



Introducing CatonCaster Feature Rich Integrated Receiver Decoder

The CatonCaster is the professional integrated receiver/decoders for distribution and monitoring applications. Perfect for applications such as monitoring, digital-turnaround, digital signage, hospitality and enterprise video delivery. The product supports decoding of SD or HD or 4K video, encoded as HEVC, H.264 or MPEG2, as well as up to four pairs audio services.

The flagship CatonCaster continues Caton's long history of leadership in the receiver/decoder space. The product boasts a full complement of cutting- edge features, including 4:2:2 HEVC 8bit/10bit decoding, up to 8 individual audio PIDs, 16/32APSK satellite demodulation, and 1080p60 video support with 3G-SDI output. Decoding and output formats are upgradable in the field via software license, so the receiver can grow as needs evolve. This feature set makes the CatonCaster the ideal choice for contribution reception or demanding distribution applications which require a future-proof set of specifications.

CatonCaster ships with a full complement of basic inputs and outputs built-in, including dual ASI input/ outputs and dual SD/HD/3G-SDI outputs. The digital video output means that video monitoring is as easy as finding the nearest consumer television or PC monitor, and available factory-configurable MPEG over IP I/O, DVB-S2, 8VSB/QAM-B, DVB-T/ T2/C/C2/ISDB-T modules adapt the product to any use case. Powerful Internet Transmission CatonEngine R2TP module will be available in Fall 2020.

The CatonCaster maintains our long tradition of ease of use, with a straight-forward user interface and web APIs and backed by Caton's support engineers.

