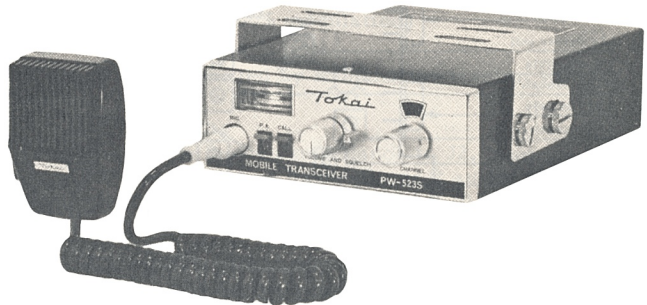


Tokai

PW-523S



SERVICE MANUAL

EUROPEAN SOLE REPRESENTATIVE

AB SVENSKA Tokai

SICKLA KANALVÄG
104 60 STOCKHOLM 20
SWEDEN

TEL.: (08) 44 07 10
TELEX: 10177
CABLE: TOKAIIMPORT

J1 PA Speaker jack

Antenna jack

R39

L17 Filter coil

RL Relay

L1 HF transf.

L15 Driver coil

TR18 2SC778

TR17 2SC775

L2 HF transf.

TR12 2SB474

L14 Driver coil

TR16 2SC774

L3 HF transf.

TR13 2SB474

L13 Buffer transf.

L12 Buffer transf.

TR15 2SC709

TR2 2SC709

C57

TR14 2SC709

TR6 2SC709

L4 IF1 transf.

Crystal holders (T)

Crystal holders (G)

Crystal holders (R)

Channel selector

Squelch
Volume

J4 Selective call unit jack

J5 Power input (below Fuse)

Fuse 2 A

J2 Speaker jack

LFT Choke

L F output transf.

TR1 2SC709 (BF184)

L F driver transf.

TR11 2SC712

TR10 MK10

TR9 2SA562

R38

TR8 2SC712

TR19 2SC710

R19

L9 IF2 transf.

L5 IF1 transf.

TR5 2SC709

L8 IF2 transf.

TR3 2SC709

TR4 2SC709

CF Ceramic filter

L7 IF2 transf.

L6 IF2 transf.

TR7 2SC709

Signal, HF meter

J3 Microphone jack

PA switch

Call signal switch

PARTS LIST

Mechanical parts

- 1 P Cabinet w/o lid
- 2 P Lid/do
- 3 M Front plate
- 4 I Brand plate
- 6 D Speaker plug
- 7 H Speaker jack
- 8 E HF, S-meter
- 9 I Channel selector
- 10 F Knob/do
- 11 B PA, Call switch
- 12 J Potentiom, vol
- 12 J Potentiom, squelch
- 13 J Potentiom, volume
- 14 K-L Knob/do
- 17 D Microphone plug
- 18 F Microphone jack
- 19 A DC-plug
- 20 A DC-jack
- 21 A DC-plug with core
- 22 A Do/use with BE2A
- 27 C PL259 Antenna plug
- 28 C SO239 Antenna jack

- 29 B Reducer/PL259
- 33 F Speaker
- 34 D Microphone cartridge
- 36 D Crystal
- 41 Support/printboard
- 42 G Screw/lid
- 44 Screw/printboard
- 49 B Lamp
- 50 E Microphone set
- 51 B Microphone holder
- 53 D Microphone cabinet with PT T switch
- 54 B Microphone core
- 55 C Mounting bracket
- 56 C Mounting screw
- 59 C Relay
- 60 A Relay holder
- 61 B Fuse
- 62 C Fuse holder
- 63 B Selective call unit jack
- 64 A PA speaker jack

Components

- L1 HF coil
- L2 HF coil
- L3 HF transf.
- L4 IF1 transf.
- L5 IF1 transf.
- L6 IF2 transf.
- L7 IF2 transf.
- L8 IF2 transf.
- L9 IF2 transf.
- L10 Choke
- L11 Choke
- L12 Buffer transf.
- L13 Buffer transf.
- L14 Driver coil
- L15 Driver coil
- L16 Choke
- L17 Filter coil
- L18 Choke
- L19 Antenna coil
- L20 Choke
- L21 Choke
- LFT Choke
- CF Ceramic filter
- 15pcs Crystal holders
- 2pcs Heat sink
- 3pcs Adjustable resistors
- 1pc NTC resistor M-25
- Resistors
- Capacitors
- Diodes:
- 4pcs 1N60
- 1pc 1S334
- 1pc 1S446
- 1pc 1S1718
- 1pc 10D-1
- 1pc MD-135
- Transistors:
- 1pc 2SA562
- 2pcs 2SB474
- 9pcs 2SC709
- 1pc 2SC710
- 2pcs 2SC712
- 1pc 2SC774
- 1pc 2SC775
- 1pc 2SC778
- 1pc 2SC710

ADJUSTMENT OF TOKAI PW-523S.

Power

Connect to stabilized power supply, leaving 12,6 V DC at minimum 1,8 A. Centre pin is connected to positive.

Transmitter

Connect an HF output meter with a characteristic impedance of 50 ohms to antenna jack. Key the transmitter and adjust L14, L15 and L17 to maximum. Check the HF output on channel 1, 10 and 22. If the HF output differs more than 250 mW, adjust L12 and L13. Check the frequency (± 600 Hz is normal). If the frequency is too high, C57 is to be changed to about 40 pF. If the frequency is too low, C57 is to be changed to 60-70 pF.

Modulation

Connect a modulation meter with 50 ohms impedance to antenna jack. Speak into the microphone with normal voice and adjust the adjustable resistor in the microphone to maximum 100% modulation.

Panel meter

The level of the signal meter can be adjusted by R38 and the level of the HF output meter by R39.

Receiver

Connect a suitable LF instrument with 8 ohms impedance to J2. For listening, a high-impedance earphone must be used. Connect an HF generator with 50 ohms impedance to antenna jack. Adjust it to the transmitting frequency (± 300 Hz) and modulate 30% at 1 kHz. Turn on the volume and feed for a readable level on the instrument. Adjust L1, L2, L3, L4 and L5 to maximum. Then turn R19 (AGC adjustment) counter-clockwise until self oscillation occurs and then clockwise until the self oscillation disappears and 30° more. Adjust L6, L7, L8 and L9 to maximum and reduce the feeding from the HF generator to 0,4 μ V while the result improves.

Sensitivity

Set a level of 0 dB on the LF instrument with the volume potentiometer. Switch off the modulation. The level on the instrument is now to decrease 10 dB or more. If not, readjust L1 and L2 for better result.

Channel separation

When the sensitivity of 0,4 μ V has been reached, set the level of the instrument to 0 dB at 30% modulation. Set the HF generator at the transmitting frequency +10 kHz, increase the feeding 60 dB and check that the level on the LF instrument is 0 dB again or less. Do the same at transmitting frequency -10 kHz. Adjust L7 and, if necessary, L8 and L9.

Squelch

Turn the squelch knob to the cut-off position, and set the transmitting frequency (± 300 Hz) at the HF generator. Feed with a signal that has a few dB higher level than the noise; the squelch shall now open.

Order

Connect a speaker with 8 ohms impedance to J1 and connect the microphone to J3. Key, switch on the order switch and speak into the microphone. The speech now shall be heard in the speaker. Notice acoustic feedback.

Fuse

At wrong polarity connecting, the fuse (5x20 mm 2 A) is blown.

