• Broadcast quality, real time, 1 RU, Single Channel

• Highly Automated Playout Server with real time scheduling with switching between live and local origination.

• Also supports real time Ad, CG, Graphics, Text, and Logo insertion with Sophisticated Scheduling for Single or Multi Program Transport Streams.

• Splices, Overlays, or Surrounds video with Ads, Graphics, Logos, SLATES, or Text anywhere on the Live or Local Stream.

• Designed for Broadcasters who lease out their sub channels but run HD-SDI infrastructure.

• Includes full support for SCTE 35 ad triggers and works with most EAS systems with full FCC compliant splicing of audio, etc. on all channels. Interfaced to Several Traffic Systems and we can interface to yours.

Overview

• HD-SDI and SDI video underlie the basic infrastructure of all modern video distribution networks. Quite often content is distributed far afield from where it was created, by people who do not acknowledge its origins. The owners of content feel justified in branding their content with a small semi-transparent graphical logo that is not easy to remove. Also, everyone wants to generate extra revenue by inserting video or graphical adverts over or spliced into existing content. Others wish to add data or text to annotate the video or provide emergency alerts.

• PLAYSERVER™ HD-SDI 1ch is a cost-effective software-based system that inserts video clips, ads, graphics, text, and logos anywhere on your content in real time. As you may expect, it works by overlaying the graphics on incoming HD-SDI or SDI video streams. Triggering or time of video processing can be initiated by GPIO, DTMF, or time, arriving via serial ports or imports.

• Graphics can be created in several formats, although bitmaps and .png’s are preferred. The position of the graphics, transparency, and fade characteristics can be configured via the management console.

• Graphical elements can be inventoried on the onboard hard drives. Large local graphical libraries can be created for quick use under dynamic real world events.

• Graphical elements such as fancy fonts, boxes, borders, background colors, and identifiers can also be used to enhance the video content. Inside these distinct areas you can insert scrolling or horizontally crawling text. Military customers will use this device to insert a moving icon that can be manipulated via a joystick.

• A recently added feature is ad inventory management with "as-played" reporting.

• PEG channel feature set.
• Supports preroll, midroll, and postroll Ad Insertion via Splice, Overlay, or Squeeze

• Inserts or overlays graphical ads, video clips, logos, graphics, CG, scrolling text, and emergency alerts into live and stored video feeds on a schedule or via Contact Closures

• Works with most fonts: Chinese, Arabic, Indian, etc. via Unicode interface

• HD or SD SDI on any or all channels

• Secure Remote Scheduling from anywhere via Web Interface

• Generates playlists for time-shifted content that includes all national ads, local ads and content in pre, post, and mid-roll spot

• Built in intelligence makes scheduling easy

• Supports 1080p, 1080i, 720p, and 480i, and all standard broadcast resolutions

• Features daily, weekly, and monthly schedule-based logos, alerts, and text insertion

• Arbitrary location for graphics

• Choose from static, rotating, or blinking graphics, logos, and text

• Supports AD inventories, logs Ad plays, and generates Proof of Play list

• Creates crawling messages and emergency alerts with programmable fonts and background colors, in any language

• Inserts Open/Closed Captions from .srt, .stl, 608 and 708 standards

• Programmable video transitions (fade, flip, etc.) from one clip to the next

• Creates Real Time Clock display in programmable fonts and colors

• Displays remaining and next advertisement time in output video

• Overlays playing now/playing next event information

• Scales input video from 10% to 100% and overlay on graphics – Ideal for EPG

• Overlays animating PNG files and scales Input Video from 10% to 100% – Ideal for L-Wrap and transparent overlays. Video squeezes.

