![grass valley]

LiveTouch

Instant, Intuitive Solutions for Slow-Motion and Instant Replay

LiveTouch is Grass Valley's complete replay and slow-motion system for studio and sports applications. It's fast and easy to use, yet offers sophisticated highlight capabilities including integrated editing as standard. LiveTouch systems can scale to meet HD, 3G and 4K UHD productions of any size. For production in IP, see LiveTouch 1300.

System Overview

LiveTouch from Grass Valley is a scalable sports highlights system that makes slow-motion and instant replay workflows fast and effortless. The intuitive touchscreen panel is quick to learn and easy to use, making highlights selection sure, simple and robust. LiveTouch can scale to meet HD, 3G and 4K UHD productions of any size. It is easily configurable to support large events and multiple studio productions. Uniquely, LiveTouch supports integrated editing with no delays due to media movement and without the cost of duplicating assets or storage. Highlights packages and instant replays get to air faster, and system design is dramatically simplified.

Seamless 4K UHD and HDR Handling

LiveTouch 4K is Grass Valley's 4K UHD slow-motion replay and highlights system. The LiveTouch server and dedicated control panel enable instant shot selection and asset sharing with 4K UHD content. LiveTouch is the only system to truly bring your HD replay and production workflows into 4K UHD.

For additional image quality, LiveTouch supports upmapping and downmapping between HDR and SDR. This integrated mapping eliminates the requirement for external conversion gear.

Easy to Learn and Fast to Use

The LiveTouch interface was designed for users, by users. Operators can mark interest points, create clips and play content to air with real-time speed control. LiveTouch provides fast navigation, on-air playlist editing and easy search and sharing tools. A unique multicam interface provides fast, easy access to all camera angles during live productions.

Instant Editing Integration

LiveTouch integrates fully with Grass Valley's editing environment, enabling concurrent operators to instantly create, edit and playout highlight packages.

A rich audio and video editing tool set is accessed from the replay operator's workstation and can be instantly available for craft editing in Rio, Grass Valley's high-performance editing, color, and finishing system. A full complement of editing tools can be instantly applied with no transfer or transcoding required.

Collaboration can even be extended to users who are not on-site by providing remote access through the Go! production suite, Grass Valley's browser-based editor.

Seamless integration with external third-party graphics packages provides an additional layer of analysis capability for on-screen highlights and mark up.

Unique Grass Valley Technology

LiveTouch uses Grass Valley's unique FrameMagic technology, giving every frame on the system a unique identity. As operators save or publish highlights and playlists, they appear instantly on the system as a unique asset. This is not a duplicate file, but merely metadata markers describing which sequence of frames the asset is comprised of. This allows the same frame sequence to be instantly displayed and used in the highlight library or edit timeline giving replay operators and editors instant access to each other's media.

Strength and Flexibility

Grass Valley's interserver streaming allows superior scalability and powerful workflows on multiple server systems in HD, 3G and 4K UHD. Recordings, clips and playlists can be instantly streamed over the network to another server for playout. This allows operators to treat multiple servers as a single production pool.

KEY FEATURES

- Scales to meet HD, 3G and 4K UHD productions of any size
- Designed for the demanding sports and fast-motion entertainment replay environments
- Instant effects and finishing tools
- Full super slow motion support at 2x, 3x, 4x, and 6x speeds

- Intuitive and simple touchscreen control panel for fast highlight selection, playlist editing and live playout control
- More efficient 4K UHD channel density than other systems
- More online storage than any other system
- Unique multicam grouping and workflows

- Tablet application for on-air talent to control their own playout
- Momentum integration for publishing to social media
- Simultaneous browse creation

LiveTouch Manager

LiveTouch is built on a network architecture. The LiveTouch Manager keeps track of every user, server and asset on the network. An open network architecture allows the LiveTouch Manager to provide users with open access to the system allowing panels to control any port on any server or numerous ports from different servers simultaneously. The LiveTouch Manager also allows packages and playlists to be instantly searched and shared by any client connected to the system.

LiveTouch Server

The technical heart of the system, the LiveTouch Server, records incoming feeds and plays out to air under control of the LiveTouch panel. The server has up to 12 SDI inputs and outputs and can store up to 200 hours of 100 Mb/s HD media internally or 600 hours externally. The servers' continuous record functionality ensures no shot is ever missed.

The LiveTouch server offers native support for multiple compression formats including DVCPRO HD, AVC-Intra, DNxHD and XAVC Intra Class 300 UHD. The server supports interserver streaming over 10 Gb Ethernet, allowing a panel controlling an output port on one server to work with and playout highlights from a clip being recorded on a different server.

LiveTouch Panel

The operational heart of the system, the LiveTouch panel provides fast, intuitive highlight packages and instant replay capabilities.

