

Instructions for setting up the seismic vibrator source type Elvis VII



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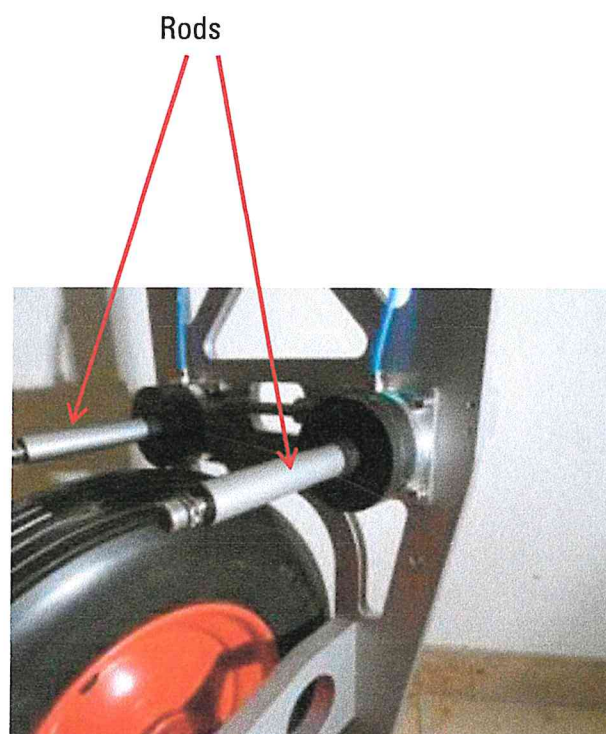
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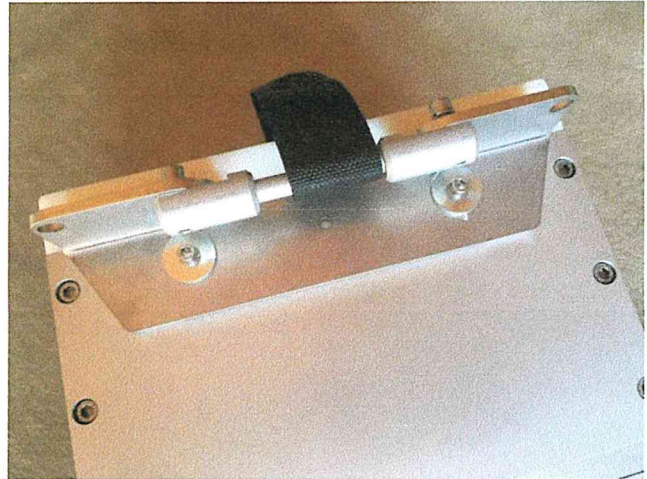
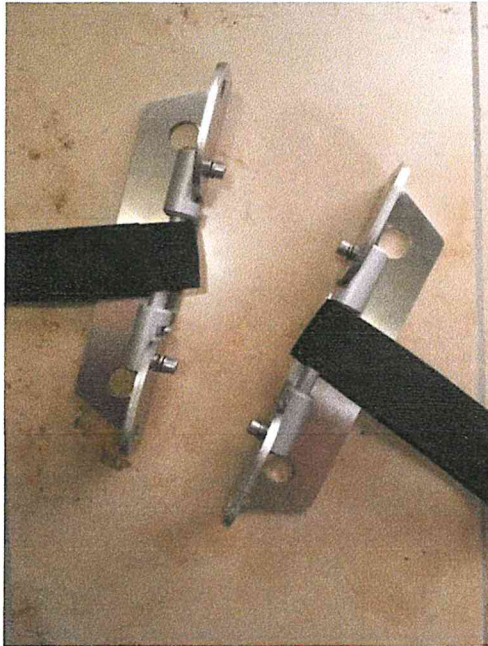
1. Fix the wheel with 6 screws M 6 x 20 mm.



