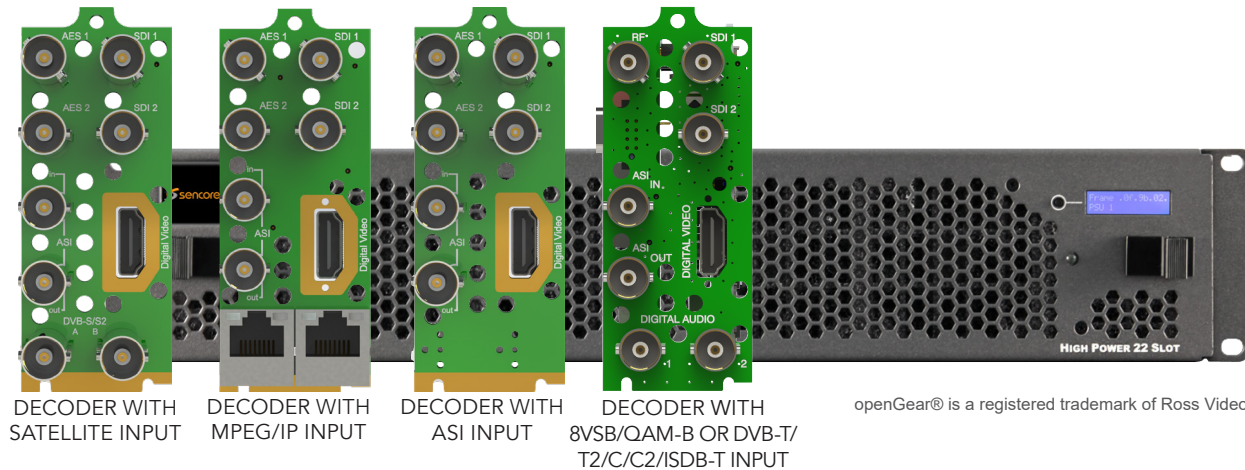


# Advanced Receiver Decoder Card

AG 5800 openGear® Module



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## OVERVIEW

The AG 5800 card-based receiver decoder provides an ideal solution for 4:2:2 video decoding where rack space is limited. The platform supports up to 10 decoder cards in the industry-standard 2RU openGear® OG-3 chassis.

With independent per-card GUIs and a full-featured satellite input with BISS and DVB-CI descrambling, the decoder is uniquely suited for applications in master control or occasional downlink facilities. Support for all MPEG-4 and MPEG 2 formats up to 10-bit 422 AVC, up to 16 audio channels in any common format, and tested interoperability with all major encoder vendors mean this is the last contribution decoder you'll ever need.

The AG 5800 is also a future-proof solution for multichannel primary distribution where video quality is at a premium. With the ability to upgrade to 4:2:2 or 1080p50/60 decoding in the future via a simple software license, the card is a safe choice for the long haul.

Add Sencore's tradition of receiver decoder design and best-in-class ProCare support, and the AG 5800 provides the most compelling value package in the industry.

## KEY FEATURES

- Unique dense design with per-card inputs and Web GUIs ideal for multi-user satellite receiver applications
- Shared software and feature-set with Sencore 1RU decoders ensure reliability and interoperability
- Latest generation decoding technology enables support for nearly any video feed
  - √ H.264 4:2:2 8-bit or 10-bit video
  - √ MPEG-2 4:2:2 8-bit video
  - √ MPEG-2 or H.264 4:2:0 video
  - √ Up to 100 Mbps of video data
- Up to 8 PIDs of audio decoding with support for all major audio formats
- Dual 3G/HD/SD-SDI auto-switching outputs
- ASI, IP, and satellite options
- Full complement of ancillary data output in ANC and VBI
- Full control, status, and alarm monitoring via SNMP

## APPLICATIONS

- **Decode and Descramble Up to 10 Satellite Feeds in 2RU**  
Pull in high-bitrate, high-quality 4:2:2 video feeds with up to 8 associated audio PIDs via DVB-S or S2. Decode to SDI for local production, editing, and eventually distribution.
- **Receive IP Video from Dedicated Fiber Connections**  
Decode backhaul video from long-haul IP connections. Decoder cards can be fitted with redundant Gigabit Ethernet inputs with automatic failover.
- **Create a Future-Proof Distribution Solution**  
Prepare for the inevitable transition to advanced technologies such as 1080p50/60, 4:2:2 10-bit AVC, 16/32APSK, with the industry's most future-proof, powerful decoder platform.

