUTO-EXPORT**. The following **QUALITY** settings are available:

Low Bandwidth	DNxHR LB	[8-bit 4:2:2] Offline Quality
Standard Quality	DNxHR SQ	[8-bit 4:2:2] [suitable for delivery format]
High Quality (8bit)	DNxHR HQ	[8-bit 4:2:2]
High Quality (12bit)	DNxHR HQX	[12-bit 4:2:2] [UHD/4K Broadcast-quality delivery]

When **AUTO-EXPORT** is set to **YES**, QTAKE will automatically start exporting clips as soon as they are recorded.

WEB

The **WEB** menu lets you display a webpage in the active VIEW. Enable the **WEB** view by clicking the **WEB** button. The **WEB ADDRESS** input button lets you enter the URL of the page to show. It is possible to interact with the web page by clicking links and using text input fields. The **BACK** [◀] and **FORWARD** [▶] arrows next to the **WEB ADDRESS** allows you to navigate through the **WEB** views history.

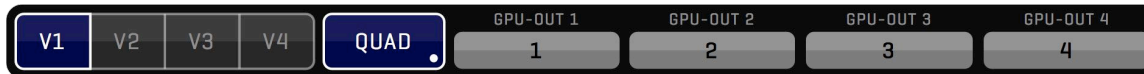


VIEWS

VIEWS are the heart of the QTAKE Advanced Digital Video Assist. They use GPU power to perform real-time image processing of video frames.

Think of the VIEWS as of internal video monitors that can display any video source. Set the source for each VIEW in the PATCH Menu. Every command is performed on selected/active view. Active view is marked by a white border. Select active VIEW by pressing the corresponding segment in VIEW Menu, or by clicking any VIEW in the Views Zone directly. Keyboard shortcuts **1**, **2**, **3** and **4**.

You can use VIEWS in either **SINGLE**, **DUAL** or **QUAD** VIEW mode, by pressing the corresponding button or by double-clicking the View. Keyboard shortcut is **5**.



SHOOT Room

GPU OUT

Each VIEW can be monitored in fullscreen mode using secondary outputs of your graphics card. These outputs are used to enable monitoring for the Clients or the Director. Each **GPU OUT** can be set to different layouts.

AUTO	Output layout follows the operator screen
SINGLE	Outputs the selected view in fullscreen
DUAL	Outputs two views on a single output
TRIPLE	Outputs three views
QUAD	Outputs four views
3D	Outputs stereoscopic output

When the layout is set to output multiple views (**DUAL**, **TRIPLE** or **QUAD**) the content of each section can be set independently. The **BORDER** value determines how much space is added between the views. In **TRIPLE** or **QUAD** view you have the option of setting **ASYMMETRIC** layout of the output. This allows you to focus on one view while still displaying the other views on the same monitor.

When GPU OUT is set to 3D layout you also have the ability to set the **3D OUTPUT MODE** to match the 3D input format that your monitor expects. **SINGLE EYE OUTPUT** enables viewing of a single eye on a 3D monitor.

Along the bottom of the window are options for QOD output. See [APPENDIX C - QTAKE Output Device](#) for more information.



3D Stereoscopic video output

3D Output can be used with 3D monitors that support side-by-side, line-by-line or DLP mesh input.

QTAKE will make sure both video channels (left and right eye) are in sync in LIVE, RECORD or PLAYBACK mode. Use RECORD SYNC for recording and PLAY SYNC for playback. Enable CLIP SYNC for synchronized browsing of left and right eye clips.

If you need to render out combined 3D frame, you need to use STEREO Menu in COMPOSITE Room, instead of 3D video output.

ROTATED

Allows you to maximize the screen space available to display video by rotating the sections 90 degrees. This requires you to also mount the output monitor accordingly.

ANAMORPHIC

crops each section to enable four views to fit in a column on a rotated display.

SHOOT Room

SDI OUTPUT FROM GPU

QTAKE was initially designed to offer advanced features, never seen in the Video Assist industry before.

This required one important thing – simultaneous input and output [which is not possible with some of today’s half-duplex video cards, such as AJA IoXT]. To achieve this, QTAKE uses Video card for input and Graphics card for output.

QOD has been designed to provide full-featured SDI output from your computers graphics card. See [QTAKE USB CONTROL](#) for more information.

OUTPUT FROM HALF DUPLEX VIDEO CARD

If you like to use outputs of video card in QTAKE, you need to sacrifice many advanced features. This feature is intended for users who doesn't need live compositing, live LUTs and live 3D, and want to avoid the use of QOD or converters.

To enable SDI output globally, modify this line in Qtake_Prefs:

`Enable_SDI_Output=1`

Each video card output is controlled independently from the VIDEO OUT Menu. When **V-OUT** is disabled in DISK mode, your video card outputs live passthrough, same as in LIVE mode.



Most video cards are half duplex - it can either capture or playback. This means you won't be able to monitor processed LIVE image [only clean live passthrough] through the video card in this mode.

Also you will have limited compositing capabilities, because QTAKE uses VIEW2 [SDI2] for composite. This means you can only mix LIVE A on top of DISK A or B.

Audio

Some half duplex video cards only one audio stream [even though there are 2 video streams inside] you can capture only one audio [which is copied to both A & B clips]. Same goes for playback.

If you playback both VIEWS, you will hear only the sound of the ACTIVE VIEW.

Also, Kona will switch either to INPUT audio or OUTPUT audio based on the LAST PATCH action.

PROS:

- Using fully processed SDI playback directly from video card without DVI TO SDI converters
- Monitoring unprocessed LIVE feed [zero delay] and processed PLAYBACK on the same wire [no need for SDI switcher]

CONS:

- When using a single video card for two channels the inputs need to be genlocked for passthrough to function properly.
- Inability to monitor processed LIVE feed.
- Limited compositing capabilities [due to half-duplex nature of the card]
- Limited auto-rec [since a half duplex video card cannot read SDI input while in playback]

Audio

Audio is embedded into SDI output, both in live and disk mode.

How it works?

VIEW1 is mapped to SDI1 OUTPUT, VIEW2 to SDI2 OUTPUT, etc.

When the VIEW is in LIVE mode, you will see unprocessed passthrough signal on the SDI Output.

When the VIEW is in DISK mode, your video card is switched to playback and you will now see the processed image on the SDI Output.

NOTE

For full-featured SDI OUTPUT, please see next page

SIMULTANEOUS SDI INPUT & OUTPUT

QTAKE can use multiple video cards to allow simultaneous dual channel SDI input and output, or a single multi channel card like Kona4, Io4K or IoXT to allow simultaneous single channel input and output. Using QTAKE in this way enables processed live output.

However in this mode, each video card can only serve a single camera per card (the exceptions being Kona4 or Io4K in QUAD mode and BMD Decklink QUAD). For dual camera support you have to install two dual channel video cards (or a single Quad channel card). This will also enable independent format for each camera (some restrictions apply, see [VIDEO CARDS](#) for more details)..

To enable 2 cards support, add this line to Qtake_Prefs:

`Two_Boards_For_Dual_IO=1`

This is an alternative to using graphics card outputs converted to SDI, although additional image processing pipeline will add 2-3 frames of delay compared to graphics card output.

To enable simultaneous SDI input and output, add this line to Qtake_Prefs:

`Constant_Playout_Mode=1`

VIEW FX

The VIEW FX menu allows you to enable, disable and setup effects applied to the active view. The menu contains two pages, use the >> or << buttons to change page. VIEW FX differ from CLIP FX in that they are tied to a particular view and any content in the view will have the effect applied. The available effects are:

CC	Color correction
DVE	Digital video effects such as scale and crop
MASK	Format/aspect masking and guides
OSD	On-screen display of metadata
GRID	Alignment grid
MIX	Still image mix and overlay
UPSCALE 1080	Global upscale of view content to 1920x1080
CHANNEL	Isolate a single color channel

Long click any of the buttons [marked with a dot] to adjust effect settings [see below].



CC - COLOR CORRECTION

Use the **CC** button to adjust [long click] and apply [short click] basic color correction to current VIEW.



You can adjust various image attributes in this pop-up window:

GAMMA, EXPOSURE, BRIGHTNESS, CONTRAST, SATURATION, RED GAIN, GREEN GAIN and BLUE GAIN.

If you need to perform the same picture adjustment on both Views simultaneously press the **LINK VIEWS** button, to apply the current adjustment to the other view press the **COPY TO OTHER VIEW** button.

DVE - IMAGE TRANSFORMATION

Use the **DVE** button to adjust [long click] and apply [short click] Digital Video Effects on the view.



You can scale, position, rotate, mirror and crop the video frame by adjusting the following parameters:

SCALE X, SCALE Y, MOVE X, MOVE Y, FLIP, FLOP, ROTATION, CROP TOP, CROP BOTTOM, CROP LEFT, CROP RIGHT.

To perform the same picture adjustment on both Views simultaneously press the **LINK VIEWS** button, to apply the current adjustment to the other view press the **COPY TO OTHER VIEW** button.

SHOOT Room

GRID

Use adjustable horizontal or vertical overlay **GRID** to help align images. Short click the GRID button to apply, long click to adjust GRID spacing and color.



You can independently set **VERTICAL GRID** and **HORIZONTAL GRID** by setting grid line distance based on percentage of the image width. You can also set overall **OPACITY** and **COLOR**.

MASK - FORMAT MASKING

Use the **MASK** button to adjust [long click] and apply [short click] visual guides and format masking on the view.



MASK out the area that is outside the framing by picking the standard or custom video and film formats. In addition to mask, you can also overlay **CROSSHAIR** and two sets of **FRAME-LINES**.

You can further adjust the mask with **ZOOM**, **POSITION** and **OPACITY**.

SHOOT Room

OSD - ON-SCREEN DISPLAY

Turn on the **OSD** button to display VIEW status and clip information. Long click to adjust OSD contents. The **MOVE X** and **MOVE Y** sliders let's the user reposition the OSD display. The **OPACITY** slider controls the transparency of the OSD.



Following attributes can be displayed along the upper or lower edge of the video:
CLIP ID, CAMERA, STATUS, ROLL SCENE+SHOT, TAKE+SUBTAKE, RATING, SPEED, TIMECODE, CAMERA MEDIA FILENAME, CAMERA OPERATOR NAME, DURATION, NOTE, RIG, TIMELINE, HIT, INTER AXIAL, CONVERGENCE and CAMERA POSITIONING DATA [CPD].

NOTE

Both SCENE and SHOT information are contained in the OSD - SCENE field. This means that Scene 12, Shot A will be displayed: 12A. To add a dash [-] between SCENE and SHOT values set the following preference:

`Use_Scene_Shot_Divider=1`

MIX - STILL MIX

Enabling **STILL MIX** lets you overlay a static image on a view or key the VIEW contents over a static background. Long click the STILL MIX button to adjust effect settings. Click **SELECT STILL IMAGE** to bring up the clip browser. From here you can select any clip in your database, including imported footage.



The sliders on the left hand side of the STILL MIX setup window lets you **SCALE**, **MOVE**, **ROTATE** and **CROP** the still frame.

BLEND NORMAL lets you overlay the still image on the contents of the view. You can control the blending by adjusting the **OPACITY** slider and selecting if you want the image to blend **OVER** or **UNDER** the source. The OPACITY slider can be set to **AUTO** mode. See the [USER INTERFACE](#) section for more information about AUTO SLIDERS. STILL MIX supports alpha channel in imported material.

CHROMA KEY lets you key the contents of the VIEW over the selected still image. Click the **COLOR** button to pick the hue you want to key out. **ALPHA** lets you view the alpha channel of the current key and the **BLACK** and **WHITE** sliders allows you to adjust the key in order to patch holes.

STILL MIX uses the selected clip's thumbnail frame [defaults to IN-point or first frame if no IN-point is found] as the reference frame. Setting a new **THUMB** in the source clip will allow you mix the content of the view with that particular frame.

You can LINK VIEWS and COPY TO OTHER VIEW just like with other VIEW FX. The **WITH IMAGE** button lets you choose whether the source image and any scaling or cropping is LINKED or COPIED along with the BLEND or CHORMA settings.

3D TOOLS

When shooting stereoscopic projects, you can set following parameters for clips:



FLIP - horizontally flips the image of the current clip [original QT file is transformed].

FLOP - vertically flips the image of the current clip [original QT file is transformed].

H.I.T. - adjust the 3D convergence by horizontal shift [also known as H.I.T or POST-CONVERGENCE].

QTAKE also features dedicated keystrokes for incrementing/decrementing axial [**Alt-Left**, **Alt-Right**]. This is useful for external controllers, which can map button clicks to standard keystrokes.

AUTO-SCALE

To avoid black edges when setting AXIAL [convergence], you can set SCALE to scale the IMAGE or MASK based on shift amount.

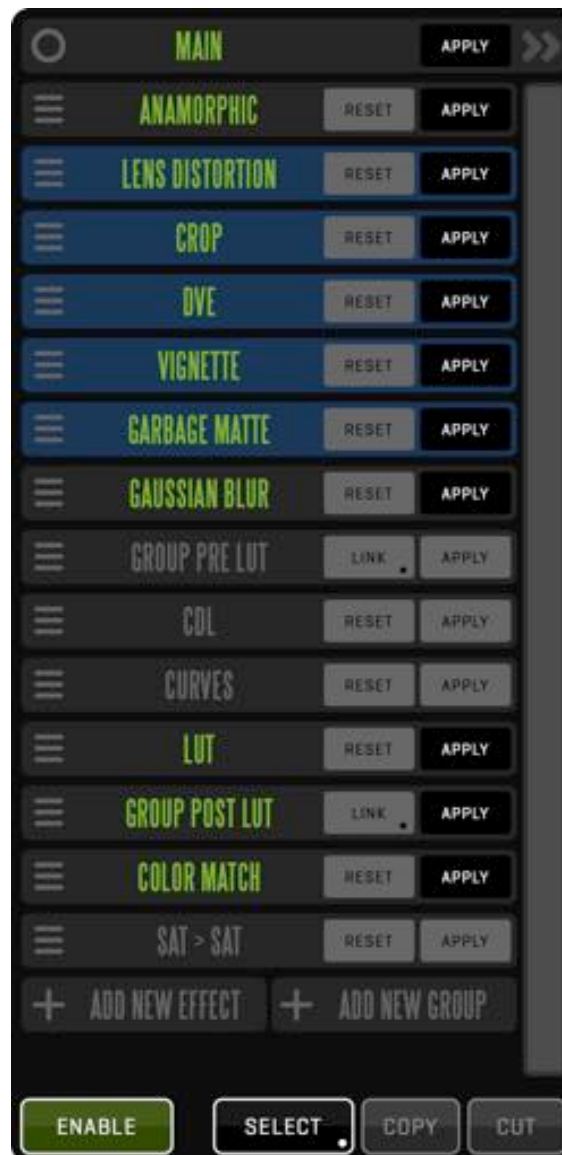
CLIP FX

CLIP FX are effects that are applied to a clip in a viewer. These effects only apply to the active clip and are separate from any effects applied through the VIEW menu. Like metadata, effects that are added to **LIVE** will be applied to all clips that are recorded in that view.

Clicking the **FX** button in the special buttons section of the interface brings up the CLIP FX sidebar in the VIEWS ZONE. The CLIP FX sidebar is divided into **GROUPS** to help keep your effects organized. The CLIP FX sidebar contains a single GROUP called **MAIN** by default. The **ADD NEW GROUP** button lets you add additional sub-groups to the MAIN group. Long-clicking the GROUP will let you add a custom name to that GROUP. Clicking a GROUP will enter it and the CLIP FX sidebar will display all effects contained within that group. The GROUP title bar will change to display an arrow icon (◀) and a number indicating the sub-level of the group in the CLIP FX hierarchy. Clicking the arrow will take you back to the parent GROUP. Each sub-GROUP can be LINKED to clips in other views by using the LINK button. LINK can be set to **DISABLED**, **PAIR**, and **ALL**. When a GROUP in VIEW 1 is set to PAIR, effects in that GROUP will be LINKED with the effects in a GROUP with the same name in VIEW 2. Setting a GROUP in VIEW 3 to PAIR will LINK it a GROUP with the same name in VIEW 4. If a GROUP with the same name, or effects contained in that GROUP are not present in the clip in the paired view they will be created. Selecting ALL will in turn link all VIEWS.

