

# PRORXB – Broadcast Receiver Decoder

COFDM – Video, Audio Telemetry and IP Products

October 2012 Data Sheet

The most important thing we build is trust

**COBHAM**



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
- Low delay video operation for real

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## Specification:

### 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  
Decoding Delay 2 FPS

### 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

### HD Video (with TX-HDUP option)

Video Input HD-SDI, HDMI  
HD Resolution modes 1920x1080i 60/59.94/50Hz

### 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 navigation Front Panel OLED display with 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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