

# Multi-format SD/HD Modular Receiver Decoder

## MRD 3187B



The MRD 3187B Receiver Decoder is the industry's only professional multi-format modular receiver decoder available today. Installed by more broadcast, cable, satellite, and telco service providers, and across a wider range of applications than any other multi-format receiver decoder. The MRD 3187B receiver decoder sets the standard for performance, scalable functionality and cost of ownership. The award winning architecture of the MRD 3187B adapts to changes well beyond most competitive receiver decoders, allowing hardware and software features to be upgraded in the field (often while still in the rack).

The MRD 3187B supports virtually any application by combining dual-channel processing capability with MPEG-2, MPEG4, 4:2:0, 4:2:2, SD, and HD video decoding. With the wide range of interfaces, the MRD 3187B adapts to contribution, distribution, or backhaul environment while allowing easy upgrade paths to future technologies. All of this makes the MRD 3187B receiver decoder the only choice for operators seeking a truly future-proof solution. The MRD 3187B expands the functionality of the award winning MRD 3187A receiver decoder by adding features such as DVB-CI and SCTE35/104 messaging support.

## KEY FEATURES

- Versatile Modular Platform**  
 Preserve capital investments by purchasing only the functions required today, and seamlessly scale to the functionality needed tomorrow.
- Future-Proof Interface Upgrades**  
 As new technologies emerge for next generation contribution links, the MRD's interface options and backplane routing architecture make the transitions simple and cost effective.
- Wide Range of Inputs and Outputs**  
 The MRD 3187B can support multiple inputs and outputs for seamless integration into a wide variety of system architectures.
- Easy System Integration**  
 The SNMP MIB is integrated with many of the industry's most popular automation and network equipment management and monitoring systems.
- Multiple Channel Processing**  
 The MRD 3187B supports up to two video decoders and four audio decoders. These decoders can be configured as two completely independent receiver decoder systems to decode two separate channels. Or, they can be configured to process the same channel twice, providing an HD and SD output simultaneously from a HD source.

## APPLICATIONS

- Contribution Reception and Turn-Around**  
 Receive network and live feeds via RF, ASI, or IP, and simultaneously demodulate, de-encapsulate, encapsulate, and/or decode to multiple formats of your choice for local processing and re-encode requirements.
- Local Reception and Integration**  
 Receive local content off-air or through fiber feeds and simultaneously provide compressed and decoded/down-converted outputs to feed your distribution network.
- Backhaul and Interconnection**  
 Easily convert transport streams from RF carriers, to serial transport streams, or to/from IP datagram's to seamlessly transfer content through your network.
- Advanced Digital Cue Tone Support**  
 Retain commercial ad avails through the re-encode chain by receiving the SCTE35 messages, converting them to SCTE104 messages, and embedding them in the VANC of the SDI output.

## SPECIFICATIONS

### Multi-format SD/HD Modular Receiver Decoder MRD 3187B

The MRD 3187B receiver decoder solutions provide operators a choice of I/O options required today, and the flexibility to easily change in the future. The modular design of the MRD 3187B allows the operator to customize a compact, modular chassis with a variety of input and output modules.

#### Multi-Standard Video Decoding Support

The MRD 3187B is capable of decoding all MPEG2 and H.264 Transport Streams from Main Profile through High Level, including 4:2:0 and 4:2:2. Analog options include: NTSC/PAL and RGB/YPbPr. Digital video options include HD/SD-SDI.

#### Multi-Standard Audio Processing

The MRD 3187B has embedded, digital and analog audio outputs. Wide variety of supported audio codecs including: MPEG Audio, Dolby AC-3, Dolby-E, AAC and HE-AAC Audio. Audio can also be embedded in HD/SD-SDI.

