QTAKE HD User Guide

Version 1.1.115

IN2CORE

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QTAKE HD

ABOUT

QTAKE HD 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.

QTAKE HD is a powerful, yet easy to learn system, that integrates every aspect of modern video assist into the single solution. Extensive logging capabilities, rapid shot selection with tree-based visual browser, simple and intuitive non-linear editor, import and export, realtime overlay with blending, keying and wipe.

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

QTAKE HD 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.

QTAKE HD

SOFTWARE VERSIONS AND MODULES

The QTAKE HD software is comprised of several modules allowing the user to pick and choose the feature set required for their environment and type of jobs. The user also has the ability to add modules at a later date in order to expand the functionality of their software. The exception to this is QTAKE LITE which is a self contained, entry level, dual channel recorder software.

SOFTWARE REQUIREMENTS

QTAKE HD requires OS X **10.8.5** (Mountain Lion) or higher

AJA video cards require driver version **10.5.2**

Blackmagic Design video cards (Decklink Duo, Decklink Quad, Mini Recorder, Ultrastudio Express) require driver version **10.3.5**

HARDWARE

The basic structure of a working QTAKE HD 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 HD 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, 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/

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
2.3GHz Quad-core Intel Core i7
16GB 1600MHz Ram.
512GB PCIe based flash storage
NVIDIA GeForce GT 750M with 2GB GDDR5 memory

MEDIA STORAGE (Recommended read/write speed of 150 MB/s)
External USB 3 Drive
External Thunderbolt Drive

SINGLE CHANNEL VIDEO CARD INPUT (alternatives)
AJA IoXT

SINGLE CHANNEL PROCESSED GPU OUTPUT (alternatives)
GRASS VALLEY ADVC G1
GEFEN HDSDI Pro Scaler
BMD DVI Extender (With HDMI output)
BMD HDMI TO SDI Mini Converter (With HDMI output)
AJA ROI Mini-converter (With HDMI output)

SINGLE CHANNEL PROCESSED VIDEO CARD OUTPUT
AJA IoXT

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 HD

QTAKE LITE HARDWARE RECOMMENDATIONS

QTAKE LITE is a lightweight version of QTAKE HD.

QTAKE LITE Apple MacBook Pro

15-inch with Retina display
2.0GHz quad-core Intel Core i7
8GB 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

DUAL CHANNEL VIDEO CARD INPUT (alternatives)
1x AJA IoXT (limited to same format, live passthrough requires genlocked signals)
2x AJA IoXT

SINGLE CHANNEL PROCESSED VIDEO CARD OUTPUT
1x AJA IoXT

DUAL CHANNEL 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 HD

QTAKE HDx2 HARDWARE RECOMMENDATIONS

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

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

DUAL CHANNEL VIDEO CARD INPUT (alternatives)
1x AJA IoXT (limited to same format, live passthrough requires genlocked signals)
2x AJA IoXT
1x AJA Kona3G in Thunderbolt chassis (limited to same format, live passthrough requires genlocked signals)
2x AJA Kona3G in Thunderbolt chassis

DUAL CHANNEL PROCESSED GPU OUTPUT
MATROX Dual/TripleHead2Go DisplayPort + GEFEN HDSDI Pro Scaler
MATROX Dual/TripleHead2Go DisplayPort + 2x AJA ROI Mini-Converter

DUAL CHANNEL PROCESSED VIDEO CARD OUTPUT (alternatives)
2x AJA IoXT
2x AJA Kona3G 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.

QTAKE HD

QTAKE HDx2 Apple MacBook Pro

15-inch with Retina display
2.3GHz quad-core Intel Core i7
16GB 1600MHz memory
512GB PCIe-based flash storage
NVIDIA GeForce GT 750M with 2GB GDDR5 memory

MEDIA STORAGE (Recommended read/write speed of 150 MB/s)
External USB 3 Drive
External Thunderbolt Drive

DUAL CHANNEL VIDEO CARD INPUT (alternatives)
1x AJA IoXT (limited to same format, live passthrough requires genlocked signals)
2x AJA IoXT
1x AJA Kona3G in Thunderbolt chassis (limited to same format, live passthrough requires genlocked signals)
2x AJA Kona3G in Thunderbolt chassis

DUAL CHANNEL PROCESSED GPU OUTPUT
MATROX Dual/TripleHead2Go DisplayPort + GEFEN HDSDI Pro Scaler
MATROX Dual/TripleHead2Go DisplayPort + 2x AJA ROI Mini-Converter

DUAL CHANNEL PROCESSED VIDEO CARD OUTPUT
2x AJA IoXT
2x AJA Kona3G in Thunderbolt chassis

ANALOG AUDIO IO
FOCUSRITE Scarlett 2i2 (or any other external audio card with Core Audio driver)

QTAKE HD

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

QUAD CHANNEL VIDEO CARD INPUT
2x AJA Kona 3G2 in Thunderbolt 2 chassis

QUAD CHANNEL PROCESSED VIDEO CARD OUTPUT
2x AJA Kona 3G2 in Thunderbolt 2 chassis

DUAL CHANNEL PROCESSED GPU OUTPUT
MATROX Dual/TripleHead2Go DisplayPort + GEFEN HDSDI Pro Scaler
MATROX Dual/TripleHead2Go DisplayPort + 2x AJA ROI Mini-Converter

ANALOG AUDIO IO
FOCUSRITE Scarlett 2i2 (or any other external audio card with Core Audio driver)

NOTE

Current hardware only supports a single Matrox TripleHead2Go (meaning a maximum of 2 GPU outputs).

QTAKE HD

VIDEO CARDS

QTAKE HD supports many different video cards from multiple manufacturers. Each of these cards have different capabilities and while QTAKE HD aims to utilize these cards to their fullest potential there are some differences worth noting.

	Pros	Cons
AJA IOXT Dual channel TB card	Portable thunderbolt device Embedded audio mutable on passthrough	Inputs need to be the same format
AJA KONA LHI Single channel PCI card	Analog video input Separate LTC timecode input and output Embedded audio mutable on passthrough	Single channel (no constant playout)
AJA KONA 3G Dual channel PCI card	3G capable inputs Embedded audio mutable on passthrough	Inputs need to be the same format Dual channel passthrough requires genlocked inputs
AJA KONA 3G QUAD Quad channel PCI card (Kona 3G with 4K firmware)	3G capable inputs Single card can do dual channel constant playout (2 inputs, 2 outputs) Embedded audio mutable on passthrough	Inputs need to be the same format
BMD DECKLINK DUO Dual channel PCI card	Independent input formats	Arri metadata only in 10bit mode Higher output latency than AJA Does not support RP188 VITC1 TC
BMD DECKLINK QUAD Quad channel PCI card	Independent input formats Single card can do dual channel constant playout (2 inputs, 2 outputs)	Arri metadata only in 10bit mode Higher output latency than AJA Does not support RP188 VITC1 TC
BMD MINI RECORDER Single channel input only TB card	Portable bus-powered TB device Small	Single TB port Input only Arri metadata only in 10bit mode
BMD ULTRASTUDIO EXPRESS Single channel TB card	Portable bus-powered TB device	Single TB port Arri metadata only in 10bit mode

What if i use more than one video card?

The Pros and Cons listed in the table are only valid as a comparison between single cards. Using multiple cards will allow you to mitigate many of the Cons.

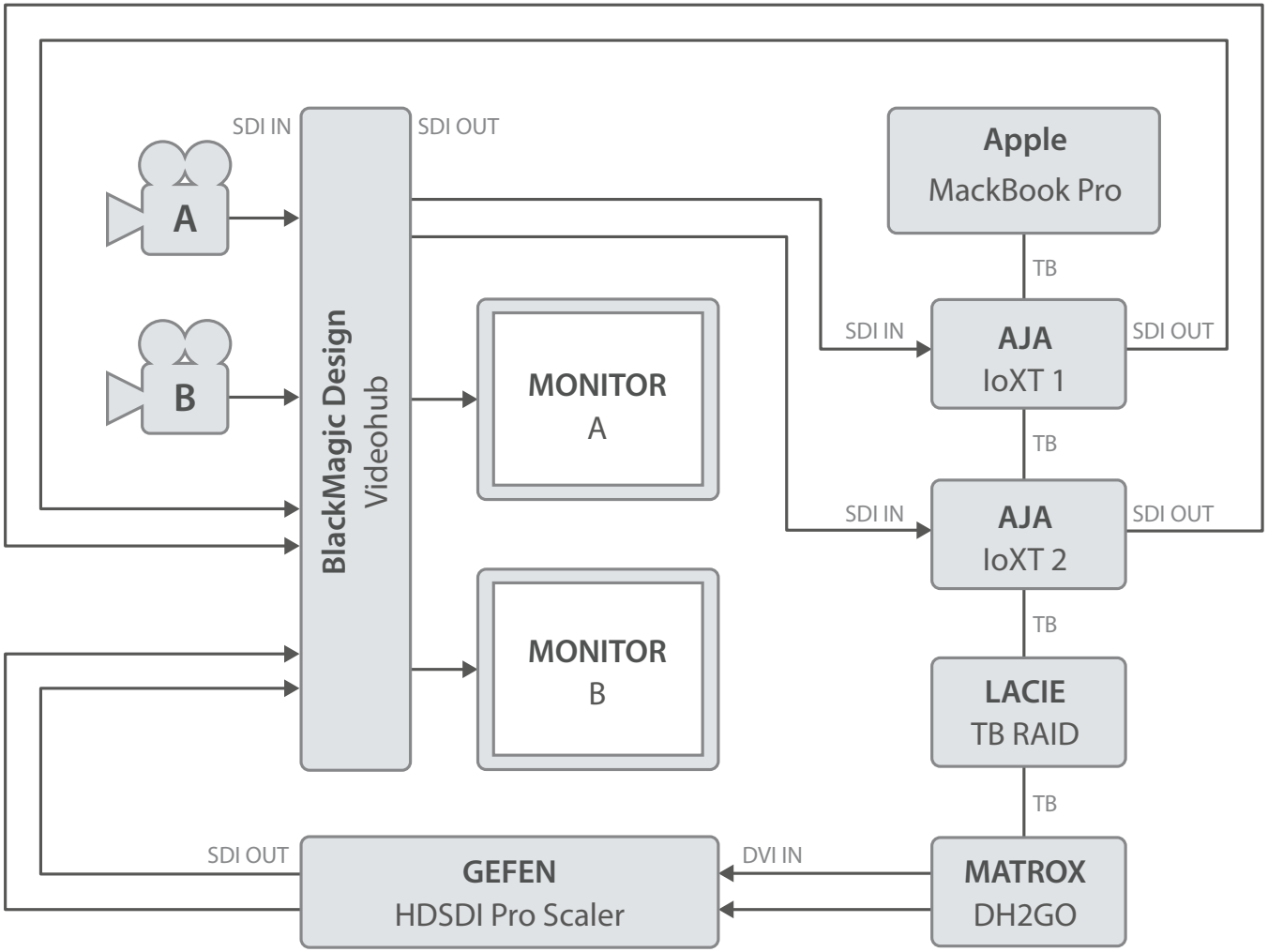
“Output”?

