

PlayMaker

Instant replay, slow motion server with highlight editing tools

PlayMaker is an SD/HD, slow-motion video server designed to meet the growing challenges of live sport productions. PlayMaker provides up to 8 I/O channels of high quality ingest, synchronized slow motion replay, and powerful yet simple editing tools.

With its unique 8 I/O channel capability, PlayMaker can provide up to 6 inputs while using preview/program output channels, or a combined standard and super slow motion configuration, significantly decreasing operational costs as fewer operators are needed.

With its "PlayNet" module, PlayMaker provides Gigabit network file sharing between servers, for preview, copy, or instant playout of clips from remote servers.

PlayMaker – the controller

PlayMaker's controller is designed to enhance the production workflow, while providing the operator with familiar and intuitive surroundings.

PlayMaker's controller can support up to 6 inputs and 2 outputs with multiple PGMs, or PVW/PGM capabilities. In addition, it supports super slow motion configurations including mixed super slow and standard recordings at the same time, as well as seamlessly mixing them on the output.



PlayMaker Controller

The PlayMaker controller's advanced architecture provides a user-friendly display, local database management, and sophisticated sorting tools. PlayMaker's programmable LCD buttons change appearance and functionality according to server status, providing more features, while keeping the controller interface simple. For example, when a clip is loaded, the buttons change label and functionality to allow "delete", "rename", "copy" etc.

Equipped with a 5.7 inch color touch screen, PlayMaker allows quick and easy access to the server's controls and configuration tools. Sort lists by selecting relevant columns, type in text using the virtual keyboard, and control the entire setup from the touch screen.

The PlayMaker controller includes a heavy-duty and configurable Jog and T-bar, and highly reliable, illuminated tactile buttons.

Instant replay

With its synchronized recording of inputs, once an "in" point is set, switching to a different input re-cues to the same "in" point, allowing replay of the same event from all recorded inputs. If necessary, different "in" and "out" points can be set for each input.

Clip management

Clips can be saved easily by pressing the Enter button, or by setting a clip number using the smart keypad. The PlayMaker smart keypad indicates used or available clip slots, protecting from operation mistakes, and accelerating operation speed.

To enhance the workflow, event types (goal, missed chances, reactions, etc.) can be set for each saved clip, by selecting one of the 12 event buttons. Events can be assigned to the buttons from pre-defined categories, according to sport disciplines, or can be custom defined. This allows easy sorting of different events for immediate replay.

Instant highlight editing

Preparing a playlist is also simple and intuitive. Users can set the clip's position in the list, trim the clips "in" and "out" points, switch the input, set different playout speeds and transitions for each clip, etc.

The playlist can be played using the Play button, the T-bar, or the Jog, which override each other.

PlayNet – sharing video over network

With the growing number of cameras used in each production and the demanding pace required, sharing clips between servers is a major factor to a successful broadcast.

With a click of a button, the PlayMaker operator can engage any server on the network. Once connected, the user can browse through remote clips lists or playlists, and select one to preview, copy, or playback instantly

To improve the communication between the operators in the truck, PlayMaker offers the "Inbox" module, which allows the operators to send links to clips, very similar to how emails are sent. Operators can browse through the inbox list and select any clip that was "emailed" to him for preview or import, significantly enhancing the production efficiency.

Studio mode

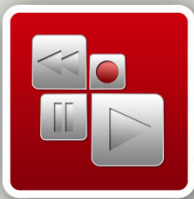
PlayMaker offers a dedicated studio mode to highlight edit multiple clips from various incoming feeds, turning each input into a standalone environment with its own clips and playlists. This significantly accelerates operation, improves the productivity, and the final result.

PlayMaker – the Server

PlayMaker consists of a compact 3U chassis which supports up to 8 I/O channels. Thanks to its flexible architecture, PlayMaker can be configured to support 6 input channels and 2 output channels, reducing the number of systems that need to be installed for production.



PlayMaker Server



PlayMaker

By supporting super slow motion cameras, PlayMaker can run 3 cameras at 50 frames per second or 2 cameras at 75 frames per second, from a single server and a single controller with 1 operator, while preserving the PVW/PGM output channels.

