

Multi-Codec, Multi-Stream & Dense UHD (4k) Encoder

Hardware Designed for Premium Quality Video Applications

HEVC (H.265)
AVC/MPEG 2

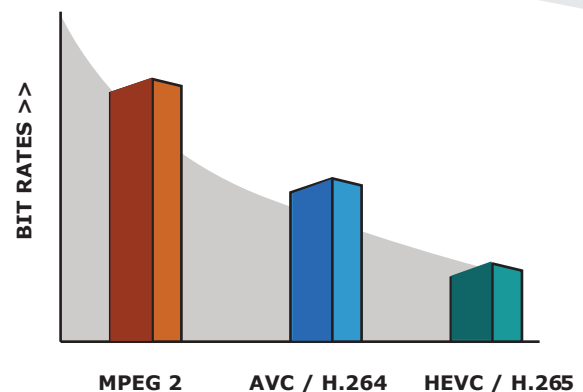


Adtec's hardware-based, power-efficient HEVC encoder has been designed specifically for premium quality video applications. The space-saving, power-saving, and bandwidth-saving AFN-1000 encode solution is a standard 1RU and can be purchased with a single channel of 4K(UHD) HEVC encoding and can be upgraded to support up to six 4K(UHD) systems or twenty-four HD or SD channels in one chassis.

This solution features a wide range of capabilities from 4K(UHD) HEVC 4:2:2 10-bit to AVC 4:2:2 10-bit to MPEG 2 4:2:0 8-bit encoding. With value added features including low latency and a built-in multiplexer this offering will enable solutions for a wide range of markets.

Highlights:

- Premium Quality Video
- High-Efficiency Encoding
- UHD (4K) or Quad HD from a Single Carrier
- Low-Power Footprint
- Multi-Channel Solution
- Room for Expansion & Redundancy



HEVC / H.265 delivers significant bit rate reductions compared to existing protocols - up to a 50% bit rate improvement over AVC / H.264.

*Content and resolution dependent

Enabling NEW Solutions

Ordering Information

afiniti Parts Catalog	
afiniti Frame	
AFN-1000-01	afiniti Frame: <ul style="list-style-type: none"> - Redundant internal power supplies (100-240 VAC 50/60) - Intuitive web-based control application - Front panel control - Reversible side-to-side convective cooling fans - 1RU - 8 carrier card max capacity
System Carriers	
SHC0100-0100	System Host Carrier: <ul style="list-style-type: none"> - Two GigE ports. Primary for control, secondary for TSOIP - Bouquet management & IP services re-mux via afinitiLink feature - Required for frame system control
Video Carriers	
VEC0301-0500	Video Encode Carrier: <ul style="list-style-type: none"> - Requires Feature Keys for Functionality. See Below
Audio Carriers	
AEC0101-0000	Audio Encode Carrier: <ul style="list-style-type: none"> - Audio codec support for: <ul style="list-style-type: none"> MPEG 1 Layer 2 MPEG 2 Layer 2 DD AC3 2.0 AAC-LC/HEV1/HEV2 - SDI Embedded audio only) * Single audio carrier offers a max of 16 pairs of audio
Transport Carriers	
TMC0100-0100	IP Transport Multiplexer Carrier: <ul style="list-style-type: none"> - Two GigE ports. Primary for control, secondary for TSOIP - Bouquet management & IP services re-mux via afinitiLink feature
TMC0100-0400	ASI Transport Multiplexer Carrier: <ul style="list-style-type: none"> - Four independent or mirrored ASI ports for transmission - Bouquet management of internally encoded services
VEC0301 Feature Keys	
4K-UHD-HEVC or 4K-UHD-AVC	Software Option: Enables 4K(UHD)/HD/SD resolutions for a single channel of encode. *Key is sold per VEC0301 carrier.
HEVC	Software Option: Enables HD/SD resolutions for a single channel of HEVC encode. *Max of four (4) channels per carrier.
AVC	Software Option: Enables HD/SD resolutions for a single channel of AVC encode. *Max of four (4) channels per carrier.
MPEG 2	Software Option: Enables HD/SD resolutions for a single channel of MPEG 2 encode. *Max of four (4) channels per carrier.
10-bit/4:2:2	Software Option: Enables 10-bit, 4:2:2 encoding for any applicable CODEC and purchased channel. *Key is sold per VEC0301-0500 carrier.
afinitiLink	Software Option: Enables IP ->IP or ASI remuxing. * Key is sold per afiniti Frame System.
SRT	Software Option: Enables SRT IP Transmission. * Key is sold per IP based SHC or TMC carriers.
* HDR Roadmap Feature	Software Option: Enables HDR processing for any applicable CODEC and purchased channel. *Key is sold per VEC0301-0500 carrier.
* Multi-Stream Roadmap Feature	Software Option: Enables four duplicate profiles for OTT streaming. *Key is sold per VEC0301-0500 carrier.

Adtec provides standards based products and solutions to the digital television, broadcast and signage markets. As we look back on our history of over 30 years, we are proud of our commitment to providing quality products, the highest level of service, and now, more than ever, we are focused on bringing innovative technology to our industry.

