

BE-IRD-5502 Integrated Receiver/Decoder

The BE-IRD-5502 is a versatile broadcast-class H.264/AVC (MPEG-4) HD/SD integrated receiver and decoder for broadcasters, cable operators, and telecoms. A highly flexible professional choice, the 5502's ability to decode all video formats (HD or SD, MPEG-2 or MPEG-4), together with its wide choice of input and output options, makes it the perfect solution for customers migrating from MPEG-2 SD to MPEG-4 HD. A built-in Multiplexer/Filter allows users to create highly customized output transport streams. Two PCMCIA Common Interface card slots support a variety of Conditional Access systems, including Conax, Cryptoworks, Irdeto, Mediaguard, NDS, SECA, Viacross, and others. Control and monitoring can be done via the unit's LCD front panel or over a LAN via the built-in Monitor Center facility, or using an HTTP Web browser interface, or through standard SNMP-based network management systems.



Features and Options

Tuner / Input Specifications (select one)

- **DVB-S/S2 QPSK & 8PSK Demodulation** *complies with DVB-S, MPEG-2, ETSI 300421*
 - Symbol Rate: 2~45 Mb/s (SCPC or MCPC); low symbol rate 1 to 5 Msyms
 - Input Frequency Range: 950~2150 MHz
 - Input Level: -25dBm~65 dBm
 - Input Impedance: 75Ω, F type female connector
 - Roll-off Factor: 0.35 for QPSK; 0.35, 0.25, 0.2 for DVB-S2 8PSK
 - FEC Code Rate: 1/2, 2/3, 3/4, 5/6, 7/8 for DVB-S QPSK – 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 for DVB-S2 QPSK – 3/5, 2/3, 3/4, 5/6, 89, 9/10 DVB-S2 8PSK
 - LNB Level: 0, 13V, 18V adjustable; LNB Selection Tone: 0/22KHz selectable
 - Satellite Selection Command: DiSEqC 1.0; ISI ID: 1 ~ 255 user configurable
- **DVB-C QAM Demodulation** *complies with DVB-C & MPEG-2*
 - Input Symbol Rate Range: 1~7 Mbaud (ITU J.83 Anne^x A)
 - Constellation: 16/32/64/128/256 QAM
 - Bandwidth: 6, 7, 8 MHz
 - Input Frequency Range: 48~862 MHz
 - Digital Signal Input Level: 45~75 dBμV
 - Input Return Loss: 7dB (typical)
- **DVB-T/T2 COFDM Demodulation** *complies with DVB-T & MPEG-2*
 - Input Symbol Rate Range: 4.98~31.67 Mbps (8 MHz bandwidth)
 - Bandwidth: 6, 7, 8 MHz
 - Input Frequency Range: 104~862 MHz (VHF/UHF)
 - Digital Signal Input Level: -20~-70 dBm
 - Input Return Loss: 7dB (typical)
 - DVB-T Specifications: **Constellation:** QPSK, 16 QAM, 64 QAM; **FFT Mode:** 2K/8K; **Guard Interval:** 1/4, 1/8, 1/16, 1/32; **FEC Code Rate:** 1/2, 2/3, 3/4, 5/6, 7/8
 - DVB-T2 Specifications: **Constellation:** QaPSK, 16 QAM, 64 QAM, 256 QAM; **FFT Mode:** 1K, 2K, 4K, 8K, 16K, 32K; **Guard Interval:** 1/4, 5/32, 1/8, 5/64, 1/16, 1/32, 1/64, 1/128; **FEC Code Rate:** 1/2, 3/5, 2/3, 3/4, 4/5, 5/6

BE-IRD-5502 Professional IRD

Applications

The Telairity BE-IRD-5502 offers professional receive, decrypt, descramble, decode, and re-multiplex capabilities for all broadcast applications, including IP, Satellite, and Cable head-end facilities. Supports

- IPTV
- All types of head-end facilities
- HD/SD ENG/SNG Receiving
- HD/SD Program Distribution

Benefits

Decodes all 4:2:0 formats HD & SD, MPEG-2 & MPEG-4 (H.264/AVC)
Profiles: MP@ML/HL, MP/HP@L4.0
Resolutions: 1080i, 720p, 576i, 480i
FPS Speeds: 25, 29.97, 30, 50, 59.94, 60
Video PID bit rate < 80 Mb/s

HD to SD down-conversion & aspect ratio adaptation; Convert DVB to/from IP; Convert other TS formats to DS3

QPSK / 8PSK, QAM, or COFDM input interface with error correction; source loop-out over 75Ω cable

