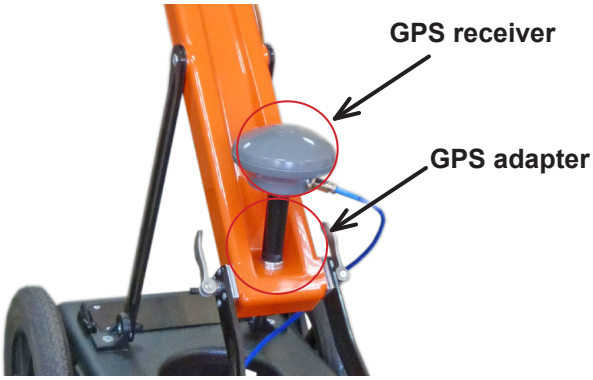
Mounting GPS receiver on Cart-46

GPS receiver can be used optionally and should be mounted on Cart-46 via GPS adapter.



Connect GPS cable to GPS receiver and to GPS socket on antenna.
More detailed description of antenna's sockets you can find in "Manual version" on page 10.

Mounting the laptop shelf on the operator's backpack

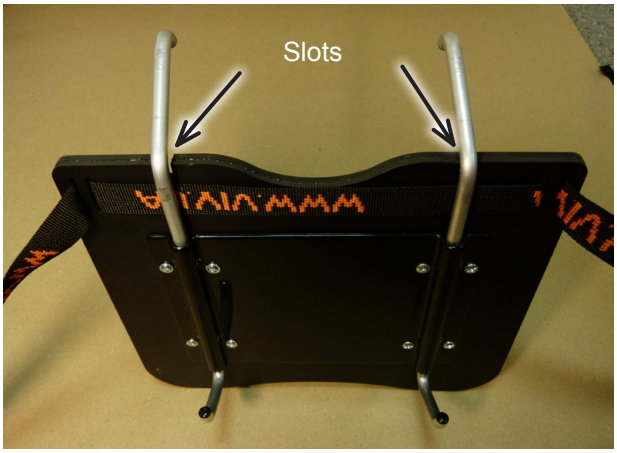
If GPR is used together with VO-22 odometer, the laptop should be mounted on the special portable shelf that should be fastened to the operator's backpack.

To mount the laptop shelf follow the next steps:

- Take the laptop folder out of the backpack.
- Stick the Velcro tape on the top of Handcart shelf and on the laptop bottom in some places (the Velcro tape is included in GPR set).

- Turn the shelf over and pull out the metallic holders (in direction shown by an arrow below).

- Turn the metallic holders 90 degree aside and put them into slots as shown on the picture below.



- Put the backpack on, adjust the backpack side stripes and fasten the backpack belt.
- Fasten operator's shelf locks to the corresponding locks on the backpack stripes

- Tuck he lower holders of the shelf behind the operator's backpack belt.

- Mount the laptop on the shelf, fastening it on the shelf with Velcro tape.

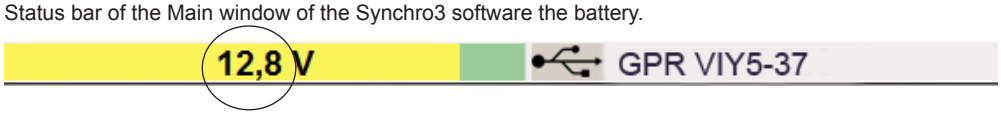
When the work is finished, fold the shelf in the back order and pack it to the backpack.

GPR parameters setting and GPR calibration

Please read ***User Manual part 2. Software*** to find instructions about setting up all the main GPR parameters, its calibration and directions of using Synchro and Planner software.

GPR battery

Each antenna unit is equipped with the sealed lead acid rechargeable battery (12 V, 7 Ah). The power supply of the antenna unit prevents the deep discharge of the battery. The battery charge level is indicated in the Status bar of the Main window of the Synchro3 software the battery.

