

Technical Data

- Frequency range adjustable to national regulations in VHF and UHF range, e.g.
 - 140-180 MHz (VHF)
 - 300-450 MHz (UHF)
 - 800-900 MHz (UHF)
- Operation mode
 - Full duplex in FDD mode
 - Duplex spacing >10 MHz
- Channel spacing
 - 12.5 or 25 kHz
- RF output power
 - 5.0 Watts (+37 dBm), max
 - 0.5 Watts (+27 dBm), mean
- Antenna gain
 - ≥ 8 dB (narrowband version)
 - ≥ 15 dB (extended version)
- Loss in Antenna feeder
 - ≤ 3 dB
- Noise factor
 - 5 dB
- Receiver sensitivity
 - - 90 dBm
- Frequency stability
 - 1 ppm
- Temperature range
 - -5°C to +45°C
- Dimensions
 - 170 mm x 190 mm x 60 mm
- Weight
 - ≤ 1500 g
- Power consumption
 - ≤ 20 VA
- Power supply
 - 100-240 VAC, 50/60 Hz
→ 12V DC
- Range (LOS)
 - 50 km
- Data Rates
 - Bandwidth 25 kHz
64-256 kbps
 - Bandwidth 50 kHz
128-512 kbps
 - Bandwidth 100 kHz
256-1024 kbps
 - Bandwidth 250 kHz
512-2048 kbps
 - Bandwidth 500 kHz
1024-4096 kbps
- Voice compression
 - PCM 64 kbps (ITU-T G.711)
 - CS-ASELP 8 kbps (ITU-T G.729)
- Interface
 - Base unit
 - a/b analog interface
 - V5.1 digital interface
 - Ethernet BaseT 10/100 via RJ-45 connector
 - G703.1 fractional/full E1 (extended version)
 - Terminal unit
 - Up to 4 a/b analog telephones
 - Ethernet BaseT 10/100 via RJ-45 connector
 - G703.1 fractional/full E1 (extended version)
- Type of modulation
 - C-OFDM:
QAM-4 to QAM-16384
 - Up to 108 subcarriers
- Coding and decoding
 - Coding: Signal code construction with 4D-Trellis code and Forney Trellis shaping
 - Decoding: Maximum-Likelihood Decoding with Viterbi algorithm and channel information usage
 - Optional Forward error correction: Reed-Solomon and interleaving
 - Error detection: CRC algorithm
- Adaptation of receiver
 - Adaptive Front-end filter
 - Adaptive multistage equalizer
 - Robust channel estimation incl. flat and selective fading

RuRaX

Rural Radio Extender

Digital radio system for wireless

extension of telephone network and internet

Continuous development and improvement is one of our policies – therefore we reserve the right to change specification without notice.

RuRaX offers wireless DSL services over large distances

The **Rural Radio Extender** provides wireless extension of your

- telephone
- and
- internet

infrastructure over distances up to 50 km



Configuration examples:

The digital high-performance RuRaX point-to-point radio link is designed

- for inaccessible or with difficulty accessible areas (e.g. nature areas, where laying of cables is difficult)
- for areas with weakly developed Telecom infrastructure (e.g. rural areas)
- for temporary installations, where fast commissioning is required (e.g. gas and oil production areas, disaster areas)

The RuRaX system consists of a

- Terminal unit (customer side)

and

- base unit (infrastructure side)

both equipped with antenna, antenna cable and external power supply (100-240 VAC, 50/60 Hz → 12V DC).

Installation and commissioning is easy and quickly done. Thus RuRaX is even suitable for temporary installations.

RuRaX includes a standard Ethernet connection. The narrowband version allows to connect up to 4 telephones and supports FAX and Modem connections. The extended version provides full or fractional E1 interface.

- High spectral efficiency up to 10 bps/Hz
- Efficient exploitation of available frequencies