The term output in this chart is only referring to SDI output from the video card. GPU outputs work differently and will offer more versatility.

QTAKE HD

CONNECTION DIAGRAM

Below is an example of the full QTAKE HDx2 system configuration based on Apple MacBook Pro.



QTAKE HD

INSTALLATION

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

/Applications/QTAKE HD

- **/CDL** [contains CDL color corrections, only created when a CDL correction is saved]
- **/Data** [contains database file]
- **/GPI** [contains GPI settings]
- **/Keyboard** [contains keyboard shortcuts]
- **/Layout** [contains GUI layouts]
- **/License** [contains license file]
- **/Log** [contains application log]
- **/Logo** [contains custom splash screen logo]
- **/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 HD creates its own preference file in order to avoid conflicts. This user guide will refer to Qtake_Prefs for all versions. The Prefs files are created with default values the first time you run QTAKE HD.

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

For more details see the Preferences section of this user guide

QTAKE HD 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 HD USERS.

Touchscreen UI

USER INTERFACE

QTAKE HD 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 HD 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.

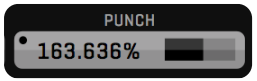
Touchscreen UI

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.

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 selected range of values.

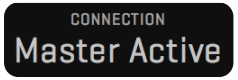
INPUT BUTTON is used to enter numeric or alphanumeric values for various data fields. By pressing this button you invoke on-screen keyboard used to enter characters in touch-screen application. Note that you can also use a physical keyboard to enter values.



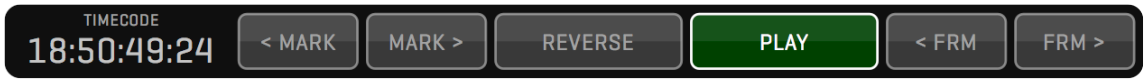
ENHANCED INPUT BUTTON is used to enter numerical values. The button has three separate functions. By pressing the buttons left side (where the value is displayed) you invoke an on-screen keyboard similar to a regular INPUT BUTTON. By long clicking the left side of the button you reset the field to its 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.

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

Touchscreen UI



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. 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 BOX.

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.

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.

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Touchscreen UI

KEYBOARD SHORTCUTS

Hotkeys (or keyboard shortcuts) in QTAKE HD 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) / **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

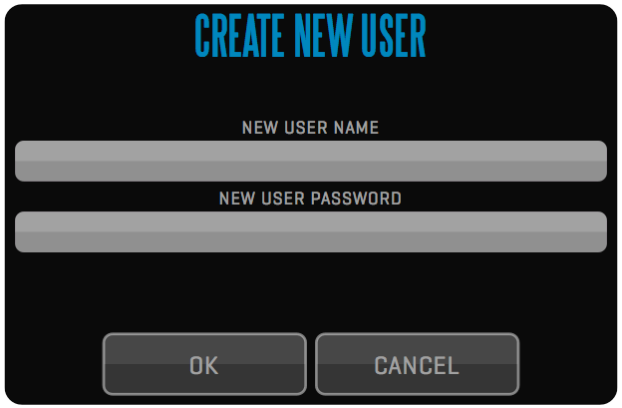
QTAKE

The **QTAKE** menu allows you to quit QTAKE HD by pressing the **SHUT DOWN** button (Keyboard shortcut is **Q**). 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 HD you are running.

USERS

Before using QTAKE HD you have to create new user. Users are identified by **NEW USER NAME** attribute, that's why each user name has to be unique. User can optionally specify a **NEW USER PASSWORD**. Password protected user accounts cannot be opened without entering correct 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.



NOTE

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

FILE Room

PROJECTS

After selecting current user, you can create or open the project file. The LOAD PROJECT dialog also lets you **DUPLICATE** a project allowing you to create template projects. Projects are identified by **PROJECT TITLE** attribute, which has to be unique. Next you set the **PROJECT STORAGE** volume for media files and **H264 PROXY PATH** for proxies. You need to use a different volume than your system drive for media files. Turn on the **PRIVATE** flag to make the project accessible only to the user that created it.

The segmented INPUT button lets you configure your A/V DEVICE source settings. **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 automatically. **COPY ALL** button allows you to copy the current Inputs' settings to all Inputs. The **COLOR SPACE** selector lets you switch between **YUV** and **RGB** to match your input format. **TIMECODE** and **TIMECODE TYPE** lets you select 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 HD 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.

By deleting the project you will also delete all clips and sequences created in that project!

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

You need to have the codec installed on your system in order to use it in QTAKE HD.

FILE Room

For RED ONE Digital Cinema Camera you should enable **REVERSE PULL-DOWN**. This means that QTAKE HD will record only valid frames recorded by the camera, either in standard camera frame rate or in varispeed and ramps up to 60fps (requires RED ONE firmware build 21 or higher). 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).

If you have multiple Audio devices connected you can choose what output device QTAKE HD will use when in LIVE or DISK mode with the **LIVE AUDIO OUTPUT DEVICE** and **DISK AUDIO OUTPUT DEVICE** buttons.

RECORD H264 enables QTAKE HD 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**. This enables you (via third party software such as COPRA 4) to stream recorded clips to iOS devices. The buttons in this sections allows you to set the naming convention **RESOLUTION** and **BITRATE** of these files.

CODEC

QTAKE HD 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 just make your selection based on space and quality requirements. In this version you can select any of the following codecs: Apple Intermediate, Apple ProRes (all 5 flavors) or AJA Uncompressed YUV. The codec that requires least CPU resources is Apple Intermediate.

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

If a selected default codec is not available QTAKE HD will fall back to the Apple Intermediate codec.

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

The source for the h264 file is the content of your VIEW 1 and VIEW 2 respectively. 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=1

FILE Room

USER OPTIONS

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

DISK AFTER REC
Used to automatically switch from LIVE to DISK mode after recording the clip.

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.

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.

CLIP TO IN MARK
Move playhead to the IN Mark after clip selection.

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

RED ONE MASK
Enable mask cut-out for RED ONE camera status display (record tally, timecode, clip id).

How to select audio input device?

Audio input device is selected when creating Project. You can later change audio device of the current project in the INFO Menu.

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 of the active view is sent to Kona card.

NOTE

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

FILE Room

MUTE LIVE B
Always mutes LIVE audio from camera B. 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).

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 GPU outputs.

The second row contains hardware status information such as the Ambient Temperature (as read by the computers internal sensors) and Fan speeds. **CpuP**, **GpuP** and **MemP** 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.

FILE Room

IMPORT QT MOVIES

IMPORT command is used to import QuickTime movie files or still images into the application. You can use this feature to import background images for vfx shots. For best results, use the movies that have the same resolution and timebase as your QTAKE HD project. Use the appropriate filename parsing option based on the origin/file-naming convention of the imported material. Import will create a copy of selected file and stores it in the project folder. When importing multiple clips QTAKE HD will first add entries into the database and then copy the media. If you shut down QTAKE HD while the media is being copied QTAKE HD will resume the copy operation when started.

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 then 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.

How to import MXF files?

You can import and playback MXF files using MXF QT Import plugin from MXF4MAC.

When importing images?

Still images are imported as one frame Quicktime movies. Select desired duration in the import dialog.

Is there an easier way to import or link?

Both IMPORT and LINK can be performed by DRAG-AND-DROP to QTAKE HD dock icon when you HIDE the application.

NOTE

Use A-B or L-R as the last character of the filename and QTAKE as the import filter to import/link external clips correctly into a 3D project.

FILE Room

FILENAME PARSING

When importing clips QTAKE HD 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 HD naming convention. Files will be organized in the same way as they were created.
Scene_Shot_Take-Subtake_CameraRoll_ID.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 HD will then use those values.
Reel_Scene_Take.mov

ATOMOS

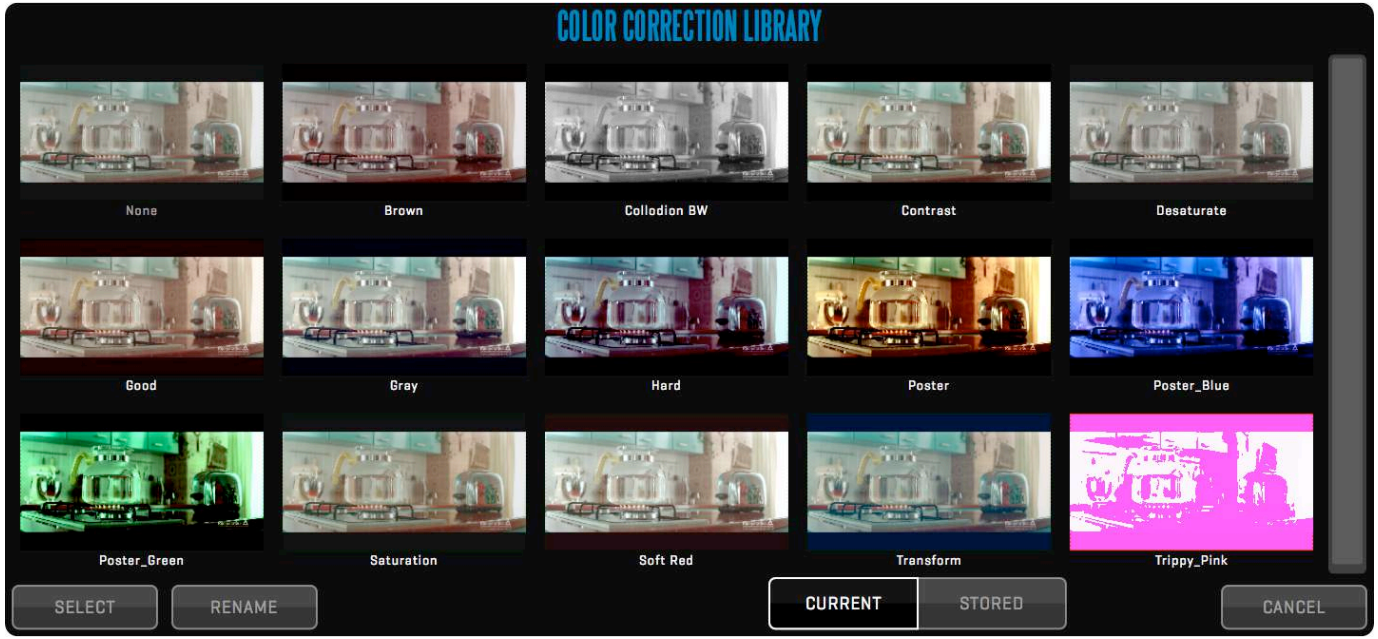
The Atomos filter uses Scene, Shot and Take numbers.
UnitName_SceneNum_ShotNum_TakeNum.mov

If you import files that are named by camera filename use the appropriate camera import filter even if they were recorded on one of the listed devices.

FILE Room

IMPORT CDL

Dragging to the QTAKE HD Dock Icon can be used to import CDL color correction settings in XML format. QTAKE HD 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.



FILE Room

IMPORT/LINK FROM QTAKE

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

FILE Room

EXPORT

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

EXPORT TO FCP

QTAKE HD 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 HD 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 HD 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 HD 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.

