SKANTI HF RECEIVER... FUNCTIONAL IN EVERY DETAIL
SKANTI R 8003

R 8003 is a high performance LF/ MF/ HF receiver covering the frequency range from 10 kHz to 30 MHz. It is designed to meet today's need for reliable and efficient communication, and it is based on knowledge collected from many years of successful HF design. The SKANTI R 8003 offers a flexible and economical solution.

Easy Operation
The receiver is operated from a sealed membrane keyboard which has a carefully designed layout with single function buttons and a precision flywheel tuning knob for fast search.

Reception Modes
The reception modes of the SKANTI R 8003 include single side band USB, LSB, ISB, double sideband AM, CW morse telegraphy, and FSK signals with front panel selectable mark and space frequencies, as well as data rate for the built-in demodulator.

Filters
Four IF bandwidths, a BFO adjustment, Pass Band Shift facilities, and a Notch Filter provide enhanced quality of the received signal.

User Programmable
Programming Facilities of the receiver include:

- 399 User Programmable Channels with a complete set-up for each channel.
- 40 Scanning Programmes with individually adjustable parameters, such as start and stop for channel scanning or frequency sweep, dwell time, and trigger source for scan hold which can be speech controlled squelch, signal strength or an external signal.
- 40 Time Programmes controlled by the built-in real time quartz clock which can recall channels or scanning programmes in 24 or 1 hours' cycle.

User Configurable
In addition to the programming facilities the receiver has user configurable functions which make it easy to implement limitations or change it for a specific application. The user configurable parameters include: Disabling of functions, default filter and AGC settings for each reception mode, Scan Hold polarity as well as remote control settings and priority.
R 8003 design provides excellent installation flexibility.

Two-unit Design
The Control Unit and the Receiver Unit can be installed together or separated up to 100 meters. Brackets for installation of either unit in 19" racks are included.

Rugged Construction
The Receiver is designed for use in harsh environments and has been subjected to extensive environmental testing including temperature, humidity, and vibrations.

The sealed membrane keyboard which is impervious to dust and water further increases the reliability and durability of the Receiver.
R 8003 Modular Concept (Fig. 1)
The two-unit design and the modular construction provide flexible installation and easy maintenance of the R 8003.

The Control Unit houses both numeric and bargraph displays, keyboard, loudspeaker, control modules, and the remote control interface.

The Receiver Unit contains the power supply and RF circuits in addition to the built-in FSK demodulator.

A faulty module is easily identified by the selftest programme and exchange of modules does not require any realignments.

Extended Local Control (Fig. 2)
The unique two-unit design, enabling up to 100 metres separation between the Receiver Unit and the Control Unit, can be further extended by up to 1000 metres utilizing the built-in RS 485 serial interface for connection of a second Control Unit.

Remote Controlled Receiver (Fig. 3)
The RS 232 interface can be used for remote control of the receiver through telephone line modems for transmission of the data signals. All functions except ON/OFF are remotely controllable.

Remote Controlling (Fig. 4)
In a network system the serial RS 485 interface and the individual addressing capability allow any Control Unit to act as a master for any receiver in the net. If a Control Unit is used in this way, its own individual receiver will continue its operation unchanged during remote control.

Diversity operation forms part of the remote control facilities.

Computer Control (Fig. 5)
The RS 232 C interface and the remote control protocol provide computer compatibility for integration of the receivers into automated systems.

The advanced remote control facilities of the SKANTIR R 8003 can be combined to meet a variety of special system applications.
SKANTI is a Danish company with more than 20 years experience in the field of advanced development and production of HF radio communication equipment.

SKANTI has a wide range of communication equipment for land-based and maritime applications of which 95% is exported to all parts of the world.

Among our customers are military, police, customs, and PTT authorities as well as civil aviation, international organizations, diplomatic services, oil companies, commercial Point to Point users, and thousands of ship owners.

SKANTI invests intensively in product development which, combined with its accumulated experience, ensures optimal utilization of the very latest technology.

Modern production facilities and an efficient quality management give SKANTI equipment a very attractive price/performance ratio.

Modular designed equipment with computer technology provides flexible solutions to a large number of demanding system applications.
Frequency Range

10 kHz to 100 MHz (10 kHz to 100 kHz with reduced performance)

Frequency Resolution

1 Hz

Frequency Selection


Tuning Rate

10 Hz, 100 Hz, 1 kHz, user programmable.

Frequency Presentation

Yellow LED display

Frequency Stability

1 ppm from 10 min to 1 hour

1 ppm from 24 hours to 1 year

0.5 ppm from 1 year

0.4 ppm from 24 hours

0.1 ppm from 10 min

Aging less than 1 ppm/year

Operating Modes

USB/Superwideband (USB, SSB, LSB)

USB (independent selection of BBE, BIT, BBM)

AM, CW

TLED, XAM, CW

Wide: +/-1000 Hz

Intermediate: +/- 500 Hz

Narrow: +/- 200 Hz

PWR (Pass Band Shunt) in USB and LSB modes

Sensitivity

Antenna input (SMA) for 10 dB S/N: 50 ohm antennas

SSB (280-270 Hz): 0.03 µV

AM (+/- 3000 Hz): 5 µV

CW (+/- 400 Hz): 0.05 µV

When RF is inputting, the sensitivity is increased by approx. 6 dB.

Intermodulation

Two 100 kHz signals 30 kHz apart from any tone producible by the meter in an equivalent input signal of 60 dB on 30 µV

Channel Selection

An unbalanced signal (10 dB spl) at 300 Hz from a separate receiver produces a modulation level of 10 dB relative to a signal of 60 dB on 30 µV

Blockin

An unbalanced signal greater than 20 dB S/N: an unbalanced signal 60 dB on 30 µV above the

Specifications subject to change without notice.

TRANSDUCERS IN RADIO COMMUNICATIONS

SKANDINAVISK TELEDYKST

Kirsten Værnedam 24

DK-3800 Værløse

DENMARK

PHONE +45 42 43 27 44

FAX +45 42 46 02 99

TELX 37293 skandi dk

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Frequency Response

Frequency Selection


Tuning Rate

10 Hz, 100 Hz, 1 kHz, user programmable.

Frequency Presentation

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Frequency Stability

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1 ppm from 24 hours to 1 year

0.5 ppm from 1 year

0.4 ppm from 24 hours

0.1 ppm from 10 min

Aging less than 1 ppm/year

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