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Studio recording options
and
Lightworks Quick User Guide

Studio recording options + Lightworks Quick User Guide

Ways to record in Studios A, B, and C:
1. Standard definition (SD format)
   -Record into a DVCPro tape using VTR 2
2. Standard definition (SD format)
   -Record into a DVD. A DVD data file done using HD footage will be downcoverted.
3. High Definition (HD format)
   -Record into an SSD card (Solid-state drive)
4. Additional High Definition option
   - Record into personal external hard drive (coming soon)
5. When using Lightworks members can record their SD or HD episodes into their own external hard drive.

Programing reminder:
-Our programming Dept. is accepting SD date files on a DVD (MPEG 2 file format)
-SD data sharing using Filed Transfer Protocol is coming soon
-Information of the latest technical standards and acceptable file formats can be found in our operations manual, or visit www.fcac.org/standards

Recording options when using an SSD

FILE FORMAT	FILE EXTENSION	FILE DATA	FILE SIZE FOR 26MIN SHOW
Uncomp 10-bit	.mov	Use only if you have hard drive space and a fast computer.	247.36GB
ProRes HQ	.mov	For the highest quality compression at the maximum ProRes data rate.	46.55GB
PRORes	.mov	For extremely high quality compression using a low ProRes data rate.	32.23GB
PRORes LT	.mov	For high quality compression at a lower ProRes data rate.	23.54GB
PRORes Proxy	.mov	For high quality offline compression at the lowest ProRes data rate.	12.48GB
DNxHD QT	.mov	Preferred if using AVID for editing.	46.55GB
DNxHD MXF	.mov	Use only if you edit using AVID.	42.95GB

File formats accepted by our programming department

SD	HD
All SD files must be 720x480 pixels	All HD files must be one of the following resolutions: 720p – 1280x720, 59.94fps 1080i – 1920x1080, 29.97fps

• MPEG-2 Program Stream
    • Main Profile, Main level
    • Audio Codec: MPEG1 Layer II or Linear PCM
    • 4:2:0 chroma format
    • Closed GOP Structure (Group of Pictures) with one I-frame and four P-frames every 15 frames, using the pattern IBBPBBPBBPBBPBB. Video sequence frame before every GOP.
    • Interlaced Bottom Field First
    • Audio bit rate of 192, 256, or 384 kbps
    • Audio sampling rate of 48 kHz
    • Constant bit rate
    • Strick maximum program mux rate of 9Mbps for video, audio & overhead
	The following HD formats are accepted:
	*Note: **Bold** formats are native to the playout system, and will require less transcoding time to be available on the playout system. Use of these formats is recommended when possible.*
	• **MPEG-2 Program Stream**
	    • MP2 or PCM Audio
	    • I Frame Only on Long GOP
	    • Fixed GOP Structure
	    • Max of B-frames within GOP
	    • Closed GOP recommended
	    • .MPG or .MPEG file extension
	• **XDCamHD/XDCamHD422**
	    • PCM Audio
	    • .MXF file extension
	• Apple ProRes/PRoRes 422 (good when using SSD)
	• Avid DNxHD
	• QuickTime
	• H.264 MPEG-4
	• High Profile/HiP or greater

Lightworks QUICK USER GUIDE

Lightworks offers a great benefit for producers conducting a live-to-tape studio production. Conceptually consider the use of Lightworks as an easy to handle quick editing app similar to older linear editing methods. The addition of the program in our control room allows producers to capture, splice and quickly edit a live-to-tape production in order to export and easily submit a completed show to our program department.

Important note: Lightworks does not have a Save or Save As function. Once you create a project in the application any changes you make such as an editing fix, adding an effect, or moving a segment, are automatically backed up to the file the moment they are made.

*FPA Staff has created a Lightworks preset named "FPA SD Data File" to help setup the correct technical requirements. A similar FPD HD Date file present is also being made available.

There are two main views in Lightworks:
-**Menu view:** This is where you start a new project and/or open an existing project.
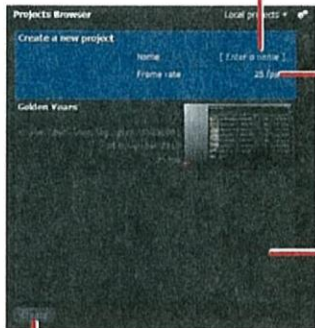-**Project view:** This is where you complete your video project.

