PRORXB – Broadcast Receiver Decoder

COFDM – Video, Audio Telemetry and IP Products

November 2011 Data Sheet

The most important thing we build is trust

The PRORXB is a feature rich multi-way diversity COFDM receiver designed to work with the next generation of H.264 wireless camera systems. Designed specifically for the demanding broadcast market, it is supplied in a 1/2 19" 2U high rack receiver chassis, where two units can be mounted together to occupy a 19" slot and uses standard broadcast connectors for signal interfaces.

It is available with 2-way, 4-way, 6-way and class leading 8-way maximum ratio combining RF inputs, ensuring video is recovered free from the distortions typically associated with fading and multipath. All DVB-T 6/7/8MHz modes are supported, plus optional Cobham Narrowband, enabling broadcast quality SD signals to be transmitted in only 2.5MHz bandwidth. Designed to work with external Cobham down-converters, the receiver can be located up to 100m from the antennas using standard 75Ω co-axial cables.

The PRORXB incorporates an extremely flexible decoding platform, with low-delay SD and HD H.264 decoding capability plus an SD MPEG2 decoder for compatibility with existing systems. Multiple video output formats are offered with composite and SDI outputs in SD mode and HD-SDI and in HD mode. SDI/HD-SDI both feature embedded audio and a HDMI output is provided for use with domestic TV's. A full Genlock facility is available in both SD and HD modes. When in HD mode, an optional downconverted SD composite video monitoring output is also offered.

The PRORXB can be controlled through its OLED front panel display, as well as on its RS232 or IP Ethernet browser control interfaces.

For customers wanting to distribute received video to remote locations, the PRORXB is supplied with ASI and optional IP streaming outputs.

A comprehensive On Screen Graphical display is available for monitoring and diagnostics, which can be enabled or disabled separately on the composite and SDI outputs.

Features:

- 2, 4, 6 or 8 way COFDM diversity
- DVB-T compliant 8/7/6MHz
- Maximum ratio combining antenna diversity for fade and multipath elimination
- Narrowband 2.5/1.25/0.625MHz option
- H.264 SD & HD decoding
- Fully MPEG2 compliant SD decoding
- HD-SDI/SDI with embedded audio out
- Composite video output (with optional HD down-conversion)
- HDMI output
- ASI input and output
- IP control and optional IP streaming video
- Genlock input
- Comprehensive on-screen display (OSD) diagnostics for link analysis, including spectrum analyser
- External down-converters for convenient antenna placement

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Specification:

Rear Panel Layout

Down-converters (see separate datasheet)

RF In	N(f)
UHF Out	BNC(f)

Input

UHF Input 1 to 8	BNC(f)
Power	XLR4(m)
ASI In	BNC
Genlock	BNC
RS232 Control	9-pin D-type

Output

2 * SDI/HD-SDI Video	BNC
2 * Composite Video	BNC
ASI Out	BNC
HDMI	
IP Streaming/Control	RJ45
2 * Stereo Line Level Audio	5-pin 0B Lemo
2 * RS232 Data	9-pin D-type

RF

UHF Inputs	70 to 850MHz
(actual received frequency governed by external down converter)	
Tuning Steps	250kHz

Modulation

DVB-T Bandwidth	8/7/6MHz
DVB-T Guard	1/32, 1/16, 1/8, 1/4
DVB-T FEC	1/2, 2/3, 3/4, 5/6
DVB-T Modulation	QPSK, 16QAM, 64QAM
Sensitivity	-95dB plus

Video

Line Standard (SD)	PAL/NTSC
Resolution (HD)	1920*1080i @30/29.97/25
	1920*1080p @30/29.97/25/24/23.97
	1920*1080psf @30/29.97/25/24/23.97
	1280*720p @60/59.94/50
Outputs	SDI/HD-SDI (x2) and Composite (x2)
	HDMI
	IP MPEG-2 UDP Multicast (option)
Decoding Mode	H.264 SD/HD 4:2:0
	MPEG2 SD 4:2:2 or 4:2:0
Delay	<100ms end-to-end

Audio

Analogue Output	2 Stereo Pairs +18dBm (on 600 ohm)
AES/EBU	2 Stereo Balanced Pairs (110 ohm)
Sample Rate	48kHz
Format	MPEG Audio 384Kb/s to 64Kb/s Mono or Stereo

ASI

Mode	Byte mode

All product specifications are subject to change without notice. Cobham will not be liable for technical or editorial errors or omissions.

Data Interface

RS232 Data Output 1K2 to 115K2 baud switchable

Ethernet

Mode	10/100/1G Ethernet Port
Function	Remote Control via web-browser

Control

Remote Control	Network Web Browser control interface RS232 Control from PC GUI Application
Local Control	Front Panel OLED display with navigation keys
Preset Loading	Front panel USB
On Screen Display	Spectrum, RX SNR, RX Power

Physical

Dimension Base Unit	W 220mm, D 358mm, H 87.5mm
Down-converter	L 102mm, W 100mm, H 35mm
Weight Base Unit	2.8kg
Down-converter	300g

Power

DC Input	9 to 16V Reverse Polarity Protected
Power Consumption	27W (Two Way Diversity Inc. D/C) 35W (Four Way Diversity Inc. D/C) 43W (Six Way Diversity Inc. D/C) 51W (Eight Way Diversity Inc. D/C)

Environment

Temperature Range	-20 to +60 deg C

Product Codes:

PRORXB-2 2 way diversity, H.264 SD+MPEG2 SD, SDI, Genlock
PRORXB-4 4 way diversity, H.264 SD+MPEG2 SD, SDI, Genlock
PRORXB-6 6 way diversity, H.264 SD+MPEG2 SD, SDI, Genlock
PRORXB-8 8 way diversity, H.264 SD+MPEG2 SD, SDI, Genlock

Product Code Includes

AC Power Supply CA0649
Audio Out Cable Lemo-2*XLR3 (x2) CA0339
RS232 Data/Control Cable CA0511

Accessory Options

PRORXBSRFP	2RU Full-width Rack Extender kit
PRORXCPLKT	2RU Joining kit (joins 2 units to form full 19" rack-width)
CA0665	DC input cable XLR4F to bare ends 3m

Licensing Options

RX-HDUP	Upgrade SD unit to HD
PRORX8-UP	Upgrade with additional 2 way diversity (factory)
PRORX-NB	Upgrade to 2.5/1.25/0.625MHz Narrowband demod
RX-HD2SD	Enable down-converted HD-SD output (composite)
NETPRORXBIPUP	License for RX Streaming upgrade.

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