telairity
Real-Time HD

BE6200/6400 Multi-Channel Mobile Encoder

The Telairity BE6200 and BE6400 are fully programmable broadcast quality multichannel encoders for mobile video and WebTV formats. They use leading-edge Telairity Mobile Clarity (TMC®) compression technology to achieve industry-best H.264/AVC or AVS video quality for target devices. The scalable 2 (BE6200) or 4 (BE6400) channel encoding platforms address the need for high quality low bandwidth mobile formats at a highly affordable per-channel price. Like all Telairity encoders, they can be easily upgraded via software to add new or improved features and enhance performance.

Features and Options

Video Encoding Features

- 2 or 4 fully independent channels with I/O per channel pair (1 & 2, 3 & 4)
  - SDI input with option of outputs: dual DVB-ASI, dual IP, or 1 each
  - Optional Composite input module
- Baseline Profile, AVC: 1, 1b, 1.1, 1.2, 1.3, 2; AVS: 2.0
  - Supports older 2G and new 3GPP, 3GPP2 networks; 3GPP multirate file format
- Input Video Formats: 576i (PAL), 480i (NTSC) SD or 1080i, 720p HD
- Output Resolutions:
  - PAL – 352x288p (CIF), 320x240p (QVGA), 176x144p (QCIF)
  - NTSC – 480x272p (WQVGA), 352x240p (CIF), 320x240p (QVGA)
  - Other resolutions including full SD, HVGA, HQVGA, QQVGA, SQCIF, etc.
- Rate Control: Constant Bit Rate (CBR) @ 128-2000 Kbps
- Scene change detection with fixed, open, closed, adaptive GOP structures ▪ Spatial preprocessing ▪ Deblocking (Loop) filter ▪ CAVLC entropy coding ▪ All intra- and inter-prediction modes ▪ Qpel ▪ Multiple reference frame prediction ▪ TMC® Chroma ▪ Luma/Gamma correction with De-ringing & Flicker removal
- GOP Mode: selectable fixed length or adaptive

Audio Encoding Features (per channel)

- Embedded or external audio input; Dolby Digital / AC3 and Dolby E pass-through
  - Four programs (stereo pairs) per channel: Stereo, Dual Mono, Mono
- MPEG-1 Layer 2 encoding, bit rates: 64 to 384 Kbps
  - MPEG-4 AAC-LC, -HE, -HEv2 options for quality audio at bit rates to 12 Kbps

Control Features

- On-board Flash memory for fast program upload at boot
- Web browser control via Ethernet interface

Output (maximum of 2 per channel)

- MPEG-2 transport stream over DVB-ASI 75 ohm coax (1 or 2/channel)
- IP Transport stream over 10/100 Base-T (1 or 2/channel)
  - Pro-MPEG FEC (Forward Error Correction) with RTP transport protocol

BE6200/6400 MultiChannel
Mobile & WebTV Encoders

Applications

The Telairity BE6200/6400 mobile encoder platforms offers state of the art SD video compression for target devices in a dense and cost effective 1 RU form factor. Applications include:

- IPTV, OTT
- Live Streaming
- Broadcast Distribution
  - Satellite / Cable / Terrestrial
- Supports all digital broadcast standards, including ATSC, DVB-S/S2/SH, DVB-C, DVB-T/T2, DVB-H, CMMB, ISDB-T, DMB-T/H

Benefits

Compact 1RU system for broadcast quality mobile video encoding

Handles 2 or 4 fully independent SD channels, with up to 4 stereo audio programs per video channel

Based on the fully programmable Telairity-1 video architecture; easy software upgrades to improve existing and add new features

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

“Instant on” startup times

Helix, Wowsa server support

Options

Breakout cables for external audio inputs (digital and analog)

Composite input

Transcoding (MPEG-2, etc.)

G.703/E3 or DS3 output

Other Models

Single channel available in **BE6110** 1U x 19” x 18” with front panel control

Ordering Information

Part Numbers:

BE6200, BE6400

Contents

- BE6000-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
- Cables (input/output)
  - 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.

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Video Inputs (maximum of 1 per channel)

Input Format:	0, 2, 4 SDI (SMPTE 292M or 259M) inputs 0, 2, 4 Composite analog inputs (SD option)
Video Input Formats:	4:2:2 for 576i (PAL), 480i (NTSC), 720p or 1080i HD
Frame Rates: *720p only	Frames per second: progressive mode 23.98, 24, 25, 29.97, 30, 50*, 59.94*, 60* Fields per second: interlaced mode: 50, 59.94, 60
Video In:	Digital: 1 BNC/channel for 75 ohm coax Analog Option: 1 BNC/channel with adaptor for RCA
SDI Loop Out:	Output BNC per SDI input (only)

Audio Input

Input Format:	Embedded per SMPTE 272M (SD-SDI); 299M (HD-SDI) Dolby Digital / AC-3 and Dolby E pass-through External Audio: 2 digital AES + 2 analog L/R stereo pairs per channel (110Ω cables optional)

Compressed A/V Output

Output Interface:	Digital Video Broadcast – Asynchronous Serial Interfaces (DVB-ASI), 270Mbps, buffered non-inverting 10/100 Base-T Ethernet for IP
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:	Baseline Profile H.264: 1 - 1.3; AVS 2.0
Compressed Bitrates:	Programmable, 128Kbps to 2 Mbps/channel, CBR
ASI Stream Out:	Twist-lock BNC connectors (0, 1, 2 per channel)
IP Stream Out:	RJ-45 connectors (0, 1, 2 per channel)

Control

Interface:	1 Ethernet control interface per channel pair with RJ-45 connector via hub (or switch) to Web browser controller
Control Application:	Web browser Interface over Ethernet
Network Management:	Telairity NMS or standard SNMP

Power Specifications

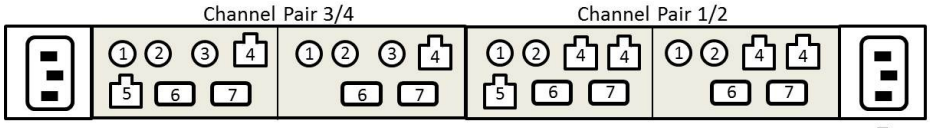
Input voltage:	100 to 240 VAC (Auto sensing)
Line frequency, Power:	47 to 63 Hz; 61 Watts/channel

Mechanical Specifications

Dimensions & Weight:	1RU (H) x 19” (W) x 28” (D) rack mountable, 25 lbs.

Environmental Specifications

Cooling:	Forced air-cooling side to side
Operating Temperature:	0° to 50°C



1–SDI video in, 2–Loop out, 3–ASI out, 4–IP out, 5–Ethernet control for Channel Pair
6 & 7–External analog & digital audio in (DB15 to breakout cable, balanced or unbalanced)

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