

# **Technical Handbook**

**SE 550-08-25-1**

**Part 1**

**Description**

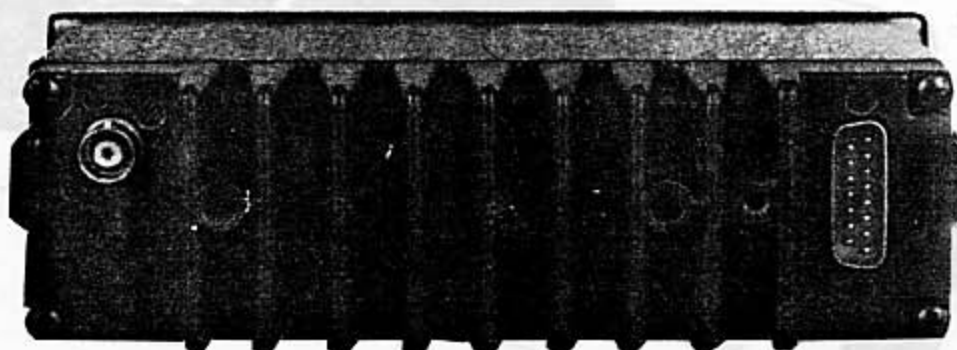
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## 1 DESCRIPTION

### 1.1 Purpose

The mobile transceiver SE 550-08-25-1 is used for the transmission of speech, signalization tones and data, in the frequency range 68...88 MHz. The SE 550 provides semiduplex operation and is suitable for mobile or fixed use.



## 1.2 Construction

### 1.2.1 General

The transceiver SE 550 is a compact device with removable control unit. The transceiver has 3 main parts:

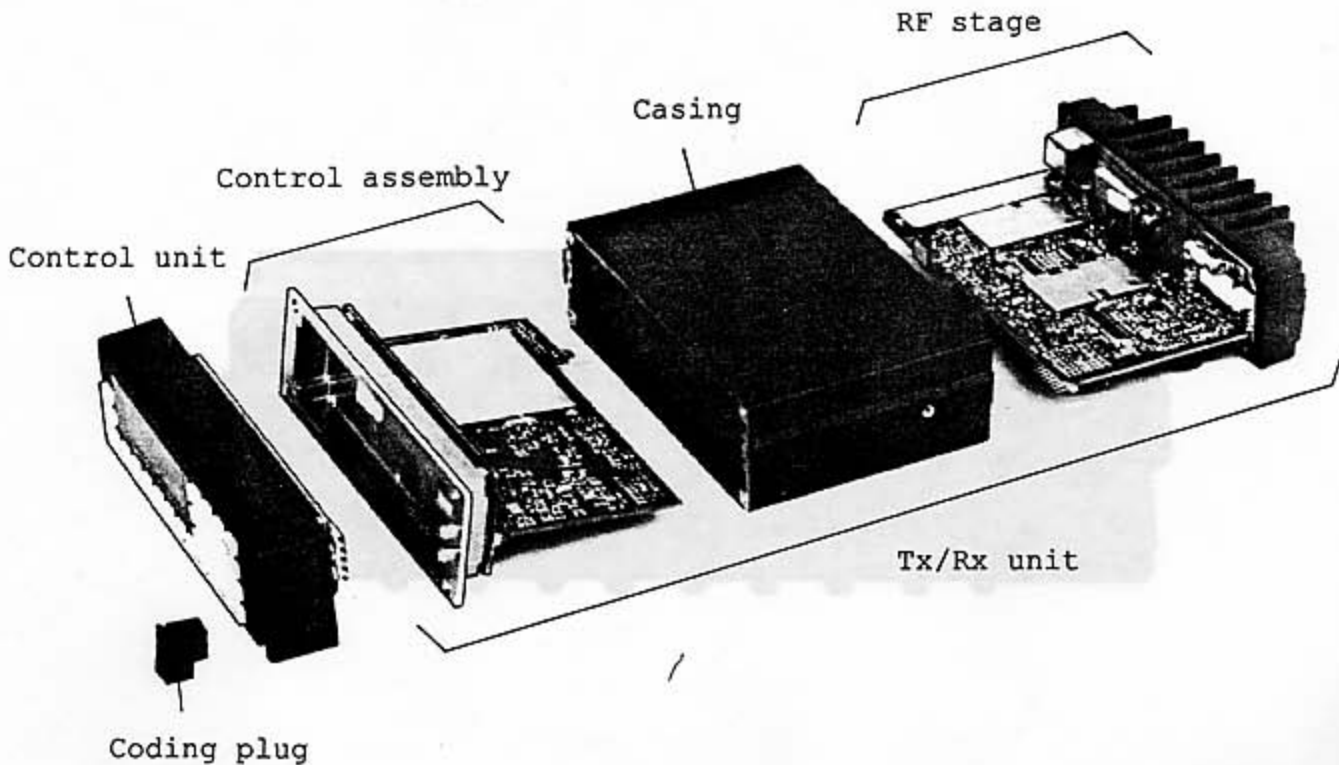
- o the RF stage, mounted on a radiator, constitutes the rear part of the transceiver
- o the control board, mounted on the front frame
- o the removable control unit

