



144MHZ DIRECTION FINDING RECEIVER

COMPACT 145/145E

instruction manual

FOREWORD

The COMPACT 145 direction finding receiver is a modern sports equipment satisfying even most demanding requirements of top sportsmen. Its ergonomical solution results from the following features: low weight and small size, all receiver controllable by single hand even in full run, shock-resistant, waterproof house. The symmetrical super-gain antenna especially optimized for direction finding gives sharp direction pattern and high receiver sensitivity. The COMPACT 145E version contains the direction patten expander, which more sharpens bearing taking and rejects unwanted sidelobes.

The COMPACT 145 receiver is used by many top competitors and their outstanding results prove the quality of the receiver.

FEATURES:

- ***Ergonomical solution – single hand operation***
- ***High sensitivity***
- ***Optimized antenna reaches the front-to-rear ratio 40 dB***
- ***Sharp main antenna lobe gives precise bearings***
- ***Sensitivity control range 120 dB***
- ***shock-resistant, waterproof house***
- ***Low weight (450g) and small size***

IMPORTANT!

READ ALL INSTRUCTIONS carefully and completely before using the receiver.

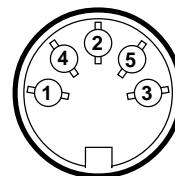
SAVE THIS INSTRUCTION MANUAL for future reference. This manual contains important operating instructions for the **COMPACT 145/145E**.

PRECAUTIONS

- ! NEVER** apply AC or any voltage higher that 16V DC to the receiver. This could cause a fire or ruin the receiver.
- ! NEVER** use other charger than the one supplied by the manufacturer. This can ruin the accumulator or even the whole receiver.
- AVOID** using or placing the receiver in areas with temperatures below -20°C or above +60°C.
Use only accessories supplied by the manufacturer.

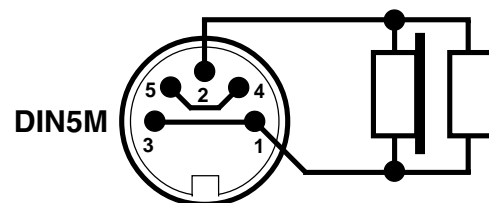
5 TECHNICAL INFORMATION

Receiver connector pin-out:



- | | |
|-----|--------------------------|
| 1,3 | headphones output |
| 2 | common ground |
| 4 | accumulator (+ pole) |
| 5 | receiver supply (+ pole) |

Headphones connector pin-out:



- | | |
|-----|------------|
| 1,3 | headphones |
| 2 | headphones |
| 4-5 | connected |

6 WARRANTY, SERVICE

Should this equipment malfunction under normal use, it will be repaired without charge for a period of one year from the date of purchase.

The customer shall not have any claim under this warranty for repair or adjustment expenses if the trouble is caused by improper, rough or careless treatment or mechanical damage, by a fire or other natural calamity or by improper repair or adjustment made by anyone other than manufacturer.

The warranty does not cover the accumulators.

After the first year of use manufacturer offers the free of charge adjustment and check of the equipment.

Any other information, service or modifications are provided by the manufacturer:

Jiří Mareček, OK2BWN, Obřanská 593, CZ-664 01 Bílovice nad Svitavou
phone/fax +420 545227041, e-mail: marecek@sky.cz

3 SPECIFICATIONS

Receiver system:	single conversion superheterodyne
Antenna:	optimized symmetrical HB9CV
Main lobe width :	20° / -3 dB
Front to rear ratio:	> 40 dB
Mode:	A2A
Frequency coverage:	144 ... 146 MHz
Sensitivity (S/N 10 dB):	-120 dBm
IF bandwidth:	100 kHz
Sensitivity control range :	> 120 dB
Headphones impedance:	> 4 ohms
Supply:	NiMH accumulator 7,2 V / 320 mAh
Consumption (typ.):	22 mA
Operation period :	min. 15 hours
Compass bearing influence:	max. ± 2°
Covering:	IP53
Dimensions:	1040 (W) x 50(H) x 290 (L) mm (including antenna)
Weight:	450 g (including antenna and accumulator)
Operating temperature range:	-10 ... + 60°C
Storage temperature range:	-20 ... + 60°C

4 OPTIONS

- Automatic charger N28, N80
- Accumulator tester T810
- Headphones SL27, SL28
- Spare antenna elements set

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UNPACKING

Accessories included with the COMPACT 145/145E:

