



FOX

RX1 Receiver

RX1/BAS/FOX/BCAST



Multi Codec Professional Decoder

The MK RX1 is a multi-codec multi-service professional decoder specifically designed to receive either HD or UHD content from FOX.

As operators look to move to 4k from HD, the RX1 provides an easy transition path, and is a flexible platform for the modern distribution network.

Capable of supporting a wide variety of use-cases, the Cygnus RX1 is a next generation professional decoder.

Product Overview

Content Processing

The RX1 as configured for FOX can decode UHD (4k) HEVC and HD HEVC 4:2:0, 8 bit or 10 bit, and produce uncompressed outputs via a range of outputs.

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 or IP input
- 3G / 12G SDI
- 1 x 3G SDI monitor port
- Quad 1Gb IP I/O
- Supports HD or UHD video
- HEVC, MPEG-2, MPEG-4 AVC
- Director 128
- Dual CAM slots
- Audio codecs:
 - LPCM pass through
 - Dolby E pass through
 - MPEG-1 Layer II
 - Dolby Digital
 - Dolby Digital Plus
 - MPEG-H
- Transport Stream passthrough (IP output)
- Web based user interface
- Dual hot swappable power supplies

Configuration



Specifications

Inputs and Control

IP Input	Connector: 4 x RJ 45 — Format: 100/1000BaseT Max. input rate: 208Mbps
Satellite Input	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
External Clock Reference input	Connector: BNC (F) 75 Ohm Standard: EN50083-9
Control	Front panel keypad and confidence LCD Web browser interface REST interface

Outputs

SDI Output	Connector: Up to 5 x BNC 75 Ohm (4 x main + 1 x monitor) 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 *not available on the monitor port
IP Output	Connector: 2 x RJ45 — Format: 100/1000BaseT

*requires additional value pack

Video and Audio Options

Video Formats	2160p50, 2160p59.94 1080p50, 1080p59.94, 1080i25, 1080i29.97, 720p50, 720p59.97
Video Decoding*	1 x UHD (4k) HEVC Main/Main 10/Main 4:2:0 10 Profiles @ Level 4.2, up to 150 Mbps 4 x HD HEVC Main/Main 10/Main 4:2:0 10 Profiles @ Level 4.2 4 x HD MPEG-4 AVC Main/High Profiles @ Level 4.2 Up to 150 Mbps aggregate ** some bitrate limitations apply
HDR -> SDR Conversion	HDR HLG10 or HDR PQ10 to BT.709 conversion** ** available on the monitor port only
Audio Decoding	MPEG-1 Layer-II decode Dolby Digital® decode / pass-through Dolby Digital® Plus decode* / pass-through Linear PCM pass-through Audio sampling rate: 48 kHz

Content Security

Dual DVB Common Interface	Enables support for all major CAM modules Multi-service decryption Up to 2 CAM modules per option card
BISS Decryption	Decryption of BISS v1 and v2*, Mode 1 and E
Director	A full Conditional Access system to secure delivery of digital content encrypted using rotating keys that are distributed within the transport stream

*requires additional value pack

Physical and Power

Dimensions (W x D x H)	440 x 560 x 44mm (17.2 x 22 x 1.75" approx.)
Weight	10.5 kg (23 lbs) unpopulated
Input Voltage	110 VAC / 240 VAC
Power Consumption	550 Watt max. 175 Watt nominal.
Cooling	Integrated fans

Environmental Condition

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

Compliance

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



Provided by: Mega Hertz | 800-883-8839 | info@go2mhz.com | www.go2mhz.com

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