

# K2 Edge

AUTOMATED, MULTICHANNEL, INTEGRATED  
PLAYOUT SERVER SYSTEM

K2 Edge is a robust and proven Linux-based, software-centric, multi-platform playout system with a purpose-built, high availability architecture for mission-critical 24/7 playout applications.



Multichannel, integrated, automated playout is the next evolution in the program playout market segment. While traditional playout solutions take advantage of IT-based technologies to control separate components, it is only when all of the applications—asset management, channel design, media playout, and automation—are designed to work together from the ground up, can further workflow efficiencies be realized.

While there are benefits for some facilities who have invested in traditional playout automation to continue with that approach, it is too expensive and unnecessarily complex for many of the new players coming online.

A fully integrated system offers tremendous benefits, the least of which being lower initial capital cost. Total cost of ownership is also reduced by streamlining the playout workflow as

each tool—server, graphics, master control, and the automation system itself—is seamlessly integrated and purpose-built to work together.

The Grass Valley™ K2 Edge™ range of multichannel, integrated, automated playout solutions is available in three levels of capability:

**K2 Edge Express**—for entry-level channels with minimal graphics needs.

**K2 Edge Pro**—for main-line channels with more sophisticated graphics such as picture-in-picture.

**K2 Edge Elite**—offers switching for up to four HD sources and multichannel 2D and 3D graphics, complete with DVE moves including credit squeeze.

K2 Edge grows with you and your operation. You can easily migrate, via a software license, to any of the levels of capability within the K2 Edge range.

## Asset Management & Playout Automation

Each K2 Edge system includes the Grass Valley K2 TX/MAM™ asset management system with a central database and Grass Valley Cobalt™ playout automation software. The K2 TX/MAM standard IT server uses a web-based GUI to control all assets including video clips, audio clips, captioning, metadata, and graphic elements on discrete playout nodes.

Standard functionality of the K2 TX/MAM asset management system includes:

- File ingest
- Trim, soft part segments
- Low-res proxy quality control
- Secondary essence management
- Closed-caption/subtitles
- Customizable metadata
- User rights management
- Transmission dashboard
- FTP interface to optional storage solutions

## KEY FEATURES

- Integrated content playout and sophisticated channel branding
- Input source switching
- Integration with channel control, content prep, and traffic system
- Up to eight configurable SDI inputs and outputs
- SD and HD compatible
- Multichannel audio support
- Integrated clips/live inputs, text, animations, voiceovers, tickers, crawls, logos, 2D and 3D effects, DVEs, WSS/AFD/VI, teletext, subtitles, and much more
- Channel Composer™ easy to use, free-form channel design/program software
- Video bypass function
- High reliability, 24/7 playout
- Redundant HDD and PSU

## PRODUCT DATA SHEET

The Cobalt playout automation system manages all on-air events, and for increased reliability, runs completely independently from the database.

- Schedules are imported manually or automatically
- Schedule importer links events with formats by rules
- Formats can be added, deleted, and replaced manually
- All secondary events created in Channel Composer are visible
- References to database fields and import fields are populated
- Timing of all secondary events are visible
- References and timing can be manually changed
- Multiple channels can be operated at the same time
- Main and backup are automatically run in sync

### The On-Air Look

As an innovative approach to creating the on-air look of a channel, Grass Valley Channel Composer manages the import (from traditional graphics design tools such as Photoshop, Premiere, and After Effects) and animation of 2D and 3D graphics, creates animations, and links graphics templates to data sources for real time on-air presentation.

A powerful, fully integrated channel graphics composition and management tool, Channel Composer runs on Windows and Mac platforms and is integrated with the K2 TX/MAM server where templated graphics and a data stream can be defined and then referenced together as “live” integrated elements in the on-air playlist.

Channel Composer is also used to export the complete channel design as a single package (channelpack) to the central database and becomes active from a certain date for a specific channel.

Channel Composer is not a graphics design tool for the channel as it is too highly integrated with the real-time aspects of the K2 Edge system to allow the freedom of design that designers are used to.

