

VI4[®] 3

Series
Ground
Penetrating
Radars





Transient Technologies LLC is a leading Ukrainian developer and manufacturer of Ground Penetrating Radar (GPR) equipment.

Company's engineers have been leading the research and development in the field of ultra-wide band (UWB) technologies since 1998.

Transient Technologies' progressive manufacturing and the vast technical experience of our staff both ensure the best solutions for searching for underground items and nondestructive subsurface inspection considering all the most exacting demands of our customers.

Our representatives from 16 countries provide distribution and ensure full technical support of GPR products of Transient Technologies LLC.

Innovative technologies being used in design of our GPR equipment and its reliability allowed our products to become the one of the most recognizable brand among worlds' leading GPR manufacturers and to create such outstanding Ground Penetrating Radars as VIY®3 series.

VIY®3 series Ground Penetrating Radars (GPR) are devices for nondestructive investigation. They allow user to reduce substantially costs and time for geological examination before digging or building activity. In many cases, including cavities detection or plastic pipelines location, other methods or instruments cannot be the same effective.

Main advantages



Monoblock antennas in durable fiberglass housing
All antenna units are bistatic and shielded



Telbin – original signal processing technology that significantly increases signal/noise ratio along with high sounding speed



Separate Control Unit is not required. Antenna unit is directly connected to any Windows computer by single USB cable



WiFi connection with antenna unit is provided without any extra equipment



All collected data are processed in computer. Errors can be corrected at any moment, original data are kept unchangeable



Universal foldable handcart is compatible with VIY3-300, VIY3-500 and VIY3-700 GPR



Antenna units are equipped with built-in inclinometers. This allows the user to perform topographic correction with one click



External GPS receiver can be directly connected to antenna unit

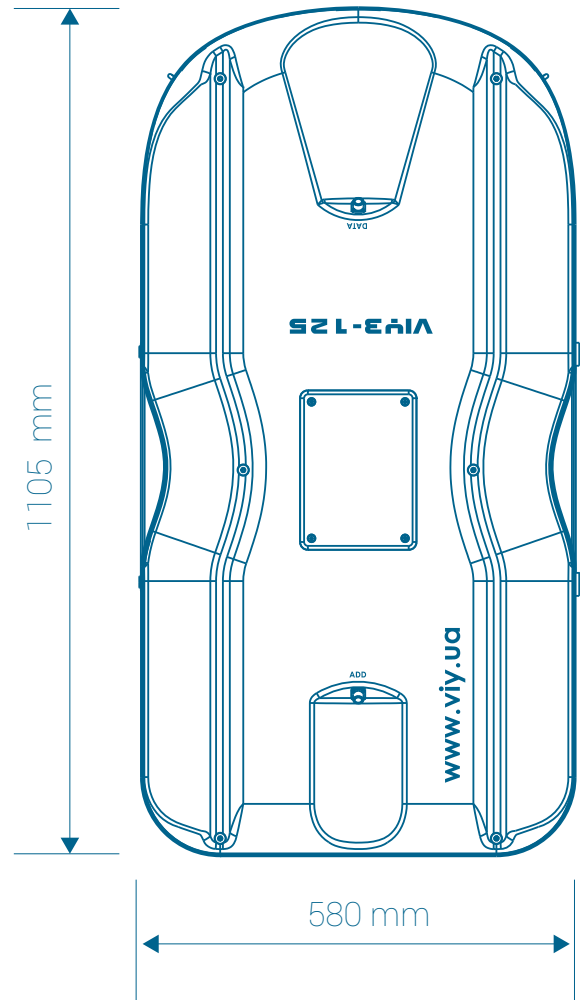


Our software is free of charge!

SPECIFICATIONS

Antenna frequency, MHz	125
Analogue-to-Digital Converter range, bits	18
Dynamic range, no less than, dB	135
Data acquisition rate, traces per second	up to 55
Survey window, nsec	120, 180, 240, 300
Maximum number of samples per trace	1000
Trace stacking number	up to 300
Depth of sounding, meters (determined by soil properties)	up to 15.0
Spatial resolution, better than, meters	1.0
Trigger modes	single, internal, external
Maximum size of profile, traces	up to 1 000 000
Interface	USB2 or WiFi
Build-in inclinometer	yes
Dimensions (L x W x H), mm	1105 x 580 x 232
Weight, kg	25.0
Operating temperature range, °C	-20...+40
Operating time, at least, hours	8





