



DigiTerra Explorer Reference Guide

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1 Introduction

Welcome to DigiTerra Explorer Reference Guide

This Reference Guide is designed to be an in-depth resource regarding DigiTerra™ Explorer. It provides a description of the DigiTerra™ Explorer tools, commands, panes and context menus. It also includes information about supported data formats and detailed information about supported projections. This guide is a comprehensive documentation for

- **Field staffs** who use DigiTerra Explorer to do their daily job
- **GIS professionals** who prepare data for field staffs through customization and data preparation to define the
- **Dedicated reseller partners** who wish to customize DigiTerra Explorer to a specific application for their clients

About DigiTerra Explorer

DigiTerra Explorer is a mobile mapping and an entry-level GIS software. Helps you in data collection and updating existing data in the field work with the high performance.

- Windows based (standalone out-of-the-box) field mapping and data collection software not only for GIS professionals
- Supports many mobile devices and handhelds
- Displays a variety of vector, raster and tabular data
- Native read/write support for industry-standard vector layer formats (SHP, MIF, DXF, DGN, BNA)
- Read of CADRG, MrSID, ECW, JP2, geoTIFF and other various raster data
- Read/write support for SQLite file geodatabases
- WMS (Web Map Services) support for consuming online datasources
- Integrated Dropbox client
- GPS/GNSS receiver and other external sensors integration: laser rangefinders, external/built-in cameras, cable locators
- On-the-fly datum conversion from GPS input to the projected map view, database of 16000 projections can be expanded by user
- Rich GIS toolbox to maintain and verify existing data
- Advanced capabilities to run data analysis & make better decisions
- Can be customized without programming (code dictionary, menus, unique data capture forms, data field default values)



Latest update: 2015.02.13.

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Written by **Balázs Hóber**

2 Getting Started

In this topic you can learn about the followings:

- [System requirements](#)
- [Installation](#)
 - [Mobile](#)
 - [Desktop](#)
- [Software update](#)
- [Registration](#)

2.1 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:** <http://www.microsoft.com/en-us/download/details.aspx?id=15>
or
- **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 Vista** (32-bit and 64-bit)
- **Windows XP** Professional Edition (32-bit SP3 and 64-bit SP2)

2.2 Installation

The current topic describes the installation of DigiTerra Explorer, with specific steps for installation on [SD Card](#), with [CAB file](#) and on the [Desktop](#) computer. This guide is divided into two parts - included here as a single complete reference.

1. "[Mobile](#)" topic documents the necessary steps to install the software on [SD Card](#) from a [ZIP archive](#) and directly to the mobile device [from CAB file](#)
2. The second part of the installation topic continues with steps for installing DigiTerra Explorer on the [Desktop](#).

For information on upgrades, please also refer to [Online software update](#) topic.

2.2.1 Mobile

This topic contains information relevant to SD Card and CAB file based installation scenarios. Installing DigiTerra Explorer is only a few-step process.

System Requirements

Please see the topic "[System Requirements](#)" for the Mobile requirements to run DigiTerra Explorer.

Complete the following steps to install or manually update the software

on the SD Card

1. Download and unpack "DigiTerra Explorer 7 Mobile for SD Card" ZIP file: **DTEXPV7MobilePack.zip**
2. Then copy it into root of an empty SD Card; in case of updating manually your SD Card you must overwrite all existing files on it
3. Find Autorun.exe in the "\\SD Card\2577" folder and tap on it to start the installation
4. Wait until DigiTerra Explorer configuring itself, then press OK and follow the instructions on the screen
5. Once the installation will be completed you may be start the application with its shortcut on the Today panel or among the Programs



DigiTerra Explorer 7 Mobile for SD Card: <http://digiterraeexplorer.com/downloads/DTEXPV7MobilePack.zip>

from CAB file

1. Download "DigiTerra Explorer 7 Mobile CAB installer" CAB file: **DTEXPV7MobilePack.CAB**
2. Copy it to your device either using Microsoft Active Sync or the new Windows Mobile Device Center. You can pick where you want to place it.
3. After copying the file over to your device, open the folder, tap it with your stylus or hit the OK key and it will begin the installation process. Follow the instructions that will appear.
4. Wait until DigiTerra Explorer configuring itself, then press OK and follow the instructions on the screen
5. Once the installation will be completed you may be start the application with its shortcut on the Today panel or among the Programs



DigiTerra Explorer 7 Mobile CAB installer: <http://digiterraeexplorer.com/downloads/DTEXPV7MobilePack.CAB>



When manually updating the installed software, please uninstall the previous version first at Start menu > Settings > System > Remove Programs then you can install the new one.

Video tutorial

Please also have a look at the installation of DigiTerra Explorer mobile version in this video tutorial

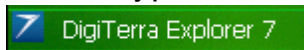
below:



Installing DigiTerra Explorer 7 on
mobile

Application Shortcuts

on the Today panel



among the Programs



More details can be found about this topic at: <http://forum.digiterra.hu/viewtopic.php?f=60&t=306>

2.2.2 Desktop

This topic contains information relevant to SD Card and CAB file based installation scenarios. Installing DigiTerra Explorer is only a few-step process.

System Requirements

Please see the topic "[System Requirements](#)" for the Desktop requirements to run DigiTerra Explorer.

Complete the following steps to install or manually update the software

on the Desktop

1. Install Microsoft ActiveSync® (for Windows XP) or Windows Mobile Device Center (for Windows Vista or Windows 7, 8) on your desktop PC if you intend **to use DigiTerra Explorer on a Desktop computer as a registered¹ software via the Mobile software**. Installation of the software above also required if you want to establish a synchronization connection between your desktop PC and the Windows Mobile/Embedded handheld.
2. Download "DigiTerra Explorer 7 Desktop Installer" EXE file: *DTEXPV7DesktopSetup.exe*
3. Double click on the downloaded file and it will begin the installation process. Follow the instructions that will appear.
4. Wait until DigiTerra Explorer configuring itself, then press OK and follow the instructions on the screen
5. Once the installation will be completed you may be start the application with its shortcut on the Desktop or in the Start menu

¹ The mobile device holds the license key. You need to install and activate the software on the mobile device prior to installing the Desktop software because the Desktop software inherits the license from the mobile device.



DigiTerra Explorer 7 for Desktop: <http://digitterraexplorer.com/downloads/DTEXPV7DesktopSetup.exe>



When manually updating the installed software, please uninstall the previous version first at Start menu > Control Panel > Programs > Programs and Feature > Uninstall or change a program then you can install the new one.

2.3 Software update

There are two ways to update DigiTerra Explorer

1. From the web (*downloading the latest installer*)
2. Using DigiTerra Explorer Software Update Service

See below for instructions on how to update.

Update from the web by downloading the latest installer

You can update DigiTerra Explorer (desktop or mobile) at any time. Visit <http://digitterraexplorer.com/free-trial> to determine the current software distribution version.

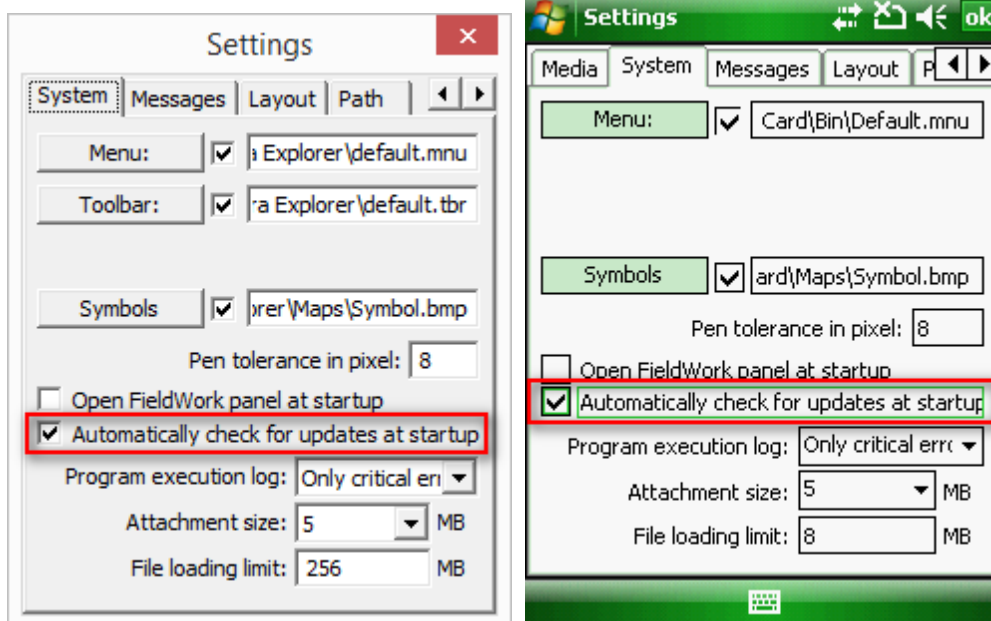
Compare the current distribution to the version displayed on your device or desktop under the "Help > About" dialog. If the distribution version is newer, you can download and install it using the same method as an initial installation.

Using DigiTerra Explorer Software Update Service

The Software Update Service will check DigiTerra web service for updates, check the version and then compare this information to DigiTerra web service to see if there is a newer release.

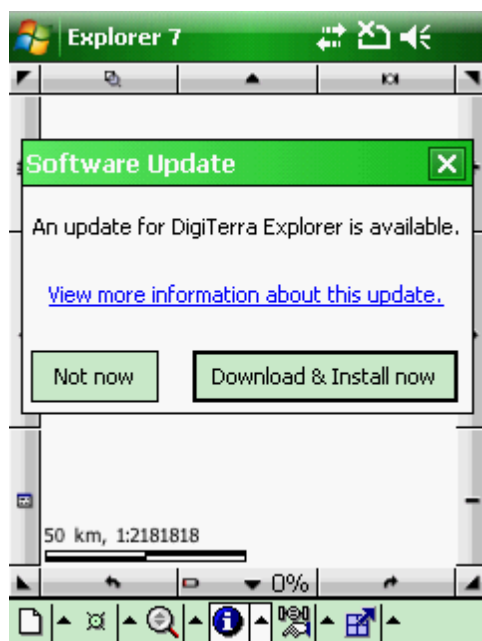
You can use the built-in DigiTerra Explorer Software Update service to look for and install updates on your device. To get started, simply connect your device to the Internet and open **Settings > System tab** to check the status of the service. If the **[] Automatically check for updates at startup** checked DigiTerra Explorer displays a message box when a new update available. This check-box is checked as default.

Check for updates at startup option

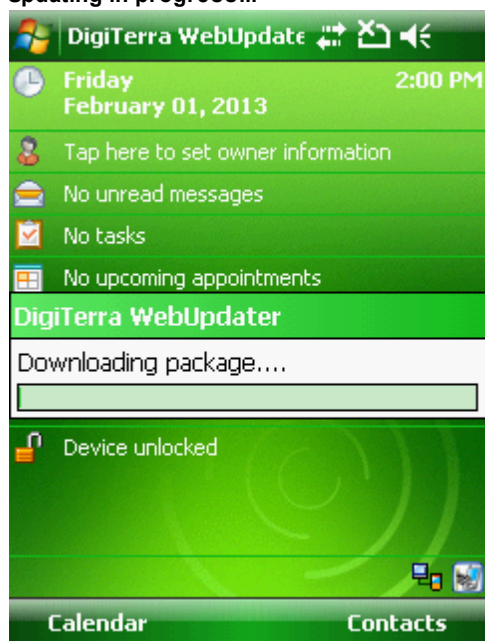


When the Software Update message box appears on the screen tap on/click on Download & Install now and follow the instructions.

Software Update message box



Updating in progress...



All necessary information can also be found about the DigiTerra Software Update Service at: <http://forum.digiterra.hu/viewtopic.php?f=60&t=307>

2.4 Registration

DigiTerra Explorer is a competitive, map-centric application, available in 3 editions: [Basic](#), [Advanced](#) and [Professional](#). Each edition offers different functions to meet the individual needs of different user requirements.

When you purchase a license (Product ID) for a mobile computer essentially it means two licenses: one for the Mobile computer and one for the Desktop. Please note that in this case the mobile device holds the License key. So you need to **install and activate the software on mobile device prior to installing the Desktop software** because the Desktop software inherits the license from the mobile device.

DigiTerra Explorer requires Activation for full functionality. Without the activation, DigiTerra Explorer will operate in evaluation mode and allows non time limited software access with the following restrictions:

Disabled in the demo:

1. **Export,**
2. **Print and**
3. **Report functions.**
4. **Projects saved in trial version cannot be opened in a fully licensed version of DigiTerra Explorer.**
5. **Area calculation up to 1 hectare.**

Entering a valid DigiTerra Explorer Product ID disables the limitations.



The registration process requires a valid **Product ID** (License key) which you receive when you purchase DigiTerra Explorer.

SD Card based edition

If you have purchased the software on SD Card you don't need to activate the software, because it is preactivated by DigiTerra.

In that special case when you want to activate a license (Product ID) to your own SD Card please follow the installation process to the SD Card in the Getting Started > Installation > [Mobile](#) topic and then you need to follow the **Activation process** as below. It is highly recommended to use a good quality SD Card with the best speed that your mobile device supports. Please also keep in mind that the,



Please note, that the "SD Card based edition" is the only method to quickly move the license (Product ID) from a mobile device to another one. When you installed the software from CAB file or you are using the Desktop version and already activated your license (Product ID) to the mobile device or to the desktop computer the license cannot be moved to an other device. Terms and conditions: <http://www.digiterra.hu/en/purchase/terms-and-conditions.html>

CAB file based edition

When you want to activate a DigiTerra Explorer license to the device instead of the SD Card please note that once you have activated the license (Product ID) it will connect to that specific device (with a unique serial number) and the license cannot be moved to an other device in this case in accordance with Terms and conditions: <http://www.digiterra.hu/en/purchase/terms-and-conditions.html>

The Activation process

The software activation process is quite straight forward. It can be also used when you accidentally deleted the software license from the computer/handheld/SD Card. Prior to activation please make sure that:

1. You have the Product ID,
2. Your device has an Internet connection and
3. The operating system using the current date time on the device,

anyway the activation might be failed.

To start the Activation go to

Mobile:

File menu > Help > [About](#) > [License](#) tab

Desktop:

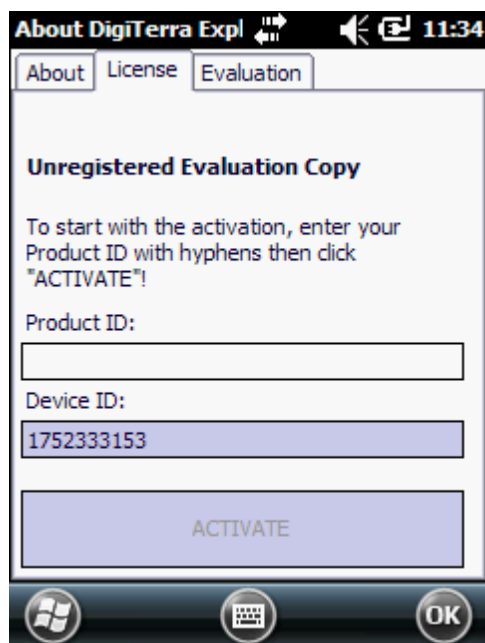
File menu > [About](#) > [License](#) tab

Enter the Product ID and tap on/click on the Activate button.

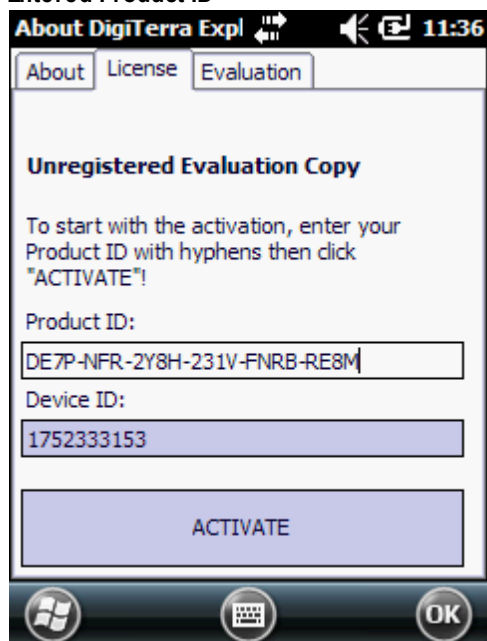


Please note, that when you are not using a separate license for the Desktop computer you need to install and activate the mobile device prior to installing the desktop tool because the desktop tool inherits the license from the mobile device.

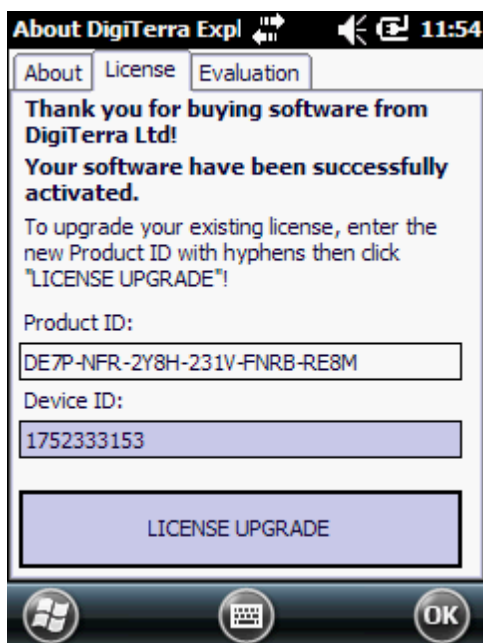
About > License tab



Entered Product ID



Activated software, License tab



Activated software, About tab



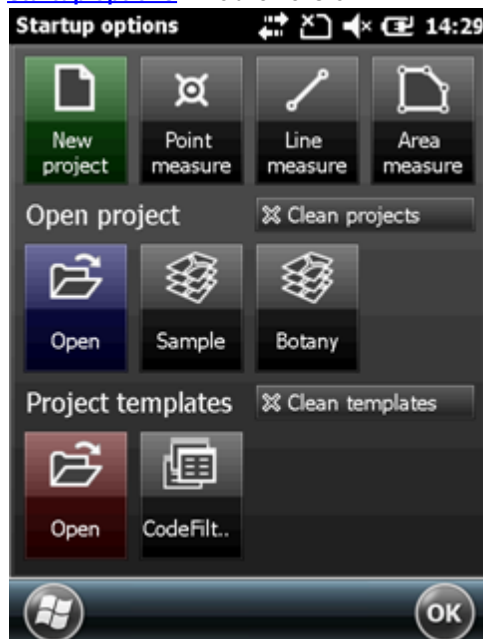
3 Workspace

DigiTerra™ Explorer offers native support for Mobile computers (Windows® Mobile OS's) and for Desktop computers (Windows® 2000, XP, Vista, 7, 8). Therefore the workspace of the **Mobile** and the **Desktop version** is slightly different that are described in detailed in this Reference Guide.

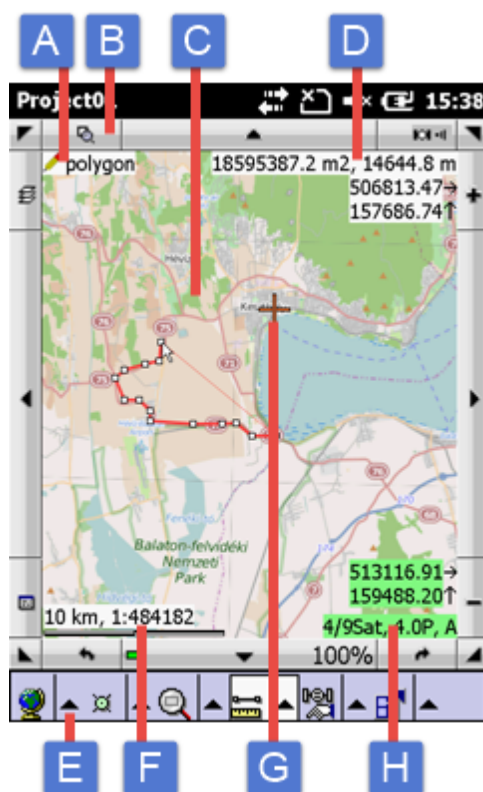
DigiTerra Explorer workspace contains the [Menu bar](#), [Toolbar](#) (available in the Desktop version only), [Pan frame](#) and the **interface of the map view**. You can [customize](#) the general appearance of the workspace on the Settings panel > [Map tab](#) and by using customized [Menu and Toolbar definitions](#) on the Settings panel > [System tab](#).

Mobile

Startup options - Mobile version



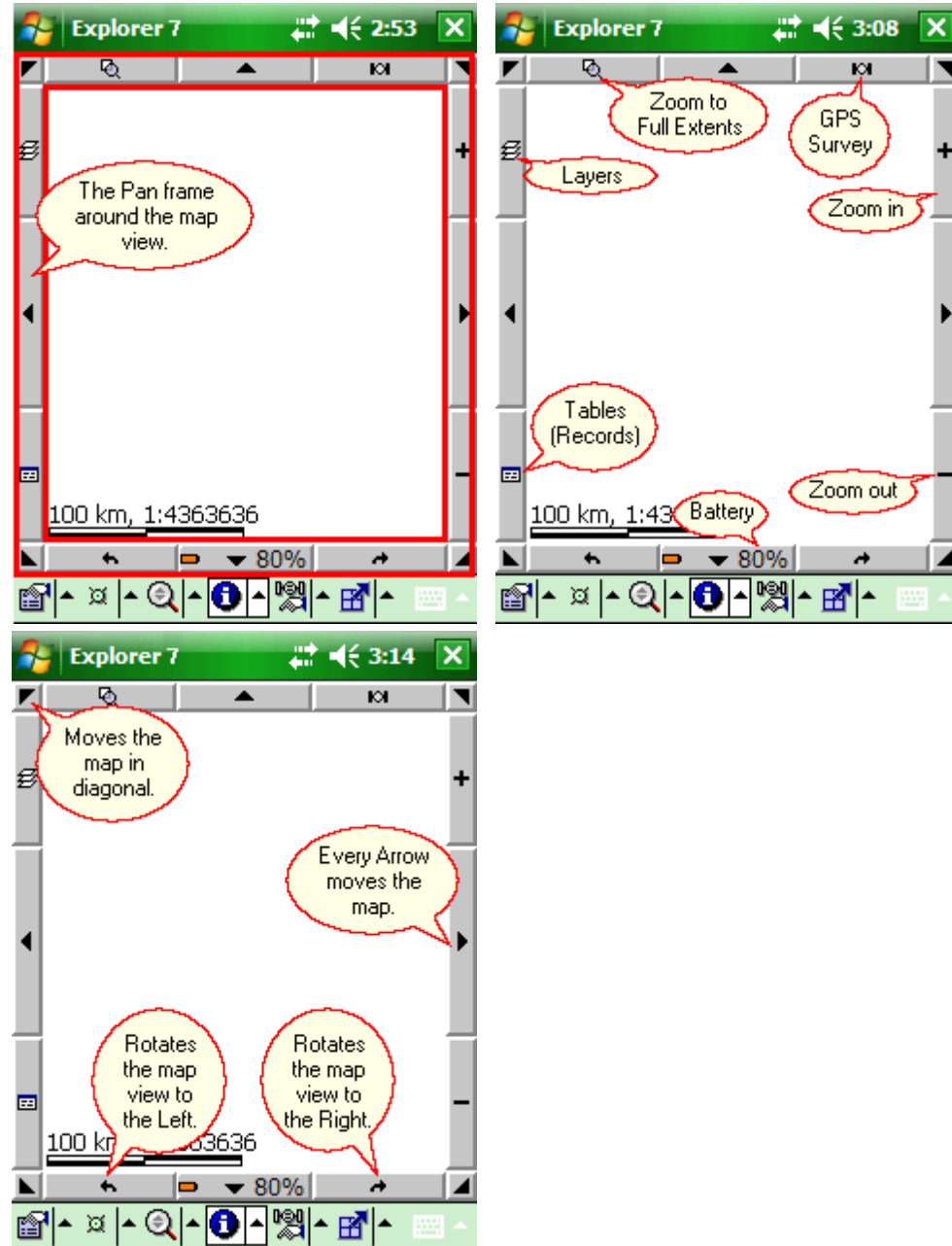
Parts of the workspace - Mobile version



A - [Edited layer](#)

B - Pan frame with the most frequently used buttons

The Pan frame around the map view and its buttons



C - Map view

D - Quick information about the currently/last measured/captured geometry, that displays the followings:

1. Shows the area and the perimeter of the line/polygon in [current area and length units](#).
2. Displays the Easting and Northing coordinates of the tapped/clicked position of the map view.

E - [Menu bar](#)

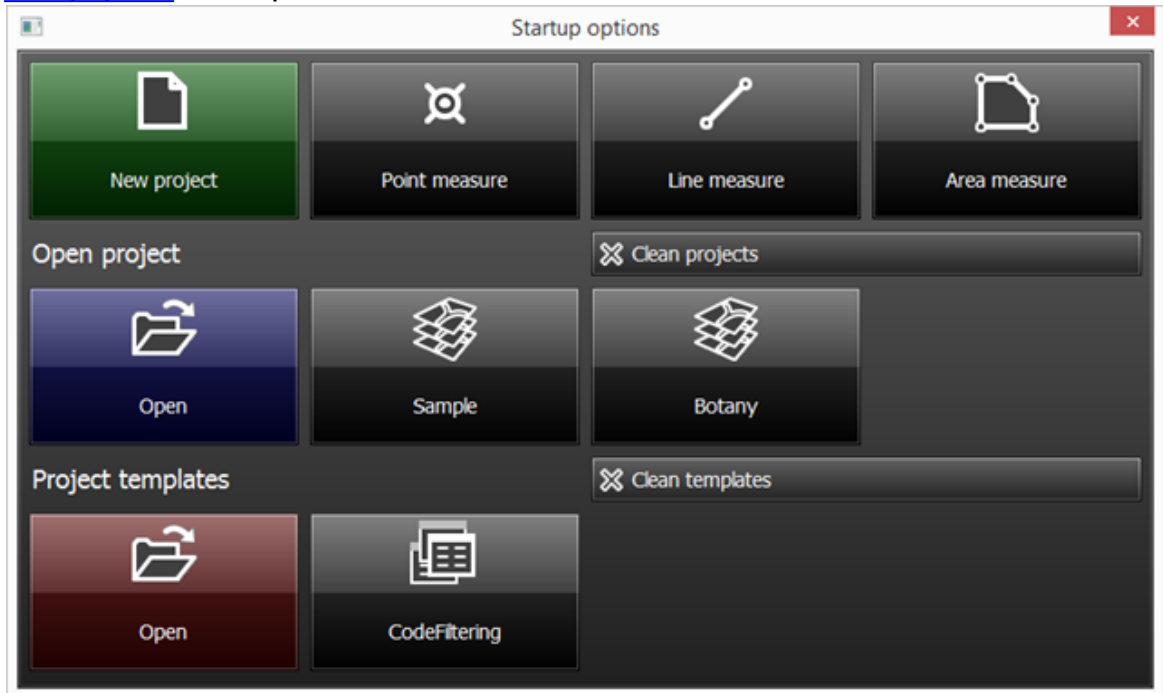
F - [Scale bar](#)

G - Shows the [current GPS position](#) when the GPS is activated.