ONLINE VIDEO TUTORIALS
Basic and advance video tutorials can be found online at:
www.lwks.com/index.php?option=com_content&view=article&id=162&Itemid=246&start=v12_5

Creating a Project

Type a name for your Project here

Select Frame Rate

If the frame rate of your media is unknown, select 'Auto'
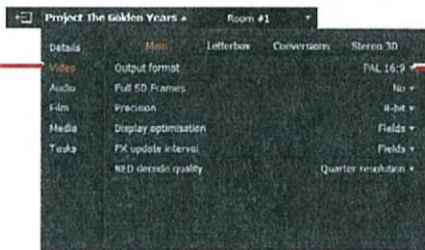
New projects display in this panel

Click to open selected project

At the top-left corner of the screen, click on the Project name
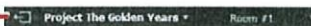
Project card opens

Click on Video tab

From the pop-up, select a project output rate from the Format list

You can set an output rate that differs from the project frame rate, e.g. if you want to play out a 24-frame project to PAL or NTSC

Click outside the Project card to close it

Click to close Project and return to Project Browser

Toolbar

Record
Opens Record tool for recording new clips

Import
Opens the Select Files to Import dialog box

Edit
Opens the viewer and timeline for new edit

Content Manager
Opens the Content Manager tool

Search
Opens the Search tool

Playout
Opens Playout Tool for playing an edit to tape

Export
Opens the Export tool

Editor Preferences
Opens the Editor Preferences dialog box

Shortcut Keys

Click to open
Preferences dialog box

Click to view or change current Key shortcuts

Click Import to select Avid or Final Cut Pro shortcuts

Click to move up one folder

Import Preferences box opens

Select required Preferences file and click OK

Default Locations for Preferences Files

OS	Location
Win 7,8,10	C:\Users\Public\Documents\Lightworks\Preferences
Linux	/usr/share/lightworks/Preferences
Mac OS X	Located in the Lightworks.app bundle Lightworks.app/Contents/Resources/Preferences

Playback Control Options

Click to open
Preferences dialog box

Controls display on each viewer

Click to select option for controls

Controls display at bottom of screen

Controls are not displayed

Content Manager

Overview

Click to toggle Content Manager ON and OFF

Click to browse backwards and forwards through Content List

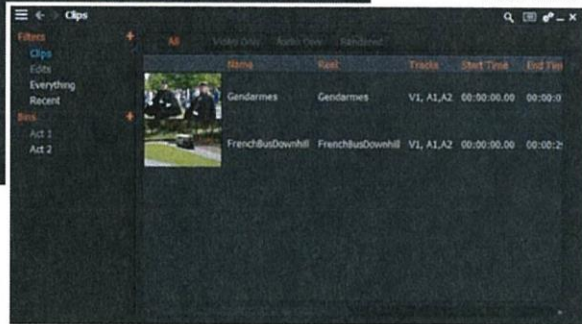Click to toggle between Tile and List views

Results display in main panel

Click to hide or reveal Content List panel

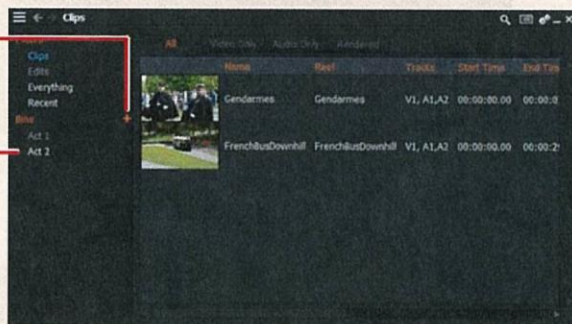**Tile View**

Select view by clicking on any item in Content List

List View

Creating a Bin

Click to create a new empty Bin

Type directly in Bin label to rename it

Importing Clips

Click the Import icon to open the Select Files to Import dialog box

Transcode Options

Click Cogs icon for Transcoding options

Set Transcode / Copy options

File Selection

Click for drop down list of shortcuts, drives, etc.