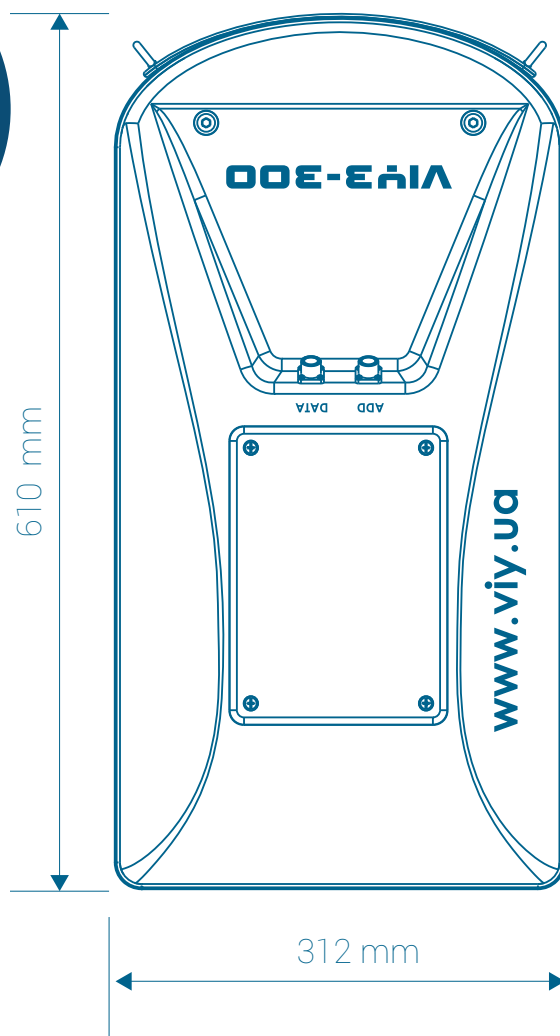
VIY3-300 GPR

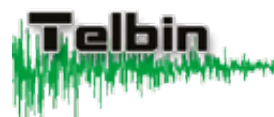
SPECIFICATIONS



Antenna frequency, MHz	300
Analogue-to-Digital Converter range, bits	18
Dynamic range, no less than, dB	135
Data acquisition rate, traces per second	up to 55
Survey window, nsec	66, 100, 133, 166
Maximum number of samples per trace	1000
Trace stacking number	up to 300
Depth of sounding, meters (determined by soil properties)	up to 8.0
Spatial resolution, better than, meters	0.3
Trigger modes	single, internal, external
Maximum size of profile, traces	up to 1 000 000
Interface	USB2 or WiFi
Build-in inclinometer	yes
Dimensions (L x W x H), mm	610 x 312 x 170
Weight, kg	9.0
Operating temperature range, °C	-20...+40
Operating time, at least, hours	8

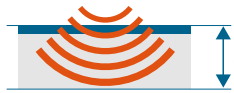




SPECIFICATIONS

Antenna frequency, MHz	500
Analogue-to-Digital Converter range, bits	18
Dynamic range, no less than, dB	135
Data acquisition rate, traces per second	up to 55
Survey window, nsec	32, 50, 64, 80
Maximum number of samples per trace	1000
Trace stacking number	up to 300
Depth of sounding, meters (determined by soil properties)	up to 4.0
Spatial resolution, better than, meters	0.18
Trigger modes	single, internal, external
Maximum size of profile, traces	up to 1 000 000
Interface	USB2 or WiFi
Build-in inclinometer	yes
Dimensions (L x W x H), mm	325 x 210 x 156
Weight, kg	2.5
Operating temperature range, °C	-20...+40
Operating time, at least, hours	8





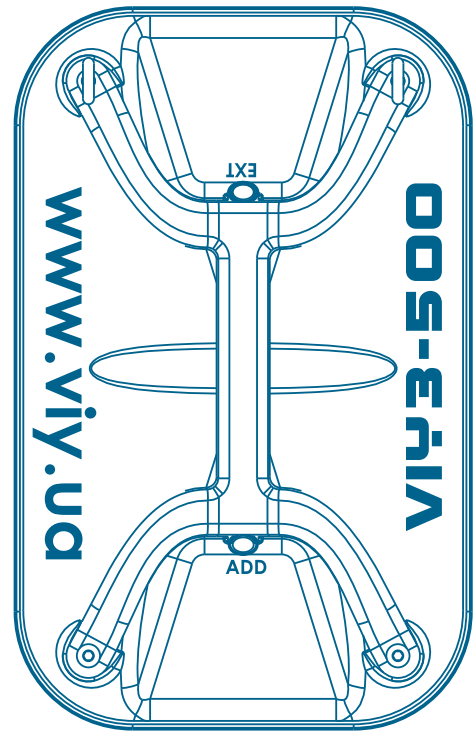
4,0 m



0,18



325 mm



210 mm



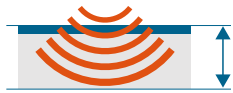
VIY3-700 GPR

SPECIFICATIONS



Antenna frequency, MHz	700
Analogue-to-Digital Converter range, bit	18
Dynamic range, no less than, dB	135
Data acquisition rate, traces per second	up to 55
Survey window, nsec	16, 24, 32, 40
Maximum number of samples per trace	1000
Trace stacking number	up to 300
Depth of sounding, meters (determined by soil properties)	up to 2.5
Spatial resolution, better than, meters	0.12
Trigger modes	single, internal, external
Maximum size of profile, traces	up to 1 000 000
Interface	USB2 or WiFi
Build-in inclinometer	yes
Dimensions (L x W x H), mm	325 x 210 x 156
Weight, kg	2.5
Operating temperature range, °C	-20...+40
Operating time, at least, hours	8





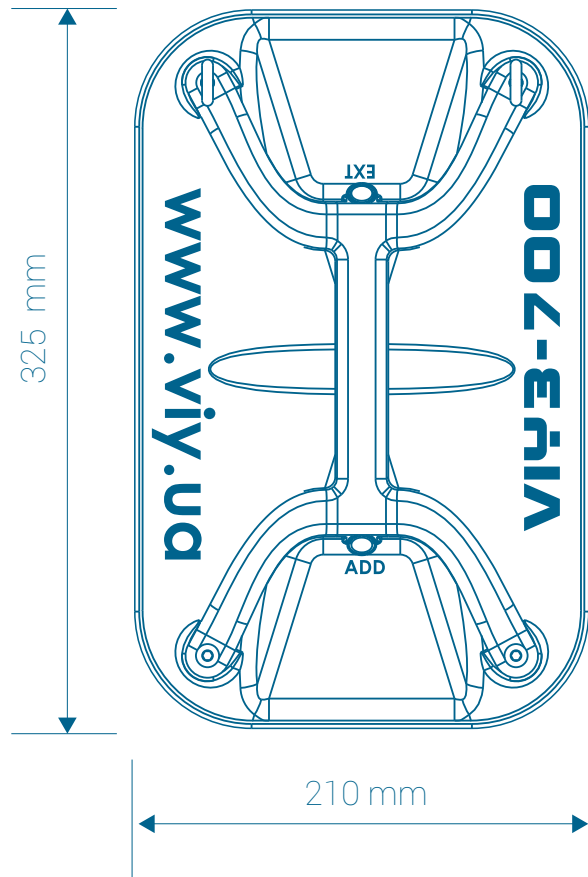
2,5 m



0,12



8

2,5
kg

SPECIFICATIONS

CART-36 foldable handcart allows operator to carry out quick inspection of large landfills.

