



Compact High Performance SD H.264 Encoder

High Performance The Barracuda™ encoder delivers high performance standard definition (SD) H.264 in a compact form factor and supports advanced features based on applications within the enterprise, medical, education, and military segments. The Barracuda encoder is ideal for standalone deployment, within headends, or coupled with Haivision's low latency Makito decoder for low latency transport or bi-directional communications.

Advanced Features Barracuda streams are secure with the support of AES encryption and resilient through Forward Error Correction (FEC), when coupled with Haivision's Furnace IP video system. With its industry leading 55 millisecond encoding latency, the Barracuda offers an end-to-end latency of less than 70 milliseconds when coupled with a Makito decoder. Supporting Multi-Bitrate (MBR) Streaming, where each Barracuda can encode the same incoming SD stream using two different encoder settings simultaneously, where one setting might support full resolution full bandwidth for LAN distribution and another setting might provide CIF resolution at a much lower bandwidth for internet streaming. In addition, at least 8 H.264 streams can be emitted by the Barracuda, with each stream assigned an encoder setting, its unique IP encapsulation, and with or without encryption and FEC. A single Barracuda with a single video source can simultaneously power diverse delivery systems allowing companies to encode their live video once and deliver it across their networks and the Internet, without having to introduce intermediary trans-rating systems that reduce reliability and add cost and latency. The Barracuda also features full resolution snapshots of incoming video, the application of logo overlays, and the use of a JPEG image as the streaming source to selectively muted individual stream outputs.

Compatibility The Barracuda accepts Composite, S-Video, and Serial Digital Interface (SDI) inputs and supports both balanced and unbalanced stereo audio and digital audio embedded within the SDI signal. Barracuda can produce H.264 streams at full resolution and full frame rate up to 8Mbps, and yet with built-in downscaling and partial frame rate support, it can emit at least 8 H.264 streams as low as 150 kbps.

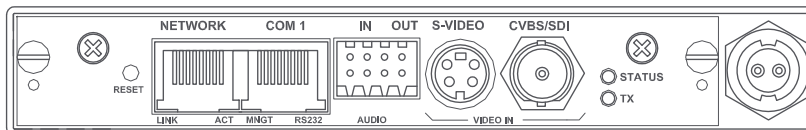
Ultra-Compact Encoding For remote installations or headends, the Barracuda offers highly flexible configurations and is easy to deploy. The Barracuda is available as an ultra compact appliance for single channel requirements, or within a 1RU (6 blades) or a 4RU (21 blades) chassis for high-density encoding/decoding challenges. The 21 blade chassis simultaneously supports Haivision's Makito HD H.264 encoder, Makito decoder, Barracuda SD H.264 encoder, and Torpedo DVB to IP gateways.

Product Features

Product Benefits

Low Latency - 70ms End-to-End	Supports video challenges by enabling fluent communication challenges
AES Encryption & FEC	Secure and resilient end-to-end streaming with Furnace
Snapshots, Logos, & Selective Mute	Imaging features to enhance your communication & collaboration
Multi-Bitrate (MBR) Streaming	Encode a single stream and tailor it to stream to desktops, set-top boxes, and mobile devices
Multiple Destinations	Up to 8 unicast, multicast, or RTMP/RTSP targets
Ultra Compact Form Factor	Reduce rack space with 6 encoders per 1RU or 21 per 4RU

