

Advent IRD6200



4K UHD HEVC Multi-Format DVB-S2X Integrated Receiver Decoder

The Advent IRD6200 is a compact 4K UHD multi-format Integrated Receiver Decoder that is ideally suited to News and Events applications where size, weight, and channel density is at a premium.

The Advent IRD6200 offers ultimate satellite bandwidth efficiency by utilising the latest HEVC video compression and DVB-S2X satellite demodulation technology - allowing a 50% reduction in leased satellite bandwidth compared to MPEG-4, DVB-S2 technology dramatically reducing satellite OPEX.

As a multi-format IRD the IRD6200 has the ability to decode video of all resolutions from SD to highest quality 4K UHD including High Dynamic Range. In addition to HEVC decoding, the IRD6200 also supports legacy H.264 and MPEG-2 decoding.



Key Features

- DVB-S2X, S2, S satellite input
- ASI inputs and outputs
- 4K, HD, SD multi-format decoding
- HEVC, MPEG-4, MPEG-2 multi-standard decoding
- High quality 4:2:0, 4:2:2, 8-bit/10-bit profiles
- 1x 4K or HD services decoded
- Very low latency decoding
- High Dynamic Range support
- Flexible audio decode with Layer II, AAC
- Linear PCM and Dolby audio pass-through
- 8x stereo pairs of audio decoding

Typical Applications

- High quality events coverage
- Sports coverage
- Newsgathering
- Secure SatCom
- MilGov applications



datasheet

at the heart of the action

Inputs

- DVB-S2x, S2, S
- 950-2150MHz
- 1-45MSym/s
- 5%, 10%, 15%, 20%, 25, 35% roll-off
- ASI TS input
- Frame Sync

Outputs

- 4x 3G-SDI
- ASI TS output

Video Decoder

- HEVC 4K, HD, SD decode
- MPEG-4 HD, SD decode
- MPEG-2 HD, SD decode

Video Profiles

- 8/10-bit 4:2:2
- 8-bit 4:2:0

Ancillary Data

- 608, 708 closed captions
- SMPTE 2038 closed captions

Encryption

- 1x 4K service
- 1x HD/SD services

Unit Control

- Front panel control
- Web GUI
- SNMP

Control Interface

- Ethernet RJ45

Software Upgrade

- USB Software upgrade

Power

- 100 to 240VAC
- DC PSU Option

Size

- 1RU Half rack width, 380mm depth
- Weight 2.25kg

Environmental

- Temperature: 0° to 50°C
- Humidity: 95% non-condensing

Demod Table

- DVB-S (EN 300 421) QPSK
- DVB-S2 (EN 302 307-1) QPSK/8PSK
- DVB-S2X (EN 302 307-2) QPSK/8PSK, 8/16/32APSK

Note: SDI outputs are on HD-BNC mini connectors. Please order standard BNC conversion cables part number 9015307, if required.

Audio Decoding					
Audio Codec	Transport Formats	Encoded Bit-rates (kbps)	Decode Bits/ Sample	Sampling Rate	Total Number of Audio Channels
MPEG-1 Layer I	ISO13818-3	32 to 384	16	48 kHz	Two stereo pairs for a total of 4 channels
MPEG-1 Layer II	ISO13818-3	32 to 384	16	48 kHz	Tow stereo pairs for a total of 4 channels
AAC-LC	ADTS	96 to 576	16	48 kHz	One stereo pair for a total of 2 channels
HE-AAC v2	ADTS	96 to 576	16	48 kHz	One stereo pair for a total of 2 channels
Linear PCM	SMPTE-302M	Depends Bits/ Sample	16, 20 & 24	48 kHz	One stereo pair for a total of 2 channels

