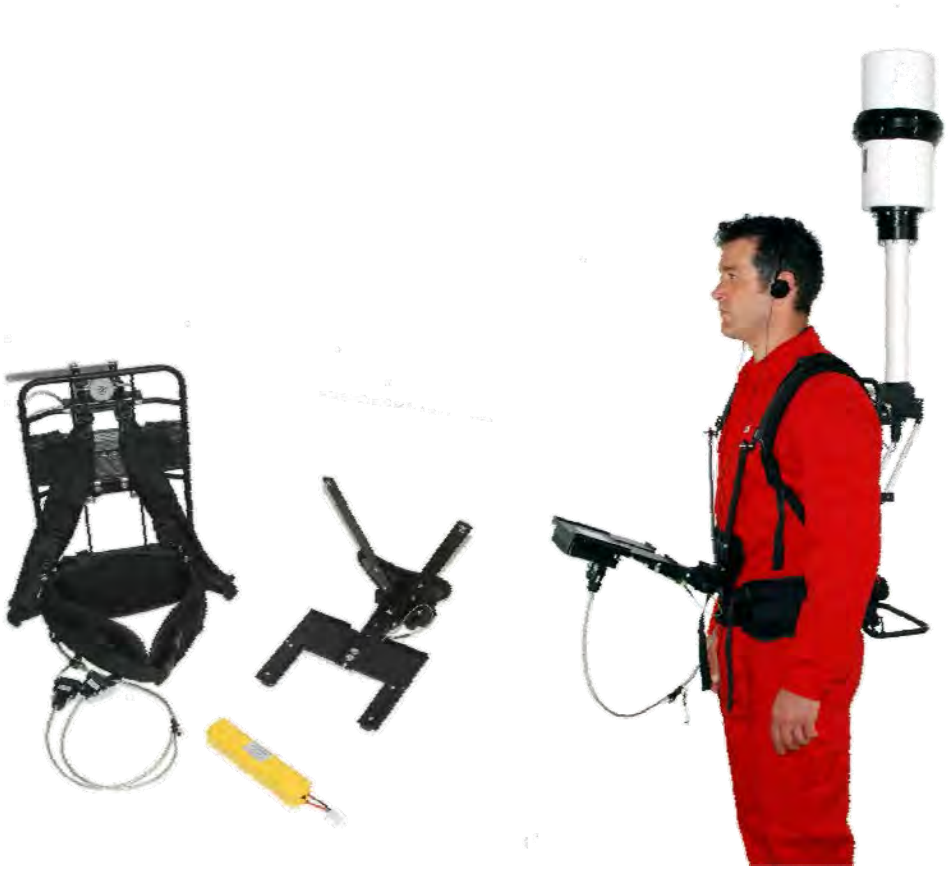
User Manual
Installation and Operating

Manpack

For RHOTHETA RT-500-M
Wideband Precision Direction Finder
RHOTHETA Elektronik GmbH



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Note

The manufacturer reserves the right to make modifications at any time and without previous information of the here described product.

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1 Designated Use, Warnings and Precautions

1.1 Designated Use

The Manpack is an accessory for the RHOTHETA RT-500-M Wideband Precision Direction Finder System. The Manpack is designed for mounting the RHOTHETA RT-500-M Wideband Precision Direction Finder System on a portable carrying frame, allowing to use the system on Search and Rescue Operations which are conducted by foot.

1.2 Warnings and Precautions

	The product contains a rechargeable battery. The battery is recyclable. At the end of its life, under various state and local laws, it may be illegal to dispose of this battery into the municipal waste stream. Dispose of the battery pack only at approved disposal sites.
	Do not dispose of batteries in a fire. They may explode.
	Danger of explosion or fire if the battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer to avoid the risk of fire or explosion resulting in personal injury.
	Do not use the battery pack in combination with other types of battery packs or battery packs with different capacities or brands.
	Do not use or leave the battery pack near a heat source. Heat can melt the insulation and damage other components of the battery pack, possibly leading it to leak, overheat, emit smoke, burst and/or ignite.
	Do not immerse the battery pack in water or other liquids. It can be damaged, short-circuited, possibly leading it to leak, overheat, emit smoke, burst and/or ignite.
	Do not disassemble or modify the battery pack. If disassembled or modified, the battery pack could leak, overheat, emit smoke, burst and/or ignite.
	Do not connect the positive (+) and negative (-) terminals with a metal object such as wire. Short-circuiting may occur leading the battery pack to leak, overheat, emit smoke, burst and/or ignite.

