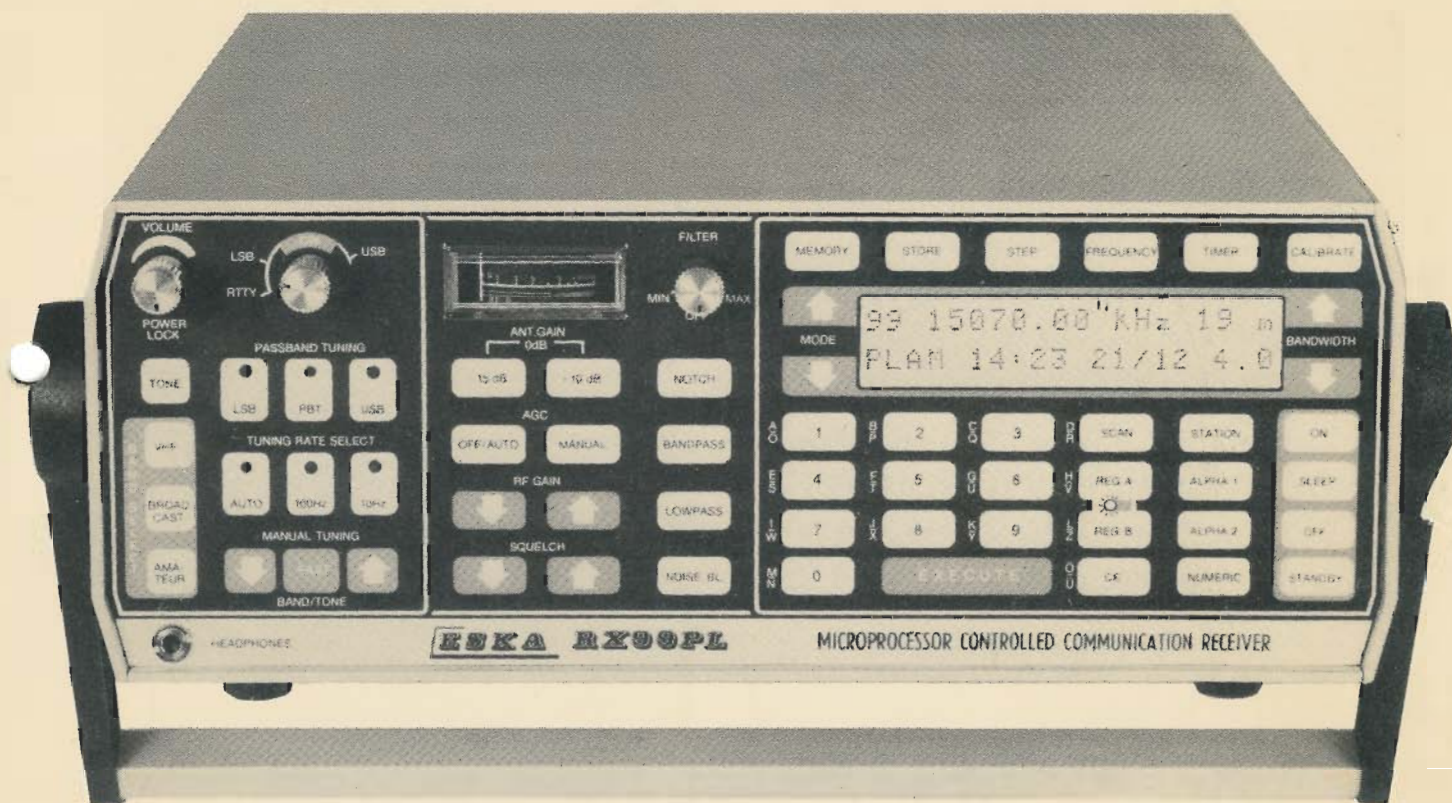


# ESKA RX99PL

NEW

PROFESSIONAL GENERAL COVERAGE PLL - SYNTHESIZED AM/SSB COMMUNICATION RECEIVER, with 99 memory channels and »Phase-locked AM« detector.



## GENERAL COVERAGE RECEPTION AT ITS BEST

The **RX99PL** is the most advanced portable receiver presently available on the market.

