Plug & Survey

Initial Steps

To use DigiTerra Explorer 7 Mobile GIS software on your Mobile Device

Plug & Survey – Insert your card and start surveying

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System Requirements

DigiTerra Explorer 7 Mobile version

Recommended minimum hardware

- Operating system
  Windows Mobile® version 5.x or newer
  Windows® Embedded Handheld 6.x
- Processor type
  ARM, XScale, or OMAP
- Processor speed
  400 MHz or faster
- Memory
  32 MB RAM
- Input/output
  SD Card / micro SD card slot
  USB port
- Display
  Color touch screen (240 x 320 pixels or larger),
  Suitable for outdoor viewing

DigiTerra Explorer 7 Desktop version

Required Software components

- Dropbox desktop client
  https://www.dropbox.com/downloading?os=win
- Microsoft ActiveSync 4.5 or
  http://www.microsoft.com/en-us/download/details.aspx?id=15
- Mobile Device Center 6.1
  http://www.microsoft.com/en-us/download/details.aspx?id=14 - 32-bit
  http://www.microsoft.com/en-us/download/details.aspx?id=3182 - 64-bit
- Microsoft .NET Framework 4.5
  http://www.microsoft.com/en-us/download/details.aspx?id=30653
- Microsoft .NET Framework 3.5 (Windows XP)
  http://www.microsoft.com/en-us/download/details.aspx?id=21
- Run As compatibility on Windows XP
  http://support.microsoft.com/kb/294676

Supported Operating Systems

- Windows 8, Pro, Enterprise, Home Premium (32-bit and 64-bit)
- Windows 7 Ultimate, Enterprise, Professional, Home Premium (32-bit and 64-bit SP1)
- Windows XP Professional Edition (32-bit SP3)
- Windows XP Professional Edition (64-bit SP2)

What does the box contain?

Your DigiTerra Explorer 7 box contains a pre-installed SD card, that is all you will need to run your software initially.*

**If you purchased your Mobile Device with preinstalled DigiTerra Explorer, please go to 'How to start the program from shortcut?'*

What does the SD card include?

The SD card includes your DigiTerra Explorer 7 software that does not require registration through the Internet before use. You can start mapping right away.*

**If you purchased your Mobile Device with preinstalled DigiTerra Explorer, you can find the same content on the Flash disk of your handheld.*

Contents of the SD card *(or Flash memory in case of preinstalled DigiTerra Explorer 7):*

- An autorun utility program to start DigiTerra Explorer 7 automatically as soon as your SD card is inserted into your mobile device. This folder contains the .NET framework and Opera Mini installation files as well.
  '2577'
- A DigiTerra Explorer 7 mobile geographical information and field data collection software
  'Bin'
- *GNSS connection interface program for TOPCON devices*
  'eGPS'
- *Folder for storing Geoid undulation files*
  'Geoids'
- *Files for built in Help menu*
  'Help'
- Sample data and digital background maps applicable to learn to use the program and the tutorial material in Users' Manual
  'Maps'
- Folder for you Map Templates and some Map Template sample
  'MapTemplates'
- Scripts for setting special GPS/GNSS parameters
  '**Scripts**'
- Prepared Data Table Templates to make your work easier
  'Templates'
- Code dictionary for Tree Volume Assessment module, where you can specify tree species of your country
  'TreeVolume'

How to start the program initially?

Putting DigiTerra Explorer 7 into operation is remarkably simple. By inserting the SD card into your mobile device for the first time its Autorun utility program will start running automatically and will do all the necessary settings to start the program. This has to be performed only once with any mobile device you want to run the program on. The program will then runn and exit automatically on such devices once you insert or remove your SD card.
At the end of the installation process please tap on the ***'OK'*** button.

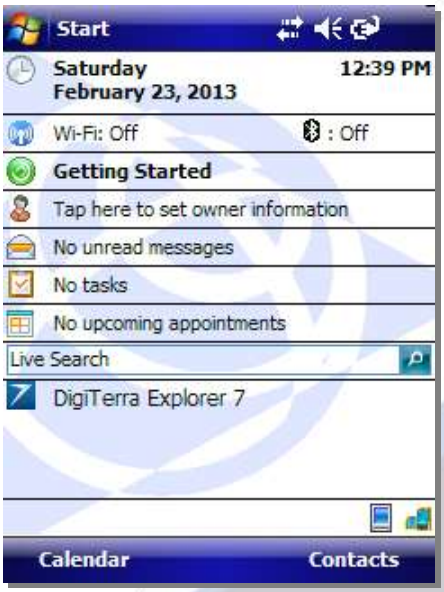
After finishing installation please select your language, and tap on ***'OK'*** button.

Changing languages later on

- Open up the first pop-up menu of DigiTerra Explorer on the left by selecting the small triangle that is pointing upwards in the bottom left corner.
- Tap on ***'Language***, select the language you need, then press ***'OK'***

How to start the program from shortcut?