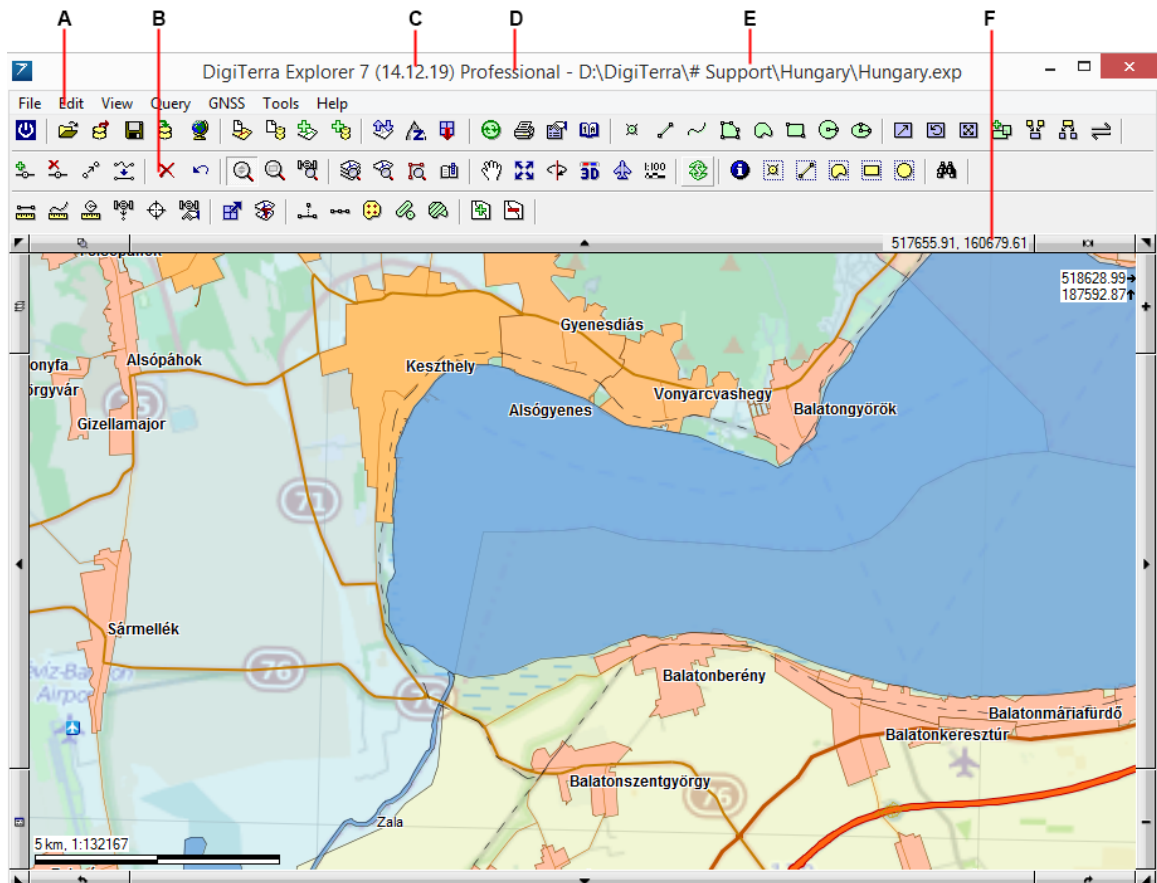
H - Shows the Easting and Northing coordinates of the current GPS position and [GPS status information](#) with [colored GPS statuses](#) when the GPS is activated.

Desktop

[Startup options](#) - Desktop version



Parts of the workspace - Desktop version (marked with the differences only)



A - [Menu bar](#)

B - [Toolbar](#)

C - Shows the current version

D - Shows the purchased edition / [EVALUATION mode](#)

E - Shows the and the path of the opened [map project](#)

F - Shows the Easting and Northing coordinates of the current cursor position

3.1 Startup options

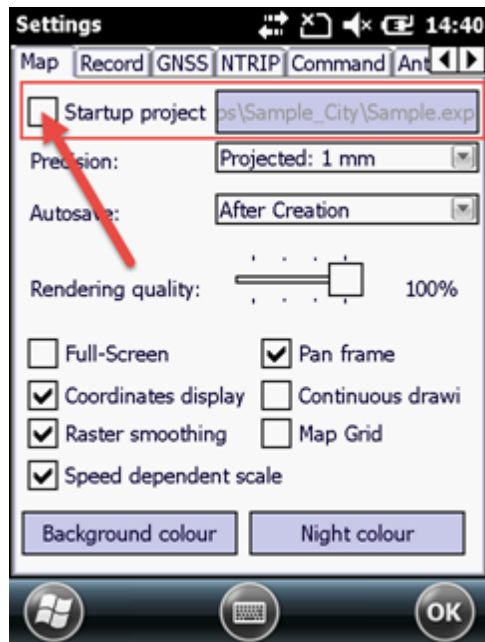
This panel accessible in the **File menu** > **Projects** sub-menu and in the **toolbar** (Desktop version).

Sometimes there is a need to go into the field to start capturing data as quickly and effortlessly as possible. The [Startup options](#) panel can help you to create a “ready to use” data capture project, providing a simple and efficient method for capturing data into new layers. It is also a useful panel if you only want to open the recent or a custom project or even to use efficient project templates.

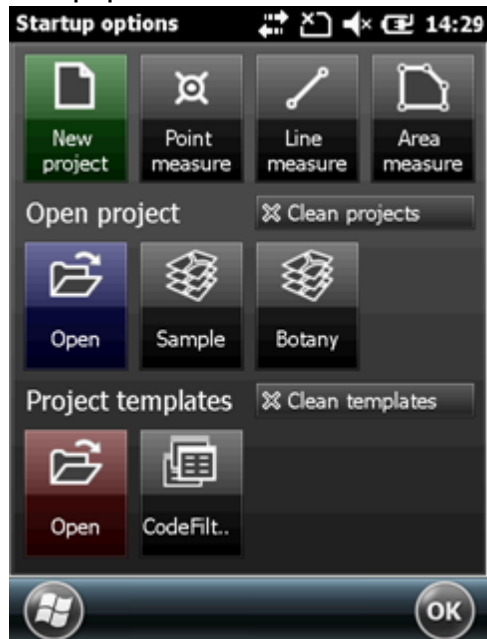


The **Startup options** dialog displays when the **Settings** > **Map** tab > [Startup project](#) option **disabled**

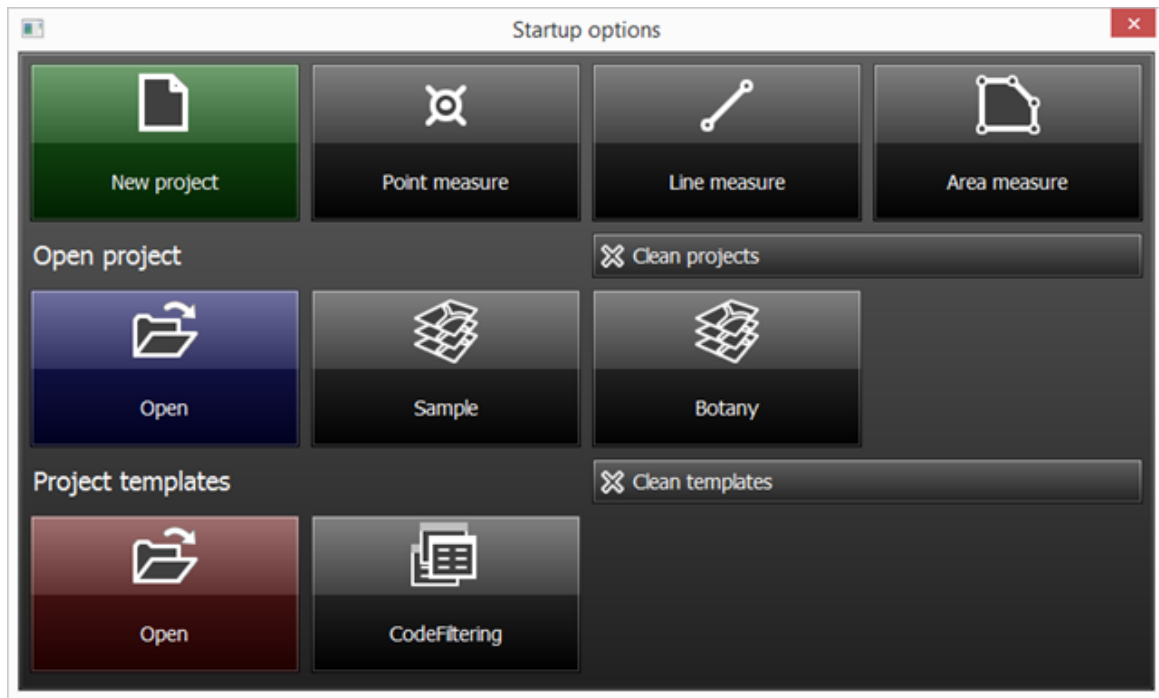
Disabled Startup project option on the Settings > Map tab



Startup options - Mobile version



Startup options - Desktop version



Detailed help available on the [Startup options](#) panel in the **Menu and toolbars** > **File menu** > **Projects** sub-menu > [Startup](#) topic

3.2 Workspace customization

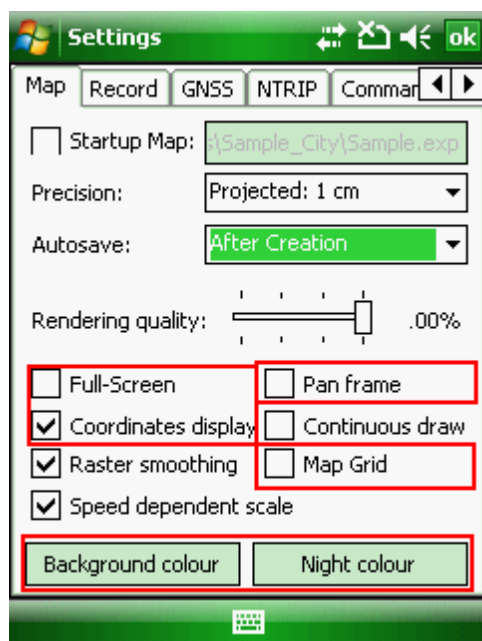
Workspace customization



The following customization options are available in the Mobile and also in the Desktop edition

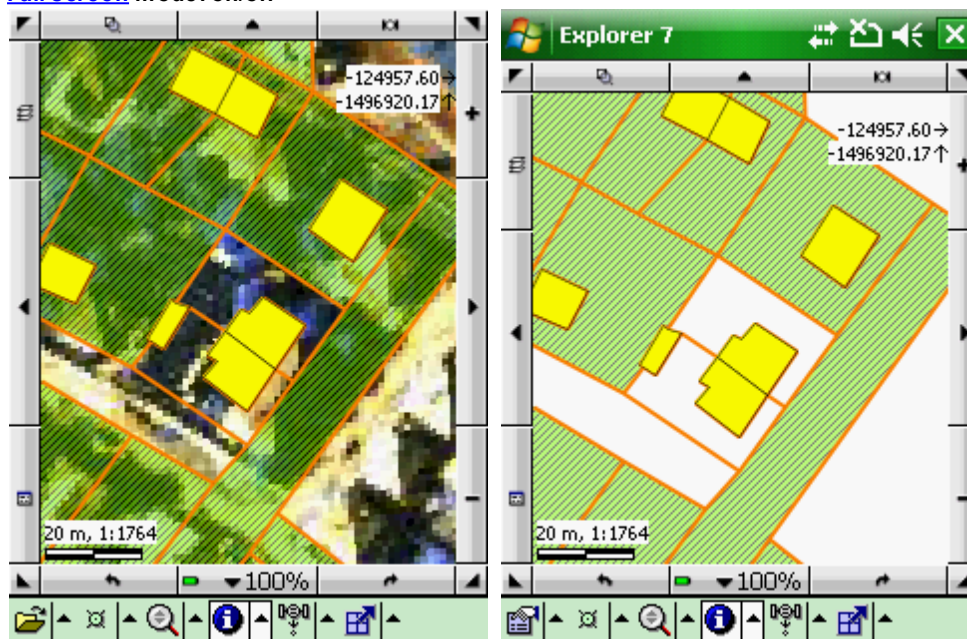
[Settings panel](#) > [Map tab](#)

Customization options on the [Settings panel](#) > [Map tab](#)



Full screen

[Full screen](#) mode: on/off



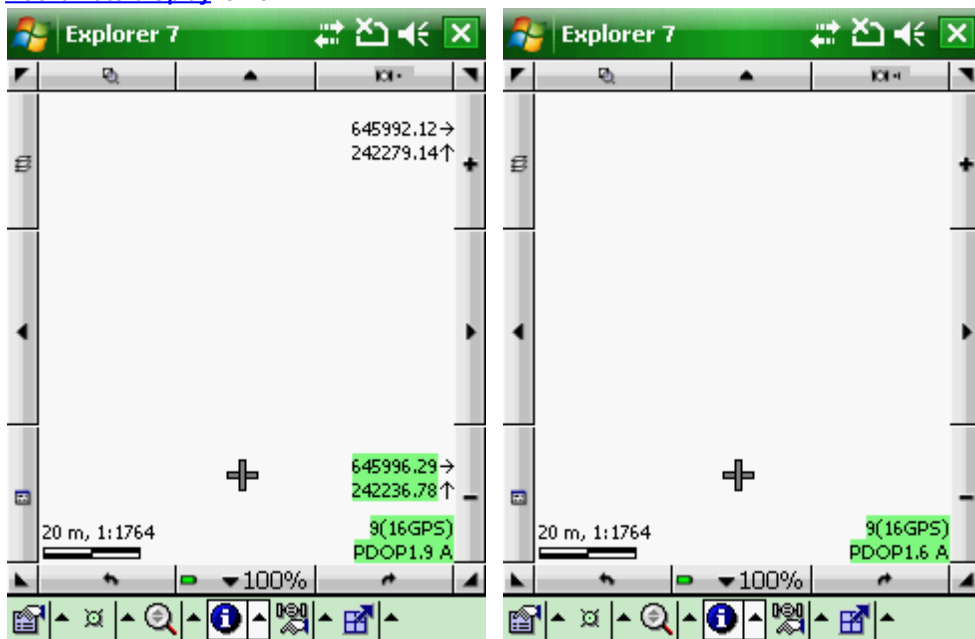
Pan frame

[Pan frame](#): on/off



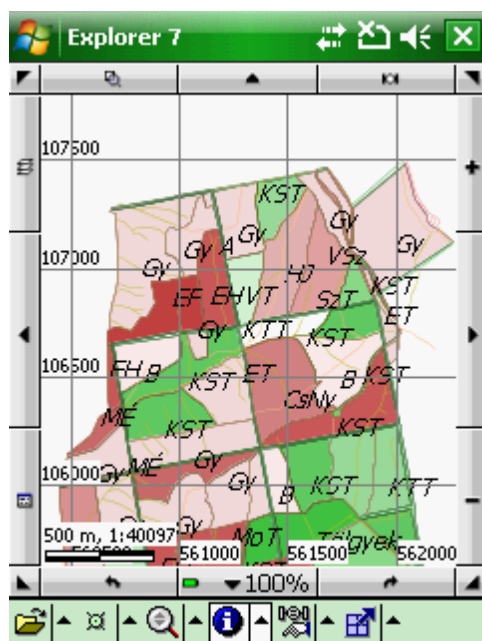
Coordinate display

[Coordinate display](#): on/off



Map grid

Map grid: on



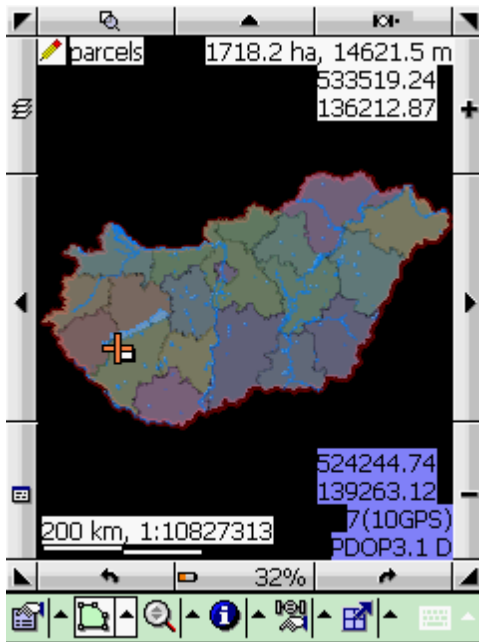
Night colour

Night colour = WHITE



Background colour

Background colour = BLACK

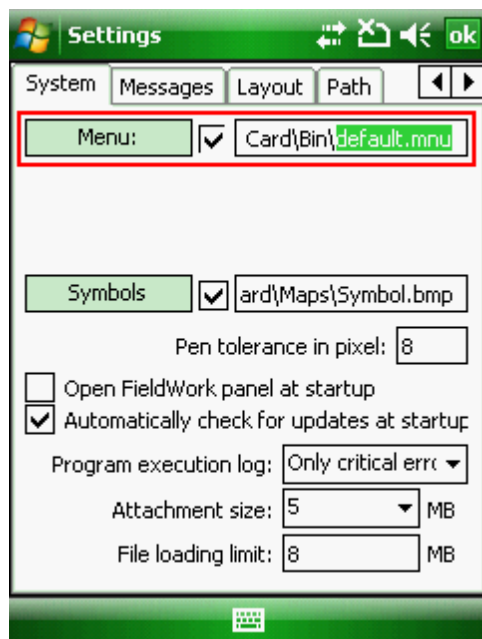


[Using customized Menu and Toolbar definitions on the Settings panel > System tab](#)

In DigiTerra Explorer the [tool definitions](#) are stored as menu (.MNU) and toolbar (.TBR) text files. If your mobile GIS application only requires a subset of the commands offered in the default menu and toolbar, or requires them presented in a different arrangement, you can modify the existing menu and toolbar and / or create your own. You can do this using a simple text editor (e.g. Notepad) based only built-in [commands](#) in this Reference Guide.

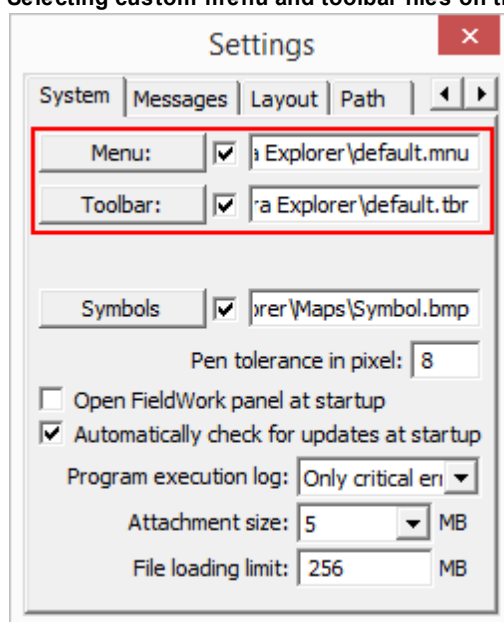
Menu

Selecting custom menu files on the **Settings > System tab**



Toolbar

Selecting custom menu and toolbar files on the Settings > System tab



4 Menu and toolbars

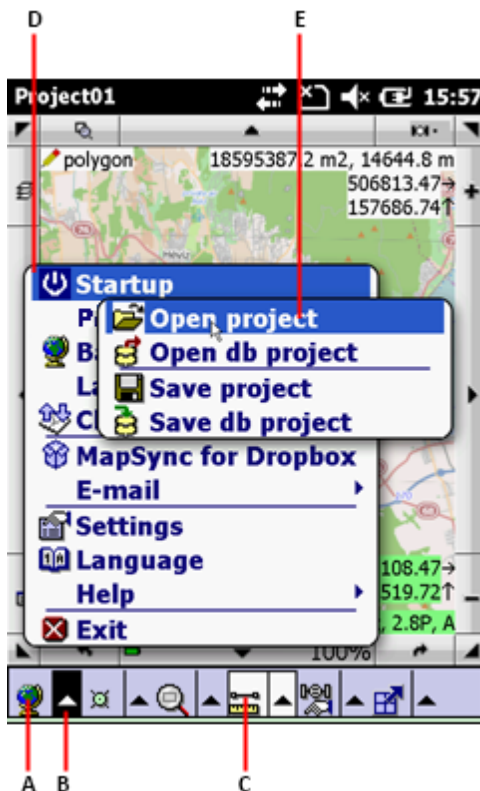
In the DigiTerra Explorer workspace, the **menu bar** is a horizontal "bar" anchored to the top of the screen in the **Desktop version** and it is anchored to the bottom of the screen in the **Mobile version**. On the left side, it contains the **Windows® application menus** (e.g. File, Edit, View...). On the right hand side in the Mobile version it contains the **Keyboard button**. The **toolbar** is a

horizontal "bar" anchored to the top of the screen under the **menu bar**, available only in the **Desktop version**.



The content of the **toolbar** and the **menu bar** differs by different editions and by available extensions. The edition-specific differences can be found in the individual chapters. You can easily check which tools / commands are accessible in which edition by opening the **About** panel > **Evaluation** > select an edition / extension then tap/click on the **EVALUATE** button.

Menu bar in the Mobile version



A - Menu bar with six (6) application menus. [File](#), [Edit](#), [View](#), [Query](#), [GNSS](#), [Tools](#). The [Help](#) menu can be found in the **File** menu as a sub-menu, above the Exit button. On some devices there are only 5 application menus available, because the keyboard covers a part of the Tools menu and it cannot be hidden in the [deviceSizeConf.txt](#). In this case the Tools menu is located at the bottom of the GPS menu as a sub-menu on the relevant devices.

B - Displays / hides the menu

C - Active tool

D - Opens / closes the Keyboard

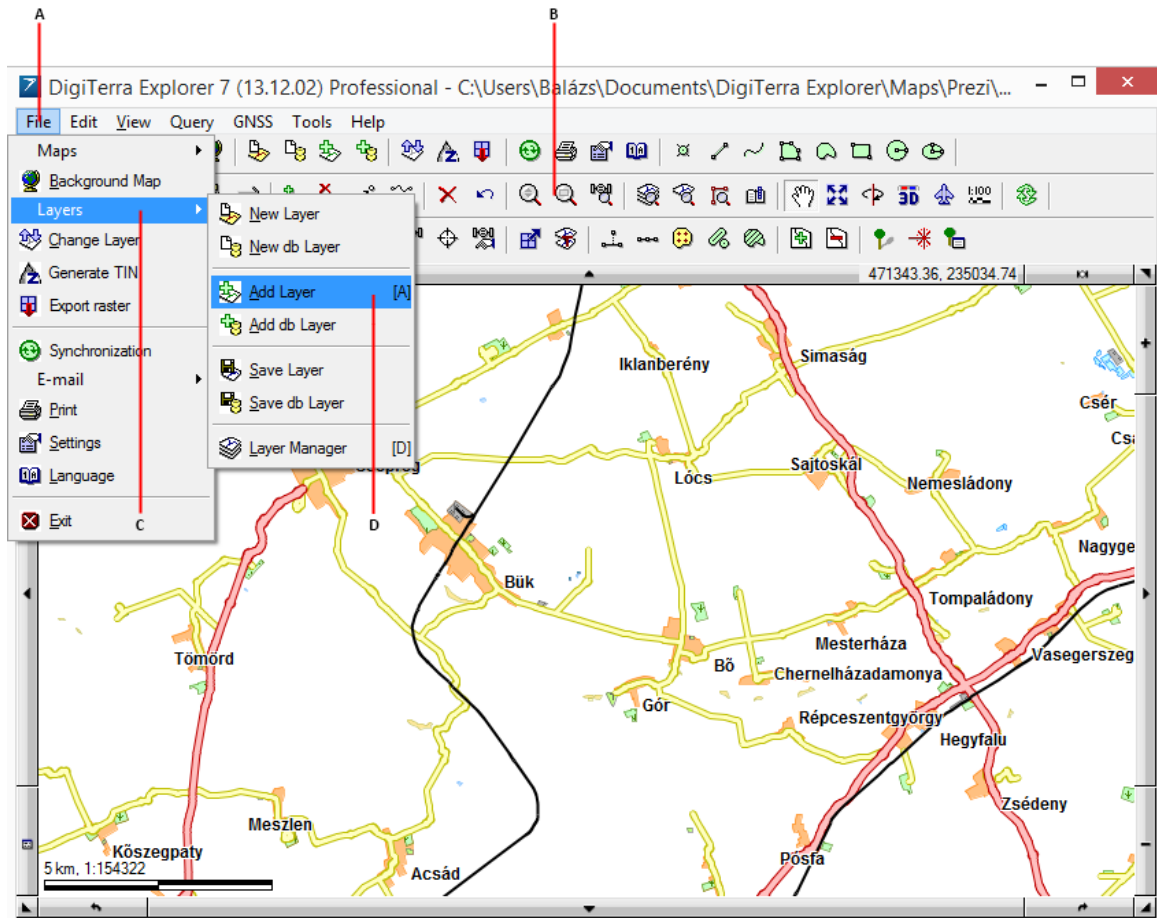
E - Menu and a selected sub-menu. *Defined in the [Default.mnu](#) file.*

F - Selected menu item



The font size in the menu can be modified in the [device configuration file](#).

Menu and toolbar in the Desktop version



A - Application menus. You can display/hide application menus by clicking on the name ([File](#), [Edit](#), [View](#), [Query](#), [GNSS](#), [Tools](#) and [Help](#)) of the menu. These seven (7) application menus defined in the [Default.mnu](#) file.

B - Toolbar. Available only in the Desktop version, it is defined in the [Default.tbr](#) file.

C - Menu and a selected sub menu

D - Selected menu item





The default Menu and the Toolbar can be customized by editing [tool definitions](#) in the Menu (.MNU) and Toolbar (.TBR) text files. [These text files allows you to create or modify a toolbar or menu bar configuration](#) in your favorite text editor (e.g. in Notepad) without the need of any developer application.