2. Fix the four distance rods onto the frame at the black absorption packers. Screw tightly.

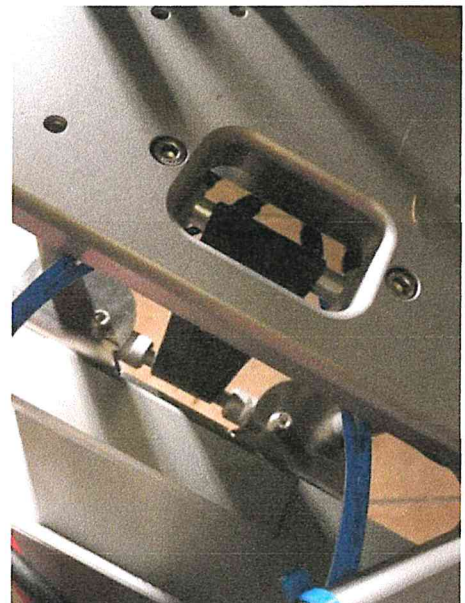
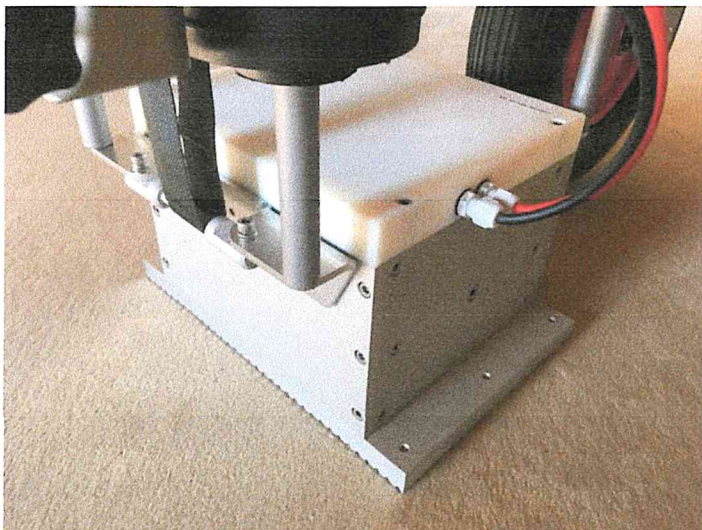


3. Fix brackets with belts onto the source part.

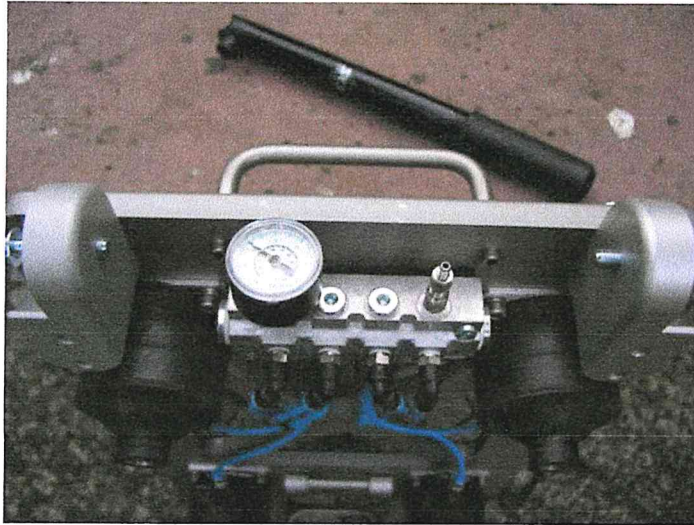


4. Put over frame on top of the source. Make sure that all electrical connections are at right hand side (facing right of direction of motion). Screw one by one to allow a proper mounting.

Fix the belt onto the Frame



5. Apply pressure to absorption packers to 2 bar (red marking is indicating 2 bar on manometer)



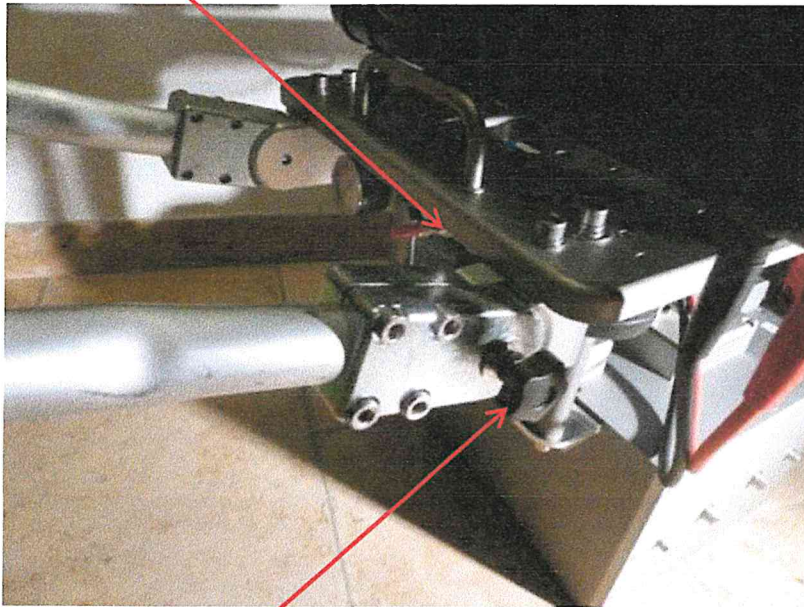
6. Put the heavy battery box on top of the frame. Make sure it correctly fits.