Standard Features

MPEG2

H.264
Advanced Video Coding

4:2:2

CC
Closed Caption

SD
Standard Definition

1080p
FULL HD

AAC
Advanced Audio Coding

teletext
OP47 / SCTE

Optional Features

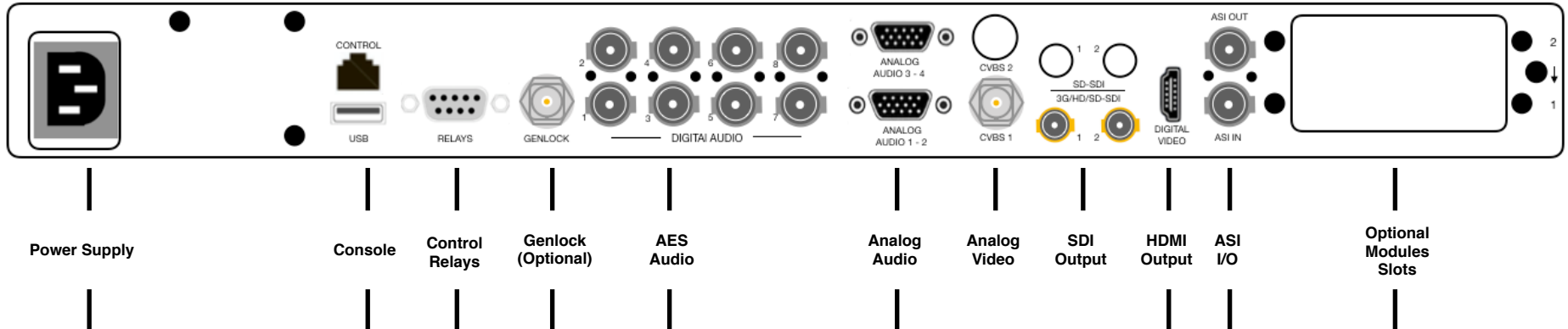
HEVC
High Efficiency Video Coding

1080p
FULL HD

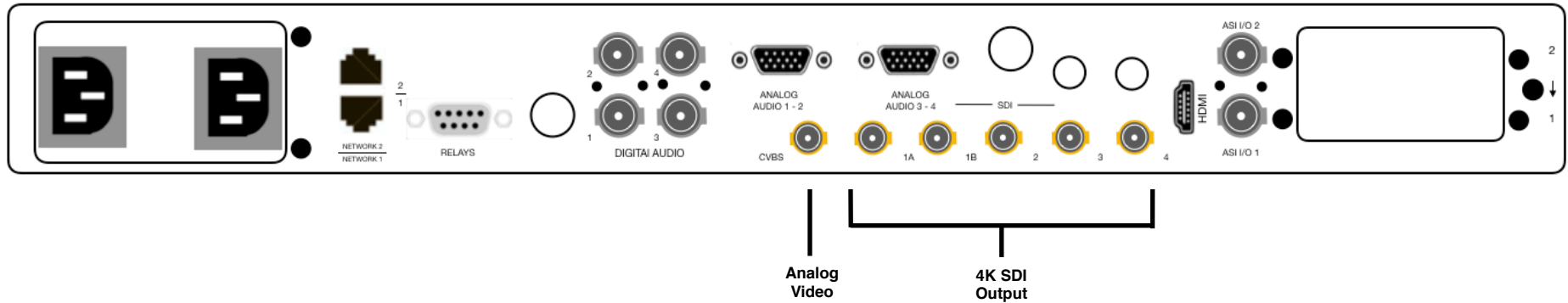
SD
Standard Definition

50/60p HD+SD

CatonCaster HD422
(Display as Standard Single PSU)



CatonCaster 4K420
(Display as Optional Dual PSU)



Standard Features

MPEG2

H.264
Advanced Video Coding

HEVC
High Efficiency Video Coding

4:2:0

CC
Closed Caption

SD
Standard Definition

1080p
FULL HD

4K
Ultra HD

AAC
Advanced Audio Coding

teletext
OP47 / SCTE

Optional Features

SD
Standard Definition

HD+SD

Specifications

CatonCaster HD422

VIDEO DECODER

Base Decoding (SD 4:2:2/4:2:0) Video Profile/Levels:

MPEG-2 MP@ML, 422P@ML
H.264 MP@L3, up to Hi422P@L3.2
HEVC MP@MT L3.1, M10P@MT L3.1,
M422-10P@MT L3.1 (with License)

HEVC Decode License

Enables HEVC Decoding:

Requires Optional HEVC Module

4:2:0 HD Decoding License

Additional Profile/Levels:

MPEG-2 MP@HL
H.264 up to HP@L4.2
HEVC MP@HT up to L4.1, M10P@HT
up to L4.1 (with License)

4:2:2 HD Decoding License

Additional Profile/Levels:

MPEG-2 422P@HL
H.264 up to Hi422P@L4.2
HEVC M422-10P@HT up to L4.1 (with
License)

Additional Base Video Features

Video ES Bitrates:

CAVLC Entropy Coded - 100Mbps
CABAC Entropy Coded - 80Mbps
PCR-Recovered Clock
Genlock Reference (with License)

Frame Synchronization Modes:

Letterbox, Center-Cut, Anamorphic
Follows AFD Codes

Aspect Ratio Conversion

Manual Selection:

Automatic Selection:

Output Formats:

1920x1080p @ 50, 59.94, 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:

SDI Format Support:

Digital Video:

Composite Output:

2x 75Ω BNC
Determined by Decode License
1x HDMI-type Connector
1x 75 Ω BNC
NTSC, PAL-B/G/I/D/M/N

Video Overlay Support

Closed Caption Overlays:

DVB-Subtitle Overlays:

CEA-608, CEA-708, or SCTE-20
HD/SD with Auto Scaling (EN 300743)

Ancillary Data Support

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)
SCTE 104(SMPTE 2010 with license)
Line 21 Captions (CEA-608)
TVG2X, AMOL-48/96 (SCTE-127)
Teletext/WSS/VPS (EN301775)
Timecode in VBI (SMPTE 12M-1)

VBI Waveforms (SDI/Composite):

Included Transport Stream Input/Output Features

ASI Input/Output:

Supported Bitrate:

2 x 75Ω BNC
250 Kbps to 200 Mbps

AUDIO DECODER

Base Audio Decoding Features

Number of Audio Services:

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)
Digital Pass-through
PCM (Decoded Discrete channels for
5.1 Sources or (Downmixed for 5.1 Sources)
Analog (Decoded Discrete channels for
5.1 Sources or (Downmixed for 5.1 Sources)
Per Service, +100/-35 ms