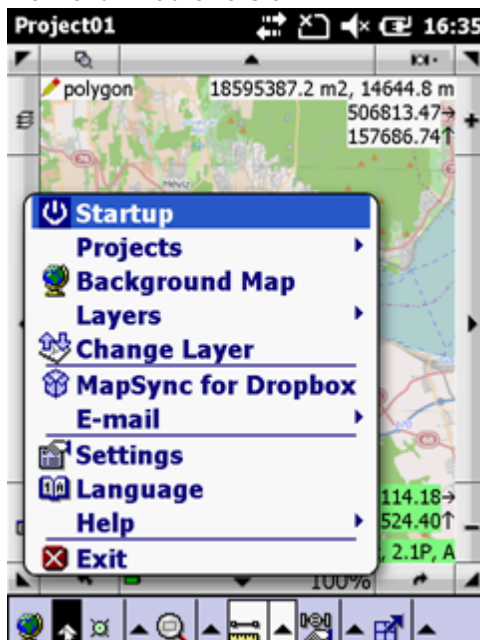
4.1 File menu

The **File** menu contains the following **options** and **sub-menus**

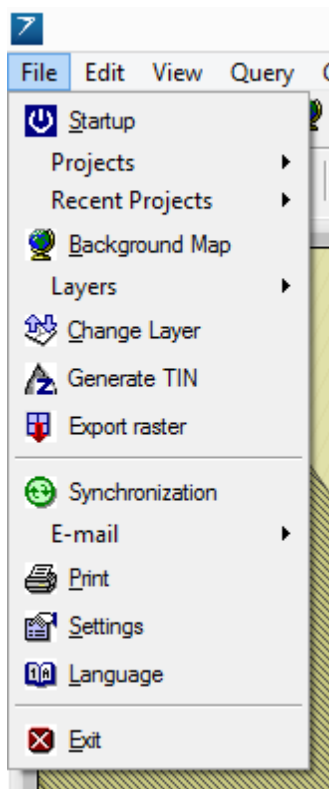
-  **Startup**
 - **Projects**

- [Recent Projects](#) (*Desktop function*)
-  [Background Map](#)
- [Layers](#)
-  [Change Layer](#)
-  [Generate TIN](#) (*Desktop function*)
-  [Export raster](#) (*Desktop function*)
-  [Synchronization](#) (*Desktop function*)
- [MapSync for Dropbox](#) (*Mobile function*)
- [E-mail](#)
-  [Print](#) (*Desktop function*)
-  [Settings](#)
-  [Language](#)
- [Help](#) (*Mobile function*)
-  [Exit](#)

File menu - Mobile version



File menu - Desktop version



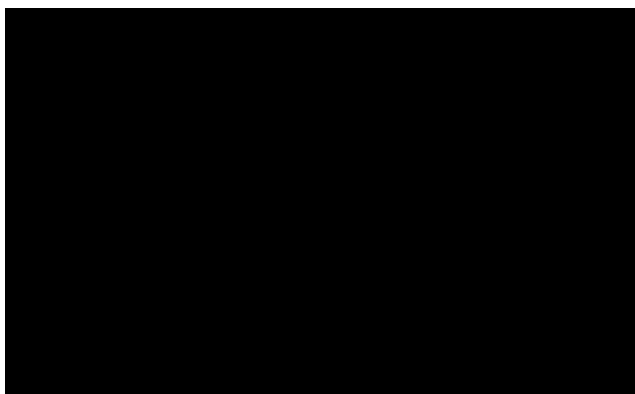
4.1.1 Startup

The  **Startup** command is accessible in the [File menu](#), or by clicking on the  **Startup** button in the [toolbar](#) (Desktop version).

Startup

Opens the **Startup options** panel that has two parts: the **Main screen** and the **Settings area**.

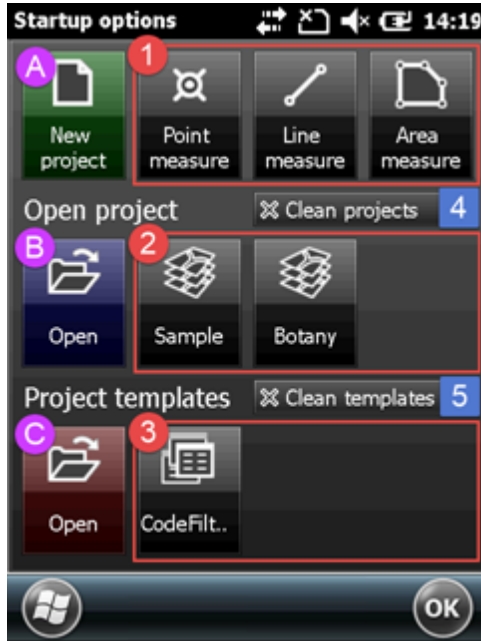
The following video tutorial explains the Startup options panel usage in detail:



Using the Startup options panel

Startup options: Main screen

Startup options - Mobile version

**A - New project**

Scrolls the Startup options panel to the **Settings area** to specify the project parameters and creates a new mapping project without layers. **Default file format:** .EXP that can be changed to any other supported [map and mapping project formats](#) when [saving the project](#).

B - Open project

Opens the [Open project File panel](#) to [open a Project](#)

C - Project templates

Opens the Open Template [File panel](#) to open a **Project template** then scrolls the Startup options panel to the **Settings area** to specify the project parameters. **Default file format:** .EXP that can be changed to any other supported [map and mapping project formats](#) when [saving the project](#).

1 - Quick measure functions

Scrolls the Startup options panel to the **Settings area** to specify the project parameters and creates a new mapping project with a point, line or polygon feature layer. Then opens the GNSS Surveying panel.

2 - Recent projects

Displays the three most recently opened projects. Tap any one of these to close the current project and open the selected one.

3 - Recent project templates

Displays the three most recently opened project templates. Tap any one of these to create a new mapping project using the selected project template.

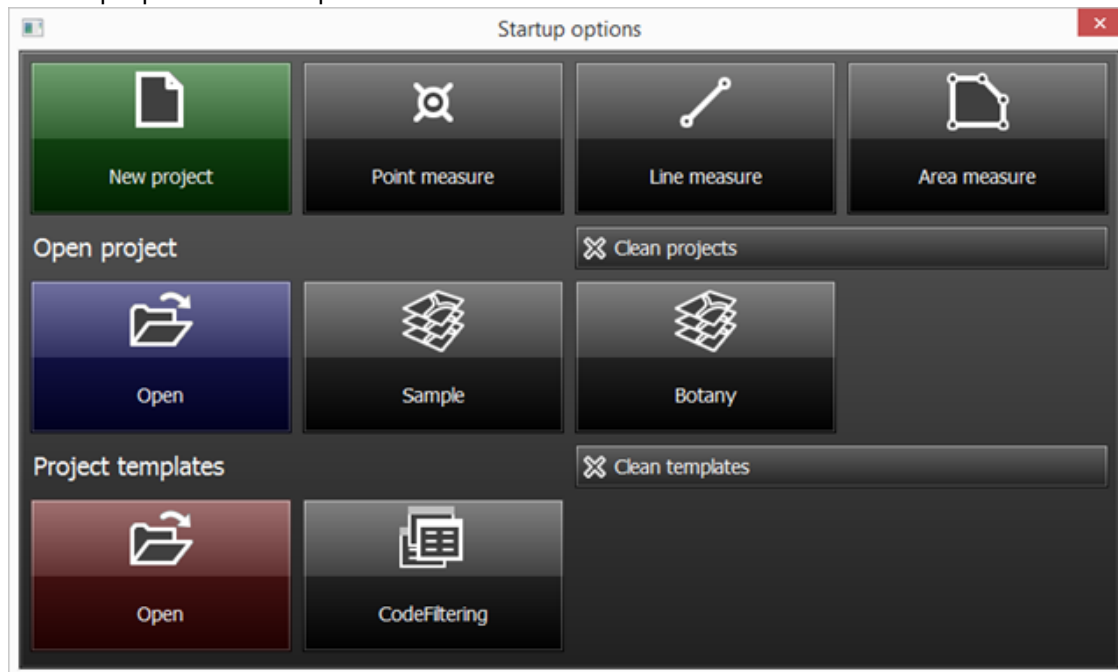
4 - Clean projects

Removes the recent projects from the **Startup options** panel and the [Recent Projects](#) sub-menu

5 - Clean templates

Removes the recent project templates from the **Startup options** panel

☒ New Map Options - Desktop version



Startup options: Settings

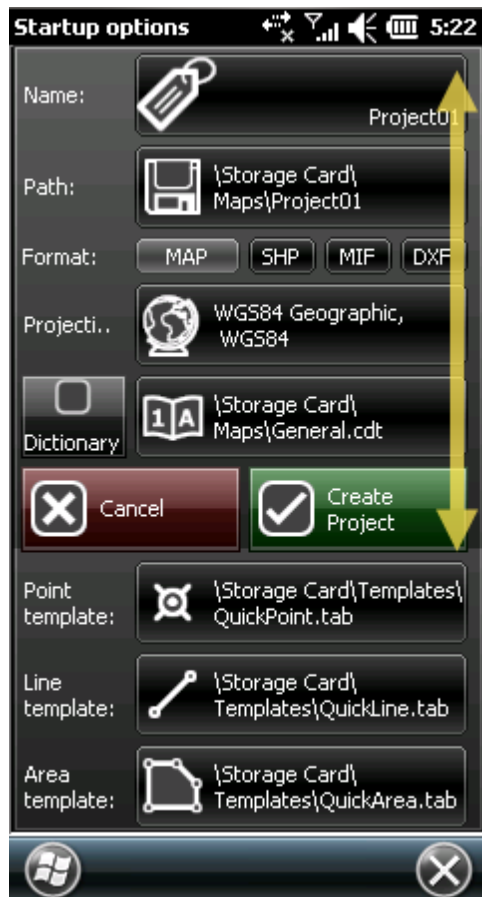
The Settings area of the **Startup options** panel displays automatically when using the following options on the panel:

- **New project**
- **Quick project**
- **Project templates**



Please note, that this is a scrollable panel. So when you can't see the controls at the bottom just drag the panel and scroll down.

Startup options > Settings - Mobile version



- **Name** - Displays the Project name. It [can be edited on the Startup options Input panel](#) by tapping/ clicking on the path. The project file format is [DigiTerra Explorer Map \(.EXP\)](#)

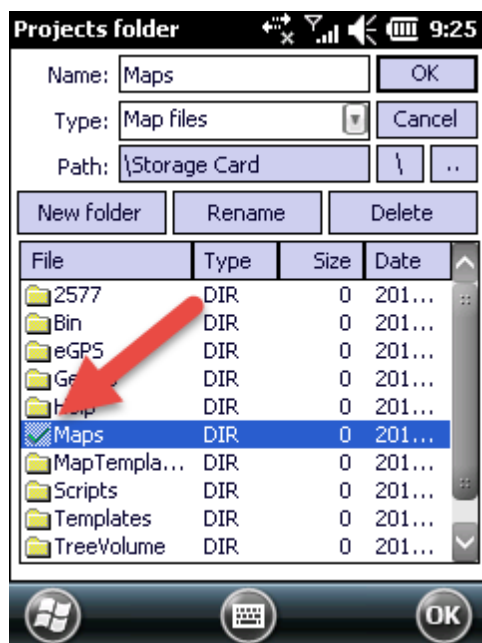
Naming conventions:

- Default is '**Project01**'
- The number at the end of the project name automatically increments
- Automatically renames the project when trying to use the same project name to an existing project

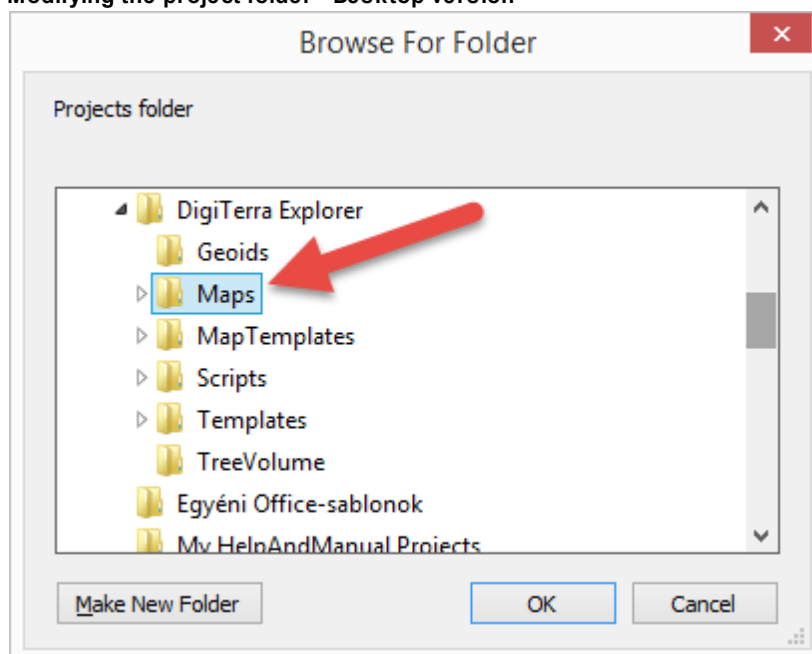
- **Path** - Displays the target directory where the project file will be saved. It can be modified by tapping/clicking on the name of the project.

Modifying the project folder:

Modifying the project folder - Mobile version



Modifying the project folder - Desktop version



Default Path:

Desktop version: \$DOCUMENTS\DigiTerra Explorer\Maps

Mobile version: \$SDCARD\Maps

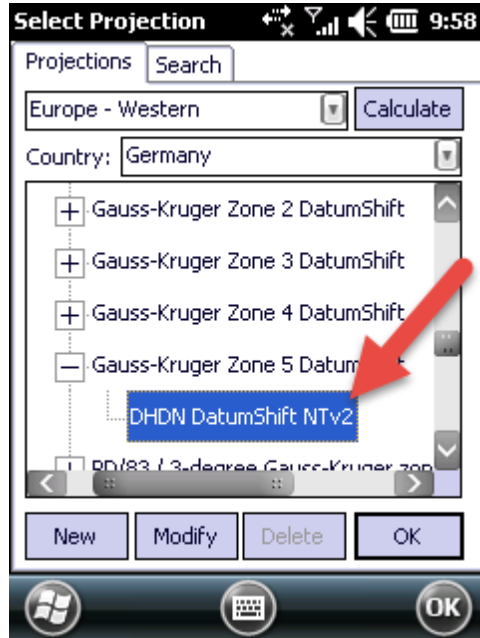
- **Format** - Specifies the output [vector layer format](#) to the **Quick measure** and **Project template functions**. It also specifies the default vector layer format when [creating a new layer](#). The selected output format is grayed, the default is [MAP - DigiTerra](#).
- **Projection** - Specifies the projection to the **New project** and **Quick measure** functions. The

projection cannot be changed when using a Project template.

Modifying the projection:

Tap on/ click on the projection button to open the [Select Projection panel](#) and select a projection.

Selected projection



- **Dictionary** - Enables to use a global code dictionary to each project when checked. Default is unchecked, in this case the code dictionary stores next to the project file.
- **Cancel** - Cancels changes that has been made on the Startup options > Settings area and the panel scrolls back to the Startup options > Main screen.
- **Create Project** - Creates the project.

Attribute table templates to the Quick measure functions

- **Point template** - Displays the path to the current **Point template** file. The default is **QuickPoint.tab**.
- **Line template** - Displays the path to the current path of the **Line template** file. The default is **QuickLine.tab**.
- **Area template** - Displays the path to the **Area template** file. The default is **QuickArea.tab**.

Modifying the template:

Tap on/ click on the projection button to open the [file panel](#) to select a different template file.



The QuickPoint.tab attribute table template can be used when working in a local projection system. In case of using global geographical LAT, LON coordinates

please use the QuickPointWGS.tab template file.

Templates Path:**Desktop version:** \$DOCUMENTS\DigiTerra Explorer\Templates**Mobile version:** \$SDCARD\Templates**4.1.1.1 Input panel**

The input panel is used to edit the name of the project.

The following video tutorial explains the Input panel usage in detail:



Using the Input panel on the Startup options dialog box

Main buttons on the Input panel



E - Applies changes then closes the input panel

F - Backspace

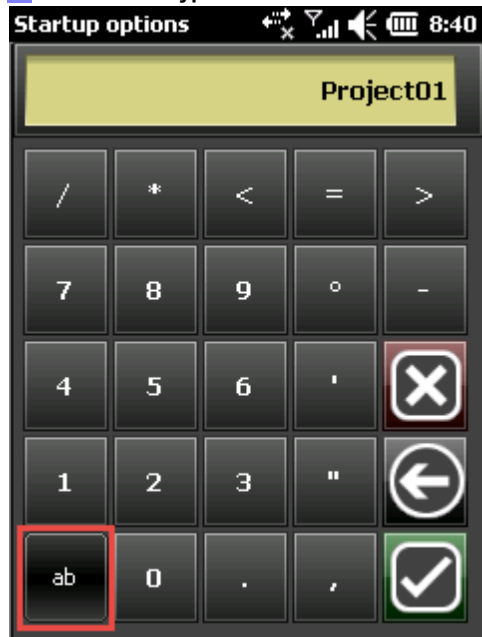
G - Cancels changes then closes the input panel

Other buttons on the Input panel

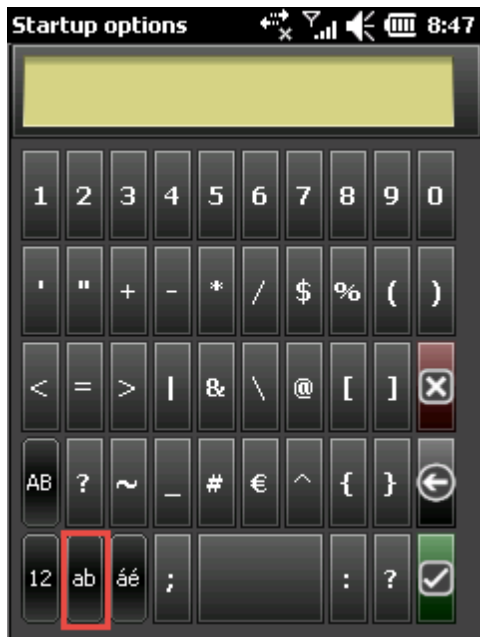
A - Capitalized characters



B - Numeric keypad



C - Special characters



D - Accented characters



4.1.1.2 Project templates

Project templates are ready to use data capture projects with empty vector layers and optional raster and/or vector background layers. The **Project template** usage is accessible on the [Startup options](#) panel via the [Open template](#) button and also via the [Recent project template](#) button.

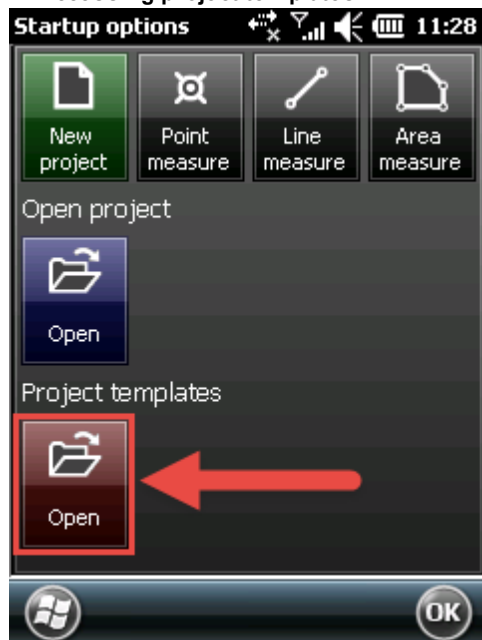
The following video tutorial covers the Project template usage in detail:



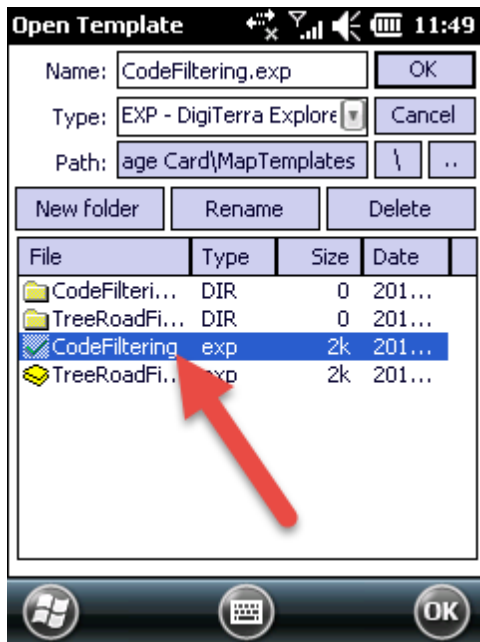
Using Project templates

Using Project templates

1 - Accessing project templates



2 - Selecting a Project template



3 - Configuring Project template options



The reference description to the controls on the screenshot: "3 - Configuring Project template options" can be found in the [Startup](#) topic.

Default Project template Path:

Desktop version: \$DOCUMENTS\DigiTerra Explorer\MapTemplates

Mobile version: \$SDCARD\MapTemplates

☀ = new feature

Availability of the "Use map template

Basic



Advanced



Professional



feature" in different editions

How to use the Project template feature?

1. Tap on the **Open** button (or choose among the [recent Project templates](#)) on the [Startup options](#) panel to select a **Project template**
2. Select a template file then tap **[OK]**. The template file extension is [DigiTerra Explorer Map \(.EXP\)](#)
3. Configure the project on the [settings area](#) of the [Startup options](#) panel, then tap on/click on the Create Project button

Which layers can be used in the Project template?

Any [vector layer format](#) can be used in the Project template as [attribute table template](#) without existing geometry/attribute records. If there are geometries and attribute records in the layer or if you are using Raster or TIN layers the software will open them with relative path from their original location in the new project. Projection, Labeling, classification, scale settings...etc. can also be used dynamically. Code dictionary can also be used in the Project template.

How to create a new Project template?

1. Create a [New project](#) on the Startup options panel using the "**Default Project template Path**"
2. [Create new layers](#) into the project
3. Customize the attribute table by adding new data fields with the required default values, expressions ...etc. or by using [Attribute table templates](#)
4. Copy the optional background raster and / or vector layers to the Project template path described above then [add them to this project as layers](#)
5. Save the project with the changes you made



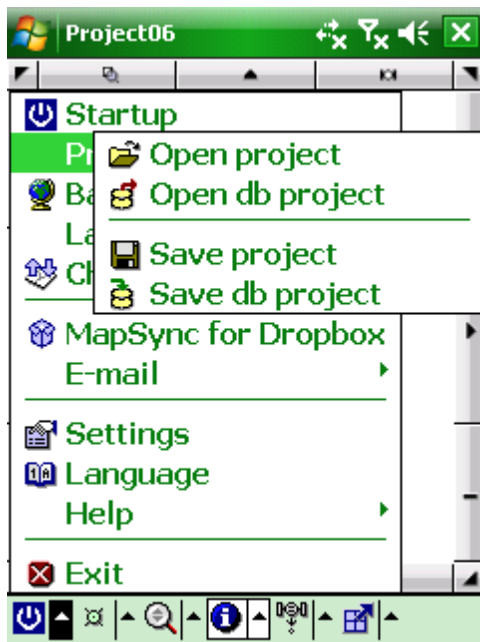
If you would like to use the your Project templates in the Project template folder [synchronize](#) this folder with the mobile devices you want to use on the field. If you are working with tablets copy this folder to the Project template PATH described above.

4.1.2 Projects

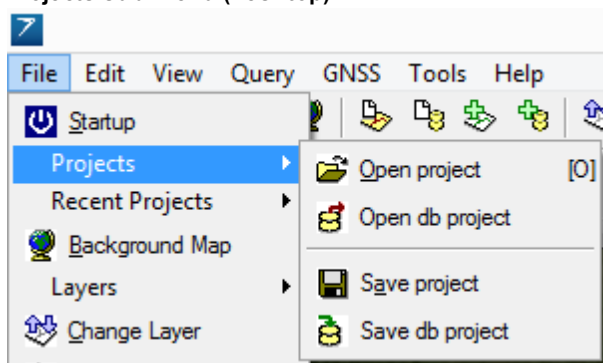
This sub-menu is accessible in the [File menu](#) and contains the following items:

-  [Open project](#)
-  [Open db project](#)
-  [Save project](#)
-  [Save db project](#)


Projects sub-menu (Mobile)



Projects sub-menu (Desktop)



4.1.2.1 Open project

This command is accessible in the [File menu](#) > [Projects](#) sub-menu, or by clicking on the  **Open Project** button in the [toolbar](#) (Desktop version). The **Open Project** command also accessible on the [Startup options](#) panel.



Open Project

Opens the **Open Project** [File panel](#) to Open project(s).

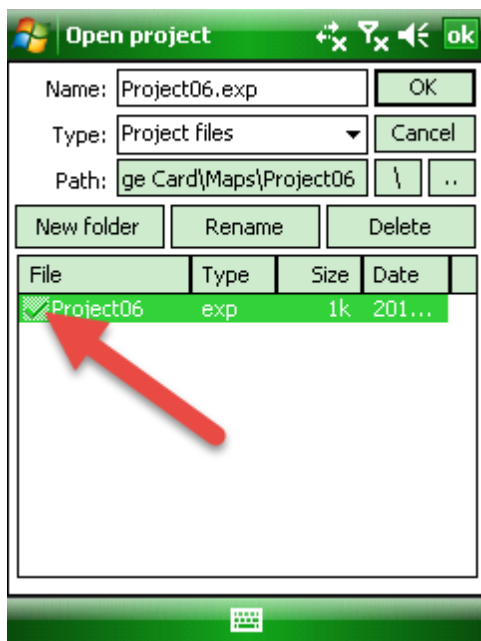


DigiTerra Explorer merges the selected Projects into one Project when more than one [project files](#) selected in the **Open Project** file panel for opening.

Keyboard command: O

[Supported map file](#) formats: **APM, DAT, DMP, EXP, GML, KML, KMZ**

Open Project File panel



☀ = new feature

Basic

Advanced

Professional

Supported mapping project formats with the Open Project command in different editions

	Basic	Advanced	Professional
APM - ArcPad Map file <i>with ArcPad Layer Definition file(.APL)</i>	✗	✗	✓
DAT - Hungarian Digital Base Map	✗	✗	✓
DMP - DigiTerra Map Pack	✗	✓	✓
EXP - DigiTerra Explorer Map	✓	✓	✓
GML - OpenGIS GML Map file	✗	✗	✓
KML - OpenGIS KML Map file	✗	✗	✓
KMZ - OpenGIS KMZ Map file	✗	✗	☀

4.1.2.2 Open db project

This command is accessible in the [File menu](#) > [Projects](#) sub-menu, or by clicking on the  **Open db project** button in the [toolbar](#) (Desktop version).

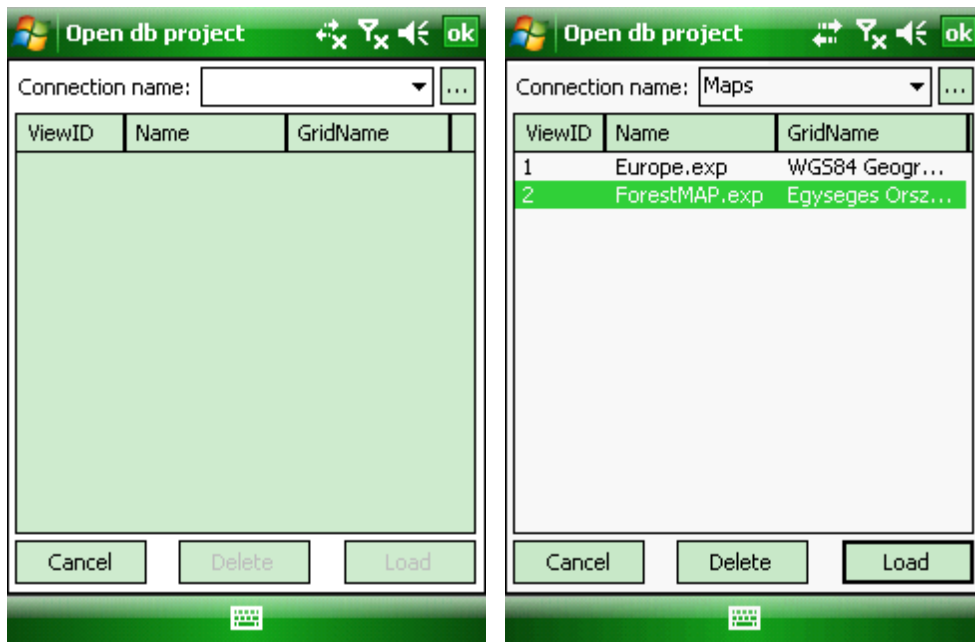


Open db project

Opens the [Open db project](#) panel, that enables to select and open an [SQLite file geodatabase](#) project from an [SQLite DB3 geodatabase](#).