This European made high technology general coverage receiver, outperforms in some respects well known communication receivers, like the Drake R-7 and the JRC, NRD-515.

The **RX99PL** is extremely easy to operate and has all the features one expects of a high quality product.

## ADVANCED TECHNOLOGY

The use of the latest low power CMOS microprocessor, with a 64k bit memory, allows for numerous functions, not available in any other receiver of this size.

The **RX99PL** is operated by means of a multi function membrane keyboard, with 58 keys allowing for numerous features.

## FREQUENCY TUNING

1. Direct frequency tuning, by means of keyboard entry.
2. Manual tuning, up/down tuning in fixed steps.  
The manual up/down tuning can be accomplished as follows :
  - a. Automatic mode  
5 kHz on the shortwave broadcast bands, 9 kHz or 10 kHz on medium/longwave and 1 kHz outside the broadcast bands.
  - b. Fine tuning  
In 10 Hz or 100 Hz increments.

## FAST TUNING

The normal tuning rate is increased with a factor 6.



## TRUE PASSBAND TUNING

This system tunes from the top edge of one sideband, through center, to the other sideband.

Full passband tuning improves reception greatly during severe interference.

The LSB and USB settings can be selected with individual buttons.

## »PHASE-LOCKED AM«

The RX99PL is the only receiver available on the market, which incorporates a »phase-locked AM« detector, ensuring distortion free reception of AM shortwave broadcast stations, even during severe fading and interference.

## MEMORY

The memory is capable of storing 99 channels, direct entry and access via the keyboard.

For each individual channel the mode, bandwidth, antenna gain, sideband selection and AGC time constants are stored in the memory. The display shows the memory channel number and the mode/bandwidth in use.

## SCANNING FUNCTIONS

Any number of memory channels can be scanned by programming the lowest and highest channel number into registers A & B.

Any frequency spectrum can be scanned, by programming the upper and lower limits into registers A & B. Sophisticated automatic start/stop scanning facilities, with preset broadcast and amateur bands are available.

## THE DISPLAY

A two line 20 character alpha-numeric liquid crystal display, shows the frequency, memory channel, meter band, bandwidth, reception mode, time and date.

Optionally the name of the station can be shown on the lowest line, using up to 20 alpha-numeric characters.

The display can also show warning signals and operating instructions.

The modes and bandwidths are selected with up/down keys, located on either side of the display.

## HIGH SELECTIVITY/SENSITIVITY

The use of carefully selected low noise components, makes this receiver extremely sensitive. High grade 8 pole crystal filters for 2.2 and 4.0 kHz with professional skirt selectivity, provide clear SSB and AM reception. Optional filters are available for 12kHz, 8kHz, 6kHz, 4.8kHz, 3.6kHz, 2.4kHz & 1.8kHz bandwidth.

## LARGE FREQUENCY COVERAGE

The RX99PL covers the entire R.F. spectrum from 40 kHz - 30 MHz, in 10 Hz steps.

The FM broadcast band covers 88 - 108 MHz in 100 kHz steps.

A narrowband FM (NBFM) detector is available as option.

## OTHER RANGES ( OPTIONS)

Plug-in converters are available for the following frequency ranges :

FM 2 : 60 - 88 MHz

VHF 1 : 140 - 170 MHz

Full coverage VHF/UHF converter covering the entire range from : 30 MHz - 500 MHz.

The manual tuning steps are adopted to the selected frequency range (f.ex. 5 kHz/12.5 kHz/25 kHz).

## OUTSTANDING OVERLOADING PROPERTIES

The receiver has a built-in high performance active antenna, followed by a high level DBM (double balanced mixer).

This allows the receiver to be connected to large external antenna systems.

## »S« METER

Indicates the actual signal strength of the received station.

## FRONT PANEL CONTROLS

The front panel has 3 controls:

- Volume, with power lock.
- Passband tuning (PBT) and clarifier.  
In the PBT mode this control is used as passband tuning for SSB and phase-locked AM reception. In the LSB/USB and AM mode, this control automatically changes into a clarifier.
- Notch/bandpass/lowpass audiofilter (option).