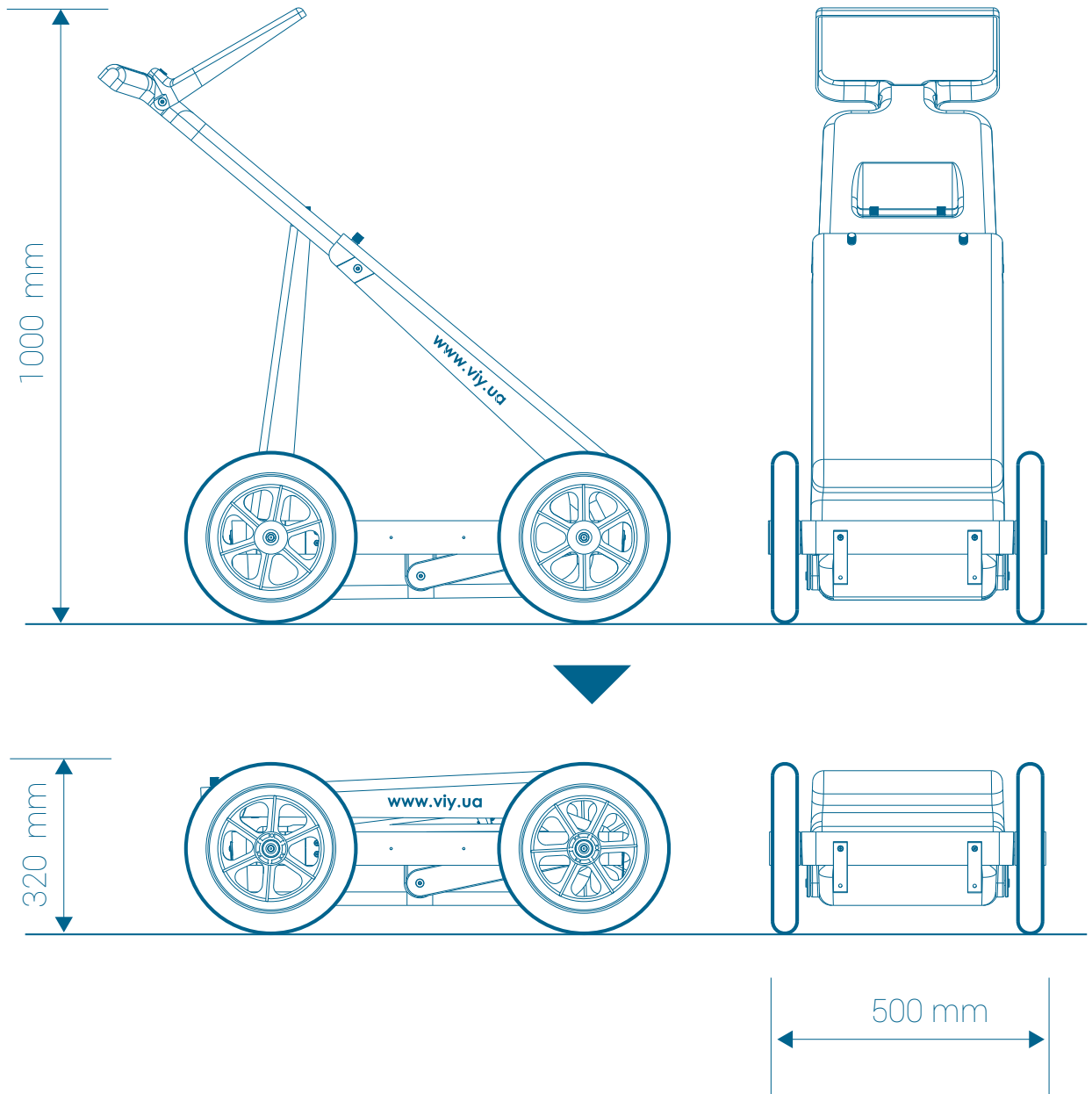
It is compatible with VIY3-300, VIY3-500 and VIY3-700 GPR

- Durable and reliable construction. Dustproof and waterproof design
- Universal shelf for laptop
- Built-in bidirectional odometer
- Compact when folded
- Large 12 inch wheels

Dimensions

Operating position (L x W x H), mm	970 x 500 x 1000
Folded position (L x W x H), mm	885 x 500 x 320
Weight, kg	15.0