After installing and starting the program automatically, its Autorun utility program will create the shortcut icon for your DigiTerra Explorer software. Just tap DigiTerra Explorer icon on the *Today* screen*.



** The shortcut icon of DigiTerra Explorer application will usually be found amongst the most recently used programs in the centre of Start Menu.*

How to set GPS connection?

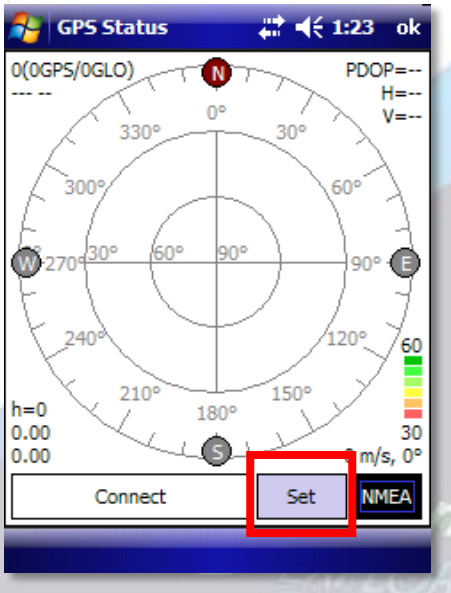
This procedure needs to be performed on any mobile device where DigiTerra Explorer is installed. This is a one off procedure as after the initial setup the GPS, settings are saved.

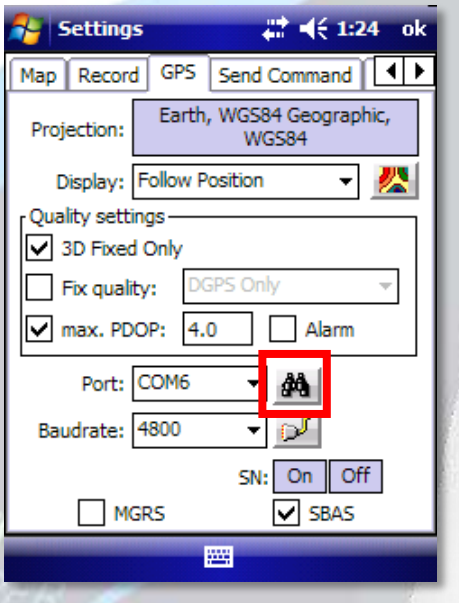
Your DigiTerra Explorer software will make it possible for you to connect to NMEA compatible GPS receivers. Almost all receivers that are available on the market (receivers with built in mobile devices, receivers that can be inserted into CF and SD card sockets or Bluetooth receivers) can meet these requirements.

Please note: If you want to use an external GPS receiver connected by Bluetooth, you must first pair your device using the Bluetooth Manager, then connect and match your device with the Bluetooth Manager program.

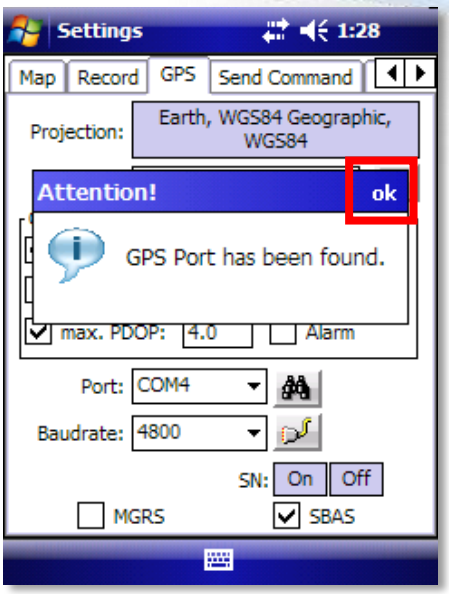
Automatic GPS recognition

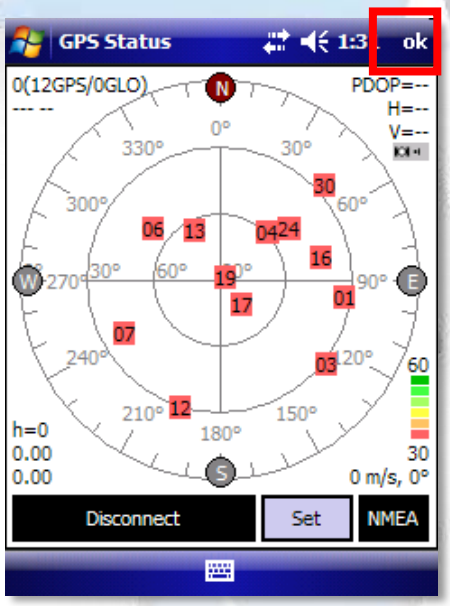
- Open up the fifth pop-up menu on the right side by tapping on the small triangle that is pointing upwards.
- Tap on ***'GPS status'*** in the menu.