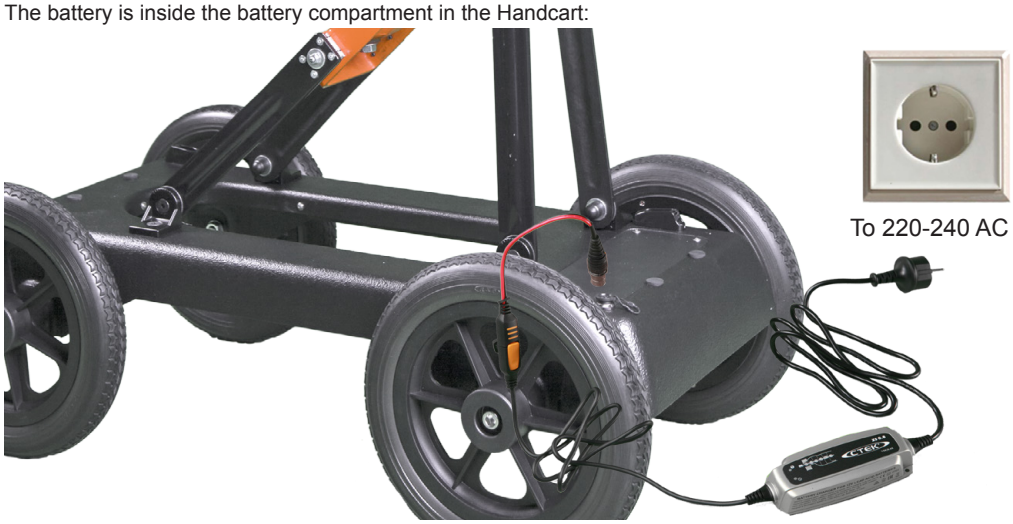


When the battery voltage is low and close to the critical value, the power supply begins beeping. When the battery voltage is below the cut-off threshold (10.8V) the power supply will turn the antenna unit off but beep sound will continue ringing twice per second. That indicates the normal state of GPR and the necessity of battery charging.
For battery charging use the charger that is included in GPR set.

Charging battery of VIY5-37 GPR

For charging the battery of VIY5-37 GPR you should connect the charger plug into DATA socket that is located on the Handcart (or into DATA socket on a Battery Box if connected), and then plug the charger to the AC power (220-240V AC, 50-60 Hz).

Charging battery with antenna installed on the Handcart.
The battery is inside the battery compartment in the Handcart:



Charging battery with antenna outside of Handcart.
The battery is in the Battery Box:To

✓ Connect adapter to the any socket on Battery Box

✓ To get more information please read the charger User manual that is in the charger set.

Battery replacement

All models of GPR use the same standard sealed lead acid rechargeable battery (12 V, 7 Ah).

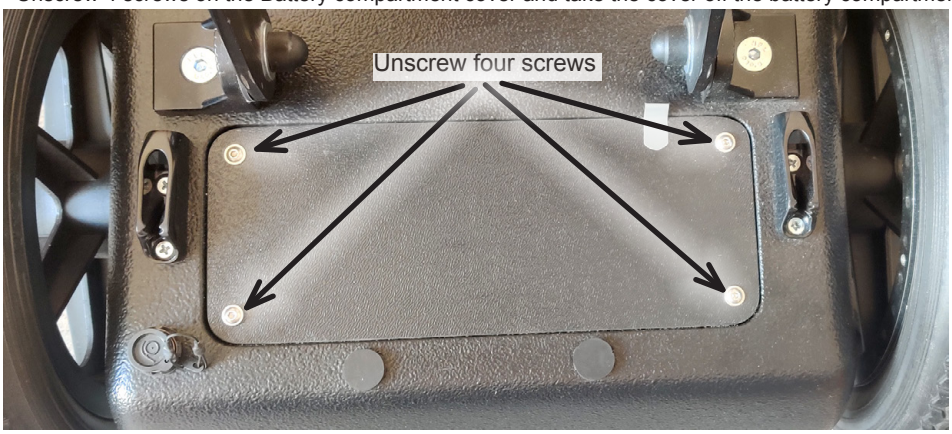
If you notice the Charger error light is on during the charging process, it means that your battery must be replaced for the new one.

✓ To get more information please read the charger User manual that is in the charger set.