By clicking the **ADD NEW EFFECT** section of the CLIP FX sidebar you can choose and add an effect to apply to the active clip. Effects will be added to the current GROUP. The **SELECT** button lets you SELECT effects and **COPY** or **CUT** them. **PASTE** will add the effects to the current GROUP of the active clip. This allows you to move effects between GROUPS and clips.

The effects in the sidebar are applied in order starting from the top effect. The **ENABLE** [shortcut **Ctrl-F**] button lets you quickly enable or disable all CLIP FX. You can disable individual effects or GROUPS



by clicking its **APPLY** button. The **RESET** button will reset all parameters of the effect. In order to remove an effect from the stack grab its handle [the three horizontal bars on the left side of the effect heading] and drag the effect out of the side bar, towards the views. The handle also lets you change the order of effects in the sidebar.



All GROUPS and most CLIP FX can **SAVE** and **LOAD PRESETS**. GROUP PRESETS can be accessed by entering the GROUP and clicking the arrows [➡] on the top right of the title bar. The SAVE button will save all CLIP FX belonging to that GROUP into a named PRESET. The LOAD button will bring up the PRESET LIBRARY window where you can SELECT, RENAME and set a TITLE for each of your GROUP PRESETS. Clicking a PRESET will LOAD that PRESET and apply it to the GROUP. When saving changes to a PRESET you can choose to overwrite the current PRESET. Overwriting a PRESET will update all clips with that PRESET. CLIP FX PRESETS can be accessed by clicking the SAVE or LOAD button under the effects title bar. They function in the same way as GROUP PRESETS but will only save or load the parameters of a single effect.

In the CLIP FX sidebar you can apply the following effects, click on each heading to reveal the controls:

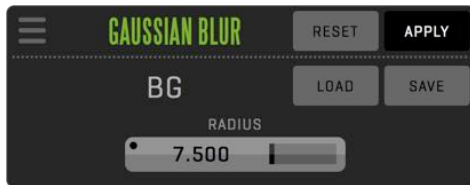


CDL Color Correction

ASC Color Decision List 1.1 is a widespread color correction standard. This simple, but powerful 3-way corrector can be used to color grade each individual clip. You can import externally created **CDL** xml files by either hiding QTAKE and dragging them to the QTAKE icon in the dock or copying them to /Applications/QTAKE/CDL. The **IMPORT CDL** and **EXPORT CDL** buttons lets you save and recall imported and previously created CDL corrections in the **COLOR CORRECTION LIBRARY**.

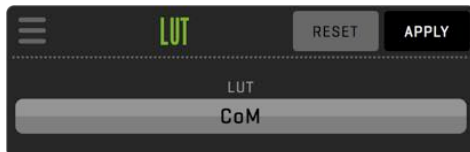
The CDL clip effect can also be tied to a DIT using the **LIVEGRADE** software. This allows QTAKE to mirror CDL adjustments done in LIVEGRADE. To enable LIVEGRADE functionality set the IP address and port number of the LIVEGRADE server in Qtake_Prefs.

```
LiveGrade_Host_1=localhost
LiveGrade_Host_2=localhost
LiveGrade_Host_3=localhost
LiveGrade_Host_4=localhost
LiveGrade_Port_1=6666
LiveGrade_Port_2=6667
LiveGrade_Port_3=6668
LiveGrade_Port_4=6669
```



GAUSSIAN BLUR

Applies a gaussian blur to the clip. Useful for the background clip in a COMPOSITE.



LUT

Allows you to browse for and apply a Look-up table to the current clip. QTAK supports 1D and 3D LUTs in IRIDAS .cube format.



VIDEO RANGE

The VIDEO RANGE effect lets you transform full range values to legal range values or legal range values to full range. This is useful for imported material that might not correspond to the video range you are using.



GARBAGE MATTE

Lets you create a mask for the active clip. Select **DRAW** and click on the image to create points in the mask, to “close” the mask click on the first point you created.

In **EDIT** mode you can **MOVE**, **ROTATE** or **SCALE** the mask. To manipulate a smaller section of the mask select the points individually or click and drag a box to select multiple points at once. Clicking inside the mask selects every point in the mask and clicking outside it deselects all.

The **CLEAR** button lets you remove selected points or by long clicking clear the entire mask. Adding points is done by long clicking between two existing points. You can also **BLUR** and **INVERT** the mask.

KEY ONLY mode is used in the COMPOSITE ROOM to limit the CHROMA KEY effect to a specified region of the keyed image. Unlike a regular GARBAGE MATTE the masked out area while in KEY ONLY mode specifies an area that will remain unaffected by the CHROMA KEY. This is useful if you are keying a small part of the image like a window or a doorway.

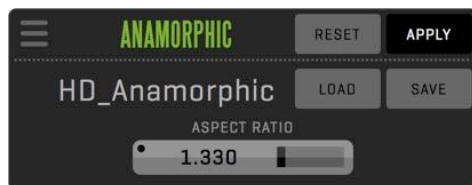


PHOTOCOPY

The PHOTOCOPY effect will reduce the colors of the clip to a black and white image. The THRESHOLD value adjusts the brightness level where the transition between black and white occurs.

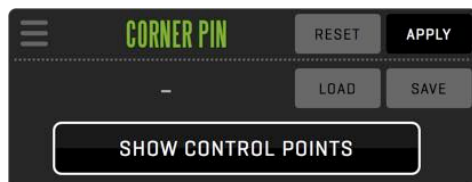
Importing Look Up Tables (LUT)

To be able to use a LUT in Qtake place it in the /Luts subfolder of the application directory and restart QTAK.



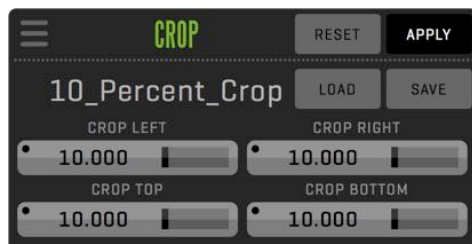
ANAMORPHIC

If you are shooting with anamorphic lenses, you can use the **ANAMORPHIC DESQUEEZE** effect to specify the amount of “unsqueeze” needed to display the image with proper aspect ratio.



CORNER PIN

Give the user the capability to skew and distort the image by dragging its corners. Enable **SHOW CONTROL POINTS** to display the corner points.



CROP

Allows you to CROP the video by adjusting **CROP TOP, CROP BOTTOM, CROP LEFT, CROP RIGHT**.



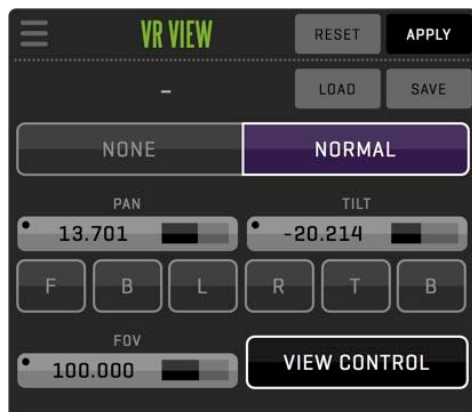
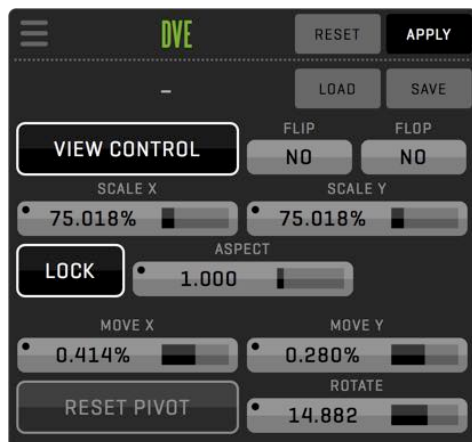
DEINTERLACE

Use **DEINTERLACE** to remove fields that can cause jitter on still or speed changes. The segmented button let's you choose to deinterlace by **UPPER** or **LOWER** fields.



DEMUX

This effect stretches either the left or right half of the image to cover the entire view.



DVE

With the DVE controls located in the CLIP FX sidebar you have access to per clip DVE functionality. These settings will, unlike the VIEW based DVE settings, be specific to the active clip. Like the VIEW based DVE you have the ability to scale, position, rotate, and mirror the video frame by adjusting the following parameters:

SCALE X, SCALE Y, MOVE X, MOVE Y, FLIP, FLOP, ROTATION.

QUAD

The CLIP FX QUAD menu replicates the QUAD menu functionality but on a per clip basis.

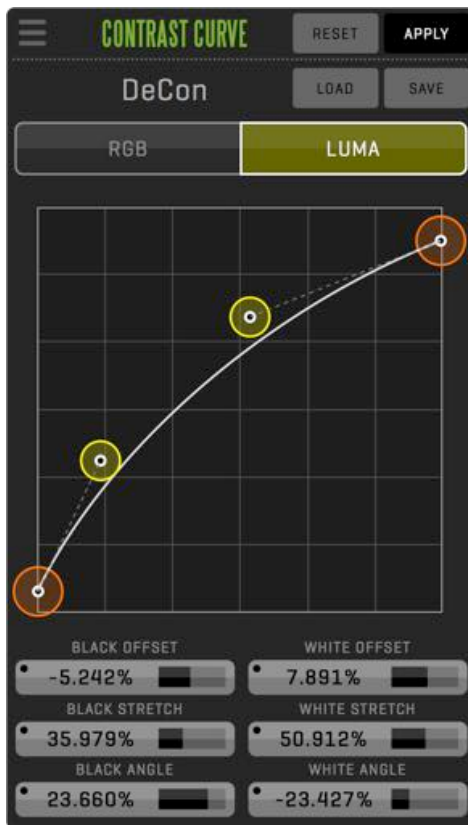
VR VIEW

Converts video with equirectangular projection to video with rectilinear projection. This allows you to view and playback VR360 video. The **NONE** and **NORMAL** buttons turn the effect on and off. **PAN**, **TILT** and **VIEW CONTROL** lets you adjust the virtual camera orientation. You can switch between some common orientations by using the **F** [front], **B** [back], **L** [left], **R** [right], **T** [top], **B** [bottom]. buttons. The **FOV** value sets the field of view or the “focal length” of the virtual camera.

COLOR GRADING

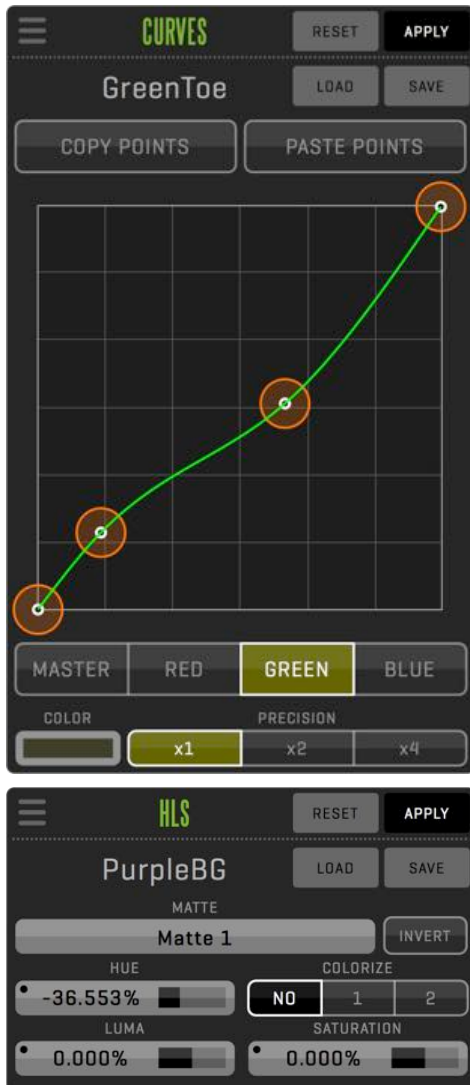
The **GRADE** module enables additional CLIP FX aimed at advanced on-set color manipulation. The GRADE module also incorporates control of LUT boxes such as the Fuji IS-mini and Teradek Colr through the **LUT GENERATOR** effect.

Many of these additional effects use a graph display to allow adjustments to the effect. Adjustable points in the graph are represented by an orange circle. Drag the point to adjust its position in the graph. Add another point to the graph by clicking on the curve. To remove a point drag it outside of the graph.



CONTRAST CURVES

This effect is similar to the **CURVES** effect. But the additional handles, sliders and numerical input buttons allows a highly adjustable and accurate contrast adjustment. The orange control points allow you to adjust the BLACK OFFSET and WHITE OFFSET while the yellow handles allows you to shape the curve in the graph display. You can select whether the contrast should only affect LUMA or also affect RGB. Selecting LUMA will retain the original saturation of the image while selecting RGB will apply the curve equally across all color channels.



CURVES

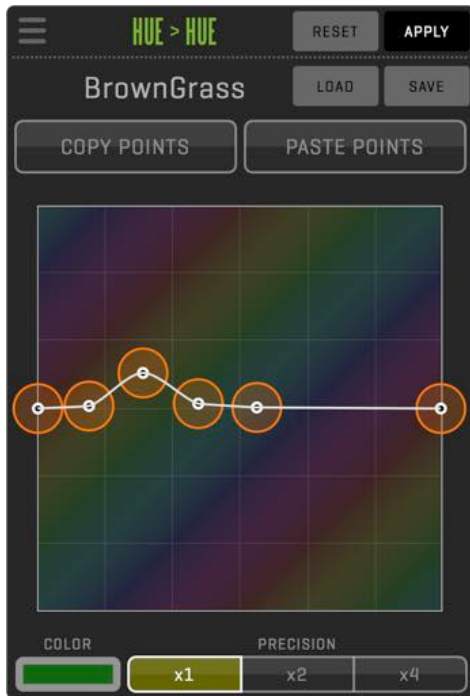
The **CURVES** effect allows you to apply an **RGB** curve to the clip. In simple terms the curve can be thought of as a means to apply variable gain to the image. The horizontal axis represents the color values in the original [input] image, from 0% on the left to 100% on the right. The vertical axis represents the color values of the resulting [output] image, from 0% at the bottom to 100% at the top. A neutral curve, where the output is identical to the input is represented as a straight, diagonal line. The segmented button at the bottom of the effect lets you switch between adjusting the **MASTER** curve or **RED**, **GREEN** and **BLUE** color channels individually.

HLS - HUE, LUMA, SATURATION.

This versatile effect allows you to perform various color adjustments. The **COLORIZE** button shifts all colors in the input image to hues of a single color, controlled by the **HUE** button.

The effect can be limited to certain areas of the image by selecting a **MATTE**. See the ***EXTRACT MATTE** effect below for information on creating a MATTE. The **INVERT** button lets you select whether to apply the effect to the area defined by the MATTE or exclude the MATTE and apply the effect to the rest of the image.

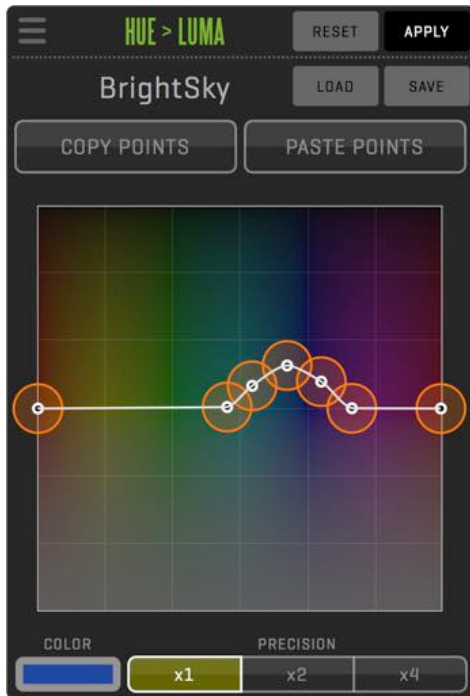
SHOOT Room



HUE > HUE

This effect allows you to selectively shift colors of the image. The horizontal axis represents the different hues in the original image. Moving the curve along the vertical axis allows you to adjust the hues of the resulting image. The **COLOR** picker allows you to add a point to the curve by clicking on a HUE in the view.