Click tab to select all clips in folder

Click individual item to select

SHIFT+Click or Ctrl+Click to select multiple items

Click to import selected items

Clips with incompatible frame rates may be playable in a new project set to the same frame rate as the clip

Incompatible video formats may require additional Codecs to be installed

Formats or Rates shown in RED denote clip is not compatible (see note)

(Option): Type filename directly into text box

Imported clips display in the 'Recent' filter of the Content Manager
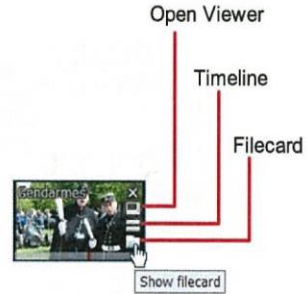
Playing Clips

Bin (List View) *

Double-click thumbnail
(List or Tile view) to
open Clip in Source
Viewer

Bin (Tile View) *

* Content List panel is hidden

Open Viewer

Timeline

Filecard

Show filecard

Hover mouse over Thumbnail (Tile
View only) to reveal short menu

Play tile using Playback Controls at
bottom of screen (if visible) or using
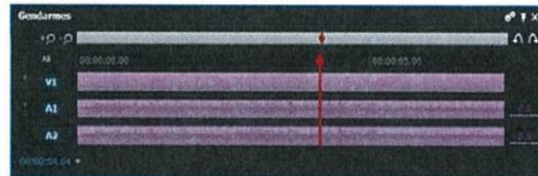shortcut keys

Source Viewer

Click to open Filecard
(see Logging)

Click to open Timeline

Play Source Viewer content using Playback Controls
on viewer or at bottom of screen

Timeline

Playback Controls

Start of Clip

Back one Frame

Play / Pause

End of Clip

Forward one Frame
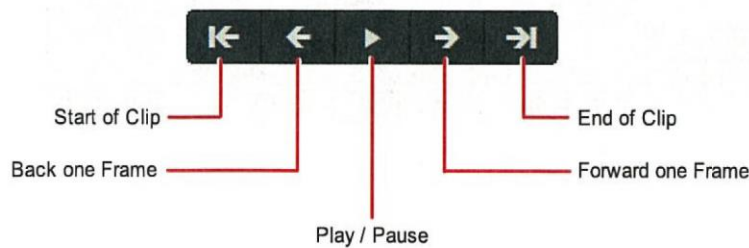
Default Shortcuts

j - Play backwards

k - Pause

l - Play forwards

Logging

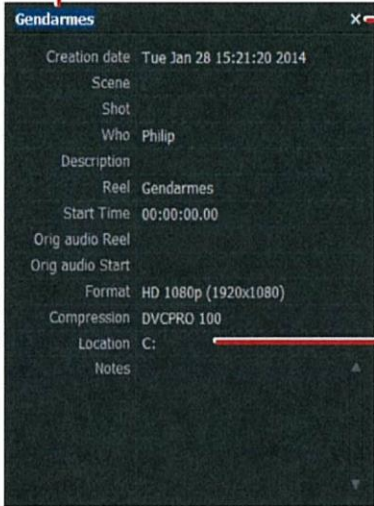Information about each clip (Metadata) is held in a Filecard

To update a Filecard :

Open Clip in Source Viewer , and click on Filecard button .

Select a text box in the Filecard and type the information you want .

Text entered here appears over Clip thumbnail (Tile View).
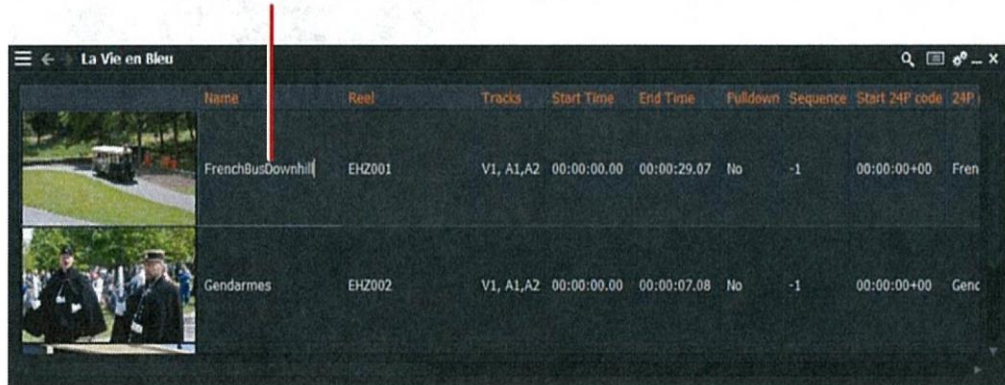
● Fields that cannot be changed .

