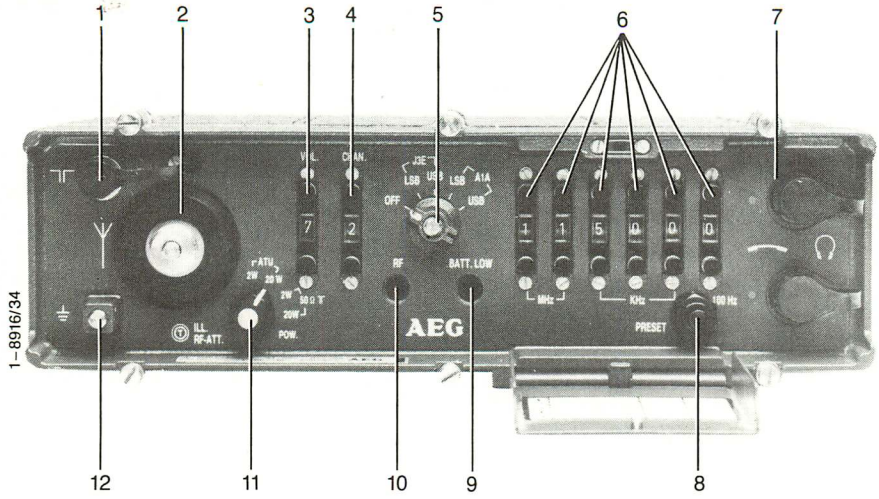
AEG

Operating
Instructions

20 W
HF Manpack Transceiver
SE 6861/12 mod

1-8916/36



SE 6861/12 mod, picture showing control and connecting elements

1 Connector for matched dipole antenna or 50 Ω load
2 Connector for rod or long-wire antenna
3 AF Volume control switch
4 Channel selector switch
5 Mode selector switch
6 Frequency setting switches
7 AF connectors
8 Memory key
9 Battery warning LED
10 RF output power indication
11 Illumination key and power preset selector switch
12 Ground connector

1. Introduction

The 20 W HF Manpack Transceiver SE 6861/12 mod is designed for the modes A1A (CW, USB, and LSB) and J3E (SSB, USB, and LSB) and works in the frequency range 1.5 MHz to 30 MHz. The output power may be switched from 2 W to 20 W, with the power preset selector switch.

The output power is available either through the built-in ATU at the whip antenna connector and the dipole antenna connector or when bypassing the ATU at the dipole antenna connector, when working into a 50 Ω load (matched dipole).

The operating frequency is set by means of the frequency selector switches (6). This frequency setting is effective in channel selector switch position 0 (6), in switch positions 1 to 4 one of four electronically stored frequency settings is effective.

The antenna socket (2) is provided for a whip antenna, a rod antenna or a long wire antenna (with connector for ground or counterpoise (12)). The 50 Ω output (1) is provided for the connection of a wideband antenna.

The automatic antenna tuning unit ensures optimum matching of the antenna impedance for every operating frequency between 1.5 MHz and 30 MHz. Checking and if necessary correction of the antenna matching is initiated every time the PTT button (handset, headset or Morse key) is pressed. This process can be monitored in the earpiece of the handset/headset as a brief 1 kHz control tone.

Note: In order to exploit the full sensitivity of the receiver, it is advisible after every frequency change to match the antenna by brief actuation of the PTT button.

Two uniform AF sockets (7) are provided on the transceiver for handset, headset, Morse key or remote modulation line. A rechargeable battery unit with NiCd accumulator is used for power supply (Battery Unit BT 6861/11 with a capacity of 1.8 Ah). Alternatively a nonrechargeable battery unit with lithium batteries can be used for power supply (Battery unit BT 6861/31 with a capacity of 10 Ah).

2 Commissioning

2.1 Connecting the Battery Unit

- Place the basic unit onto the battery unit, observing the guide pin locations.
- Mechanically connecto the units with the catch locks on the sides.

2.2 Connection Accessories

Connect the handset or headset voice equipment or the Morse key to the AF sockets (7).