## SPECIAL FEATURES

The following features can be keyboard selected:

### CALIBRATE

The calibrate function, calibrates the frequency read-out within 10 Hz accuracy.

The calibration offset is memorized in the microprocessor.

### AGC TIME CONSTANTS

The following AGC time constants can be selected independent of mode: Fast - medium - slow - very slow - off.

The display shows the selected AGC mode during 10 seconds.

In the AUTO-mode, the most appropriate time constant is selected for each reception mode.



## ANTENNA GAIN SELECTION

Selection of 3 antenna gain settings are possible.

+10 dB, 0 dB and - 15 dB.

The display shows the selected setting during 10 seconds.

## BAND/TONE SELECT

The tone and band select keys operate together with the manual tuning up/down keys.

All H.F. amateur and broadcast bands can be preselected, the display shows the appropriate meter band and starting frequency.

The FM/VHF/UHF ranges can be selected with the VHF key.

Four tone control modes can be selected :  
low - medium - high - music.

## SLEEP/STANDBY FUNCTION

The sleep function allows for an automatic switching off function in 10 minutes increments, up to 60 minutes, indicated on the display.

The standby function allows the timer to switch on the receiver, at preselected times.

The display indicates the standby mode.

## TIMER

An optional »intelligent« timer shows the actual time/date and allows the receiver to be switched on and off, according to time slots, programmable hourly, daily, or according to the date, within 1 minute accuracy.

Each time slot (24 max.) can select any of the 99 memory channels.

A relay contact is provided for remote control of an external tape recorder.

## OTHER MODELS

**RX99M** for **SSB/CW/AM/FM/NBFM**, mainly intended for maritime and aeronautical applications, both USB (upper sideband) and LSB (lower sideband) can be received.

The selectable bandwidths are 2.4, 4.0 and 8.0 kHz, plus options.

The international emergency frequency 2182 kHz is pre-programmed as priority channel, together with 500 kHz and channel 16 VHF.

This receiver covers all VHF maritime channels, the 140 - 170 MHz VHF range, and has an extended FM range from 60 - 110 MHz.

## APPLICATIONS FOR THE ESKA RX99PL AND RX99M RECEIVERS

### RX99PL

- Serious shortwave listening and broadcast monitoring.
- Radio communication monitoring, including military, intelligence and embassy traffic.
- Monitoring of maritime and aeronautical radio communications.

- Amateur radio and radio teletype (RTTY) reception.

### RX99M

- Maritime/aeronautical radio traffic.
- Military, intelligence and embassy radio traffic.
- Amateur radio and radio teletype (RTTY)

### INTERESTED BUYER GROUPS

- Embassies and embassy personnel.
- Ministries of foreign affairs and Government members.
- Intelligence services and military personnel stationed abroad.
- Government departments, dealing with 3rd World development projects (outstationed experts).
- Companies with personnel stationed abroad.
- Businessmen and professional travellers.
- Shortwave listeners and radio amateurs.
- General public, interested in serious shortwave listening.
- Merchant ships, yachting and fishermen.

## TECHNICAL SPECIFICATIONS

### Frequency ranges

|                    |                       |
|--------------------|-----------------------|
| 40 kHz - 30 MHz    | (general model)       |
| 150 kHz - 26.1 MHz | (German model)        |
| 88 - 108 MHz FM    | (European model)      |
| 80 - 108 MHz FM    | (US & Japanese model) |

Optionally : 60 - 88 MHz (FM 2)  
140 - 170 MHz (VHF 1)

Full coverage VHF/UHF converter: 30 - 500 MHz

### Reception modes

AM/SSB/CW/RTTY (with passband tuning for USB/LSB), PLAM (Phase locked AM) and wideband FM. Narrowband FM (NBFM) as option.

### Selectivity (Independent of mode)

2.2 kHz & 4.0 kHz, with shape factors 6/60 dB of 1:1.8, other filters available, for 12 kHz, 8 kHz, 6 kHz, 1.8 kHz, 1.0 kHz and 0.5 kHz.