PlayMaker also supports combining 1 super slow motion ingest with 3 single channels seamlessly integrated for synchronized replay or to be played out from the same playlist.

Huge capacity

In order to provide increased storage with high data rates, advanced SATA technology is used.

PlayMaker uses 8 X 1 TeraByte disks, which provide over 60 hours of HD recording in 100mbps, or 120 hours of SD recording in 50 mbps.

High reliability

The video data on PlayMaker is protected with RAID 6 technology, ensuring that even if 2 disks are down, no data is lost and there is no degradation in server performance.

The video disks can be easily accessed from the front panel, without removing the server from the rack.

To further ensure server reliability and redundancy, PlayMaker uses a hot swap power supply and runs on the reliable Linux operating system.

3D stereoscopic support

With its unique 8 channels configuration, PlayMaker can provide up to 4 stereo channels with flexible I/O configuration, while maintaining the existing workflow.

Superior image quality

In order to provide the best available image quality, motion-JPEG2000 encoders are used. Motion JPEG2000 uses a wavelet-based transform to achieve better compression, providing superb image quality and high error resilience. The JPEG2000 fast encoders also provide very short latency, which makes PlayMaker very responsive to operator commands.

PlayMaker implements 2 line/4 line interpolation to provide high quality slow-motion replays at any speed.

Flexible audio configuration

PlayMaker provides a flexible audio configuration that can be easily integrated into any production workflow.

Configured to embedded audio, PlayMaker provides 8 stereo audio channels for each of the recording video channels, with audio mixing on the output when working in program/preview mode.

Audio data is kept uncompressed, and fully preserves all Dolby E and Ancillary data.

When working with analog audio or digital AES, PlayMaker can be provided with optional breakout boxes.

The 2U AC-8 box provides 8 balanced stereo analog inputs and outputs, which can be easily routed to each of the recording channels using the internal audio router, and can be operated from the touch screen. The same audio capabilities are available for Digital AES audio, with the AES-8 slim 1U device.

8 in video splitter

PlayMaker can be provided with Orad's MV-8 - a 1U rack mount unit with up to 8 inputs (6 in SD) and both SDI and full HD DVI outputs.

MV-8 supports either SD or HD SDI inputs, 50hz or 60 HZ, and can switch between various pre programmed screen configurations (4 in/6in/8in).

Features

PlayMaker Key Features – server

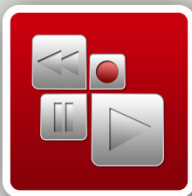
- Up to 6 in 2 out (2PGM or PVW/PGM)
- Multi format, SD/HD
- PlayNet - File sharing over network
- 3D stereoscopic support
- Super slow-motion support
- Up to 180mbps, variable JPEG2000 CODEC
- Over 60 hours of HD recording (@100mbps) 120 hours in SD
- Uncompressed audio, 8 stereo channels per input
- Optional AES and analog audio inputs and outputs.
- RAID 6 redundancy
- Synchronized, field accurate editing and playout
- High quality slow motion (2 or 4 line interpolation)
- On screen display for preview monitor including audio meters
- Redundant hot swap dual power supply

PlayMaker Key Features - controller

- 1000 cyclic cues, 4000 clips, 100 play lists
- Multi input clips, with separate in/out option per input
- 5.7" color touch screen
- LCD programmable buttons for advanced features
- Fast sort-by-event tools
- Robust T-Bar with programmable ranges
- Smooth response in fast jog search mode
- Powerful Linux operating system
- Smart keypad for errorless clip save and load
- Synchronized and non-synchronized switch between inputs

