



REBLE610 - ODU



DESCRIPTION

The REBLE610-ODU is the outdoor version of the REBLE610, from which it differs for the separation between the RF part (located in a waterproof aluminum case) from the modem, the I/O section and control.

The indoor unit or control unit (REBLE610-IDU) belongs to the same chassis of the REBLE610, which makes for a more efficient maintenance and an easier frequency modification which is always a difficult task; As for its predecessor, there is a hot-swappable redundant power supply, available both in AC and DC.

The modular approach has brought to the development of the data interface module (containing modulator, demodulator and data interface) and the RF module (containing Transmitter, Receiver and channel filter). From an RF point of view the new transmission circuitry is able to guarantee at least 1 watt at the head with every modulation scheme, introducing in addition, wideband precorrection (up to 1GHz depending on frequency band). Major innovations on the digital input side, the interface is equipped with 10 BNC connectors configurable singularly as ASI/BTS inputs or outputs, in this way the unit functions de facto as a distributor and ASI matrix both inbound and outbound. The Reble610 can carry IP traffic to/from a GbE port, an E1 at 2048Kbit/s (alternatively to two ASI/BTS input/outputs). A connection named 'transit' has been introduced so that the entire baseband can be forwarded to another unit, in order to efficiently build an RTX couple (repeater style).

To transfer all these signals the channel capacity has been increased to 56MHz and bitrate equal to 310Mbit/s; using an optional XPIC module (and an extra Reble610) it is possible to duplicate the bitrate increasing it to 610Mbit/s, exploiting H and V polarizations and cancelling undesired content using special algorithms. A new management software offers complete control over device parameters and settings, an on-board TFT touch-screen allows for a simple and intuitive user interface to check for anomalies. The same monitoring and control can be carried out thru a particularly easy to use web interface and thru SNMP.

FEATURES

- Half-duplex, Full-duplex or Repeater
- Outdoor applications
- Frequency:

5	5000-5500
6L	5925-6425
6U	6425-7125
7	7125-7825
8	7825-8500
10	10000-10700
11	10700-11700
13	12700-13200
14	14000-15500
Other on request.	
- Direct frequency conversion (Zero-IF)
- Wideband (up to 1.3 GHz)
- Output power > 30 dBm in 128 QAM
- Very high spurious suppression
- Excellent noise figure
- High-speed modem integrated
- Signals:

up to 10 x DVB-ASI/BTS
1 x E1 (2.048Mbit/s)
1 x GbE
- Bandwidth: 1.75÷56 MHz
- VBR up to 310 Mbps (620 Mbps with XPIC option)
- Integrated hitless switch for 1+1 configuration.
- Redundant hot-swappable power supply (AC and/or DC)
- WEB interface, SNMP v2 and GPIO

SPECIFICATIONS

General

Configuration:	Direct frequency conversion
Frequency range:	5 - 5.5 GHz 5.75 - 6.4 GHz 6.25 - 6.95 GHz 6.8 - 7.45 GHz 7.125 - 7.825 GHz 7.825 - 8.5 GHz 9.5 - 10.8 GHz 10.6 - 11.8 GHz 12.7 - 13.2 GHz 14 - 15.5 GHz
Frequency Resolution:	250 kHz
Frequency stability:	± 1 ppm
RF Connectors:	5 N(f) 6L N(f) /IEC UER 70 6U N(f) /IEC UER 70 7-8 N(f) 10 IEC UBR 120 11 IEC UBR 120 13 IEC UBR 120 14 IEC UBR 140
Return Loss RF:	> 26 dB

Transmitter

Power out:	> 29 dBm
Spurious level:	< -65 dBc

Receiver

Return Loss RF input:	> 26 dB
Noise figure:	< 4 dB (channel filters included)

Modem

Baud Rate:	Up to 49.5 Mbaud
Net Payload:	Up to 310 Mbit/s
Constellation:	QPSK; 8PSK 16-32 APSK 16-32-64-128-256QAM
Bandwidth:	1.75÷56 MHz
Protection:	1. Low Density Parity Check (LDPC) encoder 2. Reed-Solomon with $K \div 255$ and $t = 0 \div 16$ and concatenated convolutional codes, Trellis or variable rate blocks ($1/2 \div 13/14$) Programmable internal interleaver
Equalizers:	Feed Forward Filter (FFF) with 24 taps T/2 spaced (T = Symbol rate) 3 taps Decision Feedback Filter (DFF)

Cable interface

Cable Type:	Copper hybrid cable + multimode optical fibre with protective shield
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Connector :	Copper hybrid connector + waterproof optical fibre
Max lenght:	> 300mt.

Data interface

Access:	10xASI/BTS 1xE1 1xGbE
Service:	XPIC 1+1 Transit
Connectors:	ASI/BTS: unbalanced BNC female 75 Ohm E1: unbalanced BNC female 75 Ohm GbE: differential pairs RJ-45 1+1: differential pairs RJ-45 XPIC: differential pairs RJ-45 Transit: differential pairs RJ-45

1+1 Hot-standby and frequency/space diversity support

Control

Front panel (TFT touchscreen display)
Web browser (embedded http server, no additional software needed)
SNMP v2

Electrical

Supply:	90-260 V~ 50/60 Hz IEC 320 DC 22 ÷ 65 V 2 pins connector
Maximum consumption:	120 W

Mechanical

Chassis:	1U Rack 19"
Dimensions:	Width 482.6 mm Height 43.6 mm Depth 554.85 mm
Weight:	8 Kg
ODU:	Width 109 mm Height 230 mm Depth 409 mm (including RF output connector) 401 mm (excluding RF output connector)
Weight:	<9.8 Kg

Environmental

Operative temperature range:	-10 ÷ 55°C
Relative Humidity:	0 - 95% non-condensing



*Elber reserves the right to modify this datasheet without notice.

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