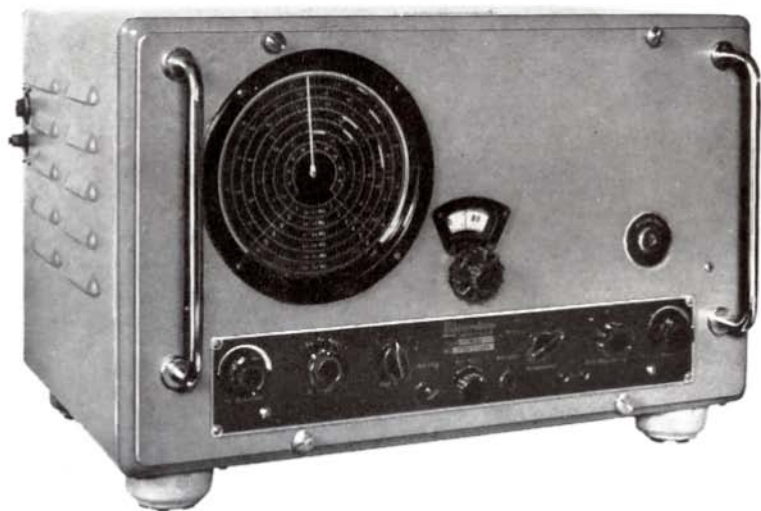




Modern  
7-valve High-Frequency  
Communication Receiver

**Elektromekano** Type M 83



3.5–26.0 Mc/s.

Modern

# 7-valve H.F. Superheterodyne

## TYPE M 83 Communication Receiver

ELEKTROMEKANO's Receiver Type M 83 is a modern 7-valve superheterodyne receiver, covering the 3.5–26.0 Mc/s. frequency range in six bands.

Its sturdy make and its effective protection against corrosion secure dependable service.

The receiver is equipped with an illuminated full-vision dial, and its easy operation makes it well fitted for use in all ships, irrespective of size.

### Specifications.

- Design:** Completely contained within a sturdy steel cabinet, attractively finished in grey Hammertone enamel.
- Special insulation or impregnation of all component parts for tropical and arctic service.
- All power supply terminals are located on the right-hand side of the cabinet.
- Circuit:** The receiver utilizes a 7-valve double-superheterodyne circuit, comprising 2 stages of radio-frequency amplification, 2 stages of intermediate-frequency amplification, 1 stage of audio-frequency amplification, and a pentode output stage.
- Types of Reception:**
- |                        |    |
|------------------------|----|
| Unmodulated telegraphy | A1 |
| modulated telegraphy   | A2 |
| and telephony          | A3 |

**Frequency Range:** The frequency range of 3.5–26.0 Mc/s. is covered by six bands as follows:

Band 1: 3.5 to 5.3 Mc/s.

Band 2: 5.0 to 7.4 Mc/s.

Band 3: 6.7 to 10.0 Mc/s.

Band 4: 9.3 to 14.0 Mc/s.

Band 5: 13.0 to 19.5 Mc/s.

Band 6: 18.2 to 26.0 Mc/s.

**Tuning Dial:** The main tuning dial is calibrated in Mc/s. and is divided in 100 degrees for logging purposes. The frequencies most generally used are clearly marked. A vernier dial is divided in 100 degrees, and 10 degrees on this dial are equivalent to one degree on the main dial.

The receiver is provided with coarse and fine tuning knobs.

**Accuracy of Adjustment:** At 4 Mc/s. one millimeter main-dial division is equal to a 2-kc/s. change of frequency.

At 22 Mc/s. one millimeter main-dial division is equal to a 0.03-Mc/s. change of frequency.

**Sensitivity:** Better than 1  $\mu$ V input voltage for an output power of 5 mW.

**Selectivity:** The selectivity of the I.F. amplifier is variable in three steps. The bandwidth for an attenuation of 6 dB and 30 dB is as follows:

	6 dB	30 dB
Wide:	7.2 kc/s.	9.2 kc/s.
Medium:	3.6 kc/s.	7.0 kc/s.
Narrow:	2.2 kc/s.	4.4 kc/s.

The selectivity switch has a fourth position, "Note Filter" which introduces a low-frequency filter tuned to 1000 c/s. A beat note that deviates  $\pm$  350 c/s. from 1000 c/s. is here attenuated by at least 20 dB. The I.F. amplifier is adjusted to the narrowest bandwidth in this position.

- Image Protection:** At 20 Mc/s. the image signal is attenuated 80 dB.
- Automatic Gain Control:** A.G.C. bias is applied to four valves. An increase in the input voltage from  $10 \mu\text{V}$  to  $10^4 \mu\text{V}$  (60 dB) produces an increase in the output voltage of 9 dB.
- Muting:** Means are provided for muting the receiver during the "key-down" periods of the sender by the aid of an associated break-in relay.
- Output Impedance:**  $3.2 \Omega$  for loudspeaker.  
 $300 \Omega$  for headphones.
- Valve Complement:** 220-volt D. C. operation.  
Two EF 9, two ECH 3, one EBF 2, one ECF 1, one EL 2 and one 150 A1.  
220-volt A. C. operation.  
Two EF 9, two ECH 3, one EBF 2, one ECF 1, one EL 2, one 150 A1 and one AZ1.
- Power Requirements:** The receiver is designed to operate from the ship's 220-volt D. C. mains. or from a 220-volt, 50-c/s. A. C. power source, in which case a rectifier is mounted on the chassis inside the cabinet. It may be operated from 110-volt D. C. power source via a motor generator which converts the D. C. voltage into 220 V A. C.
- Power Consumption:** 220-volt D. C. mains operation: approx. 60 W  
220-volt A. C. mains operation: approx. 60 W
- Dimensions:** Height: 37 cm  
Width: 61 cm  
Depth: 45 cm
- Weight:** 30 kg

(All data are subject to possible alterations of design)

## RADIO EQUIPMENT AND RADIO NAVIGATIONAL INSTRUMENTS

### DANSK RADIO AKTIESELSKAB

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