FILE Room

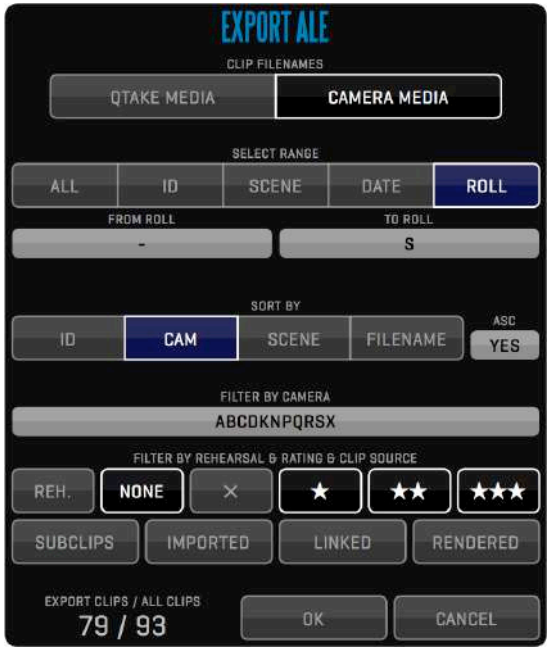
EXPORT TO AVID ALE

QTAKE HD 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 HD Projects/YOUR PROJECT TITLE/ Export ALE/)

When Exporting you are presented with a setup dialog. From here you can choose wether to export with **CAMERA MEDIA** filenames, if you plan on reconnecting with the original camera media, or **QTAKE** filenames, if you plan on using QTAKE HD 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 HD, 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.

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 meta-data to another QTAKE HD 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 HD will generate an XML file with all meta-data 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

FILE Room

LICENSE INFO

You can view your application license information by clicking the **LICENSE** button in the **INFO** Menu. You can also review the end-user license agreement by clicking **SHOW EULA**.

PROJECT INFO

Open **PROJECT** Info 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 HD 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.

FILE Room

BIT DEPTH

Video is usually recorded in YCbCr mode. You can choose to record in either 8-bit 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 HD 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 need to set DVI TO SDI converter to accept full range input levels in order to perform correct conversion.

FILE Room

PDF REPORT

QTAKE HD can generate PDF Reports with thumbnails and meta-data for each clip. You can specify the range of clips and filter clip selection by various attributes. PDF files are saved to current Project folder into the **/Reports** subfolder.

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 sub-folder of the current Project folder.

CREW

Use **CREW** Menu to specify name of the various members of the production as well as the camera operators for each camera. This name can be displayed in OSD for each camera.

FILE Room

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**	-	-

* With AJA driver version 10.4.9 or later

** Only in 10bit mode on BMD video cards

FILE Room

RED CAMERA SUPPORT

RED Digital Cinema Cameras (RED ONE, EPIC, SCARLET) provide some exciting workflow features. QTAKE HD is able to use special flags implemented into camera SDI feed. 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 HD 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 HD 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 HD 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.

To enable auto recording you need to set **CAMERA AUTO-REC** to **YES** in the File room - OPTIONS menu.

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

FILE Room

ARRI CAMERA SUPPORT

Just like with the RED cameras QTAKE HD can read Alexa meta data 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 User Options Menu. Make sure you have the corresponding input set to the correct camera type.

ARRI METADATA

QTAKE HD 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 HD 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

Only AJA Kona3G and IoXT (with firmware version 10.4.9 or higher) can read the Arri Alexa metadata from a psf or progressive signal. For other video cards 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.

FILE Room

SONY CAMERA SUPPORT

QTAKE HD can also read Sony meta data 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 User Options Menu. Make sure you have the corresponding input set to the correct camera type.

SONY METADATA

QTAKE HD can read the filename of the clip being recorded on Sony cameras through the SDI. QTAKE HD 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

Only AJA Kona3G and IoXT (with firmware version 10.4.9 or higher) can 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.

FILE Room

CANON CAMERA SUPPORT

QTAKE HD can also read Canon meta data 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 User Options Menu. Make sure you have the corresponding input set to the correct camera type.

CANON METADATA

QTAKE HD can read the filename of the clip being recorded on Canon cameras through the SDI. QTAKE HD 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

Only AJA Kona3G and IoXT (with firmware version 10.4.9 or higher) can 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.

FILE Room

SCOPES

The SCOPES menu lets you analyze the incoming video signal with the help of realtime Waveform, Vectorscope, Histogram or False Color. Scopes can be turned on (with **SCOPE** button), output (with the **OUT** button) and positioned (with the **PLACE** button) 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 following MODEs and OPTIONs are available:

1. **Waveform**
   - Luma
   - Chroma
   - YCbCr Parade
   - Red
   - Green
   - Blue
   - RGB Overlay RGB Parade

2. **Vectorscope**

3. **Histogram**
   - Red
   - Green
   - Blue
   - RGB Overlay RGB Parade

4. **False Color**

FILE Room

TERADEK CUBE Support

QTAKE HD can record RTSP stream from Teradek CUBE over wi-fi, without the need for additional video input hardware. To enable the Teradek CUBEs 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 it's firmware.

Step by step for connecting Teradek CUBE to QTAKE HD

1. **Connect to the Cubes admin interface.** Click the Show All Bookmarks item in Safaris 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.
6. **Set up QTAKE HD.** Start QTAKE HD 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 HD uses "LIVE555 Streaming Media" software licensed under LGPL.
Live Networks, Inc.
http://www.live555.com/

FILE Room

NET LINK

NetLink feature is used to control two or more QTAKE HD systems.

Follow these steps to start network job:

1. Make sure every machine is on the network.
2. Run QTAKE HD 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 HD.

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.

NET LINK is currently disabled in HDx4.

FILE Room

GPI

General Purpose Interface is used for simple communication with external devices. Most commonly this is used with Motion Control Rigs. QTAKE HD uses **Softron 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, without the need to enter settings window.

GPI INPUT

You can access GPI input settings by long-clicking **GPI INPUT** button.
For each of the 24 inputs you can select a QTAKE HD command. Currently GPI triggering is supported by **RECORD**, **FRAME RECORD** and **PLAYBACK** commands. Each command can be further controlled by selected mode [**START**, **STOP**, **TOGGLE**, **HOLD**].

FILE Room

GPI OUTPUT

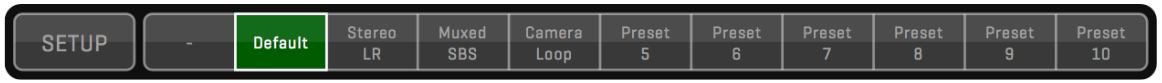
Enter GPI output settings window by long-clicking **GPI OUTPUT** button.

GPI OUTPUT triggering is supported by **RECORD** and **PLAYBACK** commands as well as **CHAPTERS 1-5** on each view. Each command can output custom trigger (1-8) further controlled by mode (**START**, **STOP**, **TOGGLE**, **HOLD**).

FILE Room

VIDEOHUB

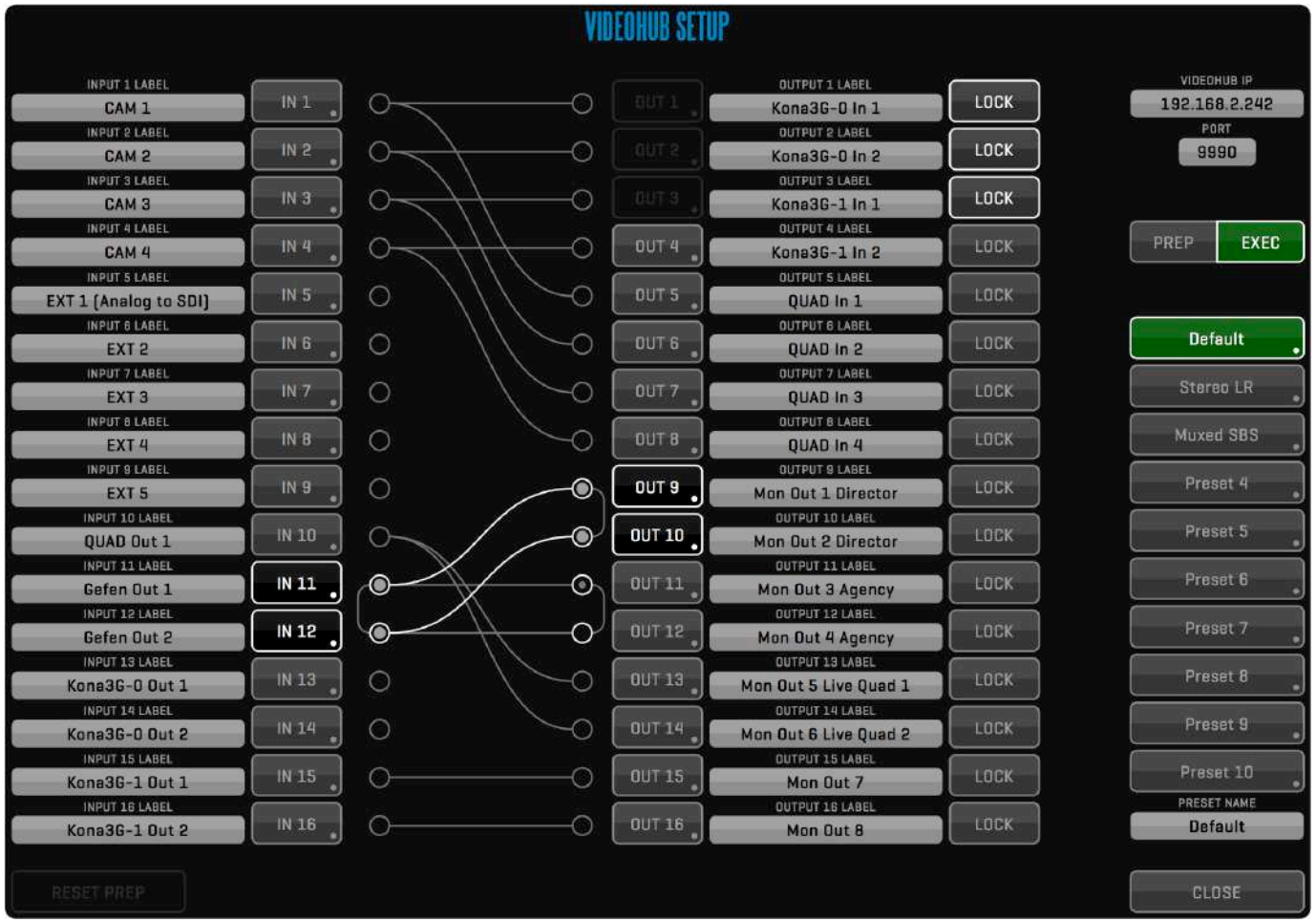
QTAKE HD enables direct control of BlackMagic Design's Videohubs (Up to the Compact Videohub 40x40 SDI matrix switcher). The buttons in the videohub menu allows you to quickly switch between your Presets. Press **SETUP** to configure your routing and videohub preferences.