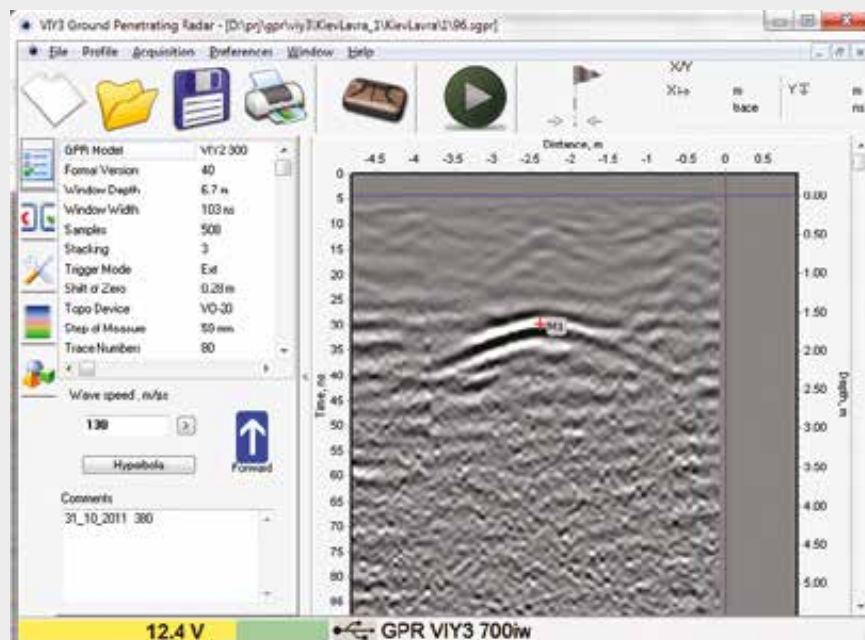




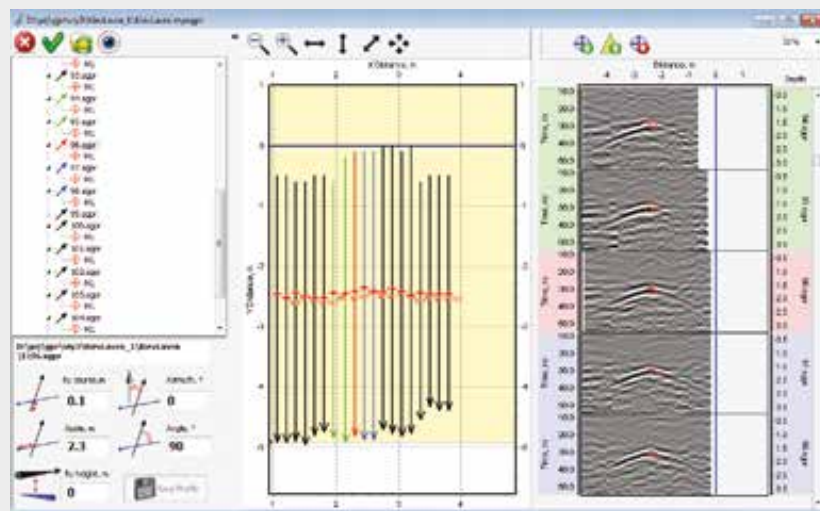
VIY3 Software Package allows the User to carry out all necessary works with GPR: sounding, data acquisition and post-processing, data display on plan or map, 3D representation and report creation.

VIY3 Software Package includes two programs working together – **Synchro** and **Planner**.

Synchro

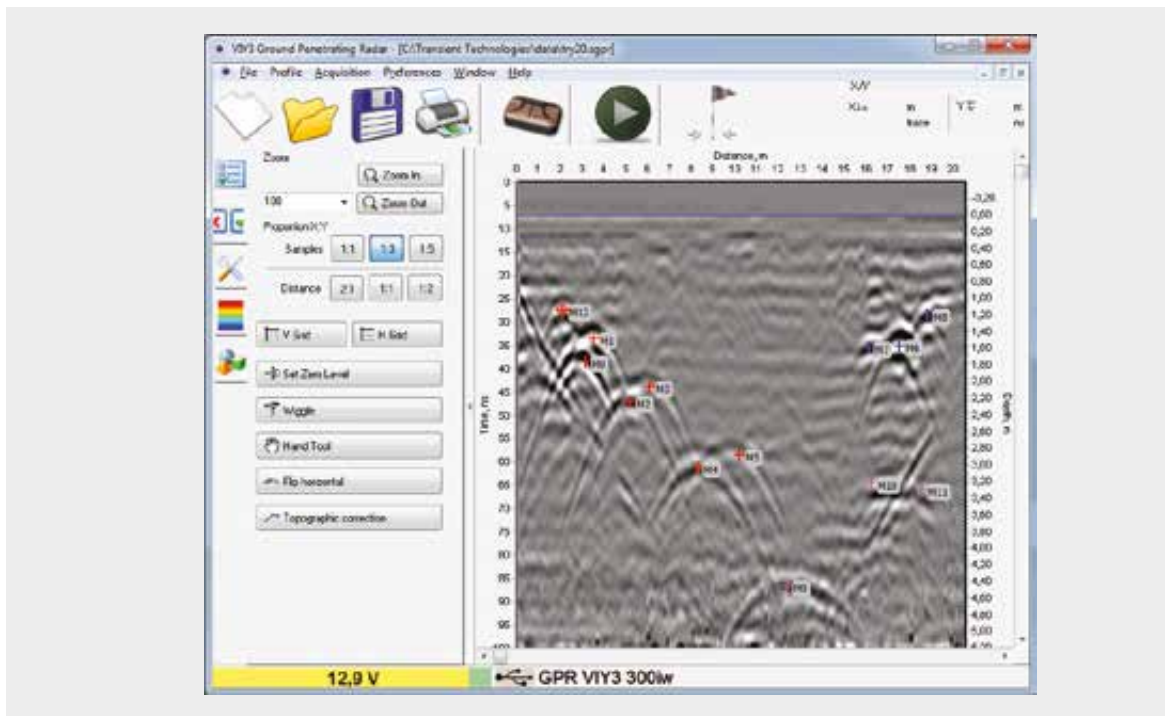


Planner



Synchro – the software designed for:

- working with GPR during data acquisition
- setting all necessary GPR presets
- data-processing
- saving obtained data