	Do not pierce the battery pack with a sharp object, mechanically deform it, step on it, or throw it. These actions could damage or deform it, internal short-circuiting can occur, possibly leading it to leak, overheat, emit smoke, burst and/or ignite.
	Do not use a deformed or damaged battery pack. It may leak, overheat, emit smoke, burst and/or ignite.
	If the battery pack leaks, gives off a bad odor, generates heat, becomes discolored or deformed, or in any way appears abnormal during use, recharging or storage, immediately remove it from the Manpack or charger and stop using it.
 **DANGER**	Battery electrolytes are corrosive, CAN CAUSE DAMAGE TO THE EYES AND SKIN, AND MAY BE TOXIC IF SWALLOWED.

2 Overview

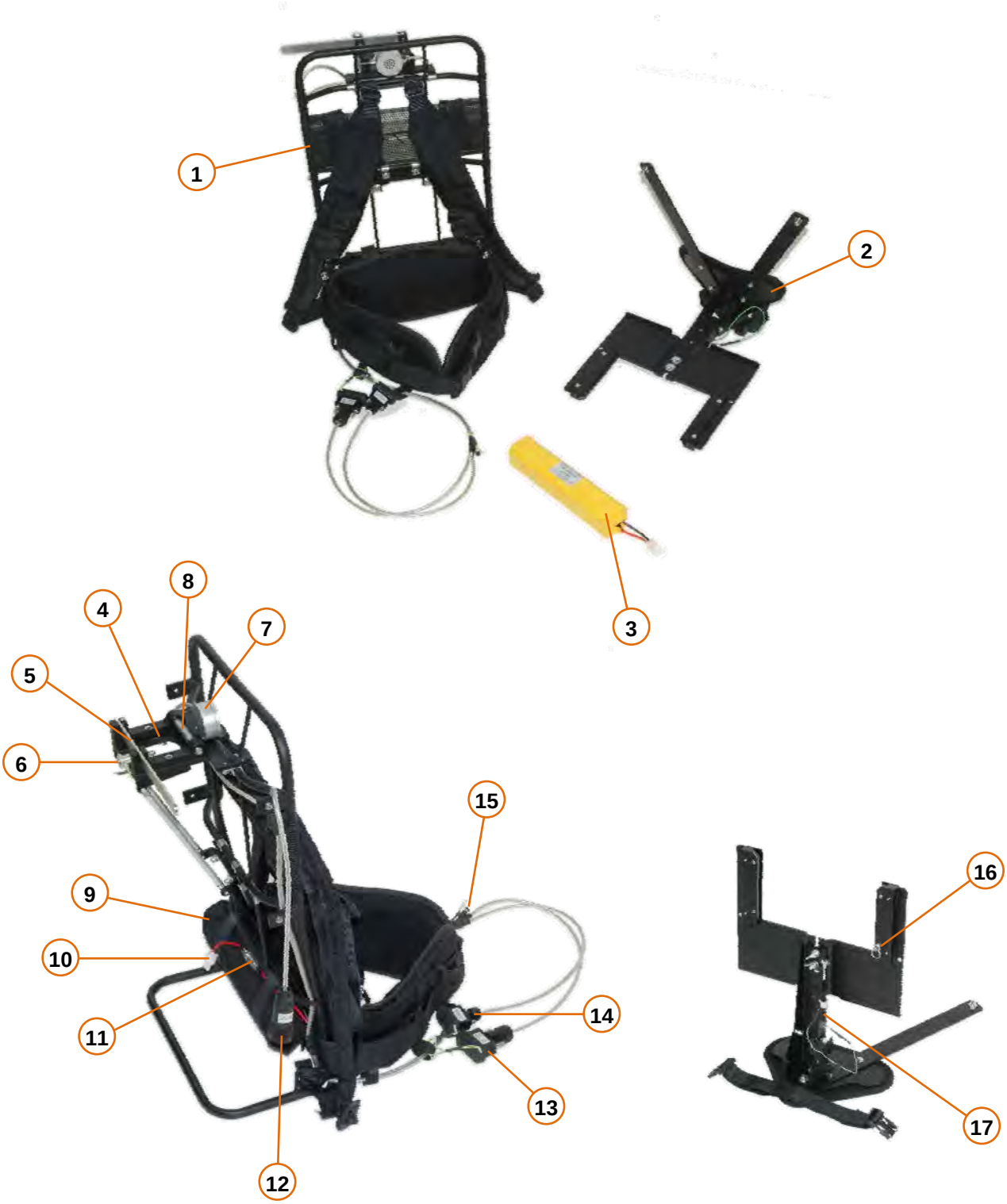


Fig. 1 Overview of components

Description of Components

Position	*Description*
1	*Carrying frame*
2	*DCU holder*
3	*Battery pack*
4	*AU holder*
5	*Locking lever*
6	*Quickpin for locking lever*
7	*Speaker*
8	*Tilting axis*
9	*Bag for battery pack*
10	*Connector for battery pack*
11	*Fuse holder*
12	*AU connector*
13	*DCU connector for Power Supply and Audio*
14	*DCU connector for AU*