The rear part and the front frame are screwed with 4 screws to the casing. All connections between the different parts are plugged.

The transceiver is cased in a sturdy aluminium die-cast frame and protected against dust, splash-water, electrical interferences and mechanical loads.

The casing is equipped with guiding rifts for the 2 main PCB's of the transceiver. The radiator carries the main interconnection plug and the cloning plug of the transceiver.

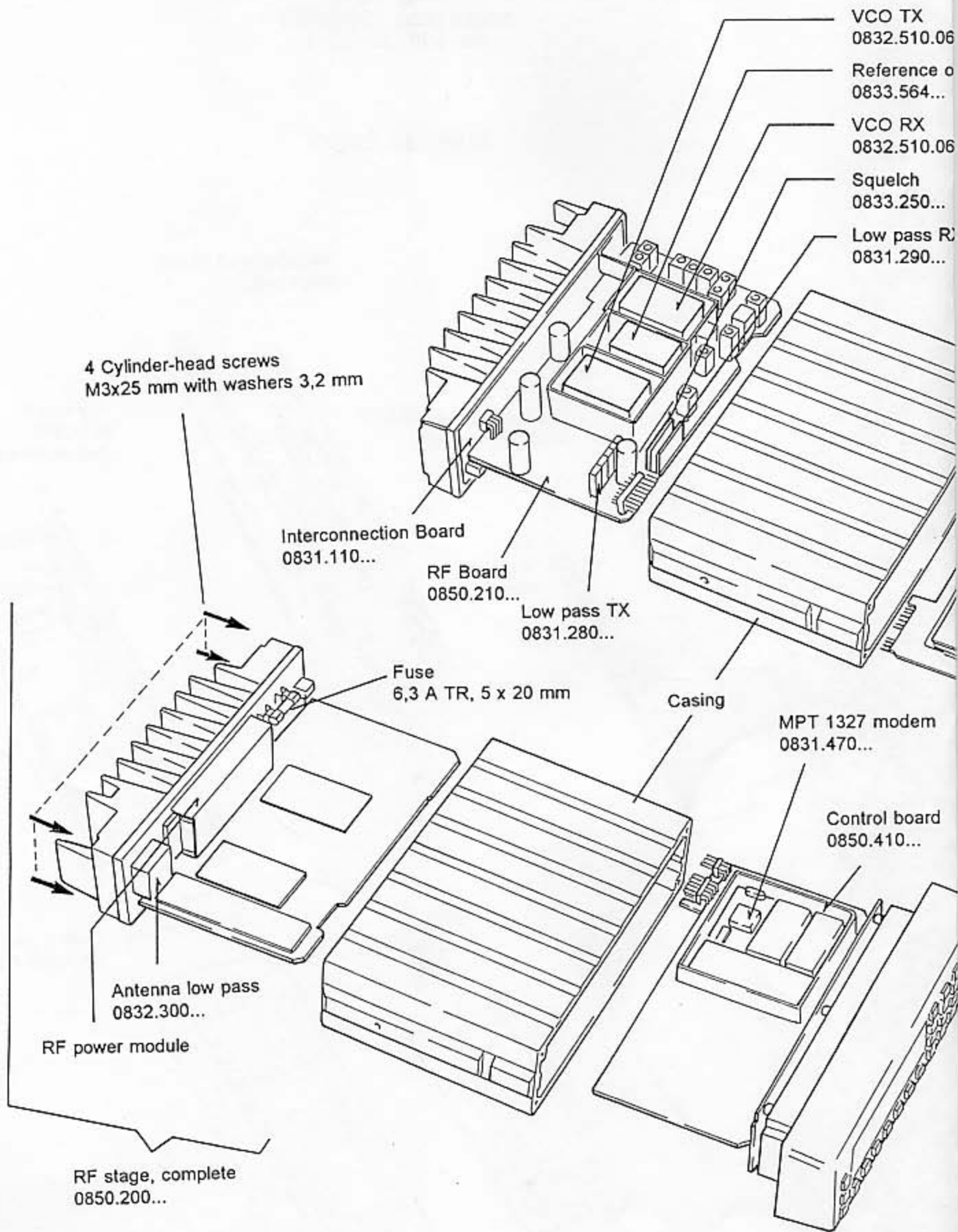
A monophone or handset can be plugged on the front part of the transceiver.



