



Who is ...

grass valley

A BELDEN BRAND

We are ...

Grass Valley is a trusted partner completely focused on empowering customers to create, control and connect content wherever, however and whenever it is consumed.

We provide the innovative tools and expertise to help customers improve the efficiency of their operations while telling better stories to attract and keep viewers.

Headquartered in Montreal, Grass Valley has been in the broadcast business for nearly 60 years and is part of St. Louis-based Belden Inc.

Content your av

Committed to Innovation



1,100

patents



21 Emmy Awards



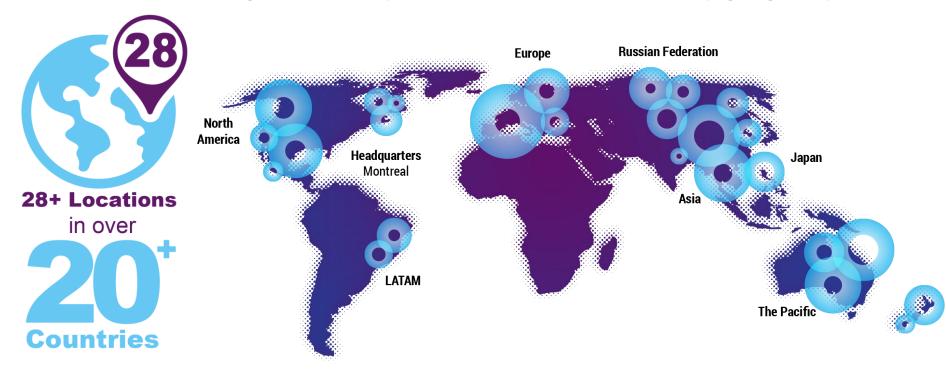






A Global Footprint to Meet Global Demand

Broadcast is a global industry and we're able to serve every geography







A BELDEN BRAND

Our Vision and Values

Vision: How Our Customers Benefit

Create

Grass Valley, a Belden Brand, empowers customers to Create Control and Connect content wherever, however and whenever it is consumed.







grass valley

A BELDEN BRAND

Winning Solutions

Key Application Areas







Connect and monetize.



Live Production – Better than being there

- Cameras
- Switchers
- Replay
- Graphics





News – Everywhere it happens

- Video production and content management
- Automated production
- Servers and storage
- Editing





Content Delivery - Connect and monetize

- Integrated playout
- Master control and branding
- Cloud-enabled playout
- Graphics
- Captioning and subtitles





Networking – Build a solid foundation

■ IP

■ Enterprise Routing

■ Signal Processing

■ Multiviewers







Customer Stories

Customer Stories — Live Production

"This is a very significant investment. We believe that basing our infrastructure on emerging technology will deliver the most powerful and advanced OB trucks in the world, capable of providing the service and flexibility customers will be expecting and demanding in the coming years."

Richard Yeowart, Group Managing Director, Arena Television Limited, UK





Customer Stories — News

The Australian Broadcasting Corporation (ABC) is undertaking a massive two and a half year project to upgrade all of its news and current affairs facilities throughout the country, and has chosen Grass Valley as the systems integrator and editing equipment provider.



Customer Stories — Content Delivery

"The ability to purchase a system today and know that we can add more channels in the future or add new features by applying a software key means we can plan our business knowing iTX will be there to support us as we grow."

Francisco Carreira, Head of Multimedia Production Center (CPM), NOS Audiovisuals





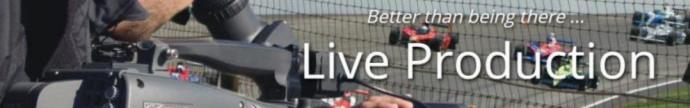
Customer Stories — Networking







Keeping your investments safe



Delivering high quality storytelling capabilities for Live Production



Cameras Captures the Action



Shows Camera Angles



Signal Processing Keeps Audio / Video in Sync



Production Switcher Produces the Show



Replay Stores Video for Slow Motion Replay

1. Based on management's best estimate

THE MARKET SHARE LEADER IN LIVE PRODUCTION AND THE ONLY VENDOR TO OFFER THE COMPLETE END-TO-END SOLUTION Camera Portfolio



