pebble beach
systems

dolphin

Integrated Channel Device

Introducing Dolphin, the compact, cost-effective integrated channel device from Pebble Beach Systems. Driven by Marina or Neptune automation, Dolphin adapts to the changing broadcast environment, integrating seamlessly into your installation alongside third party channel delivery products to deliver an integrated audio, video and graphics solution for ingest, channel branding and playout.

Applications

Dolphin supports an extensive range of compression and file formats, and is available in 5 configurations to suit different applications, each with up to 5.75TB of usable internal media storage which is RAID1 protected. It incorporates SD/HD video server, master control switcher, character generator and channel branding functionality, and target installations include regional commercial insertion, fast to market or short-term channels, disaster recovery centres and content ingest.

To ease on-site integration, reduce installation time and provide assured operations, each Dolphin is shipped as a complete unit that is preconfigured, assembled and tested. Customers benefit from simplified support, with only one number to call for advice on software, hardware, or system configuration.

Reducing Costs

Dolphin reinforces Pebble Beach Systems' strategy of allowing customers to select the most appropriate delivery technology for each individual channel. Under Pebble Beach Systems automation control it delivers highly automated multi-channel playout and ingest capability.

- Dolphin integrates seamlessly as a standalone channel device into a system which also incorporates complex channels using best of breed video server, graphics or captioning devices.
- Dolphin can also act as a component of a hybrid channel, alongside best of breed discrete devices.
- In all cases operators are presented with the same user interface across the entire system, whatever the underlying channel technology. With a single system-wide database, this avoids creating operational silos and simplifies channel control.
- Dolphin offers the ability to view an IP output directly in the UI for monitoring playout and ingest processes.

