# 7881IRDA–H264HD–LB Series
## Professional DVBS/S2 MPEG–2/H.264 SD/HD Integrated Receiver Decoders



The 7881IRDA–H264HD–LB is the basis of a professional platform for receiving, demodulating and decoding digital DVB–S/S2 satellite signals. With a compact, modular form–factor the 7881IRDA represents one of the highest density and most flexible solutions in the industry. The 7881IRDA–H264HD–LB may be mounted in the Evertz 7800 series of enclosures, providing a high–density, modular solution. Options for an innovative removable front control panel and 1RU chassis also allow the IRDA to be packaged in the traditional IRDA form–factor, while maintaining all of the benefits of modularity.

Applications include signal reception for broadcasters, cable, DTH and IPTV providers, or any other small to large head–end operators who need to receive and utilize or re–distribute satellite content. The 7881IRDA series provides ASI and IP outputs, ideal for turnaround, transcoding, monitoring or other applications where the received signal remains in the compressed domain. For baseband output, the 7881IRDA utilizes an advanced decoder with support for both MPEG–2 and H.264/AVC, SD or HD encoded signals, optionally up to 4:2:2 10–bit.

In addition to a quad–RF input, the 7881IRDA also provides inputs for IP and ASI signals, making it a future–proof, universal reception platform for signals delivered over satellite, fiber and other network media.

Monitoring parameters such as EsNo ratio, RF power, BER and packet errors present a convenient solution for broadcasters and cable companies who wish to not only receive, but also remotely monitor signal quality. These parameters as well as Full monitoring and control of the IRDA are relayed over SNMP, for convenient remote access using Evertz' own VistaLINK® PRO SNMP monitoring and control package. Additionally, low–speed data support is provided for in–band control.

For applications requiring decryption, the IRDA provides two slots for installation of a customer supplied conditional access module. DVB–CI compliant conditional access modules and formats are supported.

### ▶Features & Benefits

- Modular design, allowing flexible configurations along with easy system reconfiguration and service
- May be mounted in the 7800FR series frames in high–density applications
- May be mounted in the 7801FR and fitted with the 7801CP control panel, yielding a 1RU IRDA with removable front control panel and optional redundant power supplies, all of which are hot–swappable and may be serviced without any de–cabling required
- Up to two units may be mounted in the 7801FR and used with the 7801CP, providing a dual–IRD solution in 1RU
- Future–proof with upgrade paths to support future modulation and encoding technologies
- Standard support for advanced modulation schemes, including DVB–S2 with 16APSK and 32APSK
- Flexible decoding of SD and HD as standard
- Support for encoding profiles from distribution to contribution grade, including H.264 in 4:2:0 8–bit and optional 4:2:2 10–bit formats "software upgradable", along with legacy MPEG–2
- Available DVB–CI slot for conditional access modules

- Available BISS and BISS–E decryption
- Flexible mid–stage access to compressed domain signals, including ASI and optional IP output along with ASI and optional IP inputs
- Straight pass through or PID filtering/remapping of compressed stream outputs
- Standard Dolby pass through and decode of Dolby AC–3 and MPEG–2 Layer 1 audio
- Optional decoding of Dolby E, Plus and AAC
- Eight AES outputs
- Optional Audio Video Monitoring (AVM) for audio mute and video freeze and black detection
- Control through web browser or SNMP using third–party application or Evertz' own VistaLINK SNMP control and monitoring software
- Optional SCTE 105/34 translation
- Ability to store ten preset configurations
- Event log support with exporting capabilities are supported on VLPRO
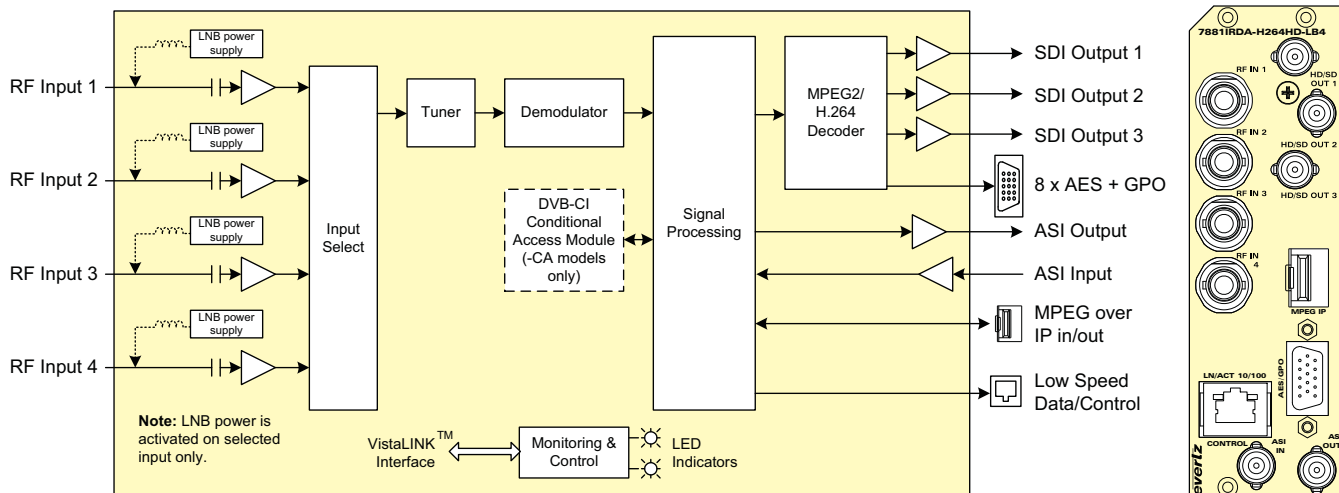- Built–in Control Port for direct control and management of the IRDA