Designed by replay operators, an intuitive touchscreen provides quick clip selection, unique speed tools and configurable user options. The panel features familiar button placement as well as a number pad for fast navigation by clip number and timecode. A responsive jog/shuttle wheel gives users agile navigation and a high-precision T-bar provides precise control on slow motion playout.

In developing the LiveTouch panel, Grass Valley consulted extensively with sports broadcasters and their on-air operators to ensure that it exactly meets the rigorous needs of live sports production making the interface easily accessible to any experienced operator.

As today's entertainment programs incorporate more fast-action, the LiveTouch panel provides the same live action confidence as it does in sports, allowing producers to incorporate live replay for their studio or location audiences with ease. This includes the ability to create highlights packages during live programs to summarize segments before commercial breaks.
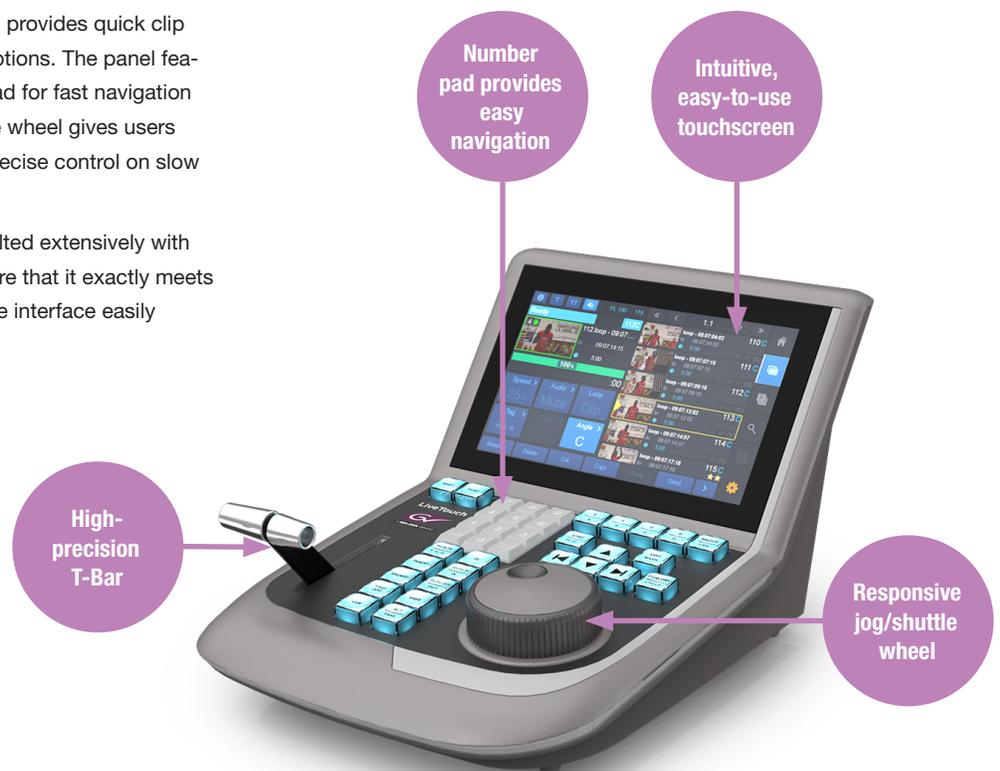
LiveTouch Tablet Application

The LiveTouch Tablet Application allows on-air talent to control LiveTouch ports and playlists via WiFi on a simple tablet application. Users can cue and play clips in LiveTouch playlists as well as having access to jog, shuttle and slow-motion.

LiveTouch 4K

LiveTouch 4K offers the fastest, most efficient workflow at 4K UHD giving instant access and collaboration by all users on the system.

Density and Scalability

LiveTouch's interserver workflows allow the system to thrive in 4K UHD. Multiple 4K UHD servers can be pooled together allowing LiveTouch to seamlessly scale to larger 4K UHD productions, providing familiar workflows while also preserving rack space in trucks and studios. Larger LiveTouch zones can be treated as a single multicamera production bank, allowing instant access to more camera and feeds than other systems.

Number pad provides easy navigation

Intuitive, easy-to-use touchscreen

High-precision T-Bar

Responsive jog/shuttle wheel

4K UHD Editing

LiveTouch is tightly integrated with Grass Valley's 4K UHD editors, eliminating the need to move media and breaking the physical link between replay and editing workflows. This offers innovative new 4K UHD production workflows completely unique in the industry.

Essence Handling

LiveTouch's 4K UHD media is stored and accessed as a single 4K UHD XAVC class 300 image rather than Quad HD. This avoids tearing and sync complications during playout.