Information window of GPR profile

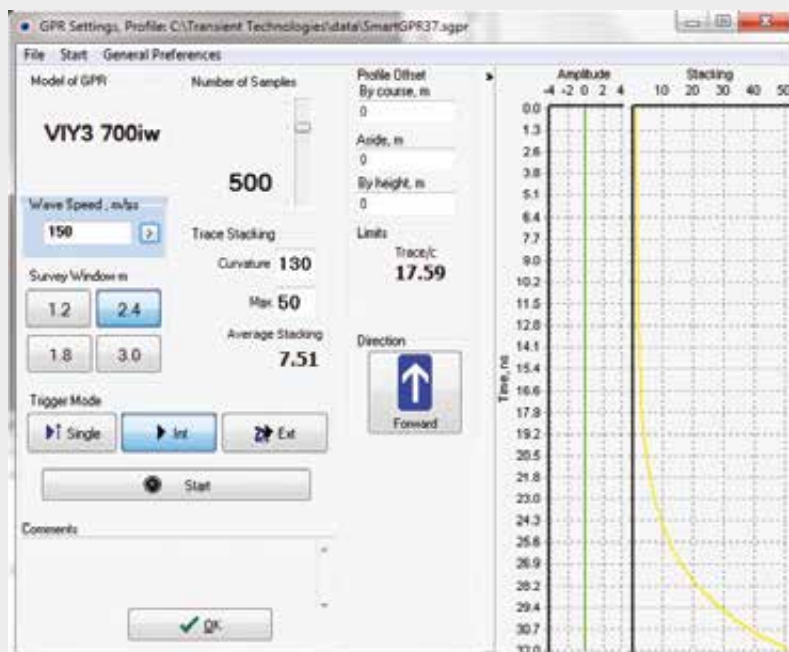
- *Multiple-window interface*
- *Display GPR type, sounding presets, topographic info*
- *Axes of time, depth and distance*

Flexible display setup

- Scaling
- Proportions change

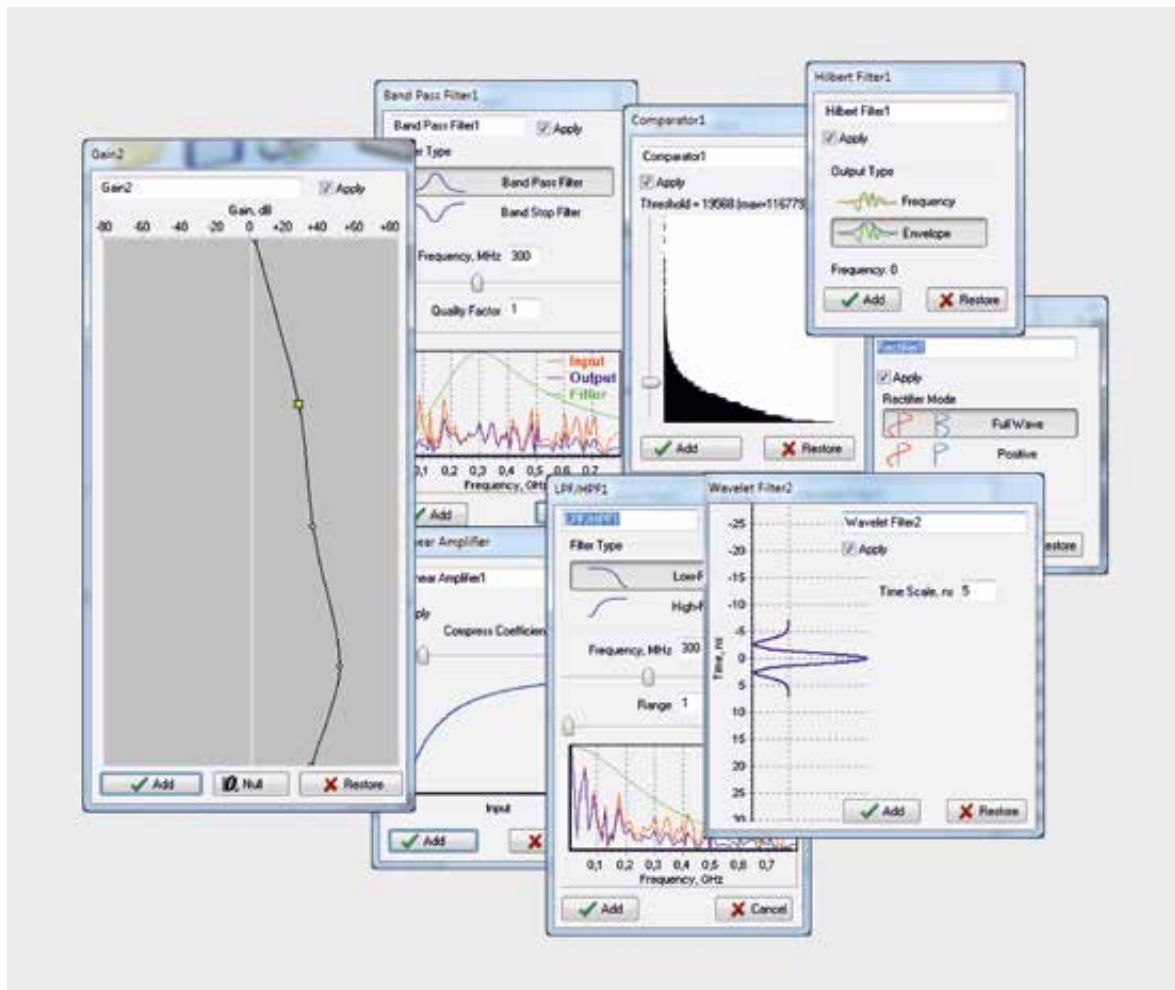
Control of GPR operation

- Setting of GPR parameters
- Start/stop of sounding process
- Set-up of mutual profiles location
- Maximum movement speed control