#### RF INPUT CARD OPTIONS

- ATSC Broadcast Input (8701A)  
Single input port, 8VSB and 64/256 QAM-B
- ASM Receiver Card (8711)  
Dual input ports (Turbo PSK, DVB-S PSK)
- DVB-T/COFDM Broadcast Input (8715)  
Dual input ports, QPSK, 17/64 QAM, 2K & 8K FFT Sizes
- DVB-S/S2 Satellite Input with LNB Power (8716)  
Quad input ports, DVB-S QPSK, DVB-S2 QPSK, 8PSK, multistream, VCM, 16/32APSK
- DVB-S2 Advanced Features for 8716 (8796)  
Add support for 16APSK, 32APSK and Multistream modulations to the 8716 satellite input

#### SERIAL INPUT/OUTPUT CARD OPTIONS

- ASI/SMPTE 310M Input and Output (8702)  
Selectable ASI or SMPTE 310M

#### IP INPUT/OUTPUT CARD OPTIONS

- MPEG over IP Input/Output (8725)  
Transmits and receives multiple streams simultaneously, supports Pro-MPEG COP3 FEC, IGMPv2/v3, H RTP, and null-stripped VBR
- Dual MPEG over IP Input/Output (8727)  
Transmits and receives multiple streams simultaneously, supports Pro-MPEG COP3 FEC, IGMPv2/v3, H RTP, and null-stripped VBR
- Dual MPEG over IP PID/Service Filtering Output (8728)  
Filters incoming MPTS to generate up to 5 MPTS or SPTS UDP outputs with MPEG, ATSC, or DVB tables

#### CONDITIONAL ACCESS OPTION

- DVB Common Interface and BISS Descrambling Option (8721)  
Dual DVB-CI CAM slots, multiple program descrambling, support for all major CAMs and encryption systems, BISS 1 & E

#### Not Just A Receiver Decoder

The MRD 3187B receiver decoder enables operators to gain valuable information about the decoded video and audio signal. The video and audio bitrate, aspect ratio, native format, and other useful information can be viewed to verify the quality of the decoded signal.

Selected PSIP data can be decoded and viewed, allowing quick verification of PSIP data presence, as well as verification of the content of each PSIP table.

#### Complete Remote Operation

In addition to front panel control, the MRD provides remote configuration and monitoring capabilities through SNMP as well as the most intuitive web client in the industry. SNMP management can be done through Ethernet or RS232.

#### GENERAL PURPOSE CARD OPTIONS

- GPIO Module Card (8713)  
Configurable for errors and DPI events, adds capability for SCTE35 to SCTE104 conversion and embedding

#### VIDEO/AUDIO OUTPUT CARD OPTIONS

- Analog Video Output (8706A)  
Component or Composite Video Outputs, Configurable Component/RGBHV Output
- Discrete Analog and Digital Audio Outputs (8707A)  
Simultaneous Analog and AES Audio Outputs, Supports Two Stereo Pair on both Analog and Digital Outputs
- HD/SD-SDI, Component/Composite Video Output (8708)  
Two user selectable serial digital (SMPTE 259M, or SMPTE 292M) outputs and one component RGBHV or YPbPr/Composite NTSC & PAL output.

#### DECODER CARD OPTIONS

- MPEG2/MPEG4 4:2:0 SD/HD Decoder (8732)  
Single video program decoder MPEG2/MPEG4, two audio services decoding/downmix/pass-through
- MPEG2 4:2:0 SD/HD Decoder (8730A)  
MPEG2 only version of 8732 decoder
- MPEG2/MPEG4 4:2:0 SD/HD Genlock Decoder (8734)  
Single video program decoder MPEG2/MPEG4, two audio services decoding/downmix/pass-through, genlock black-and-burst or tri-level sync
- MPEG2 4:2:0 SD/HD Genlock Decoder (8731A)  
MPEG2 only version of the 8734 decoder
- MPEG4 4:2:0 Upgrade license for 8730A and 8731A (8791)  
Enables MPEG4 4:2:0 decoding capability on MPEG2 only decoder

#### SOFTWARE LICENSED FEATURES

- SCTE35 to SCTE104 Conversion and Embedding (8792)  
Converts incoming SCTE35 DPI messages to SCTE104 DPI