Replace battery in Cart-46

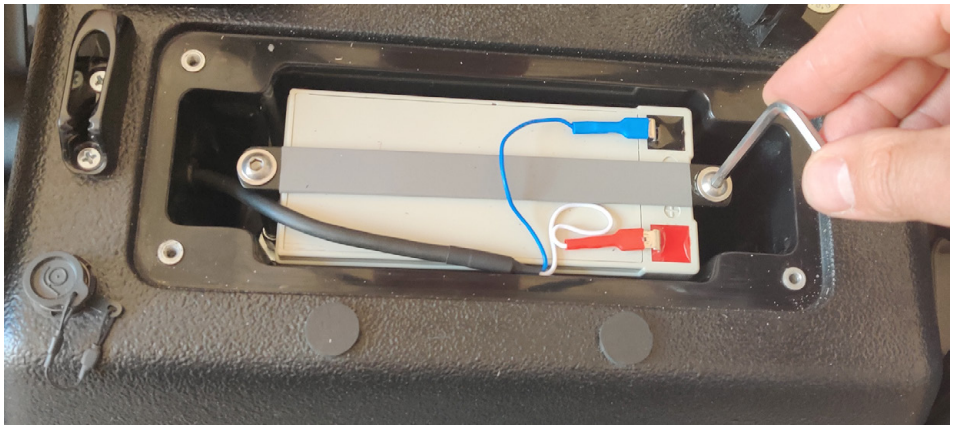
To replace the battery in the battery compartment of the Handcart:

- Unscrew 4 screws on the Battery compartment cover and take the cover off the battery compartment.

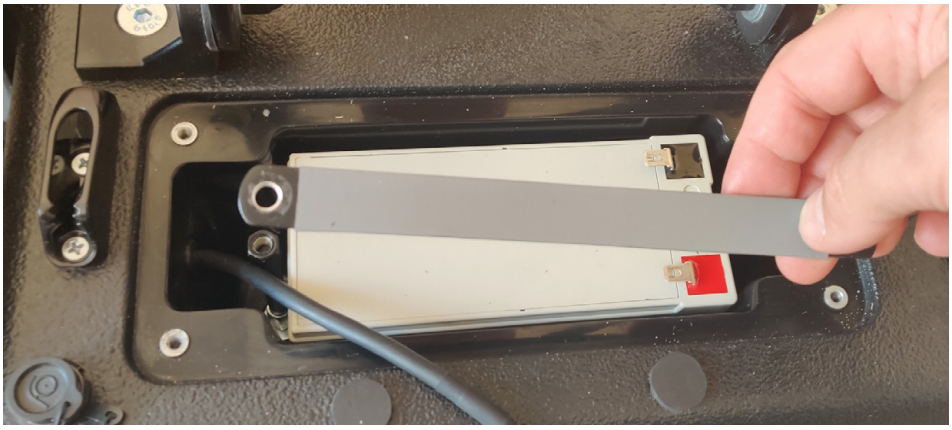


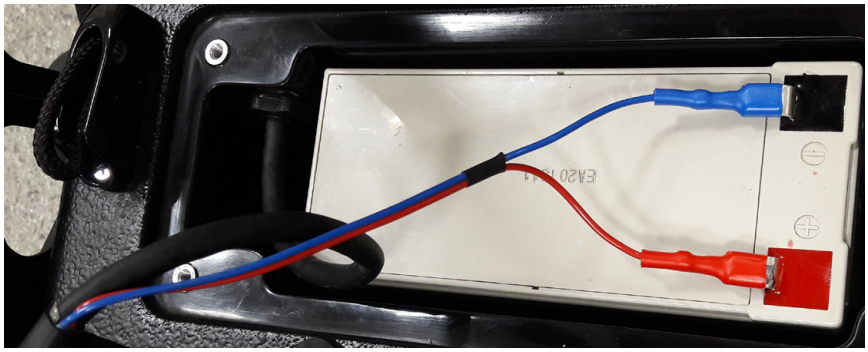
- Use tool from the set of cart
- Remove the cover of battery compartmen

- Unscrew two screws using tool from cart set



- Remove fastening bar and unplug connection terminals from the battery



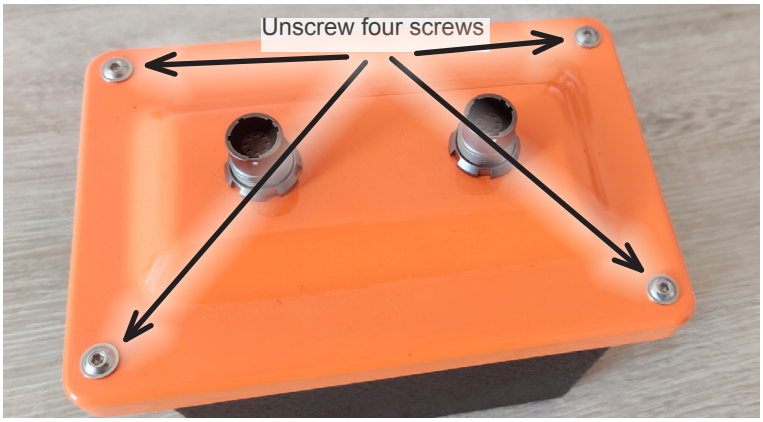


- Take the battery out
- Replace it respecting wires polarity
  - ✓ Connecting the wires to battery, respect the polarity (red wire - battery positive pad, blue – negative pad).
- Mount the fastening bar, fix it with two screws than mount the battery cover back on its place, fix it with four screws.