- set of antenna elements
- this manual

1 OPERATION

■ Unpacking

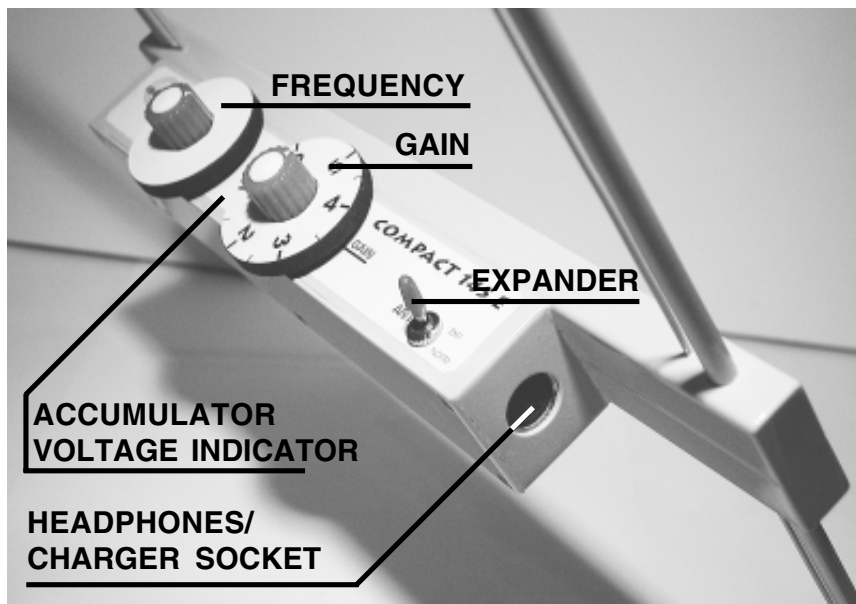
After unpacking, check carefully the receiver and all accessories included. In the case of any damage do not use the receiver and contact immediately the manufacturer.

■ Before operation

Check the accumulator voltage (by means of T810 tester). If necessary, charge the accumulator.

Mount the antenna elements to the antenna body - long elements to the rear side (close to the headphones connector), short elements to the front side.

ATTENTION! Elements exchange will cause wrong direction finding!



■ Turning ON

Receiver is turned ON by connecting headphones.

■ GAIN setting

From the beginning, set the full gain (position 5). After the signal is tuned, adjust the gain so that the signal in headphones is clearly audible but not stunning.

NOTE. : With some experience, you will be able to estimate the transmitter distance from the GAIN button position. For example, with GAIN in position 1, the distance to the transmitter would be some 200 m.

■ FREQUENCY setting

The receiver is tuned by means of the FREQ button. Set to the strongest signal.

■ Direction finding

Hold the receiver in one hand (see photo on the cover page), always in horizontal position. By turning the receiver or the whole body, try to find the strongest signal. Now the lengthwise axis of the receiver aims to the transmitter.

The 144 MHz band belongs to the VHF band, where the wave propagation depends strongly on the terrain. Endeavour taking bearings as high as possible, on the top of the hill, on the ridge etc.

■ Antenna pattern expander (COMPACT145E only)

This function makes the direction pattern very sharp and narrow. For the proper function, the exact gain setting is necessary.

Use this function in the areas, where signal maximum is flat and blurred (due to the local field interferences) or when you need very exact direction.

The expander is controlled by the **ANT** switch on the front panel. In the EXP position the expander is in use, in the NORM position, normal antenna pattern is selected.

■ Accumulator status indicator

The red indicator shows the accumulator voltage: when the voltage decreases, the flashing slows down. If the accumulator is nearly completely exhausted, the indicator goes off. Recharge immediately the accumulator in this case.

2 MAINTENANCE

■ Charging

The receiver can be used until the accumulator indicator flashes. The charging period of the built-in accumulator is 15 hours (using N28 charger). Usually it is not necessary to recharge the receiver after every training. Full discharge does not damage the accumulator, but deep discharge (below the 5V) or frequent overcharging shorten the lifetime of the accumulator.

■ Cleaning:

Keep the receiver dry and clean. If the receiver becomes wet, dry it by the clean cloth and let it dry in a room temperature. **Never** use strong heaters!

If the receiver becomes dusty or dirty, clean it with a brush or a dry, soft cloth.

Avoid the use of strong chemical solvents such as benzine or alcohol to clean the receiver.

The receiver needs no maintenance above the mentioned procedures.