• Select any degree of transparency

• Easy drag and drop placement to position logo, text, or graphics on screen

• News feeds from RSS in any language, with programmable fonts and background colors

• Able to mask entire screen with a static image in case of video input failure

• Web based GUI with Drop Box Inputs for all Content

• 3 RU rack mountable frame (1 RU for single channel version)

• Template based character generator

• EAS support is standard

• SLATE function puts up an Empty Background on which you can type messages

• Comprehensive Customization to your needs is possible

• ESAM support in development

• Stores and manages Content, Ads, Messages, and Graphics clips, on local RAID – Optional RAID 1 and 5 configurations available

• Supports SCTE 104 and optional analog Cue Tone Detection

• Supports many forms of GPI

• Supports SurCode for Dolby Digital
**Automated Graphic Solutions**
- Video Scaling
- EPG with video
- L-Wrap
- L-Squeeze with zoom in and out
- Logo Fade In/Out
- Animated Logos
- Slates
- Full Screen Graphic import
- Graphics Overlay
- XML based graphics insertion
- Multiline Alerts
- RSS Scrolling Text
- FTP text support
- Scheduling
- Optional Master Server controls up to 100 PLAYSERVERs at different physical sites

**Automated Advertisement Solutions**
- SCTE-104 Support
- Contact Closure
- Scheduling
- Manual Trigger
- Video Ads
- AC-3 pass through
- Supports 5 Audio Pairs
- .PNG Sequences
- Frame Accurate
- Playlist Import
- Proof of Play Log
- Cue tone detection from embedded audio PID
- Pre-programmed hourly templates for Cue tone and SCTE breaks schedules

**Miscellaneous**
- Scrolling Alert Text
- EAS Audio/Video Insert
- XML based Emergency Messaging System
- Web Based Management System
- Built-in Video Viewer
- User level Access control
- SNMP Compliant
- Supports Solarwinds Network/Application Monitoring
- IPMI Port for out of band monitoring and control
## Options

### Only ON Premises Options

<table>
<thead>
<tr>
<th>Physical Interfaces</th>
<th>Formats</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td>Input: SDI/ HD-SDI/UHD</td>
</tr>
<tr>
<td>✓</td>
<td>Output: SDI/ HD-SDI/UHD</td>
</tr>
<tr>
<td>✓</td>
<td>ASI In</td>
</tr>
<tr>
<td>✓</td>
<td>ASI Out</td>
</tr>
<tr>
<td>✓</td>
<td>Contact Closure Detection for Ad Breaks</td>
</tr>
</tbody>
</table>

### Storage: ON Premises

<table>
<thead>
<tr>
<th>Storage: ON Premises</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td>Raid 1/2 5/10 Storage</td>
</tr>
<tr>
<td>✓</td>
<td>Storage: 2TB/ 4TB/ 8TB 1 to 8 Drives</td>
</tr>
<tr>
<td>✓</td>
<td>SSD or HDD</td>
</tr>
</tbody>
</table>

### Cloud and On Premises Options

#### Audio / Video

<table>
<thead>
<tr>
<th>Output Video Resolution</th>
<th>SD/ HD/ UHD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output Video Codec</td>
<td>MPEG-2/ H.264/ H.265</td>
</tr>
<tr>
<td>Output Audio Codec</td>
<td>MPEG/ AAC/ AC-3 Stereo, AC-3 5.1</td>
</tr>
<tr>
<td>Audio Tracks</td>
<td>Up to 5</td>
</tr>
<tr>
<td>Audio Loudness Control</td>
<td>Stereo or 5.1</td>
</tr>
</tbody>
</table>

#### Playout Options

- Live Native Format -> Pre- transcoded file to the same format as desired output

#### Transcode Options

<table>
<thead>
<tr>
<th>Transcode</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MPEG-2 files- accepts MPEG-2 files with the same frame rate as output</td>
</tr>
<tr>
<td>✓</td>
<td>H.264 files- accepts H.264 files with the same frame rate as output</td>
</tr>
<tr>
<td>✓</td>
<td>H. 265 files- accepts H.265 files with the same frame rate as output</td>
</tr>
<tr>
<td>✓</td>
<td>MXF Files- accepts MXF files with the same frame rate as output</td>
</tr>
</tbody>
</table>
Remote User Interface lets users control one to 12 channels on one system.