### 1.2.2 Assembly Review

The SE 550-08-25 mainly consists of the parts given in the table and shown in the following figures.

Pos.	Designation	Article number
1	Mobile transceiver set SE 550-08-25-1	0850.G08.N61.0C1
1.1	Transceiver SE 550-08-25-1	0850.G08.N61.100
1.1.1	Control assembly complete	0850.400.060.003
1.1.1.1	Control board	0850.410.050.003
1.1.1.2	Stabilization 3 W complete	0831.140.060.002
1.1.1.3	MPT 1327 modem	0831.470.050.001
1.1.2	RF stage complete	0850.200.060.201
1.1.2.1	RF board	0850.210.050.201
1.1.2.2	Squelch	0831.250.050.101
1.1.2.3	Low pass Tx	0831.280.050.601
1.1.2.4	Low pass Rx	0831.290.050.601
1.1.2.5	VCO Rx	0832.510.060.002
1.1.2.6	VCO Tx	0832.510.060.502
1.1.2.7	Reference oscillator TCXO 8 PPM	0833.564.060.001
1.1.2.8	Antenna low pass	0832.300.060.002
1.1.2.9	Interconnection board 25 W, SE 550	0831.110.050.101
1.2	Control unit BG 3-TR/UK, complete	0831.000.003.511
1.2.1	Coding plug 2 KB	0831.000.000.941
1.2.1.1	Coding board 2 KB	0831.940.050.001
1.2.2	Converter BG 3	0831.910.050.203
1.2.3	Display board BG 3	0831.920.050.005
1.2.4	Key board	0831.930.050.001
1.3	Mounting set complete	0831.000.060.304
1.3.1	Bag for universal mounting set	0831.080.060.002
1.3.2	Interconnector complete	0831.170.060.001
1.4	Loudspeaker 4 $\Omega$ /5 W	008.10.00.800