- Tap on the ***'Set'*** button in the bottom left corner of the window that pops up on 'GPS Status'.
- Press 'Search' icon in the 'Settings' window to set communication port and data transfer rate automatically.
- Press 'OK' and you will see satellites on GPS Status panel
- Press 'OK' to see your position on the map.





Once the GPS connection has been established the software will receive NMEA data from the GPS receiver. Then, having established a constant link with a minimum of 3 satellites, it defines a fixed position on the WGS-84 ellipsoid surface (i.e. the ideal surface of the Earth). Initialising the device may take 2-3 seconds or up to 5 minutes depending on the length of time that

has passed since the last use of your GPS receiver and also on the geographical distance from the position of its last use. Regular use, however, results in a shorter initialisation time.

The background data indicating the quality of your GPS position in the bottom right corner of the map window will remain red until the accuracy of your GPS position reaches the required level. Before this happens, processing of data is not possible. Your device is ready to define GPS positions if the above background turns green or, after receiving a DGPS correction, blue.*

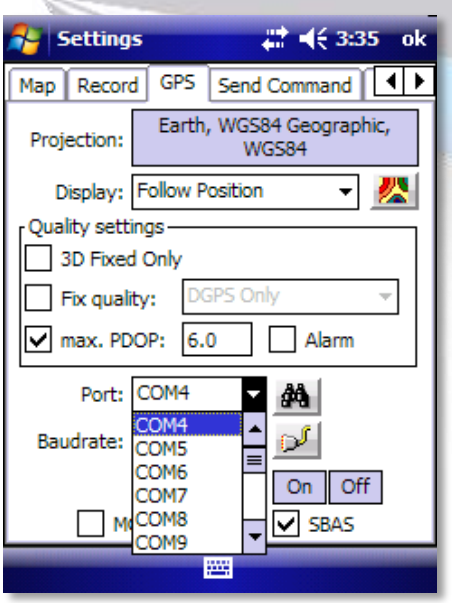
** For more information on 'GPS Settings' please see the Reference Guide of DigiTerra Explorer software.*

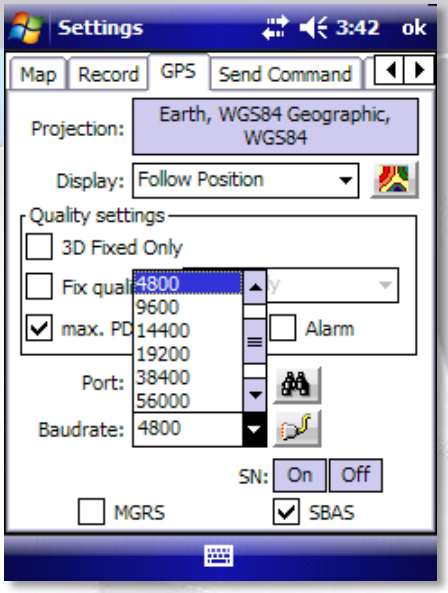
How to set GPS connection manually?

To Set the GPS connection manually if the communication ports (COM1,2…) and Baud rates are known.*

** Please note that the number of communication ports and data transfer rate values depend on the technical features of your GPS receiver. Accurate values are usually provided in the technical description of your GPS receiver or may be obtained from the manufacturer.*

- Open the ***'GPS Settings'*** window as described under the topic Automatic GPS recognition.
- Tap on the drop-down list next to the ***'Port'*** and select the communication port that matches your GPS receiver. If the correct port is selected no error message will appear.
- Tap on the drop-down list next to ***'Baud'*** as described in setting port above and select the data transfer rate of your GPS receiver. If the data transfer rate is correctly selected no error message will appear.





Once a the GPS connection has been established take the steps as described under the topic Automatic GPS recognition to close ***'GPS Settings'*** window and to check the quality of the connection.