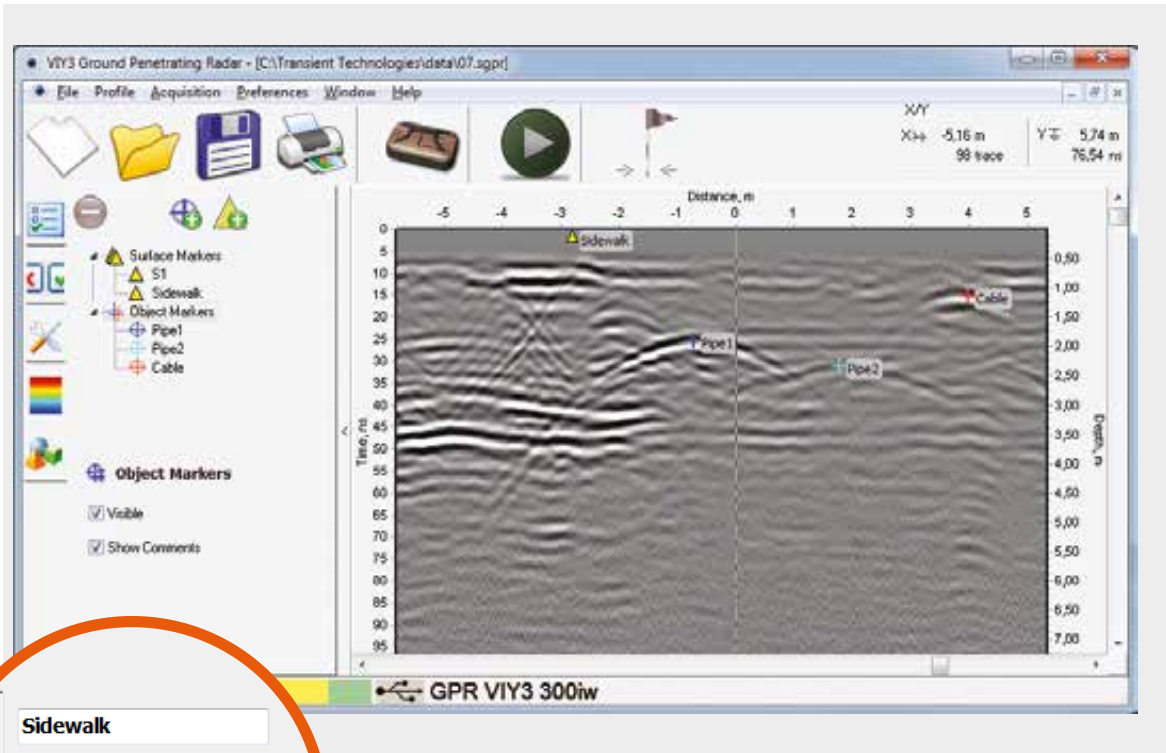
Data-processing

- 12 tools (including 1D and 2D)
- Flexible tools settings
- Easy-to-use tools
- Prepared for use presets
- Saving raw GPR data
- Interactive display of the result of the tool on the profile



Markers

- Two kinds of markers: surface and object ones
- Marker manager



Sidewalk

Position

Trace Number **174**

Distance on profile -2,82 m

Pipe1

Position

Trace Number **241**

Distance on profile -0,74 m

Samples Number **94**

Time 25,05 ns

Depth 1,88 m

Surface Markers:

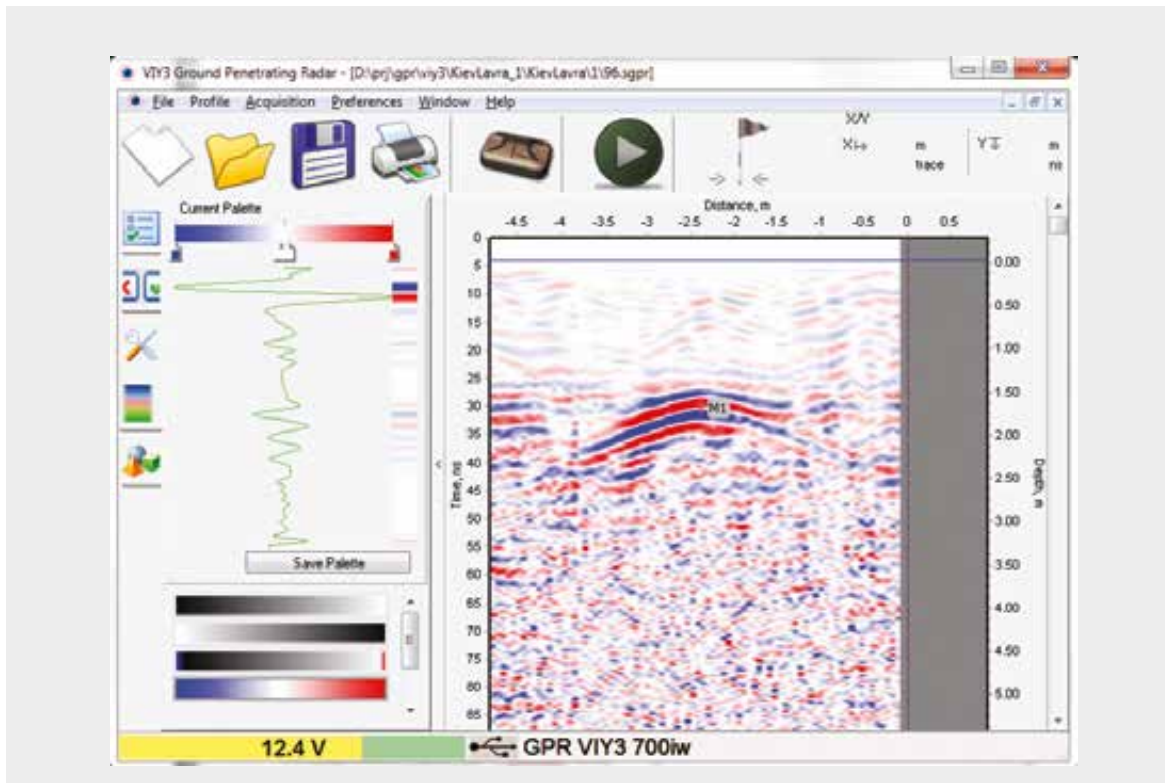
- Name of Marker
- Trace number
- Coordinates of Position

Object Marker:

- Name of Marker
- Trace number
- Coordinates of Marker position (depth, time)