Supported geodatabase: [DB3 - SQLite version 3](#)

Open db project panel



Connection name: Lists the connections in a drop-down list, that can be created on the [Database connection dialog](#) box to [SQLite DB3 geodatabase files](#). A connection needs to be selected from the list to display its view(s) in the SQL view list below. Only one database view can be selected to open a project contrary by the EXP, DMP file selection when opening a Project with the [Open project](#) tool where more than one files can be selected.

 - Opens the [Database connection panel](#) to manage connections with geodatabases

SQL view list: Lists the SQL views of the geodatabase. **Tap on a list item** to select an SQL view for loading or deletion.

Cancel - Closes the Open db project panel

Delete - Deletes the selected SQL view from the geodatabase


Load - Opens the SQL view as a map view

 = new feature

Availability of the "Open db project" command in different editions

Basic	Advanced	Professional
		

4.1.2.2.1 Database connection

This panel is accessible on the following panels by tapping on the  button after the Connection name drop-down list:

- [Open db project](#)
- [Save db project](#)
- [New db Layer](#)
- [Add db Layer](#)

- [Save db Layer](#)



Database connection panel is used to define/open a new database/existing connections with SQLite DB3 geodatabase files.

Database connection panel

Name: Displays the list of the geodatabase connection. Default name is the file name of the SQLite DB3 file. The connection name can be modified.

Provider: Lists the selectable providers. Currently it is SQLite only.

Path - Displays the path to the SQLite DB3 file. The path can be modified by editing the path text or either by tapping on the Path button to open the Open DB [file panel](#).

Database connection list: Lists all available SQLite connections. **Tap on a list item** to select a connection for loading or deletion.

Load - Opens the relevant SQLite geodatabase to the selected connection then closes the Database connection panel. The geodatabase can be selected on the listed five panes above.

Save - Saves the connections when you add a new connection or when modify the Name or Path.

New - Opens the Open DB [file dialog](#) to select an existing SQLite DB3 file or create a new one to define a new geodatabase connection.

Cancel - Closes the Database connection panel and discard all unsaved modifications.

Delete - Deletes the selected geodatabase connection. The relevant SQLite DB3 file remains intact.

OK - Opens the relevant SQLite geodatabase to the selected connection then closes the Database connection panel. The geodatabase can be selected on the listed five panes above.

To define and open (load) a new database connection follow this tutorial

1. Tap on the **[New]** button top open the Open DB [file panel](#)
 - a. Enter the Name of the database to create a new SQLite DB3 geodatabase file then tap **[OK]** and finally **[OK]** on the "File does not exist! Create" message box.
or
 - b. Select an existing SQLite DB3 geodatabase file in the [Open DB file panel](#)
2. Select a geodatabase connection in the list and then tap on the **[Load]** button
3. The selected geodatabase finally can be selected on the listed five panes above as:

Selectable geodatabase (connection)

Connection name:	MyGeodatabase	...
ViewID	Name	MyGeodatabase
		Shorname

4.1.2.2.2 Open db

The **Open db** [file panel](#) accessible through the [Database connection](#) panel when tapping on the **[New]** button.

Open DB file panel

Open DB					OK
Name:				OK	
Type:	DB3 - SQLite db	Cancel			
Path:	{Storage Card}\Maps\Eur	\	..		
New Folder	Rename	Delete			
File	Type	Size	Date		

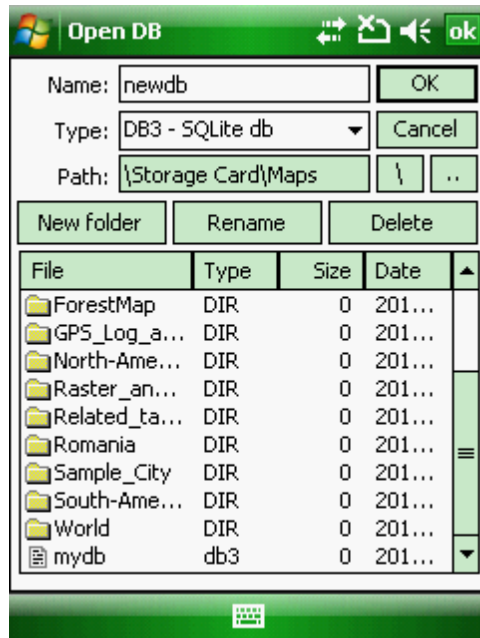


To create a new SQLite DB3 geodatabase file enter the Name of the database

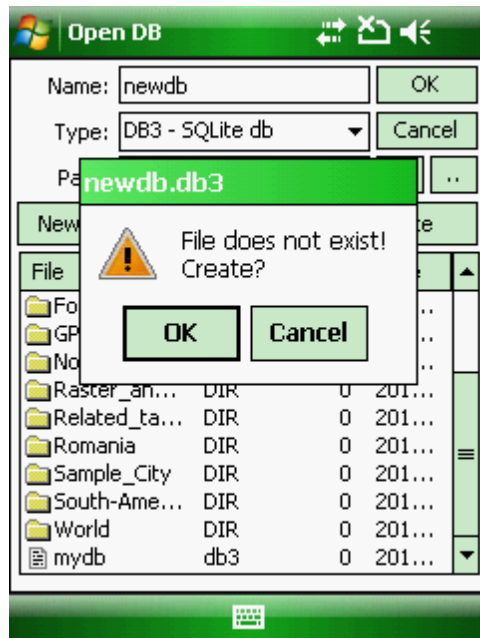
then tap [OK] and finally [OK] on the "File does not exist! Create" message box.

Creating a new geodatabase

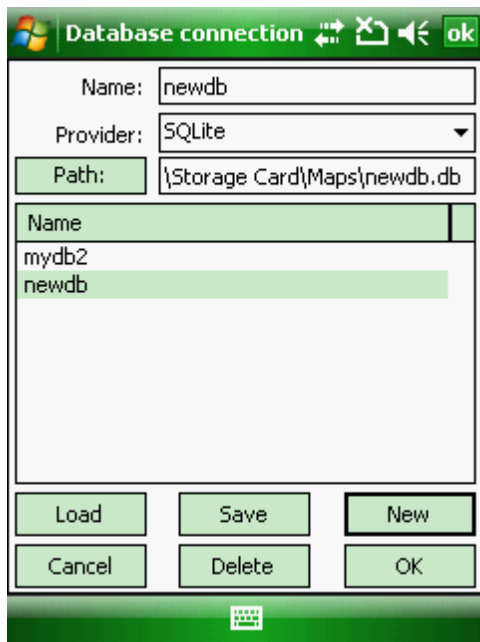
1.




2.



3.



4.1.2.3 Save project

This command is accessible in the [File menu](#) > [Projects](#) sub-menu, or by clicking on the  **Save project** button in the [toolbar](#) (Desktop version).

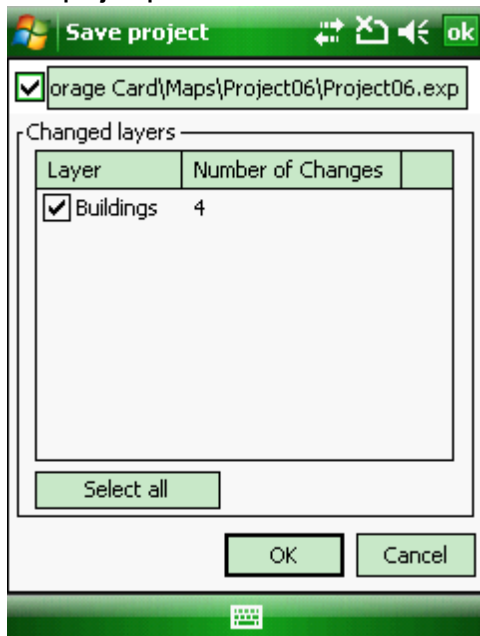


Save project

Opens the **Save project** panel, that enables to save modification(s) you made in the project and in the vector source layer(s) and their [attributes](#) separately.

[Supported map formats](#): **DMP, EXP, GML, KML, KMZ**

Save project panel



[x] before the button - Allows you to open the "**PATH button**" to access to the Save project file panel.

- This check-box checked once you modify any parameter in the project: *e.g. labeling, a new thematic class etc.*

Note: This check-box is also checked if you are using the following vector layer, text and tabular file formats in the project, which are not able to store long Field name, Alias, Default value and Expression, Data type, Rules, Code filters. In this cases the project file store these parameters due to the limitations of the selected vector layer format.

- ESRI Shape (.SHP)
- Zipped ESRI Shape (.ZIP)
- Mapinfo Interchange (.MIF/MID)
- Microstation (.DGN) - up to version 7
- AutoDesk (.DXF)
- GPS logfile (.LOG)
- Coordinates (point) (.CRD)
- Coordinates (shape) (.DAT)
- Atlas GIS (.BNA)
-
- dBase (.DBF)
- Text files (.TXT)

PATH button - Opens the **Save project** file panel to modify the map file name and the file format. The default file format is: [DigiTerra Explorer Map \(.EXP\)](#)

Changed layers - Lists the number of changes in the affected vector layers (feature geometry and their attributes)

[x] before the layer name - Allows you to skip the selected changes in the data source and save only the selected data sources. Checked as default once you have modified the data source.

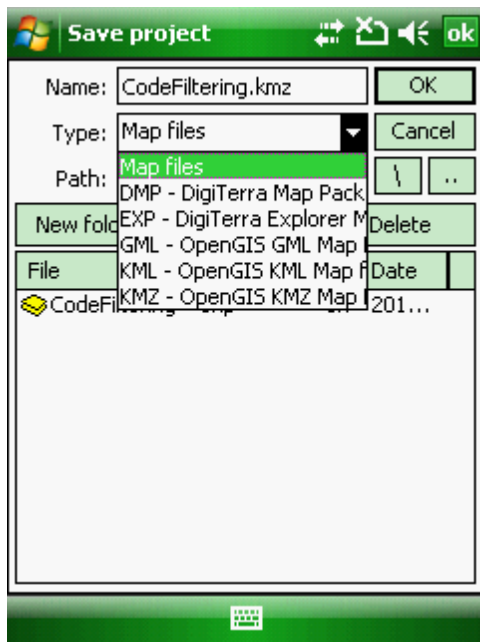
Select all - Checks all check-boxes before the layers


OK - Saves the selected data sources and the project
Opens the [Save project Pack](#) panel when working with [DigiTerra Map Pack \(.DMP\)](#) project file format.

Cancel - Cancels the saving process and closes the panel

The Save project file panel allows you to change the name of the project by entering a different name in the File Name text box. It also enables to Save as the project in different Project file formats.

Save project file panel



Before exiting DigiTerra Explorer with the  Exit button the Save panel appears. Here you can decide whether you want to save the changes into the project and into the edited layers.







 = new feature

Basic

Advanced

Professional

Supported project file formats with the Save project command

DMP - DigiTerra Map Pack			
EXP - DigiTerra Explorer Map			
GML - OpenGIS GML Map file			
KML - OpenGIS KML Map file			
KMZ - OpenGIS KMZ Map file			



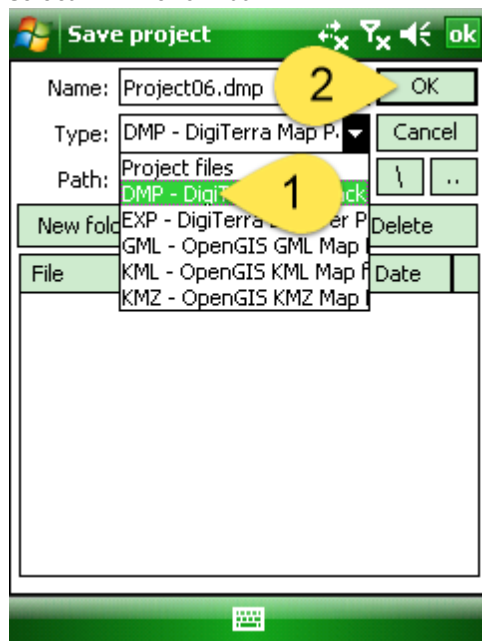
For detailed information about Project file formats see the [Project formats](#) topic.

4.1.2.3.1 Save Map Pack

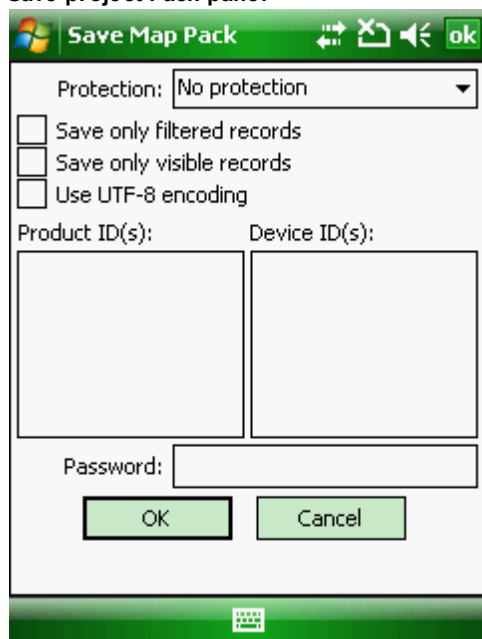
This panel accessible from the [Save project](#) panel when working with [DMP - DigiTerra Map Pack](#) map project file format. The **Save project Pack** dialog is used to save [DMP- DigiTerra Map Pack](#) files. You can access this dialog when

1. Select [DMP file format](#) on the [Save project file dialog](#)
2. Then tap **[OK]** button.

Select DMP file format



Save project Pack panel



Protection: Select one from the following options you want to apply in the [DMP file](#)

Available options:

- **No protection**
- **Read only protection**
- **Reading and printing**

[] **Save only filtered records:** Only filtered attribute records will be saved

[] **Save only visible records:** Only visible features of the map view and their related attributes will

be saved

[] **Use UTF-8 encoding:** It is recommended to use this option when the mapping project contains Cyrillic, Arabic, Chinese, Korean, Japanese ... characters among the attributes

Product ID(s): [DMP](#) can be protected by the software **Product ID(s)**

Device ID(s): [DMP](#) can be protected by the software's **Device ID(s)**



More than one Product ID and/or Device ID can be used on the **Save project Pack** panel to protect a [DMP project file](#).

Protecting DMP file by Product ID and Device ID

About DigiTerra Explorer

About License Evaluation

Thank you for buying software from DigiTerra Ltd!
Your software have been successfully activated.

To upgrade your existing license, enter the new Product ID with hyphens then click "LICENSE UPGRADE"!

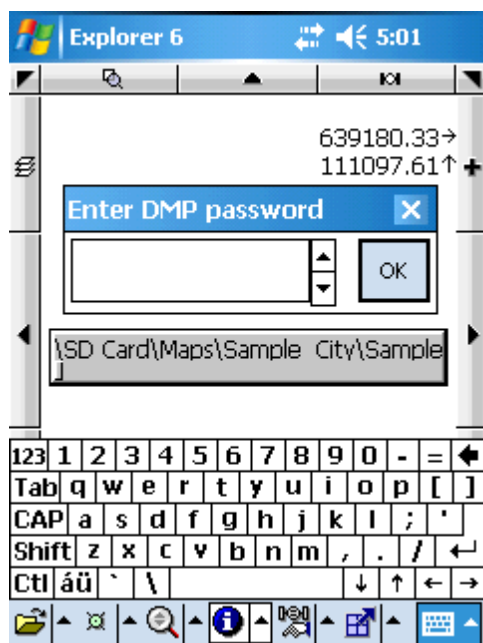
Product ID:
DE7POSVRDE-NFR-38A5-3CXR-QVHD-U318

Device ID:
1836411497

LICENSE UPGRADE

Password: Enter any password to the password protection of the [DMP file](#). You are prompted to enter this password whenever you open this [DMP](#).

Enter DMP password



OK - Saves the [DMP file](#)

Cancel - Closes the Save project Pack dialog

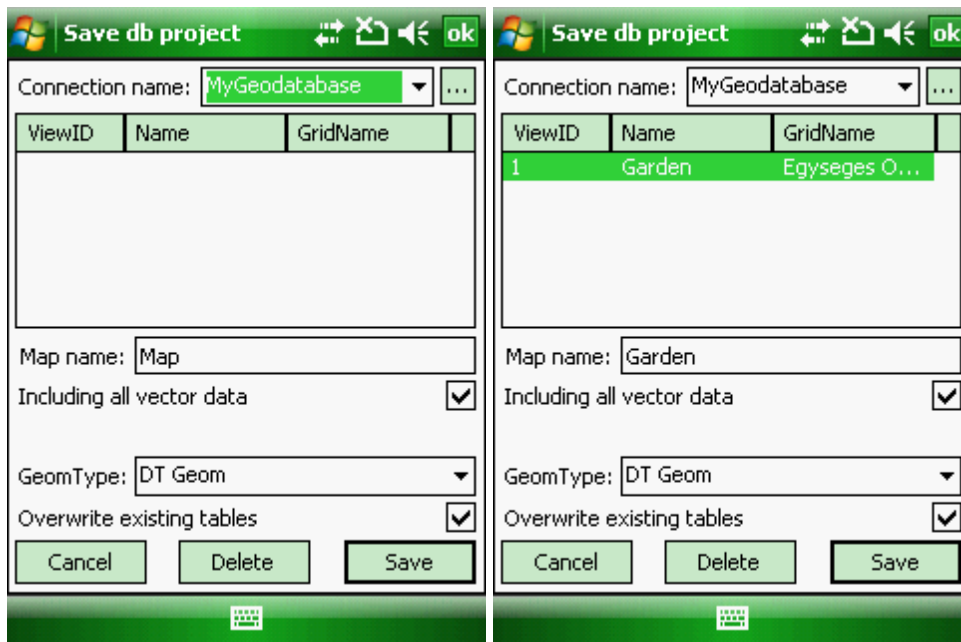
4.1.2.4 Save db project

This command is accessible in the **File menu** > **Projects** sub-menu, or by clicking on the  **Save db project** button in the **toolbar** (Desktop version).

Save db project

Opens the **Save db project** panel to save the current project into [SQLite DB3 geodatabase](#).
Supported geodatabase: [DB3 - SQLite version 3](#)

Save db project panel



Connection name: Lists the connections in a drop-down list, that can be created on the [Database connection dialog](#) box to [SQLite DB3 geodatabase files](#). A connection needs to be selected from the list to display its view(s) in the SQL view list below.

 - Opens the [Database connection panel](#) to manage connections with geodatabases

SQL view list: Lists the SQL views of the geodatabase. **Tap on a list item** to select an SQL view for updating its content or deletion.

Map name: Enter the name of the SQL view. The default name is "Map" or the name of the original mapping project file name.

Including all vector data: Saves all vector geometry into geodatabase. Checked as default.

GeomType: Select a geometry type if you want to store to the vector geometry in the geodatabase.

- **DT Geom:** DigiTerra Binary Geometry data field type. Solid, encrypted data field format that can be only read by DigiTerra Explorer 7. Default geometry format.
- **WKT:** Well-known text (WKT) is a text markup language for representing vector geometry objects on a map, more details: http://en.wikipedia.org/wiki/Well-known_text
- **WKB:** Well-known binary (WKB). Solid data field format, more details: http://en.wikipedia.org/wiki/Well-known_text#Well-known_binary

Overwrite existing tables: Overwrites existing data tables in the geodatabase when updating a geodatabase. e.g. when adding new features or modifying the thematic classes, labels, etc... Checked as default.

Cancel - Closes the Save db project panel

Delete - Deletes the selected SQL view from the geodatabase

Save - Saves/Updates the map view as an SQL view into the geodatabase

☀ = new feature

Availability of the "Save db project" command in different editions

Basic



Advanced



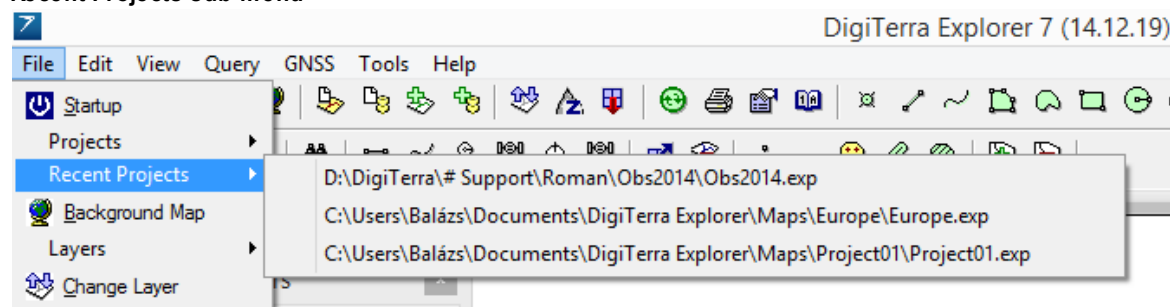
Professional




4.1.3 Recent Projects

This sub-menu as a [Desktop function](#) is accessible in the [File menu](#) and contains the three most recently opened projects in accordance with the [Recent project buttons on the Startup options panel](#). Tap any one of these to close the current project and open the selected one.

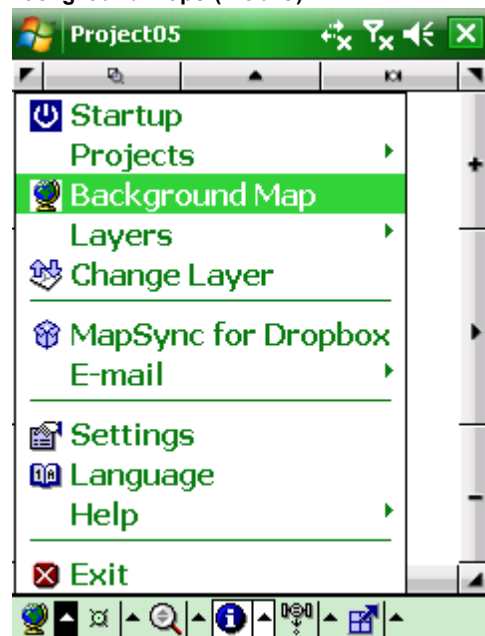
Recent Projects sub-menu



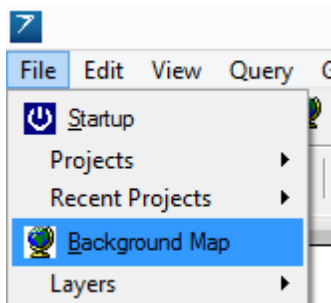
4.1.4 Background Map

This tool is accessible in the [File menu](#), or by clicking on the  **Background Map** button in the [toolbar](#) (Desktop version)

Background Maps (Mobile)



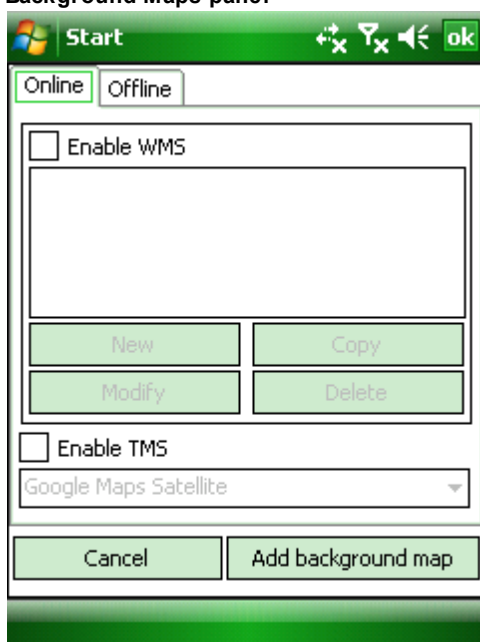
Background Maps (Desktop)



Background Map

Opens the Background Map panel to use a background map layer as the lowermost layer of the map view. The Background Map layer not displays in the [Layers](#) panel.

Background Maps panel



The [Online tab](#) allows you to access online imagery services such as [Web Map Services](#) or built-in **Tile Map Services**.

The **Cached imagery content** of the previously used WMS, WMTS or TMS online data sources can be accessed via the [Offline tab](#). On this tab you can import a background map layer: in [Mobile Atlas Creator](#), **.ZIP** or **SQLite files with any extension**.



Please Note: The Background Map layer not displays under scale: 1:10 000 000 if the map view is in a local projected spatial reference system.

☀ = new feature

Basic

Advanced

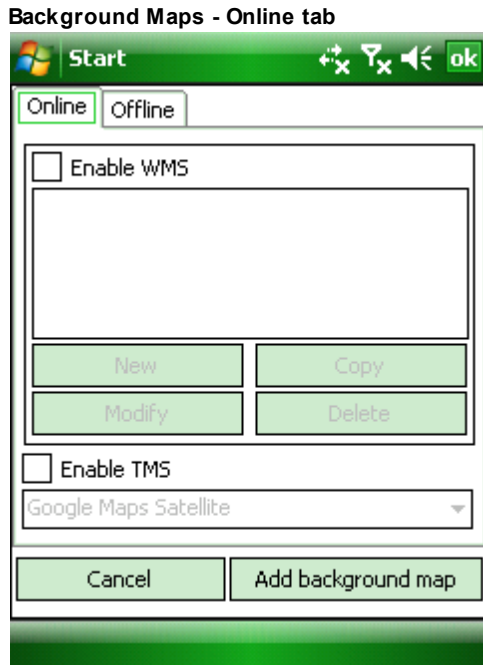
Professional

Availability of "Background map tool" in different editions



4.1.4.1 Online data sources

This dialog is accessible on the [Background Map](#) tool to use online imagery content on the map view as WMS and TMS services. The **Online** tab contains the following controls:



[] **Enable WMS:** Allows to add your own Open Geospatial Consortium standard Web Map Service data sources for access to any data published on a WMS server. The built-in WMS client supports the WMS server served map image data in bitmap format, e.g. PNG, GIF or JPEG. [WMTS data sources are also supported here.](#)

Web Map Services

A **Web Map Service** (WMS) is a standard protocol for serving georeferenced map images over the Internet that are generated by a map server using data from a GIS database. The specification was developed and first published by the Open Geospatial Consortium in 1999.

Requests

WMS specifies a number of different request types, two of which are required by any WMS server:

- *GetCapabilities* - returns parameters about the WMS (such as map image format and WMS version compatibility) and the available layers (map bounding box, coordinate reference systems, URI of the data and whether the layer is mostly opaque or not)
- *GetMap* - returns a map image. Parameters include: width and height of the map, coordinate reference system, rendering style, image format

Request types that WMS providers may optionally support include:

- *GetFeatureInfo* - if a layer is marked as 'queryable' then you can request data about a coordinate of the map image.
- *DescribeLayer*
- *GetLegendGraphic* - return an image of the map's legend image, giving a visual guide to map elements

WMS list: displays the previously defined WMS servers listed below each other. Inactive if the Enable WMS option not checked.

Adding a WMS layer to the map view: you can quickly add a WMS server data source to the map view as Background Map layer by selecting a WMS server list item here and then tap/click on the Add background map button.