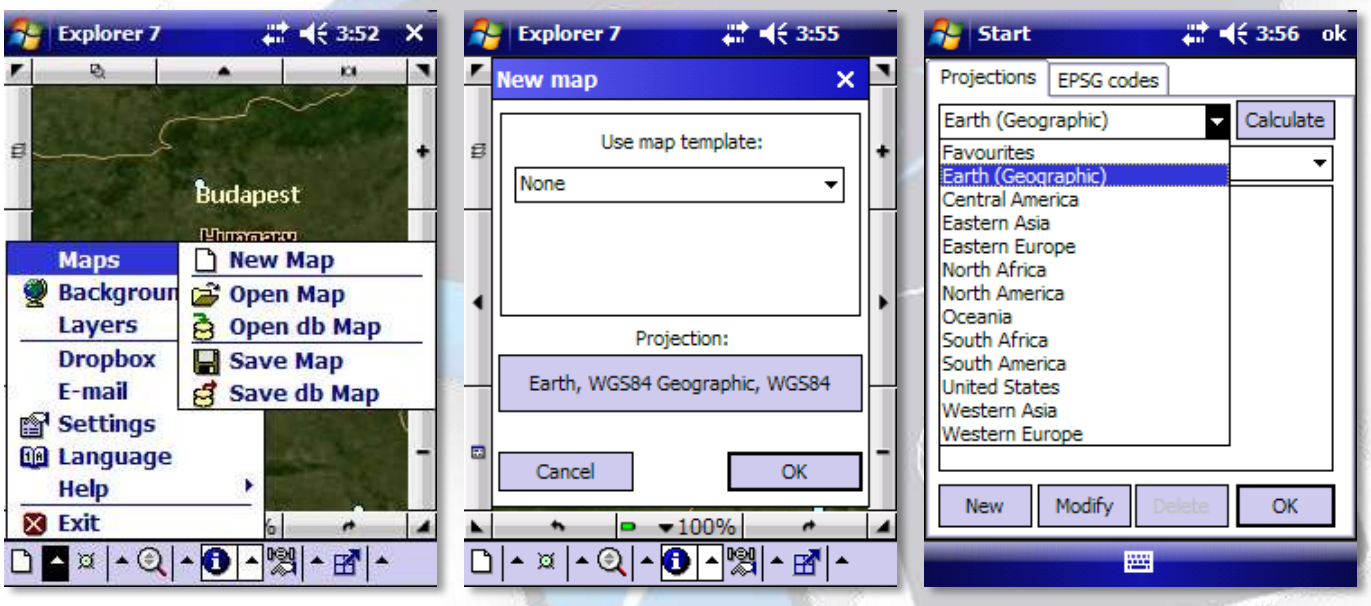
Let's Surveying!

Having initialised your GPS receiver you are required either to select an already existing DigiTerra map layer (containing geometric entities) or to create a new (blank) DigiTerra map layer where you can record your GPS position in either points, lines or polygons. *

** When you have set your software and GPS connection properly, you are ready to record your data and position.*

Steps of preparation for mapping and surveying

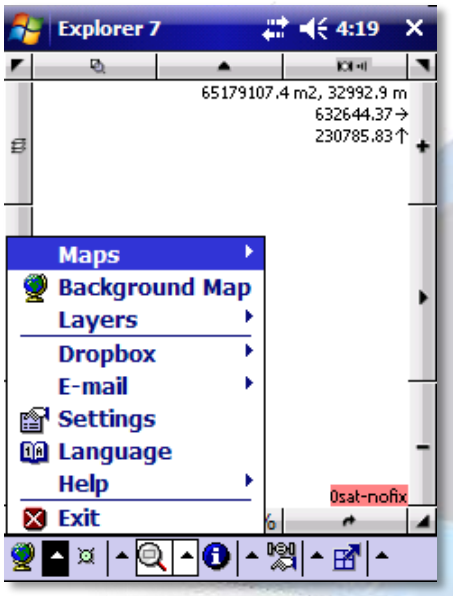
- Start DigiTerra Explorer. Open up the first pop-up menu on the right side by tapping on the small triangle that is pointing upwards.
- Select ***'Maps'***, and then ***'New Map'*** from the menu.
- Tap on ***'Projection'*** button to select the projections you would like to use during your survey. You can select the projections by the EPSG codes, or by listing the projections. After selecting the projection tap on ***'OK'*** button.

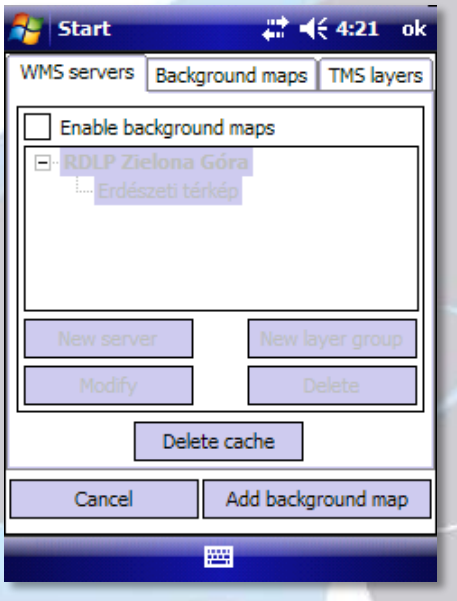


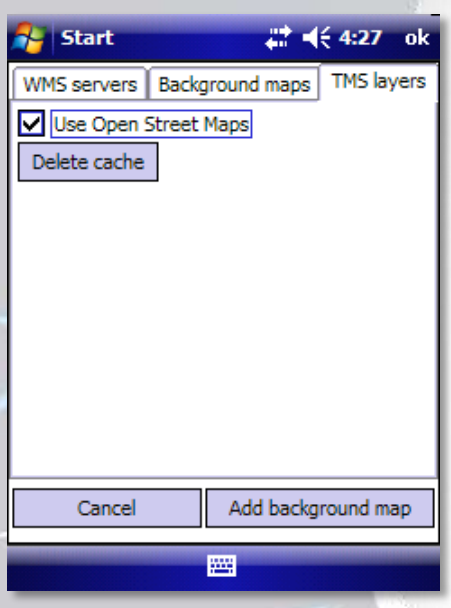
(**Notice**: *If you would like to add the selected projection to the Favourites, tap on Modify button, tick the box before 'Add to favourites option, and press the 'OK' button.*)