Focus 75 Live

Highly affordable HD camera system High quality entry level HD camera system



LDX 82 / C82 Series

The most advanced HD camera system available Add the "UHD" features to HD market, supporting Native HDR and WCG

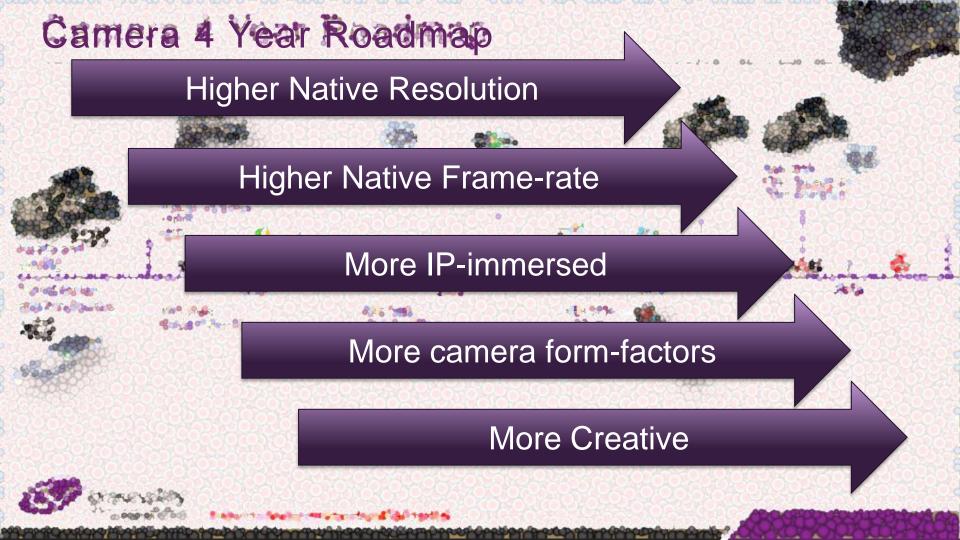


The most powerful HD/UHD/high speed camera system available Available in many versions addressing all the different challenges

3G or XF Transmission

3G triax, 3G Fiber, XF fiber, Unique eXchangable XCU, New UXF provides AIMS IP.





Key Initiatives for 2018 – Camera Systems

Support new production formats: Take UHD to the next level

- 4K will double in the next 3 years
- Full 4K and HDR workflows

Leverage Innovation Leadership to support more cost effective productions

 Supporting AIMS Roadmap to provide flexibility and increase utilization towards Remote Production solutions

Increase product Quality and Reliability

- Optimize platforms to streamline operations
- 3rd party support to train and provide new insights for next generation products



LDX Enhancements

- ♣ Film frame rate formats
 - Required by more content creators to get that film look
 - Helps address new markets as well as current broadcaster increasing need
- ♣ HDR for Super Slow motion modes
 - Needed for complete HDR solution
 - Becoming competitive requirement





XCU UXF and advanced UXF Cradle

Grass Valley's essential step towards a full IP live production solution

- Support of AIMS roadmap with full 2022-7 redundancy and new ST 2110
- Flexibility by supporting all video formats over IP including high speed operation and HDR
- Full Hybrid XCU with SDI and IP creating maximum production flexibility
- New cradle with additional 4x MSA compliant SFP+ slots adding 12G SDI through SFP for uncompressed 4K workflows









Switcher Portfolio: Flexible and Scalable

Control Surfaces



3 RU



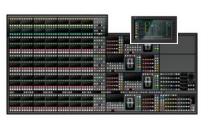












Kayenne 1, 2, 3 & 4

K-Frame Video Processing Engines

Up to:

