

**Flexible Codec Support**

- Dalet Brio supports a very wide range of software codecs. In order to ensure broad interoperability, industry-standard wrappers such as QuickTime & MXF are supported, allowing seamless workflow integration with third-party NLEs and Dalet production tools. Dalet Brio can play any supported files, including a mix of SD and HD, on the same timeline, back-to-back with dynamic cross-, up- and down-conversion of the video signal, as well as the video signal, aspect ratio modifications.

**Rich Feature Set**

- Dalet Brio is designed to run as a standalone video server, or to seamlessly integrate with other applications to meet the needs of Sports, News, Production, Program Management and Archive workflows. Dalet Brio can also be controlled using VDCP, BVW, FIMS Capture or its RESTful API protocol making it simple to integrate with 3rd party control or automation.

**Proven Reliability**

- With more than 600 deployments news, channel automation, MAM & QC and Sports production, Dalet Brio has a successful track record that spans just about every broadcast server workflow scenario. More than its versatility, Brio has proven its load tolerance and scalability capabilities, supporting large content producers and broadcasters.

**Dalet Brio**

Dalet Brio is an innovative and cost-effective platform for broadcast customers looking for non-proprietary hardware to digitize and playback their content, either as a complement or replacement of their existing video servers.

Built on an IT-based input and output video platform, it seamlessly integrates with Dalet Solutions to provide a highly flexible and scalable end-to-end solution.

Dalet Brio units are designed to ingest and playout broadcast quality video in Proxy, SD, HD and UHD formats. They come in a variety of input / output or local / central storage combinations. Each unit is built on robust IT equipment with built-in redundancy.

**New in this version V3.9:**

- IP I/O - Software based ingest and playout (SMPTE-2022-2)
- IP I/O - Simulcast of SDI and IP streams
- IP I/O - NMOS flow management implementation
- IP I/O - Software based ingest and playout in Newtek NDI format
- Media Navigator - Connection to Dalet Sports logger (Espresso features)
- Web Portal - Control of audio volume for ingest and playout

**New in previous versions:****V3.8:**

- Ingest Scheduler – Presets
- Ingest Scheduler – Ability to trigger workflows with custom parameters
- Ingest Scheduler – Ability to QC a file during/after ingest
- Web Portal – Play while ingest support in the Channels page
- Support for two simultaneous XAVC-4K Intra channels per Brio (up to 60p)
- SMPTE-2022-7 Support for SMPTE-2022-6 on ingest and playback

**V3.7:**

- Web Portal – Players/Recorders control
- SMPTE-2022-2 H.264/AAC Ingest
- SMPTE-2110 Playback\*
- Support for first frame timecode extraction from MOV files
- Backup Copier – Option to trigger the copy at the end of the ingest
- Media Navigator – Thumbnails import from Dalet Galaxy
- Media Navigator – Imports/Exports enhancements
- Media Navigator – Ability to set the clip playback speed in manual mode
- Media Navigator Importer running as a service

\* Check availability

## Dalet Brio Configurations

### Channel Configurations

Brio 1 - 1in/1out multi-rate HD / SD SDI

Reconfigurable models with frame synchronisers on inputs and UHD support

Brio 4 Basic - 4 reconfigurable i/o multi-rate SD / HD / 3G SDI (no AES/EBU, no hardware processing)

Brio 4 - 4 reconfigurable i/o multi-rate SD / HD / 3G SDI

Brio 6 - 6 reconfigurable i/o multi-rate SD / HD / 3G SDI (software upgrade to 8 and 12)

Brio 8 - 8 reconfigurable i/o multi-rate SD / HD / 3G SDI (software upgrade to 12)

Brio 12 - 12 reconfigurable i/o multi-rate SD / HD / 3G SDI

Model with SMPTE-2022-6/7 and SMPTE-2110\* support

4in/4out multi-rate SD / HD / 3G with SMPTE-2022-6/2110 connectivity (2x 10Gb SFPs)

\*Check availability

### CPU Configurations

Base and Performance

### On-board Storage Configurations

3.3TB - 133 hours @50Mb/s

6.6TB - 267 hours @50Mb/s

9.8TB - 400 hours @50Mb/s

13TB - 530 hours @50Mb/s

22TB - 850 hours @50Mb/s

Additional local/shared storage available upon request.

