ATR 57 COM

User manual

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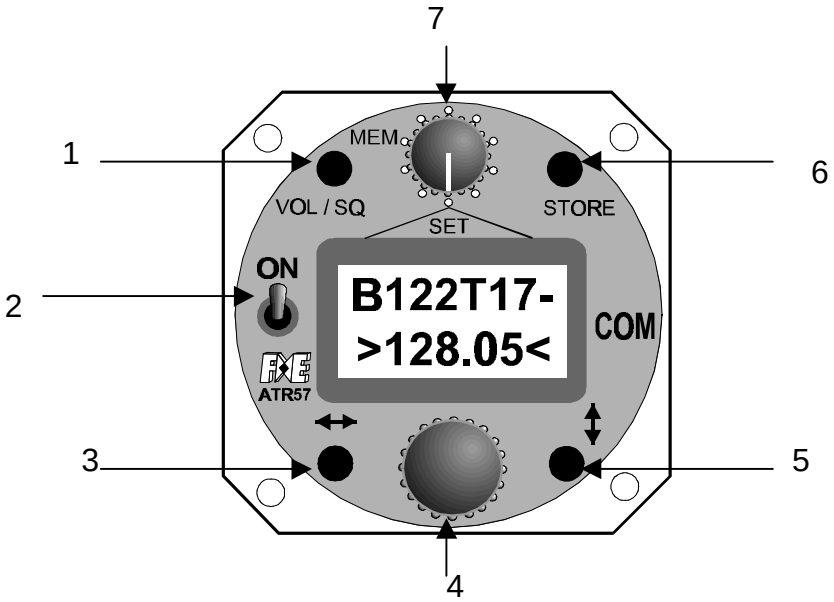
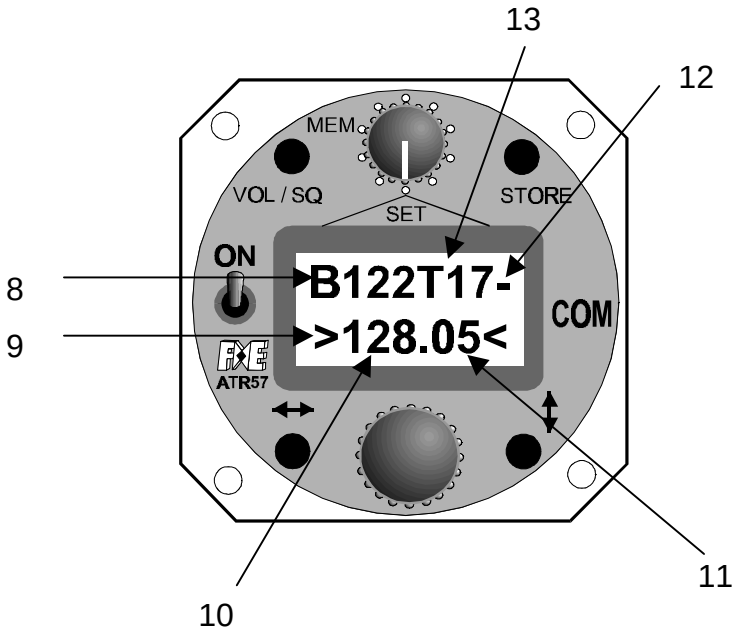
1 User interface



1. Volume / squelch push-button
2. ON / OFF switch
3. MHz / kHz push-button
4. Tuningknob for volume, squelch and selected frequency
5. Change selected frequency to active frequency
6. Store-button
7. Select stored frequency

2 Display



8. "B" low-battery display, shown when voltage is < 10,5V
9. "><" changing MHz or kHz range
10. MHz-range
11. kHz-range
12. "-" shown at lost of transmitting or recieving frequency
13. "T" shown during transmitting, "R" shown during recieving

3 Installation

3.1 Panel installation

The ATR 57 is fixed in the panel with the four screws in instrument head. The cut-out diameter for placing the ATR 57 in the panel is standard 57mm.
Tip: One should lookout for a place in the panel which provides easy installing, a good view and reachability for the pilot sitting in normal position.

Avoid mounting near hot places. So you do not need any external cooling device like a fan or similar.

One should pay attention having enough space behind the backside of the ATR 57 for connectors and cables. The cable harness should be as short as possible. Avoid cable run near strong noise sources like the ignition coil, light dynamo or battery charger. This can cause a low frequency noise on the speaker.

Your service company provides all needed cables, the connectors are delivered with your ATR 57.

3.2 Installation of the antenna

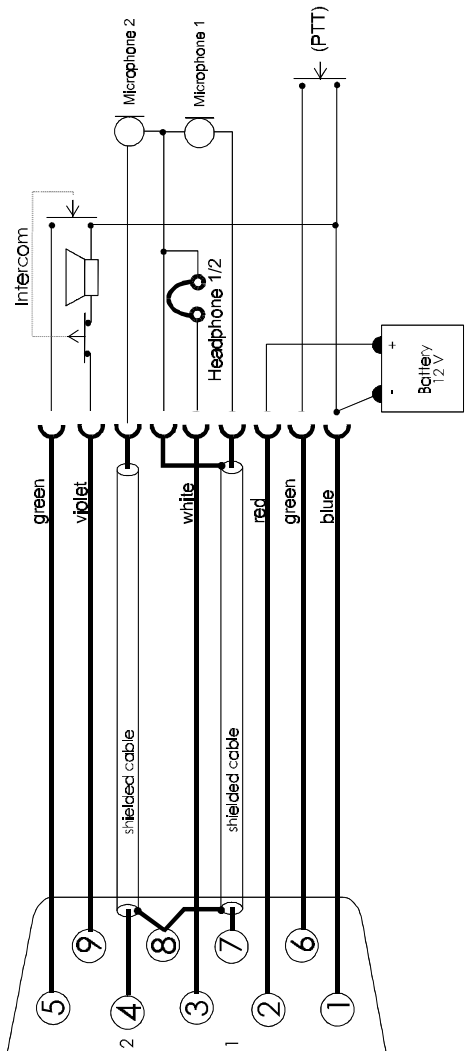
The ATR 57 works with a normal 50Ω-COM-antenna. Polarization must be vertical. A whip antenna (aerial) is not necessary. Using a broad band COM-antenna provides a higher efficiency over the frequency band. One should fix the antenna corresponding to manufacturers advises.
Some important things are listed below:

- Unsymmetrical antennas (e.g. λ/4-Antenna) should be mounted on plane metal surfaces or metal plates of a´t least 50 x 50cm.

- The antenna should have the maximal possible distance to motor, propeller and so on. This avoids getting modulation on your signal.

- Again the COM-antenna should have the maximal possible distance to the NAV-antenna in order to avoid interferences.

3.3 Pin-layout



4 Putting into operation

One will find all elements for operating the radio on the frontplate

4.1 ON-switch

The „ON-OFF“-switch (2) is on the left side in the middle. The radio is active, when the switchposition is „ON“ (upper side).

4.2 Volume regulation

Push one time the Volume/Squelch push-button (1) (located on the upper left side) to get into the volume mode. By turning the tuning knob (4) one can change the volume. The device will leave the volume mode, when there is no change for some seconds. The selected level is active only until the ATR 57 is switched off. To use this level as switch on default, push the store button (6) while the device is in the volume mode. For confirmation the ATR 57 shows „ST“ in its display.

4.3 Squelch level regulation

Push two times the Volume/Squelch push-button (1), to get into the squelch mode, then follow the instructions, listed in chapter 4.2..

4.4 Intercom level regulation

Push three times the Volume/Squelch push-button (1), to get into the intercom mode, then follow the instructions, listed in

4.5 Memory selector

The memory selector (7) is located in the upper middle. It is used for selecting previous stored frequencies or for saving a frequency on one of the 9 possible places. Between place 9 and 1 (the white line on the memory selector shows downward) one will find the operation mode for selecting a frequency and changing it to active.

4.6 Selecting and storing a frequency

Turn the memory selector in the position between memory place 1 (M1) and 9 (M9) (the white line on the memory selector shows downward). In the first line of the display one can read the actual activ frequency, in the second line is displayed the changable frequency.
To change between the MHz- and kHz-range use button (3), this is the down left-handed button. A small arrow (9) will show the actual changed range.
Now you can change the value of the selected range by using the tuning knob (4).
With the down right-handed button (5) this new frequency can be activated. Now it is displayed in the first line, the old active frequency is disactivated and written in the second line.
Turn the memory selector (7) onto the place, you want to have the new frequency saved, press the store button (6), ready.

4.7 Low-battery

If the battery voltage comes below 10,5V a blinking „B“ will be shown in upper let corner of the display. Now a regular

4.8 Losing frequency

If the actual used frequency has an untolerable difference to the displayed frequency a "-" (12) will appear in the upper right corner of the display. In this case the ATR 57 is working not properly and must be returned to the manufactuerer.

Notice:
Sometimes the "-" may be shown, but it disappears when the frequency is changed or the device is switched off and on. This effect is due to strong noise from outside the ATR 57. This is no malfunktion of the ATR 57

5 Transmitting

By using the transmitting key (PTT), the ATR 57 will change to the transmitting mode on the actual frequency shown in the upper line of the display. As long as the transmission takes place a "T" will be shown instead of the decimal point between the MHz- and kHz-value of the actual frequency (upper line), to control the proper function of the device. If the actual used frequency has an untolerable difference to the displayed frequency a "-" (12) will appear in the upper right corner of the display. In this case there will be no transmission.

6 Using intercom

(available in the next version)

The intercom switch must be mounted externally. If it is used, two crew members can talk throughover the ATR 57. This kind of communication takes place only internally, there is no transmission.

A special feature hereby is the so called VOX (**v**oice **o**perated transmission**(x)**). The intercom is opened only if one of the members is speaking. This avoids having all the time surrounding noise on the headphone. The opening level for the VOX is adjusted as described in para 4.4.

Only if the transmission key is pressed, the radio will change to the transmission mode, therefore to use the VOX it is important to have microphones with always opened input, even if the PTT is not pressed.

One must use microphones with comparable output levels. The use of very different microphones can lead to the fact, that the member with the lower output level can not open the VOX. The best solution are microphones with an integrated amplifier, they are adjustable.

7 Technical reference

Frequency range:	118,000 .... 136,975 MHz
Quantity of channels:	760
Channel spacing:	25 kHz
Modulation:	AM, 70% modulation
Operation modus:	alternate talking on one frequency
HF-output power:	> 1 Watt
NF-output power:	ca. 1 Watt
Voltage:	10,5 up to 16V
current carrying:	recieving ca. 100mA, transmitting ca. 1A
Microphone level:	15 up to 500mV für 70% modulation
Dimensions:	57 x 57 x 160 mm
Weight:	500 g
Concession:	Reg TP 321 ZV 034