Click to close.

Gendarmes	×
Creation date	Tue Jan 28 15:21:20 2014
Scene	
Shot	
Who	Philip
Description	
Reel	Gendarmes
Start Time	00:00:00.00
Orig audio Reel	
Orig audio Start	
Format	HD 1080p (1920x1080)
Compression	DVCPRO 100
Location	C:
Notes	

Click here to open folder containing original Clip .

You can also add information directly into the List View of the Content Manager / Bin

	Name	Reel	Tracks	Start Time	End Time	Pulldown	Sequence	Start 24P code	24P
	FrenchBusDownhill	EHZ001	V1, A1,A2	00:00:00.00	00:00:29.07	No	-1	00:00:00+00	Fren
	Gendarmes	EHZ002	V1, A1,A2	00:00:00.00	00:00:07.08	No	-1	00:00:00+00	Genc

La Vie en Bleu

Marking a Section on a Source

Project Bin

Double-click thumbnail (List or Tile view) to open Clip in Source Viewer

Source Viewer

Use the Playback Controls on viewer to move through the clip, and to mark IN and OUT points

Click to make subclip of marked section or entire clip

Using the Playback Controls, stop the Clip at the position you want your clip to start.

Click the IN button to set IN Point (Playback marker changes from RED to BLUE)

Using the Playback Controls, stop the Clip where you want your clip to end

Click the OUT button to set the OUT Point

The portion between the IN and OUT points is now selected

Mark and Park

1. Set the In Point as described above (Mark)

2. Stop the Clip where you want your subclip to end (Park)

3. The marked section is ready

Building the Storyline
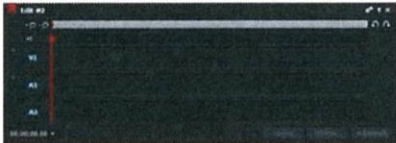
Opening an Edit Viewer

Click the Edit icon to open an (empty) Edit viewer and Timeline

Click on the viewer containing the clip (with or without a marked section) you want to add to the Edit

Click to insert the entire clip or the marked section into the empty edit *

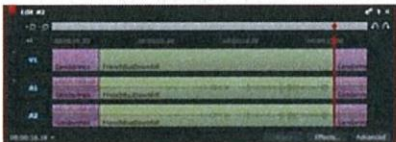* Alternatively, click **Insert** (if displayed) or press **v** to insert

Adding More Content

Select the next clip from your bin and open in a Source Viewer

Move the frame marker on the Edit to where you want to insert the new clip

Click to insert the entire clip or the marked section into the edit *

Repeat for each clip you want to appear in the Storyline

Trimming

Trim View

To enable / disable Trim View, click the Edit Viewer Cogs icon and select Trimview > Yes (enable) or No (disable)

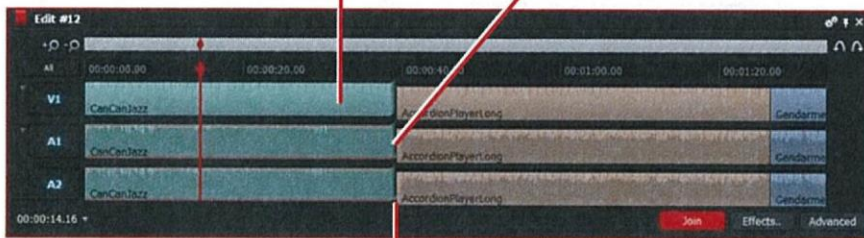Trim View enables you to view both sides of a cut. It is enabled by default

