Compact High Performance HD STB The Stingray™ set-top box (STB) is a compact InStream™ enabled appliance that delivers secure high definition content to displays for the Furnace end-to-end IP video systems. The Stingray provides a complete user interface for selecting live or playback channels with real-time electronic program guide (EPG) updates, viewing of VOD assets with frame accurate forward/reverse and provides access to HotMarks™ metadata. The Stingray can be controlled by users via an infrared (IR) remote control or centrally using the Furnace’s VF Command & Control module. The Stingray can output up to 1920x1080 resolution and directly supports HDMI, component, and composite outputs.

Easy Installation and No Updates The Stingray is a dedicated hardware platform that supports the same patented InStream “zero footprint” player that is available to desktops, laptops and mobile devices on all Furnace systems. Every time it is powered on, the Stingray communicates directly with the Furnace Portal Manager server to obtain the latest available InStream client; so manual player software updates on the STB are not required. During operation, the Stingray maintains constant communication with the Portal Manager assuring that the video available is in line with any conditional access rights assigned, the guide data is updated regularly, and any video access is logged into the extensive VF Reports system.

Central STB Control VF Command and Control allows administrators to set up variable “behaviors” assigned to individuals, groups, or all Stingray STBs on the Furnace network, either on an ad-hoc or scheduled basis. A group of Stingrays can be set to a particular channel for controlled HD signage, controlled locally by viewers using an IR remote or they can be set to a pre-established channel based on a fixed schedule. Additionally, the Stingray enables messaging with scrolling text overlays that can be scheduled, triggered ad-hoc, or even integrated with an Emergency Messaging System (EMS).

### Product Features vs. Product Benefits

<table>
<thead>
<tr>
<th>Feature</th>
<th>Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secure, integrated set-top box</td>
<td>End-to-end content security with Furnace IP video systems and Haivision's Makito and Barracuda encoders</td>
</tr>
<tr>
<td>Powerful InStream features</td>
<td>Channel guides, EPG, and VOD content is constantly updated</td>
</tr>
<tr>
<td>Centrally controlled</td>
<td>Furnace administration of rights, active channels, scheduling, and messaging provides flexibility</td>
</tr>
<tr>
<td>Provisioned on startup</td>
<td>No updates to STB required</td>
</tr>
<tr>
<td>HD video and computer resolutions</td>
<td>Centrally control video and signage channels</td>
</tr>
<tr>
<td>Compact form factor</td>
<td>Portable, easy to install, fits behind any display</td>
</tr>
<tr>
<td>VOD with HotMarks™ metadata</td>
<td>Browse assets accurately with bookmarks and granular fast foward and rewind functionality</td>
</tr>
<tr>
<td>Desktop synchronization</td>
<td>Synchronize your video on both your fixed screens and desktops</td>
</tr>
</tbody>
</table>

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**VIDEO DECODING**

Compression Standards:
- MPEG-1
- MPEG-2
- MPEG-4 Part 2
- MPEG-4 Part 10 (H.264)

Video Resolutions:
- 1920x1080p 30/29.97/25 Hz
- 1920x1080i 60/59.94/50 Hz
- 1280x720p 60/59.94/50 Hz
- 720x480i 60/59.94/50 Hz
- 720x480p 60/59.94/50 Hz

(Interlaced shown in fields per second)

Computer Resolutions:
- 1280x1024 60 Hz
- 1280x768 85/75/60 Hz
- 1024x768 85/75/60 Hz

Video Bit Rates (bps):
- SD video 450k to 10Mbps
- HD video 1.5M to 10Mbps
- Computer 800k to 9M
- CIF 150k to 15M

**AUDIO DECODING**

Compression Standards:
- MPEG 1 Layer II ISO/IEC 11172-3
- MPEG-2 AAC-LC ISO/IEC 13818-7
- MPEG-4 AAC-LC ISO/IEC 14496-3

Audio Channels:
- 2 per video channel

Bit Rates:
- From 32 to 448 kbps per audio pair

Frequency Response:
- From 20 Hz to 22 kHz

**IP NETWORKING**

Networking Protocols:
- Unicast Streaming (TCP VF Now for VOD)
- Multicast Streaming
- MPEG Transport Stream over UDP
- FEC and 128-bit AES encryption support

**MANAGEMENT INTERFACES**

Management via IP using Furnace Portal Manager (VF Command&Control)
Configuration via IP using Furnace Portal Manager (VF STB Imager)
Local control via Infrared Remote Control

Video (Output):
- Composite NTSC/PAL
- Y, Pb, Pr Component Analog
- HDMI

Audio (Output):
- Unbalanced Stereo Analog Audio
- HDMI Embedded Digital Stereo Audio

Network:
- RJ45
- Ethernet 10/100/1000 Base-T, auto-detect, Half/Full-duplex
- Static IPv4/IPv6
- 2nd Ethernet Port (RJ45) for LAN Pass-Through

Remote Control:
- Infrared Remote Included

Dimensions:
- 44mm H x 205mm W x 200 mm D (1.7”H x 8.07”W x 7.87” D)

Weight:
- 3 lbs.

Power:
- External power supply
  - 100/240V 1.4A 60/50Hz input
  - 12V 4.16A max.output

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**Stingray Product Portfolio & Ordering Information**

**Furnace Stingray Set-Top Box**

**S-VF-STING**

Furnace Stingray 2 Set-Top Box (Small Form Factor) - MPEG 1/2/4 and H.264 SD, HD, & XGA. InStream Viewer and Program Guide Support. HDMI, Component, Composite Outputs, dual network cards for WAN

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