

## BE8110 HD H.264 or AVS Broadcast Encoder

The Telairity BE8110 is a scalable, fully programmable, low latency broadcast encoder for high definition (HD) video compression. The BE8110 uniquely combines leading-edge compression technology (either H.264/AVC or AVS) with an outstanding encode latency of less than 150ms, achieving more than twice the compression efficiency of the older MPEG-2 standard in true real time. Featuring “instant on” for immediate availability and simple “two button” front panel control for quick and easy field operation, the cost-effective BE8110 encoding platform addresses the critical needs of broadcasters for live streaming capability. Like all Telairity encoders, it can be readily upgraded via software to add new features or enhance performance.



### Features and Options

#### Video Encoding Features

- H.264/AVC - High (FRExt) Profile @ Level 4; or AVS-P2
- Input Video Formats: 720p and 1080i (auto-detected on input); 1080p\*
- Output Horizontal Resolutions: 720p x 960/1280; 1080i x 1280/1440/1920
- Rate Control
  - Constant Bit Rate (CBR), Variable Bit Rate (VBR)
  - Bit rate : 2 - 15 Mbps
- Scene change detection
- Entropy Coding: CABAC or CAVLC per AVC or AVS profiles
- Spatial Preprocessing
- Deblocking (Loop) Filter

#### Audio Encoding Features

- HD-SDI embedded audio input – per SMPTE 299M
  - Four programs (stereo pairs)
  - Stereo, Dual Mono, Mono
- MPEG-1 Layer 2 or MPEG-4 AAC-LC encoding standards
  - Selectable on a per-channel basis
  - Bit rates: 32 to 384 Kbps
- External inputs: 2 AES digital plus 2 analog stereo pairs (option)
- Dolby Digital (AC-3) pass-through

#### Control Features

- On board Flash memory for fast program upload at boot
- Web browser control via Ethernet interface
- Rapid-reset Front Panel with “two-button” selection of 4 programmable profiles

#### Output

- 2 MPEG-2 transport streams over DVB – ASI
- 2 IP Transport streams with TOS over 10/100 Base-T Ethernet

## BE8110 Broadcast HD AVC/AVS Encoder

### Applications

The Telairity BE8110 Real time HD Encoder Platform offers state-of-the-art AVC or AVS video compression in a compact and cost effective 1 RU form factor. Applications include:

- Live Streaming
- IPTV - ITV
- Surveillance / Monitoring
- Broadcast Distribution
  - Satellite / Cable / Terrestrial

### Benefits

Compact 1RU system for broadcast quality video encoding

Based on the fully programmable Telairity-1 video architecture; easy software upgrades to improve quality, lower bit rates, add new features, and convert between AVC or AVS codecs

MPEG-4 AAC-LC option for high audio quality at very low compressed bit rates; Dolby Digital, Dolby E pass-through also supported

True real-time encode latency (150ms) with state-of-the-art compression ability in a highly reliable, easy-to-operate system

Simple profile-based “two button” front panel control

“Instant on” two-second startup times

### Options

Breakout cables for external audio Inputs (2 digital, 2 analog)

Transcoder module

### Other Models

**BE8500** - Upgradeable to BE8500 with dual mode HD/SD auto-switch capability (software download)

## Ordering Information

Part Number: **BE8110**

## Contents

- BE8000-series Encoding Platform
- Power Cable: IEC to USA plug; optional Euro plug
- USB flash drive with backup copy of encoder firmware and manual

## Requirements

- Web browser control system
- SDI input source video
  - HD SMPTE 292M
- Input cable
  - 75 Ohm coaxial with BNC connector
- Output cables (either or both)
  - 75 Ohm coaxial with BNC connector
  - Cat5/6 Ethernet with RJ-45 connector

## Options

- Software upgradeable to BH8500 with auto-switching dual-mode HD/SD capability

## About Telairity

Telairity, based in Santa Clara, California designs, manufactures and markets H.264/AVC and other advanced encoding and transcoding solutions for broadcast and professional video applications. Telairity's breakthrough video architecture (Telairity-1™) is the powerful foundation for its real time encoding products which provide outstanding video quality and state-of-the-art video compression to achieve the lowest possible bit rates.

## Telairity

3375 Scott Blvd., Suite 300  
 Santa Clara, CA 95054  
 tel 408 764 0270  
 fax 408 764 0271  
 www.telairity.com

## Video Input

Input Format: High Definition – Serial Digital Interface (HD-SDI) SMPTE 292M

Video Input Formats: 4:2:2 for 720p, 1080i, 1080p30\*

Frame Rates: Frames per second:  
 1280 x 720p: 23.98, 24, 25, 29.97, 30, 50, 59.94, 60  
 1920 x 1080p: 23.98, 24, 25, 29.97, 30

Fields per second:  
 1920 x 1080i: 50, 59.94, 60

HD-SDI In & Loop Out: 1 BNC Connector each

## Audio Input

Input Format: Embedded in HD-SDI per SMPTE 299M  
 Dolby Digital (AC-3) pass-through  
 External option: 2 AES + 2 Analog stereo pairs

## Compressed A/V Output

Output Interfaces: 2 Digital Video Broadcast – Asynchronous Serial Interfaces (DVB-ASI), 270Mbps, buffered non-inverting  
 2 10/100 Base-T Ethernet

Packet Format: MPEG-2 188 byte Transport Stream (TS) packets in either TS/UDP/IP or TS/RTP/UDP/IP format with optional FEC

Compression Format: H.264/AVC High Profile, Level 4; or AVS-P2

Compressed Bitrates: User programmable: 2 to 15 Mbps, CBR or VBR

ASI Stream Out: 2 BNC connectors

IP Stream Out: 2 RJ-45 connectors

## Control

Control Application: Web browser Interface over Ethernet

Direct Presets: User-programmable front panel control

Alarms: 4 contact closures to detect failure of power supply or fan, over-temperature, 1 software-definable condition (option)

SNMP: Reporting Agent (option)

## Power Specifications

Input voltage: 100 to 240 VAC (Auto sensing)

Line frequency; Power: 47 to 63 Hz; 206W

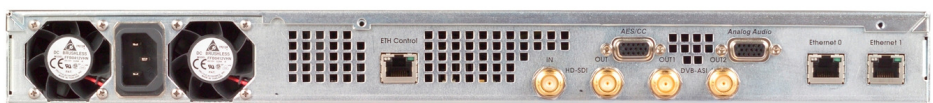
## Mechanical Specifications

Dimensions & Weight: 1RU (H) x 19" (W) x 18" (D) rack mountable, 18 lbs.

## Environmental Specifications

Cooling: Forced air-cooling, front to rear

Operating Temperature: -10° to 55°C



**BE8110 back panel**

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