Note: Battery connections should face to hand grips.



7. Fix the hand grips with screws for easy transportation of the source.

Marking is "R" for right and "L" for left hand side.



Adjust grip angle for easy handling & lifting.

8. Connect source to battery box (+ red & - black)

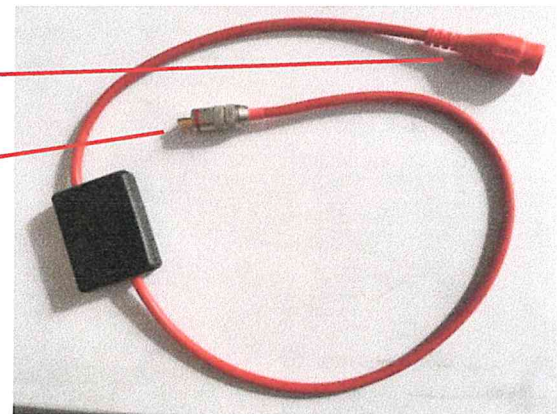
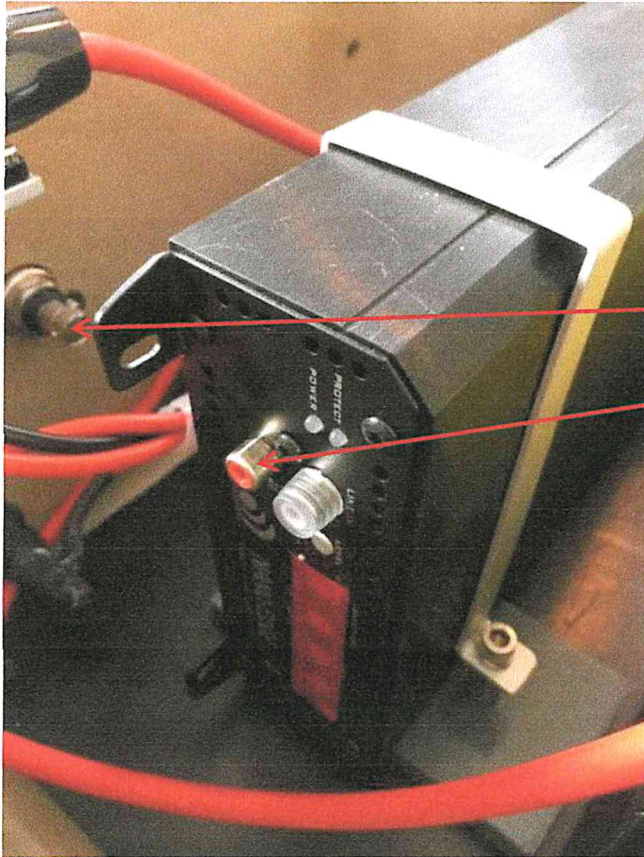


Attention !

Red connector is push/pull connector. To disassemble the connector push in a little bit and then pull out.

9. This picture shows the amplifier module located inside battery box.

It is recommended to disconnect the signal cable after surveying. There might be bad signal transmission due to corrosion of contacts. Switch OFF fuse first!



Blue LED should light at amplifier in case the system is ON.

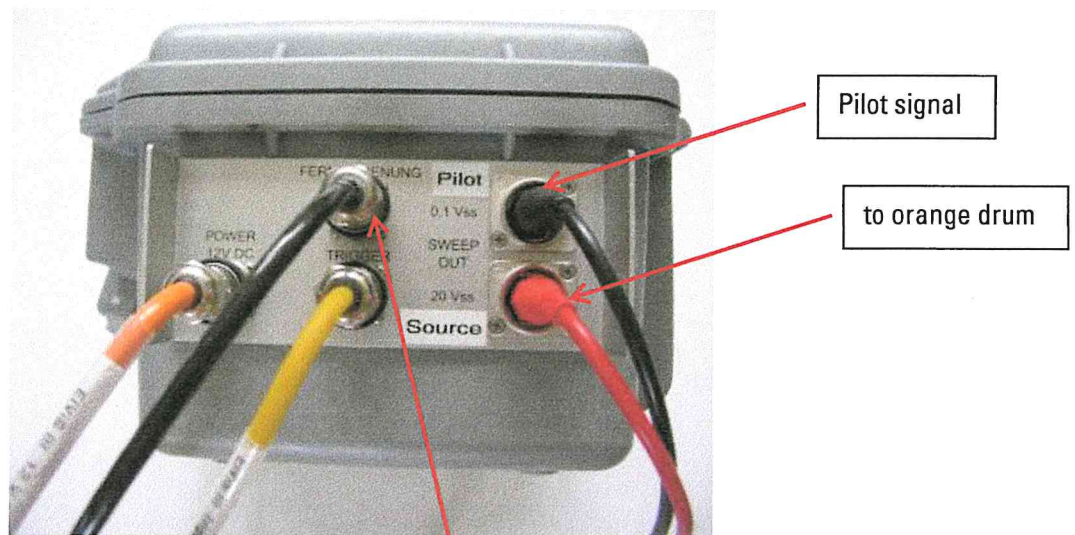
10. Establish all other connections

Connect source and sweep generator (grey box) via orange signal cable on drum.