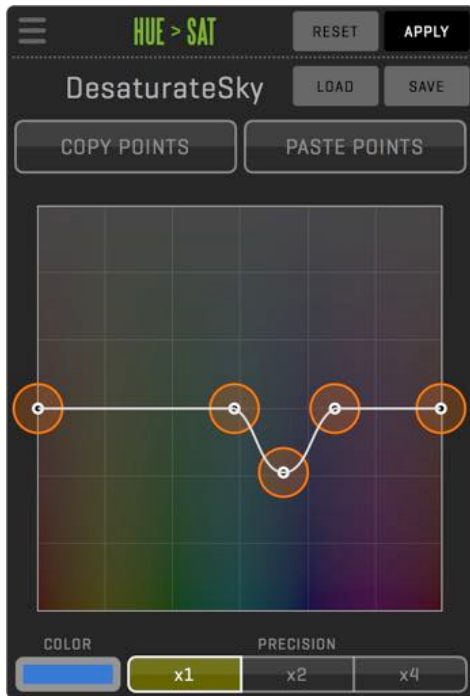
SHOOT Room



HUE > LUMA

HUE > LUMA adjusts the lightness of selected hues based on the curve displayed. The horizontal axis represents the different hues in the original image. Moving the curve along the vertical axis adjusts the lightness of those hues.

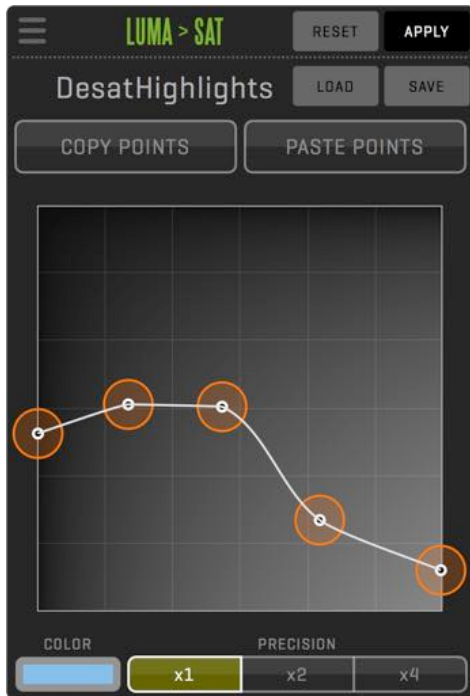
SHOOT Room



HUE > SAT

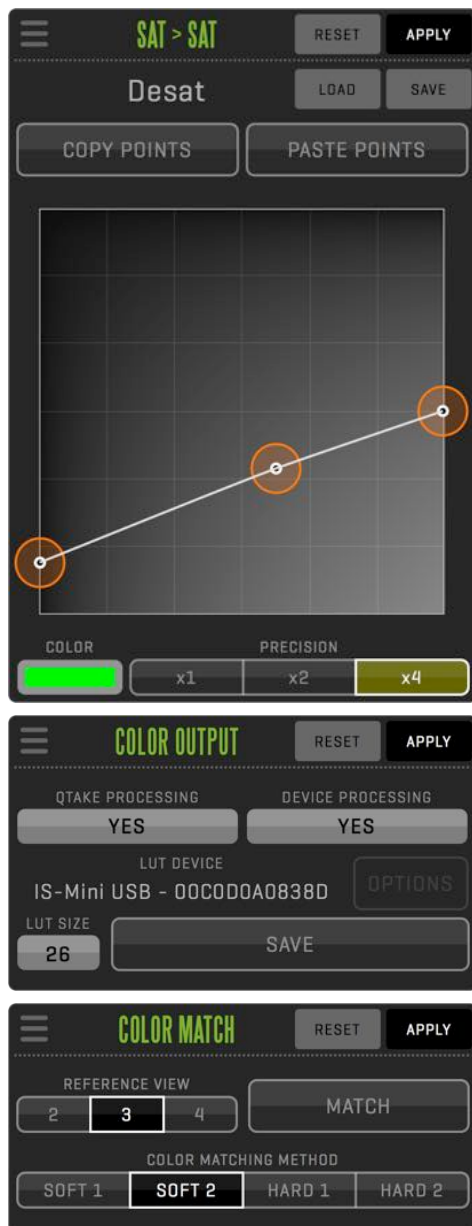
The HUE > SAT effect allows you to selectively increase or decrease the saturation of hues within the image. The horizontal axis represents the different hues in the original image and the vertical axis represents the saturation change of those hues.

SHOOT Room



LUMA > SAT

This effect adjusts the saturation based on the luminosity value of the original image. The horizontal axis represents the luminosity values of the input image and moving the curve increases or decreases the saturation in selected parts.



SAT > SAT

The saturation versus saturation [SAT./SAT.] curve adjusts the output saturation based on the input saturation.

COLOR OUTPUT

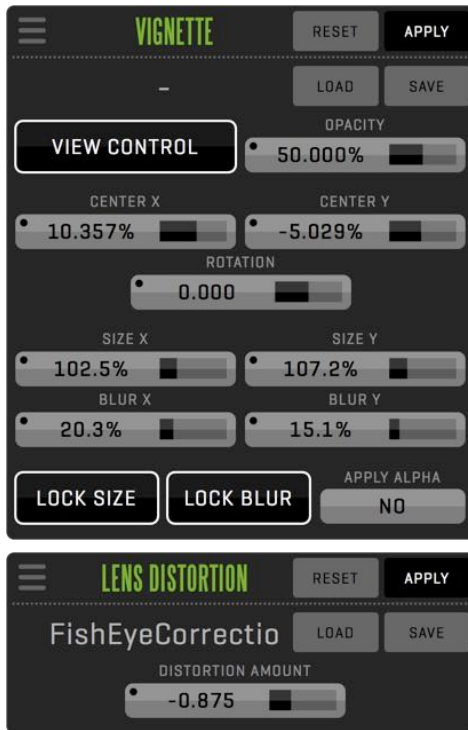
The COLOR OUTPUT effect allows you to create and save lookup-tables (LUTs) based on color effects above it in the CLIP FX sidebar. Only color effects can be saved as LUTs, spacial effects such as DVE and VIGNETTE will not be incorporated in the LUT. Effects that are included in the LUT have blue title text.

The COLOR OUTPUT effect also lets you control external LUT boxes such as the Fuji IS-mini or Teradek Colr. In order to control an external lut box it needs to be connected over network or USB. QTAKE will automatically identify devices found via USB or Bonjour. Click the LUT DEVICE heading to bring up a window listing all identified LUT boxes. If your device is not present you can add it to the list by clicking the NEW button and manually typing in the address. The IDENTIFY button will help you keep track your connected devices. When enabled the selected device will output the red channel of the input image. Some LUT boxes can apply the CDL values separately from the LUT. The CDL effect will have teal colored title text when this is the case.

The QTAKE PROCESSING and DEVICE PROCESSING buttons lets you choose whether QTAKE, the LUT box or both should apply color effects to the image. The LUT SIZE selection box lets you define how many “steps” there are in the 3D LUT. Values that fall between these steps will be interpolated. When using an external LUT box QTAKE will automatically set the LUT SIZE to a compatible value.

COLOR MATCH

This powerful effect creates an internal color matrix similar to a LUT in order to match the image in the view to the image in a REFERENCE view. Select the view to reference and click MATCH to view the result. COLOR MATCH can use one out of four different COLOR MATCHING METHODS.



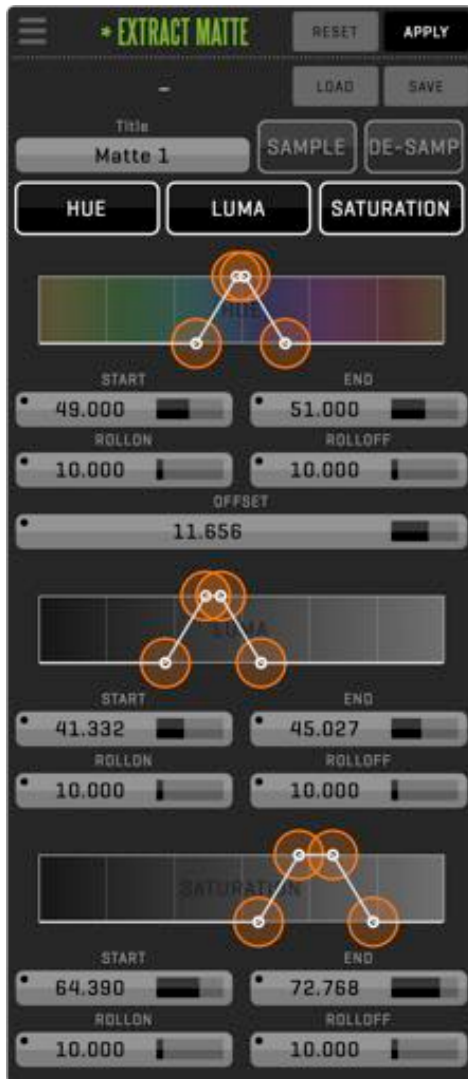
VIGNETTE

The VIGNETTE effect creates a circular mask that causes the image to fade towards black near the corners of the view. Using the sliders allows to to adjust the rotation, size, transparency and the amount of blur of the vignette.

LENS DISTORTION

Allows you to simulate or remove lens distortion from the video by adjusting the **DISTORTION AMOUNT** value.

SHOOT Room



*EXTRACT MATTE

This effect does not affect the image in any way, instead it isolates areas of the image based on LUMA, HUE and SATURATION values. The isolated area or matte can then be used as a qualifier in other CLIP FX.

SHOOT Room

ZOOM

The ZOOM menu lets you ZOOM the VIEWS IN or OUT and offset. This only affects the operator monitor [GUI]. While in DRAW or EDIT mode of the GARBAGE MATTE the ZOOM value is automatically set to 75%.

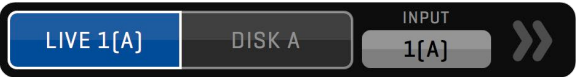


PATCH - INTERNAL MATRIX SWITCHER

Each VIEW is like a monitor. In QTAKE, LIVE sources are sorted by their INPUT and DISK sources are sorted by their camera letter. The PATCH menu lets you switch the active view's source between **LIVE** [shortcut 9] and **DISK** [shortcut 0]. When in LIVE, the **INPUT** button lets you select what source to monitor by selecting its input number. When the active view is patched to DISK the DISK selector instead lets you select the camera letter or AUTO.

When a VIEW is patched to DISK, PREV and NEXT will only load clips that have the same camera letter

If you select AUTO in the disk selection window PREV and NEXT will ignore camera letter and instead load clips based on INPUT, meaning that if you record camera A, B and C all on the same input, PREV and NEXT will call up those clips in chronological order.



You can have the same sources selected for multiple views - this is useful when comparing clean and color corrected image.

Pressing the arrows [>>] on the side of the PATCH menu displays the second page of the menu. The patch rules allows yo to define the behavior of QTAKE when loading a clip into a view for both CLIP SYNCED and non-CLIP SYNCED operation. **BY CLIP** will change the patched DISK letter of the view based on the clip that you are loading. **BY VIEW** will load the clip into a view with a matching DISK letter.



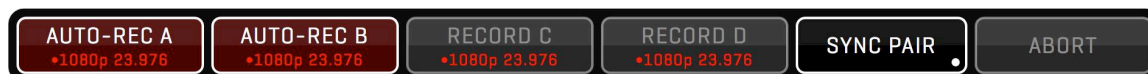
AUDIO

AUDIO INPUT is set in the PROJECT window. The **AUDIO** menu mainly controls various aspects of QTAKE audio output. The following controls are available in the AUDIO menu (use the >> arrows to navigate to the second page of the menu):

- **MUTE LIVE** - Disables live audio output (shortcut **N**). Input audio is still recorded, but it is not routed to audio output.
- **MUTE V1 - MUTE V4.** - Disables audio playback of VIEW1 - 4
- **AUDIO INPUT LEVEL** - Adjusts audio input level. This will affect the level of your recorded audio.
- **METER** - enables audio level metering for LIVE and PLAY mode (key Ctrl-M).
- **LIVE AUDIO OUTPUT DEVICE** - Select the system device to use for analog audio output.
- **LIVE DELAY** - Adjusts the delay between LIVE video and audio.
- **DISK AUDIO OUTPUT DEVICE** - Select the system device to use for analog audio output.
- **DISK DELAY** - Adjusts the delay between playback (DISK) video and audio.
- **WAVE** - Enables a waveform display of the audio track below each view.

RECORDING

Pressing the **RECORD** buttons (**R** key for VIEW 1, **T** key for VIEW 2) will initiate the capture process. The recording VIEW will automatically patch to LIVE.



RECORD SYNC

Enable **RECORD SYNC** (key **Y**) to record all Views that have signal in sync. If SYNC ALL is enabled, you can press either RECORD button to start recording all inputs. Long clicking the SYNC button will toggle it from **SYNC ALL** to **SYNC PAIR**. SYNC PAIR is often used in 3D productions. Clips recorded with SYNC enabled will automatically have a sync OFFSET, so you can immediately play them back in sync.

With RECORD SYNC is enabled, entering clip data in LIVE mode will also copy this data to other views, with the exception of CAMera letter and ROLL number. QTAKE will also ask if you want to copy the active views clip data to the other views when SYNC is enabled.

Why is the WAVE button inactive?

In order to use the waveform audio display you will need to set:

`Enable_Audio_Waveform=1`

However you should be aware that enabling audio waveform will increase the performance requirements for the system.

Can I Record without the views patching to LIVE?

Yes. In COMPOSITE room there is no auto patching when recording. The exception is if you are NOT in constant playout and you have VIDEO OUT enabled.

RECORD CONTROLS

During recording you can use following features:



IN & OUT ON THE FLY

During recording you can set the IN and OUT [**I** and **O** keys] points to mark the important part of the clip.

CHAPTERS ON THE FLY

Besides the IN and OUT points you can create CHAPTER MARKS during recording [**J** key] to help you quickly navigate to the interesting parts of the shot during playback [**<** and **>** keys].

SUBCLIPS ON THE FLY

If you press MAKE SUB button [**P** key], the subclip is created based on IN and OUT marks. If there is no OUT mark, subclip range is determined by the IN mark and the current time. After creating the subclip, new IN mark is set at the end of the subclip range. You can repeat this action to create the subclip for each take of the series.

In addition, CHAPTERS are created for each IN and OUT point used to create subclip.

CREATE THUMBNAIL

Press the THUMB button [**U** key] to set current frame as the thumbnail for the recorded clip. If you don't specify thumbnail time, IN point will be used to generate a thumbnail.

ABORT RECORD

You can abort recording any time by pressing the ABORT button in the RECORD Control Box. Current clip will be discarded. Keyboard shortcut is **Esc**.

RECORD MULTI IN & OUT

When shooting series or multiple actions in a single take, you can use multiple IN and OUT points to mark more than one selection. After pressing IN and OUT points for the first time, this selection is automatically stored and you can set a different IN and OUT points.

FRAME-BY-FRAME AND TIME-LAPSE RECORDING

QTAKE can be used to record clips frame-by-frame for stop motion animation:

1. Press **FRAME REC** Button to enable frame recording mode.
2. **REC** Button will change to **FRAME** Button.
3. Press FRAME Button to add single frame.
4. Repeat step 3 until you reach the end of recording.
5. Press FRAME REC Button again to finish recording [or **ABORT** to discard the whole clip].



You can also setup up frames to be recorded at set intervals, so called time-lapse recording.

1. Long click the **FRAME REC** button to enable **TIMER REC**.
2. Enable TIMER REC. REC button will change to TIMER.
3. Enter desired interval in **TIME-LAPSE INTERVAL**.
4. Press TIMER to start the timer and start capturing.
5. Press TIMER again to stop recording.
6. Disable TIMER REC to finish the recording.

3D MUXED RECORDING

The MUXER Module enables muxed 3D capture. QTAKE utilizes AJA IoXT, Kona3G, Io4K or Kona4 cards to provide side-by-side capture of 2 SDI inputs. Select **Kona SDI Muxed SBS** video input to enable this recording mode. This mode enables recording of two 3D rigs using single QTAKE system:



1. Feed L camera to SDI1 In, R camera to SDI2 In for each Kona3G.
2. Select Kona SDI Muxed SBS video input in PROJECT Window.
3. Set **GPU-OUT** to VIEW1, **GPU-OUT2** to VIEW2.
4. Output Side-by-Side or REMUX to Line-by-Line.
5. You can **DEMUX** to Left only or Right only.
6. Use 3D [L] and 3D [R] output modes to preview single camera on a 3D monitor.
7. MUXER can be applied to S1 and S2 modes of QUAD SPLIT.
8. Independent AXIAL [Convergence] and FLIP/FLIP settings for each 3D rig.

Muxed recording while in 10bit mode can cause performance issues.

CLIP NAMING CONVENTION

Recorded clips are stored as Quicktime movie files encoded with the selected codec. All clips are located in **QTAKE Projects/PROJECT_NAME/Media** folder on the Volume you selected when creating the project.