Removing a WMS layer from the map view: uncheck the check box before "Enable WMS"

New - Opens the [WMS Server Management](#) panel to define a new server

Copy - Copies the selected WMS source as a new source (i.e.) to define a new layer set from the available data layers on the [WMS Server Management](#) panel

Modify - Opens the [WMS Server Management](#) panel to modify the parameters of the selected WMS source

Delete - Removes the selected WMS source from the list

[] **Enable TMS** - Allows to use a built-in Tile Map Service source as a background map layer

Tile Map Services

Tile Map Service or TMS, is a specification for storing and retrieving cartographic data, developed by the Open Source Geospatial Foundation. The definition generally requires a URI structure which attempts to fulfill REST principles. The TMS protocol fills a gap between the simplistic standard used by OpenStreetMap and the complexity of the Web Map Service standard, providing simple urls to tiles while also supporting alternate spatial referencing system.

Supported Tile Map Server sources

- Google Maps Satellite
- Google Maps Topographic
- Google Maps Road
- Bing Maps Satellite
- Bing Maps Road
- Open Street Maps
- Nokia Maps Satellite
- Nokia Maps Road
- Nokia Maps Transit
- CloudMade Maps
- Open Sea Map
- Open Street Maps Polska
- Freemap Slovakia Road
- New Zealand Topographic Maps

Adding a TMS layer to the map view: select a TMS server option in the drop-down list and then tap/click on the Add background map button

Removing a TMS layer from the map view: uncheck the check box before "Enable TMS"

Cancel - Closes the panel

Add background map - Adds the selected WMS or TMS server source to the current map view as a background map layer

4.1.4.1.1 WMS Server Management

This dialog is accessible from the [Background maps tool](#) > Online tab with the **New**, **Copy** and **Modify** buttons. The **WMS Server Management** panel contains the following controls:

WMS Server Management panel

The screenshot shows the 'WMS server manager' dialog box. It has a title bar with a Windows logo and standard window controls. The main area contains the following elements:

- Name:** A text box containing 'PhotoMap'.
- Server URL ('Get Capabilities' Address):** A text box containing 'http://map.fototerkep.hu:8081/service'.
- Login name:** An empty text box.
- Password:** An empty text box.
- Get List of Available Data Layers:** A green button.
- Data Layers list:** A list box containing several entries, with 'Ortho_romai_sztendre3 - Árvízi ortofotó Róma' selected.
- Buttons:** 'Cancel' and 'Save' buttons at the bottom.

Name: enter the name of the service

Server URL: enter the 'Get Capabilities' Address of the WMS service

Login name: enter the optional login name to access the service

Password: enter the optional password to access the service

Get List of Available Data Layers - queries the available data layers at the Server URL

Data Layers list: list the available WMS data layers to select and define the background map layer. Multiple layers can be selected.

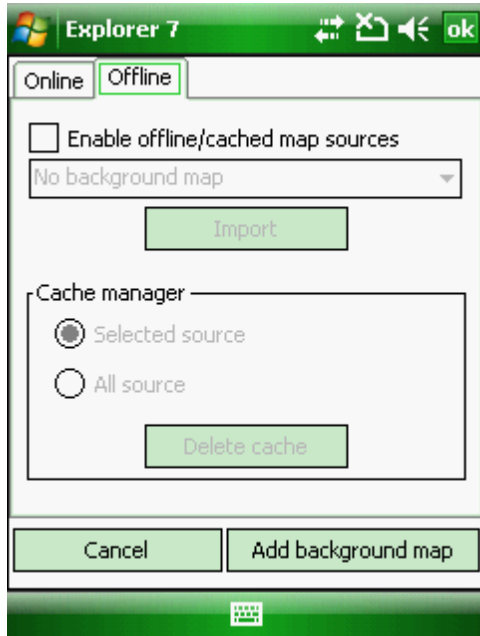
Cancel - closes the panel

Save - saves the entered parameters with the selected data layers in the list

4.1.4.2 Offline data sources

The Offline tab accessible on the [Background maps](#) tool. The **Offline** tab contains the following controls:

Background Maps - Offline tab



[] **Enable offline/cached map sources** - allows to add cached or imported data source

Offline data sources

Path:

Desktop version: \$DOCUMENTS\DigiTerra Explorer\Maps\Background\

Mobile version: \$SDCARD\Maps\Background\

Import - you can import a background map layer: in [Mobile Atlas Creator](#) .ZIP or .SQLite format, that will be displayed in the drop-down list above

Adding an Offline background map layer to the map view: you can quickly add an offline data source to the map view as Background Map layer by selecting an item in the drop-down list and then tap/click on the Add background map button.

Removing an Offline background map layer from the map view: uncheck the check box before "Enable offline/cached map sources"

Cache manager

- **Selected source:** The selected source will be removed when pressing the **Delete cache** button

- **All source:** All cached sources will be removed when pressing the **Delete cache** button








Delete cache - Removes the selected or all offline data source

Cancel - Closes the panel

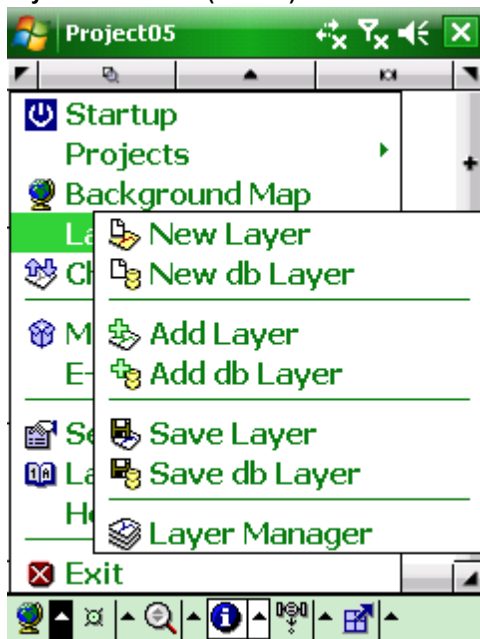
Add background map - Adds the selected cached source to the current map view as a background map layer

4.1.5 Layers sub-menu

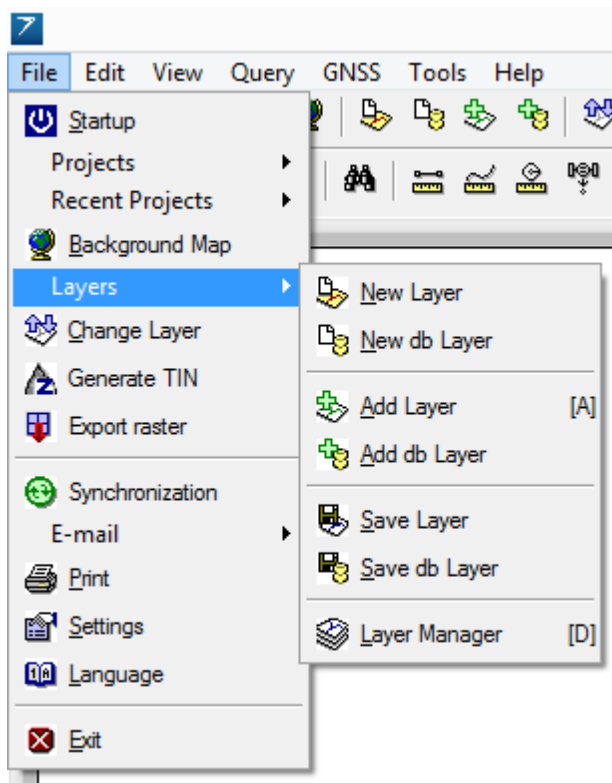
This sub-menu is accessible in the [File menu](#) and contains the following items:

-  [New Layer](#)
-  [New db Layer](#)
-  [Add Layer](#)
-  [Add db Layer](#)
-  [Save Layer](#)
-  [Save db Layer](#)
-  [Layer Manager](#)


Layers sub-menu (Mobile)



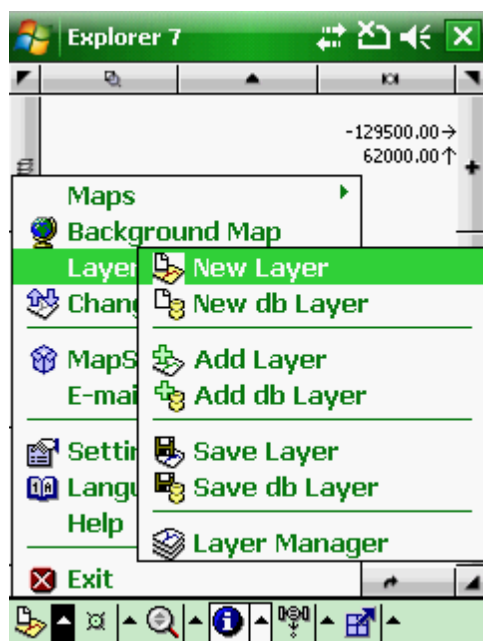
Layers sub-menu (Desktop)



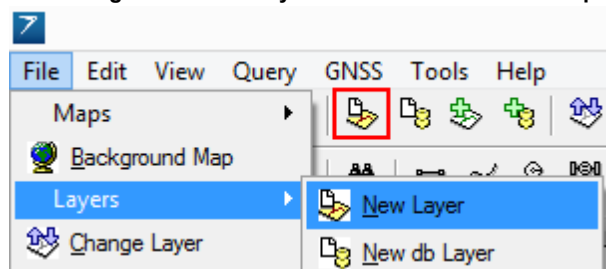
4.1.5.1 New Layer

1. This command is accessible in the [File menu](#) > [Layers sub-menu](#) with the  **button** and in the [toolbar](#) (Desktop version).
2. On the [Layer Manager](#): tap on the  **New Layer** button > then select the **File** option in the **pop-up menu**.

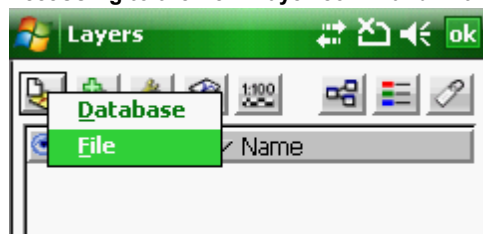
Accessing to the New Layer command in the menu



Accessing to the New Layer command in the Desktop version



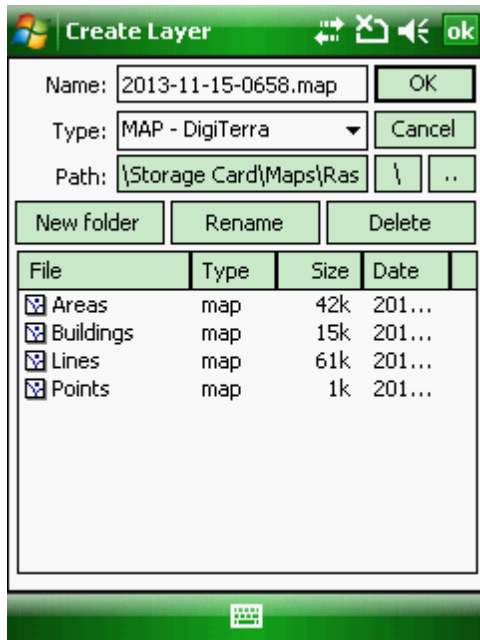
Accessing to the New Layer command in the [Layer Manager](#)



New Layer

Opens the Create Layer [File panel](#) and then the [New Layer panel](#) to create a new (empty) layer.
 Opens the Database/File context menu on the [Layer Manager](#).

Create Layer [file panel](#)




Supported formats on the **Create Layer** [file panel](#):

- [Vector](#): **BNA, CRD, DAT, DGN, DXF, MAP, MIF/MID, SHP, ZIP(SHP)**
- [Tabular / Text](#): **DBF, TAB, TXT**

Default file name: today's date in YYYY-MM-DD-HHMM format

Default file format: [MAP - DigiTerra](#)



For new users it is recommended to use the default [MAP - DigiTerra](#) file format to collect data in a [vector layer](#). The layer can be easily exported with the  [Save Layer](#) command in the [Layers sub-menu](#) or on the [Layer Manager](#).

☀ = new feature

Basic

Advanced

Professional

Supported vector formats with the New Layer command

BNA - Atlas GIS	✗	✗	✓
CRD - Coordinates (point)	✗	✗	✓
DAT - Coordinates (shape)	✗	✗	✓
DGN - Microstation	✗	✗	✓
DXF - Autodesk	✗	✗	✓
MAP - DigiTerra	✓	✓	✓
MIF - Mapinfo Interchange	✗	✓	✓
SHP - ESRI Shape	✗	✓	✓
ZIP - Zipped ESRI Shape	✗	✗	☀

Supported tabular / text formats with the New Layer command

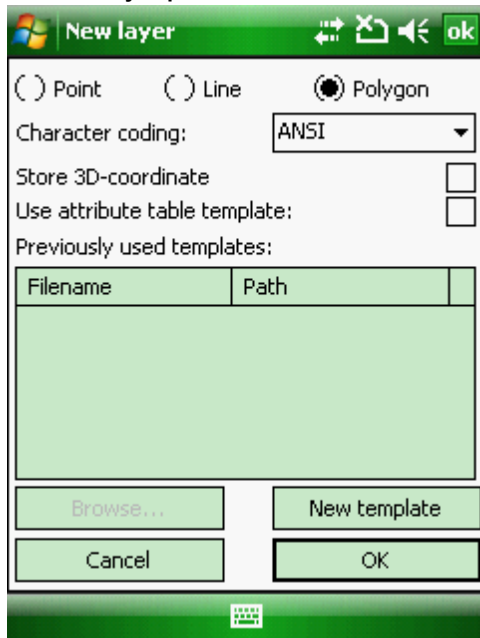
DBF - dBase	✗	✗	✓
TAB - DigiTerra	✗	✗	✓
TXT - Text files	✗	✗	✓

4.1.5.1.1 New layer dialog

The **New layer panel** accessible through the  [New Layer](#) command once you have selected the vector file name, file format and PATH on the [Create layer file panel](#).

New layer panel contains the following controls:

The New layer panel



Type of geometry: Select a feature type for the new layer with a radio button

Default feature type: Polygon



The default feature type can be easily modifiable by selecting a different feature type on the **New layer** panel.

- **Point:** the new layer will be a point feature layer
- **Line:** the new layer will be a line feature layer
- **Polygon:** the new layer will be a polygon feature layer

Character coding: Select a character coding method you wish to use to the attribute table of the template

Default character coding: ANSI

- **ANSI**
- **UTF-8** (available since version 6)
- **UNICODE** (available since version 6)



In case of using ESRI Shape file (.SHP) the selected code page will be stored in

[.CPG format](#). In case of using [MAP - DigiTerra](#) vector layer format, the code page can be stored in the [TAB - DigiTerra](#) file.

Store 3D coordinate: Enables to store [3D coordinates](#) in the new layer when capturing a feature with GPS on the [GNSS Survey panel](#)



Please note that the [Z coordinate](#) can only be stored in [DXF - AutoDesk](#), [SHP - ESRI Shape](#) and [MAP - DigiTerra](#) file formats

Use attribute table template: Enables to use [attribute table templates](#) for the created new layer. Default option is unchecked.

Previously used templates: Lists the previously used attribute table templates


Browse... - Opens the [Select template file panel](#) to select an existing attribute table template. This button active only when the "Use attribute table template" option checked. The [template PATH](#) described in the [Select template](#) topic.

New template - Opens the [New template file panel](#) to create a new attribute table template to the [template PATH](#)

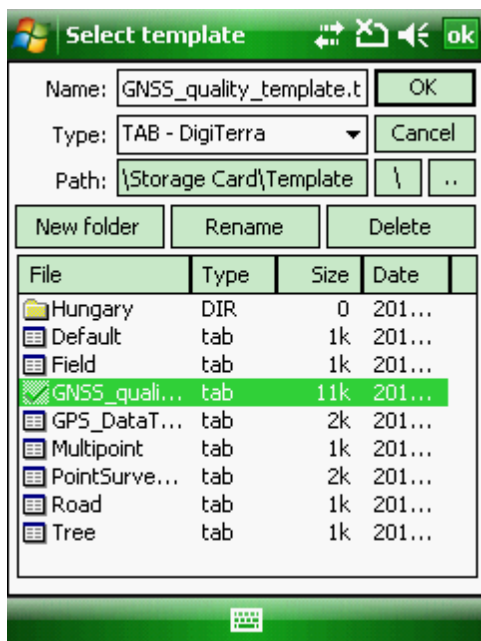
Cancel - Closes the **New layer panel**

OK - Closes the **New layer panel** and then stores the new vector layer in the defined path, file format, feature type, character coding, 3D storing option and creates the attribute table based on the selected attribute table template.

4.1.5.1.2 Select template

The **Select template file panel** accessible through the [New layer panel](#) with the **Browse...** button to select an attribute table template to the vector layer you want to create with the  [New Layer](#) command.

Select template file panel



Template Path:

Desktop version: \$DOCUMENTS\DigiTerra Explorer\Templates

Mobile version: \$SDCARD\Templates

Mobile version: \$PROGRAMFILES\DigiTerra Explorer v7\Bin\Templates

4.1.5.1.3 New template

The **New template file panel** accessible through the [New layer panel](#) with the **New template** button to create a new attribute table template to the vector layer you want to create with the [New Layer](#) command. Once you have tapped the [OK] button the [New data field panel](#) appears to define the attribute table's field one by one.

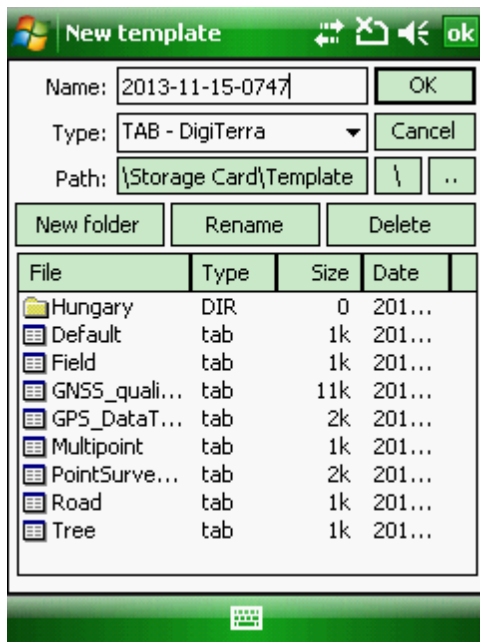


Attribute table template: it is a [TAB - DigiTerra](#) file in the **Template Path** that stores the data field definitions to create the new layer's attribute table structure based on a predesigned attribute table quickly and easily.



It is recommended to save the new attribute table template into the **Template Path** (described below).

New template file panel



Default file name: today's date in YYYY-MM-DD-HHMM format

File format: [TAB - DigiTerra](#)

Template Path:

Desktop version: \$DOCUMENTS\DigiTerra Explorer\Templates

Mobile version: \$SDCARD\Templates

Mobile version: \$PROGRAMFILES\DigiTerra Explorer v7\Bin\Templates



Please have a look at this topic: [Attribute table template](#) to learn how to create a new attribute table template on the [Layer Manager](#).

4.1.5.1.4 New data field

The **New data field panel** accessible through the [New layer panel](#) with the **New template** button to create a new attribute table template.



The [attribute table template](#) that you can define on the **New data field panel** - data field by data field- will be located in the [Template Path](#) if you have saved it on the [New template](#) file panel into this folder. If you have not saved it into this folder create the template then copy the this [TAB - DigiTerra](#) file into the [Template Path](#).

New data field panel

New data field 6/6

Name: Field6

Alias:

Default: Null

Type: Long integer (4)

Width: 8 Decimal places: 0

Rule: None

Code filter: <none> ☐ Multiselect

Code	Name	Description
[+]		

New OK Cancel

The **New data field panel** contains the same controls as the [Data field panel](#) except three buttons at the bottom of the panel.

New - Adds a new data field to the template

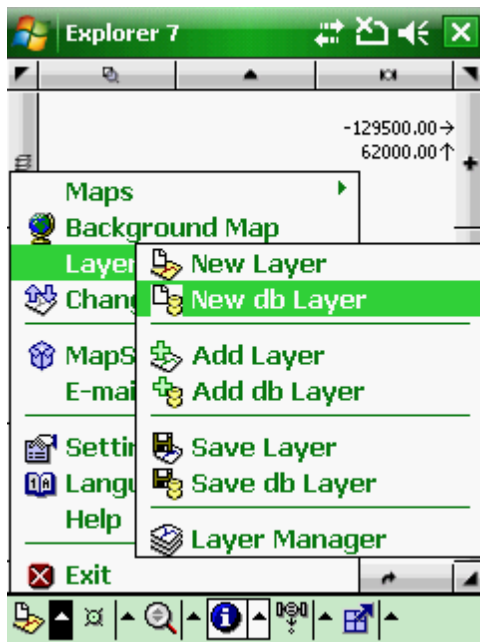
OK - Saves the attribute table template then closes the **New data field panel**, then the [New layer panel](#) appears with the created template in the template list box.

Cancel - Cancels the current data field, closes the **New data field panel**, then the [New layer panel](#) appears with the created template in the template list box.

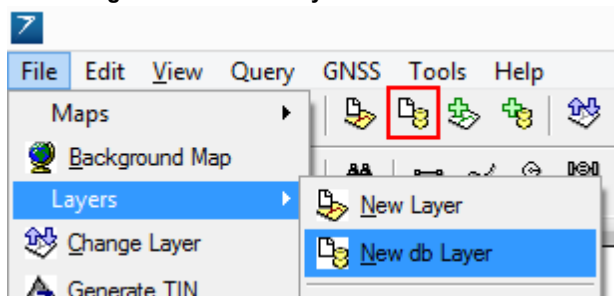
4.1.5.2 New db Layer

1. This command is accessible in the [File menu](#) > [Layers sub-menu](#) with the  button and in the [toolbar](#) (Desktop version).
2. On the [Layer Manager](#): tap on the  **New db Layer** button > and select the **Database** option in the **pop-up menu**.

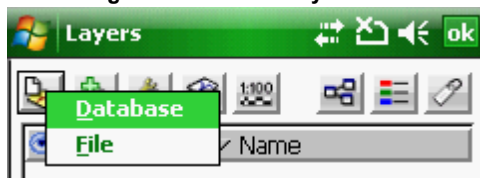
Accessing to the New db Layer command in the menu



Accessing to the New db Layer command in the Desktop version



Accessing to the New db Layer command in the [Layer Manager](#)



New db Layer

Opens the [New db Layer](#) panel to create a new (empty) geodatabase layer by entering the Table name. The **New db Layer** dialog allows to create a new (empty) layer into an SQLite DB3 geodatabase.

Supported geodatabase: **DB3 - SQLite version 3**



Please have a look at this topic: [Open db](#) to learn how to create a new geodatabase to store the New database layer. If you want to use an existing geodatabase to store the New database layer follow the description at the bottom of this this topic: [Database connection](#).



Once you have entered the **Table name** (it is the database layer name that appears on the [Layer Manager](#)) the [New layer dialog](#) appears even when working with file-based vector feature layers.

New db Layer panel

New db Layer

Connection name: MyGeodatabase

Table	Geom.Field
Garden	

Table:

Geom.field: geometry

Type: DT Geom

Cancel Delete OK

New db layer panel - inactive

New db Layer

Connection name:

Table	Geom.Field


Table:

Geom.field: Geometry

Type: DT Geom

Cancel Delete OK



If the New db Layer is inactive, select an existing connection from the Connection name combo box or add a new database connection to the combo box with the  button.

Connection name: Lists the connections in a drop-down list, that can be created on the [Database connection dialog](#) box to SQLite DB3 geodatabase files. A connection needs to be selected from the list to display its table(s) in the SQL table list below.



- Opens the [Database connection panel](#) to manage connections with geodatabases

SQL table list: Lists the SQL tables of the geodatabase. **Tap on a list item** to select an SQL table for deletion.

Table: Enter the name of the SQL table. This text box is empty as default.

Geom. field: Enter the name of the SQL field name that stores the geometry. The default name is geometry.

Type: Select a geometry type if you want to store to the vector geometry in the geodatabase.

- **DT Geom:** DigiTerra Binary Geometry data field type. Solid, encrypted data field format that can be only read by DigiTerra Explorer 7. Default geometry format.
- **WKT:** Well-known text (WKT) is a text markup language for representing vector geometry objects on a map, more details: http://en.wikipedia.org/wiki/Well-known_text
- **WKB:** Well-known binary (WKB). Solid data field format, more details: http://en.wikipedia.org/wiki/Well-known_text#Well-known_binary

Cancel - Closes the New db Layer panel

Delete - Deletes the selected SQL table from the geodatabase

OK - Creates the new database layer into the geodatabase

 = new feature

Availability of the "New db Layer" command in different editions

Basic





Advanced



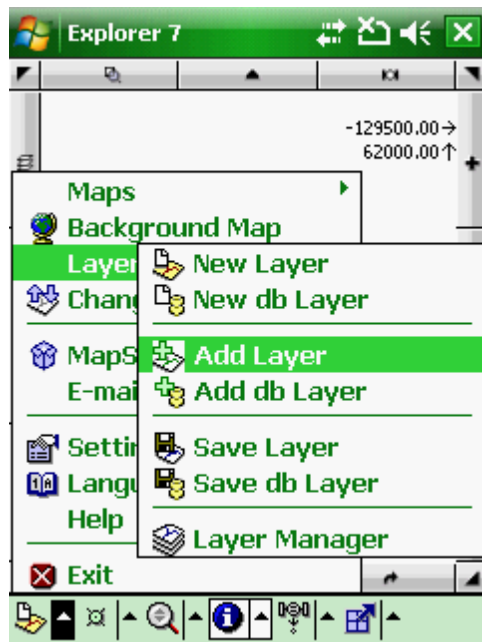
Professional



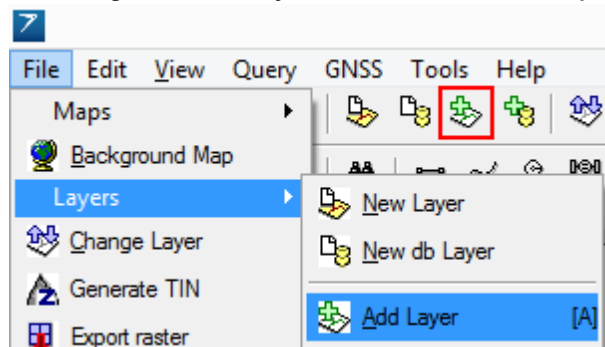
4.1.5.3 Add Layer

1. This command is accessible in the [File menu](#) > [Layers sub-menu](#) with the  button and in the [toolbar](#) (Desktop version).
2. On the [Layer Manager](#): tap on the  **Append Layer** button > and select the **File** option in the pop-up menu.

Accessing to the Add Layer command in the menu



Accessing to the Add Layer command in the Desktop version



Accessing to the Add Layer command in the [Layer Manager](#)



Add Layer

Opens the [Append Layer file panel](#) to add one or more layers to the current map.