Everybody, who uses GPS needs information about the actual location. But the coordinates are not enough to tell us, where we are. We would like to see the area, an existing map about the position where we are. Use the Background Map option in DigiTerra Explorer. What you only need is internet connection on your Mobile Device.

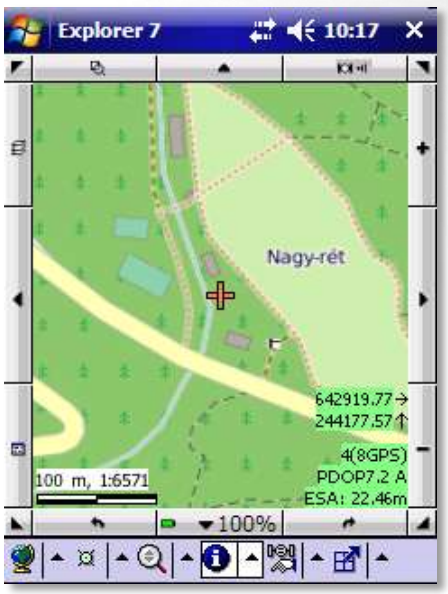
- Open up the first pop-up menu on the right side by tapping on the small triangle that is pointing upwards.
- Select *'**Backround Map**'* from the menu.
- Select ***'TMS layers'*** tab, and thick the box before ***'Use Open Street Maps'*** to connect to the Tile Map Server.







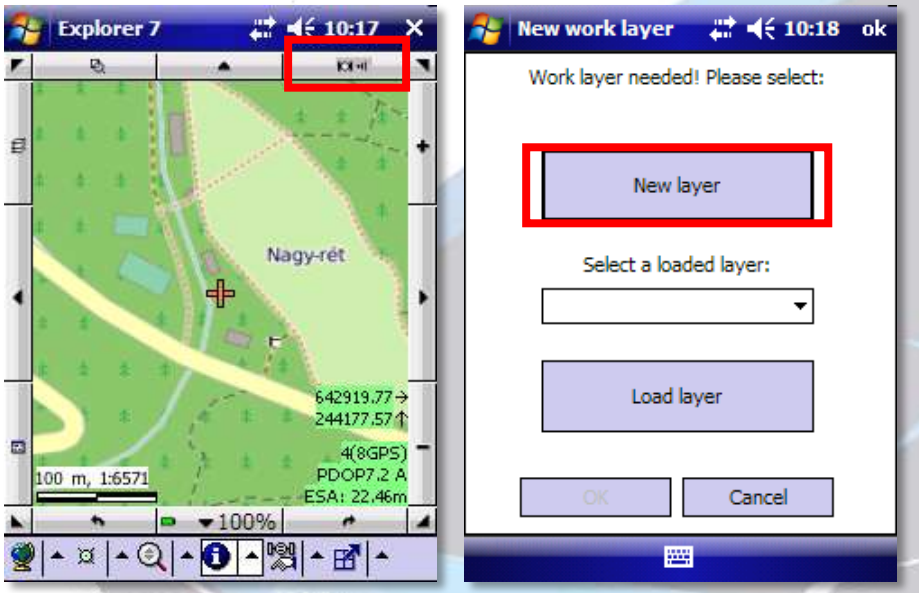
- Tap on ***'Add background map'*** button to start using the background map option.