Clip filename is generated [and updated] using the following structure:

`Scene_Shot_Take-Sbtk_CamReel_[Rt]_ID.mov`

When CAMERA MEDIA is set as the MEDIA FILENAME type in the project window clips will be named according to corresponding clips on the camera magazine. This only applies to clips that are recorded while QTAKE receives valid record flag and filename metadata embedded in the SDI output of the camera. Clips that are recorded while the camera is not recording will be named by the standard QTAKE clip naming convention.

IMPORT CLIPS and LINK CLIPS function can parse multiple types of filenames, select the appropriate import parsing filter in the Import dialog. See [IMPORT QT MOVIES](#) for specifics on each parsing filter.

If the file is linked, it's filename is not updated.

CLIP SELECT

Use **PREV.** and **NEXT** buttons (or **Up** and **Down** arrows on the keyboard) to select and load specific clip into the active VIEW. All metadata fields will display information for selected clip.



POP-UP BROWSER

Click the **CLIP ID** number (or press the **G** button on the keyboard) to display textual clip browser. Select the clip and press OK button (or double click the item in the list) to load the clip into the active VIEW.

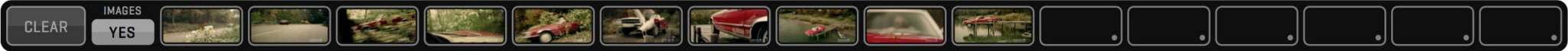
SCENE NAVIGATION

The **SCENE** menu enables quick navigation between scenes and shots. Default shortcuts are **Ct-Up**, **Ct-Down** arrows to navigate between SCENEs and **Alt-Up**, **Alt-Down** to navigate between SHOTs. The **SORT BY** button lets you toggle between **NAME** and **DATE** sorting and the **LOAD** button defines what TAKE to load when navigating to another SCENE.



DOCK

The DOCK menu give the user a convenient way to store and recall up to 16 clips without having to enter the browser. Long clicking a slot will store the clip currently loaded into the active view in that slot. The **MODE** button allows toggling between **Image**, **Text** [Camera Letter / Scene / Shot / Take] or **Both**. The CLEAR button will clear all clips from the dock.



CLIP BROWSER

Navigation with PREV and NEXT buttons can be annoying and slow. If you have more clips recorded you should use the **BROWSE** button to open our tree-based visual clip browser.

When the **ALL CLIPS** button is active, every clip is retrieved from the database and displayed in the Clip Browser. If you select the **REFERENCE** button, you can quickly access clips marked as reference.

Enter the SCENE+SHOT to immediately select the scene and shot by name.

SHOOT Room

Clip Slate Information is divided into 3 windows: SCENE, SHOT and THUMBNAILS. Thumbnail window usually displays TAKES, but it can also display Scenes or Shots by clicking the appropriate segmented button. When you choose the Scene, Thumbnail Window will switch to Shots and than to Takes. The active take has a thicker white outline, if a take has a purple outline the media associated with that clip could not be located.

Use the filter tool to display the selection of takes, based on RATING or REHEARSAL attribute.

By clicking the take thumbnail, the clip BROWSER closes and selected take is loaded into current VIEW. You can use keyboard arrows to navigate inside each window. Press **TAB** or click the window to put it in focus. Press the **SPACE** key on your keyboard, or click to load the take.



Press the **SELECT** button to enable clip selection. Select clips by clicking on their thumbnails [or by pressing the **SPACE** key on the keyboard]. Enable the camera letters from which you want to select clips. Choose another SCENCE or SHOT to select takes from multiple scenes/shots. When clips are selected the bottom row of buttons will changed to reflect actions that can be carried out on multiple clips. For details about these actions see the [next section](#)

LIST BROWSER

Clicking the **LIST** button in the special buttons zone [or long clicking the **BROWSE** button] will open the LIST BROWSER in VIEWS ZONE. The LIST BROWSER gives the user an overview of the recorded clips in a convenient list form. The user can sort clips by clicking on any of the column headings, customize the list layout by dragging the columns left or right, load clips by clicking on the clips and preview clip thumbnails by pressing and holding on a clip [to cancel without loading the clip simply drag cursor outside of the list].



The segmented button labeled **3 2 1** lets the user set the horizontal size of the list browser. Note that some functionality is hidden when horizontal size is set to 2 or 1.

The **BIG** button resizes each row of the list to enable them to be used with a touch screen. The **ALL CAM** field will let you filter clips by camera letter. If set to NO, list will display only the clips that belong to selected DISK in PATCH Menu. Set it to YES, if you want to display clips recorded from all disks.

The **EDIT DATA** button lets you edit the attributes of the selected clip. See [EDITING CLIP DATA](#).

The **SEARCH CLIP** input button lets the user filter displayed clips by searching for SCENE or NOTE. To disable the filter simply press the SEARCH CLIP button again and click OK.

The **SELECT** button lets you select multiple clips to perform an action on. The actions available for selected clips in the List browser are the same as in the Browser. For details about these actions see [EDITING CLIP DATA](#)

Dragging cursor through the list will temporarily display thumbnail of the selected clip. Releasing the mouse button will load selected clip into ACTIVE VIEW. Releasing the mouse button outside the LIST BROWSER will cancel loading and keep the current clip in the VIEW. By selecting LIVE clip from the list, you can PATCH current VIEW to LIVE.

SHOOT Room

EDITING CLIP DATA

You can edit basic clip data directly in the BROWSER. Press **EDIT CLIP DATA** button and then select the thumbnail.

DELETING SELECTED TAKES

You can delete selected clips by clicking **DELETE** button. This will delete media files from the storage. This operation cannot be undone.

MOVING TAKES TO REFERENCE

You can move selected clips to Reference Zone by clicking **TO REF** button. Access reference clips by clicking the **REFERENCE** button.

MOVING TAKES TO EDITOR

If you need to quickly put selected clips into the sequence, press **TO EDIT** button. Clips are inserted into the current sequence in the order they were selected.

The screenshot shows the 'EDIT CLIP DATA' dialog box with the following fields and buttons:

CAM	ROLL	SCENE	SHOT	TAKE	RATING
A	008	2		5	★★

CAM SPEED	LENS	F-STOP	SHUTTER
25.000fps	mm	f	°

SHOT TYPE	SHOT SIZE	SHOT ANGLE	SHOT MOVE
TWO	MCU	EYE	TRCK

CLIP NOTE 1

Mic Boom In Shot!!!

LUT

DesatContrast

OK CANCEL

SHOOT Room

EXPORTING TAKES TO FILES

Click **TO FILE** button to export multiple takes to iPhone/iPod or AppleTV compatible .m4v format. If you choose to export a file to QT Movie, you can add LUT and OSD to the video frames. Press the **BACKGROUND** button to start the export in the background. Export to file uses IN and OUT marks to define the export range of each clip.

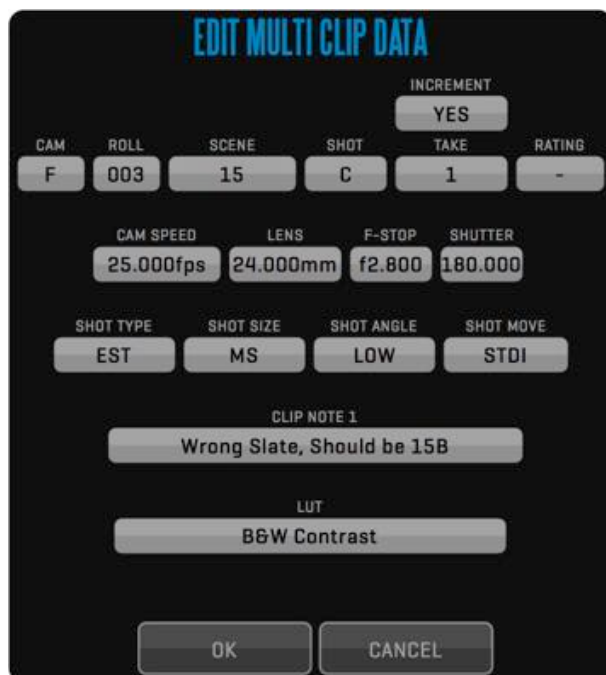
REVEAL IN FINDER

Pressing the **FINDER** button will hide QTAKE and show your selected clips in a finder window. Useful for copying key shots to an external drive for instance.



EDITING CLIP DATA FOR MULTIPLE FILES

First **SELECT** the takes that you want to edit, then click **EDIT MULTI DATA**. A dialog similar to the EDIT CLIP DATA dialog will appear but with each element blanked out. When editing the TAKE attribute a secondary option called **INCREMENT** will appear. To number your takes sequentially select YES. Note that the order you selected the files is the order they will be numbered.



CLIP DATA

Every clip consists of video and audio media recorded with input device and metadata stored in the database. You can enter clip data before, during or after recording. The **CLIP** menu lets you enter the following standard information about each clip: **CAMERA**, **ROLL**, **SCENE**, **SHOT/SLATE**, **TAKE** and **RATING**.



A take can be marked as a **REHEARSAL** and tagged with **REF** (for reference), **P/T** (for part) and **P/U** (for pickup) in the TAKE window. Takes tagged with REF will automatically show up in the REFERENCE section of the browser.

The **TAKE** value is automatically incremented if entered in LIVE mode, before or during recording. If RECORD-SYNC is enabled, clip data entered in LIVE mode is automatically copied to other camera clip.

Extended clip data can be accessed in the **META** sidebar and the **DATA** menu.

DATA MENU

The DATA lets you store the following clip metadata:

CAM

CAMERA SPEED, LENS, F-STOP, SHUTTER, M.O.S.



UK / European Slating

You can replace the SHOT field with a SLATE field to conform with UK / European slating. The SLATE field will auto increment each time SCENE is changed.

`Use_UK_Slating_System=1`

The SHOT value can still be entered in the META sidebar.

SHOT

SHOT TYPE: EST - Establishing Shot, TWO - Two Shot, POV - Point of View, OTS - Over The Shoulder, VFX - Visual Effect, FG - Foreground, BG - Background.

SHOT SIZE: XLS - Extreme Long Shot, LS - Long Shot, FS - Full Shot, MLS - Medium Long Shot, MS - Medium Shot, MCU - Medium Close Up, CU - Close Up, BCU - Big Close Up, XCU - Extreme Close Up.

SHOT ANGLE: WORM - Worm's POV, LOW - Low Angle, EYE - Eye Level, HIGH - High Angle, BIRD - Bird's POV, CANT - Canted Shot.

SHOT MOVE: STAT - Static Shot, PAN - Panning, ZOOM - Zooming, TRCK - Tracking, TILT - Tilting, STDI - Steadicam, TECH - Technocrane, CAR - Camera Car, HELI - Helicopter.

CAM	SHOT	NOTE	MEDIA	SHOT TYPE	SHOT SIZE	SHOT ANGLE	SHOT MOVE
				EST	CU	EYE	STDI

NOTE

You can also enter a CLIP NOTE for each take. Ctrl+Enter lets you enter a line break and create multi-line notes.

CAM	SHOT	NOTE	MEDIA	CLIP NOTE 1	
				Great Performance	MULTI

MEDIA

MEDIA is used to display the filename of the associated camera media of the RED or ALEXA cameras. In order to extract metadata you need to select the correct CAMERA MODEL and enable READ SDI DATA in the Project Window. While the camera is not recording the filename will be shown in brackets to indicate that changes might occur.

CAM	SHOT	NOTE	MEDIA	CAMERA MEDIA FILENAME
				A008_C014_0624ZR

SHOOT Room

META

The **META** sidebar provides a convenient way to view all metadata from the clip in the active view. The metadata is divided into categories called **GROUPS**, that can be collapsed to allow the user to fit just the relevant information into a single list.

The user can add custom fields to any of these categories by clicking the + [plus] symbol on the right side of each category heading. There is also a **USER DATA** group where fields that do not belong to any of the categories can be placed.

When adding a custom field the user is presented with a dialog that lets him set the NAME of the field, its type and any additional attributes for that field type, such as entries for a multiple choice field. The **ADD TO ALL** button adds the custom field to the clips loaded in every view [including live].

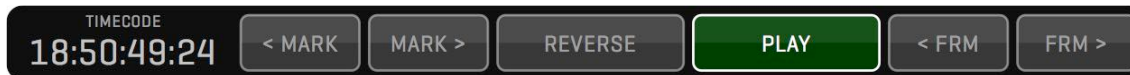
NAME	VALUE	SOURCE	X
CLIP DATA +			
Camera	A		
Roll	010		
Scene	16		
Shot	C		
Take	1		
Rating	★★★		
CAMERA DATA +			
Model	RED Epic		
Operator	Steve		
Lens	24		
F-Stop	4		
Shutter	180		
M.O.S.	YES		
SHOT DATA +			
Type	EST		
Size	LS		
Angle	EYE		
Move	STAT		
USER DATA +			
Focus	Spot on		✖
Timing	Great		✖

BIG

EXPAND

PLAYBACK

After recording, current VIEW will automatically switch to DISK mode, if **DISK AFTER REC** is enabled in the OPTIONS Menu. You can play forward, reverse, step frame-by-frame or jump to the beginning/end of the selected range of the clip. Don't forget to use the hotkeys for fastest access to every playback command [**Space** key for Play, **Fn** key to show all keyboard shortcuts]. Timecode label displays current timecode either in LIVE or DISK mode. Clicking the TIMECODE label will toggle the display between timecode and frame number.



Additionally, you can skip forward or backward 1 second with **CTRL-Right** and **CTRL-Left** shortcuts [these commands have no UI buttons]. QTAKE will remember where the playhead was located last time you had a clip loaded but if you instead prefer to have the playhead automatically jump to the IN point enable the **CLIP TO IN-MARK** option.

PLAYBACK RANGE

The active part of the clip is defined by the **IN** and **OUT** points and it is visually presented by the solid bar inside the SLIDER. Every clip is played from IN to OUT point. Normally you can only go past this range by scrubbing or using the SHUTTLE, to enable playback beyond the IN and OUT marks set **USE RANGE** to **NO**. IN and OUT points can be set in RECORD or DISK mode and they are stored with each clip. Long clicking IN or OUT will reset active IN or OUT point.

Clicking the **DURATION** label will toggle the display between timecode and frame number.



PLAYBACK MULTIPLE IN & OUT

If you have marked multiple ranges within a clip you can use **<MARK** and **MARK>** buttons to move between the selections. Long click the PLAY Button to switch from **PLAY ONE** to **PLAY ALL** mode. Short click **RESET** to delete current selection, long click RESET to delete all selections. Selected IN-OUT range [SUBTAKE] number will be displayed in OSD [in TAKE field].

SCRUB

You can use the SLIDER to scrub through the clip, or just drag your finger/mouse pointer across the VIEW. If you try to scrub during playback, play is paused until you finish scrubbing.

SHUTTLE

Using SHUTTLE Menu, you can play through the whole clip using variable speeds ranging from 1/16x to 16x. Note that this way of transport doesn't play audio and doesn't respect IN and OUT points.



LOOP, SPEED & SYNC

Inside the **PLAY CONTROL** menu you will find the **LOOP** button. Press it to enable seamless re-starting after reaching the OUT mark. Long click the LOOP button to switch it to **PONG** mode. In this mode, the clip will play reverse when it reaches the OUT mark.



A section of two data entries is used to control playback speed:

1. **CAMERA SPEED** - enter camera speed to simulate different camera speed.
2. **PLAY SPEED %** - Allows you to adjust the playback speed in percentages. PLAY SPEED can also be set to negative values to allow reverse playback without using REV. PLAY.

CLIP SYNC

Press the **CLIP SYNC** button for comfortable, synchronized clip selection. With CLIP SYNC enabled you need to load only clip from one camera and the synced view[s] will load corresponding clips [with matching ID] automatically. This also works when loading/patching Live into any of the views.

Long clicking CLIP SYNC will toggle between **CLIP SYNC PAIR** - where view 1 and view 2 are synced as one pair and view 3 and 4 as another pair - or **CLIP SYNC ALL** - where all views load in sync. Toggling CLIP SYNC PAIR/ALL will also toggle PLAY SYNC PAIR/ALL to match.