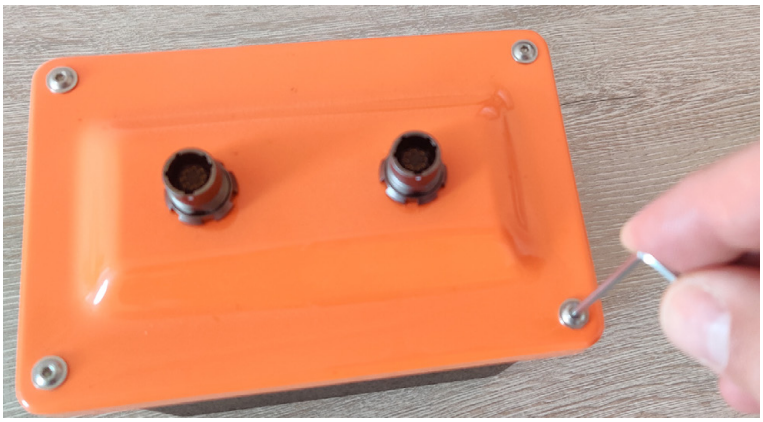
Replace battery in Battery Box

To replace the battery in the Battery Box:

- Unscrew four screws on the Battery Box cover



- Use the tool from GPR set



- Take the cover off the battery compartment.

- Take the battery out
- Replace it respecting wires polarity
  ✓ Connecting the wires to battery, respect the polarity (red wire - battery positive pad, blue – negative pad).
- Mount the Battery Box cover back on its place, fix it with four screws.

Specifications

Model of GPR	VIY5-37
Antenna unit, MHz	300 & 700
Max sounding depth, meters (depending on soil properties)	8.0
Survey window, nsec	16...40 nsec / 66...166 nsec
Spatial resolution, meters, (not worse)	<0.1 m (700 MHz) <0.3 m (300 MHz)
Maximum number of samples per trace	1000
Data acquisition rate, traces per second*	up to 150
Dynamic range	not less than 135 dB
Interface	USB2
Trigger mode	single, internal, external
Analogue-to-Digital Converter range	18 bit
Three-dimensional Inclinometer	Built-in
Weight of antenna, kg	6
Weight antenna with cart, kg	20,5
Dimensions of antenna, L x W x H	550 x 310 x 170 mm
Dimensions of cart, working mode L x W x H	900 x 460 x 1050 mm
Dimensions of cart, folding mode L x W x H	900 x 460 x 300 mm
Operating temperature range	-20°C to 40°C
Environmental rating	IP65**
Continuous operation time	not less than 8 hours

* Data acquisition rate depends on samples per trace and trace stacking.

** Optionally can be IP67
All antennas support external GPS that can be directly connected to antenna

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1. **Warranty**.

   Transient Technologies LLC warrants the enclosed hardware products to be free from defects in material and workmanship for a period of 12 (twelve months) from the date of original retail purchase.

2. **Repair Procedures, Exclusive Remedy.**

   Transient Technologies LLC will, at its option, repair or replace products not conforming to this limited warranty at no charge. This is the sole and exclusive remedy available for breach of warranty or under any other legal theory with respect to Transient Technologies LLC product. If you find a product to be defective, please contact your authorized Transient Technologies LLC representative or directly to head office of Transient Technologies LLC. When you receive authorization, return the product as directed, including proof of purchase and date, at your expense and risk. Product repairs not covered by warranty, and product updates, will be provided at a set rate.

3. **Limitations.**

   This warranty is to be avoided if the product is damaged by importer or abnormal use or by accident, if the product is altered or modified in any way, or if any attempt is made to repair the product without authorization from Transient Technologies LLC. It is solely the purchaser's responsibility to determine the suitability of these products for each particular application. Transient Technologies LLC products are in all events not suitable, and are not authorized, for use with systems potentially injurious to life or health. This warranty is not assignable.

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