2.3 Antenna connection

Whip antenna

- Unfold the antenna by whip motion and check that the individual sections have latched properly.
- Screw the antenna foot onto the antenna socket (2).

Broadband dipole antenna

- Connect the dipole antenna to the BNC-socket (1).

Matched antennas (50 Ω)

- Connect the antenna to the BNC-socket (1).

3 Operation

3.1 Switching on

Select mode (5).
After 2 seconds the transceiver is ready for operation.
Set volume (3) to receiver background noise.
Set operating frequency on channel selector (4).
Set power preset selector switch (11) to 2 W or 20 W/ATU when using whip-/long-wire- or broadband dipole antennas.
Set power reset selector (11) to 2 W or 20 W when using matched (50 Ω) antennas.

3.2 Switching off

The mode switch (5) is used to switch the set off.

3.3 Manual frequency setting

Set channel selector switch (4) to 0
Select frequency (6)

Since the frequency is selected with mechanical devices, the transceiver may remain switched off.

3.4 Setting and changing the memory frequency

Set channel selector switch (4) to a position 1 to 4

Switch transceiver on (arbitraty mode (5))

Set frequency (6)

Press memory button (8)

The channel memory contents may be called up at any time with the channel selector switch even after prolonged switch-off. When the battery section is disconnected the channel memory contents remains intact for 1 hour approximately.

3.5 Running operation

Once the transceiver has been switched on, the following may be switched in arbitrary sequence:

change of power preset (11) 2 W or 20 W
change of mode using mode selector switch (5)
change of frequency using channel selector switch (4) or frequency setting (6)
transmit/receive switching

when the transceiver is operated in the SSB (J3E) mode transmit/receive switching takes place with the PTT-button on the handset/headset.

In CW operation transmit/receive switching controlled through the Morse key. The first keying pulse switches the transceiver to transmission: after the last signal and a delay of = 0.7 seconds the transceiver switches back to receipt.

The antenna matching is checked each time the transmitter is switched on and, if required, retuning ist performed. When the frequency is changed the antenna tuning procedure is thus automatically initiated when the transceiver is switched tor transmission. For antenna matching the power preset selector (1) must be set to 2 W or 20 W/ATU.

The green LED (10) is illuminated as soon as 40% of the rated power output is reached, i.e. in CW operation it lights during transmission of the keying signals, in SSB (J3E) operation only during the modulation peaks.

4 Warning indications

The yellow battery warning LED (9) is illuminated when the battery is almost run down. Signals may be received only for a few further minutes. Signals may be transmitted only at 2 W power output for short messages; afterwards the transceiver is switched off automatically.

If transmission is attempted at a freqeuncy below 1.5 MHz or on a memory channel which was not previously preset, the transceiver is automatically switched off and the yellow battery warning LED (9) is illuminated.

The automatic disconnection is defeated after switching the transceiver off with the mode switch (5), setting an admissible frequency equal or above 1.5 MHz and switching it on again immediately.

5 Battery change

The battery unit of the Manpack Transceiver may be recharged optionally by the Charging Unit LG 6874/3 or by a vehicle electrical system.

When charged by the Charging Unit LG 6874/3 the accumulators are recharged with a voltage between 32 V and 36 V, the charge current is 0.2 A. The charging time for a completely discharged Battery Unit BT 6861/11 is recharged in approximately 14 hours. During charging, the red lamp next to the plug on the battery unit must be illuminated.

Due to the chemical reactions which take place in NiCd-cells during recharging, special charging specifications must be observed at temperatures below 0° C. Maximum ambient temperature for charging is 50° C.

6 Operation with external DC power supply

The SE 6861/12 mod can also be operated with external DC supply voltages in the range 23.5 V to 38 V. For this purpose a special power supply cable (52.6865.907.00) between Battery Unit BT 6861/11 and external voltage source is needed.

Connection to the power supply: Connect red cord to the positive voltage output and blue cord to the ground terminal (0 V).

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