PLAY SYNC

Two or more clips can be played back in sync. For synced playback you need to specify **OFFSET**. The right section of the CONTROL menu is the OFFSET display. Clips recorded at the same time automatically get an offset in relation to each other. Use **AUTO PLAY-SYNC** in Options Menu to automatically enable **PLAY SYNC** mode for sync-recorded clips. The **AUTO-OFFSET** option will enable automatic offset even if the clips are not recorded in sync. To specify the OFFSET manually and play two or more clips in sync, follow these steps:

1. Load the clips you want to play in sync into your VIEWS.
2. Find the sync point for each clip.
3. Press the OFFSET display to store the time difference between clips.
4. PLAY SYNC button is automatically enabled for synchronized playback.
5. Press any button in the Playback Menu for synchronized playback commands.

To specify the OFFSET automatically by timecode, use this Preference:

Set_Play_Sync_Offset_By_TC=1

Set to =1 if you want QTAKE to determine PLAY SYNC OFFSET using timecode of the clips.

QTAKE will automatically MUTE clips in V2-4 when playing back clips with the same ID in sync. You can override this by setting:

Enable_Play_Sync_Auto_Mute=0

SYNC SETUP

QTAKE will by default synchronize actions across all views [1+2+3+4] when a sync button such as REC SYNC or CLIP SYNC is enabled. The SYNC SETUP window lets you exclude views or break down the views in to smaller groups. Long-click one of the sync buttons to enter the SYNC SETUP window. The views indicated in blue belong to the current sync group. Click one or more of the views to to exclude it from the group. Views that are excluded from a sync group can in turn be added to their own group by closing the SYNC SETUP window, activating the view and entering the SYNC SETUP window again. The sync buttons will indicate what views are part of the current group in parenthesis under the button title.

Why did my IN and OUT points change?

When you PLAY SYNC two or more clips QTAKE will adjust IN and OUT points so that only overlapping sections of the clips are enabled for playback. You can change this behavior in the Qtake_Prefs by setting:

PreRoll_And_PostRoll_For_PlaySync=1

This will adjust all synced clips to match the longest one.

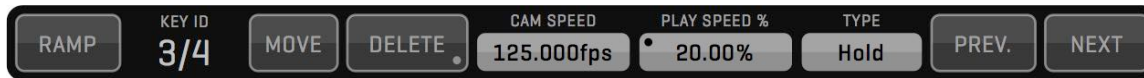
Use the + and - buttons to adjust the offset of the active view in relation to the other views.

REV. PLAY or negative PLAY SPEED?

Enabling PLAY SYNC will keep playback synchronized when using PLAY or REV. PLAY. If you want to synchronize one clip playing forward with another clip playing in reverse you can achieve this by entering a negative PLAY SPEED for one of the clips.

SPEED RAMP

The RAMP menu allows you to create speed ramps in a clip. Clicking the **RAMP** button enables or disables the RAMP, when RAMP is enabled the active part of the clip turns green. Note that you can only create or edit keyframes when the RAMP button is disabled.

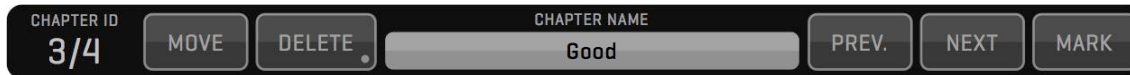


The **NEW** button creates a keyframe at the position of the playhead. By adjusting **CAM SPEED** or **PLAY SPEED** of a keyframe you can set the playback behavior of the clip from that key frame forward.

The **HOLD** or **LINEAR** value alter the playback behavior between two key frames. HOLD will play at the speed value of the last keyframe until the playhead encounters another keyframe. LINEAR will create a linear speed ramp between the current keyframe and the next. **PREV.** and **NEXT** lets you jump quickly between keyframes.

CHAPTERS

When recording series or long takes, you might have problems finding the right part of the clip.



In the **CHAPTERS** menu you can create [shortcut **J**] and delete [shortcut **Ctrl+J**] QuickTime compatible chapters for each clip [chapters are stored in the media files and can be retrieved with QuickTime Player]. Each chapter can have it's own name. QTAKE will parse the chapter names for the key words GOOD and BAD and display a green or red chapter marker if found. If you would like to add a chapter directly with either of the key words the keyboard shortcuts are **Ctrl-Alt-G** for GOOD and **Ctrl-Alt-B** for BAD. Chapters can also be used to trigger GPI Outputs which lets you sync external equipment to playback.

You can jump between the chapters with the PREV. NEXT buttons and use the MARK button to set the IN and OUT points based on current and next CHAPTER markers.

SUBCLIPS

To take this even further, you can make subclips based on IN and OUT points. Press the **MAKE SUB** button to create QT reference file including copy of all metadata. When the subclip is the current clip, MAKE SUB button changes to **MASTER** button. Pressing this button loads the master clip of the current subclip into the active VIEW. In addition, IN and OUT points are set to display which part of the masterclip makes the content of the subclip.

THUMBNAILS

Press the **THUMB** button [**U** key on the keyboard] to update browser thumbnail image of the selected clip to current image.

SHOOT Room

MUXER

With MUXER Module you can capture muxed side-by-side 3D clips. Each clip recorded in muxed mode will get an SBS attribute. You can set the clip to **SBS** by clicking the MUXED label. This is useful when importing SBS footage. When clip is set to SBS, QTAKE will process each side separately in DVE, MASK, GRID, OSD and WIPE functions to provide correct result. Next click on the MUXED label will set to clip to **FSBS** [fake side-by-side] which will duplicate left side to right side of the image and place them side-by-side. This is useful when using 2D image in a 3D SBS project.



DEMUX

Press **DEMUX** button to unsqueeze either side of the muxed clip. This is used to view single camera. Select which camera to monitor using **DISPLAY** button - this way you can display selected camera on a 2D monitor. If DEMUX button is disabled DISPLAY will copy selected camera to other half of the image to enable single camera display on a 3D monitor [without the need to exit 3D mode of the monitor].

REMUX

If your 3D monitor doesn't support SIDE-BY-SIDE input mode, you can remux GPU Output to [this doesn't affect video board output]:

LBL - for 3D monitors that support only LBL input.

DLP - for 3D monitors that support only DLP input.

2D Left - if you want to display only left eye on a standard 2D monitor.

LBL Swap - same as LBL but with left and right eye swapped.

DLP Swap - same as DLP but with left and right eye swapped.

2D Right - if you want to display only right eye on a standard 2D monitor.

Working with MUXED 3D

The project window lets you set the camera layout for each input. When receiving a premuxed, side by side signal set LAYOUT to **3D SBS**. There are a couple of settings in the Qtake_Prefs file that control the behavior of QTAKE in relation to muxed material.

Show_Demuxed_Thumbnails=0

Set to =1 if you want to display demuxed thumbnails of the muxed clips.

Demux_SDI_Output=0

Set to =1 if you want to output demuxed image from video board output. **This will enable simultaneous 3D (from GPU) and 2D (from Video Board) output.**

SHOOT Room

QUAD

When using QUAD SPLIT unit to record 4 cameras using single QTAKE input, you can select which quadrant to blow- up to full size. Use S1 or S2 to blow-up stereoscopic pairs Q1+Q2 or Q3+Q4.

DEMUX LEFT and **DEMUX RIGHT** lets you stretch the Left or Right eye for 2D output. This also lets you use a muxed signal as two separate cameras by demuxing left and right sections of the image to your two views.



3D VIEW

3D VIEW is an additional tool to help you analyze 3D images.



Press the **PLUS 3D** button to enable 3D VIEW in DUAL or QUAD VIEW mode. a separate image window called the 3D VIEW will appear to display various modes of stereoscopic image representation [selected by **3D VIEW MODE**]:

ANAGLYPH	Color separation in most popular red/cyan color channels.
DIFFERENCE	Grey difference of left and right camera view.
INTERLACE	Line by line mux of left and right camera view.
BOX BLEND	Left and right camera image is blended through a checkerboard.
DISSOLVE	Left and right camera image is blended using 50/50 dissolve.
WIGGLE	Each camera view is displayed for selected amount of frames.
DUAL	Each view displayed side by side.
SBS	Stereoscopic side by side mode.

Use **OPTION** field to customize selected 3D display mode. You can discard DUAL or QUAD VIEW and display only 3D VIEW by holding PLUS 3D button. Button title will change to **3D SOLO**. If you want to return to DUAL or QUAD VIEW + 3D VIEW, long click this button again.

Using **OUT** button, you can send 3D VIEW to 1st GPU-OUT. 3D VIEW can also be sent to your SDI output by long clicking the **V-OUT** button. When using non-muxed 3D, Left eye image is in VIEW1 and Right eye image is in VIEW2 [respectively VIEW3 and VIEW4 for the second 3D rig], the 3D VIEW will take left and right image and use them to create a stereoscopic image. When using muxed inputs, each VIEW contains Left and Right eye image in side-by-side muxed mode. In this case, PLUS 3D VIEW will take both images from the ACTIVE VIEW. You can override this by forcing PLUS 3D source to specific VIEW using the preference:

`Force_Plus3D_From_View=0`

When set to zero, PLUS 3D will use ACTIVE VIEW as source. Set it to 1, 2, 3, or 4 to specify what VIEW to use as the 3D VIEW source.

MEDIA

A single Take in QTAKE can have multiple media files associated with it. If for example you are recording H.264 proxies you would have both the **RECORDED** media file and an **H.264 PROXY** file connected to that specific take. The **MEDIA** menu allows you to switch between these different media files for the Take loaded in the active view. The **FORMAT** and **CODEC** sections display relevant information about the currently loaded file.



The **RENDER PROXY** button allows you to re-render the H.264 proxy file for that particular Take. This can be handy if you inadvertently changed something while recording or if you want to re-render the proxy with new OSD information burned in. A dot will appear on the **RENDER PROXY** button if you have clips in your project that do not have H.264 proxies. Long-clicking the **RENDER PROXY** button will create H.264 proxies for any clips that are missing them.

EDIT Room

EDITOR

QTAKЕ features integrated single-track non-linear editor. In the EDIT room, DUAL VIEW is used to display PLAYER [left side] and RECORDER [right side] monitors, as in a standard editing applications. The visual timeline displays thumbnails for each clip of the sequence. When you select the timeline clip, it's data is displayed in the CLIP menu and the SLIDER bar shows the partial length of selected clip in the sequence. Playback commands now apply just to the part of sequence marked by current sequence clip. To quickly jump between clips in the sequence use the **PREV.** and **NEXT** buttons [or **Up** and **Down** arrows on the keyboard]. If you want to play the whole sequence, just click on the VIEW 2 and press the PLAY button.



Why is the editor only playing back a single clip from the sequence?

When selecting a clip in the visual timeline only that clip is selected, this is indicated by a blue timeline. To select the whole sequence click on View 2.

INSERT

Sequence editing process consists of few easy steps:

1. Select the clip in VIEW 1
2. Mark IN and OUT points for the clip
3. Press the **INSERT** button

The clip is appended to the current sequence and the new thumbnail appears in the timeline. If you want to insert the clip to a specific place in the sequence, select any thumbnail and the new clip will be inserted in front of selected timeline clip.



OVERWRITE & REPLACE

If you want to change the sequence clip, perform step 3 with **OVER** or **REPLACE** button.

If you want to keep the length of the sequence clip press REPLACE button. Only IN mark is used from the source clip and the new OUT mark is calculated according to selected sequence clip.

If you want to change the clip without keeping the destination length, press the OVER button.

CHANGE THE SPEED OF THE SEQUENCE CLIP

Inserted clip retains it's speed. If you want to change the speed of the sequence clip, just type the new CAMERA SPEED value inside the PLAY CONTROL Menu.

REORDERING CLIPS

You can easily reorder clips in the sequence by selecting the clip on the timeline and pressing the **LEFT** or **RIGHT** button to move the clip accordingly.

SPLITTING CLIPS

You can **SPLIT** clips to create two separate clips. The location of the SPLIT is determined by the playhead.

DELETING CLIPS

Select the sequence clip on the timeline and press **DELETE** button to remove it.

TRIMMING

You can fine-tune your sequence by trimming the clips on the timeline. Trimming is the process of adjusting the start and the end of the clip by adding or removing frames from each side. By clicking the **TRIM** side of the EDIT/ TRIM segmented button, the EDIT Control box changes the layout according to context. In QTAKE you can trim either clip or cut. Trim is applied by switching back to EDIT Mode.

TRIM CLIP

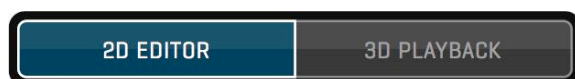
When the single clip is selected you will see it's starting frame in VIEW 1 and it's ending frame in VIEW 2. Yellow brackets appear over the timeline thumbnail. Use numeric **L-TRIM** and **R-TRIM** buttons to add or subtract frames from the selected side. The amount of trim is displayed in frame units. You can also perform the trim by dragging the video inside VIEWS. Press the LOCK button to keep the length of the clip - if you add few frames to the end of the clip, the same amount of frames is subtracted from the beginning.

TRIM CUT

Select next or previous clip to activate Cut Trimming. Yellow brackets are placed between selected clips. Now you can adjust the ending frame of the left clip and the starting frame of the right clip. Press the LOCK button to keep the summary length of two clips.

EDIT 3D

When shooting stereoscopic projects, you can use EDIT 3D Menu to playback stereoscopic sequence.



After editing single camera [left eye] in classic edit mode, press the **3D PLAYBACK** button to enter dual camera playback. Entering this mode will generate sequence for the right eye. You can use all playback commands in 3D PLAYBACK mode.

DUPLICATE SEQUENCE

Sequence can be duplicated by clicking **DUPLICATE** button, which is located in the OPEN SEQUENCE window. This is useful when creating another version of the cut.

COMPOSITE MODULE

This module is used to perform real-time overlay of the two video sources. VIEW 2 is the background layer and VIEW 1 is the foreground layer. Use PATCH Selector to define video source for each VIEW/LAYER. You can use any combination of LIVE and DISK sources.

The COMP menu lets you organize your composites by allowing you to create **NEW** ones and load previously created ones. Any VIEW effects and **BLEND**, **CHROMA KEY** and **WIPE** settings are saved with the current composite. You can **COPY** the current settings and **PASTE** them into a new composite. The **BROWSE** button also lets you **DELETE** old composites. When recording a foreground in view 1 but monitoring the result in view 2 you can enable OSD FROM VIEW 1 in order to see relevant information in the composite view.



There are 4 menus with effects to create composites:

BLEND

Blend is used to combine foreground and background layers with Photoshop-like blending modes: **NORMAL**, **SCREEN**, **ADD**, **OVERLAY**, **MULTIPLY** and **DIFFERENCE**. The amount of blend is controlled by the **OPACITY** slider located in the BLEND Menu Control Box. The OPACITY slider can also be set to **AUTO** mode to allow transitions without user interaction. See the [USER INTERFACE](#) section for more information about AUTO SLIDERS.



CHROMA KEY

You can perform real-time chroma or luma keying with QTAKE with the KEY menu. Select the foreground source in the VIEW 1 and the background in the VIEW 2.



Step by step CHROMA key:

1. Select **CHROMA** as your key mode.
2. Use the **COLOR** picker or the **HUE** input button to select desired key color.
3. Press the **ALPHA** button for visual matte control (dark areas represent transparent parts of the image).
4. Adjust **WIDE** and **PUNCH** attributes to fine tune your ALPHA mask.
5. Adjust **BLACK** and **WHITE** values to widen fully transparent and fully opaque areas.
6. Press the ALPHA button again to display the final composite.

The DESPILL value seldom needs to be adjusted. If you notice discoloration around the edges of your keyed subject decreasing DESPILL can rectify the result.

WIPE

Wipe transition is used to perform split-screen composite. Follow the next steps:



1. Select the **WIPE** button.
2. Slide the **AMOUNT** until you reach the split point you want.
3. Slide the **ANGLE** to adjust the angle of the split.
4. Slide the **SMOOTH** to set the amount of split-line feather.
5. Use the **SWAP** button to swap foreground and background images.

All the sliders in the WIPE menu can be set to **AUTO** mode to allow adjustments without user interaction. See the [USER INTERFACE](#) section for more information about AUTO SLIDERS.

COMPOSITE Room

STEREO

In addition to instant side-by-side 3D View found in the VIDEO OUT modes, you can use STEREO Effect in the Composite Room to create advanced 3D Output. STEREO Menu offers following 3D modes:

1. **ANAGLYPH** - Anaglyph mode achieved by red/cyan color separation. Offers cheap monitoring solution with standard monitor and red/cyan filter glasses. Not color accurate.
2. **LINE-BY-LINE** - Industry standard output for 3D monitors. Limited to HD1080 sources. Combines left and right eye image line by line, similar to interlace.
3. **SIDE-BY-SIDE** - Industry standard output for 3D monitors. Combines left and right eye image by squeezing both images to half width of the screen.
4. **OVER-UNDER** - Industry standard output for 3D monitors. Combines left and right eye image by squeezing both images to half height of the screen.
5. **DLP MESH** - Combines two images using pixel checkerboard

Every mode can be adjusted with additional options:

Press **SWAP** button to swap left and right eye image. Move the **SLIDER** to adjust inter-axial distance.