15	*Jack socket for headphones*
16	*Lock pin for DCU*
17	*Screw driver for fastening the DCU connectors*

3 Set-up and operation of the Manpack

1.

Slide the battery pack into the bag for the battery pack.

The connector of the battery pack should be located at the side with the opening of the bag.

Pull the strap to close the bag.

2.

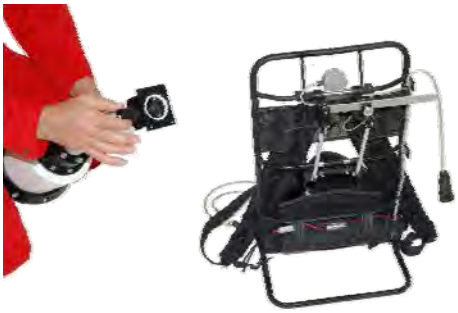
Connect the battery pack with the connector for the battery pack.

Note:
When the Manpack is not in use the battery pack should be disconnected to avoid discharge.

3.

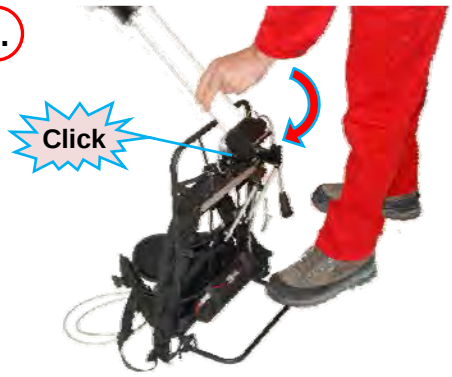
Remove the dust cap from the AU connector.

4.



Fix the dust cap at the side of the AU foot.

5.



Slide the AU into the AU holder under the tilting axis.

A Click is heard when the AU foot is fully engaged under the tilting axis.

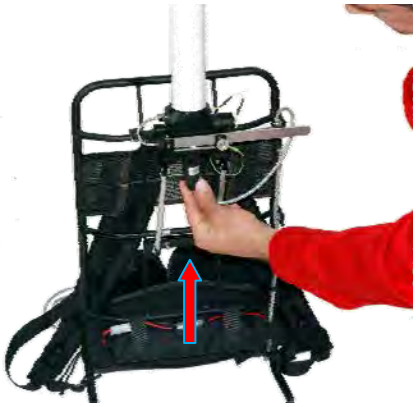
6.

Rotate the AU vertical.

7.

Close the locking lever and secure the locking lever with the quickpin.

8.



Connect the AU connector with the AU.

Fasten the locking screw of the connector to prevent loosening and to secure water tightness.

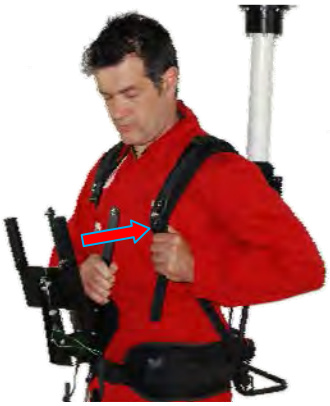
9.