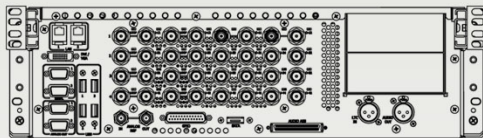


Graphic user interface



PlayMaker

Hardware Specifications



Technical specifications - Server

Mechanical specifications	Rack 19" 3U Height – 130mm Width – 443mm Depth – 631mm Weight – 28kg (approx.)
Power supply	Redundant power supply 2X 600W (max) 100-240V 47-63hz
3D stereoscopic	Dual link
Video bit rate SD	Scaleable 10 to 60 mbps - default 50 Scaleable 10 to 60 mbps - default 50
Video bit rate HD	Scaleable 30 to 180 mbps - default 100 Scaleable 30 to 180 mbps - default 100
Recording capacity SD	Over 120 hours (at 50mpbs)
Recording capacity HD	Over 60 hours (at 100mpbs)
Channels configuration	
on 2ch server:	1 in > 1 out
on 4ch server:	2 in > 2 out 3 in > 1 out 1 SSM in > 1 out
on 6ch server:	4 in > 2 out 5 in > 1 out 1 SSM + 1 in > 2 out
on 8ch server:	6 in > 2 out 1 SSM + 3 in > 2 out 2 SSM in > 2 out 2 outputs allows PVW/PGM or 2 PGM work modes Other configurations will be available in next release as software upgrades
Super slow motion configuration	In super slow motion mode, each two times normal speed camera will occupy two inputs, each 3 times normal speed will occupy 3 inputs
on 4ch server:	Two time normal speed camera 1 SSM in + 1 in > 1 out
on 6ch server:	1 SSM + 2 in > 2 out 2 SSM > 2 out
on 8ch server:	1 SSM + 4 in > 2 out 2 SSM + 2 in > 2 out 3 SSM > 2 out
on 4ch server:	Three time normal speed camera 1 SSM in > 1 out
on 6ch server:	1 SSM + 1 in > 2 out
on 8ch server:	1 SSM + 3 in > 2 out 2 SSM > 2 out
Compression	JPEG 2000
Embedded Audio	Up to 8 stereo audio channels per video input channel Dolby E, ancillary data fully preserved
Analog audio	Up to 8 in & 8 out balanced stereo channels, using an external 2U breakout box (AC-8), with software router for internal distribution
AES audio	Up to 8 in & 8 out balanced stereo channels, using an external 1U breakout box (AES-8), with software router for internal distribution
Video inputs	SDI / HD-SDI
Video outputs	SDI / HD-SDI
Video outputs monitoring	2X SDI / HD-SDI with OSD output option (SD/HD according to recording format) 2X Component preview (SD/HD according to recording format)
Genlock	Analog Black Burst / tri level 75Ω with loop through
Time code input	Internal free run LTC – XLR Embedded VITC / ATC (RP-188)
Time code output	VITC (of recorded Input TC)
Data interfaces	1x Serial 4x USB (2 front/ 2 back) 1X external SATA 2x Ethernet (1Gb) 1X VGA maintenance (front) 1X XLR LTC input
CPU	2.33 GHz Intel quad core Xeon
Operating system	Linux
RAM	3GB
System hard drive	2X160GB mirrored
Internal disk storage	8 x 3"1/2 1TB SATA 2
Hard Disk Redundancy	Raid 6 (striped disks with dual parity)
Environmental condition	Operating temperature: 5c – 40C Storage temperature: -40c – 70c Humidity: 90% max

Technical specifications - Controller

Mechanical specification	Height – 180mm Width – 280mm Depth – 285mm Weight – 4.8kg (approx.)
Power consumption	60W (max) 100-240V 47-63hz
Channels configuration	
on 2ch server:	1 in / 1 out
on 4ch server:	3 in / 1 out 2 in / 2 out (PVW-PGM or 2PGM)
on 6ch server:	5 in / 1 out 4 in / 2 out (PVW-PGM or 2PGM)
on 8ch server:	7 in / 1 out 6 in - 2 out - (PVW-PGM or 2PGM) (second controller allow 2 more outputs to be configured)
Super slow motion configurations	Up to three 2X normal speed cameras Up to two 3X normal speed cameras Combined with single camera recording channels
Data interfaces	1x Serial 2x USB 2x Ethernet (1Gb) 1X VGA
CPU	Atom N270
Operating system	Linux
RAM	1GB
System hard drive	8GB solid state drive
LCD	5.7" 640X480 TFT color touch screen
Push buttons	Illuminated, 3 million operations minimum
Input devices	Support for external USB keyboard & USB mouse
Environmental condition	Operating temperature: 5c – 40C Storage temperature: -40c – 70c Humidity: 90% max