FILE Room

VIDEOHUB SETUP

Set the correct **VIDEOHUB IP** address and **PORT** number in the appropriate input buttons. Routing is performed by clicking the output node first and then selecting the input. You can customize the labels for inputs and outputs to help you organize your videohub routing. 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.



You can load a PRESET by clicking on the associated button. When loaded you can change the PRESET NAME, Long clicking one of the 10 PRESET buttons will store current routing in that preset slot.

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

FILE Room

REMOTE CONTROL

Using REMOTE Menu, you can enable **REMOTE CONTROL** of QTAKE HD 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 HD.

Currently you can use the **Qtake Monitor** and the **Qtake 3D Control** apps for iPhone and iPad to connect to QTAKE HD. Qtake Monitor allows you to use and 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.

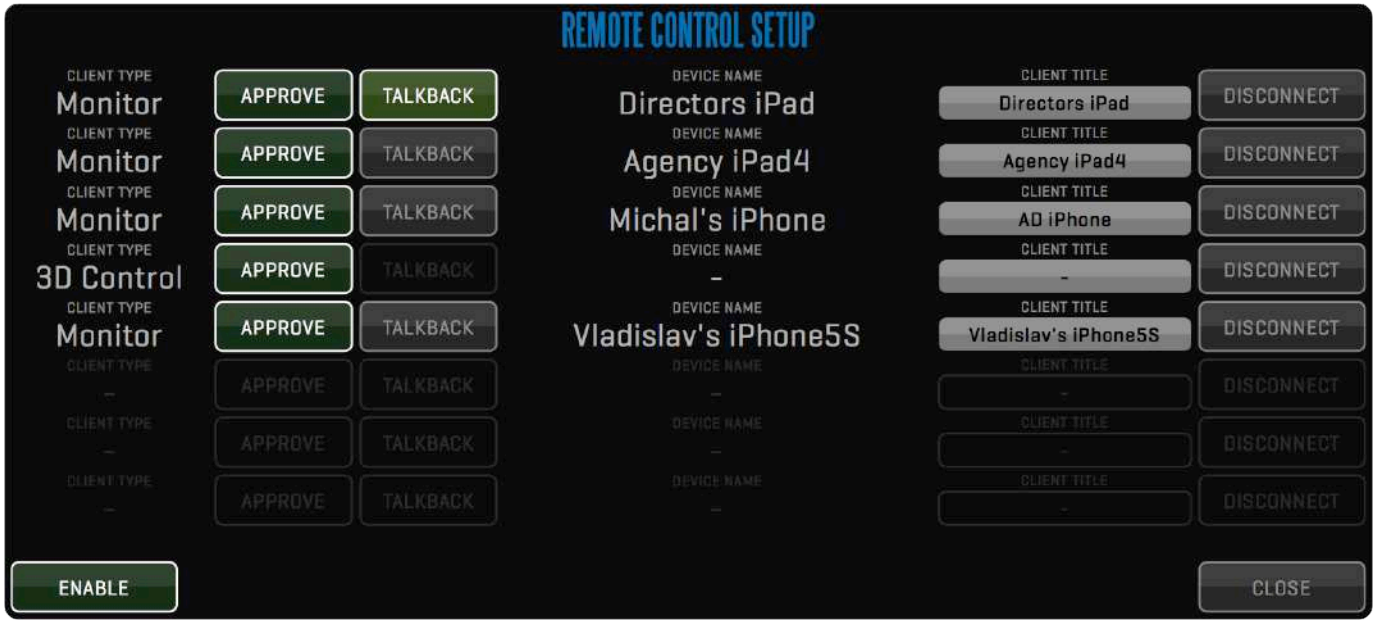
You can control the name of the machine running QTAKE HD as it appears in the apps by going to System Preferences - Sharing and changing the Computer Name field.

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.

FILE Room

REMOTE CONTROL SETUP

Apart from allowing you **APPROVE** clients and enable **TALKBACK** and **SCREENSHOT**, the setup window also allows you to set an easy to remember **CLIENT TITLE** for each connected app and manually **DISCONNECT** devices that are no longer wanted.



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

Enable_Remote_Control=1

TALKBACK

The **TALKBACK** menu lets you select an audio device to use with the Qtake Monitor app TALKBACK functionality. This audio device cannot be the same device that is set as your **LIVE OUTPUT AUDIO DEVICE** or **DISK OUTPUT AUDIO DEVICE**. See the PROJECTS section for more information on audio output devices.

FILE Room

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**

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 HD. See the section called KEYBOARD SHORTCUTS for more information on assigning button functionality. Native support also exists for the following devices:

C-MOTION

QTAKE HD supports the use of C-Motion hand units to control 3D HIT. To connect the hand controller to QTAKE HD 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 HD 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

AVID ARTIST TRANSPORT

QTAKE HD 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

SHOOT Room

VIEWS

VIEWS are the heart of the QTAKE HD 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**.

How to use 3D Stereoscopic video output?

3D Output can be used with 3D monitors that support side-by-side, line-by-line or DLP mesh input. Connect secondary DVI output of your MacPro workstation to HDMI input of your 3D monitor.
QTAKE HD will make sure both video channels (left and red 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 camera.

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

You can configure your 3D output by pressing the SETUP button in the VIEW menu.

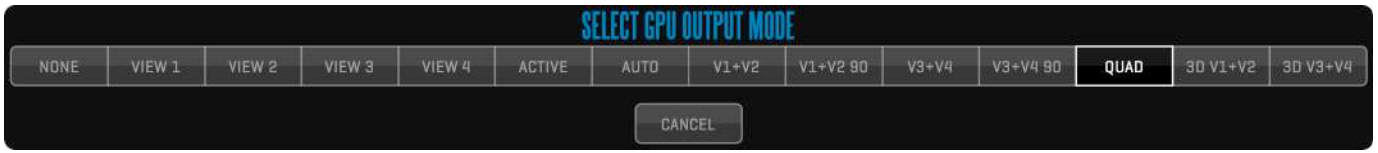
SHOOT Room

GPU OUT

Each VIEW can be monitored in full-screen mode using secondary DVI ports 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 modes.

VIEW 1 - VIEW 4	displays the selected view in full-screen mode.
ACTIVE	displays active View in full-screen mode
AUTO	output layout follows the operator screen
V1+V2, V3+V4	displays two Views, side by side in fit-width mode.
V1+V2 90, V3+V4 90	displays both Views in vertical monitor configuration to optimize use of screen real estate.
QUAD	displays all four Views
3D V1+V2, 3D V3+V4	displays a stereoscopic output of the two selected views.

QTAKE HD can process up to four independent Video Outputs. This feature is enabled by using Matrox TripleHead2Go device attached to secondary DVI port of your graphics card.



Matrox TripleHead2Go or DualHead2Go is required to enable separate dual full-screen monitoring.

SHOOT Room

SDI OUTPUT FROM GPU

QTAKE HD 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 today's half-duplex video cards, such as AJA IoXT).

To achieve this, QTAKE HD uses Video card for input and Graphics card for output.

If you need full-featured SDI output, you have to use DVI TO SDI converters. Some of them also provide audio embedding (use audio output to provide signal for SDI embedder).

SHOOT Room

OUTPUT FROM VIDEO BOARD

If you like to use Outputs of Video board in QTAKE HD, 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 DVI TO SDI converters.

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

Enable_SDI_Output=1

Enable each video card output is controller independently by VIDEO OUT Menu. When **V-OUT** is disabled in DISK mode, Kona3G outputs live passthrough, same as in LIVE mode.

AJA Kona3G is a half duplex video card - it can either capture or playback. This means you won't be able to monitor processed LIVE image (only clean live passthrough) through Kona card in this mode.

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

Audio

Since Kona3G support 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 Kona 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 Kona card)
- Limited auto-rec (since Kona can't 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.
When the VIEW is in LIVE mode, you will see unprocessed passthrough signal on SDI Output.
When VIEW is in DISK mode, Kona is switched to playback and you will now see the processed image on SDI Output.

NOTE

For full-featured SDI OUTPUT, please see next page

SHOOT Room

SIMULTANEOUS SDI INPUT & OUTPUT WITH AJA KONA3G or IOXT

QTAKE HD can use multiple video cards to allow simultaneous dual channel SDI input and output, or a single multi channel card like Kona3G or IoXT to allow simultaneous single channel input and output. Using QTAKE LITE 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 Kona 3G 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 (except for Kona3G).

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

Two_Boards_For_Dual_IO=1

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

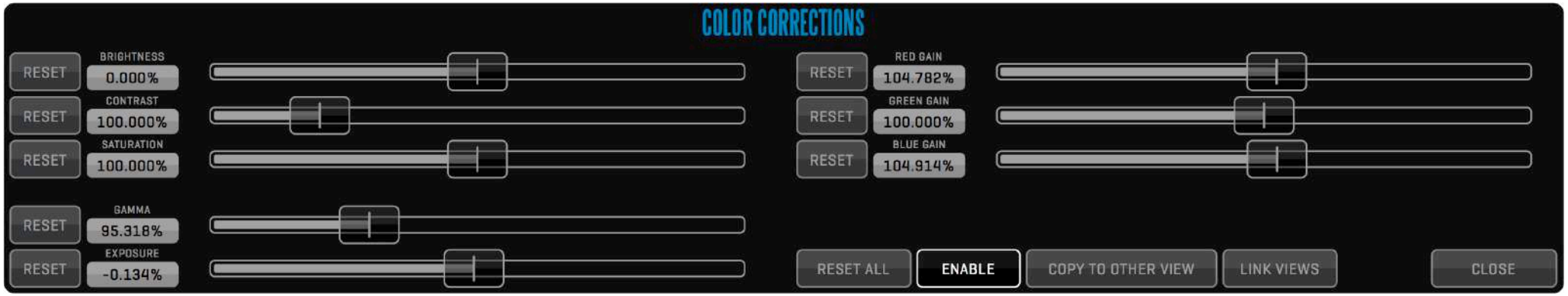
To enable simultaneous SDI input and output, add this line to Qtake_Prefs:

Constant_Playout_Mode=1

SHOOT Room

COLOR CORRECTION

Use the **CC** button to adjust (long-click) and apply (short-click) basic color correction to current VIEW.