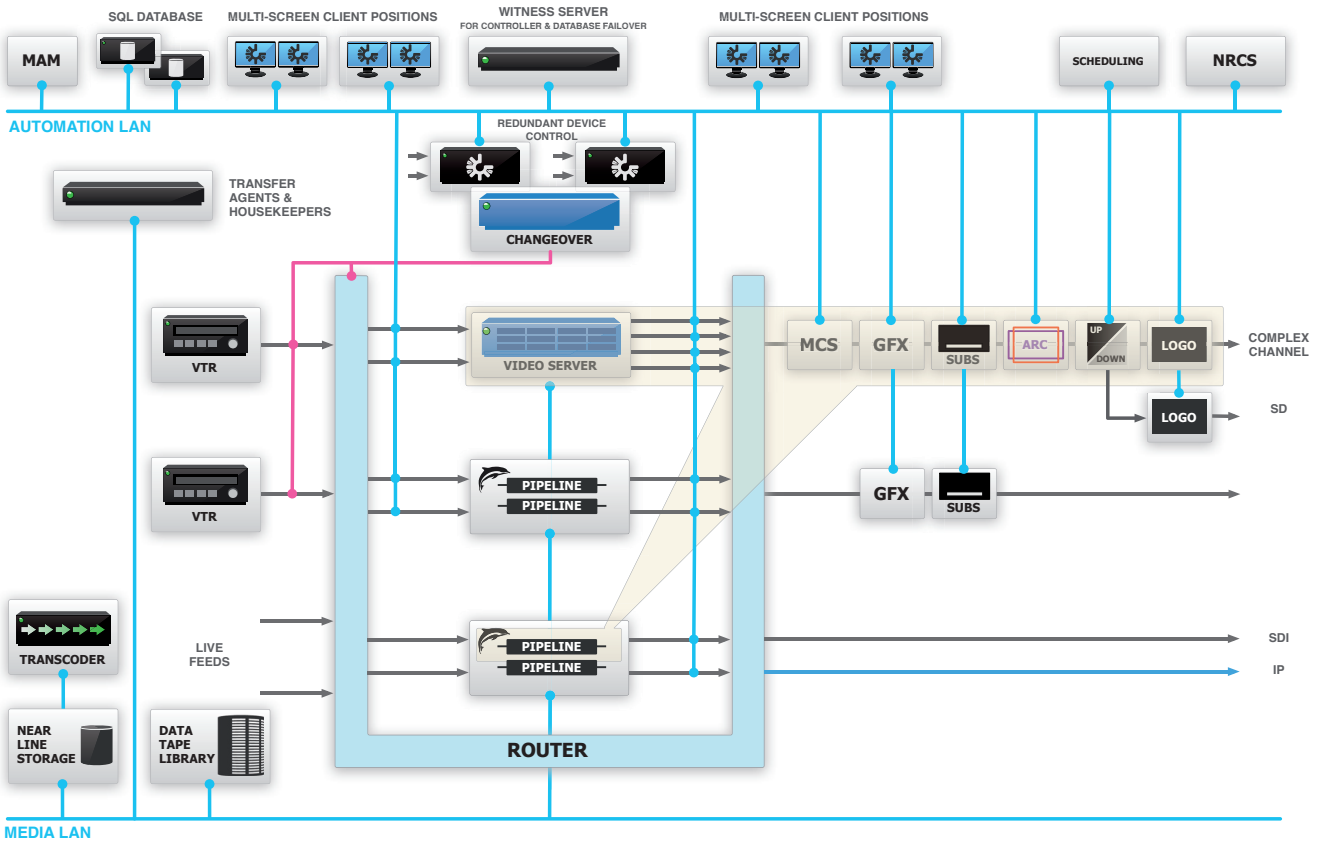
Flexibility of Operation

With full up- and down-conversion on ingest and playout, and the ability to mix file formats on the same timeline, Dolphin provides unparalleled flexibility of operation. Legacy SD content can be mixed seamlessly with new HD material and presented for playout in a unified format. Recognising the need for more compact and energy efficient operations, each Dolphin is delivered in a 2RU form factor which can support up to 4 channels, and boasts very low power consumption.

Integrated Content Management

Our integrated content management system can be used to automatically cache video and graphic assets into Dolphin's local storage based on playlist priority date and time to air. Continuous file system monitoring and asset registration also provides for content to be pulled into the Dolphin playout storage where it is automatically registered into the automation database and made available for playout.

Integration



Adding Functionality

- Benefit from Dolphin's flexibility to seamlessly playback different file wrappers and compression formats in SD or HD from content already encoded in your systems.
- Use Dolphin's inbuilt graphics, or retain your existing graphics and captioning workflows to maximise operational efficiencies.
- Employ Dolphin to improve the on air look of lower revenue channels with modest budgets.
- Allow your operators to preview content, directly in their UIs.
- Exploit Dolphin's parallel encoders to create high and low resolution versions of content.
- Benefit from dynamic video and graphics content validation, informing operators when events are ready to play.
- An affordable route to HD encoding and playout.

Key Features

- Quick, straightforward pathway for launch of new channels.
- Cost effective, space saving server solution.
- Single operator can control multiple channels.
- Modular client-server architecture means the system can grow with your requirements.
- Simulcast output capability provides simultaneous output of a single media timeline in HD and SD formats, eliminating the requirement for downstream cross-conversion.
- Low power consumption.
- Flexible cg support with text, logos, stills, RSS tickers, multi-lingual sub-titles, 2D and optional 3D effects
- Multi-channel audio support, with management of audio track tagging for language selection per event.
- Audio track shuffling.
- Aspect ratio control and WSS, AFD insertion.
- SD and HD Ingest, with key frame and browse generation.
- SD and HD media in multiple formats can be mixed on the same timeline.
- Fades, wipes and mixes between clips.
- Supports automatic caching of video and graphics content from near line storage to the Dolphin server according to multiple Playlist priorities.

Dolphin Software-defined Pipeline

Dolphin has been designed to replicate, in software, a playout chain that would traditionally have comprised a number of discrete hardware devices. This software pipeline can be configured to deliver the required video and audio workflows, allowing the user to easily specify the order in which processes such as graphics overlay, DVE and Aspect Ratio Conversion are handled within the system. Up to 4 such pipe-lines can be hosted in each Dolphin device, depending on the complexity of each channel's requirements.