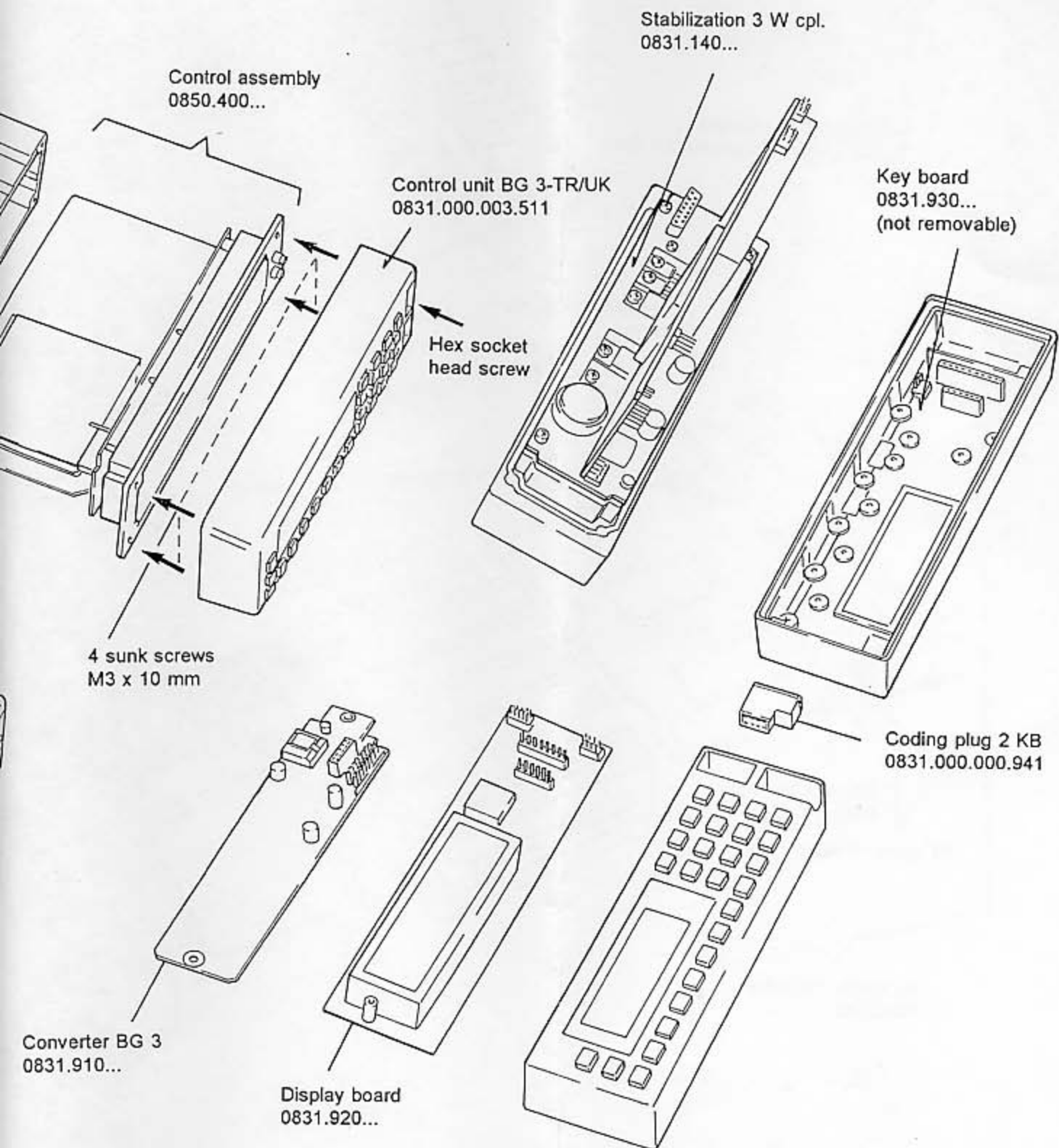


502

illator TCXO

002

Assembly Review



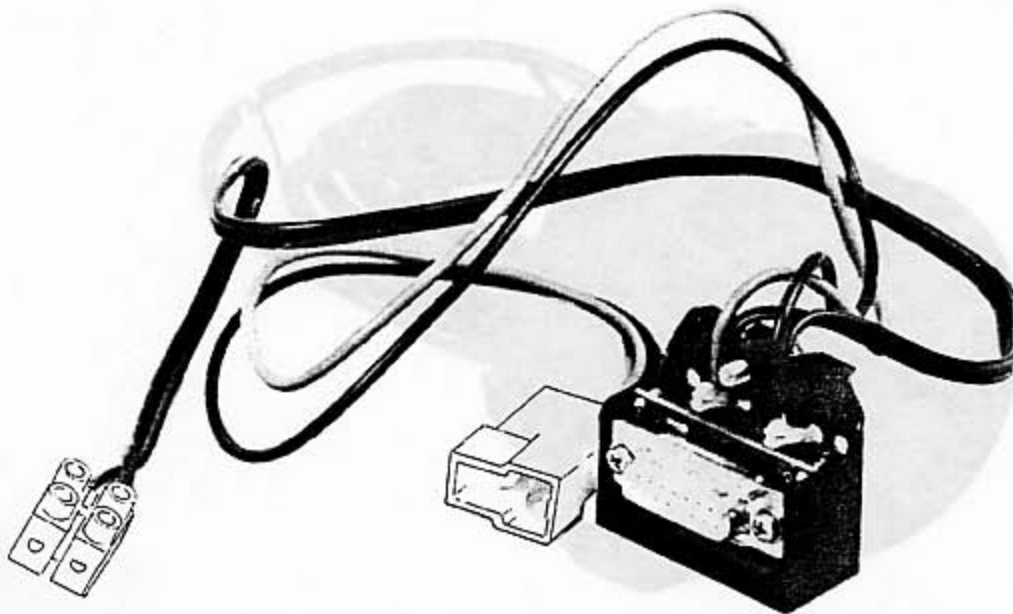


Mounting set

Simple holder, article number 852.01.48.172

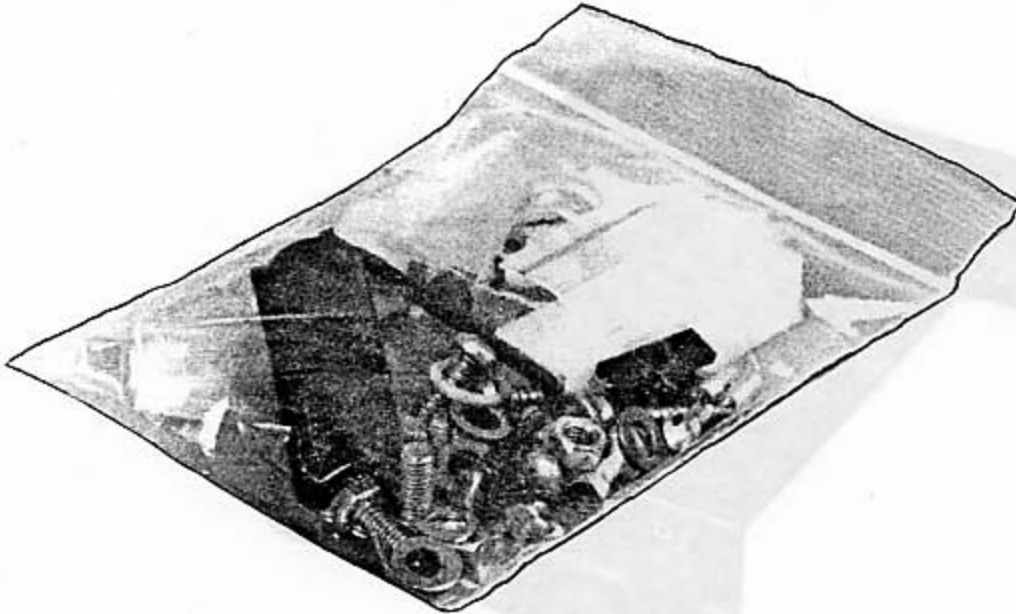


Interconnector, article number 0831.170.060.001





Bag for universal mounting set, article number 0831.080.060.002



**Accessories**

Loudspeaker, article number 008.10.00.800



### 1.3 Technical Data

#### 1.3.1 General

Type: SE 550-08-25-1  
Frequency range: TX -> 68...88 MHz  
RX -> 68...88 MHz  
Channel spacing: 12.5 kHz  
Operating mode: Semiduplex  
Number of channels: 800  
Modulation: Voice -> PM  
Data -> FM  
RF-switching band width: 20 MHz  
Antenna plug: BNC, 50  $\Omega$

#### 1.3.2 Transmitter

Tx power output: 25 W, regulated  
reduced power 12.5 W or 2.5 W  
programmable  
Frequency deviation max: 2.5 kHz  
Frequency response: 300...2550 Hz, -3 dB  
S/N ratio CCITT: > 40 dB  
Distortion factor: < 5 %  
Mikrophone input: 1 mV  
Adjacent channel rejection: > 60 dB  
Spurious and harmonic power: < 0.25  $\mu$ W (0.03...1 GHz)  