Outgoing Clip

Incoming Clip

Trimming an Outgoing Clip

Left-click any track close to end of cut you want to trim

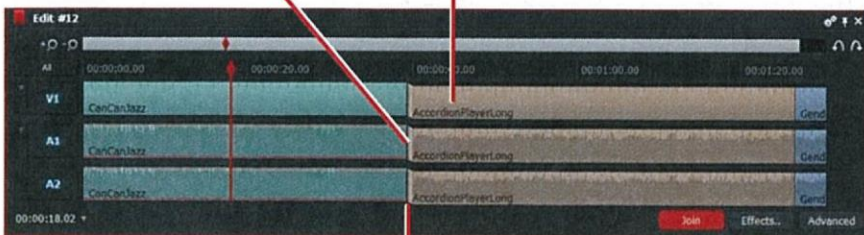Cut is unjoined on outgoing side
A small curl is added before the cut

Shorten / lengthen both sides of the cut by dragging the cut point left or right with your mouse †

Trimming an Incoming Clip

Left-click any track close to start of cut you want to trim

Cut is unjoined on incoming side
A small curl is added after the cut

† -or clicking Play / Reverse Playback keys, or L and J shortcut keys

Shorten / lengthen both sides of the cut by dragging the cut point left or right with your mouse †

Trimming /Continued

Moving a Cut

Unjoin the cut by left-clicking directly on it

The cut is unjoined down the middle, with both sides showing a curl

Shorten / lengthen either side of the cut by dragging the cut point left or right with your mouse †

Sliding a Clip

Left-click to left of the clip you want to slide

Left-click to the right of the clip you want to slide

Cut is unjoined on outgoing side
A small curl is added before the cut

Cut is unjoined on the incoming side
A small curl is added after the cut

Shorten / lengthen the cuts either side of middle clip by dragging the clip left or right with your mouse †
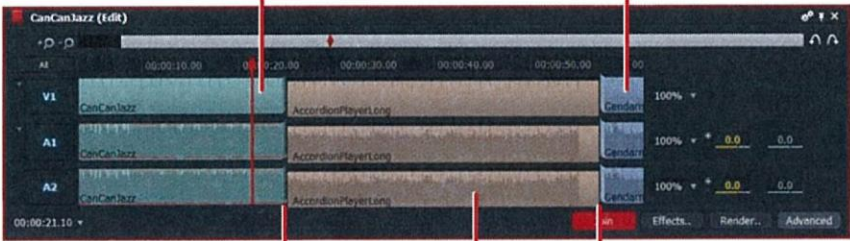
Slipping a Clip

Left-click any track close to start of clip you want to slip

Left-click any track close to end of clip you want to slip

Cut is unjoined on incoming side
A small curl is added after the cut

Cut is unjoined on outgoing side
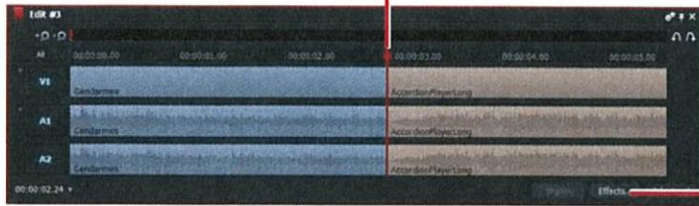A small curl is added before the cut

† - or by clicking Play / Reverse Playback keys, or L and J shortcut keys

Shorten or lengthen cuts on either side of clip by dragging your mouse left or right †
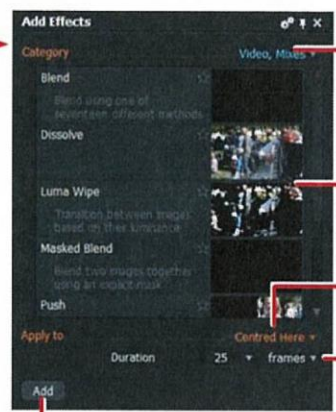
Simple Transitions

Position timeline marker on the cut
where you want a transition

Alternatively – right-click on timeline
marker and from pop-up menu –
select 'Transitions > Add > *Effect*'

Click on the Effects button

The Add Effects window opens

Select Video > Mixes from the
drop down list

Select the transition you require
from Add Effects window

Select Start / Finish option for the
transition

Set duration of transition

Click Add

The transition is applied to your edit
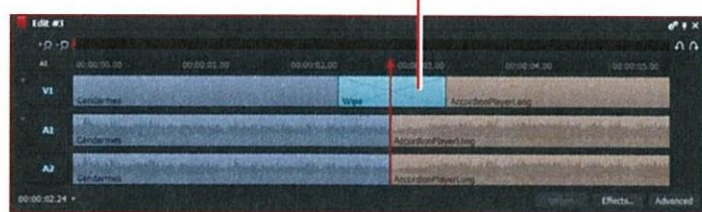
'Mix' Transition Types