Dolphin Configurations

Dolphin is available in 5 configurations, each with up to 5.75TB of usable internal media storage. All configurations support an extensive range of compression and file formats.

Configuration	*Encoders*	*Decoders*
Dolphin 22	2	2
Dolphin 04	0	4
Dolphin 24	2	4
Dolphin 41	4	1
Dolphin 44	4	4
DolphinIP		

Dolphin Baseband

Dolphin 22

2 encoders + 2 decoders

Provides playout flexibility for small broadcasters & niche channels, or local content contribution. The input can be used for encoding content, or as a live pass through over which Dolphin graphics can be displayed. Dual outputs support either A/B playback, an on air and preview facility, or can display HD and SD for true simulcast.

Dolphin 04

0 encoders + 4 decoders

Ideally suited to backup and disaster recovery channels, this configuration is designed to provide high density clip-based playout with on air graphics.

For live events the playlist can switch to an external router.

Dolphin 24

2 encoders + 4 decoders

Delivers flexible playout for medium density applications. The 2 inputs can be used for encoding content, or to enable live pass through for 1 or 2 channels, allowing Dolphin's internal mixer and graphics to be overlaid on live programming. Live to live transitions are supported. The 4 outputs support either 2 channels in A/B playback mode, 2 channels each with on air and preview capability, or 2 channels of true HD/SD simulcast.

Dolphin 41

4 encoders + 1 decoder

Designed for ingest and encoding applications, with the ability to handle up to 4 concurrent ingest jobs. A single review and preview output is provided.

Dolphin 44

4 encoders + 4 decoders

Ideally suited for high-density playout applications which require pass-through of live events. The 4 inputs allow for channels that have a mix of clip-based and live events, and Dolphin offers the capability of adding internal graphics and mix effects to the live content. Alternatively, this configuration can act as a high density ingest and encoding platform where the outputs are used to provide a review or a confidence playback of the encoded material.

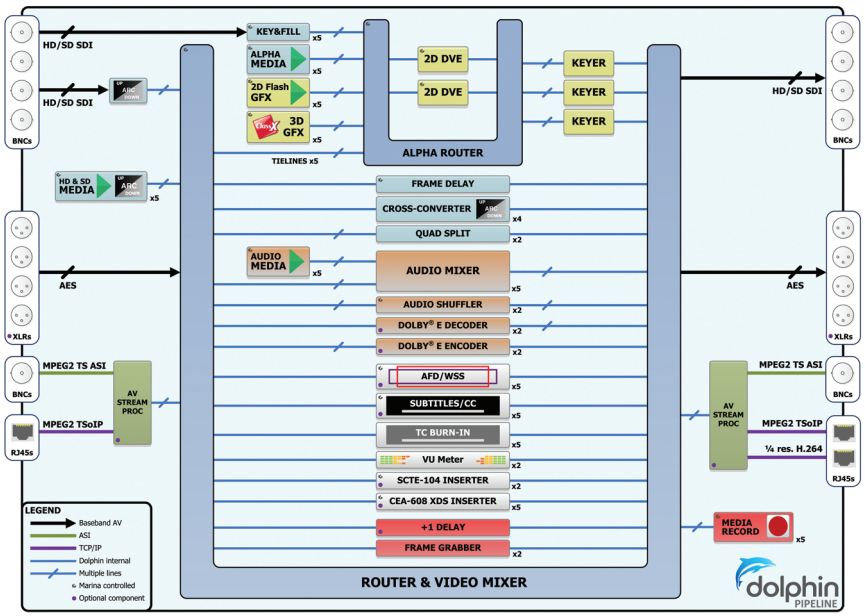
DolphinIP

DolphinIP delivers the ability to output channels as transport streams over IP, negating the need for baseband I/O ports and proprietary hardware. All of the baseband Dolphin channel configurations are available as IP inputs and outputs.