Keyboard command: A

Supported formats:

- [Vector](#): BNA, CRD, DAT, DGN, DXF, LOG, MAP, MIF, SHP, TIN, ZIP
- [Table/Text](#): DBF, MDT, TAB, TXT
- [Raster](#): BIL, BMP, CADRG, ECW, ERS, JPG, JP2, LAN, PCX, PNG, RAS, SID, TIF



Please Note: MrSID and TIN file formats are available only in the Desktop version

☀ = new feature

Basic

Advanced

Professional

Supported vector formats with the Add Layer command

BNA - Atlas GIS	✗	✗	✓
CRD - Coordinates (point)	✗	✗	✓
DAT - Coordinates (shape)	✗	✗	✓
DGN - Microstation	✗	✗	✓
DXF - Autodesk	✗	✗	✓
MAP - DigiTerra	✓	✓	✓
MIF - Mapinfo Interchange	✗	✓	✓
SHP - ESRI Shape	✗	✓	✓
TIN - Triangulated Irregular Network	✗	✗	☀
ZIP - Zipped ESRI Shape	✗	✗	☀



Supported tabular / text formats with the Add Layer command

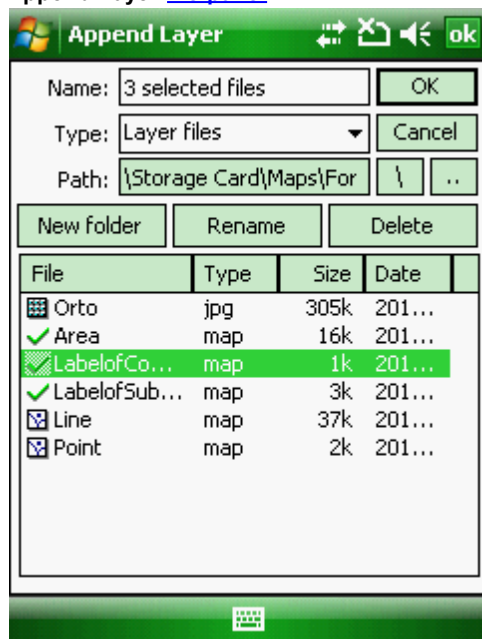
DBF - dBase	✗	✗	✓
MDT - Leica Total Station	✗	✗	✓
TAB - DigiTerra	✗	✗	✓
TXT - Text files	✗	✗	✓

Supported raster formats with the Add Layer command



BIL - ESRI Raster	✗	✗	✓
BMP - Windows	✗	✗	✓
CADRG - Compressed Arc Digitized	✗	✗	✓
ECW - Er-Mapper Wavelet	✗	✓	✓
ERS - Er-Mapper	✗	✗	✓
JPG - JPEG file	✓	✓	✓
JP2 - JPEG2000 file	✗	✓	✓
LAN - Erdas	✗	✗	✓
PCX - Paintbrush	✗	✗	✓
PNG - Portable Network Graphics	✗	✗	✓
RAS - DigiTerra Raster	✗	✓	✓
SID - LizardTech MrSID Raster	✗	✗	✓
TIF - Tagged Image File	✗	✓	✓

4.1.5.3.1 Append Layer

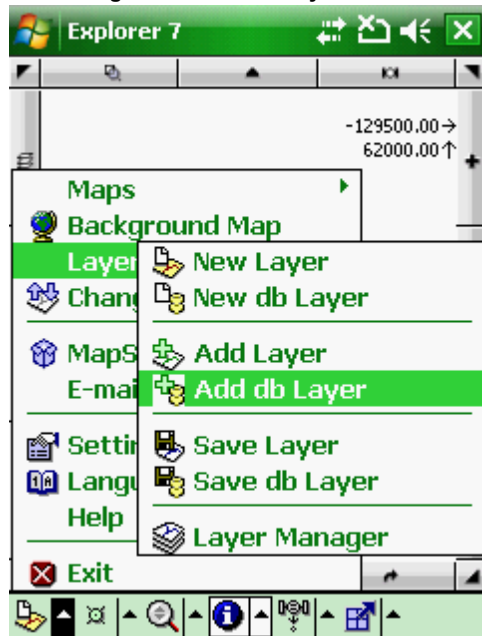
1. The **Append Layer** [file panel](#) accessible through the  [Add Layer](#) command to add one or more layers to the current map.
2. It is also accessible on the [Layer Manager](#) with the  **Add Layer** button > by selecting the **File** option in the **pop-up menu**.

Append Layer [file panel](#)

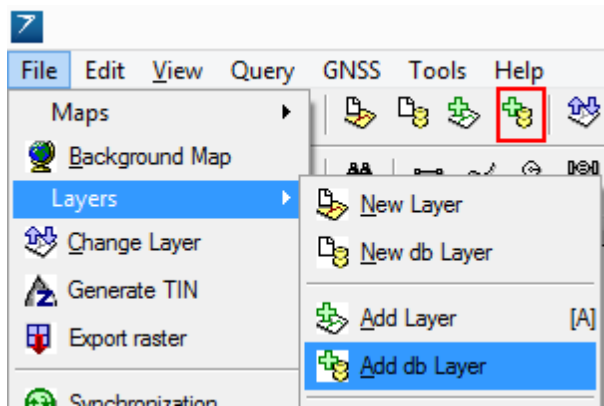
4.1.5.4 Add db Layer

1. This command is accessible in the [File menu](#) > [Layers sub-menu](#) with the  button and in the [toolbar](#) (Desktop version).
2. On the [Layer Manager](#): tap on the  **Add Layer** button > and select the **Database** option in the pop-up menu.

Accessing to the Add db Layer command in the menu



Accessing to the New db Layer command in the Desktop version



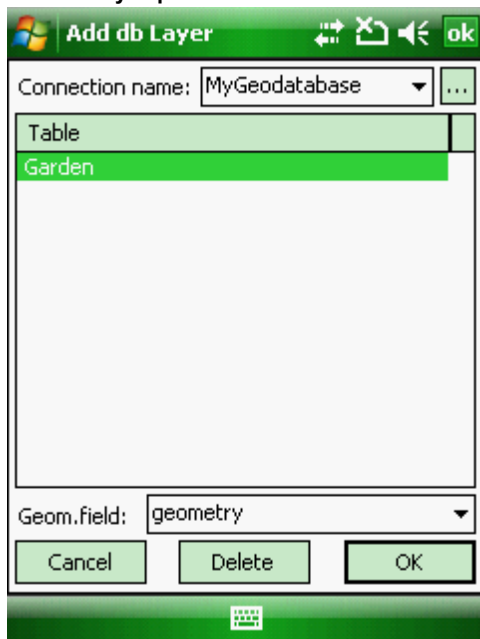
Accessing to the New db Layer command in the [Layer Manager](#)



Add db Layer

Opens the [Add db Layer](#) panel to add a geodatabase layer to the current map.
Supported geodatabase: **DB3 - SQLite version 3**

Add db Layer panel



Connection name: Lists the connections in a drop-down list, that can be created on the [Database connection dialog](#) box to SQLite DB3 geodatabase files. A connection needs to be selected from the list to display its table(s) in the SQL table list below.

 - Opens the [Database connection panel](#) to manage connections with geodatabases

SQL table list: Lists the SQL tables of the geodatabase. **Tap on a list item** to select an SQL table for deletion.

Geom. field: Select an SQL geometry field to the database layer you want to add to the map view

Cancel - Closes the Add db Layer panel

Delete - Deletes the selected SQL table from the geodatabase

Save - Adds the database layer to the map view from the geodatabase

☀ = new feature

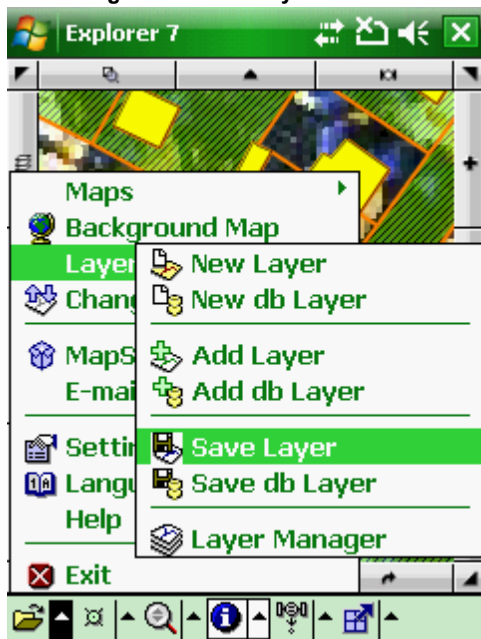
Availability of the "Add db Layer" command in different editions

Basic	Advanced	Professional
✗	✗	☀

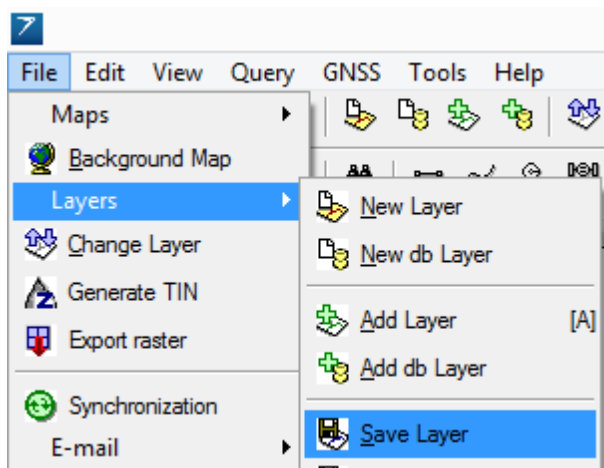
4.1.5.5 Save Layer

1. This command is accessible in the [File menu](#) > [Layers sub-menu](#) with the  **Save Layer** button.
2. On the [Layer Manager](#): tap on the  **Layer Export** button > and select the **File** option in the pop-up menu.

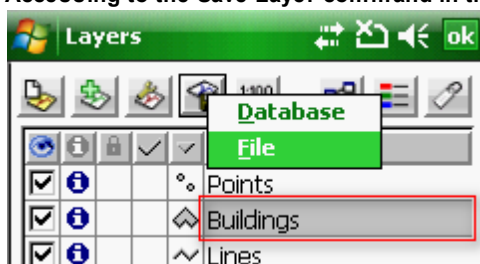
Accessing to the Save Layer command in the menu



Accessing to the Save Layer command in the Desktop version



Accessing to the Save Layer command in the [Layer Manager](#)



Save Layer

Opens the [Save as file panel](#) to export the **active layer** with another file name or into another file format.



Active layer: Selected grayed layer on the [Layer Manager](#)



[In case of exporting a multi feature layer](#) DigiTerra Explorer is able to save each feature types separately.

Supported formats:

- [Vector](#): **BNA, CRD, DAT, DGN, DXF, MAP, MIF, SHP, ZIP**
- [Raster](#): **JPG** - 15% compression (85% quality) as default. The compression scale cannot be changed. **PNG**
- [Table](#): **DBF, TAB, TXT**

 = new feature

Availability of the "Save Layer" command in different editions

Basic	Advanced	Professional
		

 = new feature

Supported vector formats with the Save Layer command

Basic	Advanced	Professional
-------	----------	--------------

BNA - Atlas GIS	✗	✗	✓
CRD - Coordinates (point)	✗	✗	✓
DAT - Coordinates (shape)	✗	✗	✓
DGN - Microstation	✗	✗	✓
DXF - Autodesk	✗	✗	✓
MAP - DigiTerra	✓	✓	✓
MIF - Mapinfo Interchange	✗	✓	✓
SHP - ESRI Shape	✗	✓	✓
ZIP - Zipped ESRI Shape	✗	✗	☀



Supported tabular / text formats with the Save Layer command

DBF - dBase	✗	✗	✓
TAB - DigiTerra	✗	✗	✓
TXT - Text files	✓	✗	✓

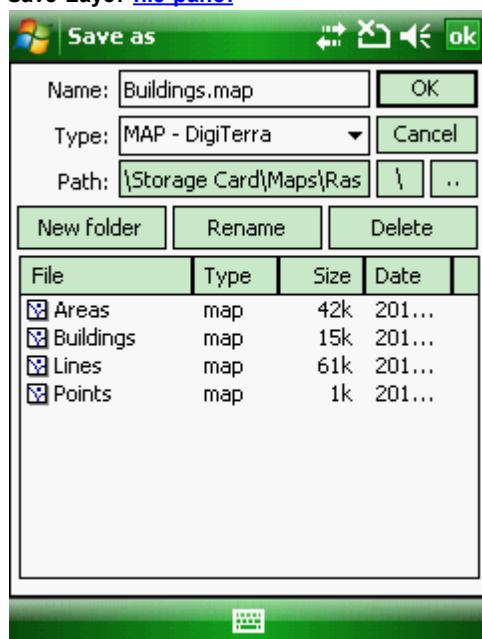
Supported raster formats with the Save Layer command

JPG - JPEG file	✓	✓	✓
PNG - Portable Network Graphics	✗	✗	☀

4.1.5.5.1 Save as

1. The **Save as** [file panel](#) accessible through the  [Save Layer](#) command in the [File menu](#) > [Layers sub-menu](#) to Save as the **active layer**.
2. It is also accessible on the [Layer Manager](#) with the  **Layer Export** button > by selecting the **File** option in the **pop-up menu**.

Save Layer [file panel](#)



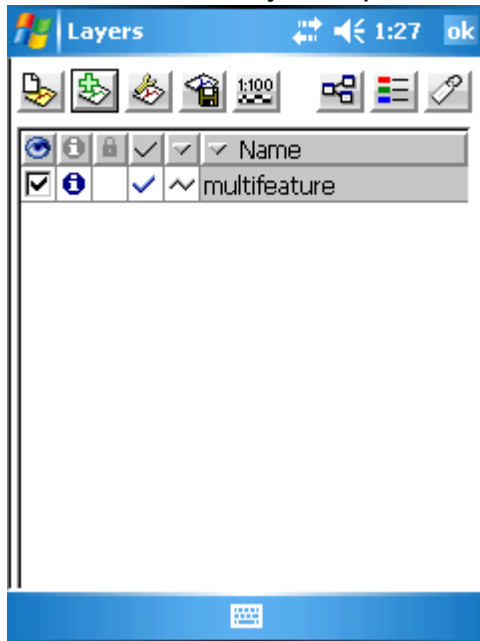
4.1.5.5.2 Exporting a multifeature layer

Exporting multi feature layers

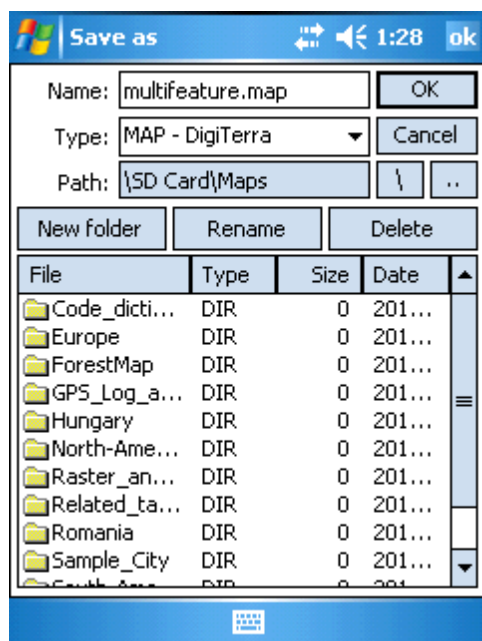
In case of exporting a multi feature layer DigiTerra Explorer is able to save each feature types separately.

For example: you have a "*multifeature.DXF*" layer with points, lines and polygon features in the file. In this case you will get three different layers in accordance with the feature type:

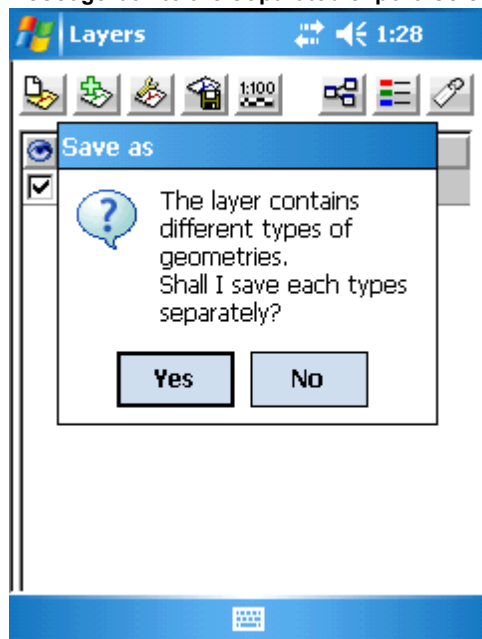
- *multifeature_point.DXF*
- *multifeature_line.DXF*
- *multifeature_area.DXF*

Selected multifeature layer to export

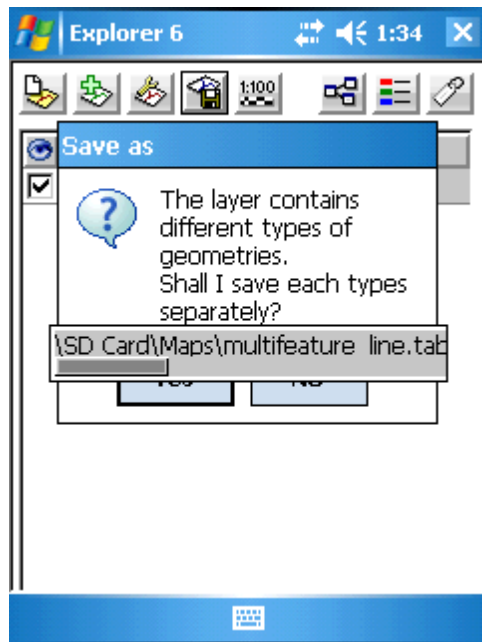
The Save as [File panel](#)



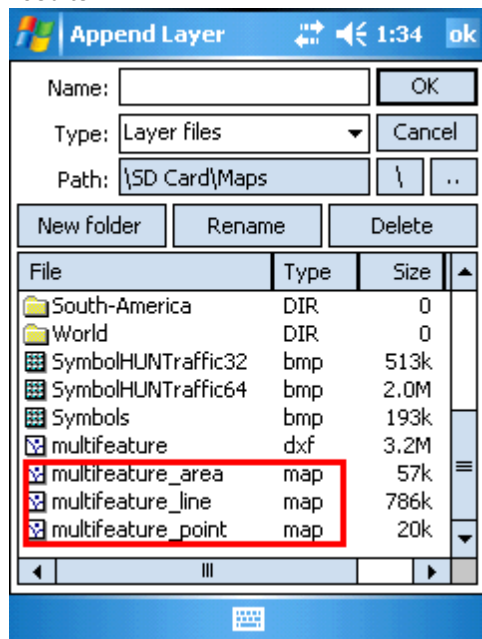
Message box to the separated export: select "Yes" if you want to save the features into separated files



The exporting process with the progress bar



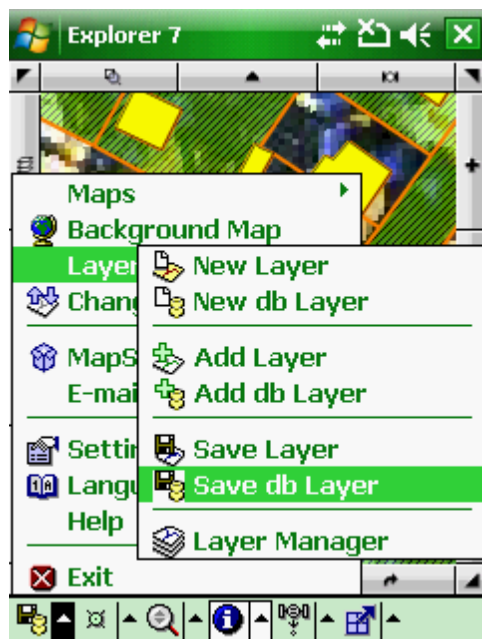
Results



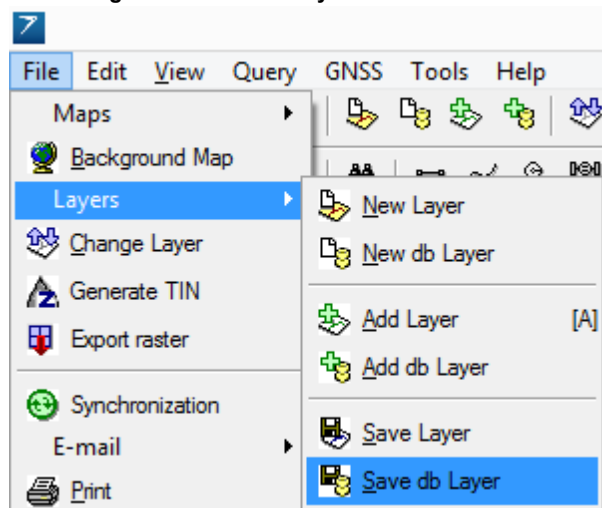
4.1.5.6 Save db Layer

1. This command is accessible in the [File menu](#) > [Layers sub-menu](#) with the  **Save db Layer** button.
2. On the [Layer Manager](#): tap on the  **Layer Export** button > and select the **Database** option in the **pop-up menu**.

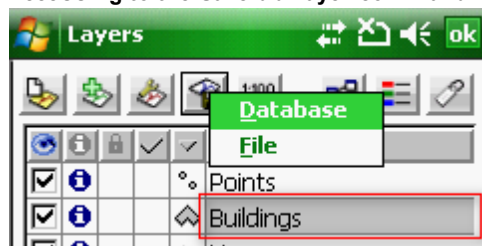
Accessing to the Save db Layer command in the menu



Accessing to the Save db Layer command in the Desktop version



Accessing to the Save db Layer command in the [Layer Manager](#)



Save db Layer

Opens the [Save db Layer](#) panel to save the active layer as a geodatabase layer. The Save db Layer dialog allows to save the active layer into an SQLite DB3 geodatabase.

Supported geodatabase: **DB3 - SQLite version 3**

☀ = new feature

Availability of the "Save db Layer" command in different editions

Basic	Advanced	Professional
✗	✗	☀

Save db Layer panel

Connection name: Lists the connections in a drop-down list, that can be created on the [Database connection dialog](#) box to SQLite DB3 geodatabase files. A connection needs to be selected from the list to display its table(s) in the SQL table list below.

⋮ - Opens the [Database connection panel](#) to manage connections with geodatabases

SQL table list: Lists the SQL tables of the geodatabase. **Tap on a list item** to select an SQL table for deletion.

Table: Enter the name of the SQL table. This text box is empty as default.

Geom. field: Enter the name of the SQL field name that stores the geometry. The default name is geometry.

Type: Select a geometry type if you want to store to the vector geometry in the geodatabase.


- **DT Geom:** DigiTerra Binary Geometry data field type. Solid, encrypted data field format that can be only read by DigiTerra Explorer 7. Default geometry format.
- **WKT:** Well-known text (WKT) is a text markup language for representing vector geometry objects on a map, more details: http://en.wikipedia.org/wiki/Well-known_text
- **WKB:** Well-known binary (WKB). Solid data field format, more details: http://en.wikipedia.org/wiki/Well-known_text#Well-known_binary

Cancel - Closes the Save db Layer panel

Delete - Deletes the selected SQL table from the geodatabase

Save - Saves / updates the layer as a database layer in the geodatabase

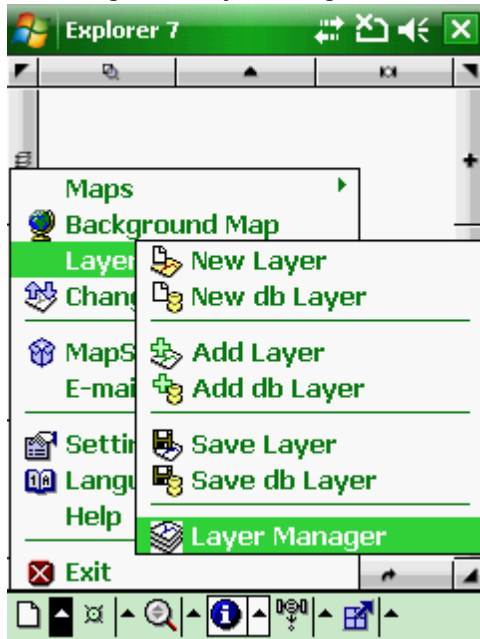
4.1.5.7 Layer Manager

1. This command is accessible in the [File menu](#) > [Layers sub-menu](#) with the  **Layers** button and in the [toolbar](#) (Desktop version).
2. It can also be accessed on the [pan frame](#) with the **Layers** button.

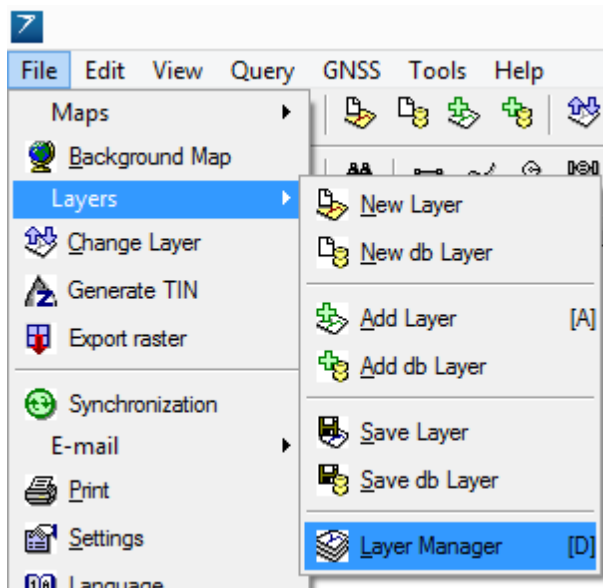


The Layers button can be found in the top left side on the pan frame.

Accessing to the Layer Manager command in the menu



Accessing to the Layer Manager command in the menu in the Desktop version



Layers button on the pan frame




 **Layers**

Opens the [Layers panel](#).

Keyboard command: D

4.1.6 Change Layer

This command is accessible in the [File menu](#) and in the [toolbar](#) (Desktop version) with the  **Change Layer** button.

 **Change Layer**

Moves/copies the selected point, line or polygon item(s) from the [active layer](#) into the [edited layer](#).

Tap / Left click: selects an item on the map to move/copy. The selected item can be copied/moved from the active layer to the edited layer.

Drag: [scrolls](#) the map (dynamic pan).

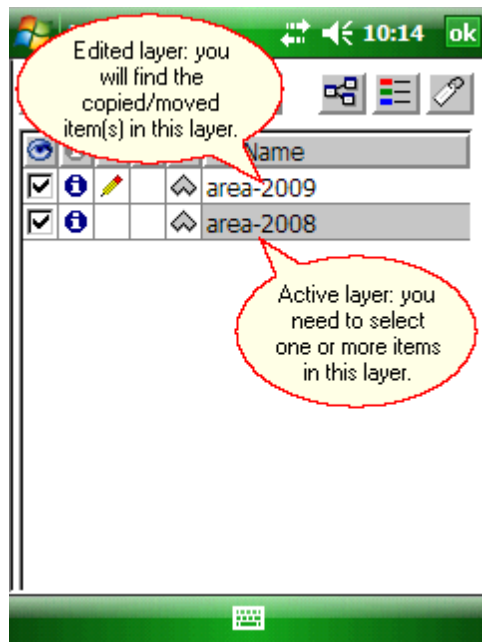
Tap and hold then drag / Right drag: [Dynamic Zoom](#).

The Change Layer remains active until another tool is activated.

