

# Modular Receiver

MRD 2600



The MRD 2600 receiver shares the professional-grade front-end collection from Sencore's newest decoder designs, but removes the baseband video and audio components. This makes it a cost-effective solution for single-transponder, multi-service descrambling or single channel digital turnaround applications.

With available satellite, terrestrial (8VSB, QAM-B, DVB-T/T2/C/C2/ISDB-T), ASI, and IP input modules, in conjunction with dual-CAM DVB-CI and BISS descrambling, the MRD 2600 is ideally suited for transport stream input/output. The product is a perfect to feed internal IP distribution or front transcode infrastructure which is missing critical RF interfaces, especially where density is not a key requirement.

The MRD 2600 provides a wide range of control options, including full configuration and status through the front panel and a clean, easy-to-use web GUI. It also features a full SNMP interface, including configurable traps on alarms for easy integration into an control system, and as with all Sencore products, Sencore's professional support team is just a phone call away in the unlikely event that questions should arise.

## KEY FEATURES

- Built-in ASI I/O for maximum value and flexibility
- Available IP and RF satellite I/O modules:
  - √ 8VSB/QAM-B receiver designed for A74
  - √ DVB-T/T2/C/C2/ISDB-T receiver
  - √ TurboPSK Interface with full mode support
  - √ IP Interface with redundant receive paths
  - √ Dual, mirrored TS over IP transmission
- Flexible descrambling support
  - √ Two DVB-CI Interfaces supporting up to 100Mbps
  - √ Flexible per-PID/service configuration
  - √ Built-in BISS Mode 1, Mode E and multi-key
  - √ Up to 12 Independent BISS keys supported
- Easy-to-use web interface
- Full control, status, and alarm monitoring via SNMP

## APPLICATIONS

- **Multi-Service DVB-CI Decryption**  
Downlink a DVB-S2 transponder, descramble with up to two professional DVB-CI CAMs, and output an IP MPTS to downstream transcoders or decoders.
- **8VSB Reception and Turnaround**  
Receive local stations and output for backhaul as ASI and IP. 8VSB input interface designed for strenuous A74 reception conditions.
- **Satellite Reception and BISS Descrambling**  
Simple solution for BISS, BISS-E, or Multi-BISS decryption. Transmit transport steam in the clear via ASI or IP for additional processing.

# SPECIFICATIONS

## Modular Receiver MRD 2600

### BASE UNIT FEATURES

MRD 26000

ASI Input:	1x 75Ω BNC
ASI Output:	1x 75Ω BNC
Supported Bitrate:	250 Kbps to 200 Mbps
<b>BISS Descrambling License</b>	MRD 26921
Supported Modes:	Mode 1, Mode E, Injected ID
Multi-BISS Support:	Up to 12 Separate Keys
<b>DVB-CI Multi-Service</b>	MRD 26991
With DVB-CI Module:	Enables Multi-service Descrambling
<b>PID/Service Filtering License</b>	MRD 26928
Filtering:	10 Independent TS (MPTS or SPTS) created; output via IP or ASI
Table Regeneration (DVB Mode):	PAT regeneration
Table Pass-through (DVB Mode):	PMT, CAT, NIT pass-through Table
Regeneration (DVB Mode):	PAT, SDT
Table Pass-through (DVB Mode):	PMT, CAT, NIT, EIT, RST, TDT, TOT

### DVB-CI DESCRAMBLING MODULE

MRD 26421

Physical Interface:	Adds two DVB-CI CAM Slots
Without Multi-Service License:	Descrambles Decoded Service Only
With Multi-Service License:	Number of Services limited by CAM

### IP INPUT/OUTPUT MODULE

MRD 26127

Physical Interface:	2x RJ45, 10/100/1000 Auto-Negotiate
Input Format:	UDP or RTP Constant Bitrate or Null-Stripped RTP Header Extensions Supported SMPTE 2022/CoP3 FEC Supported
Output Format:	UDP
MPE De-encapsulation:	Up to 2 PIDs Up to 60Mbps per MPE PID
IP Encapsulation:	1 to 7 TS Packets per IP Packet
Addressing:	Unicast or Multicast
IGMP compatibility:	Version 1, 2 & 3
Per TS Bitrate:	250 Kbps to 200 Mbps

### MPEG/IP FEC Output License

MRD 26925

Additional Output Formats:	RTP and Header Extensions SMPTE 2022/CoP3 FEC Supported
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### DVB-S/S2 INPUT MODULE

MRD 26116

Physical Interface:	4x 75Ω F-Type
Frequency Range:	950-2150 MHz
Symbol Rates:	1-60 MSps
DVB-S Modulation Modes:	QPSK (All FEC Rates)
DVB-S2 Modulation Modes:	QPSK/8PSK (All FEC Rates) 16/32APSK with License
LNB Power:	Off/13/14/18/19VDC @ 450mA
Control Tone Support:	22 kHz On/Off
<b>DVB-S2 Advanced Feature License</b>	MRD 26916
Additional Modulation Modes:	16ASPK/32APSK (All FEC Rates) VCM Demodulation Support Multistream Support (Single ISI)

### 8VSB/QAM-B INPUT MODULE

MRD 26101

Physical Interface:	1x 75Ω F-Type
Frequency Range:	50-1000 MHz
Sensitivity:	-34 to +40 dBmV (A74 Compliant)
8VSB Standard:	ATSC A/53E
8VSB Channel Plans:	Broadcast
QAM Standard:	ITU Annex B/SCTE DVS-031
QAM Channel Plans:	FCC, IRC, HRC
QAM Constellations:	QAM64, QAM256

### BROADCOM TURBOPSK INPUT MODULE

MRD 26111

Physical Interface:	1x 75Ω F-Type
Frequency Range:	950-2150 MHz
Symbol Rates:	1-30 MSps
DVB-S Modulation Modes:	QPSK (All FEC Rates)
TurboPSK Modulation Modes:	QPSK /8PSK (All FEC Rates)

### DVB-T/T2/C/C2/ISDB-T INPUT MODULE

MRD 26115

Physical Interface:	1x 75Ω F-Type
Frequency Range:	42-1002 MHz
Bandwidth:	1.7MHz, 5 MHz, 6MHz, 7MHz, 8MHz
Constellations:	
DVB-T:	QPSK, QAM16, QAM64 (All FEC Rates)
DVB-T2:	QPSK, QAM16, QAM64, QAM256 (All FEC Rates)
DVB-C:	QAM16, QAM32, QAM64, QAM128, QAM256 (All FEC Rates)
DVB-C2:	QAM16, QAM64, QAM256, QAM1024, QAM4096 (All FEC Rates)
ISDB-T:	QPSK, QAM16, QAM64 (All FEC Rates)

### MANAGEMENT

Connector:	RJ-45 10/100 - Auto Negotiating
Protocols:	HTTP and SNMP
User Interfaces:	Full control via web GUI Full control via front panel
Automation Interfaces:	Full status and control via SNMP Configurable SNMP traps Web services API available Syslog message logging
Firmware Updates:	Via Web GUI

### DIMENSIONS/POWER

Height:	1 RU, 1.72" (44 mm)
Width:	1 RU, 17.2" (437 mm)
Depth:	14.6" (370 mm)
Power:	100-240 VAC 50/60 Hz 36-72 VDC
Supply Options:	Single AC Power Supply (Standard) Dual AC Power Supply Single DC Power Supply

### ENVIRONMENTAL CONDITIONS

Operating Temp:	0° to 45°C
Storage Temp:	-40°C to 65°C
Relative Operating Humidity:	<95% (non-condensing)