Corporate Headquarters
408 Russell Street
Nashville, TN 37206 USA

VIDEO ENCODE PROFILES

HEVC / H.265 Profile:

Main, Main 10, Main 4:2:2 10, up to 4K/60p

Chroma Sampling:

4:2:2 / 4:2:0

Video formats:

2160p (4096/3840 x 2160), 1080p, 1080i, 720p, 576p, 576i, 480p, 480i

Frame Rates:

1080p: 60, 59.94, 50, 30, 29.97, 25, 24
1080i: 59.94, 50
720p: 60, 59.94, 50, 30, 29.97, 25, 24
576p: 60, 59.94, 50, 30, 29.97, 25, 24
576i: 59.94, 50
480p: 60, 59.94, 50, 30, 29.97, 25, 24
480i: 59.94, 50

Bit Depth:

8-bit, 10-bit

AVC / H.264 Profile:

BP, MP, HP, High 10, High 4:2:2, up to 4K/60p

Video Formats:

2160p (3840 x 2160), 1080p, 1080i, 720p, 576p, 576i, 480p, 480i

Frame Rates:

1080p: 60, 59.94, 50, 30, 29.97, 25, 24
1080i: 59.94, 50
720p: 60, 59.94, 50, 30, 29.97, 25, 24
576p: 60, 59.94, 50, 30, 29.97, 25, 24
576i: 59.94, 50
480p: 60, 59.94, 50, 30, 29.97, 25, 24
480i: 59.94, 50

Chroma Sampling:

4:2:0/4:2:2

Bit Depth:

8-bit, 10-bit

MPEG 2 Profile:

MP@HL 4:2:0 8-bit, up to 1080/60i

Chroma Sampling:

4:2:0

Video Formats:

1080i, 720p, 576p, 576i, 480p, 480i

Frame Rates:

1080i: 59.94, 50
720p: 60, 59.94, 50, 30, 29.97, 25, 24
576p: 60, 59.94, 50, 30, 29.97, 25, 24
576i: 59.94, 50
480p: 60, 59.94, 50, 30, 29.97, 25, 24
480i: 59.94, 50

Bit Depth:

8-bit

INPUTS

SD-SDI / HD-SDI / 3G-SDI:

SD - SMPTE 259M-C - with embedded audio per SMPTE 272M A, B, and C.

HD - SMPTE 292M with embedded audio per SMPTE 299M. 3G-SDI Level A and Level B.

Connector: 4 X 1.0/2.3 DIN connectors

AUDIO PROCESSING PROFILES

Input:

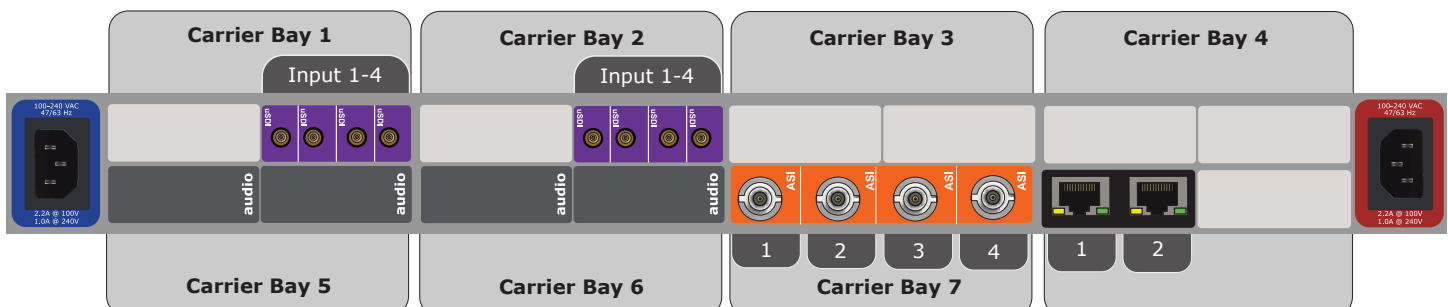
SDI embedded

Standard:

MPEG-1 Layer2, AAC-LC

Bitrates:

MPEG-1 Layer 2: 64Kbps - 384 Kbps
AAC-LC: 64Kbps - 640Kbps



LATENCY

As low as 10ms encoding
* configuration dependent

DVB-ASI OUTPUT

Asynchronous Serial Interface
ISO13818-1 MPEG 2 Transport Stream per
EN 50083-9 (188 Byte Only)
Bouquet Management

Connector: 4x1.0/2.3 DIN connectors

IP OUTPUT

UDP, RTP (RFC 3550) encapsulated routes,
SRT

188 byte DVB packet size, 7 per IP packet

Video Scaling

Down Scaling

* HDR Processing

HDR10, HLG

* Multi Stream Channel Processing

4 separate HD channel input processing per
carrier
1 - N encode processing and N - N encode
processing

PHYSICAL / ENVIRONMENTAL

Operating Temperature:

0°C to 50°C / 32°F to 122°F Ambient

Storage Temperature:

-40°C to 85°C / -40°F to 185°F Ambient

Non-condensing Relative Humidity:

95% Max

Power:

Redundant Power Supplies
Input Voltage: 90VAC - 264 VAC
Startup Consumption: 400mA @ 120 V

Measurements: (H X W X D)

1.75" X 18.97" X 18.51"
44.45 mm X 481.84 mm X 470.15 mm

Weight:

Chassis Weight: 8.50 lbs/ 3.86 kgs
Carrier Weight Range:
8.75 oz / .25 kgs to 25 oz / .71 kgs.

Safety & Certification:

CE
RoHS

MANAGEMENT

Front Panel Control with Password Protection
Browser-Based Web Interface

* Roadmap Features

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