<p>Barracuda (x-280E-SDI) <i>Video (Inputs):</i> S-Video NTSC/PAL Composite NTSC/PAL SD-SDI SMPTE 259M-C <i>Video Resolutions:</i> 720x480/576i 60/59.94/50 Hz (interlaced shown in fields per second) <i>Audio (Input):</i> Available through terminal block connector: Balanced Stereo Analog Audio Unbalanced Stereo Analog Audio Embedded Audio SD-SDI SMPTE 272M</p>	<p>ADVANCED FEATURES Multi-Bitrate (MBR) Streaming De-interlacing Deblocking Filter EIA-608-B/NTSC Line 21 Closed Captioning EIA-708-B/SDI Closed Captioning Forward Error Correction (FEC) AES Encryption 128-bit or 256-bit Logo overlay Selective Mute Aspect ratio configuration AFD and WSS support Board is hot swappable in the 6 and 21 slot chassis</p>	<p>SINGLE BLADE APPLIANCE (S-290E-HDSDI/DVI) <i>Dimensions :</i> 24mm H x 149mm W x 202mm D (0.92"H x 5.85"W x 8.0"D) <i>Weight:</i> 2.5 lbs. <i>Power:</i> 5VDC, 13W (each blade), 100-240VAC 15W external locking power supply</p>
<p>VIDEO ENCODING <i>Compression Standard:</i> H.264 (MPEG-4 AVC part 10) ISO/IEC 14496-10 Main Profile Level 3.0 and lower Intermediate Levels I, IP framing Configurable Group of Picture (GOP) size Configurable frame rate <i>Bit Rates:</i> SD from 150 kbps to 8 Mbps <i>Rate Control:</i> Traffic Shaping <i>Latency (encode only):</i> Less than 55ms</p>	<p>IP NETWORK INTERFACES <i>Standard:</i> Ethernet 10/100/1000 Base-T, auto-detect, Half/Full-duplex <i>Connector:</i> RJ45 <i>Networking Protocols:</i> Unicast Streaming Multicast Streaming (IGMP v3) Multiple Unicast Streaming MPEG Transport Stream over UDP / RTP Direct RTP - H.264 over RTP (RFC 3984) RTP / RTCP (RFC 3550) RTMP QuickTime RTSP* (RFC 3640) SAP (RFC 2974) * Progressive resolutions only</p>	<p>6 BLADE CHASSIS (F-MB6X-RAC, F-MB6X-DC, F-MB6X-MED) <i>Dimensions:</i> 19" rack mountable, 1RU 43.69mm H x 434.98mm W x 420.37mm D (1.72"H x 17.125"W x 16.55"D) <i>Weight:</i> 6 slot empty chassis – 17.5 lbs. Each blade – 0.5 lbs. <i>Power (internal power supply):</i> Redundant AC type 90-264VAC 47Hz-63Hz 300 Watt max. Medical Grade 90-264VAC 47Hz-63Hz 300 Watt max. DC type 20-36 VDC 300 Watt max. <i>Operating Temperature:</i> Operating: 0°C to 50°C (32°F to 122°F) Non-Operating: -40°C to 70°C (-40°F to 158°F) <i>Humidity:</i> up to 95% non-condensing</p>
<p>AUDIO ENCODING <i>Compression Standard:</i> MPEG-2 AAC-LC ISO/IEC 13818-7 MPEG-4 AAC-LC ISO/IEC 14496-3 <i>Audio Channels:</i> 2 per video channel <i>Bit Rates:</i> From 32 to 448 kbps per audio pair <i>Frequency Response:</i> From 20 Hz to 22 kHz</p>	<p>MANAGEMENT INTERFACES <i>Standard:</i> RS-232 (optional for x-290E-DVI) RJ45 to RS-232 (DB-9 Management Cable Req'd.) <i>Management:</i> HTTPS (web browser) Command line over SSH/Telnet/RS-232 FTP/TFTP SNMP v3 Furnace Portal Server (VF Pilot) Common Criteria: NDPP 1.1 support JITC certified: MISP 5.5</p>	<p>21 BLADE CHASSIS (F-MB21B-R) <i>Dimensions:</i> 19" rack mountable, 4 RU 178mm H x 439.98mm W x 460mm D (7.00"H x 17.125"W x 18.00"D) <i>Weight:</i> 21 slot empty chassis – 38 lbs. Each blade – 0.5 lbs. <i>Power (internal power supply):</i> 90-132V and 180-240VAC 47Hz-63Hz 400 Watt max. <i>Temperature:</i> Operating: 0°C to 40°C (32°F to 104°F). Non-Operating: -40°C to 70°C (-40°F to 158°F). <i>Humidity:</i> up to 95% non-condensing</p>
<p>METADATA (Optional) CoT to KLV Conversion KLV over serial RS-232/422 KLV over UDP and SDI SMPTE 336M compliant MISB 0601.3 compliant MISB 0604.2 compliant Synchronous Mode</p>		



Barracuda

Barracuda Product Portfolio & Ordering Information **

Barracuda SDI Encoder	S-280E-SDI	SD H.264 IP Video Encoder - SDI, Composite, S-Video, and Audio input; 150 kbps to 8 Mbps; 10/100/1000 Ethernet; 5VDC w/ 90-240 VAC External Power with Locking Connector.
Barracuda Encoder Blade	B-280E-SDI	SD H.264 IP Video Encoder - SDI, Composite, S-Video, and Audio input; 150 kbps to 8 Mbps; 10/100/1000 Ethernet; chassis required
6 Slot Chassis	F-MB6X-RAC/MED/DC	6 slot 1RU rack mount chassis for Makito, Makito X, Barracuda, and Torpedo blades
21 Slot Chassis	F-MB21B-R	21 slot 4RU rack mount chassis for Makito, Makito X, Barracuda, and Torpedo blades

** For complete pricing and ordering, contact us at sales@haivision.com or your certified Haivision reseller.