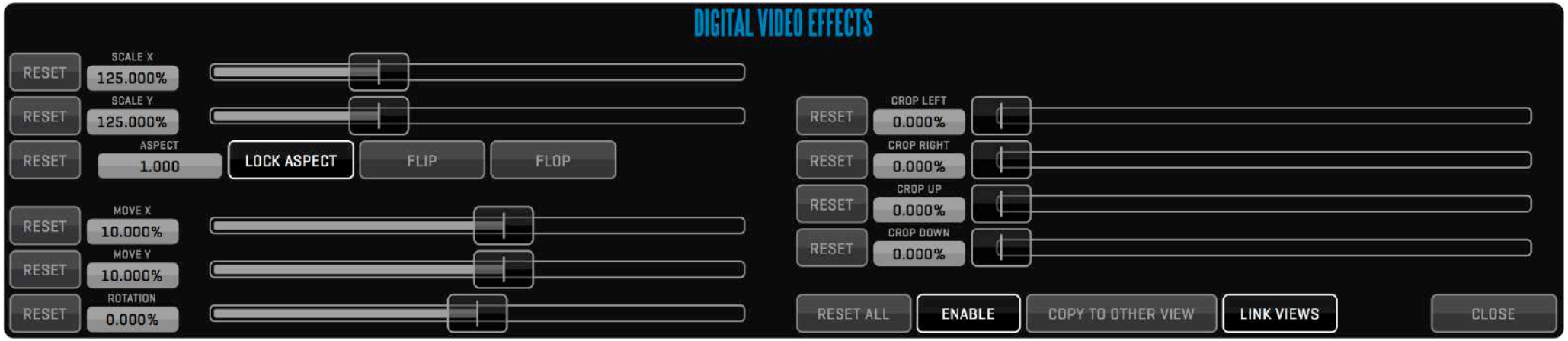
You can adjust various image attributes in this pop-up window:
GAMMA, **EXPOSURE**, **BRIGHTNESS**, **CONTRAST**, **SATURATION**, **RED GAIN**, **GREEN GAIN** and **BLUE GAIN**.

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.

SHOOT Room

DVE - IMAGE TRANSFORMATION

Each VIEW can use independent transformation of the image.



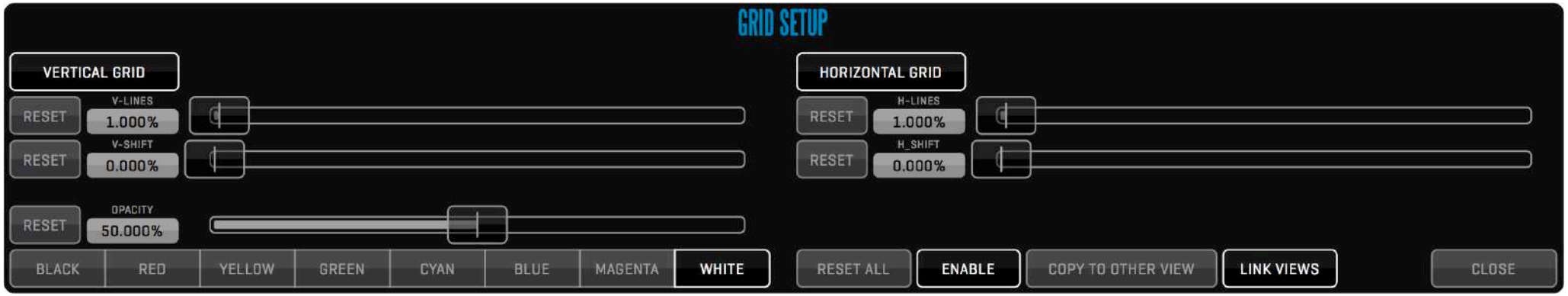
You can scale, position, rotate, mirror and crop the video frame by adjusting the following parameters:

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

SHOOT Room

GRID

Use adjustable horizontal or vertical overlay **GRID** to help align images.



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**.

SHOOT Room

FORMAT MASKING

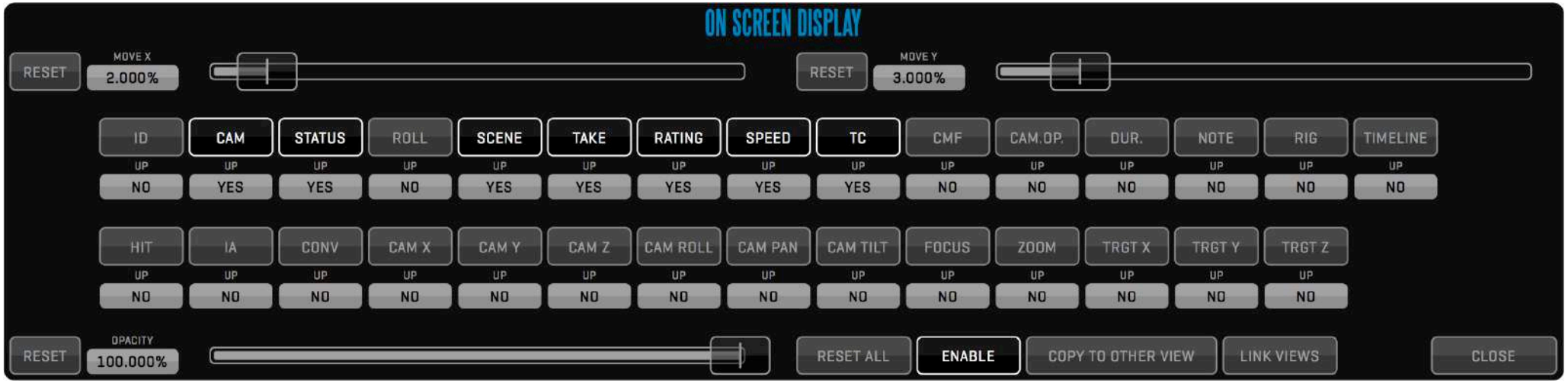
MASK out the area that is outside the framing by picking the standard or custom video and film formats. In addition to mask, you can also overlay **CROSSHAIR** and two sets of **FRAME-LINES**.

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

SHOOT Room

ON-SCREEN DISPLAY

Turn on the **OSD** button to display VIEW status and clip information. 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 **CPD**.

SHOOT Room

STILL MIX

Enabling **STILL MIX** lets you overlay a static image on a view or key the VIEW contents over a static background. 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. STILL MIX also 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.

SHOOT Room

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 HD 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.

SHOOT Room

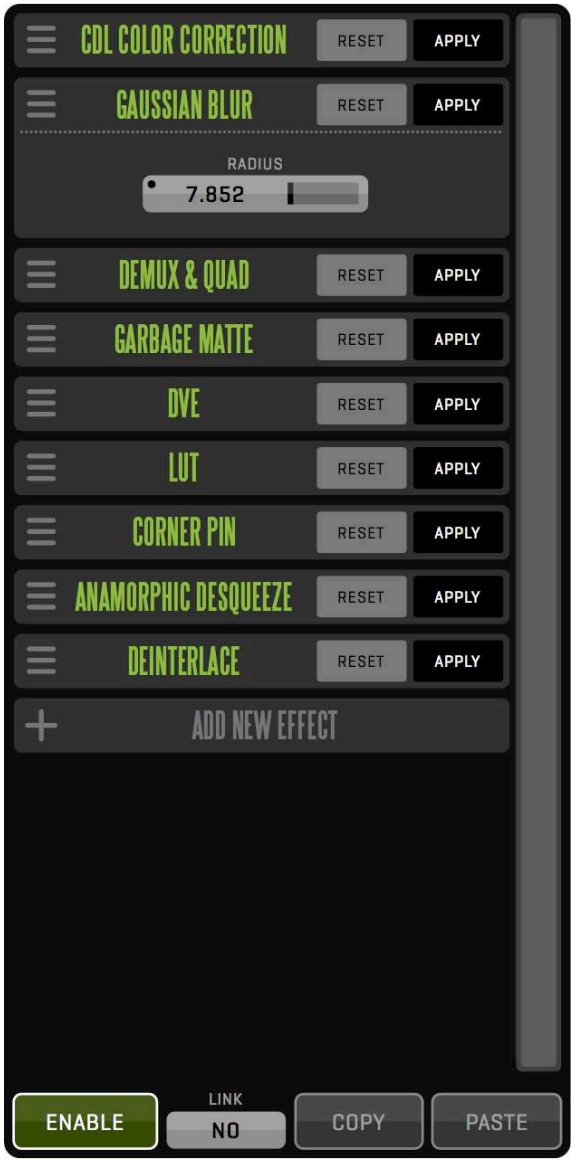
CLIP FX

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.

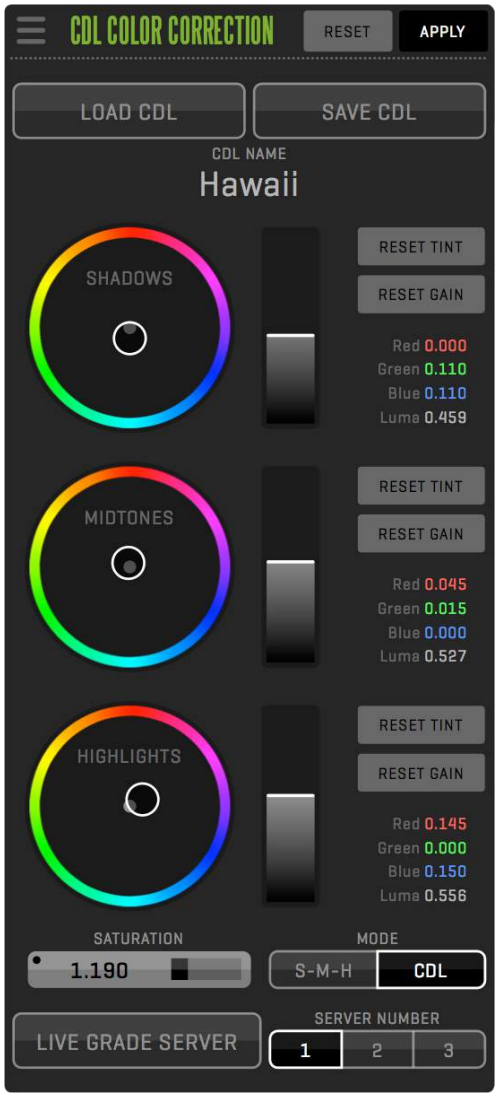
Clicking the **FX** button in the special buttons section of the interface brings up the CLIP FX sidebar in the VIEWS ZONE. By clicking the **ADD EFFECT** section of the CLIP FX sidebar you can choose and add an effect to apply to the active clip. The **LINK** button lets you tie multiple views CLIP FX sidebars together so that when adding or modifying an effect in one sidebar the linked clip will have the same settings. LINK can be set to **NO**, **PAIR**, and **ALL**. When set to PAIR, CLIP FX sidebar from VIEW 1 will be LINKED with the CLIP FX sidebar belonging to the clip in VIEW 2. Selecting ALL will in turn link all views CLIP FX sidebars.

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 by clicking its **APPLY** button. 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.