4K UHD Workflow

LiveTouch offers the fastest, most efficient workflows in 4K UHD. Grass Valley's LiveTouch and sQ editing systems also offer 720p browse that's generated on input, unlocking powerful workflows both locally and remotely. Users can instantly create, share and playout 4K UHD content with ease.

Third-party Graphics Integration

LiveTouch now offers telestration and graphics directly from the panel touchscreen with integrated graphics packages from ChyronHego or RT Software. Illustration tools, keyframe tracking, split screen views and more can be applied to LiveTouch highlights and played back to air quickly and easily for enhanced storytelling and in-depth analysis tools in live sports production.
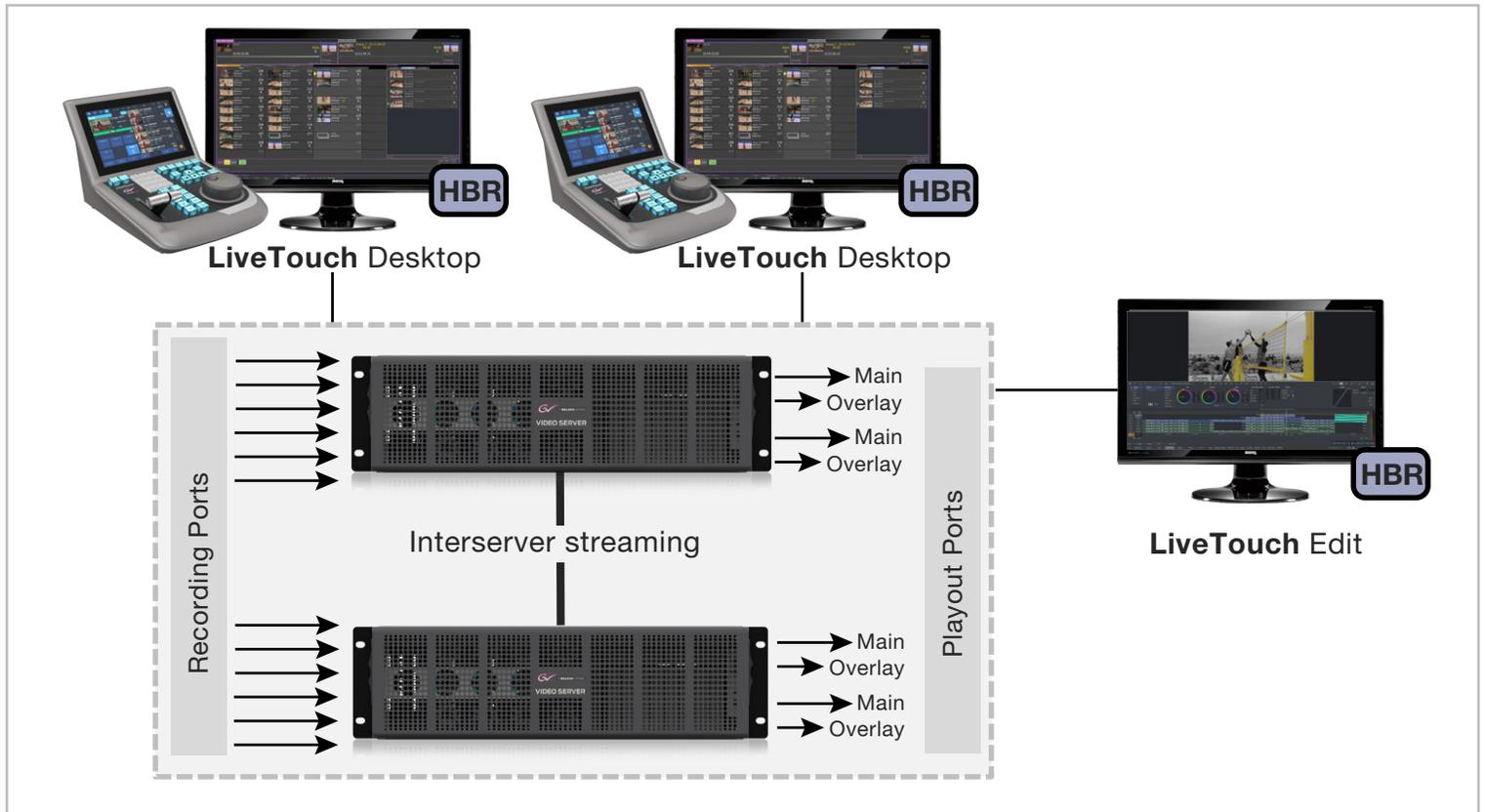
Multiple LiveTouch desktops with dual servers.
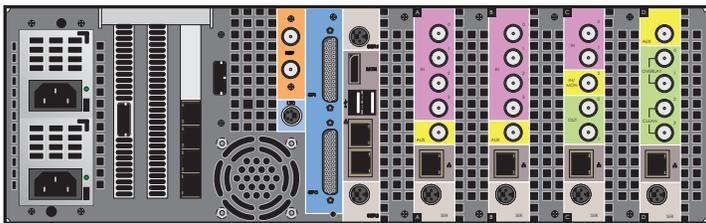
LiveTouch Max rear.
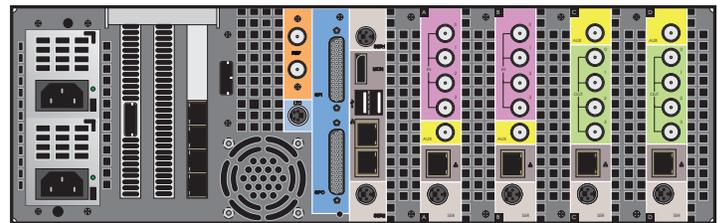
LiveTouch 4K rear.