How to display LIVE stereo composite?

Select left eye camera in VIEW1 and right eye camera in VIEW2. Specify STEREO mode. 3D output is displayed in VIEW2.

How to PLAYBACK stereo composite?

Select left eye clip in VIEW1 and right eye clip in VIEW2. If you have CLIP-SYNC enabled, loading one eye clip will automatically load other eye in other VIEW. Enable PLAY-SYNC, or use AUTO PLAY-SYNC to enable automatic PLAY-SYNC for sync-recorded clips. Select STEREO mode. Press PLAY. 3D output is displayed in VIEW2.

NOTE

If you don't need to render out your stereo composite, you can use 3D video output mode in SHOOT Room to display stereoscopic shots on 3D monitor.

COMPOSITE Room

CGI MODULE

This module is used for realtime 3D scene rendering. Instead of pre-shot or pre-rendered background, you can now import 3D scene into QTAKE and use virtual camera to change the viewing angle.

IMPORT 3D SCENE

QTAKE supports 3D scenes saved in Collada [.dae] format. Drag your collada file to QTAKE dock icon to import it. 3D scene will be logged into QTAKE database, so you can load it into any view just like any other clip.

NAVIGATING 3D SCENE

If there is any animation included in the 3D scene, you can use PLAYBACK functions, like with regular clips. However, instead of scrubbing, the 3D scene will change the camera position when dragging the mouse in the VIEW. Dragging the mouse will orbit around target point, which is placed in the center of the scene by default.

Here is the list of 3D navigation controls using mouse and keyboard.

MOUSE DRAG

Rotates camera around target point [orbiting]

CTRL + MOUSE DRAG

Moves camera and target point in XZ axis [left/right and forward/backward]

CMD + MOUSE DRAG

Moves camera and target point in Y axis [up/down]

MOUSE WHEEL

Changes camera distance from the target point

CTRL + MOUSE WHEEL

Changes camera field of view [zoom]

CMD + MOUSE WHEEL

Changes camera roll [rotates around camera optical axis]

ALT + ANY OF ABOVE

Performs the same action with higher precision.

NOTE

While dragging mouse in the VIEW to change the camera position, TARGET point and floor GRID will be displayed automatically.

COMPOSITE Room

CGI Menu

All 3D scene controls are located in the CGI Menu. They will allow you to adjust various parameters of the scene cameras. All settings will be automatically stored for each camera.

You can select active camera using CAMERA field.

FREE CAMERA

Free camera let's you position virtual camera freely.

MOCO CAMERA

MoCo camera is used to position camera by using external positioning data.

SCENE CAMERA

You can also select any camera imported with the scene.

Using **VIEW** field, you can select orthogonal view of your scene. Options include **LEFT**, **RIGHT**, **TOP**, **BOTTOM**, **FRONT** and **BACK** views. Each view can be moved and zoomed independently. When using MOCO camera, this field will change it's function to DATA SOURCE.

COMPOSITE Room

MOTION CONTROL

In most cases, you will use CGI background with external positioning data. A live camera can be placed on the motion control rig or use various realtime tracking systems to determine it's position and rotation. QTAKE can receive positioning data stream and apply it to virtual camera. This will make your background move the same way as your live [or playback] view.

SDI POSITIONING DATA

If present, external positioning data will be parsed from ancillary space in the SDI stream.

MARC ROBERTS MOTION CONTROL

Using network connection you can read positioning data from the FLAIR software used to control MRMC rig. To enable data from this device, use this preference:

`Rig_Type=mrmc`

CMOCOS MOTION CONTROL

You can also use UDP stream from CMOCOS motion control rig to control your virtual camera. To enable data from this device, use this preference:

`Rig_Type=cmocos`

Using DATA SOURCE field you can select which VIEW is the source of positioning data for your 3D scene.

COMPOSITE Room

Using the segmented button you can select which submenu to show. Options include **ROTATE**, **MOVE**, **TARGET**, **LENS**, **3D** and **MOCO** submenus.



ROTATE

In this submenu you can adjust **PAN**, **TILT** and **ROLL** of the active camera. Unlike dragging mouse in the view to orbit camera around target point, this controls will do nodal rotation around the center of the camera. That means your target point will be moved.



MOVE

Using this submenu you can move camera in X axis [left/right], Y axis [up/down] and Z axis [forward/backward]. This will also move the camera target point.



TARGET

Use this submenu to move the camera target independently of the camera itself.



LENS

This submenu contains controls of the Field Of View [**F.O.V.**], **FOCUS** distance and **TARGET DISTANCE**.



3D
Each virtual camera can be used as a stereographic camera. In 3D submenu you can control **INTERAXIAL** distance and **CONVERGENCE**. Using CONVERGENCE MODE you can select to use **PARALLEL** mode or **MANUAL** convergence adjustment. If you want to use automatic convergence, select FOLLOW FOCUS mode or FOLLOW target mode.



MOCO
Use this submenu to match the scale of your virtual scene to your external positioning data. QTAKE uses centimeters as the scene translation units and degrees as rotation units.

STUDIO Room

STUDIO MODULE

Studio module is used to perform live editing. When shooting multiple cameras, you will be able to create the sequence simply by switching between four inputs during recording. QTAKE will record all four inputs as usual, but in addition, it will record information about each cut.



Program output is not recorded -it is generated on the fly. This makes it easy to adjust your sequence after recording.

LIVE EDITING

In STUDIO Room, you will see additional PROGRAM VIEW that represents your program output. Under the views there is a timeline, with four tracks. Each track represents one input. Selected input for each segment will be highlighted.

Start making your studio cut by pressing any RECORD button. In this room, RECORD SYNC, CLIP SYNC and PLAY SYNC are enabled automatically and can not be turned off. There are two ways of performing the edit during recording:



FOLLOW ACTIVE VIEW

Turn on FOLLOW VIEW check field to make cuts by selecting active VIEW. This is more intuitive way of making cuts during recording, but note that during playback you won't be able to select active VIEW, because it will follow the timeline.

DEDICATED INPUT BUTTONS

Turn off FOLLOW VIEW check field to make cuts by using dedicated segmented button. Selected VIEW will be marked by thick yellow border.

How can I zoom the timeline?

Use mouse wheel to zoom in or out.

DISK EDITING

After recording is finished, you can patch VIEWS to DISK [or have it patched automatically using DISK AFTER REC option]. Timeline highlights will change to green color. You can now use playback functions, just like with any other clips. The green PLAYHEAD line will show you current position in the sequence. Use **CUT** buttons to navigate between cut points. Program output will always show selected track.

In order to change active track for any segment, just double click the track you wish to select.

TRIM MODE

If you wish to modify your cut points, press the **TRIM** button.

The timeline highlights will change to yellow and a yellow TRIMHEAD will appear in the timeline.



You can modify selected cut by dragging the trimhead. You can drag the trimhead during the playback, cut changes will be performed immediately without stopping the playback. In case playback is stopped, playhead will follow the trimhead.

OVERTRIM

Note that in regular trim mode you won't be able to drag the cut point beyond adjacent cut, because this would overwrite the next segment of the timeline. If you still want to do this, you need to turn on the OVERTRIM check field.

EXPORT EDL

Similar to regular EDIT Room sequence, STUDIO sequence can also be exported to EDL. Pressing the **EDL** button will pop up the dialog window, where you can select which filenames to use for clips in the sequence.

GPU OUTPUT

In order to send the program view to GPU OUTPUT, press the **OUT** button. In case OUT button is not highlighted, you will see program output only in GUI.

Currently, there is no way to send the program view to video card output.

Why can't I select active VIEW?

If the VIEW is patched to DISK, you need to turn off FOLLOW VIEW in order to select VIEW that is not presenting active track for current timeline segment.

Render

RENDER

Rendering is used to process out the VIEW content to a QuickTime movie file. One of the main purposes of the **RENDER** function is to store your VFX composite to a clip, so you can use it in EDIT or in a multi-layer COMPOSITE.

To enable rendering you have to select DISK mode for the VIEW you want to render. To render a composite you have to select DISK mode for both VIEWS. Pressing RENDER button (located in the upper GUI area) will open the RENDER dialog for the clip in the active VIEW.

The **RENDER FORWARD** option lets you set the render direction, either forward [**YES**] or reverse [**NO**].

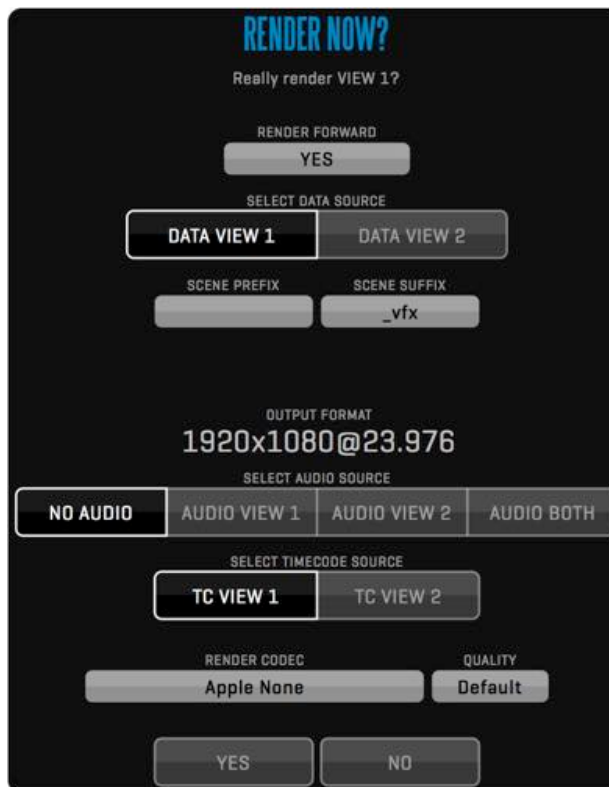
SELECT DATA SOURCE lets you set from which VIEW clip metadata for the rendered clip will be applied. This is useful if you render multiple foregrounds on a single background.

SCENE PREFIX and **SCENE SUFFIX** lets you add a short prefix or suffix to the SCENE data of the rendered file. This can aid you in organizing rendered material.

You can also **SELECT AUDIO SOURCE** and **SELECT TIMECODE SOURCE** for the rendered clip.

Finally select your desired **RENDER CODEC** and **QUALITY**.

You can abort rendering at anytime by pressing the CANCEL button in the render progress window.



The image shows a 'RENDER NOW?' dialog box with a dark background and light text. At the top, it asks 'Really render VIEW 1?' with a 'YES' button. Below is the 'SELECT DATA SOURCE' section with 'DATA VIEW 1' and 'DATA VIEW 2' buttons. The 'SCENE PREFIX' and 'SCENE SUFFIX' fields are empty, with the suffix field containing '_vfx'. The 'OUTPUT FORMAT' section displays '1920x1080@23.976'. The 'SELECT AUDIO SOURCE' section has buttons for 'NO AUDIO', 'AUDIO VIEW 1', 'AUDIO VIEW 2', and 'AUDIO BOTH'. The 'SELECT TIMECODE SOURCE' section has buttons for 'TC VIEW 1' and 'TC VIEW 2'. The 'RENDER CODEC' section shows 'Apple None' and the 'QUALITY' section shows 'Default'. At the bottom are 'YES' and 'NO' buttons.

NOTE

QTAKE will respect clip speed setting for rendering.

How to view rendered clip?

Rendered clip will not load into the VIEW automatically. If you want to playback rendered composition, you need to load it into the VIEW using CLIP BROWSER, POP-UP BROWSER, LIST BROWSER or using PREV. / NEXT buttons.

Preferences

QTAKE Preferences

Application preferences are located in the **Applications/QTAKE/Prefs** folder. To avoid conflicts each version of QTAKE will create its own preference file. HDx1 preferences are called: QtakeHDx1_Prefs.txt, HDx2 are called: QtakeHDx2_Prefs.txt, etc.

If you delete this file, QTAKE will generate a new one with default values next time you run QTAKE. Changes to QTAKE preferences can either be made in the PREFS window or by editing the Qtake_Prefs file with Text Edit.

QTAKE will load this file upon application start.



Don't forget to restart!

QTAKE loads the preferences when the application starts meaning you will have to restart QTAKE if you edit the file while the application is running.

When using the PREFS window to change values in the Qtake_Prefs file you may be prompted to restart. Options requiring a restart are marked by an asterisk [*].

Preferences

Enable_GPU_Output=1

Set this to =0 to disable external [secondary] graphics card output.

Use_Multisync_GPU_Output=0

Set to =1 to enable synchronized output from triple headed graphics cards.

Wait_For_Vertical_Sync=1

Set this to =0 to disable synchronizing of video redraw to vertical refresh of the external monitor.

Wait_For_Vertical_Sync_GUI=0

Set this to =1 to enable synchronizing of video redraw to vertical refresh of the GUI monitor.

GPU_Vertical_Sync_Mode=1

Set this to =0 to disable GPU Vertical Sync, =1 for Automatic Vertical Sync and =2 to Force Vertical Sync.

GPU_Flush_Buffer_Mode=1

Set this to =1 to improve graphics performance.

Use_Full_Range_Video=0

Set this to =1 to enable Full Range video processing. Default value [zero] uses SMPTE levels.

Legal_Range_GPU_Output=0

Set this to =1 to output legal range RGB through the GPU.

Readback_Mode=0

Controls how frames are read back from the GPU. =0 Automatic [based on GPU manufacturer], =1 PBO, =2 Direct.

QOD_GPU_Vendor=0

Sets the manufacturer of your GPU. =0 equals automatic detection, =1 AMD, =2 NVIDIA, =3 Intel.

Generate_XML_Per_Clip=0

Set this to =1 to save metadata XML for each clip. These xml files and the associated clips can be imported to another project by dragging them to the QTAKE dock icon. Clips imported this way will retain all metadata associated with them. Note that you might need to RECONNECT the media if the current path of the media does not match the path in the xml.

Enable_H264_Proxy=1

Set this to =1 to enable parallel recording of H.264 processed clips, ready for streaming.

H264_Processed_Image=1

Controls whether effects such as LUT, DVE and CC are “burned-in” on the recorded h264s proxies.

H264_Only_Audio_Channel1=0

Set this to =1 to record only first audio channel to H.264 clips.

H264_Folder_Structure=0

Set to =1 to create subfolders /CAMERA_LETTER/ROLL. Set to =2 to create subfolders /CAMERA_LETTER/SCENE/SHOT.

H264_Proxy_OSD=1

Set to =0 to disable OSD burn-in on H264 proxies.

H264_Proxy_Watermark=0

Set to =1 to burn-in the STREAM watermark on recorded h264s.

Upload_H264_While_Recording=1

QTAKE will continuously upload segments of the h264 proxy files to QTAKE Server while recording. Set to =0 to disable upload while recording [QTAKE will still upload the finished clip to QTAKE Server after recording has ended].

Videoboard_Manufacturer=auto

If you have multiple video cards from different manufacturers connected you can explicitly state which cards Qtake should use. The options are: aja for AJA video cards , bmd for Blackmagic Design video cards, dc for Delta Cast video cards or auto for QTAKE to use the first video card it finds.

Two_Boards_For_Dual_IO=0

Set to =1 if using two video boards.

Force_Board_Order=1

Forces the order your video boards appear in QTAKE, based on serial number.

Set to =1 for descending and =2 for ascending order.

Signal_Detection_Retry=0

Sometimes it takes longer than one frame for AJA KONA card to adopt to a new input format. Side effect of this can be corrupted audio. If you experience such issues, set this preference to =25.

Reject_Wrong_Video_Format=1

Set this to =0 to allow the input of non-compliant signal. Note however that this solution should be used only as a last resort, because it can lead to unstable performance. We recommend re-clocking your signal to make it recognized by hardware.

Autorecording_Start_Threshold=0

Set this to the number of frames by which you wish to delay recording start. Can add robustness in bad signal conditions.

Autorecording_Stop_Threshold=0

Set this to the number of frames by which you wish to delay recording stop. Can add robustness in bad signal conditions.