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



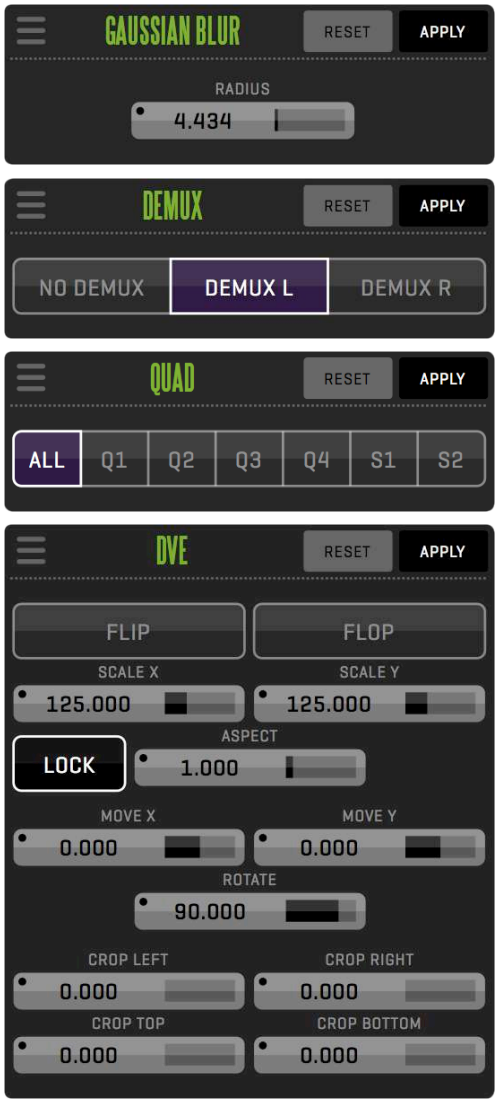
SHOOT Room



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 HD and dragging them to the QTAKE HD icon in the dock or copying them to /Applications/QTAKE HD/CDL. The **LOAD CDL** and **SAVE CDL** buttons lets you save and recall imported and previously created CDL corrections in the **COLOR CORRECTION LIBRARY**.

SHOOT Room



GAUSSIAN BLUR

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

DEMUX

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

QUAD

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

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, 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.

SHOOT Room

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 lest 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.

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, 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.

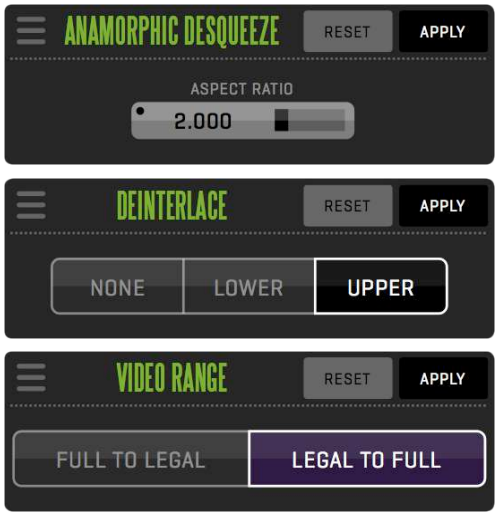
LUT

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

CORNER PIN

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

SHOOT Room



ANAMORPHIC DESQUEEZE

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.

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.

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.

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%.

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?

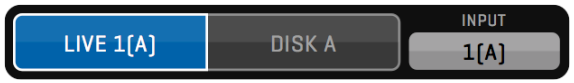
Yes. In COMPOSITE room there is no auto patching when recording. The exception is if you are NOT in constant playout and you have VIDEO OUT enabled.

SHOOT Room

PATCH - INTERNAL MATRIX SWITCHER

Each VIEW is like a monitor. In QTAKE HD, LIVE sources are sorted by their INPUT and DISK sources are sorted by their cam-

era 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 im-age.

SHOOT Room

AUDIO

The audio menu provides following audio controls:

- **MUTE LIVE** - mutes live audio (shortcut **N**). Input audio is still recorded, but it is not routed to audio output.
- **MUTE V1 - MUTE V4**. mutes audio playback of VIEW1 - 4
- **AUDIO INPUT LEVEL** - adjusts audio input level.
- **METER** - enables audio level metering for LIVE and PLAY mode (key Ctrl-M).
- **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 is enabled, you can press either RECORD button to start recording all inputs. Record in sync is also used for 3D productions. Clips recorded in this mode will automatically have a sync OFFSET, so you can immediately play them back in sync.

When 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 HD will also ask if you want to copy the active views clip data to the other views when SYNC is enabled.

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

SHOOT Room

RECORD CONTROLS

During recording process 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.

SHOOT Room

FRAME-BY-FRAME AND TIME-LAPSE RECORDING

QTAKE HD 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).

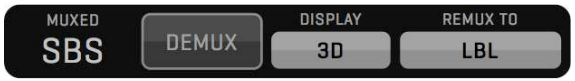
You can also setup up frames to be recorded at set intervals, so called time-lapse recording.

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

MUXER Module enables muxed 3D capture. QTAKE HD utilizes AJA Kona3G or IoXT 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 HD 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.

SHOOT Room

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.

SHOOT Room

CLIP NAMING CONVENTION

Recorded clips are stored as Quicktime movie files encoded with the selected codec. All clips are located in **QTAKE HD 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-Subtake_CameraRoll_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 HD 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 HD 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.

SHOOT Room

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.

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 IMAGES button allows toggling between thumbnail display and text (Camera Letter / Scene / Shot / Take). 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.

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.

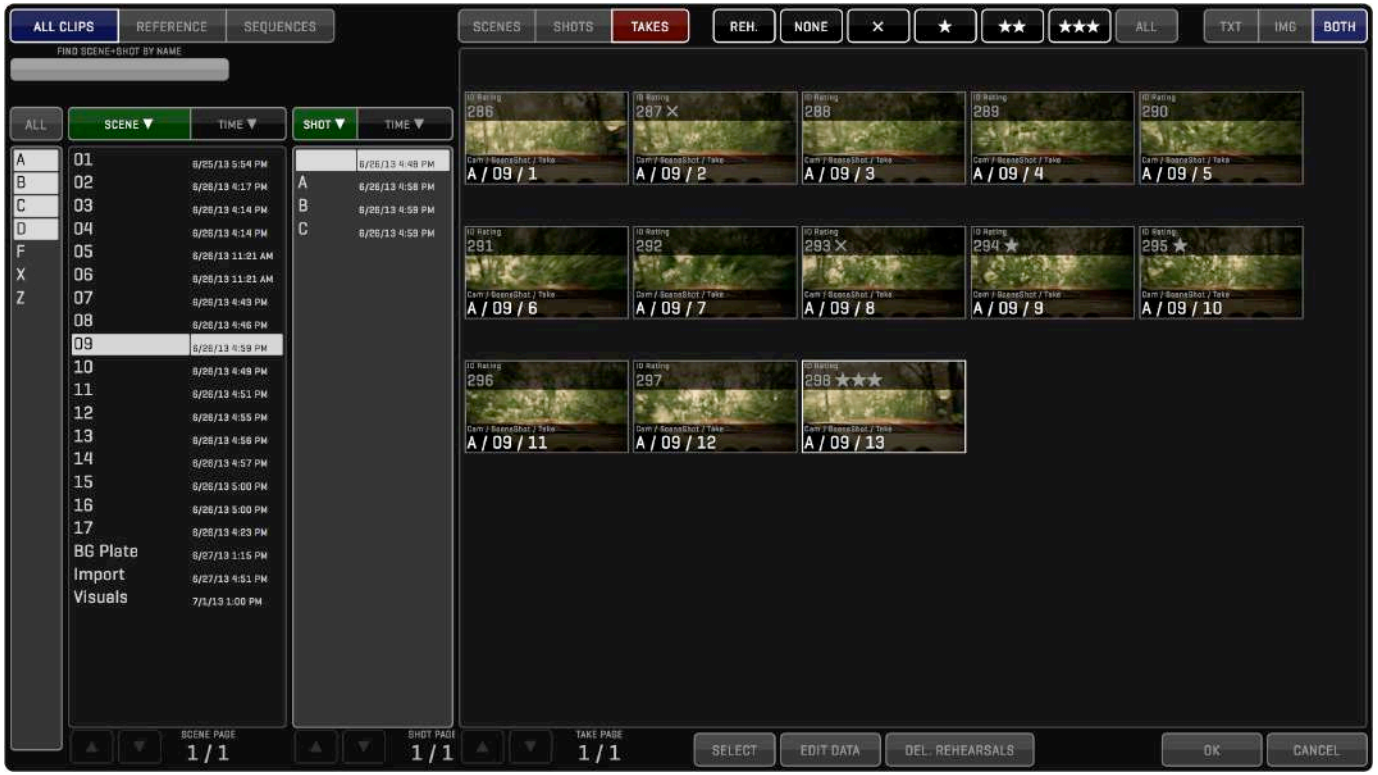
Use the filter tool to display the selection of takes, based on RATING or REHEARSAL attribute.

By clicking the take thumbnail, 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. Click the SPACE button on your keyboard to select 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

SHOOT Room

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



SHOOT Room

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.

SHOOT Room

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 the next section

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

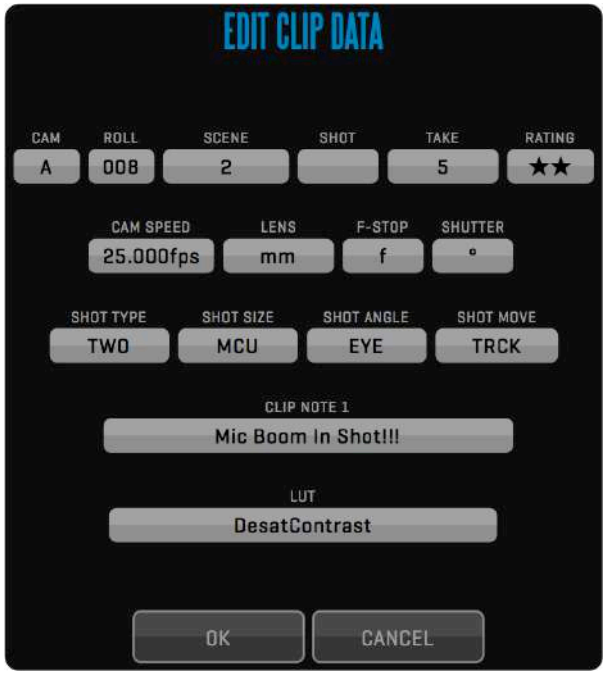
You can delete selected clips by clicking **DELETE** button. This will delete media files from the storage. This operation cannot be undone.

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

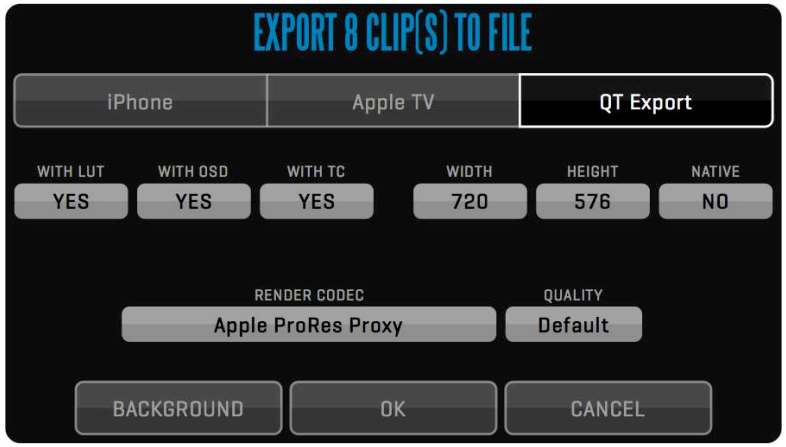
If you need to quickly put selected clips into the sequence, press **TO EDIT** button. Clips are inserted into the current sequence in the order they were selected.