Put on the carrying frame together with the mounted AU.

Adjust the shoulder straps and the waist belt so that the weight of the carrying frame and the AU is uniformly distributed.

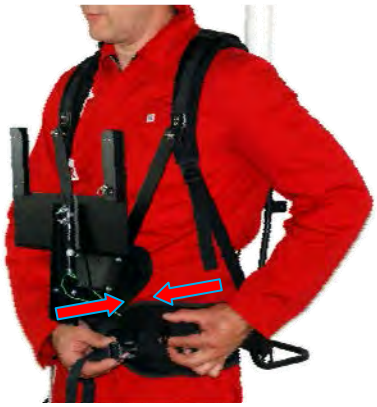
When set-up properly, the AU should stand upright and there should not be a lot of movement of the AU when walking or hiking.

10.



Hook up the DCU holder on the hooks located on the shoulder straps.

11.

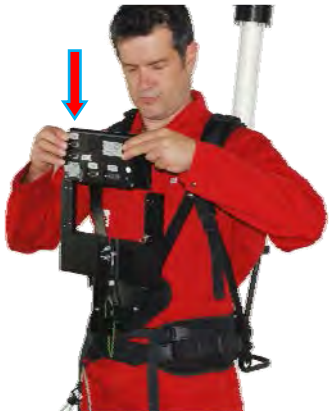


Connect the buckles of the DCU holder and the waist belt.

12.

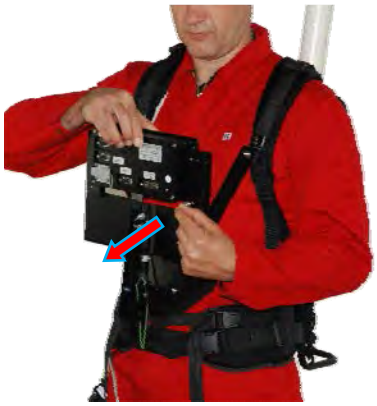
Adjust the straps of the DCU holder.

13.



Slide the DCU into the DCU holder directed with the display to the chest.

14.

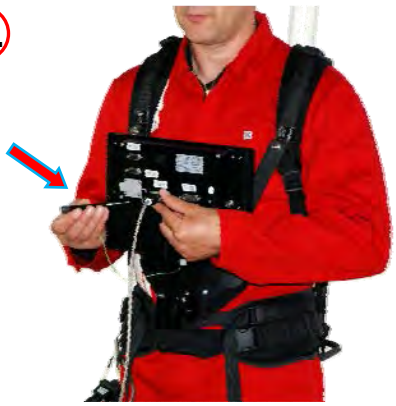


Pull the Lock pin to arrest the DCU.

15.

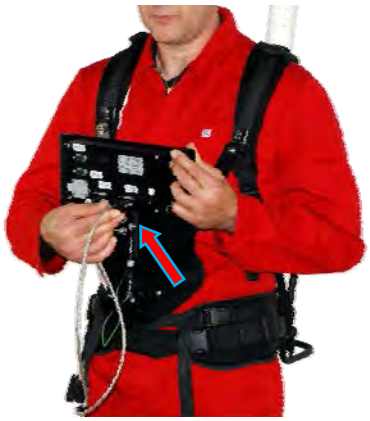
Connect the D-SUB - DCU connector for AU with the DCU.

16.



Fasten the locking screws of the D-SUB connector with the enclosed screw driver to prevent loosening and to secure watertightness of the connector.

17.



Connect the D-SUB – DCU connector for Power Supply and Audio with the DCU.

18.

Fasten the locking screws of the D-SUB connector to prevent loosening and to secure watertightness of the connector.

19.