Blend	Blends two or more overlapping images
Dissolve	Simulates a film-type dissolve.
Luma Wipe	Transition between images based on their luminance
Masked Blend	A blend between two images using an explicit mask
Push	Range of effects where transition is made by one element pushing another off screen
Squeeze	Range of effects where transition is made by one element entering the screen while squeezing down the other
Wipe	Wipes the screen, transitioning between outgoing and incoming elements

Export

Click the Export icon - or drag [icon] onto Clip or Edit

Alternatively, right-click on Clip, Edit or Bin, and select 'Export'

The Export dialog box opens

Click to select Clip, Edit or Bin from drop down list

Click to select Export format

To change destination folder, click to open dialog box

Type name for output file - or leave as 'Automatic'
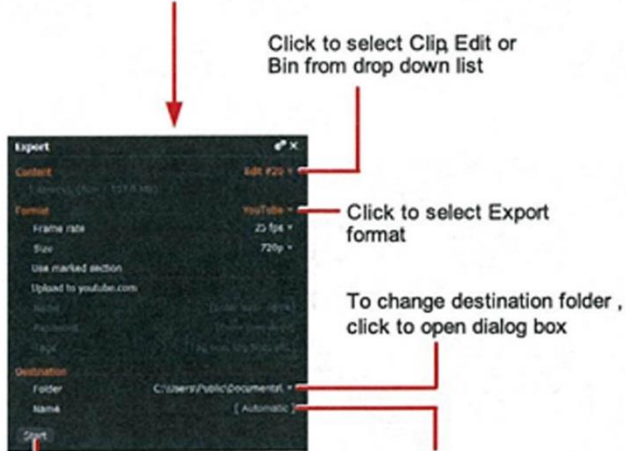
Click to start Export

Panel opens displaying background tasks

Progress Bar and Time Remaining Counter

Export Complete

Click to open folder containing exported file

The Lightworks Console

The Lightworks console can be used to play video and audio, and to control many of Lightworks' editing functions. The console has keys for the more common editing functions and a flat bed-style paddle to facilitate post production operations.

Controls and Indicators

The Lightworks Console controls and indicators are as follows:

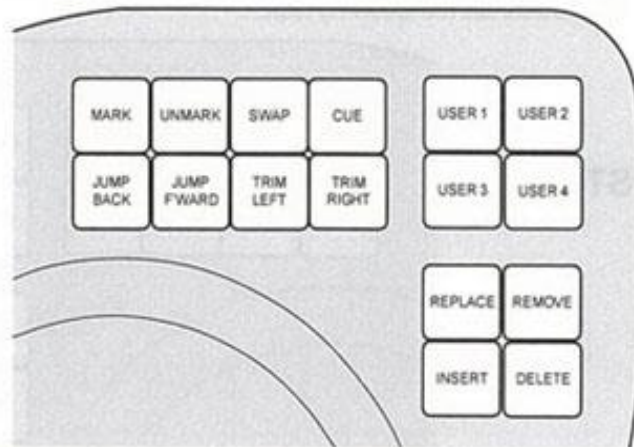| Control	Function
Play Buttons	The Play Forward and Play Backward buttons play material forward or backward at normal play speed. Pressing a second time doubles the speed. Press again to return to normal speed. To nudge one frame forward or backward, hold down the Stop button and press one of the Play buttons. To play frame by frame (at approximately 10 percent normal speed), continue to hold the Stop button and press the Play button.
Stop Button	Stops playback instantly.
Console Lever	Lets you play the clip forward or backward at any speed between 0 percent and approximately 1000 percent of normal play speed. Dual levers offer positions for left-handed and right-handed users. The levers include notches at play speed forward and backward. For accurate timing, use the buttons instead. Sync sound is maintained from 0 to 6 times play speed - above this, sound is muted.
Jog Wheel	Lets you play material slowly in forward or reverse, particularly when audio scrubbing. The Jog Wheel is enabled by doing one of the following: • Press the Jog On/Off button. • Move the jog wheel sharply (gentle movement is not effective).
Editing Buttons	

Console Editing Buttons

The following table describes the console editing buttons.