Usually, Sweep Generator is placed close to seismograph operator. It is recommended to unspool the orange cable along the profile. The cable is used to transmit the sweep signal to source via the 20Vss (Source) output at sweep generator.

Connect drum and sweep generator using the short red cable.



Orange cable is for battery connection (use orange battery Peli-case box)

Yellow cable is trigger link to seismograph.

Black cable (on top of yellow cable) is for small remote control.



Black cable (right above the "Source") is to send the pilot sweep for correlation to one of the seismic channel (directly on the seismic cable). We recommend to use either the first or last channel of your seismic line to input the pilot sweep (disconnect geophone and connect pilot cable connector).

The idea is that during data recording also the pilot sweep needs to be recorded. During data processing cross-correlation has to be made. The pilot sweep channel must be specified in your data acquisition software (usually named auxiliary channel).

11. Setting controls at Sweep Generator

Different sweep can be utilized depending on desired frequency range. We recommend to do a trial before the real survey is being made to find out the optimal sweep. To do so, one has to exchange E-Proms each by each and do a seismic recording. Finally, user may decide on visual inspection which sweep gives best signal.



Switch **ON/OFF** to allow operation or end general operation.

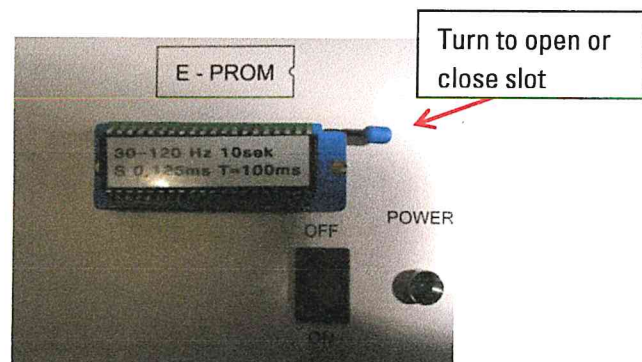
Set **Signal (+/-)** switch to allow different signal directions. Always put back to middle position if you do not operate the unit for longer times.

Insert the E-Prom's correctly (facing towards operator to read what is written on the E-Prom & marking to the right side).

Signal (+/-) switch allows to change polarity of the source movement. Once this is selected you may press Start to run vibrator.



Empty E - Prom slot.

