HF RECEIVER RX4010
for communication, surveillance and monitoring

HF Scanning ISB/SSB Receiver
Highly professional and cost effective
Full remote control

Dansk Radio AS
HF RECEIVER RX4010

DESCRIPTION
RX4010 is a highly professional receiver for communication, surveillance and monitoring.

Microprocessor control and logic ensure fast and reliable sig-af handling plus an abundance of extra features – at no extra cost.

Clean and rational front panel layout makes the RX4010 easy to operate for the untrained, at the same time giving optimal convenience to the experienced operator.

High MTBF, extensive selection programme and sturdy, modular construction ensure many years of problem-free operation even in a rough environment.

The RX4010 has various optional remote control facilities.

APPLICATIONS
When designing the RX4010 great consideration was given to the requirements of a large number of applications, such as:
- Fixed or mobile military stations
- Surveillance
- Monitoring
- Coast stations
- PTT networks
- Diplomatic networks
- Air traffic control
- Offshore communication
- News agencies
- Meteorological information systems
- Semi and fully automatic system networks.

TECHNICAL FEATURES
- Frequency range 15 kHz-30 MHz in 10 Hz resolution, (15-100 kHz reduced performance)
- ISB, USB, LSB, AM, RITY and CW
- Digital AGC
- Oven stabilized master oscillator
- Fast tuning synthesizer
- Synthesized BFO ± 7 kHz with 10 Hz resolution
- Scanning with dwell times between 0.1-8 sec.
- 1.4 kHz IF output for auxiliary equipment
- Meets CEPT regulations, OELP/AWG according to CCIR recommendations.

OPERATIONAL FEATURES
- Clear display gives all information about channel no, frequency BFO and signal levels
- Fast and easy frequency and mode set-up
- Flywheel tuning in 10 Hz, 100 Hz or 1 kHz steps
- 99 user programable channels incl. filter, AGC and BFO
- All 433 CH channels pre-programmed
- Extensive scanning capability of private channels, CCIR channels, frequencies and programmes
- 49 scan programmes, specified and operated by the user
- 24 hour clock and up to 24 pre-settings of time and action:
  - muting of the receiver
  - change of frequency, mode etc.
  - start of scanning sequence
- Squelch function by signal threshold level for noise suppression between stations and for fast scanning
- Recovery on same frequency after power failure
- Notch tune interference filter
- Instant erase of total memory.

OPTIONS
- Built-in demodulator for FSK tele. Mark and space signal display for easy tuning.
- 24 V DC power supply with automatic mains switch-over.
- Remote control RC4010 allows full control of 8 RX4010 units via its built-in modem and, with an additional external modem, 31 receivers.
- Up to 8 eigh-line monitor cards can be fitted in RC4010 for simultaneous audio monitoring of the controlled receivers.
- Up to 1650 customer specified memory channels with fixed spacing in four groups.
- Automatic control of tape recorder.
- IIF.
- Customer specified IF filters.
- TXO temperature controlled master oscillator.
REMOTE CONTROL
The RX4010 can be remotely controlled from the RC4010 as shown. Remote control can also easily be performed from a Personal Computer or other computer system.
RX401 Main specifications

Frequency Range
63 kHz to 30 MHz in 10 Hz increments (65 kHz to 100 kHz with reduced performance).

Frequency Stability
0.1 ppm in 10 s at ± 50°C.
0.3 ppm per 25 s at ± 50°C.
agings ≤ 0.1 ppm/year.

Frequency Tune Time
Typical: 10 msec.

Operating Modes
USB, LSB, AM, RTTY and CW.

IF Selectivity

<table>
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<tr>
<th>Mode</th>
<th>Selectivity</th>
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<tbody>
<tr>
<td>LSB</td>
<td>≤ 6 dB at 350 and 2700 Hz</td>
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<tr>
<td>AM, RTTY, CW</td>
<td>≤ 6 dB at 1.2 kHz</td>
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Wide:       ≤ 6 dB at 1.2 kHz
Inter:      ≤ 6 dB at 1.2 kHz
Narrow:     ≤ 6 dB at 0.5 kHz
Very narrow:≤ 6 dB at 0.1 kHz

Antenna Impedance
20 ohm, BNC female connector, SWR ≤ 2.

Input Protection
100 V EMF for up to 15 minutes.
30 V EMF continuously.

Input Selectivity
Suitable for octave filters.

Sensitivity
< 0.7 μV EMF for 10 dB SINAD in LSB.
< 3.5 μV EMF for 10 dB SINAD in AM.

Intermodulation
100 dB EMF per signal produces less than an equivalent input signal of 40 dBV EMF.

Line Intermodulation (in-band)
Less than −40 dB relative to either of two 94 dBV EMF signals (with RF Attenuator at "OFF").

Cross Modulation
With a wanted signal of 60 dBV EMF, an unwanted signal of 110 dBV EMF (at 600 Hz) produces cross modulation output 30 dB below wanted signal level.

Blocking
With a wanted signal of 60 dBV EMF, an unwanted signal of 110 dBV EMF can produce less than 3 dB change in output level.

Reciprocal Mixing
An unwanted signal removed 90 kHz or more from the tuned frequency must be more than 90 dB stronger than a signal of 0.5 μV EMF at the tuned frequency to give equal audio output, c.4 kHz bandwidth, 83dB.

Image Rejection
Greater than 90 dB.

IF Rejection
Greater than 90 dB.

Spurious Response Rejection
Greater than 80 dB.

Internally Generated Spurious Response
Internally generated spurious signals will not produce a S/N ratio greater than 10 dB (2.4 kHz BW).

Spurious Emission
Less than 10 μV50 Ω at antenna connector.

Automatic Gain Control
Less than 4 dB change in output for input signal variation from 6 dBV to 106 dBV.

RF Attenuator
0 dB to 10 dB.

BFO
Variable in 10 Hz steps over 7 kHz.

Notch Tune Filter
36 dB variable from 300 to 3400 Hz.

IF Output
1.4 MHz at ≈ 20 dB.

Audio Output
Speakers: 4 W/ohm.
Phones: 10 mΩ/600 ohm.
Line: 10 dB/600 ohm (adjustable).

Input Power
110-135 V and 220-240 V AC±10 %, 45-65 Hz, 70 VA.

Environmental Conditions
Temperature range
Nominal: 0° to + 50°C.
Operating: -25° to + 55°C.
Storage: -40° to + 70°C.
Relative humidity:
up to 95 % RH 40°C.
Vibration: 3 directions, 0.32 gms., 10-150 Hz, 50 m/s²/400 test Floa analog.
Shocks: 3 directions, 5 g., 16 msec.
5000 impulses/revolution at 90% RH.
Dimensions and Weight
Height: 133 mm (5.25”).
Width: 480 mm (19”).
Depth: 430 (17”).
Weight: 15 kg excl. cabinet.
24 kg incl. cabinet.

As our products are subject to current improvements, the equipment may vary in details from specifications and descriptions given in this publication.