- Logo files: 32 bit png files with a transparency layer or 24 bit.bmp files
- Video Overlay: 32 bit png files with a transparency layer or 24 bit.bmp files
- Overlay: Specify Scaled Video Width and Height parameters to scale video
  - To overlay video on graphics, use .bmp full screen graphics file
  - To overlay transparent graphics on video, use 32 bit .png file
- Alerts: Supports 3 line Alerts. Also supports codes for inserting Real Time Clock, Time to Next Ad, Current Ad remaining time.
- Scrolling Text: A prefix text with RSS link is supported. RSS data is continuously fetched and converted into scrolling text.
- Slate file: 32 bit.bmp files
Sample of GUls, cont.

- Inserts Open/Closed Captions from .srt, .stl, 608 and 708 standards
- Programmable video transitions (fade, flip, zoom, flow, rotate, etc.) from one clip to the next

- Overlays information about events that are playing now and playing next

Video Transitions and Open Captions/Closed Captions

Overlaying of Playing Now/Playing Next Event Information
Input/Output Interface for SDI/HD-SDI to SDI/HD-SDI

- Specify Video parameters and SDI/HD-SDI input and Output Card number
- SDI/HD-SDI passes through compressed or uncompressed audio. In the case of uncompressed audio, the video ad file’s audio is decoded and passed to output as PCM Audio
- If Compressed Audio is selected, the video ad file’s audio is passed through to the output

Schedule Programming

- Accepts MPEG-2/H.264 transport stream files as ad files
- In addition to ad files, the system can overlay graphics on schedule or other triggers like SCTE 104
- Alerts and scrolling text can be scheduled to add last minute promotions to video files – useful for advertising special weekend prices, etc.
- Play Now button to override schedule playout
- Evergreen Schedule Player – When input is lost, it plays pre-recorded “evergreen” content
- Automatic scheduling to fill up slots with promotional spots after paid spots are scheduled
- Auto Import Schedules – Works with most Traffic and Billing system generated schedules
- Auto generation of As-run logs
- Auto download of commercials/spots from the cloud
Sample of GUIs, cont.

- Provides Daily, Weekly and Monthly schedule views
- To modify any schedule, just click it and all parameters can be programmed
Applications

• Affordable Multichannel Playout for call letter stations
• Content Playout for Satellite Channels
• Use existing content from: Graphics Libraries, RSS feeds, web cams, video clips, flash streams, and animation files
• Crawling text and graphics overlay for local advertising and announcements, station logo

• PEG Channels
• Add logos, graphics, and text to news broadcast segments – Weather, Sports, etc.
• Emergency alert system for Broadcast and Cable
• Video Messaging System
• Adding Instrumentation Data Video
• Targeted advertising Voting and TV Interaction systems
• PSA Crawls

- Ad Insertion: Splice Insert commands are received and ads are inserted seamlessly in video stream

<table>
<thead>
<tr>
<th>Live Presentation</th>
<th>Splice Trigger Received</th>
<th>Next Ad Inserted</th>
<th>Back to Live view</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:37:00 to 10:43:00 AM</td>
<td>10:43:01 AM</td>
<td>10:44:01 AM</td>
<td>10:45:01 AM</td>
</tr>
</tbody>
</table>

- EAS Insertion: Example - EAS System generated text overlay

<table>
<thead>
<tr>
<th>Live Presentation</th>
<th>Contact Closure Detected for EAS Text and Audio, EAS text fetched from EAS ftp, EAS Audio inserted</th>
<th>Back to Live view</th>
</tr>
</thead>
</table>

- EAS Insertion: Example - EAS Video inserted in video stream

<table>
<thead>
<tr>
<th>Live Presentation</th>
<th>Contact Closure Detected for EAS Video. Video Input changed to EAS Video port.</th>
<th>Back to Live view</th>
</tr>
</thead>
</table>
Graphics Insertion Solutions (option)

- Graphics can be created in several formats. The position of the graphics, transparency, and fade characteristics can be configured via the management console.