## Codec/Wrapper Support

### Wrappers (codec dependent)

MXF Op1a, MXF Op Atom

QuickTime Reference, QuickTime Self-Contained

MP4, AVI, MPG, WMV

### Proxy

MP4 H264/AAC - Configurable profile/level/GOP size/bitrate/resolution

WMV

DALET MPEG-2 Proxy

### SD (PAL, NTSC)

DV25, DV50, DVCPro25, DVCPro50

D10 IMX 30-40-50

MPEG-2@ML - 4:2:0 I-Frame 2-15 Mb/s - 4:2:2 Long GOP 10-50 Mb/s

### HD (720p50/59.94, 1080i50/59.94, 1080psf23.98, 1080p23.98, 1080p50/59.94)

DVCProHD

XDCAM HD - 4:2:0 (18-25-35 Mb/s) - 4:2:2 (50 Mb/s)

Avid DNxHD@ 120/145 (8-bit), 185/220 (8-bit), 185x/220x (10-bit)

Apple ProRes 422LT-422-422HQ

AVC-Intra Class 50/100

Sony XAVC Intra and Long GOP

Panasonic AVC-LongG (playback only)

MPEG-4 SStP SQ/Lite

MPEG-2@HL - 4:2:0 I-Frame 5-80 Mb/s - 4:2:2 Long GOP 5-300 Mb/s

JPEG-2000 (playback only, optional)

Uncompressed

### UHD-1 (up to 60p)

Apple ProRes 422LT-422-422HQ

Sony XAVC 4K Intra Class 300 and 480 (CBG and VBR)

## General Specifications

### Video specifications

SD SDI: SMPTE 259M, ITU-R601, 525/625 line component, 10-bit

HD-SDI : SMPTE 292M, 10-bit

75 Ohms BNC

ITU-R BT.601 (data and electrical)

### Dynamic conversions

Output : PAL <-> 1080i50, PAL <-> 720p50

Output : NTSC <-> 1080i59.94, NTSC <-> 720p59.94, 720p59.94  
-> 1080p59.94

Input : PAL -> 1080i50, NTSC -> 1080i59.94

Aspect ratio : AFD and WSS support for aspect ratio conversion (per channel)

### Special modes

Instant Replay and slow motion

Video + key

2D Graphics engine on each output channel

Loop recording with extraction and time delay

Ingest Once Write Many

### Video playback

Any supported format can be played seamlessly back-to-back

### Embedded audio tracks

16 tracks embedded per channel SDI (8AES-EBU)

Supports SDI embedded audio compliant with SMPTE 272M (SD) and SMPTE 299M (HD).

### Discrete AES/EBU audio tracks

Brio 1 : 4 tracks for input (2 AES pairs), 4 tracks for output

Brio 4/6/8/12 : Pool of 32 tracks (16 for inputs, 16 for outputs)

### Video Preview

Customizable text overlay per channel

Streaming multiviewer for remote preview in a web browser

### Video over IP specifications

SMPTE 2022-2

SMPTE 2022-6

SMPTE 2022-7

SMPTE 2110

NEWTEK NDI

### Audio specifications

Input : 48 kHz, 16-bit, 20-bit or 24-bits digital audio PCM

Audio clock genlocked to video reference in accordance with SMPTE 272M and AES11-1997

### Compressed audio types:

Any video clip with supported audio format can be played seamlessly back-to-back

Dolby-E pass-through.

### Reference Genlock

Analog blackburst reference (tri-level or bi-level), SDI input as reference or free running mode.

External termination with LOOP connector

Sub-pixel adjustment at 0.9 ns/step with respect to genlock in SD

Sub-pixel adjustment at 0.7 ns/step with respect to genlock in HD

Flywheel on genlock.

Connector : BNC, 75 Ohms with loop through

### Timecode

LTC SMPTE 12M for external "house" timecode (BNC Connector)

LTC and VITC reader/writer per channel (ANC-TC)

### Control

BVW, VDCP over serial /IP

FIMS Capture V1.1 - RESTful implementation

Administration API - RESTful

Ingest Scheduler API - RESTful

Players API - RESTful

### Redundancy

Dual hot swappable power supplies

RAID1 for system drives, RAID50 or RAID6 for data drives

Hot spare drives

Dual 10Gb or Quad 1 Gb Eth network attachment

Dual FC attachment

### Monitoring

SNMP, WMI

Brio Administration API (RESTful)

### Connectivity

Four 100/1000Base-T Ethernet ports and Two 10Gb Ethernet (opt.)

One USB 3.0 front, two USB 3.0 rear

One 15-pin SVGA

Multi-serial ports board (optional)

### File transfer protocols

CIFS, FTP

### Dimensions

Width: 44.55 cm (17.54 in.)

Height: 2 RU 8.9 cm (3.5 in.)

Depth: 74.93 cm (29.5 in.)

Weight : 28 kg (60 lbs) maximum

### Power requirements

Dual redundant Power supply, 750W hot-swap

50-60 Hz, 100-240 VAC

### Environmental characteristics

Operating temperature : +10 °C to +35 °C

Non-operating temperature(not in use): -30 °C to +60 °C

## Want to know more?

Dalet Digital Media Systems software solutions are used by Content Owners, Broadcasters, Sports Organizations and Post Production Facilities worldwide.

To find out more, contact your local Dalet channel partner, or contact Dalet:

[ddms@dalet.com](mailto:ddms@dalet.com)

[www.dalet.com](http://www.dalet.com)

### Headquarters:

16, rue Rivay - 92300 Levallois-Perret - France

+33 1 41 27 67 00

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