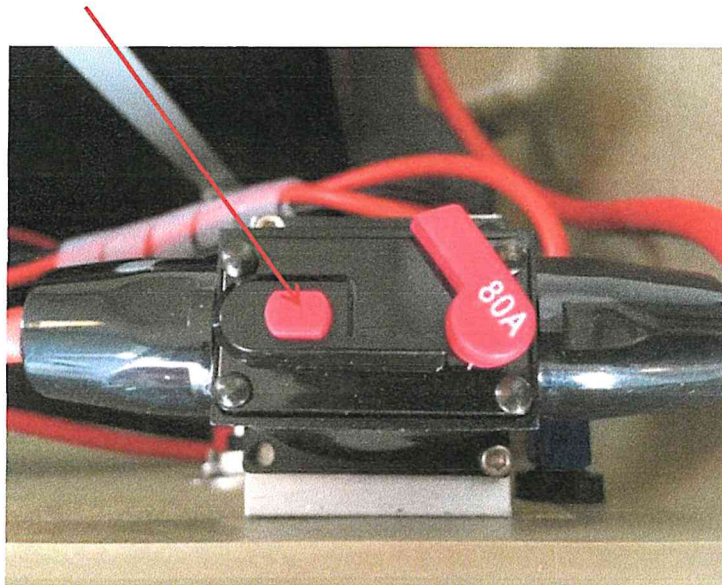


E-Prom slow with E - Prom

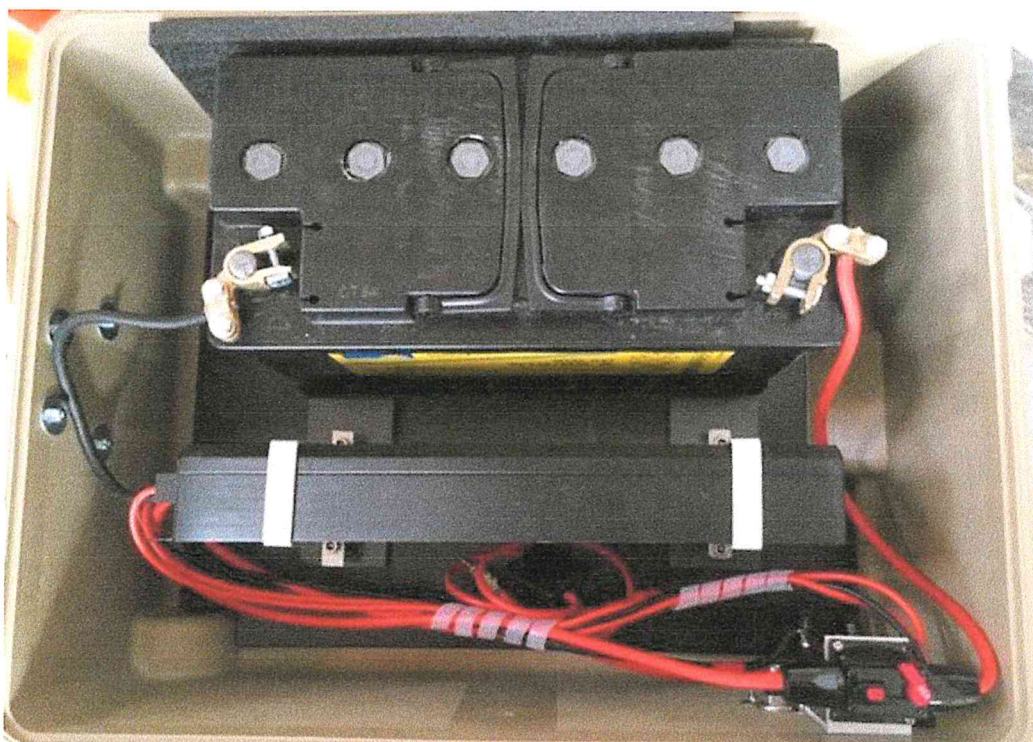
Press **Start** to operate.

12. Fuse element 80 A has to be closed for operation. Just turn to close.

Press red button to open connection.



12 V battery is suitable for a day production of 500 Sweeps.



MANUAL

EIViS VII

Elektrodynamik Vibrator System



- 1 SH - or P wave sources EIViS VII
- 2 Transportation equipment Wheelbarrow
- 3 Assembly schedule
- 4 Sweep generator
- 5 Sweep generator cable connecting
- 6 Connectors for Sweep Generator
- 7 Sweep Input Source
- 8 Power box for sources
- 9 Charging
- 10 Ventilation
- 11 Transportation

EIViS VII Elektrodynamik Vibrator System

Patent 195 09 122.1

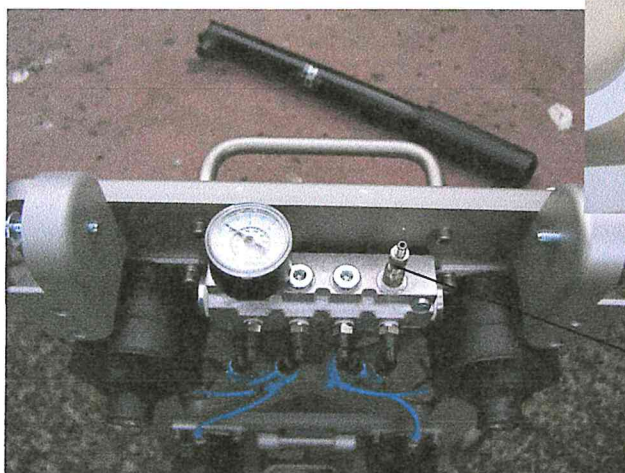
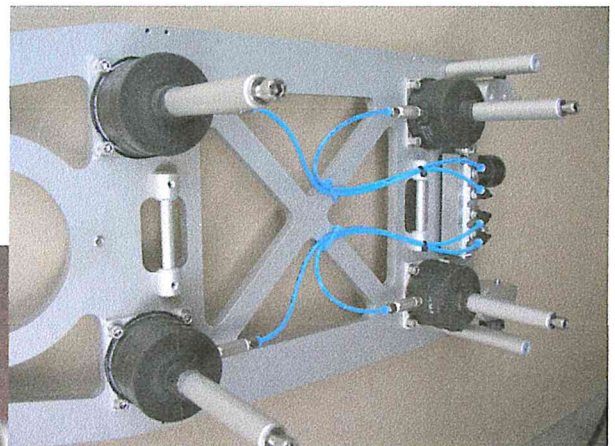
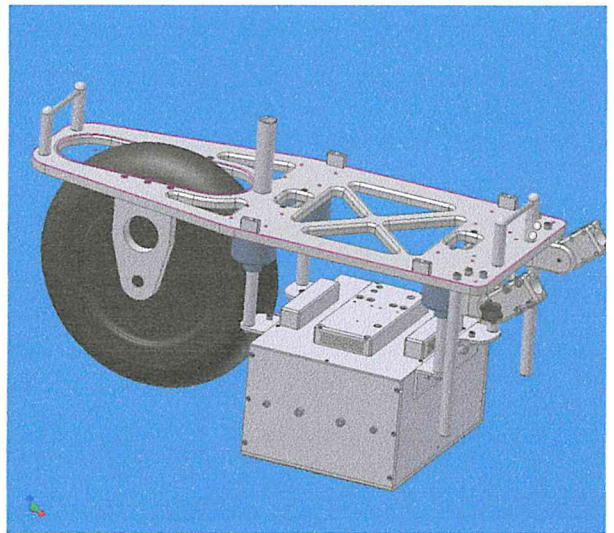
LIAG – Leibniz Institute for Applied Geophysics Hannover / Germany