- Graphical elements can be inventoried on the on board hard drive. Large local graphical libraries can be created for quick use under dynamic real world events.

- Fancy boxes, borders, background colors, and identifiers can also be used to enhance the video content. Inside these distinct areas you can insert scrolling or horizontally crawling text. Military customers will use this device to insert a moving icon that can be manipulated via a joystick.
EAS Unit Connection (option)

**Output Video Format**

<table>
<thead>
<tr>
<th>Input Interface</th>
<th>Output Interface</th>
<th>SCTE 104</th>
<th>Contact Closure</th>
<th>Schedule</th>
<th>Manual</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDI</td>
<td>SDI</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Interfaces</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Interfaces**

- FTP EAS Alert Text received by Ad Serter through network connections
- HTTP Audio for EAS system – Received by Ad Serter through Network connection
- Ad Serter Contact Closure Detection RS 232 Ports

**Resolution Options**

- Input/Output: 1080i, 720p, 480i, on any port (1080p available)

- Interfaces: GPIO, DTMF, Time of Day
### Inputs and Outputs

![Diagram of inputs and outputs]

**1 to 12 SDI/HD-SDI Inputs**
**1 to 12 SDI/HD-SDI Outputs**

**IP Management Port**

**PS 1**

**PS 2**

---

### Single Channel Version

![Diagram of single channel version]

**2 Each 1 Gig Ports**

**2 Each 10 GigE Ports**

**Dual Power Supplies**

**HD-SDI In**

**HD-SDI Out**

---

### Specifications

#### Audio/Video Codecs

<table>
<thead>
<tr>
<th>Live Input Video Codec</th>
<th>Ad File Video Format</th>
<th>Output Video Format</th>
<th>Live Input Audio Format</th>
<th>Ad File Audio Format</th>
<th>Output Audio Format</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDI/HD-SDI</td>
<td>SDI/HD-SDI</td>
<td>SDI/HD-SDI</td>
<td>PCM, AAC, AC-3</td>
<td>AAC, AC-3</td>
<td>Same as Input (AC-3 pass-through)</td>
</tr>
</tbody>
</table>

#### Graphic/Text Input Formats

- **Text:** RSS, Text file, Type into GUI, or copy and paste
- **Images:** .BMP, PNG

#### Graphical Element Inventory

- **10,000-plus elements:** Varies with hard drive capacity

#### CPU and Operating System

- **CPU:** Dual 16 Core Xeon®
- **OS:** Windows® 7
- **Memory:** 32 MB
Physical & Power – 1-12 Channel Version

Size:
3 RU High: 19 x 5.25 x 25.2 inches (W x H x D)
48.26 x 13.34 x 64 cm (W x H x D)

Power Supply:
3U 500~600W – Redundant
2U Mini Redundant 300~650W

Temperature Range:
Operating: 0°C ~ +50°C on Full Load
Storage & Shipping: -20°C ~ +70°C

Non-Operating Humidity:
5% to 95% non-condensing

Weight:
39 lbs. (17.69 kg)

Conformities:
UL, BSMI, CSA, FCC, CE, RoHS

---

SDI or HD-SDI Output

Output:

SDI/HD-SDI: HD-SDI, SD-SDI – 10 bit HD and 10 bit SD
SMPTE 259M and 292M; 270 Mb/s and 1.5Gb/s

Number of Outputs:
One to twelve HD channels OR one to twelve SD channels OR Combination

---

Ordering Information

PLAYSERVER 1-12ch HD-SDI (3 RU) ZZ
PLAYSERVER 1ch HD-SDI (1 RU)

Options:
• Redundancy switch
• Remote monitor
• EAS
• Graphics
• ZZ - No. of Channels (HDSDI)