### An Integrated Part of the K2 Family

As part of the K2 media server family, K2 Edge is focused on integrated playout where all the needed functions—media playout, channel graphics, asset management, and automation—are included in one tightly integrated system.

K2 Summit™ Transmission clients and servers provide the basis for content ingest, preparation, and archiving, as well as playout for those using a traditional approach for managing their playout.

K2 Summit and K2 Solo™ are production servers for live events (including slow-motion), news, and entertainment programming.

Integrated playout is not just about adding a PC to an existing automation system for clip playout. It requires a more unified approach, especially in the area of on-air channel design with the management of all on-screen elements.

The K2 Edge system is fully integrated and built from the ground up, not some “lite” version cut out of a high-end playout system. With K2 Edge, you’ll see immediate benefits, both on-air and on the bottom line.

## K2 EDGE EXPRESS – BASE PLOUT FUNCTIONALITY

Additional features not shown: One live input, unlimited text, and four audio tracks.

### Animated Graphics

Maximum 1 (e.g. Grass Valley logo)

### Clips

Maximum 1 (e.g. sunset video)

### Static Graphics

Maximum 1 (e.g. background for text crawl)



### Crawls and Tickers

Maximum 1 (e.g. text crawl)

## K2 EDGE PRO - BASE PLAYOUT FUNCTIONALITY

Additional features not shown: Two live inputs, unlimited text, and eight audio tracks.

**Animated Graphics**  
Maximum 2 (e.g. Grass Valley and Fusion logos)

**Clips**  
Maximum 1 (e.g. sunset video)

**2D DVE**  
Maximum 1 (e.g. squeeze of sunset video)

**Static Graphics**  
Maximum 2 (e.g. backgrounds for text crawls)

**Crawls and Tickers**  
Maximum 2 (e.g. 2 text crawls)

**Text**  
Unlimited (e.g. 3 text blocks)

**SCROLLING END CREDITS**  
FROM METADATA  
2011

**First Crawl/Ticker, any size or screen location**  
**Second Crawl/Ticker, all tickers can have still/animated graphics**

## K2 EDGE ELITE - BASE PLAYOUT FUNCTIONALITY

Additional features not shown: 16 audio tracks and unlimited voiceovers.

**Animated Graphics**  
Unlimited (e.g. Grass Valley and Fusion logos with tilt)

**Clips**  
Maximum 4 (e.g. sunset video)

**Live Inputs**  
Maximum 4 (e.g. PGM/LIVE x2 with 3D squeeze)

**2D DVE**  
Unlimited (e.g. squeeze of sunset video)

**Static Graphics**  
Unlimited (e.g. backgrounds for text crawls)

**Crawls and Tickers**  
Unlimited (e.g. 2 text crawls)

**Text**  
Unlimited (e.g. 3 text blocks)

**3D DVE**  
Unlimited (e.g. squeeze of 2 PGM/LIVE and tilt of Grass Valley and Fusion logos)

**SCROLLING END CREDITS**  
FROM METADATA  
2011

**First Crawl/Ticker, any size or screen location**  
**Second Crawl/Ticker, all tickers can have still/animated graphics**

**K2 EDGE CAPABILITY COMPARISON**

Feature	Express	Pro	Elite	Description
Clip playback	1	1	4*	Playback of MPEG-2, DV, or H.264 from disk
Live inputs	1	2	4*	Live video inputs switched to the output
Static graphics	1	2	Unlimited**	Bugs, lower-thirds, straps
Animated graphics	1	2	Unlimited	TARGA/TGA and QuickTime 32 objects
Crawls and tickers	1	2	Unlimited	Crawling text/graphics
Text overlay	Unlimited	Unlimited	Unlimited	Basic text overlay
2D DVE	—	1	Unlimited	2D DVE for clips, live sources, graphics, and text (e. g., credit squeeze)
3D DVE	—	—	Unlimited	3D DVE for clips, live sources, graphics, text, and 3D objects (e. g., credit squeeze)
Audio tracks	4	8	16	Embedded audio only
Voice overs	—	1	Unlimited	Imported as a simple .WAV file
ANC package	Optional	Standard	Standard	Includes: added languages for closed captions and subtitles, packet 31 VBI cue tone, teletext, and VCHIP generation
HD support	Optional	Optional	Standard	HD upgrade support that also includes a simultaneous downconverted SD output (multicast mode)
Upgrade to 5 TB RAID-5	Optional	Optional	Optional	Optional upgrade from 2 TB RAID-0 to 5 TB RAID-5 protected storage
Preview	Optional	Optional	Optional	Optional preview playback channel
Record channel	Optional	Optional	Optional	Optional record channel under Cobalt automation control
UDP monitoring	Optional	Optional	Optional	Video monitoring over an IP network