Autorecording_Stop_Adds_SubClip=0

When using subclips, set to =1 to add a subclip at the end of the recording if the camera is set to auto-record.

Use_Camera_Index=1

Use_Camera_FPS=1

Use_Camera_Roll=1

Use_Camera_Shutter=1

Set this to =1 to enable readout of Camera Index, FPS, Roll and Shutter from ARRI, RED, SONY and CANON cameras.

Constant_Playout_Mode=0

Set to =1 for simultaneous input and output with compatible cards. This mode enables Processed LIVE output.

Enable_Video_Output=1

Set to =1 to enable video outputs. In case this is set to zero, video board outputs only live passthrough. If set to =0 other preferences affecting Video Output will be ignored.

Enable_TC_Output=1

Set to =1 to enable timecode output. Only applies to certain video cards.

Use_Free_Genlock_For_Playback=0

Set to =1 to switch to free genlock automatically when in DISK mode. This will solve the Kona SDI output issues if camera is disconnected and you have no external reference signal. This setting is ignored when Constant_Playout_Mode is set to =1

Clip_Based_Video_Output_Format=0

When mixing various video formats in a single project, you can set this option to =1 to enable automatic switching of output video format based on clip resolution and timebase. If set to =0, QTAKE will scale all clips to match the SDI output resolution. This setting is ignored when Constant_Playout_Mode is set to =1

Optimize_PSF_Input=1

Set it to =1 to improve performance with PSF format input.

LTC_Output_Source=1

Sets the source of the analog LTC output based on the video output of the video card. =1 LTC matches the first output of the video card. =2 LTC output matches the second output of the video card. This setting applies for all video cards.

Preferences

Show_Demuxed_Thumbnails=0

Set to =1 if you want to display demuxed thumbnails of the muxed clips.

Demux_Video_Output=0

Set to =1 if you want to output demuxed image from video board output.

Demux_H264_Proxy=0

Set to =1 to record demuxed H.264 proxies.

Use_PreMuxed_Input_As_Dual_Cam=0

Set to =1 to enable special mode of QTAKE HDx1 using pre-muxed input for dual camera ingest.

Default_Codec=Apple ProRes Proxy

Sets the default capture codec. For a list of codecs recognized by QTAKE open the INPUT 1 CODEC window.

Use_10bit_Capture_Mode=0

Set the capture mode to 10bit. Not recommended when recording Muxed SBS input.

Audio_File_Format=auto

Sets the audio recording format. =auto will set the recording format to match the input audio. =16bit, =24bit, =32bit will record audio as integers at the selected bit-depth. =32bit-float will record audio as 32bit float.

Ignore_External_Timecode=0

Set to =1 to override embedded timecode. System clock is used instead.

Import_CPD_From_ProRes=0

Set to =1 to import camera positioning data from imported ProRes files.

PreRoll_And_PostRoll_For_PlaySync=0

Set to =1 to enable Pre-roll and Post-roll for Play Synced clips.

Use_Audio_For_Varispeed=0

Set to =1 to allow varispeed audio from 50% to 200% clip speed.

Enable_Play_Sync_Auto_Mute=1

Qtake will mute view 2-4 when playing back clips with play sync enabled to avoid the same audio playing from multiple views. Set this to =0 to disable this feature.

Set_Play_Sync_Offset_By_TC=0

Set to =1 if you want QTAKE to determine PLAY SYNC OFFSET using timecode of the clips.

Enable_Audio_Waveform=0

Set to =1 to enable waveform display under Views.

Force_Plus3D_From_View=0

With muxed clips, PLUS 3D VIEW is rendered using Active View. Use this preference to force it to a specific View.

Use_Scene_Shot_Divider=0

Set to =1 to use dash character as a delimiter between SCENE and SHOT display.

Use_UK_Slating_System=0

Also called "European Slating". Each setup is assigned a SLATE number in chronological order throughout the project. The SLATE number replaces the SHOT field in the CLIP menu.

Use_Film_Style_Scene_Sorting=1

Set to =1 to ignore letters before numbers when sorting Scene names. For example: 33, A33, 34.

OSD_Speed_In_FPS=0

Set to =1 if you want to display OSD speed in FPS, instead of percentage.

Imperial_Distance_Units=0

Will convert values [such as focus distance] to imperial units.

ScreenShot_File_Format=jpg

Selects file format for screenshots. Options are =jpg for JPEG, =png for Portable Network Graphics, =bmp for Bitmap, =jp2 for JPEG 2000, =gif for Graphics Interchange Format and =tiff for Tagged Image File Format.

Preferences

ScreenShot_Compression_Quality=10

Set JPEG compression quality for Screenshots [1..10]. Lower number means lower quality.

Demux_ScreenShot=0

Set to =1 to demux screenshots of SBS muxed clips.

GPU_Out_1_Label=GPU-OUT 1

GPU_Out_2_Label=GPU-OUT 2

GPU_Out_3_Label=GPU-OUT 3

GPU_Out_4_Label=GPU-OUT 4

Use this settings to edit GPU-OUT label string [i.e. DIRECTOR, CLIENT].

GUI_Background_Red=0.120

GUI_Background_Green=0.120

GUI_Background_Blue=0.120

Set each color channel to value 0 - 1 to set custom background color.

Use_Colored_Time_Slider=1

Set to =1 to use colored time slider [green=playback, red=record, blue-green=ramp, yellow=trim]

Limit_Cursor_To_GUI_Screen=1

Set to =1 to limit cursor movement to GUI screen.

GUI_Screen_Blocks_Count=4

Adjusts the number of menu “blocks” on a single horizontal row. Default value is 4 but can be set to up to 8 to support ultra widescreen displays.

GUI_Menu_Blocks_Limit=4

Adjusts the number of “blocks” the menu bars are allowed to occupy. the rest of the horizontal space will be used by side-bars such as the LIST, FX and META. Default value is 4 but can be set to up to 8.

SmartAssist_Mode=0

Set to =1 if using OVIDE SmartAssist hardware for QTAKE.

On_Screen_Controls=0

Enables playback control overlay on the views. =0 Off, =1 Disk only, =2 Live & Disk.

Preferences

Enable_FX_History=0

Enables CLIP FX history, where each change is saved in chronological order allowing you to go undo changes or revert to a previous state. =0 Off, =1 On.

AutoLoad_Last_Project=0

Set to =1 to automatically load user/project in Remote Control mode.

Enable_Remote_Control=0

Set to =1 to enable Remote Control automatically.

AutoSave_After_Clip_Count=1

QTAKE will perform auto-save after amount of recorded clips specified.

Prevent_Media_Drive_Sleep=X

Prevent Media Drive Sleep by recording a small file each X seconds. Set to =0 to disable.

Encoding_Buffers_Count=10

Allows a certain number of frames to be buffered before encoding. Adds robustness for low performance CPUs.

Recording_Buffers_Count=30

Allows a certain number of frames to be buffered before they are written to disk. Adds robustness for low performance media drives.

Stop_Recording_On_System_Slow=1

Set to =1 to allow recording to continue even if QTAKE is dropping frames.

Use_Videohub=0

Set to =1 to enabled control of BMD Videohub.

Use_Avid_Surface=0

Set this to =1 to enable QTAKE control using Avid Artist Transport surface.

Use_Tangent_Surface=0

Set this to =1 to enable QTAKE control using Tangent Devices element-Tk and element-Mf surfaces.

Enable_Bonjour_Services=1

QTAKE advertises its presence on the local network via a service called Bonjour. This allows QTAKE Monitor clients to connect without knowing the IP address of the QTAKE machine. Set to =0 to disable the Bonjour service advertisements.

Preferences

Use_HIT_Per_Frame=0

Set to =1 to enable recording of HIT values frame by frame.

Serial_Type=et

Set serial port protocol. =et for ELEMENT TECHNICA controller or =cmotion for C-MOTION hand unit.

Serial_Port_1=

Serial_Port_2=

Set serial port numbers when using HIT controller from ELEMENT TECHNICA or C-MOTION

Rig_Type=3ality

Set UDP communications protocol. =3ality for 3ALITY SIP, =stereolabs for STEREO LABS PURE, =mrmc for MRMC Motion Control or =cmocos for CMOCOS Motion Control

Rig_Port_1=0

Rig_Port_2=0

Rig_Port_3=0

Rig_Port_4=0

Set UDP port numbers to connect to 3ALITY SIP, STEREO LABS PURE, MRMC Motion Control or CMOCOS Motion Control.

LiveGrade_Host_1=localhost

LiveGrade_Host_2=localhost

LiveGrade_Host_3=localhost

LiveGrade_Host_4=localhost

LiveGrade_Port_1=6666

LiveGrade_Port_2=6667

LiveGrade_Port_3=6668

LiveGrade_Port_4=6669

Defines address and port number for up to four Pomfort LiveGrade hosts.

Appendix A - QTAKE Monitor

The QTAKE Monitor application for the iPad, iPhone and Mac OS X functions as a remote wireless monitor for QTAKE allowing for up to sixteen remote clients to take part in the creative process.

INSTALLATION IPAD/IPHONE/OS X

Download the app from the Apple App Store on your selected device.

iPad/iPhone System Requirements

iPad 4, iPad Air, iPad Mini [with Retina display], iPhone 5s or iPhone 5c with iOS 7.

SETUP

You will need to establish a network connection between the computer running QTAKE and the iPad running QTAKE Monitor. A standard wifi router will do the job.

Launch QTAKE and create a new PROJECT or load an already created project.

Enable Remote

To enable remote discovery via Bonjour you will need to enable **REMOTE CONTROL**.

Find and click the **REMOTE** menu button on the bottom row of the interface, this will display the **REMOTE** menu. Now click the **REMOTE CONTROL** button to enable it. See [REMOTE CONTROL](#) for more information.

Launch QTAKE Monitor on the iPad

The QTAKE Monitor application uses bonjour network discovery to find QTAKE projects on the network. That means that both the Mac running QTAKE and the iPad running QTAKE Monitor needs to be connected to the same network.

Launch QTAKE Monitor on the iPad, a window listing available QTAKE projects will appear. Tap on the project name to connect.

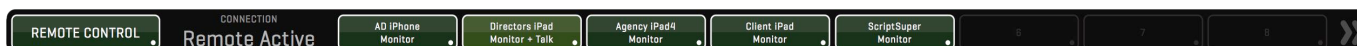
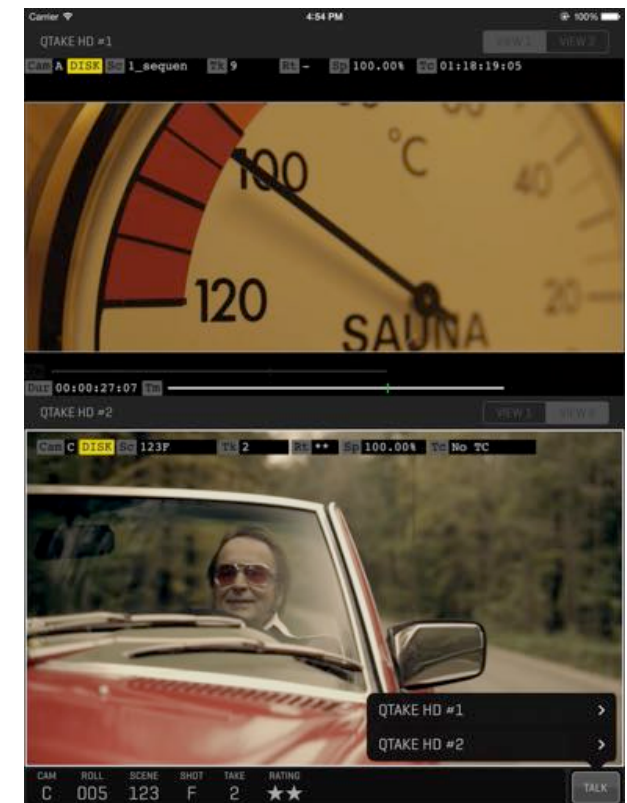
QTAKE Monitor will now display two windows with the text "Waiting for approval...".

Approve the connection from QTAKE

When an iPad or iPhone attempts to connect to QTAKE one of the sixteen buttons in the REMOTE menu will become active displaying the name of the device attempting to connect. The connection can be approved by clicking on the button. This will start streaming video to the QTAKE Monitor application.

QTAKE Monitor can be found in the Apple App Store.

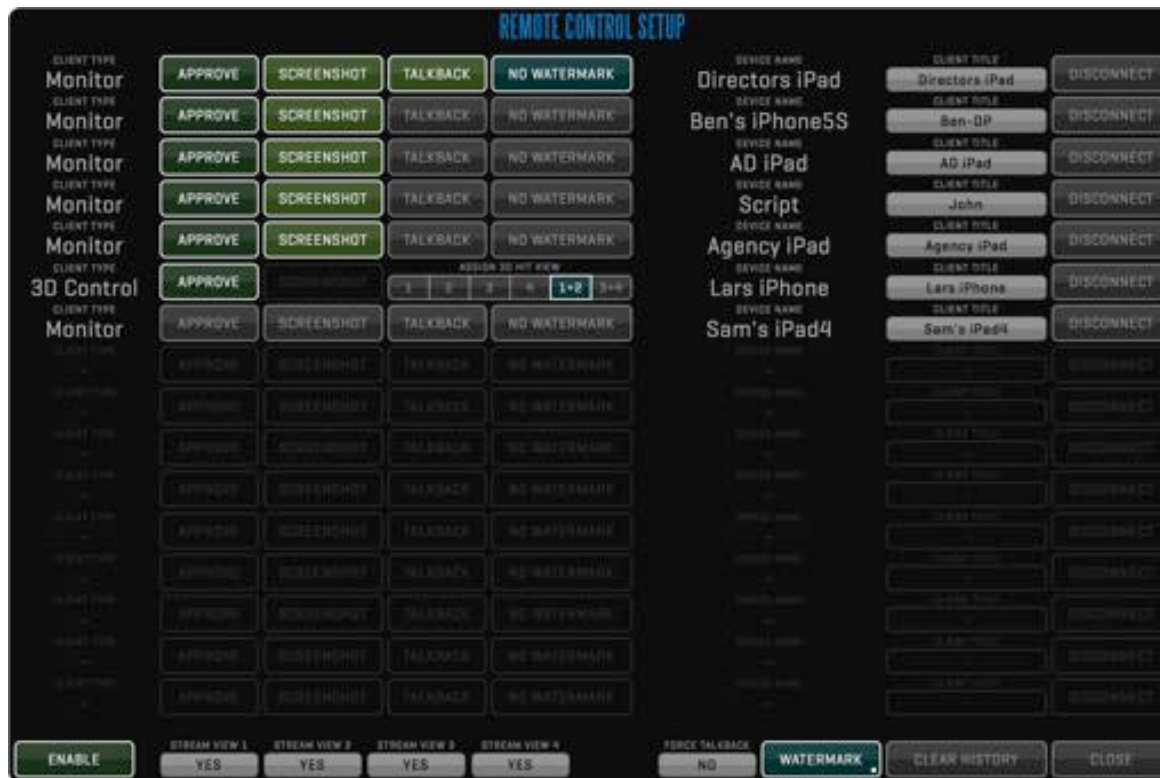
Either search for "QTAKE Monitor" or go to: <http://appstore.com/qtakemonitor>



Appendix A - QTAKE Monitor

Long clicking the REMOTE CONTROL button brings up the REMOTE CONTROL SETUP window. From here you can get an overview of the clients connected to QTAKE. This window also allows you to enable TALKBACK from one of the connected clients as well as setting a CLIENT TITLE that will appear in the REMOTE menu. DISCONNECT allows you to manually disconnect a client to make room for other clients to connect. Note that an active client will try to reconnect even after being disconnected.

You can control the name of the machine running QTAKE as it appears in the app by going to System Preferences - Sharing and changing the Computer Name field.



When TALKBACK is enabled that client will see a TALK button in the iPad app [bottom right of the interface] this can then be used by the iPad client to talk back to the QTAKE operator. Only one client at a time can have TALK enabled. TALKBACK can also be enabled directly from the REMOTE menu by long clicking the corresponding client button. The button will appear brighter and "Talk" will be added to the label as an indicator that TALKBACK is enabled.

See the [TALKBACK](#) section for more information on setting up TALKBACK in QTAKE.

Appendix A – QTAKE Monitor

USING QTAKE MONITOR

QTAKE Monitor supports up to four views, just like QTAKE HDx4. These views are by default mirroring the four views of the connected QTAKE system.