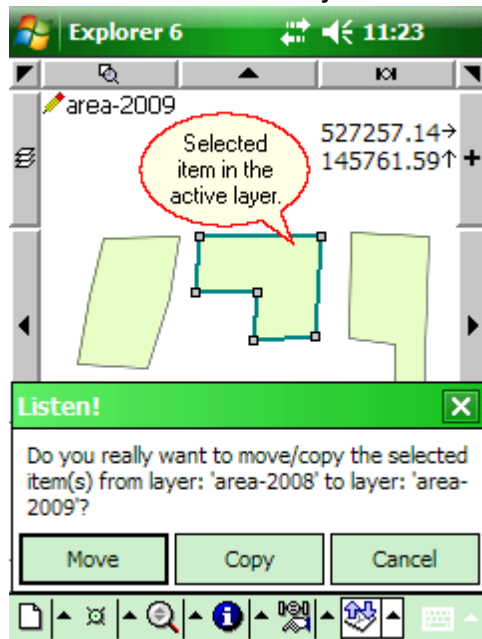
Active layer: the source layer in which the item(s) must be selected.

Edited layer: the result layer in which the copied/moved items will be stored.

The active and the edited layer



Selected item in the active layer



Move: moves the selected feature(s) into the edited layer. The selected feature(s) will be deleted in the active layer.


Copy: copies the selected feature(s) into the edited layer. The selected feature(s) will be remained in the active layer.



You can select multiple items in the active layer with the [multi selection tools](#) and

then use the **Change Layer** tool.

4.1.7 Generate TIN

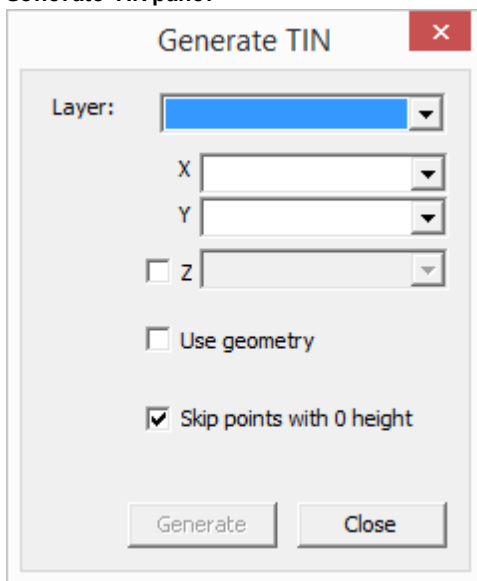
This tool is available **only in the Desktop version** in the [File menu](#) and in the [toolbar](#) with the  **Change Layer** button to create a TIN vector model file from the selected vector layer or an individual attribute table.



Generate TIN

Opens the Generate TIN panel to create a TIN vector file from vector feature layer or from the layer's attribute fields.

Generate TIN panel



The screenshot shows the 'Generate TIN' dialog box. It has a title bar with a close button (X). Inside, there is a 'Layer:' label followed by a dropdown menu. Below this are three more dropdown menus labeled 'X', 'Y', and 'Z'. The 'Z' dropdown is preceded by an unchecked checkbox. Below these are two more options: 'Use geometry' (unchecked) and 'Skip points with 0 height' (checked). At the bottom are 'Generate' and 'Close' buttons.

Layer - List the available vector layers and attribute tables from the current map view. Select the layer from the drop-down list that contains **x**, **y**, **z** data as geometry or attribute data.

X - List the attribute fields of the selected layer. Select a data field that stores the X coordinates.


Y - List the attribute fields of the selected layer. Select a data field that stores the Y coordinates.

Z - List the attribute fields of the selected layer. Select a data field that stores the Z coordinates (heights values).

[] Use geometry - The TIN generator uses only the geometry to create the TIN file.

[x] Skip points with 0 height - The TIN generator skips the zero heights from the geometry to create the TIN file.

4.1.8 Export raster

This tool is available **only in the Desktop version** in the [File menu](#) and in the [toolbar](#) with the  **Change Layer** button to create a TIN vector model file from the selected vector layer or an individual attribute table.



Export raster

Opens the Rasterization: Export Raster Data panel to export the current map view as a **georeferenced raster image** or as **sliced map tiles grouped by specified zoom levels = TILESET**

Rasterization with the Raster Image tab

The dialog box 'Rasterization: Export Raster Data' has a red close button in the top right. It contains two tabs: 'Raster Image' (selected) and 'Tileset'. The 'Extent' section on the left has four radio buttons: 'Entire extent', 'Visible extent' (selected), 'Selected features', and 'Custom'. To the right of these are input fields for North (106923.41), West (560867.36), East (561767.86), and South (106508.19). Below this is the 'Raster Options' section with a 'JPG' radio button selected, a slider set to 85%, and a 'PNG' radio button with a 'Transparent' checkbox. At the bottom left is a 'Cancel' button. The right side of the dialog has the 'Raster Image' tab selected, showing 'Cell Size (cx, cy)' as 0.57 by 0.57, 'Raster Size (columns, rows)' as 1579 by 728, and a 'Size' of 3.29 Mb. Below this are 'Location' and 'Name' fields. The 'Location' field contains 'C:\Users\Balázs\Documents\DigiTerra Explorer\Maps' and the 'Name' field contains 'ForestMAP.jpg'. A 'Start processing' button is at the bottom right.

Rasterization with the Tileset tab

The dialog box 'Rasterization: Export Raster Data' has a red close button in the top right. It contains two tabs: 'Raster Image' and 'Tileset' (selected). The 'Extent' section on the left is identical to the previous screenshot, with 'Visible extent' selected and the same coordinate values. The 'Raster Options' section is also identical. The right side of the dialog has the 'Tileset' tab selected. It shows 'Min zoom' as 'Level 18 - 0.5972(m/px)' and 'Max zoom' as 'Level 23 - 0.0187(m/px)' in dropdown menus. Below these is the 'Output mode' section with three radio buttons: 'Files' (selected), 'Zipped files', and 'Database'. There are two checkboxes: 'Do not create blank tiles' (checked) and 'Skip existing tiles' (unchecked). Below this are 'Location' and 'Subfolder' fields. The 'Location' field contains 'Balázs\Documents\DigiTerra Explorer\Maps\Background' and the 'Subfolder' field contains 'ForestMAP'. A 'Start processing' button is at the bottom right.

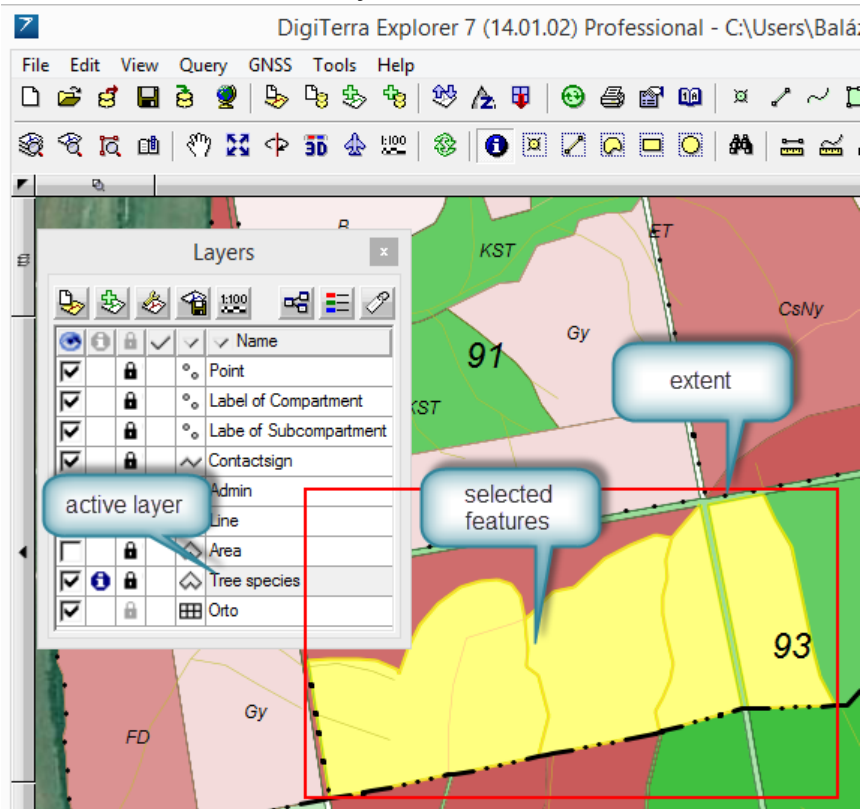
Common controls

Extent: defines the data frame on the map view to use when exporting. Default is Visible extent.

- **Entire extent:** option will export the **entire extent of the map view**
- **Visible extent:** option will export **only the visible portion of the map view** in the display
- **Selected features:** option will clip and export the map view **based on the selected features in the active layer**; this option will retain the data inside the graphic
- **Custom:** option will clip and export **only the portion of the map view based on the manually entered map extent coordinates**

- **North, South, East, West:** displays the map extent coordinates. Editable only when selecting the **Custom** radio button.

Selected features in the active layer



Raster Options: choose the format in which to save the raster export. You will be able to save the export to JPG or PNG. This includes situations where you are saving your map view to a JPG or PNG compression within a geodatabase. Default is JPG.

- **JPG:** If JPG format is chosen, then you can set the compression quality between 1 to 100. Default is 85%.
- **PNG:** If PNG format is chosen, then you can set the transparent option
 - **Transparent:** The saved raster will be a transparent PNG. Default is unchecked.

Raster Image tab

- **Cell Size (cx, cy):** Displays the current pixel size. Changes the output raster size based on the entered pixel size values in x, y directions
- **Raster Size (columns, rows):** Displays the current raster size in columns/rows. Specifies the size of the raster image based on the adjusted values to your specifications.

The default is to export by using the cell size.

- **Size:** Displays the file size of the output raster image.

- **Location:** Displays the current working directory where the raster image will be saved. Opens the Browse for Folder panel to specify the output path.

Default Path: \$DOCUMENTS\DigiTerra Explorer\Maps\

- **Name:** Displays the output file name with the selected extension. Default name is the map project name, that can be modified here.

Tileset tab

You can also export the map view into tiles, rather than a single raster image file using the Tileset tab. The Tileset tab allows you to tile the output according to the zoom levels to your specifications, among other options. Using the Tileset tab will tile the output according to predefined zoom level schemas.

- **Min zoom:** Lists the zoom levels to select the minimum zoom level.
- **Max zoom:** Lists the zoom levels to select the maximum zoom level.

Output mode:

- **Files** - The result of the tile export will be stored in individual files grouped by zoom levels in specified folders with an **index.html** file that will be opened in the default web browser.
- **Zipped files** - Same with the Files option, but the files will be compressed into a .ZIP file
- **Database** - The result of the tile export will be stored in an SQLite - DB3 geodatabase

The default option is Files.

- **[x] Do not create blank tiles** - The tile export will not create blank tiles when checking this option. Default is checked.
- **[] Skip existing tiles** - The tile export will not re-generating existing files when overwriting the content in the same Subfolder.

- **Location:**

Default Path: \$DOCUMENTS\DigiTerra Explorer\Maps\Background

- **Subfolder:** Displays the subfolder where the output will be saved. Default subfolder name is the map project name, that can be modified here.

Cancel - Closes the panel

Start processing - Starts the raster export with the specified export options

4.1.9 Synchronization





Synchronization

This tool is available **only in the Desktop version** in the [File menu](#) and in the [toolbar](#) with the  **Synchronization** button.

Opens the [File Synchronization panel](#) to download, upload or automatically synchronize files

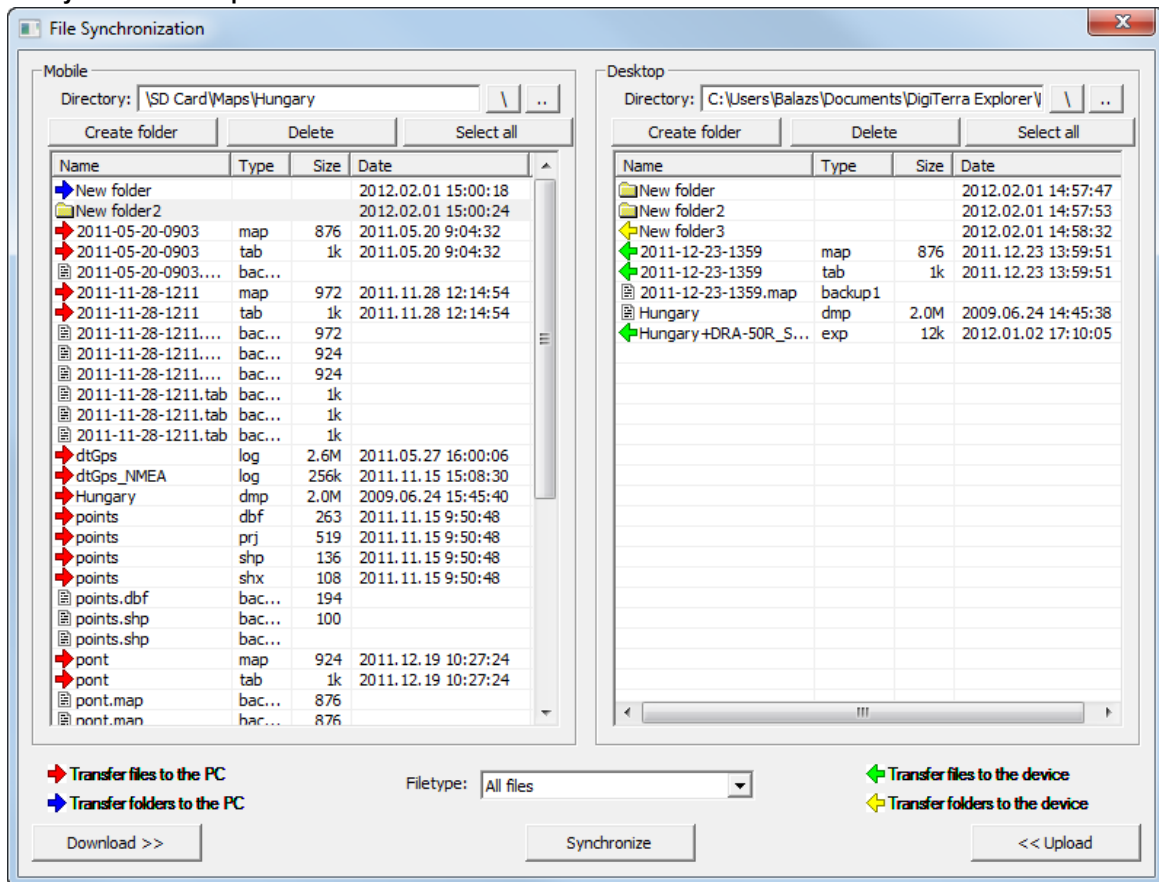
between mobile device and desktop computer.

The File Synchronization panel is used to download, upload or synchronize files between a selected directory of the Mobile and the Desktop computer. You can access to this desktop command in the menu bar: File >  **Synchronization** and in the toolbar:  as well.



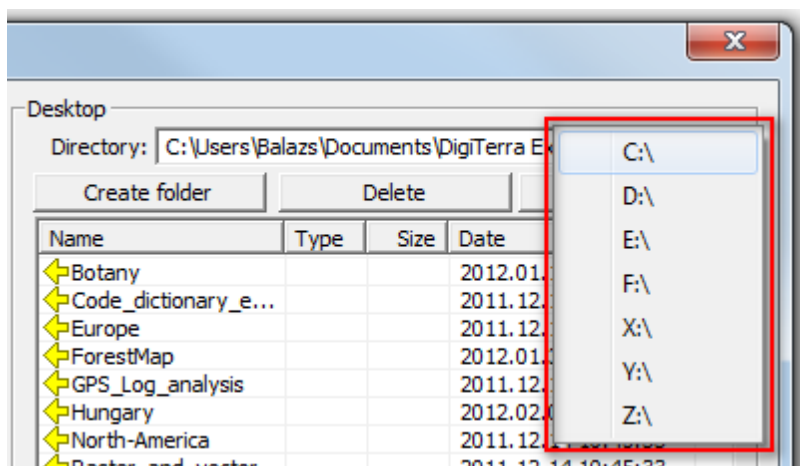
This feature of DigiTerra Explorer requires Windows Mobile Device Center (for Windows 7, 8 or Vista), or Microsoft ActiveSync (for Windows XP) to be installed. Please install these software utilities for full DigiTerra Explorer functionality. For more information on these applications and to download, refer to <http://www.microsoft.com/windowsphone/en-us/65-downloads.aspx>

File Synchronization panel



Directory: Shows the current path on the Mobile and on the Desktop

 - Changes the path to the root path on the Mobile; opens the drive selection on the Desktop



.. - Changes the path one directory back

Create folder - Opens the "New folder name" text box to create a new folder

Delete - Delete selected files and folders

Select all - Selects/Un-selects all files and folders

Download >> - Downloads marked files from the Mobile device to the Desktop computer

<< Upload - Uploads marked files from the Desktop computer to the Mobile device

Synchronize - Synchronizes all files between the Mobile device and the Desktop computer in the selected current directory

Filetype: select a filetype from the drop-down list to filter the selected files

4.1.10 MapSync for Dropbox

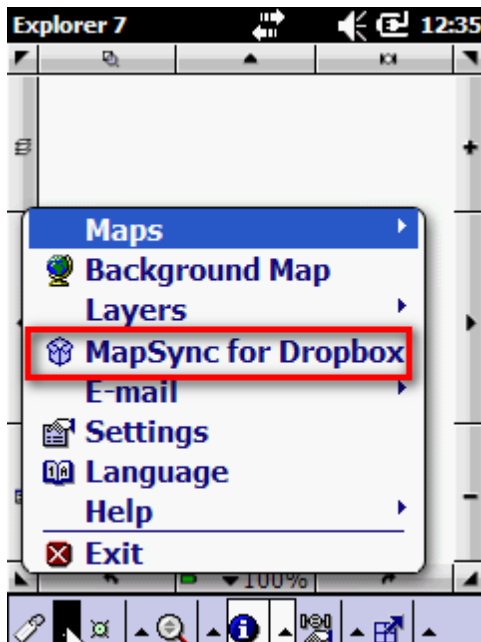
MapSync for Dropbox (DigiTerra MapSync) is the official Dropbox app for Windows Mobile/Embedded to integrate Dropbox to DigiTerra Explorer. DigiTerra MapSync can only read or write to a single folder in your Dropbox. You can rename or move this App Folder wherever you want in your Dropbox, and the app will keep working normally. It is also allows automatic camera uploads.

App Folder in Dropbox:

Desktop version: \Dropbox\Apps\DigiTerra MapSync

For information on required software components to DigiTerra MapSync, please also refer to [Required components](#) topic.

MapSync for Dropbox menu



DigiTerra MapSync start screen



☀ = new feature

Availability of "MapSync for Dropbox" in different editions

Basic	Advanced	Professional
✗	✗	✓

Desktop version:

[Download the official Dropbox client](#) to your Desktop computer.

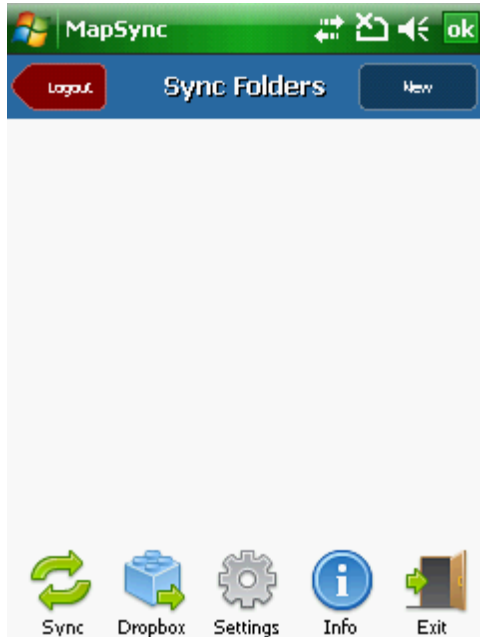
Please, use this feature in the Mobile version first to install the required *DigiTerra MapSync* plugin to your Dropbox account.

Working directory on the Desktop:

Desktop version: \Dropbox\Apps\DigiTerra MapSync

The **Main panel** of the MapSync displays first when you start MapSync. This panel lists the synchronized folders.

MapSync main panel



Logout: Logout the current Dropbox folder

New: Lists all folders to select a folder for synchronization

Sync: Synchronizes the local content from the selected folders with the [authorized Dropbox folder](#)

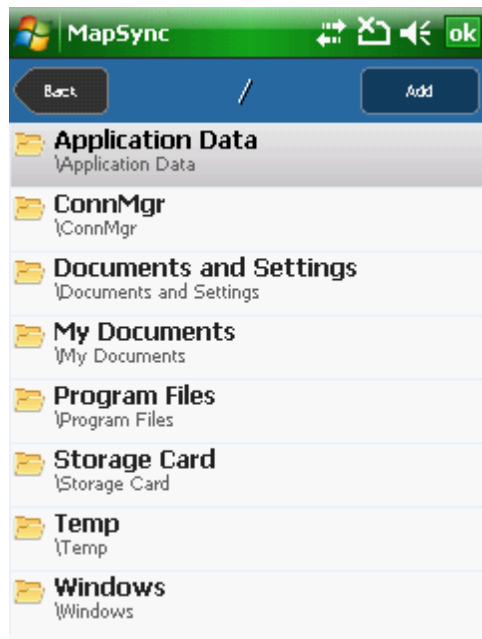
Dropbox: Queries and displays the content of the authorized Dropbox folder

Settings: Opens the MapSync - Settings dialog

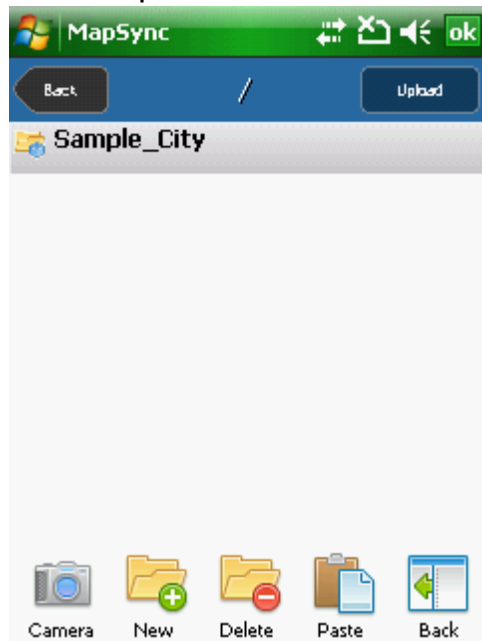
Info: Opens the MapSync - Info dialog

Exit: Closes MapSync

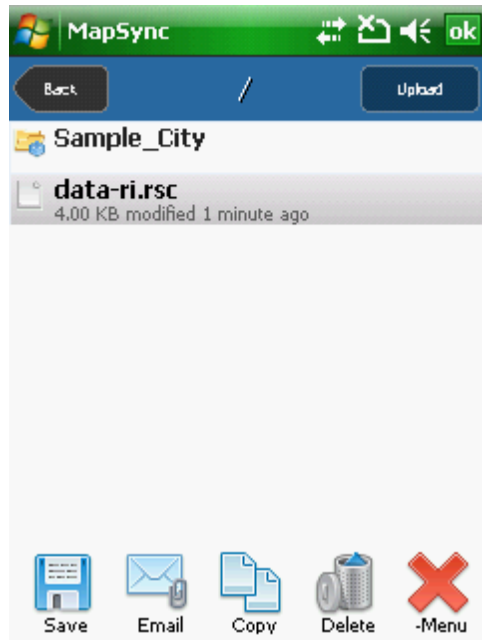
MapSync - Selecting a folder for synchronization



Queried Dropbox folder



Queried Dropbox folder - selected file



4.1.10.1 Required components

All required components will be installed if you follow the installation scenarios on Introduction > Installation > [Mobile](#) topic.

1. If the **DigiTerra MapSync** utility doesn't start once you tapped on the [MapSync for Dropbox](#) menu item in the File menu and the following error message displays on the screen, please install .NET compact framework manually from this path below:

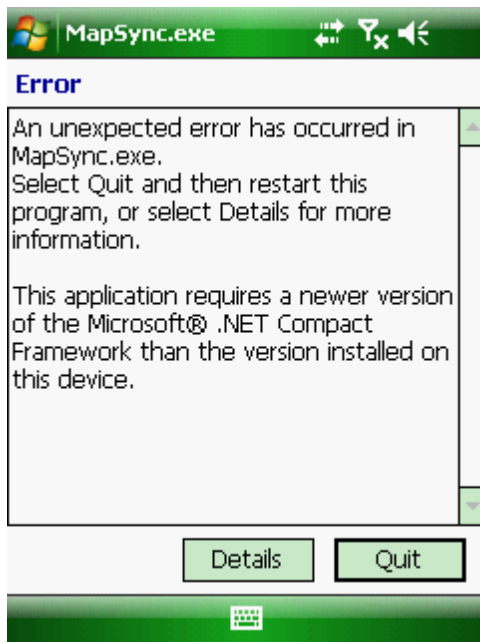


This application requires the **Microsoft® .NET Compact Framework** version 3.5 and **OperaMini5.1**

Path:

Mobile version: \$SDCARD\2577\NETCFv35.wm.armv4i.cab

.NET Compact Framework is not installed



2. If you cannot log into your Dropbox account in Internet Explorer, install OperaMini5.1 manually from the following path below. *Note:* IE mobile version is not compatible with Dropbox on Windows Mobile/Embedded OS, this is why the software try to install OperaMini5.1 at the first start.