Drive system:	cascaded linearmotor
Power supply:	12 V
Peak force:	about 1100 N
frequency range:	20 - 240 Hz
Source Weight:	about 34 kg
Total Weight:	about 125 kg
Signal penetration depth:	about 250 m zero – offset VSP : about 400 m or more

Transportation wheelbarrow

- 1 Frameworks
- 2 Wheel-suspension
- 3 Wheel
- 4 Airpresser
- 5 Airpresser-connections
- 6 Hoses for central Air
- 7 Grip-joints
- 8 Grips
- 9 Supports
- 10 Bend sources
- 11 for fortification
- Waistbands
- 12 supporting pol for sources
- 13 Umbrella mounting

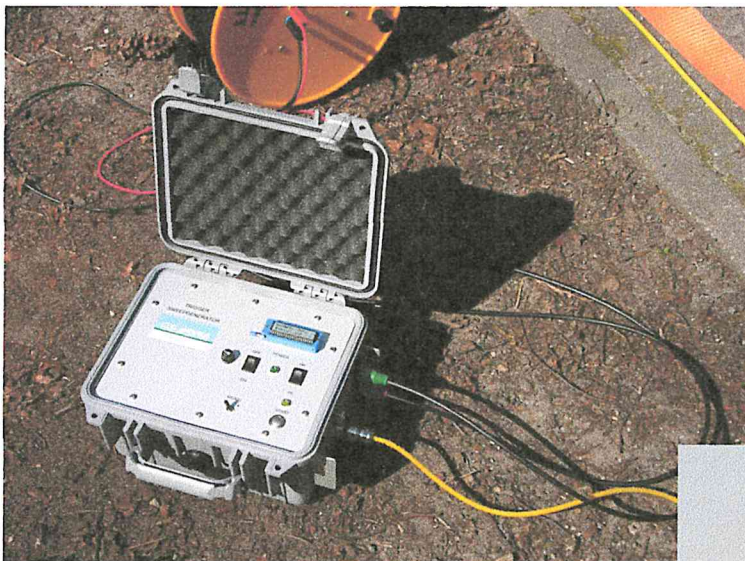


2 bar / red line

Sweep Generator

Programmable signal generator with High - quality 16 Bit AD converter in order to generate the analog sweep signal as well as the trigger signal for the recording unit.

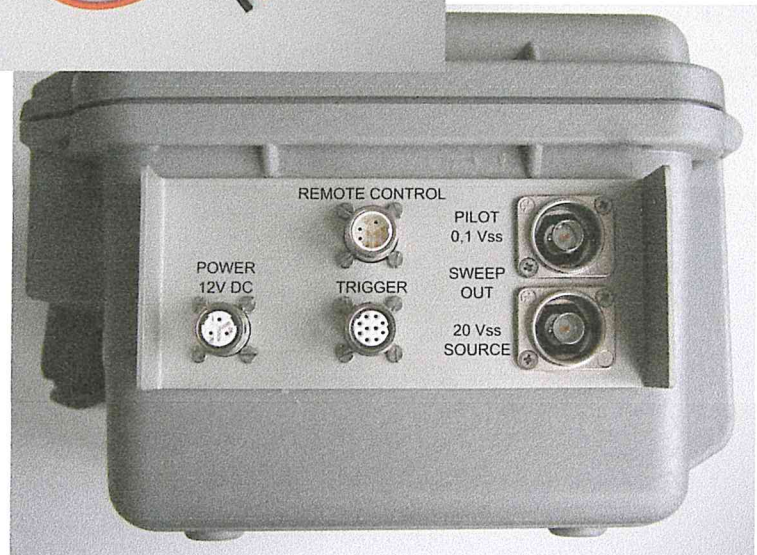
A +/- switch allows to invert the sweep direction with respect to wave-field separation. Sweep duration and frequency range are variable and can be individually set by means of an E-prom.