Sensitivity, 0.4  $\mu$ V for 10 dB S+N/N

Dynamic range, 95 dB

3rd order intercept point, +10 dBm

AGC range, 120 dB

Image rejection, 80 dB

Audio output, 1.5 Watt max.

Power consumption, 120 mA at 7.5 V

Weight, approx. 2 kg.

Memory capacity, 99 channels.

Dual conversion, 70 MHz/10.7 MHz

Batteries : 6 x UM-2 (radio battery)

2 x UM-2 (computer battery).

Size : 255 x 90 x 285 mm

ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.



## OPTIONS AND ACCESSORIES

All options are easy plug-in types and no special technical skills are required for installation.

- ✕1. **General computer board**, required to operate following options : All extended freq. range converters audio filter, ext. VFO and timer.
- ✕2. **Alpha numeric indication** of station identification, up to 20 characters, for all 99 memory channels.
- 3. **Programmable » intelligent « timer**, with 8 time slots hourly, 8 time slots daily and 8 time slots according to the date. This timer has start/stop functions presetable within 1 minute accuracy. This unit has a relay contact output, for remote control of an external tape recorder. Messages can be recorded from any of the 99 memory channels.
- ✕4. **Notch/bandpass/lowpass audio filter**, frequency range 200Hz-6000Hz, in 3 ranges. This unit also contains fixed 5kHz and 9kHz notches. It improves reception of weak and noisy signals and is recommended for tropical band DX-ing and amateur radio CW/SSB reception.
- 5. **Extra 8 pole SSB filter**, 2.2kHz bandwidth, with this filter installed, the total selectivity for SSB reception is 16 poles. This filter is recommended for serious amateur radio SSB reception.
- ✕6. **Additional 8 pole crystal filters :**

|                      |                 |                       |                |
|----------------------|-----------------|-----------------------|----------------|
| 12 kHz for NBFM & AM | ✕6.0 kHz for AM | 1.8 kHz for SSB       | 0.5 kHz for CW |
| ✕8 kHz for AM        | 2.4 kHz for SSB | 1.0 kHz for CW & RTTY |                |
- 7. **Narrowband (NBFM) detector**, this detector can be used for all freq. ranges.
- 8. **External VFO unit**, in separate cabinet, which matches the RX99PL cabinet. This unit allows analog tuning in 10/100Hz increments, with additional up/down tuning buttons for 100 kHz/1 MHz increments.
- 9. **VHF/UHF converters.**
  - a. Converter for 140 - 170 MHz, type VHF 1.  
This converter provides automatically VHF range 2, which gives all the maritime VHF channels, numbered according to international regulations.
  - b. Converter for 60 - 88 MHz, type FM 2.
  - c. Full coverage VHF/UHF converter for the entire range of 30 - 500 MHz, type VHF/UHF.

N.B. The receiver provides tuning steps, adapted to the range and mode used. For example 5 kHz/12.5 kHz/25 kHz steps are provided for the VHF/UHF ranges in the NBFM mode.
- 10. **Additional 99 memory channels** for the VHF/UHF ranges, including the possibility for station identification, with 20 alpha-numeric characters.
- ✕11. **Noise blanker**, operated in the IF stage.
- 12. **High performance active antenna**, for the freq. range of 10 kHz - 30 MHz. This antenna matches the RX99PL receiver and is for outdoor mounting on a 38mm tube.
- ✕13. **Battery chargers** for 110/220 Volt mains and for 12/24 Volt DC are available. The 12/24 Volt converters have DC separation and are specially designed for use on board of ships.
- ✕14. **Rechargeable NiCd batteries**, one set of 6 pcs UM-2 (2000 mA/h).
- 15. **Earth lead**, with 3m. wire and tape recorder leads for resp. European and Japanese tape recorders.
- 16. **External speaker**, with mounting bracket.
- 17. **Mounting brackets** for fixed mounting.
- 18. **Headphones.**

Manufacturer:

ESKA ELEKTRONIK A/S

Møllestraede 5

DK - 3400 Hillerød

DENMARK

095 Phone: + 45 2 25 55 80

Telex : 42211 eska dk

Representative:

**ESKA**

AM/SSB Radio Receivers