Controls in QTAKE Monitor

By tapping OPEN button you can select source for each view. By assigning each view to a different source stream a single QTAKE Monitor can be used with multiple QTAKE systems. At the bottom of the Source list you can access the **HELP** screen.

- Tapping a view will make that view active. QTAKE Monitor will only play audio from the active view.
- Double tapping on either view will toggle between DUAL/QUAD and SINGLE view.
- By swiping down using three fingers you can pause that view.
- By swiping up using three fingers you can lock the screen or mute the audio.
- A reverse pinch will bring a view into fullscreen mode.
- Two-finger tap will take a screenshot.

Some features might not be available in the OS X version of QTAKE Monitor



TOGGLE SINGLE VIEW

Double tap



NEXT/PREVIOUS CLIP

Swipe up/down



SCRUB THROUGH CLIP

Center pan left/right



TAKE SCREENSHOT

Two-finger tap



FULL-SCREEN MODE

Spread/pinch



LOCK SCREEN, MUTE

Three-finger swipe up



PAUSE LIVE VIEW

Three-finger swipe down

Appendix B - QTAKE 3D Control

ABOUT

The QTAKE 3D Control application for the iPhone and iPad functions as a remote interface to adjust H.I.T. [Horizontal image translation] or stereoscopic post convergence from an iPhone or iPad. The application is available to download for free from the Apple App Store.

SETUP

The QTAKE 3D Control application uses Bonjour network discovery to find QTAKE hosts on the network. That means that both the Mac running QTAKE and the iPad or iPhone running QTAKE 3D Control needs to be connected to the same network. To enable the Bonjour discovery of the QTAKE host from the QTAKE 3D Control application you will need to enable **REMOTE CONTROL** in the FILE room.



Launch QTAKE 3D Control on the iPad or iPhone, a window listing available QTAKE hosts will appear. Tap the name to connect to that QTAKE host.

QTAKE 3D Control will now display the text "Waiting for approval..."

When an iPad or iPhone attempts to connect one of the 8 buttons in the REMOTE menu will become active with the text **3D** and the connection can be **APPROVED** by clicking on it. Long clicking the REMOTE CONTROL button will open the **REMOTE CONTROL SETUP** window. See the [REMOTE CONTROL](#) section for more information.



Appendix B - QTAKE 3D Control

USING QTAKE 3D Control

H.I.T.

When the QTAKE 3D Control has been approved it will present one or two scaled sliders depending on what views have been assigned in the REMOTE CONTROL SETUP window. Each slider controls the H.I.T. of one stereoscopic rig. By dragging up or down on the slider you can move the two sides of the image in the view closer together or further apart.

Double-tapping the slider will reset it to 0.00 and Two-finger tapping on the slider will lock the slider.

The + [plus] and - [minus] buttons allow you to increment or decrement the H.I.T. value step by step.

The buttons along the side of the slider allow you to store [by holding the button] and recall [by pressing the button] H.I.T. values.

PLUS 3D

The **3D** icon on the bottom left of the app lets you control the various 3D analysis modes of the **3D VIEW** menu in QTAKE. The display modes available are **NONE, ANAGLYPH, DIFFERENCE, INTERLACE, BOX BLEND, DISSOLVE, WIGGLE** and **DUAL**. See the section on **3D VIEW** for more details about the display modes.

SETTINGS

The H.I.T. SETTINGS view lets you control various aspects of the apps behavior. You can enable or disable the PRESETS, + [plus] and - [minus] buttons in the H.I.T. view via the **Enable Side Buttons** control. You can switch between PERCENTAGE and PIXEL units for the sliders, choose how much to increment per button press and adjust the **Pull Mode, Duration, and Speed** used when tapping a PRESET button.



Appendix C – QTAKE Output Device

ABOUT QOD

QOD is the ultimate QTAKE Output Device. It was developed by IN2CORE to provide superior hardware solution for GPU driven low latency video output. It supports up to four independent 3G SDI outputs or a single UHD output.

HOW IT WORKS

QOD converts DisplayPort output of your Mac to four independent SDI outputs supporting all standard HD-SDI and 3G-SDI frame-rates. When QOD is connected to your Mac it is detected as an external monitor. The QOD can operate in two modes. Either “STANDALONE” where settings are adjusted by the DIP switches on the side of the device or “USB CONNECTED” where the QOD is controlled by QTAKE via USB connection. Only QTAKE version 1.2 or later support “connected” mode. See [SYSTEM REQUIREMENTS](#) below.

SYSTEM REQUIREMENTS

Apple Mac computer with DisplayPort or Thunderbolt output running OS X 10.10.5 or later.

QTAKE Requirements

QTAKE version 1.2 or later.

QTAKE GUI DESCRIPTION IN THIS USER GUIDE DOES NOT APPLY TO OLDER VERSIONS OF QTAKE!

Appendix C – QTAKE Output Device

KNOWN ISSUES

Apple MacPro [late 2013] with D500 or D700 GPU requires OS X 10.10 in order to correctly output 3840x2160 resolution. When using this MacPro configuration with OS X 10.9.5, QOD outputs 2 and 4 will exhibit interlacing artifacts on the right edge of the screen. The only way to fix this OS X Mavericks issue is to use QOD in triple channel output mode by setting it to 1920x3240 resolution.

Apple MacPro [late 2013] will output only 6 audio channels [instead of declared 8 audio channels] over DisplayPort output. This issue has been reported to Apple, but has not been resolved yet.

SDI Timecode output from QOD is currently not available. This feature will be added using future firmware update.

DisplayPort output from QOD is currently not available. This feature will be added using future firmware update.

TROUBLESHOOTING

If your QOD is not detected by OS X or QTAKE please use following steps to reset it:

1. Quit QTAKE
2. Turn off QOD
3. Turn DIP Switch 1 to position ON, all other DIP Switches to position OFF
4. Turn on QOD
5. Turn all DIP Switches to position OFF
6. Start QTAKE

Appendix C – QTAKE Output Device

TECHNICAL SPECIFICATIONS

Video Input:

- DisplayPort with 8 channels of embedded audio

Reference Input:

- HD Tri-level sync input

Input formats:

- HDx2 3840 x 1080
- HDx3 1920 x 3240
- HDx4 3840 x 2160

Video Output:

- 4x 3G-SDI with embedded audio
- DisplayPort loop with embedded audio

Audio Input:

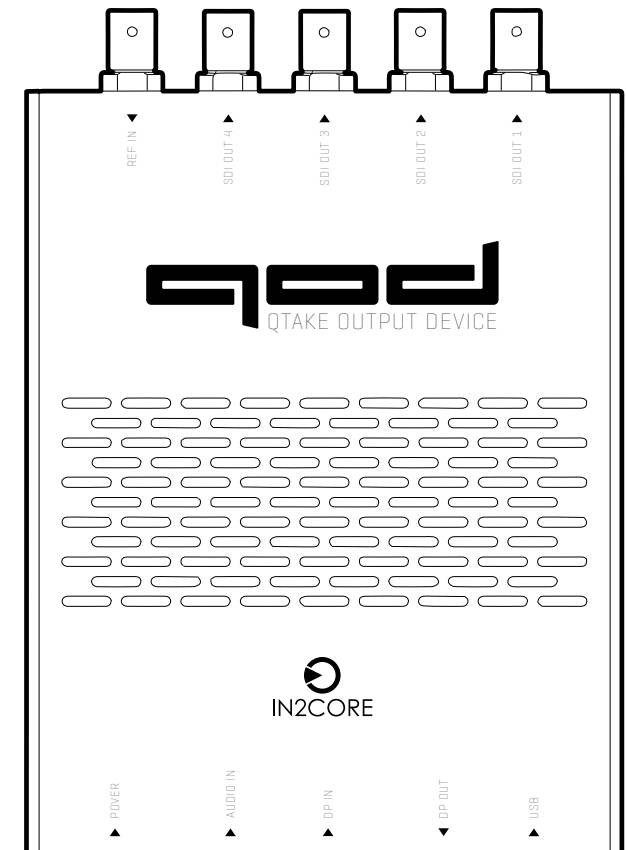
- DisplayPort embedded audio, up to 8 channels
- 3.5mm stereo analog audio

Dimensions:

- 122 x 170 x 28mm [4.8" x 6.7" x 1.1"]
- Weight 430g

Power:

- Universal Power Supply [included]
 - 100-240V, 50/60Hz AC input
 - 12V, 24W max DC output



Appendix C – QTAKE Output Device

FEATURES

- Four independent SDI outputs
- Low latency of just 1 frame
- SDI embedded audio
- SDI embedded timecode
- Thunderbolt compatible DisplayPort input
- Analog audio input
- Genlock input
- Support for HD-SDI and 3G-SDI formats (currently only 1080 full HD)
- Interlaced, Progressive or PsF output
- UHD output support up to 60fps
- USB control directly from QTAKE software
- DIP switch control for standalone operation
- Single, compact, DC powered unit
- Future-proof design upgradable by firmware

Appendix C – QTAKE Output Device

QOD INSTALLATION

Mac Pro

New Mac Pro computers have three thunderbolt busses on the back. To avoid the QOD showing up as your primary monitor it should be connected to Thunderbolt bus 0 (bottom two thunderbolt connectors) and your GUI screen to bus 1 or 2. That also means you should not connect your primary monitor (GUI) to the HDMI output of your Mac Pro. See this Apple knowledge base article for more details:

<http://support.apple.com/kb/HT5918>

General Installation

QOD Installation requires few simple steps:

1. Connect the DisplayPort cable to the **DP IN** port on the QOD and connect the other end (mini DisplayPort) to a DisplayPort/Thunderbolt port on your Mac.
2. Connect the USB cable to the port labeled **USB** on the QOD and the other end to an available USB port on your Mac.
3. Connect the power supply to the QOD.
4. Start up the Mac.

QOD STATUS

The RGB led next to the power jack indicates the operational state of the QOD. When the device is booting the led will flash white. Red indicates that the QOD is waiting for input signal and Green indicates that signal is acquired.

Appendix C – QTAKE Output Device

GENERAL OPERATION

When the QOD is plugged into the DisplayPort/Thunderbolt port of your Mac, the operating system will detect it as a new monitor. You can verify that OS X has detected your QOD in **System Preferences - Displays** or use the Display Menu application [see DISPLAY MENU below].

DISPLAY MENU

If you need to change the input resolution of the QOD we recommend using an application called **Display Menu**. Display Menu can be downloaded from the App Store for free. If you are using QTAKE HDx2 you will want to set the resolution of the QOD to 3840 x 1080. When using QOD with QTAKE HDx4 or QTAKE 4K, please set the resolution to 3840x2160. Note that resolution should be set before starting QTAKE.

PULLDOWN REMOVAL

To ensure smooth output from the QOD, the device removes duplicated frames from the DisplayPort input signal. This results in an output format that perfectly matches the source. QTAKE enables this feature automatically upon startup if there is a USB connection to the QOD. To enable pulldown removal in standalone operation please refer to the STANDALONE OPERATION chapter of this user guide.

FIRMWARE UPDATE

QOD contains programmable chip that can be upgraded by user to apply bug fixes or additional functionality. Firmware update is performed using QTAKE, which is bundled with latest firmware binary. Do not attempt to downgrade the QOD by updating the firmware from an older version of QTAKE.

Appendix C – QTAKE Output Device

QTAKE USB CONTROL

QTAKE can change settings and control the QOD via USB connection. Settings can be changed from the **QOD** menu in the **FILE** room. The QOD menu displays the following information:



SERIAL NUMBER

Serial number of the QOD.

QOD RESOLUTION

Current input resolution of the QOD.

TEMP

Internal temperature of the QOD. QTAKE will notify the user with a message in the status bar if the temperature of the QOD exceeds 76 C. The QOD will shut down if the internal temperature reaches 85 C.

QOD AUDIO

This button controls the audio input and embedded audio output of the QOD. Your options are:

- | | |
|------------------------|--|
| None | No audio is embedded on the output. |
| Audio In | The analog line audio input is embedded on all SDI outputs. |
| DisplayPort 2/8 | Each SDI output uses 2 of the 8 audio channels available from the DisplayPort input. This allows each view to have independent embedded audio. |
| DisplayPort 8/8 | All 4 SDI outputs uses all of the 8 audio channels available from the DisplayPort input. |

FIRMWARE

Use this button to update firmware of the QOD. Select DisplayPort 1.1 firmware when using QTAKE HDx1 or HDx2. In case you are using QTAKE HDx4 or QTAKE 4K, please select DisplayPort 1.2 firmware. After updating firmware, you need to quit QTAKE and power-cycle QOD. After QOD is detected by the operating system, you can start QTAKE HD application.

RESET

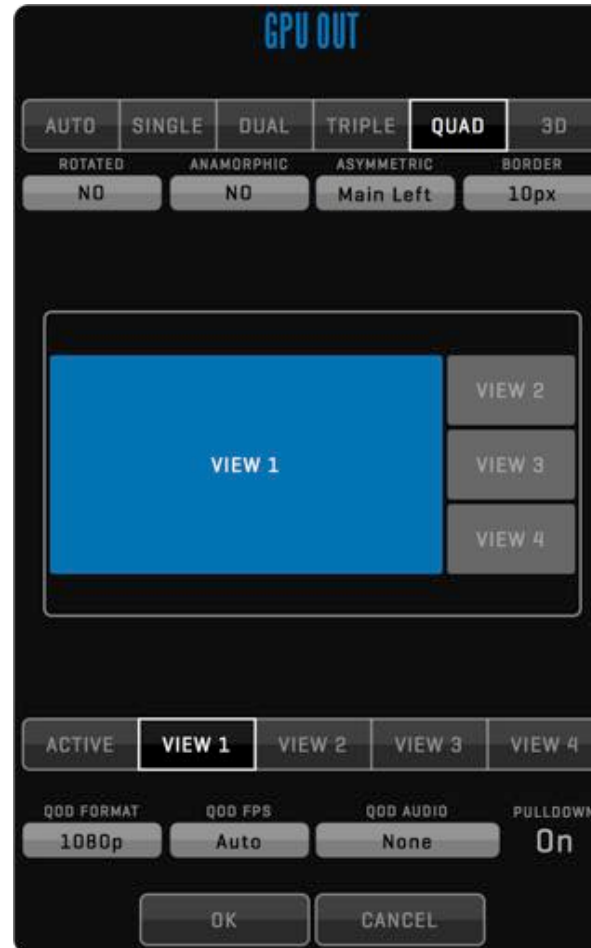
Performs a soft reset of the connected QOD.

Appendix C - QTAKE Output Device

VIEW MENU

QOD output channels are controlled using the **GPU OUT** window.

QOD FORMAT can be set to either 1080p, 1080i or 1080psf. **QOD FPS** can be set from 23.98 to 60 or AUTO. Setting QOD FPS to **AUTO** means that QOD will output at the same frequency as the clip in the corresponding view. The **QOD AUDIO** setting is the same as in the QOD menu and applies to all outputs.



[illegible]

Appendix C – QTAKE Output Device

QTAKE PREFS

These QTAKE preferences are relevant to the operation of QOD. QTAKE preferences are located in the **Applications/QTAKE/Prefs** folder. Use the Text Edit application to edit the content of the preference file. If you delete this file, QTAKE will recreate one with default settings. Changes will take effect next time QTAKE starts.

Enable_GPU_Output=1

Set to =1 to enable QTAKE graphics card output. Essential for QOD operation.

Wait_For_Vertical_Sync=1

Set to =1 to avoid tearing on QOD output.

GPU_Vertical_Sync_Mode=1

Set this to =0 to disable GPU Vertical Sync (not recommended), =1 for Automatic Vertical Sync and =2 to Force Vertical Sync.

Use_Full_Range_Video=1

Set this to =1 to enable Full Range video processing. Default value [zero] uses SMPTE levels.

Legal_Range_GPU_Output=0

Set to =1 to enable legal range RGB GPU output.

QOD_GPU_Vendor=0

Sets the manufacturer of your GPU to ensure QOD compatibility. =0 equals automatic detection (recommended), =1 AMD, =2 NVIDIA, =3 Intel.

GPU_Out_1_Label=GPU-OUT 1

GPU_Out_2_Label=GPU-OUT 2

GPU_Out_3_Label=GPU-OUT 3

GPU_Out_4_Label=GPU-OUT 4

Use this settings to edit GPU-OUT label in the VIEW menu (i.e. DIRECTOR, CLIENT).

Appendix C - QTAKE Output Device

QOD DIP SWITCH CONTROL

QOD DIP SWITCH CONTROL