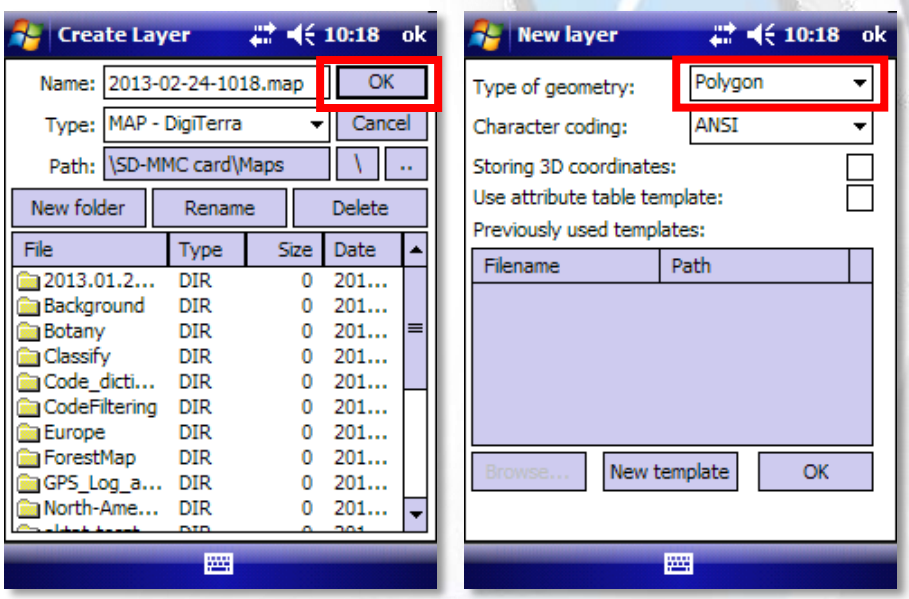
Creating a layer for storing measurement

In this chapter you can learn, how to make a simple area measurement.

- Tap onto the satellite icon on the pan frame.
- Press ***'New Layer'*** button to create a layer for storing your measurement.



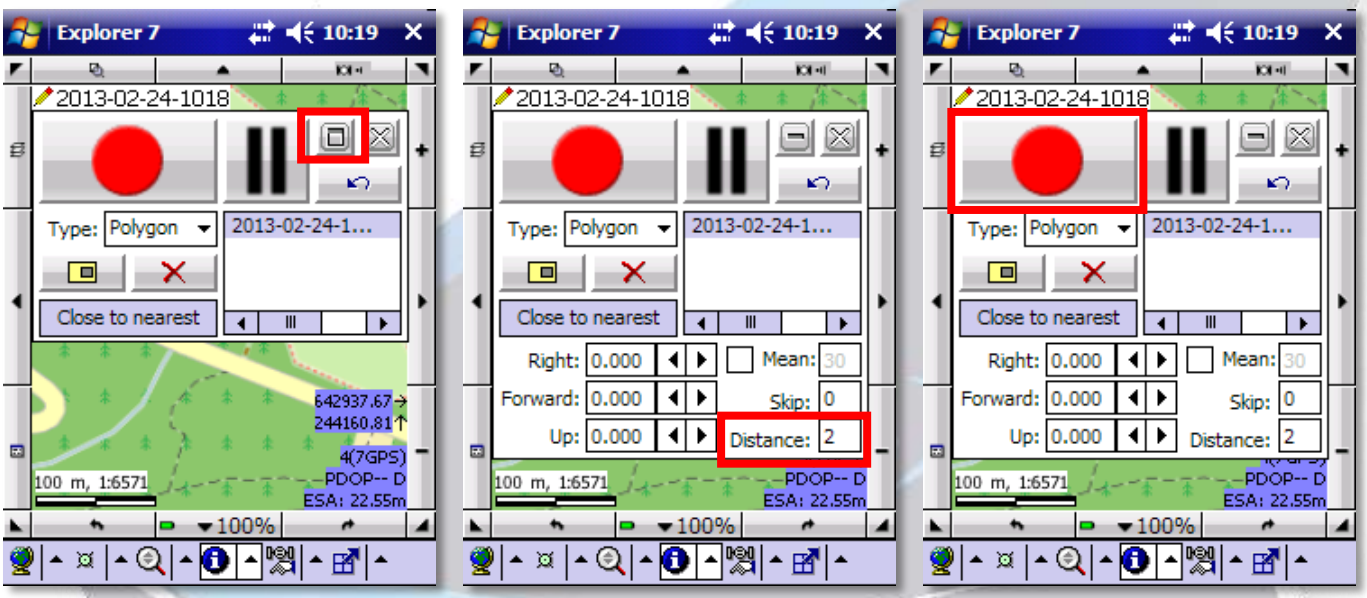
- The program generates an automatic name for your layer. You can rename it of course. Please check the path, you would like to place your layer file. You can use the [..] button to step one folder back, or use the [\] button to see the root of your Mobile Device. You can also create a new folder by tapping on [New folder] button. Please tap on ***'OK'*** if you are ready.
- Select the type of the geometry you would like to measure. In that case we will choose the ***'Polygon' (area)***. Please tap on ***'OK'*** if you are ready.



*(**Notice**: It's recommended to store all your layer, and map project files on the SD card, and create backups of them on your PC)*

- Tap on ***'Window size'*** button to see all of the settings of the GPS measurement.
- We will perform a continuous measurement by walking arund thea, which means the software will place points in every 2 meters.

- Please go to that position, where you would like to start your survey. Tap onto the  button to start measuring the selected area.



- After pressing the  button, it changed to a  button.
- If you would like to see where your actual position is, please tap the  button.

