

BE-IRD-5800 Advanced Modular Integrated Receiver Decoder

Telairity's BE-IRD-5800 Advanced Modular IRD continues its long history of leadership in the integrated receiver/decoder space. The 5800's full complement of cutting-edge features include 4:2:2 8/10-bit decoding, up to 8 individual audio PIDs, 1080p60 video support, and 16/32APSK satellite demodulation. In addition, all decoding and output formats are field upgradable, so the system can grow as needs evolve. This combination of the latest features joined to wide-ranging adaptability make the 5800 the ideal choice for demanding contribution or distribution applications requiring a future-proof solution. ASI inputs and outputs are standard, along with dual 3G-SDI SD/HD outputs. Factory-configurable MPEG TS over IP and DVB-S2 RF modules adapt the product to any use case. The 5800 also maintains Telairity's long ease-of-use tradition, with an intuitive, straight-forward web interface accessible via all major browsers plus full unit control via the front panel LCD screen and keypad. Like all Telairity products, the 5800 is backed by Telairity's best-in-class warranty and on-call support staff.



Features and Options

Base System

- **Transport Stream Input / Output Interfaces**
 - ASI Input: 1 x 75Ω BNC; ASI Output: 1 x 75Ω BNC; Bitrates: 250 Kbps to 200 Mbps
- **Video Decoding**
 - MPEG-2 SD: 4:2:0-MP@ML, 4:2:2-422P@ML
 - MPEG-4 (H.264/AVC) SD: 4:2:0-MP@L3, 4:2:2-Hi422P@L3.2
 - Maximum Bitrates by Entropy Coding: CAVLC – 100 Mbps; CABAC – 80 Mbps
 - Frame Synchronization: PCR-recovered clock
 - Aspect Ratio Conversion: Manual – Letterbox, Center-Cut, Anamorphic
Automatic – Follows AFD codes
 - Output Interfaces: 2 x 75Ω BNC (3G-SDI SD/HD), 1 x 75Ω BNC (Composite), 1 x HDMI
 - Digital Output Formats: 720x480i @ 29.97; 720x576i @ 25; 1280x720p @ 50, 59.94, 60
1920x1080i @ 25, 29.97, 30; 1920x1080p @ 23.97, 24, 25, 29.97, 30
 - Analog Output Formats: NTSC, PAL-B/D/G/I/M/N
 - Overlay Support: Closed Captions (CEA-608, CEA-708, SCTE-20),
DVB Subtitles for HD/SD with auto-scaling (EN 300743)
- **Audio Decoding**
 - 4 services
 - Formats: MPEG-1 L2, AAC-LC –HE –HEv2, Dolby Digital (AC-3), Dolby Digital Plus (EAC-3)
 - Pass-Through: Linear PCM, Dolby-E
 - Delay / Advance: +100 to -35 ms per service
 - Outputs: Digital pass-through, PCM / Analog – decoded discrete channels for 5.1 sources (or down-mixed for 5.1 sources)
 - Output Interfaces: AES – 8 x 75Ω BNC; Analog – 2 x 15-pin D-sub (4 stereo services)
 - SDI Embedded Audio: 8 audio pairs
- **Ancillary Data Support**
 - SDI ANC Data Types: AFD (SMPTE 2016), closed captions (CEA-708), OP-47 (SMPTE RDD-08), SMPTE RDD-11, VANC pass-through (SMPTE 2038), SCTE 127 (SMPTE 2031), EN301775 (SMPTE 2031), Timecode (SMPTE 12M-2)
 - VBI Waveforms (SDI/Composite): Line 21 captions (CEA-608), TVG2X / AMOL-48/96 (SCTE-127), Teletext / WSS / VPS (EN301775), Timecode in VBI (SMPTE 12M-1)

BE-IRD-5800 4:2:0/4:2:2 Professional IRD

Applications

Receive and decode contribution feeds

- High bitrate 8- or 10-bit 4:2:2 with up to 8 associated audio channels
- Over DVB-S/S2, IP, TurboPSK
- Decode to SDI for local processing and/or re-encoding
- Upgrade to new formats like 16/32APSK and multi-stream transmission as needed

Receive and decode distribution feeds

- Decode 4:2:0 up to 1080p60
- Decode to 3G-SDI for monitoring and turn-around of cinematic, sports, or live-action content
- Upgrade to advanced formats as they move into mainstream distribution, re-processing, and turn-around applications

Benefits

Part of the Telairity family of professional video compression products for trouble-free integration with Telairity encoders.

Full configurable modular design controls costs: purchase only the minimum set of features needed to start, preserve flexibility to add other features as needs change over time

Decodes all 8-bit 4:2:0 & 4:2:2 formats: HD & SD, MPEG-2 & H.264/AVC

Decodes 10-bit 4:2:2 H.264/AVC

All input formats auto-detected and switchable on-the-fly

Dual 3G-SDI HD/SD auto-switching outputs

Handles up to 100Mbps of video data

Accepts inputs over ASI, IP, RF Satellite, or 8VSB/QAM-B

Support for all major audio formats

Up to 8 channels of audio decoding

Full ancillary data output in ANC and VBI

SNMP support for full control, status and alarm monitoring

Wide range of options for Genlock, BISS descrambling, Conditional Access, Decoding, FEC output, etc.