Video Decoding			
Video Codec	HEVC/H.265 - UHD	AVC/H.264 - HD	MPEG-2/H.262 - HD
Resolutions	3840x2160p @ 60/ 59.94/ 50/ 30 /29.94 1920x1080p @ 60/59.94/50/30/ 29.97/25/24/23.97 1920x1080i @ 60/59.94/50 1920x1080PsF @ 30 / 29.97 / 25 1280x720p @ 60/59.94/50 720x576i @ 50 720x480i @ 59.94	1920x1080p @ 60/59.94/50/30/ 29.97/25/24/23.97 1920x1080i @ 60/59.94/50 1920x1080PsF @ 30/29.97/25 1280x720p @ 60/59.94/50 720x576i @ 50 720x480i @ 59.94	1920x1080p @ 60/59.94/50/30/ 29.97/25/24/23.97 1920x1080i @ 60/59.94/50 1920x1080PsF @ 30/29.97/25 1280x720p @ 60/59.94/50 720x576i @ 50 720x480i @ 59.94
Chroma Format	4:2:0 and 4:2:2	4:2:0 and 4:2:2	4:2:0 and 4:2:2
Bit Depth	8, 10	8, 10	8
Maximum Bit Rate (mbps)	150	CABAC: 40 CAVLC: 80	100
Number of Channels	1	1	1
Latency	Bit rates lower than 75 Mbps: 1/4th of Frame Duration + 1 msec Bit rates greater than 75 Mbps: 1 Frame Duration + 1 msec	1/4th of Frame Duration + 1 msec	1/4th of Frame Duration + 1 msec
GOP Structure	Any	Any	Any
Rate Control	CBR / ABR / VBR / Capped VBR	CBR / ABR / VBR / Capped VBR	CBR / ABR / VBR / Capped VBR

Normal FECFRAMES				
Canonical MODCOD name		Spectral Efficiency [bit/symbol]	Ideal Es/NO [dB]	Ideal Csat/(NO Rs) [dB]
QPSK	9/20	0.889135	0.22	0.69
QPSK	11/20	1.088581	1.45	1.97
8APSK	5/9-L	1.647211	4.73	5.95
8APSK	26/45-L	1.713601	5.13	6.35
8PSK	23/36	1.896173	6.12	6.96
8PSK	25/36	2.062148	7.02	7.93
8PSK	13/18	2.145136	7.49	8.42
16APSK	1/2-L	1.972253	5.97	8.4
16APSK	8/15-L	2.104850	6.55	9.0
16APSK	5/9-L	2.193247	6.84	9.35
16APSK	26/45	2.281645	7.51	9.17
16APSK	3/5	2.370043	7.80	9.38
16APSK	3/5-L	2.370043	7.41	9.94
16APSK	28/45	2.458441	8.10	9.76
16APSK	23/36	2.524739	8.38	10.04
16APSK	2/3-L	2.635236	8.43	11.06
16APSK	25/36	2.745734	9.27	11.04
16APSK	13/18	2.856231	9.71	11.52
16APSK	7/9	3.077225	10.65	12.50
16APSK	77/90	3.386618	11.99	14.00
32APSK	2/3-L	3.289502	11.10	13.81
32APSK	32/45	3.510192	11.75	14.50
32APSK	11/15	3.620536	12.17	14.91
32APSK	7/9	3.841226	13.05	15.84
64APSK	32/45-L	4.206428	13.98	17.7
64APSK	11/15	4.338659	14.81	17.97
64APSK	7/9	4.603122	15.47	19.10
64APSK	4/5	4.735354	15.87	19.54
64APSK	5/6	4.933701	16.55	20.44

Short XFECFRAMES		
Canonical MODCOD Name		Ideal Es/NO (dB) for FECFRAME Length = 16 200
QPSK	7/15	0.60
QPSK	8/15	1.45
QPSK	32/45	3.66
8PSK	7/15	3.83
8PSK	8/15	4.71
8PSK	26/45	5.52
8PSK	32/45	7.54
16APSK	7/15	5.99
16APSK	8/15	6.93
16APSK	26/45	7.66
16APSK	3/5	8.10
16APSK	32/45	9.81
32APSK	2/3	11.41
32APSK	32/45	12.8