Dolphin Disk

Additional Storage for all Dolphin Configurations

Dolphin Pipeline



Specification

Physical

- 2U 19” rack mount form factor
- Configured with eight 900GB 2.5” SAS drives as standard. Up to fourteen media drives optionally supported
- Hot swappable drives
- Dual redundant 900W auto ranging hot swappable power supplies. 110-240VAC

Video I/O

- Up to four multi-rate HD/SD SDI inputs
- Up to four multi-rate HD/SD SDI outputs
- Serial digital component 4:2:2 video at 270 Mbps (SMPTE 259M)
  – 480i (NTSC) at 29.97 fps
  – 576i (PAL) at 25 fps
- Serial digital component 4:2:2 video at 1.48 Gbps (SMPTE 292M)
  – 1080i25, 29.97, and 30 fps
  – 720P50, 59.94, and 60 fps
  – 1080P/PsF23.98, 24, 25, 29.97, and 30 fps
- HD-SDI dual link (SMPTE 372M)
  – 1080P50, 59.94, and 60 fps
  – 8- and 10-bit YUV 4:2:2
  – 2K RGB 4:4:4 dual link
  – 8- and 10-bit
- 3G SDI (SMPTE 424M and SMPTE 425M-AB)
  – 1080P50, 59.94, and 60 fps
  – 8- and 10-bit YUV 4:2:2

Audio I/O

- 16 embedded audio I/O channels per stream (SMPTE 272M A/B/C and SMPTE 299M)
- 48KHz Sampling rate
- 16, 20 and 24-bit audio streams support
- Dolby D® and Dolby E® encoding and encoding

Other

- RP188 and VBI support
- Automatic bypass relay
- E to E mode support
- Analog reference (bi and tri level) with flywheel
- IP monitoring output at quarter resolution using H.264 encoded video
- Optional MPEG2/H.264 transport stream output over IP or ASI
- FTP interface for transferring content
- SCTE104 insertion

Playback Features

- Short clip playback - single frame
- Automatic aspect ratio conversion
- Graphics and text overlays (see below)
- Audio track shuffling
- Configurable delayed playback to create a ‘+1’ channel with independent logo

Record Features

- Inbuilt low resolution proxy browse transcoding with key frame generation
- Pause during record
- Source time code trigger enabling frame accurate recording from non-frame accurate playback devices

Supported Media Formats

- QuickTime (single file or referenced essence)
- Video encoding/decoding H264/AVC, DV, DVCPRO, DVCPRO50, DVCPRO HD, and MPEG-2
- MXF: Sony XDCAM(OP1a), Panasonic P2 (OP-Atom), DVCPRO(OP1a), MPEG-2(OP1a), MPEG-2 HD(OP1a)
- DNxHD (up to 120Mbps) in .MOV and .MXF
- AVC Intra at 50 and 100Mbps in .MXF
- .GXF
- .LXF

Captioning/Subtitling

- supports CEA-608 and CEA-708 closed captioning, PAL open captioning, OP-47 teletext, DVB closed captioning.
- supported file formats include .890, .scc, .srt, .chk, .stl, pac, .xml and .txt subtitles

Supported graphics file formats

- TARGA, GIF (still frame and animated), JPEG, SVG, PNG
- Support for 5 graphics layers
- Standard graphics support Adobe Flash for dynamic branding
- Enhanced graphics offer real time 3D graphics and dynamic branding, 3D DVEs, and a user friendly authoring tool in partnership with ClassX

Text Overlays

- Standard and Enhanced graphics support the following features:
  – Full language localization via Unicode international character sets support
  – Text ticker, derived from external feeds, e.g. RSS feeds
  – Dynamic branding
  – Template control of Dolphin DVEs (2 x 2D DVEs as standard per pipeline)

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Pebble Beach Systems has checked the information in this datasheet and believes it to be accurate. However the company accepts no responsibility for errors or omissions. Pebble Beach Systems reserves the right to modify its products and specifications without prior notice. Dolphin is available for control by Marina and Neptune. Not all features are supported under control of Neptune.

For more information contact **sales@pebble.tv**
or visit **www.pebble.tv**