

## BE7110 1-Channel SD Encoder

The Telairity BE7100 is a scalable, fully programmable, low latency broadcast quality encoder for standard definition video formats. It uses leading-edge compression technology (either H.264/AVC or AVS) to achieve more than twice the compression efficiency of the older MPEG-2 standard in true real time. Featuring “instant on” for immediate availability, encode latencies as low as 150ms, simple front panel control for quick and sure operation, and dual-redundant power supplies for exceptional reliability, the cost-effective BE7100 encoding platform addresses the critical needs of broadcasters for high-quality low-bandwidth SD. Like all Telairity encoders, it can be easily upgraded via software to add new or improved features and enhance performance.



### Features and Options

#### Video Encoding Features

- H.264/AVC - Main Profile, Level 3; or AVS-P2
- Input Video Formats: 576i (PAL), 480i (NTSC); SD-SDI or Composite
- Output Horizontal Resolutions: 720, 640, 544, 480, 352, 240/288 (CIF)
- Output Formats: 16:9 & 4:3
- Rate Control: Constant Bit Rate (CBR), Variable Bit Rate (VBR)
  - Bit rate : 1 – 8.0 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-2004
  - Four programs (stereo pairs)
  - Stereo, Dual Mono, Mono
- MPEG-1 Layer 2 encoding, bit rates: 64 to 384 Kbps
  - MPEG-4 AAC -LC & -HEV2 options for better quality or lower bit rates (to 12 Kbps)
- 2 AES audio and 2 analog stereo pairs (breakout 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
- 1 MPEG-2 transport stream over G.703 (option)
- 2 IP Transport streams over 10/100 Base-T Ethernet

## BE7110 Economy SD Encoder

### Applications

The Telairity BE7110 SD encoder platform offers state of the art AVC or AVS video compression for standard definition television formats in a compact and cost effective 1 RU form factor. Applications include:

- News & Sports Backhaul
- Remote Live Broadcasts
- IPTV
- Broadcast Distribution
  - Satellite / Cable / Terrestrial

### Benefits

Compact 1RU system for broadcast quality SD video encoding

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

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

Sub-second real-time encode latency with state-of-the-art compression technology in a highly reliable, easy-to-operate system

“Instant on” two-second startup and one-second restart times

### Options

Breakout cables for external audio inputs (digital and analog)

Composite input

Transcoding (MPEG-2, etc.)

G.703/E3 or DS3 output

### Other Models

**BE7200/7400** – 2-channel/4-channel models in a 1RU 19” x 28” chassis for the lowest per-channel cost

## Ordering Information

Part Numbers:

**BE7110**

## Contents

- BE7000-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

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

## Video Inputs

Input Format: SD-SDI (SMPTE 259M-2008) 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: 2 BNC Connectors (SDI & Composite)

SDI Loop Out: 1 BNC Connector

## Audio Input

Input Format: Embedded in SD-SDI per SMPTE 272M  
 Dolby Digital (AC-3) or Dolby E pass-through  
 External input: 4 AES & 4 analog channels (2 stereo pairs)

## 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  
 1 G.703 (E1, E3)

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 Main Profile, Level 3; or AVS-P2

Compressed Bitrates: User programmable: 1 to 8 Mbps, CBR or VBR

Connectors: 3 BNC (2 ASI & 1 G.703), 2 RJ-45 (IP)

## Control

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)

## Power Specifications (dual-redundant power supplies)

AC power: 100 to 240VAC (Auto sensing); 47 to 63Hz; 70W

DC power (option): -48V (± 20%)

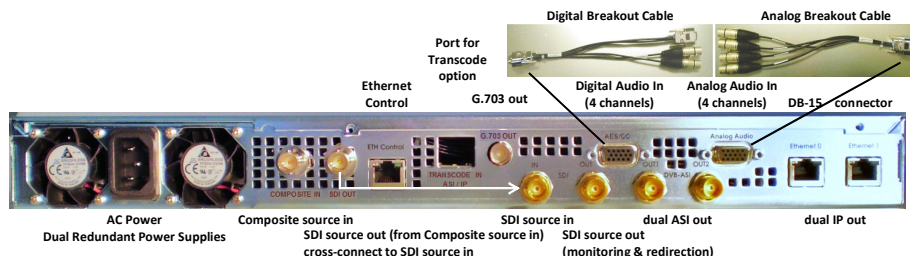
## Mechanical Specifications

Dimensions & Weight: 1RU (H) x 19" (W) x 18" (D) rack-mountable, 15 lbs.

## Environmental Specifications

Cooling: Forced air-cooling front to back

Temperature & Humidity: -10° to 55°C; 20% to 95% non-condensing



## BE7110 Back Panel with Composite In and G.703 out options

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