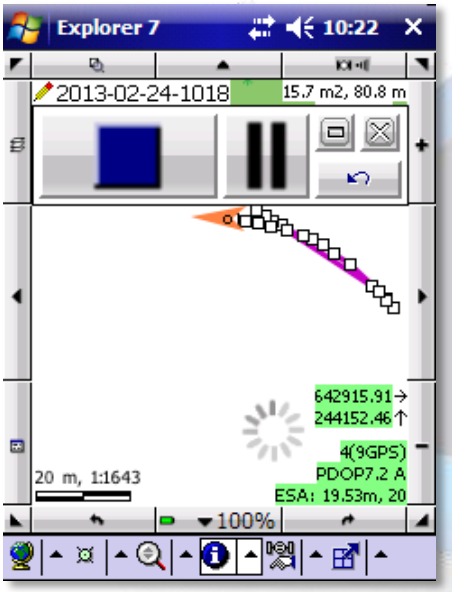
- You can use the ***'Zoom in'***  and ***'Zoom out'***  functions on the pan frame. (While using this function you can see, that DigiTerra Explorer is downloading the map tiles from the Tile Map Service provider)

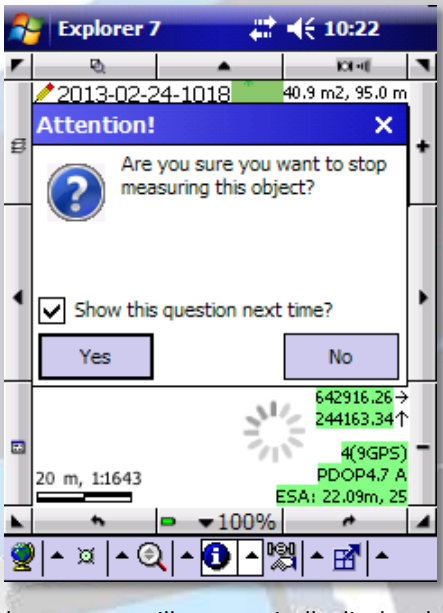
- Tap on  button, if you are ready with the measuring of the area.*

** You do not need to get back to the start position, the program will connect the last measured and the starting point automatically.*

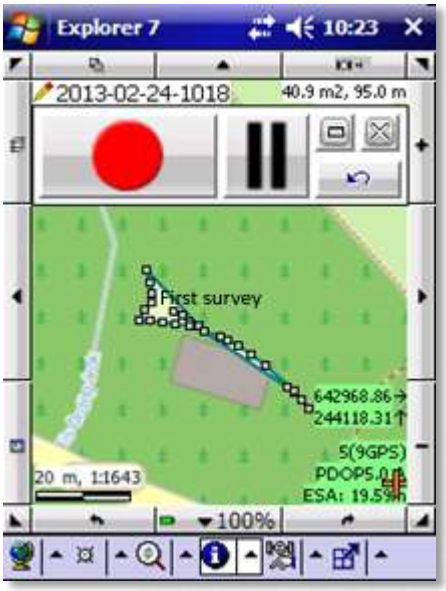
- Please select ***'Yes'*** to confirm stopping measurement.
- Fill the fields, and select ***'OK'*** if you are ready.*

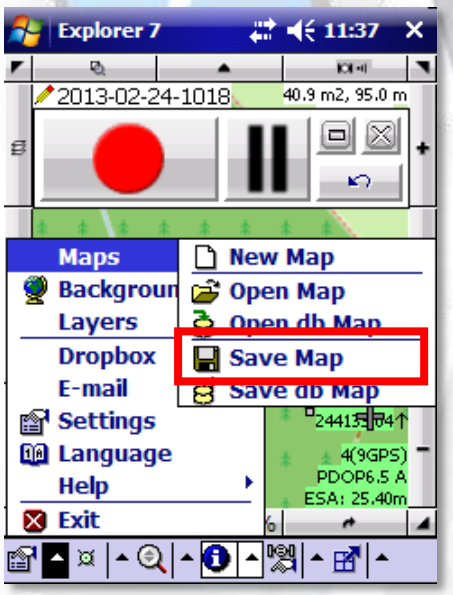
** In case of using the default data table, the default unit of the area field is hectar.*



