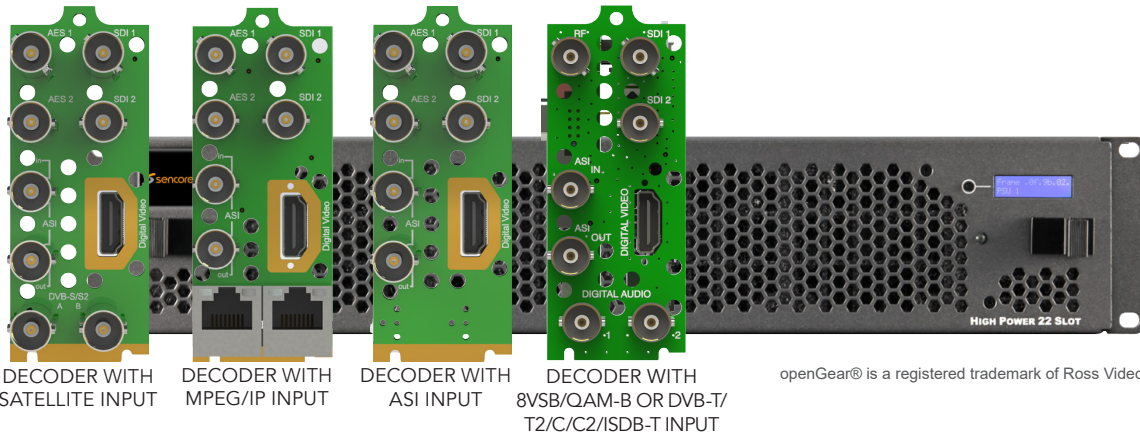


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openGear Receiver Decoder Card



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OVERVIEW

The AG 6000 is a new 4K/UHD receiver decoder for the openGear form factor. Built with latest-generation 4K/UHD ASIC decoder technology in order to deliver a dense, cost-effective any-codec decoding solution for monitoring, turn-around, signage, hospitality and enterprise 4K/UHD video applications.

AG 6000 will decode and output 4K/UHD video with dual-audio and includes core features required in professional video delivery networks.

Key features include: ASI I/O, MPEG/IP I/O, DVB-S/S2/S2X satellite inputs, QAM/VSB RF receiver, DVB-T/T2, C/C2, & ISDB-T inputs, BISS descrambling, and dual DVB-CI CAM slots

The receiver also maintains Sencore's long tradition of ease of use, with a straight-forward web interface accessible via all major browsers and complete control of the unit via the front panel keypad, and is backed by Sencore's best-in-class staff of ProCare support engineers.

KEY FEATURES

- Decode of pro 4K and consumer UHD formats
Up to HEVC Level 5.1 @ Main10 Profile
Up to 4Kp60 and 2160p60
4:2:0 chroma at 8-bit and 10 bit depths
- HDMI 2.0 and quad 3G-SDI video/audio outputs
- Decode, down-mix and pass-through of 2 simultaneous audio services
Support for all major audio types
AES, analog and embedded audio outputs
- Dual DVB-CI CAM slots (option)
- ASI In/Out + MPEG/IP, Satellite, and RF input options with failover features
- Web and front-panel interfaces

APPLICATIONS

- Monitoring of 4K/UHD video services
- Turn-around and distribution of 4K/UHD TV
- 4K/UHD signage, hospitality and enterprise video

FUTURE FEATURES

- 4x audio decode support
- Simultaneous HD/SD output support
- Expand VANC embedding support
- HDR support
- 12G-SDI, SFP, and SDI/IO output options

openGear Receiver Decoder Card

VIDEO DECODER CARD

AG 60001

Base Decoding (UHD/4K, HD, SD 4:2:0)
Video Profile/Levels: MPEG-2 MP@HL
H.264 up to HP@L4.2
HEVC M10P, MT @ L5.1
Up to 40 Mbps for UHD HEVC
Up to 100 Mbps+ for H.264 & MPEG2
Frame Synchronization Modes: PCR-Recovered Clock

Output Formats: 1920x1080p @ 50, 59.94, 60
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: Mirrored 2x 75Ω BNC
SDI Format Support: 3G-SDI Level A
Digital Video: 1x HDMI-2.0a Connector

4x3G-SDI Output for 4K/UHD Video Output License AG 60730

Requires AG 60002 4x3G-SDI option. Q1 2019 release.
Output Formats: 4096x2160p up to 60
3840x2160 up to 60

Output Interfaces: 4x 75Ω BNC, Quad Link
SDI Link Modes: 4x HD panels or SMPTE 425-5 interleaved (user selectable)

Video Overlay Support

DVB-Subtitle Overlays: HD/SD with Auto Scaling (EN 300743)

Base Audio Decoding Features

Number of Audio Services: Up to 2 audio services
Audio Codecs Supported: Dolby Digital (AC-3) & Plus (EAC-3)
AAC-LC, HE-AAC, & HE-AACv2
MPEG-1L2 & MPEG-2L2

Output Formats: Digital Pass-through
PCM (Decoded Discrete channels for 5.1 Sources or (Downmixed for 5.1 Sources)

Base Audio Output Features

AES Outputs: 2x 75Ω BNC
SDI Embedded Audio Output: 4 Audio Pairs

Included Transport Stream Input/Output Features

ASI Input/Output: 2x Bi-directional - 75Ω BNC
Supported Bitrate: 250 Kbps to 200 Mbps

BISS Descrambling License AG 60921

Supported Modes: Mode 1, Mode E, Injected ID
Multi-BISS Support: Up to 12 Separate Keys

Ancillary Data Support

SDI ANC Data Types: EN301775 (SMPTE 2031)

PID/Service Filtering License AG 60928

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

DVB-S/S2 INPUT MODULE 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

DVB-S2 Advanced Feature License AG 60916

Additional Modulation Modes: 16ASPK/32APSK (All FEC Rates)
VCN Demodulation Support
Multistream (Single ISI)

DVB-S/S2 INPUT MODULE WITH DVB-CI 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

DVB-CI Multi-Service Descrambling License AG 60991

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

IP INPUT/OUTPUT MODULE 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

MPEG/IP FEC Output License AG 60925

Additional Output Formats: RTP with SMPTE 2022/CoP3 FEC

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:



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openGear Receiver Decoder Card

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 60991

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 60991

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