# SPECIFICATIONS

## Advanced Receiver Decoder Card AG 5800

### VIDEO DECODER CARD

AG 58021A

<b>Base Decoding (HD 4:2:0 and SD 4:2:2/4:2:0)</b>	
Additional Profile/Levels:	MPEG-2 MP@HL, 422P@ML H.264 up to HP@L4.2, Hi422P@L3.2
<b>4:2:2 HD Decoding License</b>	AG 58720
Additional Profile/Levels:	MPEG-2 422P@HL H.264 up to Hi422P@L4.2
<b>Additional Base Video Features</b>	
Video ES Bitrates:	CAVLC Entropy Coded - 100Mbps CABAC Entropy Coded - 80Mbps
Frame Synchronization Modes:	PCR-Recovered Clock Genlock Reference (with License)
Aspect Ratio Conversion	
Manual Selection:	Letterbox, Center-Cut, Anamorphic
Automatic Selection:	Follows AFD Codes
Output Formats:	1920x1080p @ 60 (with License) 1920x1080i @ 25, 29.97, 30 1920x1080p @ 23.97, 24, 25, 29.97, 30 1280x720p @ 50, 59.94, 60 720x576i @ 25 720x480i @ 29.97
Output Interfaces:	
SD/HD/3G-SDI:	2x 75Ω BNC
SDI Format Support:	Determined by Decode License
Digital Video:	1x HDMI-type Connector
<b>Genlock License</b>	AG 58701
Enables genlock synchronization:	Sourced by openGear® Frame
<b>1080p50/60 Video Output License</b>	AG 58740
Additional SDI Formats:	3G-SDI Level A
Additional Output Formats:	1920x1080p @ 50, 59.94, 60
<b>Video Overlay Support</b>	
Closed Caption Overlays:	CEA-608, CEA-708, or SCTE-20
DVB-Subtitle Overlays:	HD/SD with Auto Scaling (EN 300743)
<b>Base Audio Decoding Features</b>	
Number of Audio PIDs:	4 Standard, Up to 8 Available
Audio Codecs Supported:	Dolby Digital (AC-3) & Plus (EAC-3) AAC-LC, HE-AAC, & HE-AACv2 MPEG-1L2 & MPEG-2L2 Linear PCM & Dolby E (Pass-through)
Output Formats:	Digital Pass-through PCM 5.1 Channel Services Downmixed
Audio Delay/Advance:	Per Service, +100/-35 ms
<b>8 Service Audio Decode License</b>	AG 58880
Audio Decoding:	4 Additional PIDs (Total of 8)
<b>Base Audio Output Features</b>	
AES Outputs:	2x 75Ω BNC
SDI Embedded Audio Output:	8 Audio Pairs
<b>Included Transport Stream Input/Output Features</b>	
ASI Input/Output:	1x In, 1x Out - 75Ω BNC
Supported Bitrate:	250 Kbps to 200 Mbps
<b>BISS Descrambling License</b>	AG 58921
Supported Modes:	Mode 1, Mode E, Injected ID
Multi-BISS Support:	Up to 12 Separate Keys