80 Inputs

48 Outputs

Compact Frame - 6RU

K-Frame V-series – 3RU

A BELDEN BRAND

Up to: 6 RU

32* Inputs 16* Outputs

3 M/E plus 2 VPE grass valley (*additional HDMI IO)

5 M/E or 6 M/E in "S-series" Standard Frame - 14 RU



Up to: 192 Inputs 96 Outputs 9 M/E

Key Initiatives for 2018 – Switchers

Support the GV IP end to end production deliverable message

- GV K-Frame X (Mustang Phase-1) for an ALL IP IO footprint, high end switcher
- Common ST 2110-20/30/40

Game-changer video processing engine

- Develop "Full Raster 4K" processing board set introduced into GV K-Frame X (Mustang Phase-2)
- Same M/E count in HD or UHD/4K with like functionality
- New internal conversion method

Continue to drive "lower cost" solutions without creative compromise

- Deliver EZ 4K software into "S" & V" series
- Introduce IP IO boards into V-series along with 3D DPM board option
- Possible introduction of compact "X"



"GV K-Frame X" & v12.0

♣ New K-Frame chassis

- New air-flow cooling design front to rear (bottom to top)
- Chassis: 15RU height + 1RU PSU
 - Depth: 24" from rack ears

Continues as the largest IO footprint in the market – 192x96

- IP board(s), bi-directional mixed IO 16x8 & 8x4 (also available in SDI)
- SFP28 compatible with both 10G or 25G ports
- SMPTE 2110 path with 2022-7 redundancy available
 - FCS with TR-04: 20222-6 / AES67

♣ SDI Conversion board

- 32 inputs & 16 outputs hardwired conversion
- Includes: 2SI<>SDQS
- ♣ Internal floating conversion
- ♣ Utilizes the current K-FRM-ME-DPM boards





K2/Dyno Family Portfolio

For Production Applications



Dyno Replay controller

- Windows based
- Works with K2 Summit
- Easy to Use controller

K2 Summit SDI/IP

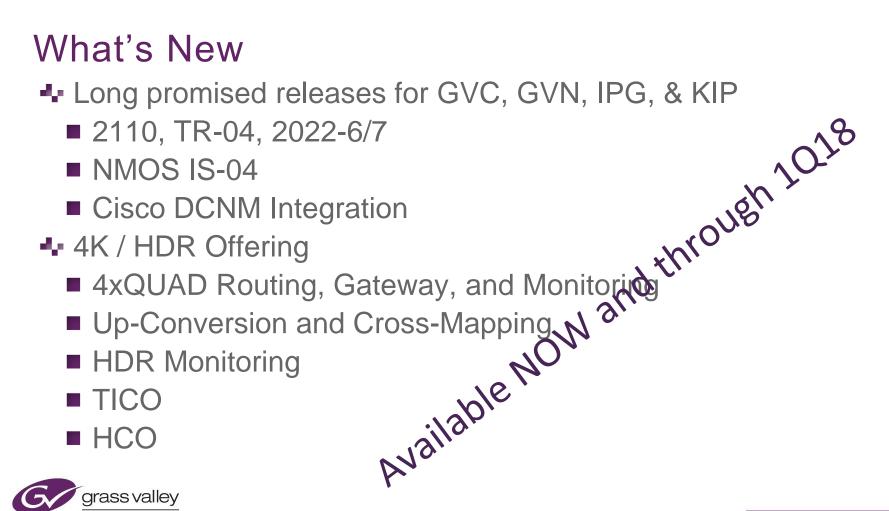
- 3G or IP connectivity (SMPTE 2022-6)
- Capable of 4-wire 4K

K2 Storage

- Most scalable architecture of any real-time videocentric offering
- On-line, Production









Key Market Trends

- ♣ Field Programmable HW
 - Meet customers' present and future needs
 - Optimize CapEx utilization
- SW, Virtualization, and Cloud
- ♣ IP Monitoring, Visualization, & Troubleshooting Signal ≠ Wire
- ♣ Still big investments in SDI