Edit Button	Description
Mark	Marks the current frame of a clip or cut, used to insert, replace, move, or delete the portion between the mark and the current frame. The marked portion is represented by a blue marker on the View Indicator Strip and Timeline.
Unmark	Removes the mark from the active tile or viewer.
Swap	Swaps the position of the current frame (red diamond) and the marked frame (blue diamond).
Cue	Creates a green cue point at the current frame. The cue point is permanent until deleted by pressing Stop+Cue. Jump to cue points with the Jump buttons.
Jump Back / Jump Forward	Move the current frame from event to event, forward or backward. An event is a cut, dissolve, or wipe; a cue point or audio node; the blue mark; the first or last frame of an edit or clip. The Jump button sets the current frame to the first frame after the cut and jumps to events on all selected tracks.
Trim Left, Trim Right	Allows cut points to be unjoined without using the mouse. Multiple cut points can be unjoined at the same time.
User 1 - 4	User defined buttons.
Replace	Inserts all the selected source frames into the edit overwriting the original material.
Remove	Lifts the selected part of the edit, leaving black behind. The reverse of the Replace button.
Insert	Inserts all the selected source frames into the edit, without overwriting anything else.
Delete	Cuts out the selected part of the edit and closes the gap. The reverse of the Insert button

Console Button Combinations

You can combine console buttons with the Stop button for additional operations. To use the button combinations, press the required edit button while holding down the Stop button. See the following table.

STOP +
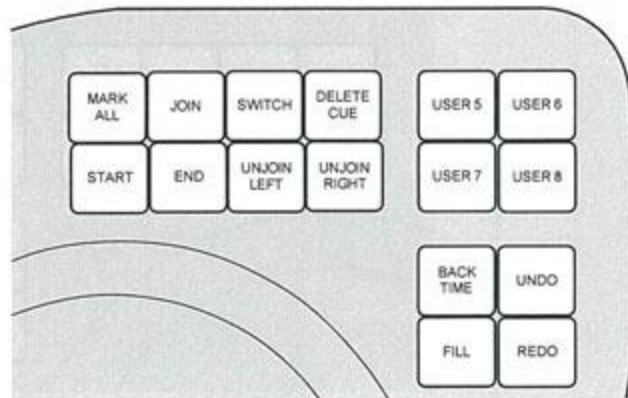
Edit Buttons	Description
Stop+Play Forward	Nudges the material forward one frame.
Stop+Play Backward	Nudges the material backward one frame.
Stop+Jump Back	Jumps to the start of the active clip or edit.
Stop+Jump Forward	Jumps to the end of the active clip or edit.
Stop+Replace	Backward Replace (for making back-timed edits).
Stop+Insert	Performs an insert and leaves the current frame at the end of the inserted clip. This is useful when you assemble clips into an edit.
Stop+Delete	Performs a Redo on the currently selected edit.
Stop+Remove	Performs an Undo on the currently selected edit.
Stop+Unmark	Same as the Join/Unjoin button on the Timeline. Joins and unjoins cuts for trimming.
Stop+Cue	Deletes a cue. Park on a frame before you press Stop+Cue.
Stop+Swap	Switches activity between the Record viewer and the current source.
Stop+Mark	Places a mark at the end of the clip currently parked on, that is, selects the remainder of the current clip.
Stop+Trim buttons	Unjoins either the previous clip (left button) or the following clip (right button) for trimming.
Stop+User 1-4	Provides extra user defined buttons (User 5 to User 8).

The Lightworks Console
User Buttons

Staff has program the following user buttons with these options.
To switch between options press Stop + the appropriate user button 1-4.

User 1	Preview (plus 3 seconds back)
User 2 and User 6	
User 3	Previous tile
User 4	Next tile
User 5	Tile to viewer
User 6	V1
User 7	A1
User 8	A2

Reference tutorials:
https://www.lwks.com/index.php?option=com_shop&view=static&task=interactiveConsole&clip=overview-console