**Front View — 7881IRDA in 1RU with Control Panel**



**Rear View — 7881IRDA in 1RU**

## Specifications

**RF Input:**

| | |
|---|---|
| Number: | 4 |
| Connector: | 75Ω F−Type (Optional BNC connector) |
| Frequency: | 950−2150 MHz |
| Power: | −20 to −65dBm |
| Local oscillator: | 1 1000−35000 MHz to be used for C−Band & Ku−Band |
| Voltage: | 13/18VDC, off (selectable) |
| Tone : | 22kHz, selectable On/Off |
| LNB Power Supply & Control: | |
| | Receive Polarization Control by electrical Command Via LNB−IF feeder (High & Low band switching Pulse for Ku−Band operation) |
| Max Current: | 400mA |
| Protection: | Short circuit, overload |
| Input Return Loss : | 15dB min |
| Noise Figure: | 9dB max |
| AFC Tuning Range: | ±67 MHz using search range |
| Tuning Step Size: | 125kHz max |
| IF Filter Bandwidth: | Adjusted from 6 MHz to 50 MHz in 1−MHz steps |

**Modulation Support:**

| | |
|---|---|
| Symbol Rate: | *Up to:* |
| 8APSK: | 67 Msps |
| 16APSK: | 50 Msps |
| 32APSK: | 40 Msps |

Coding Rates:

| | |
|---|---|
| DVB−S QPSK: | 1/2, 2/3, 3/4, 5/6, 7/8 |
| DVB−S2 QPSK: | 1/4, 1/3, 2/5, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 |
| DVB−S2 8PSK: | 3/5, 2/3, 3/4, 5/6, 8/9, 9/10 |
| DVB−S2 16APSK: | 2/3, 3/4, 4/5, 5/6, 8/9, 9/10 |
| DVB−S2 32APSK: | 3/4, 4/5, 5/6, 8/9, 9/10 |

**ASI Input:**

| | |
|---|---|
| Number: | 1 |
| Type: | ASI per DVB TR101−891 |
| Connector: | 75Ω BNC |

**MPEG over IP Input/Output (+IP Option):**

| | |
|---|---|
| Number: | 1 |
| Type: | SMPTE 2022−1, −2 |
| Connector: | RJ−45, 10/100/1000 |
| Support: | Multicasting/uncasting of the TS |

**Conditional Access Support:**

Two DVB−CI slots

**Baseband Video Outputs:**

| | |
|---|---|
| Number: | 3 (third BNC is configurable to be ASI or SDI output) |
| Connector: | 75Ω BNC |
| Type: | SDI (SMPTE ST 259), HD−SDI (SMPTE ST 292−1), and SMPTE 272−1994 (10−bit) 270Mb/s |
| Level: | 800mV p−p for SDI As per ITU−R |
| Video Resolution: | 1920x1080, 1440x1080, 1280x1080, 960x1080, 1280x720, 960x720, 640x720, 720x480, 720x576, 704x480, 604x480, 544x480, 528x480, 480x480, 704x576, 640x576, 544x576, 528x576, 480x576 |
| Video decode: | HEVC H.265, MPEG−4 part 10, H.264 − HP@L4, MP@L3 and MPEG−2 MP@ML |