Ordering Information

Part Number: **BE-IRD-5800**
SD 4:2:0 / 4:2:2 base version
HD 4:2:0 license / 4:2:2 license
Includes MPEG-2 & H.264/AVC

Contents

- IRD 5000-series Decoding Platform
- Flash drive with manual, firmware copy

Requirements

- PC for Web browser control
- Encoded source
- Display to view decoded images

Available Cables

- 4 x XLR Breakout cable
- 4 x BNC Breakout cable
- Terminal Block Cable

Management

- Full local Control via front-panel LCD display and 6-key keypad
- RJ-45 10/100 Base-T Ethernet auto-negotiating port for remote IP control
- Intuitive, straight-forward Web GUI, works with all major browsers, provides full control over all system functions, enables firmware updates
- SNMP automation interface provides full status and control via configurable traps, API for web services, Syslog message logging

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

Available Licenses

- HD 4:2:0 Decoding – MPEG-2 MP@HL, H.264/AVC up to HP@L4.2
- HD 4:2:2 Decoding – MPEG-2 422P@HL, H.264/AVC up to Hi422P@L4.2
- 1080p50/60 Video Output – 1920x1080p @ 50, 59.94, 60 (includes 3G-SDI Level A format)
- DVB-S2 Advanced Feature License – 16APSK/32APSK (all FEC rates)
 - Supports additional modes: VCM demodulation, Multi-stream (single ISI)
- MPEG/IP FEC Output License – supports SMPTE 2022/CoP3, RTP Header extensions
- Genlock – enables Genlock input over 1 x 75Ω BNC
- 8 Service Audio Decode License (4 additional services over base)
- BISS Descrambling License – Mode 1, Mode E, Injected ID
- DVB-CI Multi-Service / Multi-BISS License
 - With DVB-CI Module, descrambles services up to the limit of the CAM
 - With BISS License, enables Multi-BISS descrambling with up to 12 separate keys
- SCTE 35 to SCTE 104/Relay Output License – SCTE 104 (SMPTE 2010)
- Cablelabs ESAM POIS Interface License

Available Modules

- **DVB-S/S2 Input Module (also see DVB-S2 Advanced Feature License)**
 - Physical Interface: 4 x 75Ω F-Type
 - Frequency Range: 950-2150 MHz
 - Symbol Rate: 1-45 MSps
 - Modulation Modes: DVB-S – QPSK (all FEC rates); DVB-S2 – QPSK/8PSK (all FEC rates)
 - LNB Power: Off/13/14/18/19 VDC @ 450mA
 - Control Tone Support: 22 kHz On/Off
 - Roll-off Factors: 0.35, 0.25, 0.20, 0.15, 0.10, 0.05
- **8VSB/QAM-B Input Module**
 - Physical Interface: 75Ω F-Type
 - Frequency Range: 50-1000 MHz
 - Sensitivity: -34 to +40 DBmV (A74 compliant)
 - 8VSB: Standard – ATSC A/53E; Channel Plans – Broadcast
 - QAM: Standard – ITU Annex B / SCTE DBS-031; Channel Plans – FCC, IRC, HRC
 - QAM Constellations: QAM64, QAM256
- **Broadcom TurboPSK Receiver Module**
 - Physical Interface: 1 x 75Ω F-Type
 - Frequency Range: 950-2150 MHz
 - Symbol Rate: 1-30 MSps
 - Modulation Modes: DVB-S – QPSK (all FEC rates); TurboPSK – QPSK/8PSK (all FEC rates)
- **IP Input/Output Module (also see MPEG/IP FEC Output License)**
 - 2 x RJ-45 GigE auto-negotiating ports; TS bitrates: 250 Kbps to 200 Mbps
 - Inputs: UDP or RTP; Outputs: UDP; Addressing: Unicast or Multicast; IGMP: version 1,2,3
 - Constant bitrate or Null-stripped; supports SMPTE 2022/CoP3, RTP Header extensions
 - Encapsulation: 1 to 7 TS packets per IP packet
- **DVB-CI Descrambling Module (also see DVB-CI Multi-Service License)**
 - 2 DVB-CI CAM slots (descrambles decoded services only w/o Multi-Service License)
- **Simultaneous SD Video Output Module**
 - 2 x 75Ω BNC mirrored SDI outputs; 1 x 75Ω BNC composite output

Physical Specifications

- Size (H x W x D): 1 RU (1.72" / 44 mm) x 17.2" / 437 mm x 14.6" x 370 mm
- Power: 100 ~ 240 VAC, 50/60 Hz
- Operating Environment: 0 ~ 50°C (-40 ~ 65°C storage); <95% humidity (non-condensing)

Copyright 2016 by Telairity. All rights reserved. All products mentioned here are the trademarks or registered trademarks of their respective owners. Telairity reserves the right to make changes without notice and does not assume any liability arising from the application of this product.