SHOOT Room

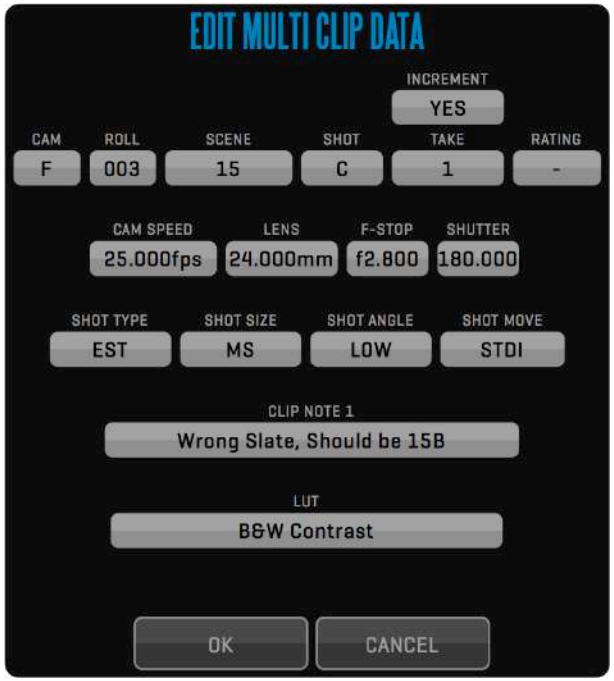
EXPORTING TAKES TO FILES

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 HD 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.

SHOOT Room

CLIP DATA

Every clip consists of video and audio media recorded with input device and meta-data stored in the database. You can enter clip data before, during or after recording. QTAKE HD can store following standard information about each clip: **CAMERA**, **ROLL**, **SCENE**, **SHOT**, **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 **CLIP NOTES** menu.

CLIP NOTES

You can store following clip meta-data: CAMERA SPEED, LENS, F-STOP, SHUTTER, M.O.S.

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.

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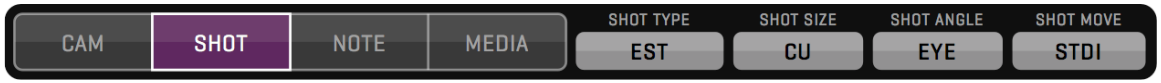


You can also enter a **CLIP NOTE** for each take. Press **MULTI**, to enter up to 6 notes per clip.

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.

The speed of your media drive is a factor when it comes to seamlessly looping playback. If your media drives are not fast enough to allow instant looping you should enable

Use_Alternative_Looping_Method=1

This causes playback to pause for a split second at the loop point waiting for the

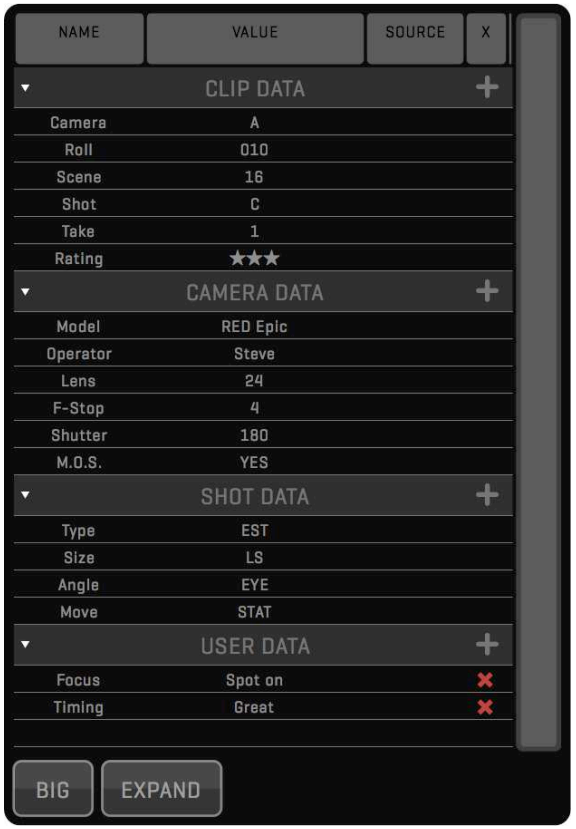
SHOOT Room

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 that can be collapsed to allow the user to fit just the relevant information into a single list.

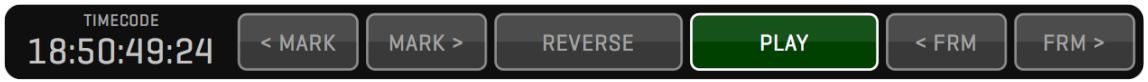
The user can add custom fields to any of these categories by clicking the + (plus) symbol on the right side of each category heading. There is also a USER DATA where fields that do not belong to any of the categories can be placed.

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).



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 HD 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.

Why did my IN and OUT points change?

When you PLAY SYNC two or more clips QTAKE HD 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

SHOOT Room

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. You can go past this range only by scrubbing or using the SHUTTLE. 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

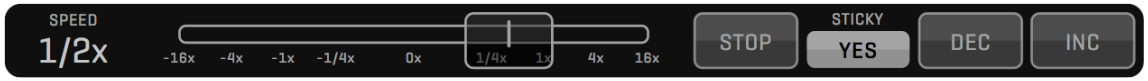
If you have marked multiple ranges within a clip you can use **<MARK** and **MARK>** buttons to move between the selections. Long-click the PLAY Button to switch from **PLAY ONE** to **PLAY ALL** mode. Short click **RESET** to delete current selection, long click RESET to delete all selections. Selected 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.



SHOOT Room

LOOP & SPEED

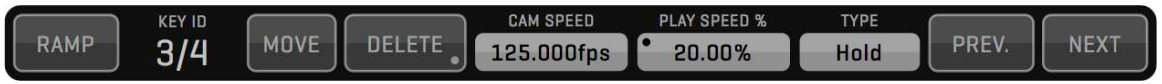
Inside the **PLAY CONTROL** Menu you will find the **LOOP** button. Press it to enable seamless re-starting after reaching the OUT mark. Long-click the LOOP button to switch it to **PONG** mode. I this mode, the clip will play reverse when it reaches the OUT mark.

Section of 3 data entries is used to control playback speed:

1. **TIMEBASE** - enter the timebase for playback.
2. **CAMERA SPEED** - enter camera speed to simulate different camera speed.
3. **PLAY SPEED %** - just another way to set the playback speed.

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.

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.

SHOOT Room

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 HD to determine PLAY SYNC OFFSET using timecode of the clips.

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 HD 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.

SHOOT Room

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 meta-data. 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.

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 HD 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).

NOTE

The Copra server installer requires version 1.7.3 of XAMPP. You can download it from here: XAMPP-1.7.3.dmg

SHOOT Room

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 LAY-OUT to **3D SBS**. There are a couple of settings in the Qtake_Prefs file that control the behavior of QTAKE HD 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.**

QUAD

When using QUAD SPLIT unit to record 4 cameras using single QTAKE HD 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.

Establishing a network connection?

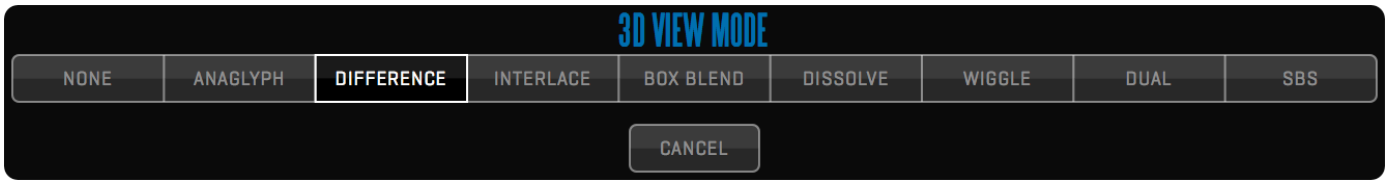
In order for the Copra iPad / iPhone app to access the Copra server they need to be on the same network. The easiest way to achieve this is by creating a wireless network using an Access point or Router.

SHOOT Room

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.

SHOOT Room

When using non-muxed 3D, Left eye image is in VIEW1 and Right eye image is in VIEW2, 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.

SHOOT Room

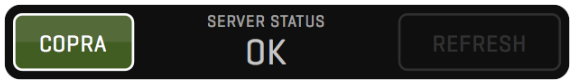
MEDIA

A single Take in QTAKE HD can have multiple media files associated with it. If for example you are recording h264 proxies you would have both the RECORDED media file and an h264 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 h264 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.

COPRA

If you have set Use_Copra_Server=1 in Qtake_Prefs and enabled h264 proxy generation in the project window QTAKE HD will automatically upload recorded takes to a locally installed and running copra server.



The COPRA menu allows you to easily check the status of the Copra server and disable or enable clip and metadata upload from QTAKE HD. The REFRESH button will upload any clips that have h.264 proxy media and weren't previously uploaded to the Copra server.

SHOOT Room

Installing the Copra server

Following the steps in this example will result in a Copra server running on the same machine that runs QTAKE HD. During recording QTAKE HD will generate h.264 proxy media which will be uploaded to the Copra server as soon as the recording is stopped. These proxy files can then be viewed from either the Copra server web interface or the iPad / iPhone Copra app. In order for the iPad or iPhone app to access and play back these files there needs to be a network connection between the Copra server and the app.

7. Download and install **XAMPP version 1.7.3** from http://sourceforge.net/projects/xampp/files/XAMPP%20Mac%20OS%20X/1.7.3/xampp-macosx-1.7.3.dmg/download

8. Run **XAMPP Control** application and start both **Apache** and **MySQL** servers

9. Run the **Copra server installer** and follow the instructions.

10. Open **Safari** web browser and verify that the Copra server is running by entering http://localhost/copra4server/ (default login and password is "**admin**") You should be greeted with the Copra web interface.

11. Open **Qtake_Prefs** in TextEdit and set Use_Copra_Server=1. Save Qtake_Prefs and close TextEdit.

12. Run **QTAKE HD** and create a new project. In the lower right hand corner of the Project window set **RECORD H264** to **YES**. You will need to set this for each input or click **COPY TO ALL**.

13. Record a clip in QTAKE HD and verify that you can see the clip appear in the Copra web interface (you might need to refresh the page for the content to appear)

For further information about Copra server and the Copra iPad / iPhone app see:

http://www.cinepostproduction.de

EDIT Room

EDITOR

QTAKE HD 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. To select the whole sequence click on View 2.

EDIT Room

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.

EDIT Room

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 HD 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.

SEQUENCE CLIP

Each SEQUENCE is saved as a reference clip, so you can use it in any other ROOM or in another sequence.
To load the sequence clip into VIEW, press **BROWSE** button and select SEQUENCES tab in the browser. This will display sequence clips. Select the sequence in the same way as a regular take.

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 Room

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.

COMPOSITE Room

CHROMA KEY

You can perform real-time chroma or luma keying with QTAKE HD 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.

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 HD and use virtual camera to change the viewing angle.

IMPORT 3D SCENE

QTAKE HD supports 3D scenes saved in Collada (.dae) format. Drag your collada file to QTAKE HD dock icon to import it. 3D scene will be logged into QTAKE HD 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 HD 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**.

COMPOSITE Room

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 HD uses centimeters as the scene translation units and degrees as rotation units.