**AES Audio Outputs:**

| | |
|---|---|
| Number: | 8 PIDS (16x channels of embedded PCM) |
| Connector: | BNC breakout from DB−15 |
| Type: | Unbalanced AES |
| Load Impedance: | 110Ω |
| Output Level: | Ranging 2−7 Volts |
| Standard: | AES3 (aka AES/EBU) as an AES output standard |
| Compression Format: | MPEG−1 Layer−II audio, E−AC−3, AC−3 and HE−AAC v.1, v.2 |
| Passthrough: | PCM, Dolby Digital, Dolby−E |
| Optional: | Dolby−E decode and AAC−LC |

**Ancillary Data**

| | |
|---|---|
| Embedding of: | Audio pass through |
| | Closed caption/Teletest |
| | SCTE35 to 104 (+SCTE104 option) |
| | AFD/WSS |
| | Time code |

**ASI Output:**

| | |
|---|---|
| Number: | 1 |
| Type: | ASI per DVB TR101−891 |
| Connector: | 75Ω BNC |

**High Quality Down Convert (+HDC option):**

| | |
|---|---|
| Down coversion: | SMPTE 292 to SMPTE 259 |
| Aspect ratio: | Fixed Scalar or follow AFD |

**Low Speed Data:**

| | |
|---|---|
| Number: | 1 |
| Type: | De−encapsulation from control data PID |
| Connector: | RJ−45, 10/100/1000 |

**Frame Sync (+FSE Option):**

- Sync 1080i/59.94, 1080i/50, 720p/59.94, 720p/50, 525i/59.94, 625i/50
- Video Delay between 3 lines & 1 frame + 3 Lines
- Programmable output phase with respect to reference input
- Reference input via common 7800FR frame reference connector

**Control:**

- SNMP over Ethernet via frame controller
- Web browser
- Low speed control data over Ethernet output derived from data PID
- 4 x GPO following commercial trigger

**Electrical:**

| | |
|---|---|
| Power: | <46 Watts |
| Voltage: | 12VDC |
| Temperature: | 0−50°C |

**Physical:**

| | |
|---|---|
| Number of slots: | 2 |

## Ordering Information

| | |
|---|---|
| **7881IRDA−H264HD−LB4** | DVBS/S2 IRD, up to 32APSK, quad L−Band input, single demodulator, ASI input and output, MPEG−2/H.264 SD/HD decode (4:2:0 8−bit) |
| **7881IRDA−H264HD−LB4−CA** | DVBS/S2 IRD, up to 32APSK, quad L−Band input, single demodulator, single DVB−CI conditional access slot, ASI input and output, MPEG−2/H.264 SD/HD decode (4:2:0 8−bit) |

**Ordering Options**

| | |
|---|---|
| +FSE | Integrated frame synchronizer |
| +42210B | 4:2:2 (MPEG−2/H.264) and 10−bit (H.264) decode |
| +DD | Dolby−E decode |
| +AAC | AAC decode |
| +IP | IP midstage in/output (SFP sold separately) |
| +SCTE104-1 | SCTE 35/104 translation |
| +DBISS | BISS and BISS−E decryption |
| +HEVC | HEVC 4:2:0 8−Bit support for 7881IRDA |

**SFPTR−RJ45−SGM−AV**

| | |
|---|---|
| | 1x 10/100/1000 Ethernet Copper RJ−45 for IP Streaming Output |

**Rear Plate Suffix**

| | |
|---|---|
| +3RU | 3RU Rear Plate for use with 7800FR or 7801FR Multiframe |

**3RU Enclosures**

| | |
|---|---|
| 7800FR | 3RU Multiframe which holds up to 15 single slot modules |

**1RU Enclosure and Front Control Panel (9781IRD)**
*Note: 7801FC is required for 1RU IRD configuration*

| | |
|---|---|
| 7801FR | 1RU Multiframe which holds up to 4 single or 2 dual slot modules |
| +781PS | Redundant power supply (optional) |
| 7801FC | Frame controller module |
| 7801CP | Removable front control panel for 7801FR populated with 7881IRD(s) |