< 1  $\mu$ W (1...12.7 GHz)

#### 1.3.3 Receiver

Principle: Double superhet (IF1 = 21.4 MHz;  
IF2 = 455 kHz)  
Sensitivity at 20 dB S/N (CCITT): typ. 0.5  $\mu$ V  
Protection against spurious responses: > 80 dB  
Adjacent channel selectivity: > 70 dB  
Intermodulation rejection: > 70 dB $\mu$ V (EMF)  
Blocking threshold: > 90 dB $\mu$ V (EMF)  
Co-channel rejection: > -12 dB  
Reradiation: < 2 nW (0.03...1 GHz)  
< 20 nW (1...12.7 GHz)  
Frequency response: 300...2550 Hz, -3 dB  
S/N ratio CCITT: > 40 dB  
Distortion factor: < 5 %  
AF output power: 2.5 W on 4  $\Omega$   
Squelch: noise, switchable

### 1.3.4 Tone Call Facility

FFSK according to ZVEI-Regionet 43.

### 1.3.5 Power Supply

Supply voltage: 13.2 V (10.8...15.6 V), negative pole grounded

Current consumption

Standby:	approx. 500 mA
Reception:	approx. 1 A
Transmission:	approx. 6.5 A/25 W

### 1.3.6 Dimensions and Weight

Dimensions (height x width x depth): 171 mm x 52 mm x 175 mm

Weight: approx. 1.5 kg

### 1.3.7 Ambient Temperatures

Operation

Operation within given data:	-20...+55 °C
Operable:	-30...+70 °C

Storage: -40...+80 °C