STUDIO Room

STUDIO MODULE

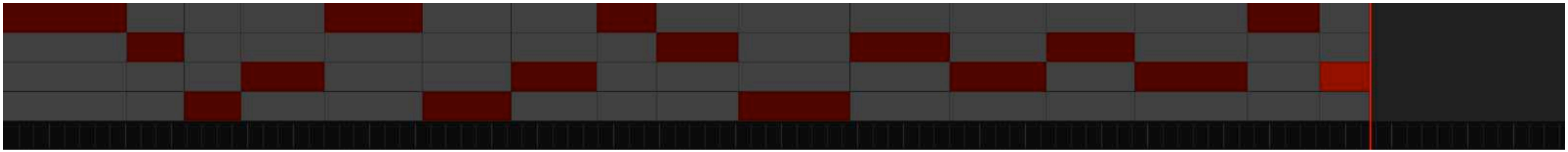
Studio module is used to perform live editing. When shooting multiple cameras, you will be able to create the sequence simply by switching between four inputs during recording. QTAKE HD will record all four inputs as usual, but in addition, it will record information about each cut.

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.

STUDIO Room

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.

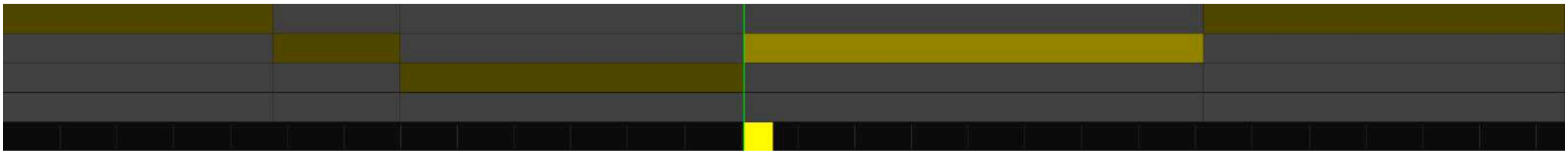
In order to change active track for any segment, just double click the track you wish to select.

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.

TRIM MODE

If you wish to modify your cut points, press the **TRIM** button.
Timeline highlights will change to yellow color. 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

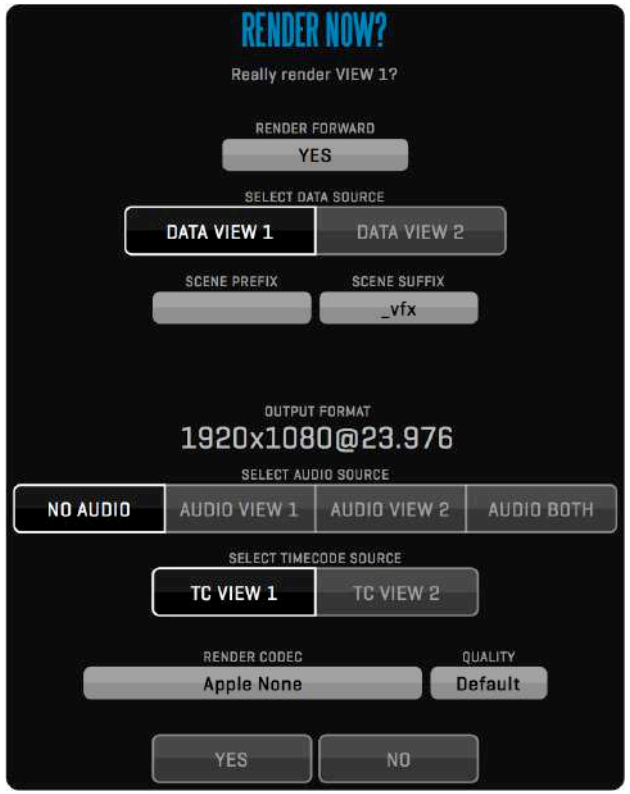
In order to send the program view to GPU OUTPUT, press the **OUT** button. In case OUT button is not highlighted, you will see program output only in GUI.
Currently, there is no way to send the program view to video card output.

Render

RENDER

Rendering is used to process out the VIEW content to a QuickTime movie file. One of the main purposes of 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 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 meta-data 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.

RENDER OSD lets you select if the clip's OSD will be "burned-in" on the output file.

Finally select your desired **RENDER CODEC** and **QUALITY**.
You can abort rendering at anytime by pressing the CANCEL button in the render progress window.

NOTE

QTAKE HD 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 HD Preferences File

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

Use the Text Edit application to edit the content of this file. If you delete this file, QTAKE HD will generate a new one with default values next time you run QTAKE HD.

QTAKE HD will load this file upon application start.

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.

Use_Alternative_Texture_Upload=1

Increases performance when recording HFR video signals.

Don't forget to restart!

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

Preferences

Generate_XML_Per_Clip=0
Set this to =1 to save meta-data XML for each clip.

Enable_H264_Proxy=1
Set this to =1 to enable parallel recording of H.264 processed clips, ready for streaming.

Use_Only_Audio_Channel1_For_H264_Proxy=0
Set this to =1 to record only first audio channel to H.264 clips.

Fast_Start_For_H264_Proxy=0
Set this to =1 to enable Fast Start ordering of H.264 files, ensuring compatibility with certain streaming services.

Hint_Track_For_H264_Proxy=0
Set this to =1 to enable Hint Track in recorded H.264 files, ensuring compatibility with certain streaming services.

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.

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 HD, based on serial number.
Set to =1 for descending and =2 for ascending order.

Line_Input_Audio_Delay_Frames=2
Adjust the audio input delay when using Line-In input or external USB audio card.

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.

Preferences

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_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.

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.

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

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 ALEXA cameras.

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.

Preferences

Enable_Video_Output=1
Set to =1 to enable Kona 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 Kona timecode output.

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 HD will scale all clips to match the SDI output resolution. This setting is ignored when Constant_Playout_Mode is set to =1

Constant_Playout_Mode=0
Set to =1 for simultaneous input and output with AJA Kona3G or IoXT. This mode enables Processed LIVE output, but will work only with ONE channel per card.

Default_Codec=Apple ProRes Proxy
Sets the default capture codec. For a list of codecs recognized by QTAKE HD open the INPUT 1 CODEC window.

Use_10bit_Capture_Mode=0
Set the capture mode to 10bit. Not recommended when recording Muxed SBS input.

Import_CPD_From_ProRes=0
Set to =1 to import camera positioning data from imported ProRes files.

Ignore_External_Timecode=0
Set to =1 to override embedded timecode. System clock is used instead.

Use_Alternative_Looping_Method=1
Set to =1 if you experience stutter on loop points.

PreRoll_And_PostRoll_For_PlaySync=0
Set to =1 to enable Pre-roll and Post-roll for Play Synced clips.

Preferences

Use_Audio_For_Varispeed=0
Set to =1 to allow varispeed audio from 50% to 200% clip speed.

Set_Play_Sync_Offset_By_TC=0
Set to =1 if you want QTAKE HD 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_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.

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.

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

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).

Preferences

GUI_Background_Red=0.12
GUI_Background_Green=0.12
GUI_Background_Blue=0.12
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.

Enable_Remote_Control=0
Set to =1 to enable Remote Control automatically.

AutoLoad_Last_User=0
AutoLoad_Last_Project=0
Set to =1 to automatically load user/project in Remote Control mode.

AutoSave_After_Clip_Count=1
QTAKE HD 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 HD is dropping frames.

Preferences

Use_Avid_Surface=0
Set this to =1 to enable QTAKE HD control using Avid Artist Transport surface.

Use_Tangent_Surface=0
Set this to =1 to enable QTAKE HD control using Tangent Devices element-Tk and element-Mf surfaces.

Use_BMD_Videohub=0
Set to =1 to enabled control of BMD Videohub.

Use_Copra_Server=0
Set to =1 to enable export to copra server. H.264 proxies also needs to be tuned on for the clips you wish to export.

Copra_Import_Script=/Applications/XAMPP/htdocs/copra4Server/tools/importXML.php
Copra_PHP_CLI_Path=/Applications/XAMPP/xamppfiles/bin/php
Sets Paths for Copra Import script and php cli. Defaults work with XAMPP installation.

Use_HIT_Per_Frame=0
Set to =1 to enable recording of HIT values frame by frame.

Serial_Port_1=
Serial_Port_2=
Set serial port numbers when using HIT controller from ELEMENT TECHNICA or C-MOTION

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

Rig_Port_1=0
Rig_Port_2=0
Set UDP port numbers to connect to 3ALITY SIP, STEREOLABS PURE, MRMC Motion Control or CMOCOS Motion Control.

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

Preferences

LiveGrade_Host_1=localhost
LiveGrade_Port_1=6666
LiveGrade_Host_2=localhost
LiveGrade_Port_2=6667
LiveGrade_Host_3=localhost
LiveGrade_Port_3=6668
Defines address and port number for up to three Pomfort LiveGrade hosts.

QOD_Mode=1
Set to =1 to use QOD as GPU output device.
There is no QOD software control in this version of QTAKE, so you need to set all device parameters using DIP Switch.

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

Appendix A - QTAKE Monitor

The Qtake Monitor application for the iPad, iPhone and Mac OS X functions as a remote wireless monitor for QTAKE HD 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 HD and the iPad running QTAKE Monitor. A standard wifi router will do the job.

Launch QTAKE HD 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 HD streaming servers on the network. That means that both the Mac running QTAKE HD 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 HD Streaming servers will appear. Tap on the entry of the Mac running QTAKE HD to connect.

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

Approve the connection from QTAKE HD

When an iPad or iPhone attempts to connect to QTAKE HD 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

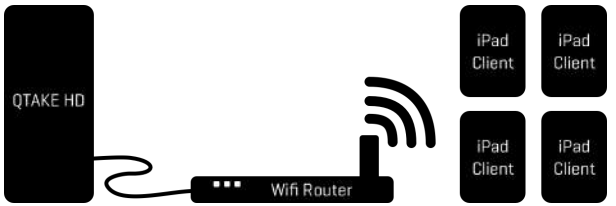
Appendix A - QTAKE Monitor

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 HD. 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.

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 HD 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 HD

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



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 HD 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 HD 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

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.

INSTALLATION

Download QTAKE 3D control from the Apple App Store.

Enable Remote

To enable the Bonjour discovery of the QTAKE HD server from the QTAKE 3D Control application you will need to enable **REMOTE CONTROL** in the FILE room. See the REMOTE CONTROL section for more information

SETUP

The QTAKE 3D Control application uses bonjour network discovery to find QTAKE HD servers on the network. That means that both the Mac running QTAKE HD and the iPad or iPhone running QTAKE 3D Control needs to be connected to the same network.

Launch QTAKE 3D Control on the iPad or iPhone, a window listing available QTAKE HD servers will appear. Tap to connect to a server.

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

Approve the connection from QTAKE HD

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.

Using QTAKE 3D Control

When the QTAKE 3D Control has been approved it will present two scaled sliders. Each slider controls the H.I.T. of one of the views. 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 it.

The **+3D** icon on the bottom left of the app lets you control various 3D analysis modes in the third viewer. 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.