\* Up to 8 in SD

\*\* Not limited, only restricted by what can be processed in real time

**SPECIFICATIONS**

**Platform**

- Linux OS real-time 2.6 kernel
- Ethernet 10/100/1G, 10/100 for IP manager
- LTC 1 input and 1 output
- PC i/f VGA, keyboard, RS-232 port
- Size: (WxHxD) 440 x 44 x 620 mm (7.3 x 1.7 x 24.4 in.) (excl. connectors and panels)
- Weight: max. 15 kg (33 lbs.)
- PSU: redundant, dual AC, max. 500 VA

**Video I/O**

- 8 configurable as inputs or outputs: 75Ω BNC
- SD SDI: SMPTE 259M, ITU-R601
- 525/625 line component, 10-bit HD-SDI: SMPTE 292M, 10-bit, 1080p SMPTE 424M
- Bypass dedicated fail over input and output

**Channel Outputs**

Single channel, SD or HD

**Internal Storage**

- Standard 2 x 1 TB drives RAID-0
- Optional 6 x 1 TB drives RAID-6

**Input Source Switching**

Up to 8 input sources max. depends upon model

**Audio Channels**

16 channels, 48 kHz PCM

**Clip Playback**

MPEG-2 (Program stream, transport stream, Long GOP, I-Frame only), D1030, D1050, IMX, DV, QuickTime, AVI, MXF, H.264, MPEG-4, XDCAM

**Subtitles**

- Closed and open captions (optional)
- Teletext (optional)

**Environmental Characteristics**

Operating temperature: 10°C to 30°C (32°F to 86°F)

**GPI**

8 input and/or output

**Reference Genlock**

- NTSC/PAL blackburst composite analog or tri-level sync
- 1 BNC, 75Ω terminated
- Blackburst frequency lock: PAL, +10 Hz at subcarrier NTSC, +20 Hz at subcarrier

**Certifications**

UL 60950, FCC Class A, EMC Class A, CE, C-Tick, CSA 60950, IEC 950, EN 60950

**Included in Package**

- Power cords (2)
- Documentation CD
- QuickStart guide

**Graphics**

- OpenGL support
- DVE – 2D and 3D multiple
- Layers – unlimited
- Animations – streaming, multiple
- Text rendering – multiple, anti-aliased truetype TTF
- Tickers, crawls – multiple

**ORDERING INFORMATION**

Please contact your authorized Grass Valley representative.

[www.grassvalley.com/sales](http://www.grassvalley.com/sales)

**GLOBAL SERVICES**



Grass Valley Global Services specializes in the defining of, deployment of, and support of today's dynamic file-based workflows, based on Grass Valley and third-party solutions. With Grass Valley Global Services, you can achieve your operational goals in the most efficient and cost-effective way possible with a partner you can trust.

[www.grassvalley.com/support](http://www.grassvalley.com/support)

**Define:** We help you to define your business and technology requirements and then design solutions to meet them.

**Deploy:** Our professional service organization, backed up with proven project management methodologies, can take you from design through deployment, commissioning, and training.

**Support:** We offer a complete SLA portfolio to keep your systems running and help plan for your long-term maintenance needs.

Join the Conversation at **GrassValleyLive** on Facebook, Twitter, and YouTube.

