

# Cygnus RX1



## Multi Codec Professional Decoder

The Cygnus RX1 is a multi-codec multi-service professional decoder specifically designed to meet the needs of the contribution market.

As Operators look to move from 4k trials to revenue generating services they are also looking to new IP infrastructure deployments to enable low cost and flexible carriage of the high data rate content, but with the flexibility and fallback of traditional satellite connectivity.

Through a fully flexible Platform, RX1 allows for deployment as appliance, virtualized or into the Cloud. With the addition of the MediaKind accelerator module, users can gain the benefit of additional processing power without increasing CPU loading on the most demanding services delivering high quality, high density and ultra-low latency capability at an affordable cost.

## Product Overview

### Content Processing

The RX1 can decode UHD (4k) HEVC, HD HEVC, MPEG-2, and MPEG-4 AVC compressed streams, whether 4:2:0 or 4:2:2, 8 bit or 10 bit, and produce uncompressed outputs via a range of outputs. Different combinations of codec can be utilized simultaneously to maintain flexibility for onward processing.

### High Bit-rate / High Quality

For the very highest quality contribution links, even with the use of HEVC encoding, bit-rates greater than 60 Mbit/s may be required. The RX1 can decode multiple compressed video components of up to 150 Mbit/s.

### Ultra Low latency

Having low end-to-end latency is often an important requirement for live contribution links. So the introduction of latency has been minimized in the design of the RX1.

### HDR and WCG

UHD (4k) services are expected to rapidly evolve to include High Dynamic Range (HDR) and Wider Color Gamut (WCG). RX1 supports the relevant HDR and WCG standards as they are formalized.

## Unit Features

The following features are available:

- Satellite\*, ASI\* or IP input
- 4 x 3G / x 12G SDI
- Supports HD or UHD video
- HEVC, MPEG-2, MPEG-4 AVC
- BISS Mode 1, Mode E
- Dual CAM slots\*
- Audio codecs:
  - ◆ LPCM pass through
  - ◆ Dolby E pass through
  - ◆ MPEG-1 Layer II
  - ◆ Dolby Digital
  - ◆ Dolby Digital Plus
  - ◆ MPEG-H
- Front panel control with confidence monitor
- Web based user interface
- Dual hot swappable power supplies

\*Optional



## Specifications

### Input Interfaces

<b>ASI Transport Stream Input</b>	<p>Connector: 4 x BNC (F) 75 Ohm            Max. input rate: 208 Mbps            Packet length: 188/204 byte packets            Standard: EN50083-9</p>
<b>IP Input</b>	<p>Connector: 2 x RJ 45            Format: 100/1000BaseT            Max. input rate: 208Mbps</p>
<b>Satellite Input</b>	<p>4 independent demodulators            Frequency range: 950MHz to 2150MHz DVB            FEC decode            LNB max. 19V            Connector: 4 x BNC (F) 75 Ohm            Modulation: DVB-S, DVB-S2, DVB-S2X            QPSK, 8PSK, 16PSK*, 32PSK*            Packet length: 188/204 byte packets            Standard: EN50083-9            *requires additional value pack</p>
<b>External Clock Reference input</b>	<p>Connector: BNC (F) 75 Ohm            Standard: EN50083-9</p>
<b>Control</b>	<p>Front panel keypad and confidence LCD            Web browser interface            REST interface</p>

### Video and Audio Options

<b>Video Formats</b>	<p>2160p50, 2160p59.94            1080p50, 1080p59.94, 1080i25, 1080i29.97, 720p50, 720p59.97</p>
<b>Video Decoding</b>	<p>1 x UHD (4k) HEVC Main/Main 10/Main 4:2:2 10 Profiles @ Level 5.1, up to 150 Mbps            4 x HD HEVC Main/Main 10/Main 4:2:2 10 Profiles @ Level 5.1*            4 x HD MPEG-4 AVC Main/High Profiles @ Level 4*, High 4:2:2 Profile (includes 10-bit) @ Level 4.2*            4 x HD MPEG-2 Main Profile @ High Level*, 4:2:2 Profile (includes 10-bit) @ High Level*            Up to 150 Mbps aggregate            * some bitrate limitations apply</p>
<b>Audio Decoding</b>	<p>MPEG-1 Layer-II decode            MPEG-H decode            Dolby®E pass-through            Dolby Digital® decode            Dolby Digital® Plus decode            Linear PCM decode            Audio sampling rate: 48 kHz</p>

## Outputs

<p>#SDI Output</p>	<p>Connector: Up to 4 x BNC 75 Ohm            SD-SDI standard: SMPTE ST 259            HD-SDI standard: SMPTE ST 292            3G-SDI standard: SMPTE ST 424            12G-SDI standard: SMPTE ST 2082            Embedded audio: SMPTE ST 299            SDR/HDR Signalling: SMPTE ST 425-5</p>
<p>IP Output</p>	<p>Connector: 2xRJ45            Format: 100/1000TBaseT</p>

## Content Security

<p>Dual DVB Common Interface</p>	<p>Enables support for all major CAM modules            Multi-service decryption            Up to 2 CAM modules per option card</p>
<p>BISS Decryption</p>	<p>Decryption of BISS Mode 1 and E</p>

## Physical and Power

<b>Dimensions (W x D x H)</b>	440 x 560 x 44mm (17.2 x 22 x 1.75" approx.)
<b>Input Voltage</b>	110 VAC / 240 VAC
<b>Power Consumption</b>	550 Watt max. 175 Watt nominal.
<b>Cooling</b>	Integrated fans

## Environmental Condition

<b>Operating Temperature</b>	0°C to 50°C (32° to 122°F)
<b>Storage Temperature</b>	-20°C to 65°C (4° to 150°F)
<b>Relative Humidity</b>	5% to 95% (Non-condensing)

## Compliance

<b>Compliance</b>	CE Marked in accordance with all applicable EU Directives
<b>EMC Compliance</b>	EN55032, EN55024 and FCC CFR47 Part 15B Class A
<b>Safety Compliance</b>	EN60950-1 and IEC60950-1