E - Prom Type : IC M27C4002-10F1

20 – 80 Hz 10 sec Sample 0,125 ms T = 100ms
 20 – 100 Hz 10 sec Sample 0,125 ms T = 100ms
 20 – 120 Hz 10 sec Sample 0,125 ms T = 100ms
 20 – 160 Hz 10 sec Sample 0,125 ms T = 100ms
 30 – 120 Hz 10 sec Sample 0,125 ms T = 100ms
 30 – 160 Hz 10 sec Sample 0,125 ms T = 100ms
 30 – 240 Hz 10 sec Sample 0,125 ms T = 100ms

Sweep Generator – Cable Connecting



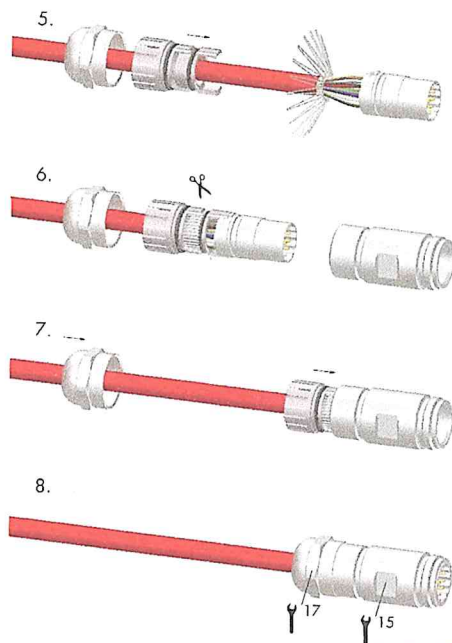
- Pilot - BNC cable black for Pilot / Channel 1 or 48 or other Channel
- Signal - **BNC cable red** for Source 20 V ss – **Attention !!**
- Trigger - cable yellow red /black (Polarität on the Geode) !!
- Power - cable orange
- Remote Control cable black

Connectors for Sweep Generator

Company HUMMEL www.Hummel.com

for Connecting

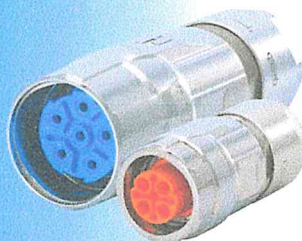
1. Power 12 V DC
2. Trigger
3. Remote control



M 16 Twilock technology

TWILOCK

- + Quick Connect with patented Polygon Lock
- + Easy handling
- + Exceptional functionality
- + Multi functional: Ideal with Twilock and screw connection



Clearly defined Positioning



Can be locked with a slight rotation from OPEN to CLOSE



Multi functional: Special thread allows use of Twilock and screw connection

POWERBOX

- 1 Peli casings 1560 NF
- 2 Protection element 80 A
- 3 Production for transportation – foam
- 4 Batteries 12 V - 85 Ah
- 5 Main leads