Output Formats:

Audio Delay/Advance:

Base Audio Output Features

AES Outputs:

Analog Outputs:

8x 75Ω BNC
2x 15 pin D-Sub (4 Stereo Services)
4x XLR Breakout Cable Available
4x BNC Breakout Cable Available
Terminal Block Cable Available
8 Audio Pairs

SDI Embedded Audio Output:

MANAGEMENT

Connector:

Protocols:

User Interfaces:

Automation Interfaces:

Firmware Updates:

RJ-45 10/100 - Auto Negotiating
HTTP and SNMP
Full control via web GUI
Full control via front panel
Full status and control via SNMP
Configurable SNMP traps
Web services API available
Syslog message logging
Via web GUI

DIMENSIONS/POWER

Height:

Width:

Depth:

Power:

1 RU, 1.72" (44 mm)
1 RU, 17.2" (437 mm)
14.6" (370 mm)
100-240 VAC 50/60 Hz
36-72 VDC

Supply Options:

Single AC Power Supply (Standard)
Dual AC Power Supply

ENVIRONMENTAL CONDITIONS

Operating Temp:

Storage Temp:

Relative Operating Humidity:

0° to 50°C
-40°C to 65°C
<95% (non-condensing)

OPTIONAL FEATURES AND LICENSES

Simultaneous SD Video Output Module

Mirrored SD SDI Outputs:

Composite Output:

2x 75Ω BNC
1x 75Ω BNC
NTSC, PAL-B/G/I/D/M/N

HEVC Decoding Daughter Board

Enables HEVC Licensing:

HEVC decoding functionality

Genlock License

Enables genlock input:

1x 75Ω BNC

1080p50/60 Video Output License

Additional SDI Formats:

Additional Output Formats:

3G-SDI Level A
1920x1080p @ 50, 59.94, 60

SCTE 35 to SCTE 104/Relay Output License

BISS Descrambling License

Supported Modes:

Multi-BISS Support:

Mode 1, Mode E, Injected ID
Up to 12 Separate Keys with License

DVB-CI Multi-Service License

With DVB-CI Module:

Enables Multi-service Descrambling

8 Service Audio Decode License

Audio Decoding:

4 Additional Services (Total of 8)

PID/Service Filtering Output License

Filtering:

Table Regeneration (MPEG Mode):

Table Pass-through (MPEG Mode):

Regeneration (DVB Mode):

Table Pass-through (DVB Mode):

10 Independent TS (MPTS or SPTS)
created; output via IP or ASI
PAT regeneration
PMT, CAT, NIT pass-through table
PAT, SDT
PMT, CAT, NIT, EIT, RST, TDT, TOT

Specifications

CatonCaster 4K420

VIDEO DECODER

Base Decoding (UHD/4K, HD, SD 4:2:0)

Video Profile/Levels:	MPEG2 MP@HL H.264 up to HP@L4.2 HEVC M10P@MT up to L5.1
Video ES Bitrates:	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:	Mirrored 5x 75Ω BNC
SD/HD/3G-SDI:	3G-SDI Level A
SDI Format Support:	1x 75Ω BNC
Composite Video Output:	NTSC, PAL, SECAM
Digital Video:	1x HDMI-2.0a Connector

Video Overlay Support

Closed Caption Overlays:	CEA-608, CEA-708
DVB-Subtitle Overlays:	HD/SD with Auto Scaling (EN 300743)

Audio Ancillary Data Support

SDI ANC Data Types:	Closed Captions (CEA-708) OP-47 (SMPTE RDD-08) SCTE 127 (SMPTE 2031) EN301775 (SMPTE 2031) SCTE 104
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Included Transport Stream Input/Output Features

ASI Input/Output:	2 x 75Ω BNC (selectable in/out)
Supported Bitrate:	250 Kbps to 200 Mbps