Palettes

- Easy-to-use palettes library
- Interactive palette editing by the User



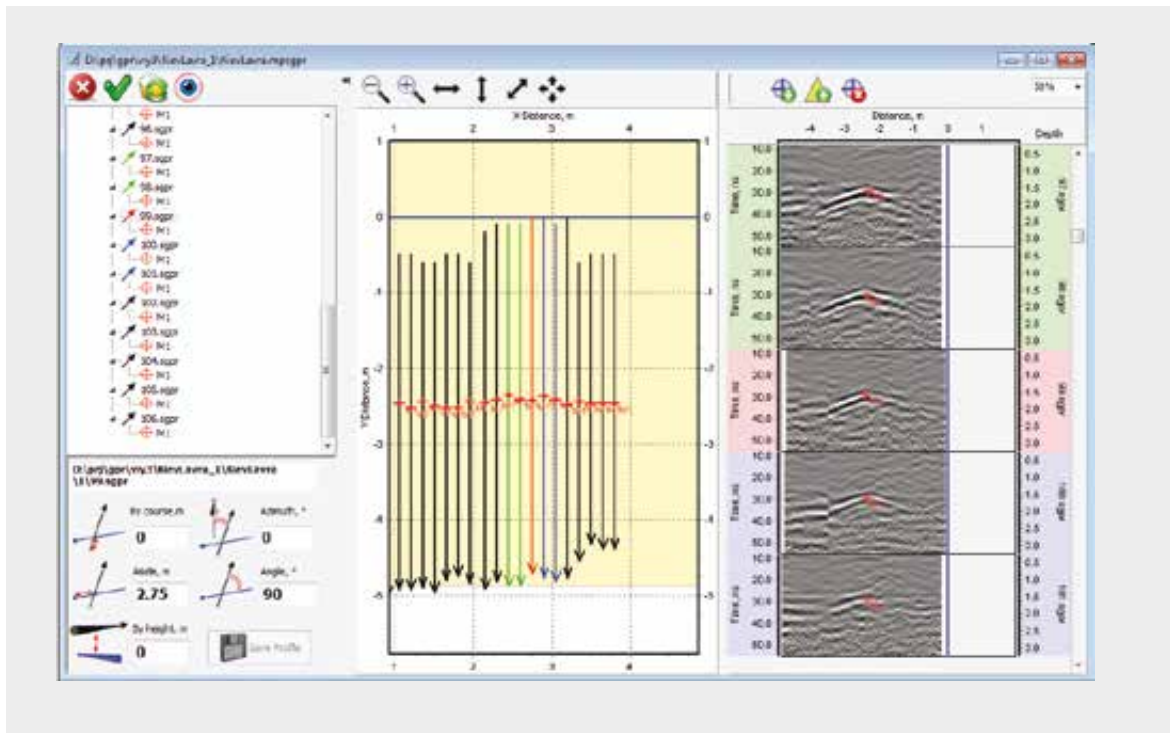
Export

- Export to main graphic formats including all axes and markers
- Export to SEG-Y
- Export to CSV

Available languages



Planner – the software designed to display GPR data and underground objects on plan or map. Planner is inseparably linked with Synchro. GPR data can be displayed in 3D view or as sections on different planes



Profile displaying

- Simultaneous display of several GPR profiles with scrolling by depth and distance
- Unlimited number of profiles in a site and sites in a project
- Mapping of X, Y coordinates and depth of current cursor position on the profile
- Arbitrary placement of profiles
- Displaying of profiles in depending on angle of intersection with baseline
- Simultaneous display of profiles obtained from different antenna units
- Setting of azimuths or relative angles for profiles

Object manager

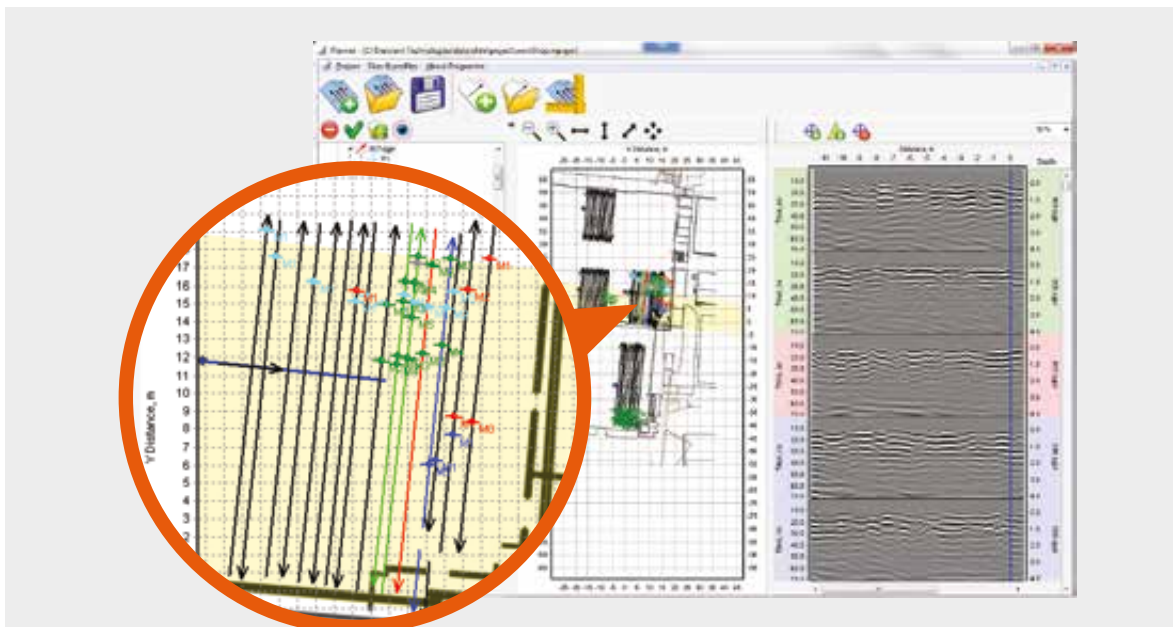
- *Easy-to-use object tree for quick selection of site, profile and marker*
- *Color display of selected and adjacent profiles*
- *Project statistics: displaying of number of sites and profiles, total length of profiles*