Connection - scheme Sources ELViS VII S or P



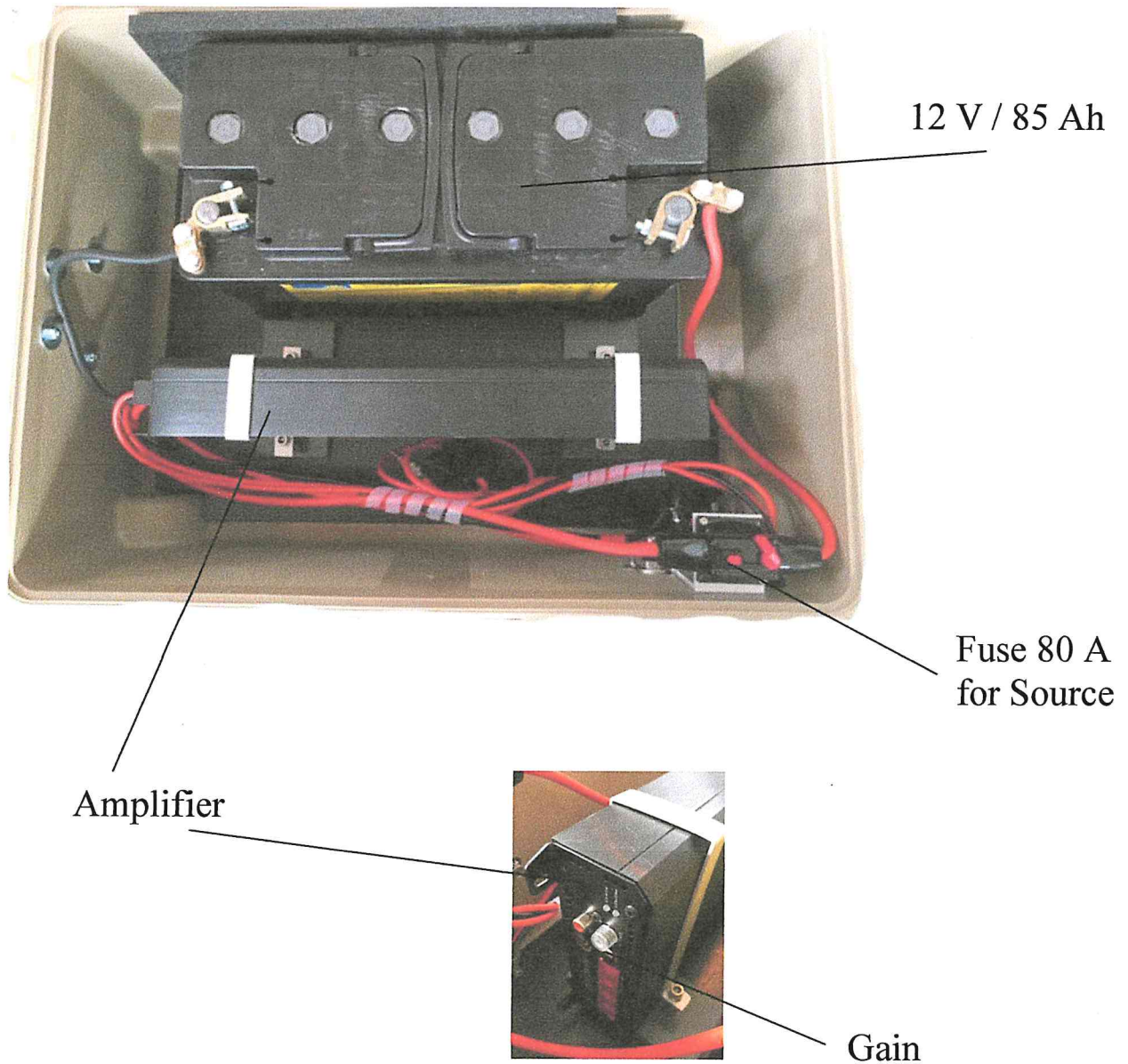
Signal - Sweep - Input

connected with the Source



switch amplifier

POWERBOX on the Weelbarow



Powerbox

At the charging
the cover must open the box

Attention !!! gas - development

Charging

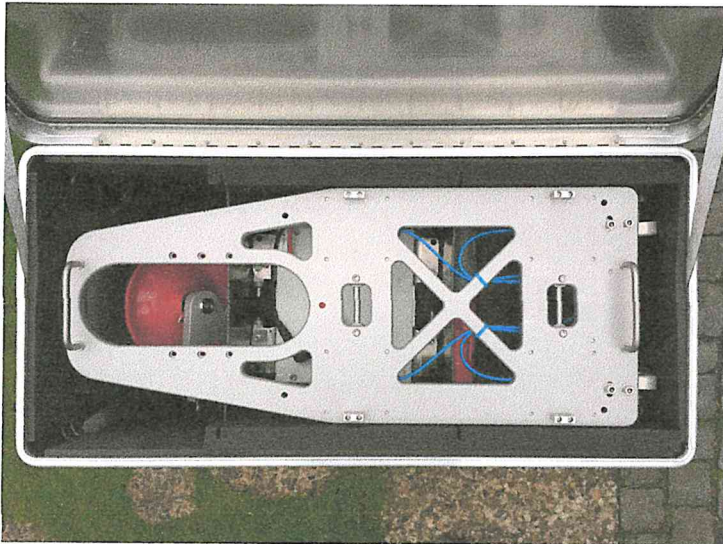
- **CTEK MXS 5000 12 V**
- for Powerbox 12 V / 27 Ah



- **CTEK MXS 10000 12 V**
Batterie 12 V / 85 Ah



Transportation



SH Source and tools with
Wheel barrow at Zargesbox K470

Powerbox in difficult terrain for the transportation