Optional:

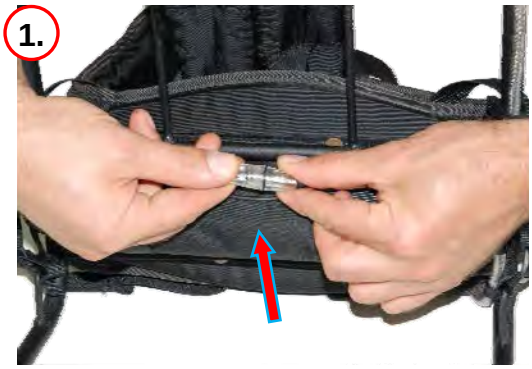
Connect headphones with the jack socket located at the 3-Way Outlet Shape of the connecting cable.

20.

The Manpack ready to use.

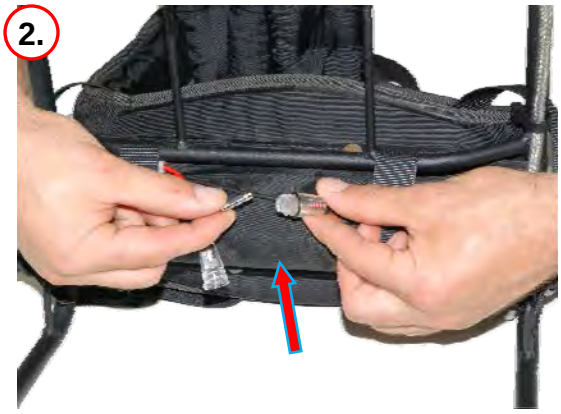
4 Changing the fuse

1.



Open (screw on) the fuse holder in the DCU power cable.

2.



Replace the 1.6 A slow micro-fuse and close the fuse holder.

Take care of the O-Ring.

5 Charging the Battery pack

	Read the documentation supplied with the battery charger. This document provides information about charging and precautions for use.
	Use only the charger that came with your Manpack to recharge the batteries. Charging with a different battery charger could result in extremely high current and voltage, abnormal chemical reactions may occur, possibly leading the battery pack to leak, overheat, emit smoke, burst and/or ignite.
	Do not recharge the battery pack near a heat source or in extremely hot weather. Hot temperatures can inhibit recharging or can damage the battery pack. Heat can possibly lead to leakage, overheating, smoking, bursting and/or igniting.

6 Technical Data

Battery pack

Battery type:	NiMH Sub-C Akku – Powerpack 24V / 4200mAh
Battery life:	> 4 hours (typical)
Operating temperature	-20°C to +40°C
Charging temperature	+10°C to +30°C (ambient temperature)
Dimensions (w,d,h):	250 x 50 x 50 mm
Weight:	1.360 g

DCU holder

Dimensions (w,d,h):	330 x 370 x 340 mm (without DCU)
Weight:	1.260 g (without DCU)

Carrying frame

Dimensions (w,d,h):	335 x 210 x 550 mm (without AU)
Weight:	2.760 g (without AU and battery pack)

DCU and AU

Reference:	For technical data of the DCU and the AU please refer to the RHOTHETA User Manual, Installation and Operating RT-500-M.

7 Appendix

7.1 List of abbreviation

Abbreviation	Meaning	Remarks
AU	Antenna Unit	
CP/SS	Cospas-Sarsat	
DCU	Display & Control Unit	
DF	Direction finder	
Deg	Degree (° = 60')	
ELT	Emergency Locator Transmitter	
GND	Ground	
GPS	Global Positoning System	
ID	Identification	
IP	Ingress Protection rating	IP67
LAN	Local Area Network	
LCD	Liquid Crystal Display	
LED	Light-Emitting Diode	
MOB	Man-Over-Board	
MSSI	Maritime Mobile Service Identity	Ship's Ident. No.
NF	Audio Frequency	
NMEA (0183)	National Marine Electronics Association	Interface- and data telegram standard
PLB	Personal Locator Beacon	
PS RAM	Averaging Random Access Memory	
PTT/SBS	Push-To-Talk/ Self Bearing Suppression	
RAM	Random Access Memory	
Rx	Receiver	
S/N	Signal to Noise	
SAR	Search And Rescue	
SNR	Signal to Noise-Ratio	
SQL	Squelch	
TFT	Thin Film Transistor (see also LCD)	
Tx	Transmitter	
VDC	Volts of Direct Current	
VTS	Vessel Traffic Service	