Markers

- *Two kinds of markers: surface and object ones*
- *Marker manager*
- *Displaying of markers on the plan, GPR profile and 3D view*

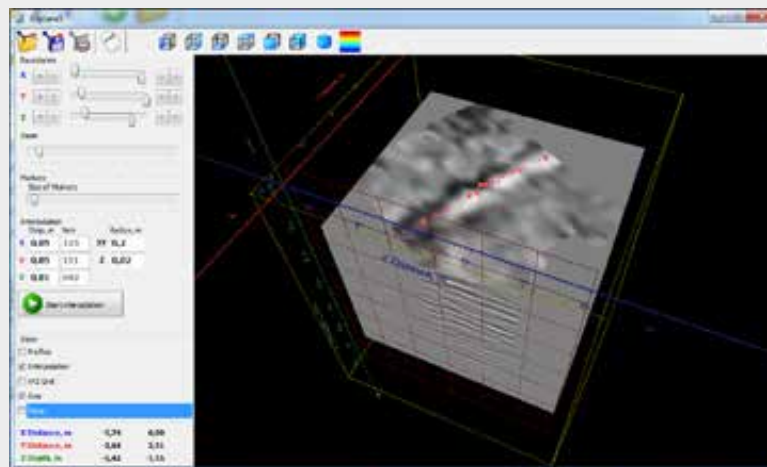
Mapping

- *Convenient display of profiles on the plan by arrows*
- *Color display of selected and adjacent profiles*
- *Displaying of cursor coordinates*
- *Zoom and pan*
- *Map usage as background layer for project*

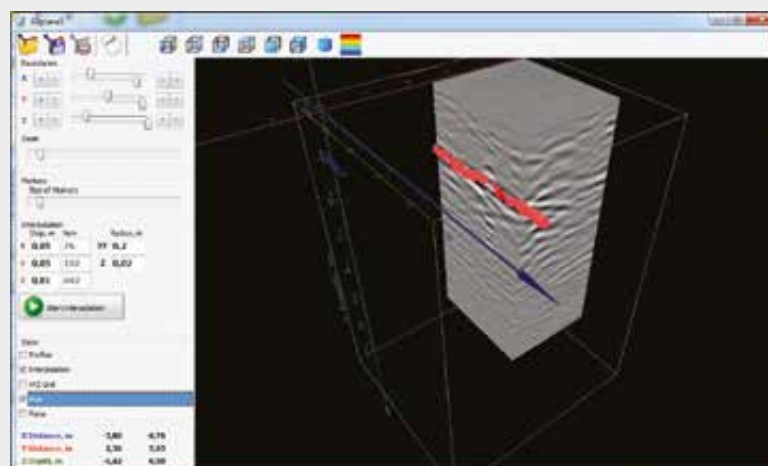


3D VIEW

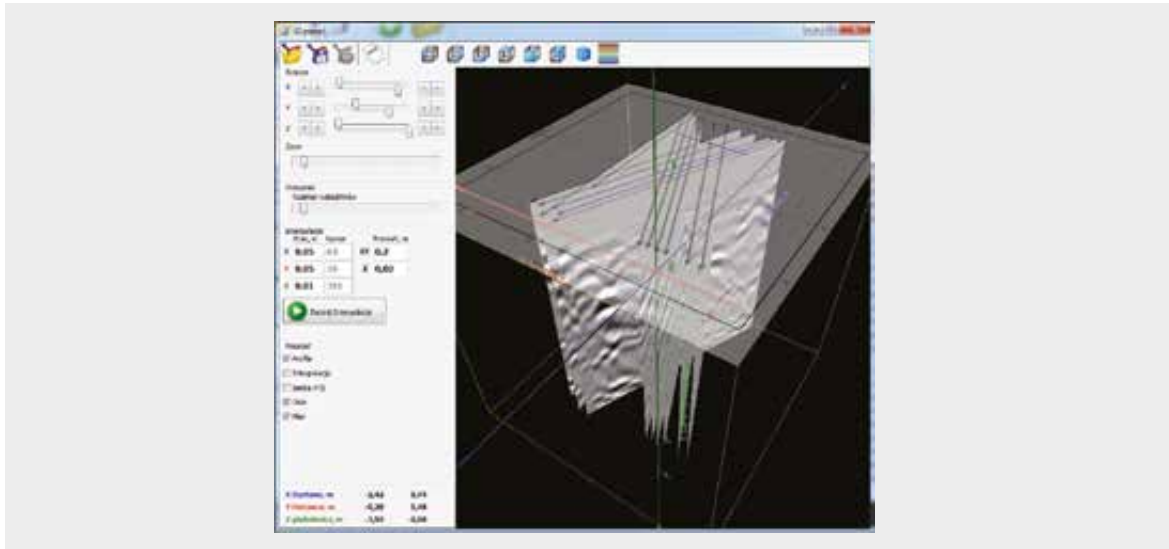
- Auto setting of interpolation parameters with optional manual setup
- 3D data displaying and rotating
- The interpolation can be built by any profile section and project plane
- No extra software is necessary
- Marker size adjustment



- Buttons of auto positioning: top view, left view, right view, front view, isometric view etc.
- Making reports with 3D view



- *Interpolation for 3D view can be made with any data set – different GPR presets, types of antenna unit, orientation of profiles*



Reports

- Creating of the report – image with all needed area of the plan including added graphic elements – legend, figures and lines
- Making unlimited number of reports in the project
- Wide opportunities of reports editing
- Report export into graphic format for the further usage in other documents
- Export of the project's data into DXF format
- Export of the project's data into AutoCad format in relative or absolute coordinates
- Export of markers into DXF format with saving of color, position and depth setting

Available languages





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