Option to replace DVB interface with DS3 (G.703, E1/E3) interface

IP interface standard on all models; UDP/RTP, Unicast/Multicast, SPTS/MPTS

2 CI slots to accommodate a variety of CA systems, multi-program decryption

Supports BISS-1/BISS-E descrambling

IP, ASI, SDI, HDMI, Component, and Composite video outputs

Decodes 2 audio stereo pairs with embedded, analog and digital output; AC3 pass-through supported

Built-in multiplexer/filter for highly customized output transport streams

VBI: Teletext/WSS/VFD/VPS; EBU & DVB subtitles; EIA 608/708 Closed Caption

Auto-saves settings on power loss

Ordering Information

Part Number: **BE-IRD-5502**

Contents

- IRD 5000-series Decoding Platform
- CD with management software
- User Manual (hardcopy)
- Cables
 - Power cord (IEC to USA plug)
 - RCA A/V cable
 - BNC cable
 - DB-9 to XLR

Requirements

- PC for control system
- Encoded source
- Display to view decoded images

System Control

- LCD panel menus
- Network control software (on CD)
- SNMP-based network management systems

Certifications

EMC: EN 55024: 1998 + A1:2001 + A2:2003, EN 55022:2006 + A1:2007, EN 61000-3-2:2006, EN 61000-3-3:2008; FCC: Part 15 Class B; LVD: EN 60950-1:2006 + A11:2009

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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- **ASI Input** *compliant with DVB-ASI, EN50083-9*
 - Connector Type: BNC x 2; Impedance: 75Ω; Maximum Bit Rate: ≤ 100 Mb/s
- **DS3 Input & Loop-through Output (Option)** *compliant with ITU-T G.703*
 - Connector Type: BNC x 2, Impedance: 75Ω; Maximum Code Rate: 44.736Mbps
 - Frame Structure: compliant with ITU-T G.752 and ITU-T G.804
- **TS over IP**
 - RJ-45 x 1 connector, 10/100 Base-T or 100/1000 Base-T (Option): RJ45
 - Effective Bit Rate: 70 Mb/s for 10/100 Base-T or 80 Mb/s for 1000 Base-T
 - Protocols: UDP/RTP, Multicast/Unicast, IGMPv2, ARP

Audio

- Compression Decoding: Analog AES, MPEG-4 AAC (Advanced Audio Coding)
- 2 stereo pairs decoded or passed-through (compressed) in SDI output
- PCM embedded in SDI and HDMI outputs; output on 2 AES/EBU output ports
- 32, 44.1, 48 KHz sampling rates; bit rates from 32-448 Kb/s depending on codec

Transport Stream Processing

- Input & Output management with demuxing/remuxing; Service & PID management with remuxing, filtering, and remapping; PSI/SI table regeneration, NIT and SDT edit, LCN edit and regeneration
- Common Interface multi-program decryption; BISS Mode descrambling
- Dynamic PMT detection and automatic updating
- Redundant backup between Tuner, ASI, TS/IP inputs with configurable priority
- Built-in remultiplexer receives Tuner, ASI x 2, TCP/IP inputs

Input Connectors

- 3 RJ-45 connectors: 2 IP input/output; 1 Ethernet management port
- 2 USB (for upgrade files); 1 ASI BNC connector; 1xF type female 75Ω for RF Tuner

Output Connectors

- 1 IP output – RJ45 connector (shared with input)
- 1 RS-232 printing port
- 4 (2 pairs) ASI BNC: EN50083-9, ≤99 Mb/s; 2 independent TS remultiplexed from inputs
- 2 SDI BNC: SMPTE 259M SD 270 Mb/s, 292M HD 1.485 Gb/s; level 800mV p-p
- 1 HDMI 1.3 (up to 1080i)
- 1 composite video – 75Ω BNC; NTSC, PAL, SECAM
- 2 L/R stereo pairs – RCA connectors
- 3 DB-9 – 1 Alarm; 2 Audio: digital AES/EBU or analog XLR stereo pairs (w. adaptor cables)
- 1xF type female 75Ω for RF Tuner loop-out

Physical Specifications

Power: AC 90V~250V, 50/60Hz, 24W (exclusive of LNB power)
 Dimensions: 1RU (H) / 19 (W) x 12.6 (L) in / 483 (W) x 320 (L) mm
 Weight: 11.9 lbs / 5.4 Kg (gross)
 Operating Conditions: Temperature 0~45°C; Humidity ≤90% non-condensing
 Storage Temperature: 10~60°C



BE5502 Back Panel

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