telairity
Visibly Better

Telairity Optional Modules

1. Transcoder

Any single-channel Telairity Broadcast Encoder (BE) model can be converted to a Broadcast Transcoder (BT) model by adding an optional **TRANSCODER** module. The module comes with a choice of SDI, ASI or IP input (select one), and generates SDI input to the encoder, completing the transcode cycle.

Affected Models

- All BE single-channel **(BE6110** mobile**, BE7110** standard-compression SD, **BE9110** high-compression SD/mobile, **BE8110** HD, and **BE8500** Dual-Mode HD/SD) and some BE multi-channel models (**BE9400**) upgrade to **BT** models; unavailable on BC8110; inquire for availability on multichannel units other than the BE9400

Inputs				Outputs			
Codecs	**Profiles**	**Protocols**	**Formats**	**Codecs**	**Profiles**	**Protocols**	**Formats**
MPEG-4 (H.264/AVC)	to High profile L4	ASI	1080i/p	MPEG-4 (H.264/AVC)	Main, High, Baseline	ASI	HD
MPEG-4-ASP L5		SDI	720p	MPEG-2	Main	IP	SD
MPEG-2, MPEG-1	Main/High profile	IP	576i	AVS 2.0			Mobile
VC1, DV, JPEG	Adv. Profile L3						selectable
DivX 3.11/4/5/6							resolutions

Trans-sizing & Trans-rating

- HD to SD down-sampling ▪ SD to HD up-sampling
- HD or SD input to Mobile formats
- Use the BE8500's powerful HD compression technology to reduce HD bitrates under 5Mbps
- Use the BT8500's high-compression SD technology to reduce SD bitrates under 1Mbps
- Use the BT8500's advanced Mobile compression technology to reduce Mobile bitrates to as little as 100Kbps

Image Enhancement for Maximum Transcoded Picture Quality

- Deringing, Deblocking, Flicker reduction, Deinterlacing option for SD & Mobile output

2. Orion Modulator Options: DVB-S/S2 & DSNG or DVB-T/T2 & DTMB

Telairity offers state-of-the-art integrated modulator options with selected 1RU models, designed either for satellite applications in compliance with the DVB-S/S2 and DVB-DSNG standards, covering the full L-Band (950/2150 MHz); or Terrestrial applications in compliance with the DVB-T/T2 and DTMB standards, covering frequencies from 470-862 MHz. The modulator options can be used in conjunction with Telairity's professional IRDs equipped with an DVB-S/S2 or T/T2 tuner or consumer set-top boxes. Features include:

■ Compliant with ETSI EN 302 307 ■ CCM (Constant Coding Modulation) as well as VCM1 (Variable Coding Modulation) and ACM1 (Adaptative Coding Modulation) modes ■ Flexible input bit rate adaptions include PCR, Padding insertion, Null Packet Deletion & Padding Insertion, and Dummy BBFrame insertion ■ Up to 68 MBaud output to fully feed a 72 MHz transponder and to increase the OPEX of the satellite link ■ Low roll-off (5/10/15%) to further increase the useful bitrate ■ Physical Layer Scrambling according to EN 302 307 standard ■ Internal PRBS generator to generate a RF spectrum without any valid signal input

3. Composite Input Option

All Telairity Broadcast Encoders feature digital SDI input as a standard feature, together with connectors for both digital (AES) and analog (L/R stereo) audio input. SD encoders, both single- and multi-channel, can be ordered with an optional **COMPOSITE INPUT** module (in addition to SDI).

Affected Models

- **BE7110** standard-compression SD, **BE7400** 2/4 channel SD system; **BE9110** high-compression SD, **BE9400** with SD channel configurations (-2SD, -1HD2SD, -4SD)
- HD-only 8000 series systems (BE8110, BC8110) do not support composite input

4. G.703 Output Option

All Telairity single-channel Broadcast Encoders feature simultaneous dual ASI and dual IP output; multichannel models feature dual outputs per channel, which may be dual ASI, dual IP, or one of each. Any model with ASI output that accepts the option card also may be configured for G.703 output. The **G.703 OUTPUT** option card accepts ASI input from the encoder, converting it to G.703 output on a separate BNC connector.

Telairity Optional Modules Illustrated

Telairity encoders support a single option card slot. In HD models, this slot may be populated with either the **TRANSCODER** of **G.703 OUTPUT** cards; in SD models, it also can be populated with the **COMPOSITE INPUT** card. As a consequence of the single slot, options are mutually exclusive; only one may be selected per channel.

All option cards function in a similar manner. Some take an external input and convert it a source SDI output stream that can be fed back into the encoder to complete the conversion to H.264/AVC or AVS code. Others accept the encoder's H.264/AVC or AVS output over ASI and convert it to a different output format.

Option card connections are illustrated below.

- The **COMPOSITE INPUT** module converts composite source input to SDI source output, cabled to the unit's SDI source input for H.264/AVC or AVS encoding.
- The **TRANSCODING** module accepts MPEG-2 (etc.) encoded input in ASI, IP, or SDI format (select one) and converts it to SDI source output, cabled to the unit's SDI source input for H.264/AVC or AVS encoding.
- The **G.703 OUTPUT** module takes H.264/AVC or AVS code from an ASI output and converts it from ASI to G.703 output format.