SPECIFICATIONS

HD
Channels: 12
Formats:
AVC-Intra
DVCPRO
XAVC
DNxHD
ProRes

4K UHD
Channels: 4
Formats: XAVC Class 300
12 Gb single-wire I/O

LBR
Proxy generation
Proxy type:
H.264
MPEG-4

Loop Recording
Included

Playout
Mix/wipe effects on playback
Mix/wipe effects on single channel
Upconvert/downconvert between resolutions

HDR
Standards supported:
HLG
PQ-10
S-Log3
Pass-through
Color space conversion on output
Re-sizing on output

Slow Motion
Super motion support
HD super slow-mo supported: 2x, 3x, 4x, 6x

Audio
Embedded audio tracks: 16/channel

Control Panels
Control panels per server: 4
Network enabled
Built-in touchscreen

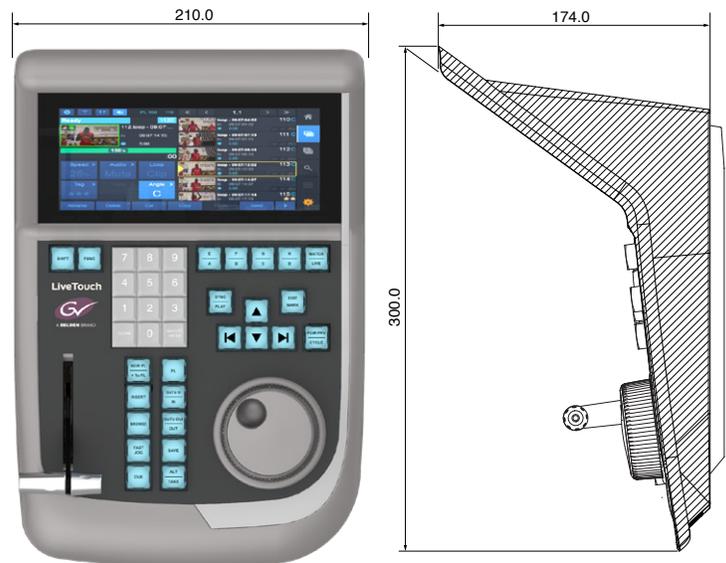### Workflow
Built-in file import/export: LT Client
In-server editing
In-server craft editing
Multicam I/O included

Control Protocols
VDCP
GPI/O

210.0   174.0   300.0

All measurements in mm.

Mechanical Specifications
Size: 3 RU
Dual power supplies, hot swappable

Storage
Internal Storage:
8x 1.8 TB disks HDD
8x 1.6 TB disks SSD option
8x 3.2 TB disks SSD option
External Storage: 24x 1.8 TB disks HDD

Storage Capacity
Up to 400 hrs internal
Up to 600 hrs external
Up to 76 hrs 4K UHD

Network
Quad 1 GB network card, or
Dual 10 GB network card

System Reference
SD: NTSC/PAL Black and Sync
HD: Tri-Level Sync

ORDERING

	LiveTouch Highlights	LiveTouch Max	LiveTouch Flex	LiveTouch UHD Flex 12G
Multicam Support	✓	✓	✓	✓
8 Channels 1080i/720p	✓	✓	✓	✓
HD SSM	✓	✓	✓	✓
12 Channels 1080i/720p	—	✓	✓	✓
8 Channels 1080p	—	✓	✓	✓
1.6 TB SSD	—	✓	✓	✓
3.2 TB SSD Option	—	✓	✓	✓
12 Channels 1080p	—	—	✓	✓
3G SSM	—	—	✓	✓
UHD Capable	—	—	✓	✓
HDR Capable	—	—	✓	✓
12G Mainframe	—	—	—	✓

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