

## BE9110 1-Channel SD/Mobile Encoder

The Telairity BE9110 is a scalable, fully programmable, broadcast quality encoder for standard definition and mobile video formats. It combines Telairity's uniquely powerful hardware and software technology with leading-edge video compression (H.264/AVC 4:2:0 or 4:2:2, MPEG-2, or AVS) to achieve industry-leading video quality at very low bitrates, down to 100Kbps. Featuring "instant on" for immediate availability and simple front panel control for quick, sure field operation, the premium ultra-low bit rate BE9110 encoding platform addresses the critical need for high video quality at the lowest feasible bit rates in IPTV, mobile and other applications.



### Features and Options

#### Video Encoding Features

- H.264/AVC – High (Level 4), Main (Level 3) and Baseline profiles; or AVS-P2
- MPEG-2 – Main profile
- Input Video Formats: 576i (PAL), 480i (NTSC)
- Output Horizontal Resolutions: 720, 640, 544, 480, 352, 240/288 (CIF)
- Rate Control
  - Constant Bit Rate (CBR), Variable Bit Rate (VBR)
  - Bit rate : 0.1 (H.264/AVC) – 15.0 (MPEG-2) Mbps
- Scene change detection
- Entropy Coding: CABAC or CAVLC per AVC or AVS profiles
- GOP mode: selectable fixed length or adaptive
- Spatial Preprocessing, Deblocking (Loop) Filter

#### Audio Encoding Features

- SD-SDI embedded audio input – per SMPTE 272M
  - Four programs (stereo pairs)
  - Stereo, Dual Mono, Mono
- MPEG-1 Layer 2 encoding, bit rates: 64 to 384 Kbps
  - MPEG-4 AAC –LC & –HEv2 for better quality or lower bit rates (to 12 Kbps)
- 2 AES digital and 2 analog stereo pairs (cables optional)
- Dolby Digital (AC-3) and Dolby E 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 over 10/100 Base-T Ethernet

## BE9110 High Compression SD/Mobile Encoder

### Applications

The Telairity BE9110 SD encoder platform offers state of the art MPEG-2, MPEG-4 or AVS video compression for standard definition and mobile formats in a compact and cost effective 1 RU form factor. It excels at ultra-low MPEG-4 bit rates, from 2Mbps to 100Kbps, and is targeted to IPTV, ITV, mobile and other applications where the lowest possible bit rates are desired.

### Benefits

Compact 1RU system for broadcast-quality SD video encoding

Based on the fully programmable Telairity-1 video architecture

Full software upgradeability for easy maintenance and improvements, including conversion between codecs

MPEG-4 AAC-LC and -HE options for high audio quality at very low compressed bit rates; Dolby Digital (AC-3) pass-through also supported

"Instant on" two-second startup

High-performance, high-reliability 9000 series Telairity technology, backed by Telairity's service & support guarantee

### Options

Breakout cables for external audio inputs (digital and analog);

Composite input

Transcoding (MPEG-2, etc.)

G.703/E3 or DS3 output

Orion DVB-S/S2, DSNG modulator

### Other Models

**BE9200/9400** – 2-channel/4-channel SD / Mobile models to conserve rack space and lower per-channel costs

**BE9300** – Multi-format 3-channel model for flexible HD / SD / Mobile encoding

## Ordering Information

Part Numbers:

**BE9110**

## Contents

- BE9000-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
  - SD SMPTE 259M
- 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

## 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 foundation for all its real time encoding products, which combine outstanding video quality with state-of-the-art, video compression based on the AVC (H.264 / MPEG-4.10) standard to achieve the lowest possible bitrates.

## Telairity

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## Video Inputs

Input Format:	SD-SDI (SMPTE 259M) input; Composite input option; ASI input with transcoder option
Video Input Formats:	4:2:2 for PAL and NTSC
Frame Rates:	30, 29.97, 25, 24, 23.98 frames per second
Digital Video In:	1 BNC Connector (SDI) for 75 ohm cable
SDI Loop Out:	1 BNC Connector

## Audio Input

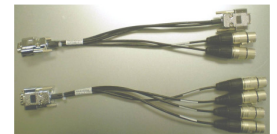
Input Format:	Embedded in SD-SDI per SMPTE 272M Dolby Digital (AC-3) and Dolby E pass-through External input: 2 AES and 2 Analog stereo pairs
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## Compressed A/V Output

Output Interface:	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 Formats:	H.264 High (L4), Main (L3) & Baseline profiles; MPEG-2 Main; or AVS-P2; 4:2:0 or 4:2:2
Compressed Bitrates:	User programmable: 0.1 to 5 Mbps, CBR or VBR
ASI Stream Out:	2 BNC Connectors
IP Stream Out:	2 RJ-45 Connectors

## System

Control Application:	Web browser interface over Ethernet
Direct Presets:	User programmable front panel control
Status Monitoring:	Temperature, Power Supply operation; Input video errors
SNMP:	Reporting Agent (option)
Input voltage:	100 to 240 VAC (Auto sensing)
Line frequency:	47 to 63 Hz
Power consumption:	135 Watts
Dimensions & Weight:	1RU (H) x 19" (W) x 18" (D) rack-mountable
Weight:	15 lbs.
Cooling:	Forced air-cooling front to back
Operating Temperature:	-10° to 55°C



Optional breakout cables for external audio input



**BE9110 back panel with Composite In option**

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