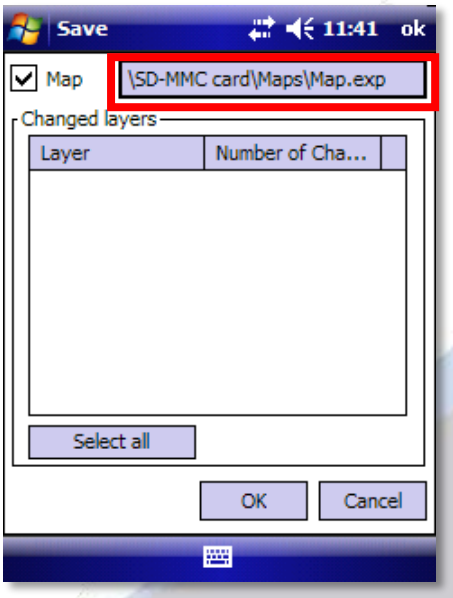


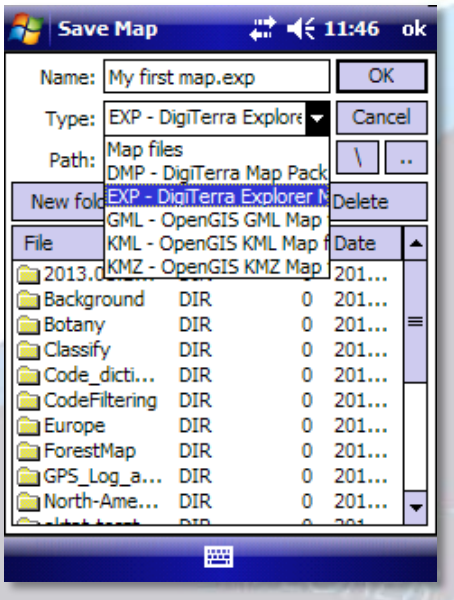
- If you have filled the ***'Label'*** field, the program will automatically display the text.
- Save the map project! Open up the first pop-up menu on the right side by tapping on the small triangle that is pointing upwards. Select ***'Maps'***.
- Select ***'Save Map'*** option.





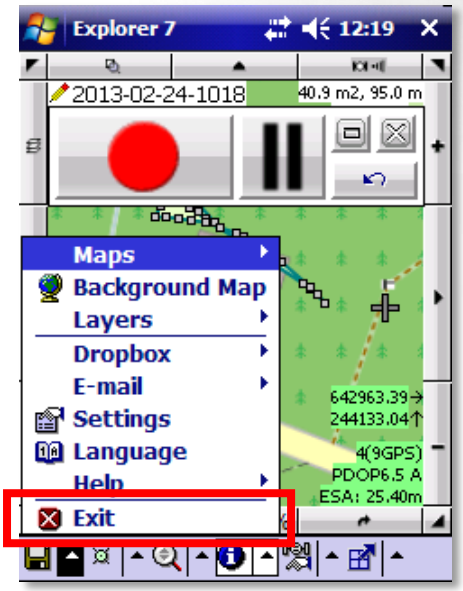
- Tap on ***'OK'*** to save your Map project. If you would like to change the name, file format (e.g. KML) or path of your map project, please tap on path. If you are ready select ***'OK'*** button.

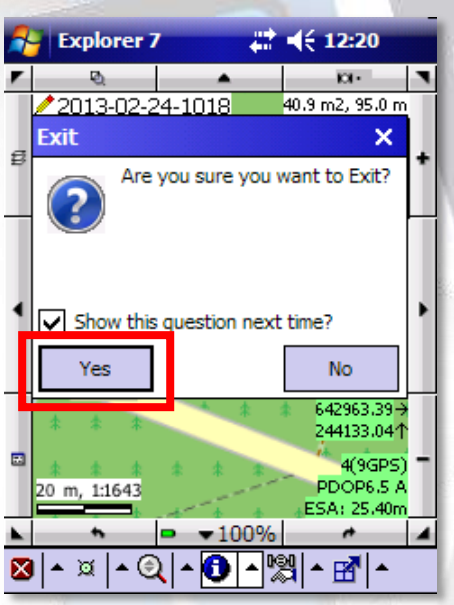




How to exit the program?

- Open up the first pop-up menu of DigiTerra Explorer on the left by selecting the small triangle that is pointing upwards in the bottom left corner.
- Then tap on ***'Exit'*** and press ***'Yes'*** on the panel that appears.





Installation and putting the program into operation on desktop PCs

You can always find the latest desktop version of DigiTerra Explorer on the website www.digiterra.hu, it is recommended to download and use this!

Desktop version of DigiTerra Explorer can be installed on unlimited number of desktop PC's. However, full functionality of the software is available only if a mobile device – containing DigiTerra Explorer SD card **– is connected** .**

** Provided that Microsoft ActiveSync - or in case of Windows Vista or Windows 7 operation system Windows Mobile Device Center - connection works properly. In case you have difficulties with setting up connection between your mobile device and desktop PC, please contact your system administrator!

Important facts

You will find detailed information as to how to use the software in the Reference Guide on the SD Card and (in various languages) on www.digiterra.hu website.

DigiTerra Ltd. as the producer of DigiTerra Explorer software guarantees to replace SD Cards within the period of one year from the date of purchase. Neither the producer nor the distributors of the software will take responsibility of whatsoever for damage caused by improper use. Nor does it lie in our power to replace SD Cards with the software in the event of their being lost or stolen.

For further information please turn to the distributors of DigiTerra Explorer or contact us at www.digiterra.hu website.

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