AUDIO DECODER

Base Audio Decoding Features

Number of Audio Services:	2 Standard, Up to 4 Available
Audio Codecs Supported:	Dolby Digital (AC-3) & Plus (EAC-3) AAC-LC, HE-AAC, & HE-AACv2 MPEG1L2 & MPEG2L2
Output Formats:	Digital Pass-through PCM (Downmixed for 5.1 Sources) Analog (Downmixed for 5.1 Sources)

Base Audio Output Features

AES Outputs:	4x 75Ω BNC
Analog Outputs:	2x 15 pin D-Sub (4 Stereo Services) 4x XLR Breakout Cable Available 4x BNC Breakout Cable Available Terminal Block Cable Available
SDI Embedded Audio Output:	4 Audio Pairs SDI Embedded

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
Supply Options:	Single AC Power Supply (Standard) Dual AC Power Supply (Optional)

ENVIRONMENTAL CONDITIONS

Operating Temp:	0° to 50°C
Storage Temp:	-40°C to 65°C
Relative Operating Humidity:	<95% (non-condensing)

OPTIONAL FEATURES AND LICENSES

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

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) 1x 75Ω BNC HD down-convert

Discrete Channel Audio Output License

Adds Output Formats:	PCM (Decoded Discrete channels for 5.1 Sources) Analog (Decoded Discrete channels for 5.1 Sources)
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4x Service Audio Decode License

Additional Audio Services:	2 Services (Total of 4 Services)
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Simultaneous SD Video Output Module

Mirrored SD SDI Outputs:	2x 75Ω BNC
Composite Output:	1x 75Ω BNC NTSC, PAL-B/G/I/D/M/N

Genlock License

Enables genlock input:	1x 75Ω BNC
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1080p50/60 Video Output License

Additional SDI Formats:	3G-SDI Level A
Additional Output Formats:	1920x1080p @ 50, 59.94, 60

SCTE 35 to SCTE 104/Relay Output License

BISS Descrambling License

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

DVB-CI Multi-Service License

With DVB-CI Module:	Enables Multi-service Descrambling
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PID/Service Filtering Output License

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

Specifications

DVB-S/S2/S2X INPUT MODULE

Physical Interface:	4x 75Ω F-Type
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	
Additional Modulation Modes:	16/32/64APSK (All FEC Rates) VCM Demodulation Support Multistream Support (Single ISI)

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

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)

DVB-CI DESCRAMBLING MODULE

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

8VSB/QAM-B INPUT MODULE

Physical Interface:	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 RECEIVER MODULE

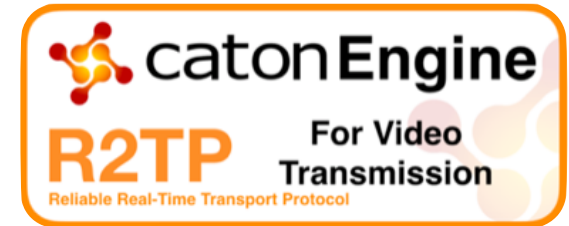
Physical Interface:	1x 75Ω F-Type
Frequency Range:	950-2150 MHz
Symbol Rates:	1-30 Msps
DVB-S Modulation Modes:	QPSK (All FEC Rates)
TurboPSK Modulation Modes:	QPSK /8PSK (All FEC Rates)

CatonCaster Optional Modules

IP INPUT/OUTPUT MODULE

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 UDP, RTP (with License)
Output Format:	1 to 7 TS Packets per IP Packet
IP Encapsulation:	Unicast or Multicast
Addressing:	Version 1, 2 & 3
IGMP compatibility:	250 Kbps to 200 Mbps
Per TS Bitrate:	
MPEG/IP FEC Output License	
Additional Output Formats:	RTP and Header Extensions SMPTE 2022/CoP3 FEC Supported

R2TP INPUT MODULE (Available in Fall 2020)



Physical Interface:	2x RJ45, 10/100/1000 Auto-Negotiate
Input Format:	CatonEngine R2TP or UDP Constant Bitrate or Null-Stripped
IP Encapsulation:	1 to 7 TS Packets per IP Packet
Addressing:	Unicast
Security:	AES 128/256 Encryption
Stream Key:	User Define
Per TS Bitrate:	250 Kbps to 80Mbps