### VIDEO DECODER CARD, CONTINUED

AG 58021

<b>Ancillary Data Support</b>	
SDI ANC Data Types:	AFD (SMPTE 2016) Closed Captions (CEA-708) OP-47 (SMPTE RDD-08) SMPTE RDD-11 VANC Passthrough (SMPTE 2038) SCTE 127 (SMPTE 2031) EN301775 (SMPTE 2031) Time Code (SMPTE 12M-2) Line 21 Captions (CEA-608) TVG2X, AMOL-48/96 (SCTE-127) Teletext/WSS/VPS (EN301775) Timecode in VBI (SMPTE 12M-1) <sup>5</sup>
VBI Waveforms (SDI/Composite):	
<b>SCTE 35 to SCTE 104 Output License</b>	AG 58992
<b>Cablelabs ESAM POIS Interface License</b>	AG 58993
<b>PID/Service Filtering License</b>	AG 58928
Filtering:	10 Independent TS (MPTS or SPTS created; output via IP or ASI)
Table Regeneration (MPEG Mode):	PAT regeneration
Table Pass-through (MPEG Mode):	PMT, CAT, NIT pass-through
Table Regeneration (DVB Mode):	PAT, SDT
Table Pass-through (DVB Mode):	PMT, CAT, NIT, EIT, RST, TDT, TOT
<b>DVB-S/S2 INPUT MODULE</b>	AG 116A
Physical Interface:	2x 75Ω BNC
Frequency Range:	950-2150 MHz
Symbol Rates:	1-45 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
Supported Roll-off Factors:	0.35, 0.25, 0.20, 0.15, 0.10, 0.05
<b>DVB-S2 Advanced Feature License</b>	AG 58916
Additional Modulation Modes:	16ASPK/32APSK (All FEC Rates) VCM Demodulation Support Multistream (Single ISI)
<b>DVB-S/S2 INPUT MODULE WITH DVB-CI</b>	AG 137A
Physical Interface:	Adds one DVB-CI CAM Slot
Without Multi-Service License:	Descrambles Decoded Service Only
With Multi-Service License:	Number of Services limited by CAM
<b>DVB-CI Multi-Service Descrambling License</b>	AG 58991
With DVB-CI Capable Input:	Enables Multi-service Descrambling
<b>IP INPUT/OUTPUT MODULE</b>	AG 127A
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
Addressing:	Unicast or Multicast
IGMP compatibility:	Version 1, 2 & 3
Per TS Bitrate:	250 Kbps to 200 Mbps
<b>MPEG/IP FEC Output License</b>	AG 58925
Additional Output Formats:	RTP with SMPTE 2022/CoP3 FEC

# SPECIFICATIONS

## Advanced Receiver Decoder Card AG 5800

### 8VSB/QAM-B INPUT MODULE

AG 101A

Physical Interface:	1x 75Ω BNC-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

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

AG 115A

Physical Interface:	1x 75Ω BNC-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)

### DVB-S/S2/S2X INPUT MODULE

AG 116B

Physical Interface:	2x 75Ω BNC
Frequency Range:	950-2150 MHz
Symbol Rates:	1-72 Msps with 8PSK/QPSK 1-60 Msps with 16APSK and higher
DVB-S Modulation Modes:	QPSK (All FEC Rates)
DVB-S2/S2X Modulation Modes:	QPSK/8PSK (All FEC Rates) 16/32/64APSK (with License)
LNB Power:	Off/13/14/18/19VDC @ 450mA
Control Tone Support:	22 kHz On/Off
Supported Roll-off Factors:	0.35, 0.25, 0.20, 0.15, 0.10, 0.05

### DVB-S2/S2X Advanced Feature License

AG 58916

Additional Modulation Modes:	16/32/64APSK (All FEC Rates) VCM Demodulation Support Multistream (Single ISI)
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### DVB-S/S2/S2X INPUT MODULE WITH DVB-CI

AG 137B

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

### DVB-CI Multi-Service Descrambling License

AG 58991

With DVB-CI Capable Input:	Enables Multi-service Descrambling
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### DVB-T/T2/C/C2/ISDB-T INPUT MODULE WITH DVB-CI

AG 115B

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

### DVB-CI Multi-Service Descrambling License

AG 58991

With DVB-CI Capable Input:	Enables Multi-service Descrambling
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### MANAGEMENT

User Interfaces:	Full control via web GUI
Automation Interfaces:	SNMP status, control, traps Syslog alarm output HTTP Web services API

### ENVIRONMENTAL CONDITIONS

Power:	100-240 VAC 50/60 Hz Dual, Redundant Supply Available
Operating Temp:	0° to 50°C