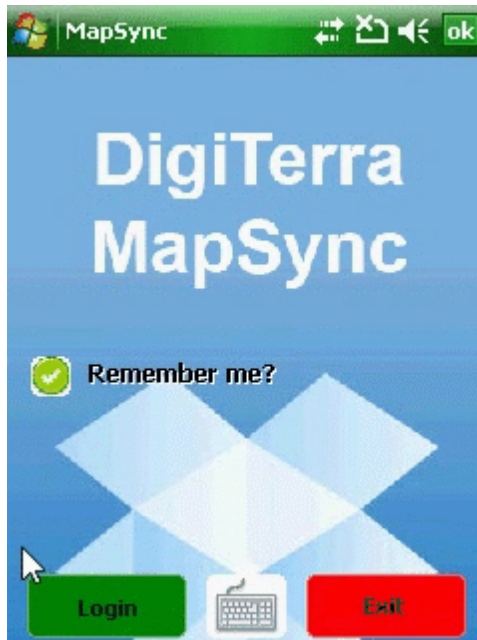
Path:

Mobile version: \$SDCARD\2577\OperaMini51.cab

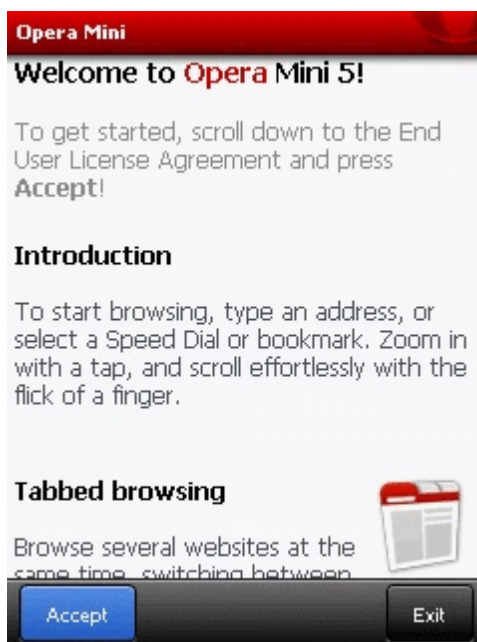
4.1.10.2 Authorizing MapSync

Authorizing MapSync for Dropbox plugin to your Dropbox account

1. Sing up to Dropbox at <http://www.dropbox.com>
2. Select MapSync for Dropbox in the menu, check ☐ **Remember me?** and press **Login**



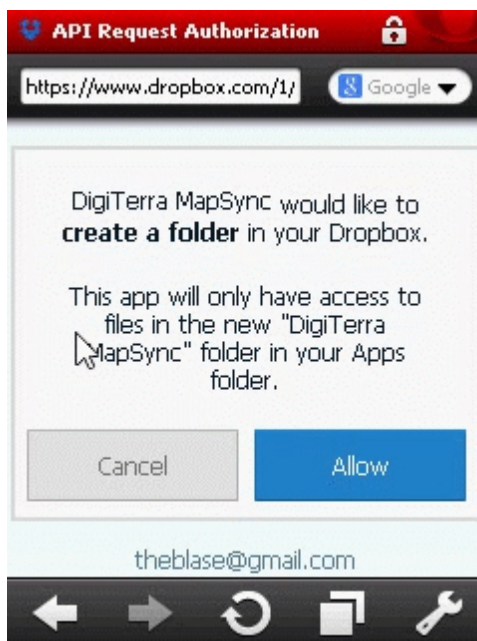
3. In Opera Mini press **Accept** if you start MapSync for first time to authorize the MapSync for Dropbox plugin to your Dropbox account

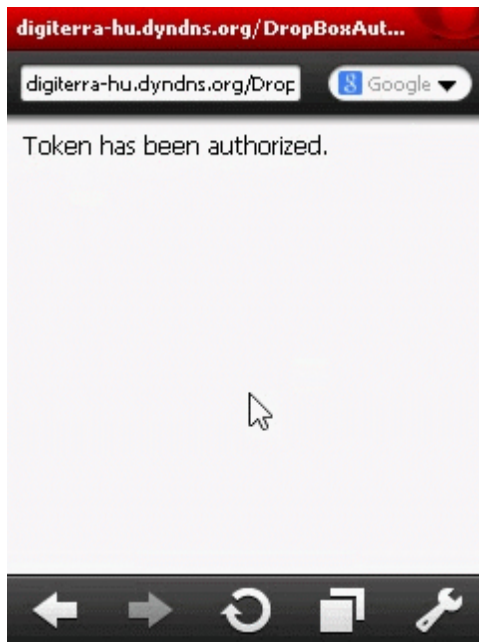


4. Sign in to Dropbox in the opened web page by entering your selected **Email** and **Password**, check ☐ **Remember me** and press **Sign in**
5. Press **Yes** in the Remember Password window



6. Finally press **Allow** to create a folder in your Dropbox that will be used for synchronizing data





Video tutorial:

Authorizing MapSync - video



4.1.11 E-mail sub menu

This menu is accessible in the [File menu](#) > **E-mail sub-menu** and contains the following items:

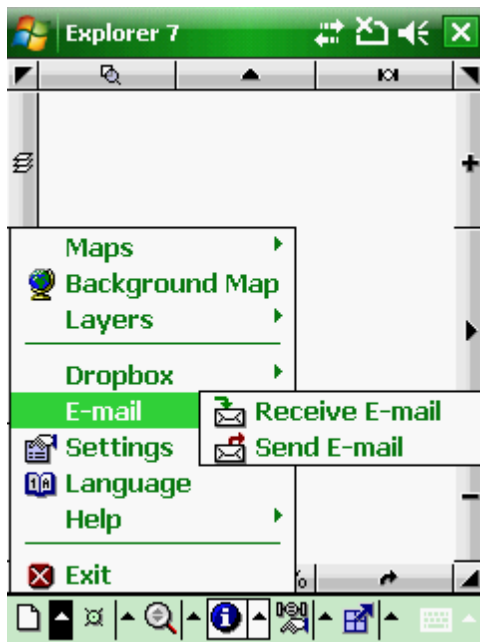
-  **Receive E-mail**
-  **Send E-mail**

 = new feature

Availability of "E-mail sub-menu" in different editions

The E-mail sub-menu

Basic	Advanced	Professional
		



Receive E-mail

Receives E-mail with the associated e-mail software.

Send E-mail

Sends mapping project and its sources ([vector](#) and [raster layers](#), code dictionary, [project file \(EXP\)](#)) by e-mail with the associated e-mail software.

In the Mobile version the software packs the full project in a .ZIP archive, that can be sent as an attachment by e-mail.

The size of the e-mail attachment is 5 MB as default, which can be modified on the Settings > System tab at [Attachment size](#) option.

4.1.12 Print map

Print

[Print](#)s the current Map. This menu item is available only in the Desktop version.



All details of the Print panel can be found in the [Printing maps and reports](#) topic

4.1.13 Settings

Settings

Opens the [Settings](#) panel.



All details of the Settings panel can be found within the [Settings](#) topic

4.1.14 Language



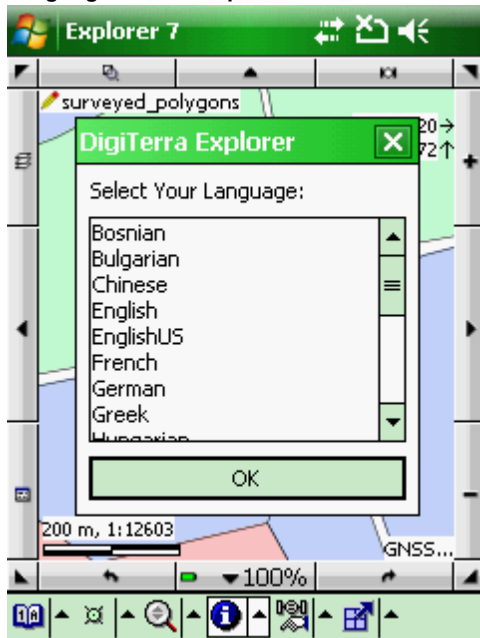
Language

Opens the language selection dialog to change the language that currently displays in DigiTerra Explorer.



The language selection panel displays automatically at the first start of the software.

Language selection panel



DigiTerra Explorer stores the language variables in editable text files with **LANG** extension in the following paths:

Path:

Desktop version: \$PROGRAMFILES\DigiTerra Explorer v7\

Mobile version: \$SDCARD\Bin\

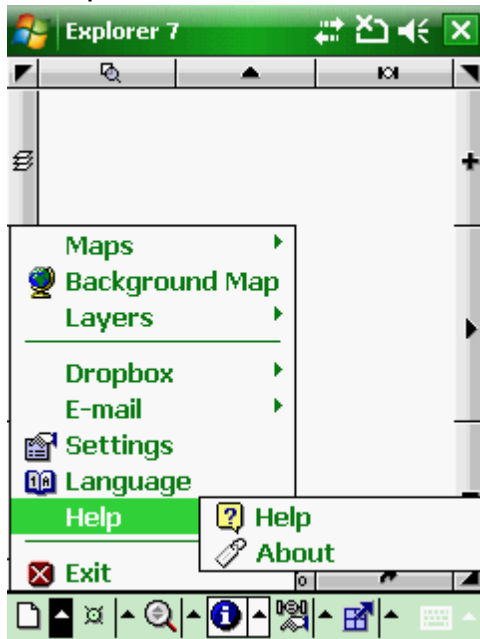
4.1.15 Help sub-menu

This sub-menu contains the following items and it is available only in the Mobile version. In the Desktop version the following commands are accessible in the [Help application menu](#).

-  Help

-  [About](#)

The Help sub-menu



Help

Opens the online version of the DigiTerra Explorer Reference Guide in the default browser.

About

Opens the [About DigiTerra Explorer panel](#) to display **information about the software** (current version), the license (registration) and the system. It is also used to try out the functionality of different editions/extensions on the [Evaluate tab](#).

4.1.15.1 About

The About dialog contains the following tabs:

1. About
2. [License](#)
3. [Evaluation](#)

The About tab



Program version: Shows the current software version

Modules: Shows the purchased editions and extensions

Explorer is up to date - Updates DigiTerra Explorer online if new updates are available, anyway this button is inactive.

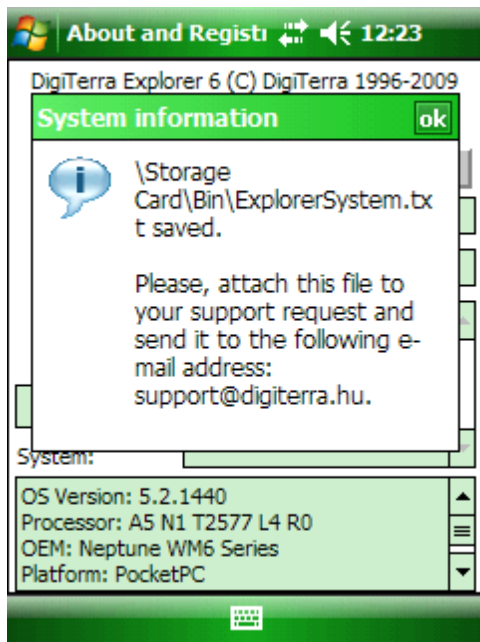
Save System Info - Saves all information from the About and Registration panel into the ExplorerSystem.txt file.

Path:

Desktop version: \$DOCUMENTS\DigiTerra Explorer v7\ExplorerSystem.txt

Mobile version: \$SDCARD\Bin\ExplorerSystem.txt

Displayed message box about the saved ExplorerSystem.txt

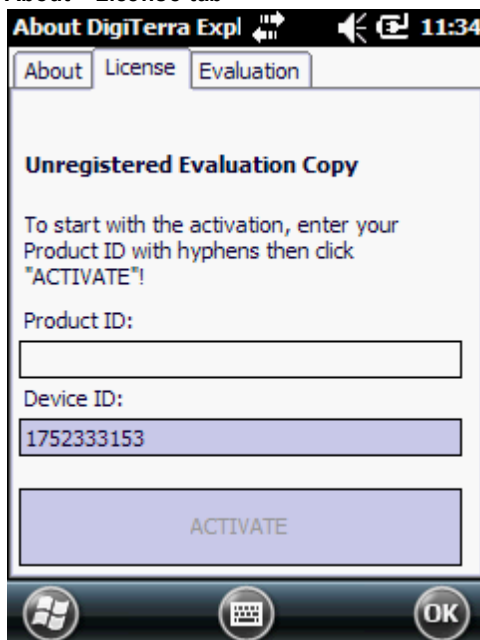


4.1.15.1.1 License

The License tab is used to activate the Product ID you purchased and also to upgrade an existing license.

For information on activation, license upgrade please also refer to [Registration](#) topic.

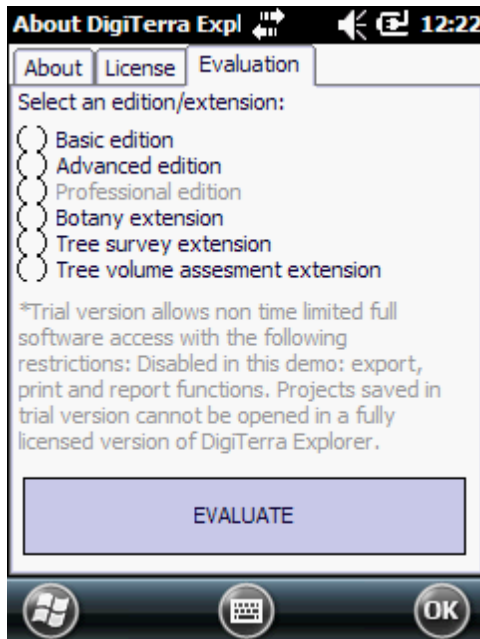
About > License tab



4.1.15.1.2 Evaluation

Select an edition/extension to try it out then tap on the **EVALUATE** button. The purchased edition / extension(s) are greyed.

The Evaluate tab



EVALUATE - Activates the selected edition/extension without restarting the application

4.1.16 Exit



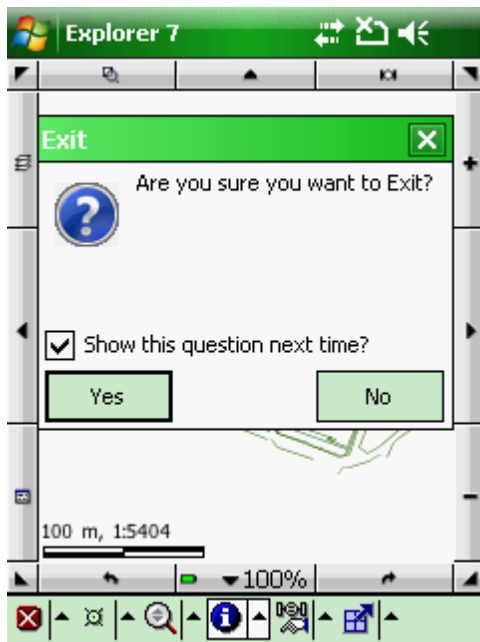
Exit

Enables to exit the application.

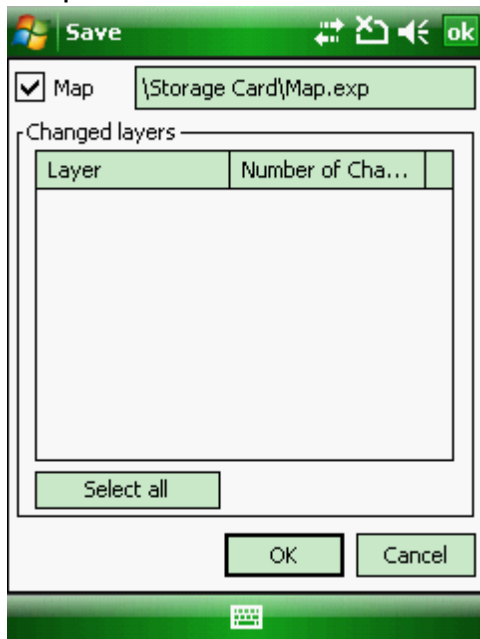
Basic steps to exit DigiTerra Explorer

1. The **Exit message box** appears as default (if you have not unchecked the "Show this question next time?")
2. Then opens the **Save panel** to save the map view into a new [map project](#) (The "Save panel" displays only if you have added at least one layer to the map view and not yet saved it into a [map project](#) before exiting the software)
3. Finally closes DigiTerra Explorer.

Exit message box






Save panel



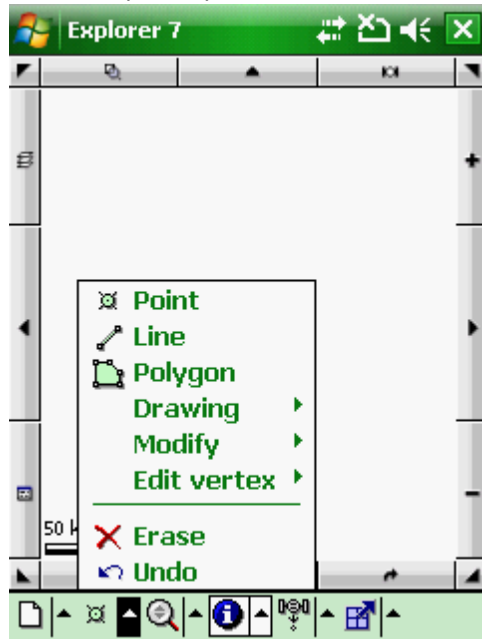
4.2 Edit menu

The Edit menu contains the following **options** and **sub-menus** for vector map editing operations

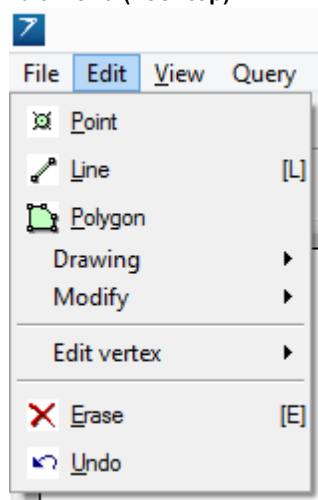
-  [Point](#)
-  [Line](#)
-  [Polygon](#)
 - [Drawing](#)

- [Modify](#)
- [Edit vertex](#)
-  [Erase](#)
-  [Undo](#)

Edit menu (Mobile)



Edit menu (Desktop)



4.2.1 Point



Point

Activates the **point feature type** for data capture. Tap the map to create a new [point](#) feature at the tapped location into the [edited layer](#) then DigiTerra Explorer proceeds to capture attributes according to the Settings > Record > New record: [<selected option>](#). The point feature type remains active for data capture until another tool is activated. The Point button allows capture on the screen

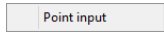
with the pen or mouse but not with incoming GPS coordinates.

Tap / Left click: captures point feature at the tapped location

Drag: captures point feature at the tapped location using [crosshairs](#)

Tap and hold / Right click: displays the [Context menu](#)

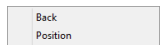
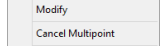




Context menu

	Opens the Insert Point panel. Only this option appears in the context menu when there is no vector feature layer on the Layer Manager or when the edited layer's file format is not MAP - DigiTerra
---	---

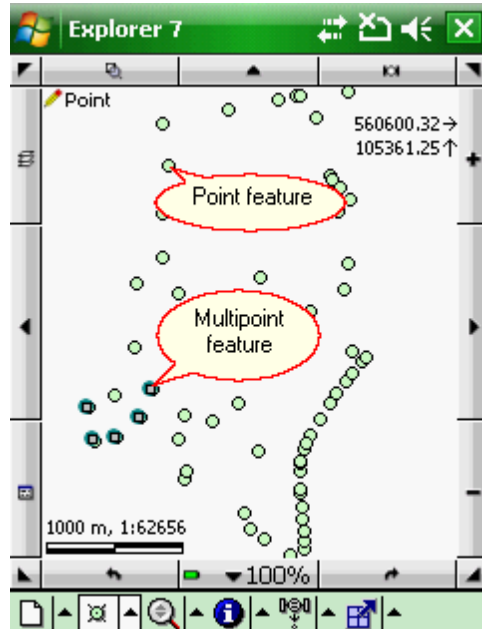
Context menu for MAP - DigiTerra layers

	Opens the Insert Point panel
	Activates the multipoint feature type for data capture

Multipoint context menu

	Undoes the last edit made to a feature
	Opens the Insert Point panel
	Opens the Modify panel
	Deactivates the multipoint feature type for data capture
	Undoes all edit made to a feature
	Creates the multipoint feature and deactivates the multipoint feature type for data capture.

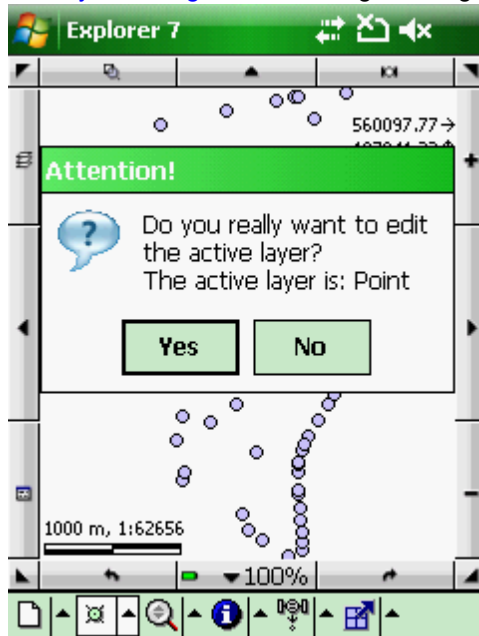
Point and multipoint features in a MAP - DigiTerra layer



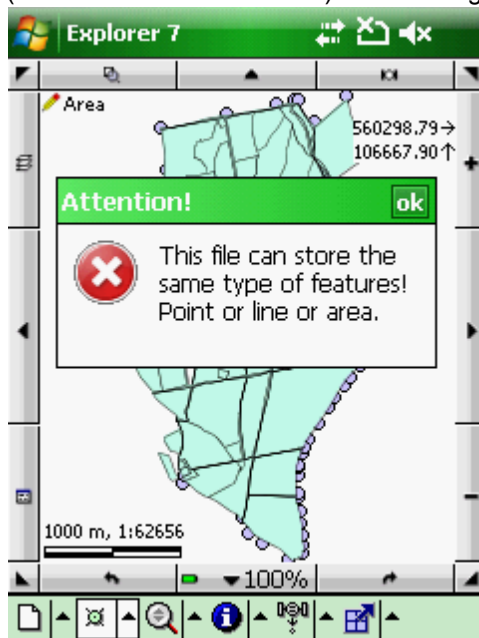
Troubleshooting

The point feature type for data capture is only available when [editing is turned on for the active layer](#) on the [Layer Manager](#) and the [layer's feature type is POINT](#), anyway the following cases are possible:

1. If the [active layer](#) is a [POINT feature layer](#) but the [editing is turned off](#) or the layer [locked](#) on the [Layer Manager](#) the following message box appears to enable editing in the active layer:

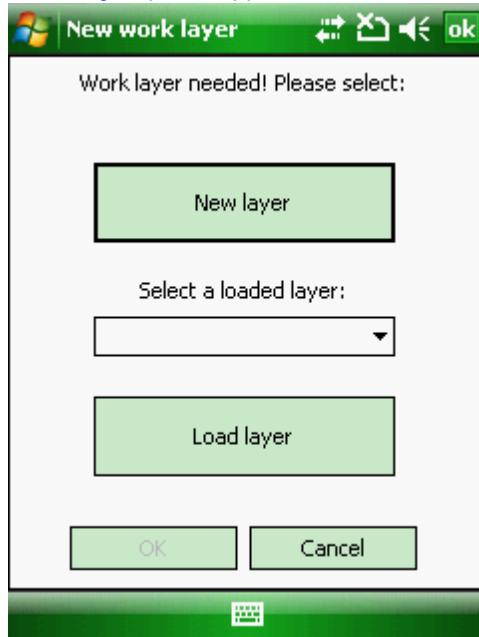


2. If the [active layer](#) is a [POINT feature layer](#) but the [edited layer](#) is a [line or polygon feature layer](#) (or a data table or a text file) the following message box appears:



3. If the [active layer](#) is a [raster layer](#) or there is no vector layer on the [Layer Manager](#) the [New](#)

[work layer](#) panel appears to select an existing layer from the project or create a new one:



Available in

 = new feature

Availability of the "Point" tool in different editions

Basic



Advanced




Professional




See also



Multipoint features can be exploded into single point features with the  [Explode](#) tool



You can also create multipoint geometry from a single point feature with the  [Insert vertex](#) tool

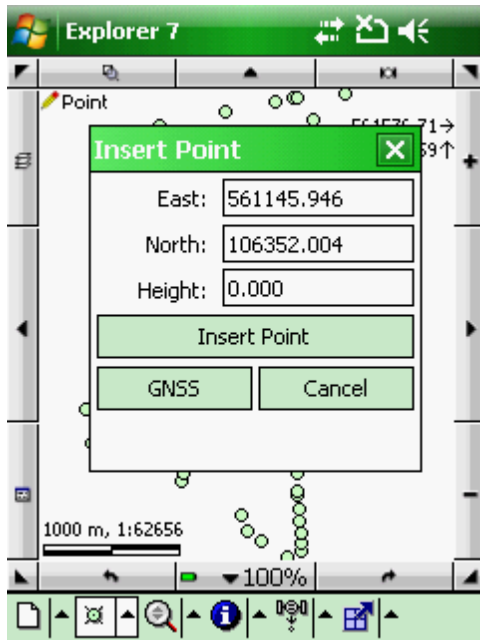


Please also have a look at this video tutorial: [Creating new multipoint features](#)

4.2.1.1 Insert Point dialog box

The Insert Point panel enables to [add point](#) on the map in an editable point layer by entering its coordinates.

Insert Point panel



East: Easting coordinate of the point

North: Northing coordinate of the point

Height: Height of the point

Insert Point - adds the point on the map with the displayed coordinates on the dialog

GNSS - takes over the Easting, Northing coordinates of the current GPS/GNSS position to add a point at the current GPS/GNSS location

Cancel - Closes the panel

4.2.2 Line



Line

Activates the **line feature type** for data capture. Tap the map to add the vertices of a new line or polyline feature into the [edited layer](#) then **Tap and hold / Right click** to open the context menu and select **Create** to create the feature. Once you selected the **Create** option in the context menu DigiTerra Explorer proceeds to capture attributes according to the Settings > Record > New record: [<selected option>](#). The line feature type remains active for data capture until another tool is activated. The Line button allows capture on the screen with the pen or mouse but not with incoming GPS coordinates.

Keyboard command: L

Tap / Left click: adds vertex into the edited layer at the tapped location

Drag: adds vertex into the edited layer at the tapped location using [crosshairs](#)

Tap and hold / Right click: displays the Context menu

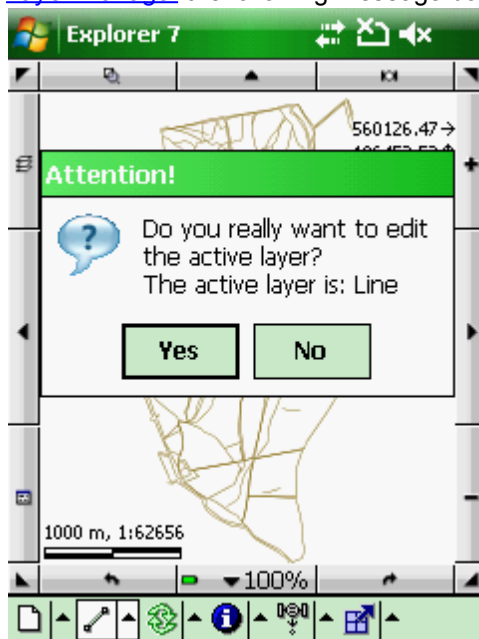
Context menu

Back	Undoes the last edit made to a feature
Position	
Modify	Opens the New vertex panel
New part	Opens the Modify panel
Restart	Activates the multiline feature type for data capture
Create	Undoes all edit made to a feature
	Creates the line or multiline feature

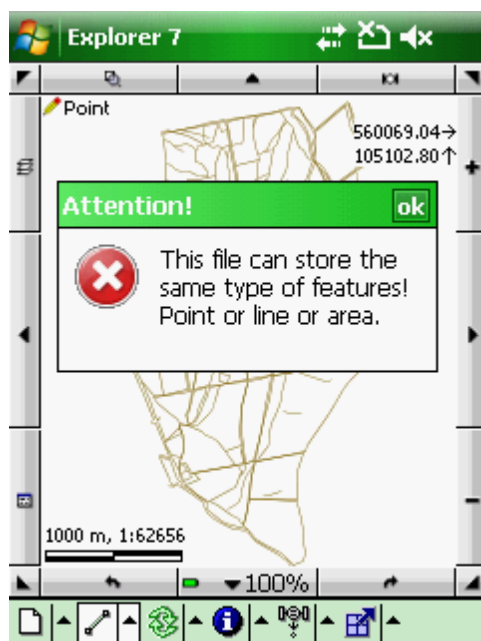
Troubleshooting

The line feature type for data capture is only available when [editing is turned on for the active layer](#) on the [Layer Manager](#) and the [layer's feature type is LINE](#), anyway the following cases are possible:

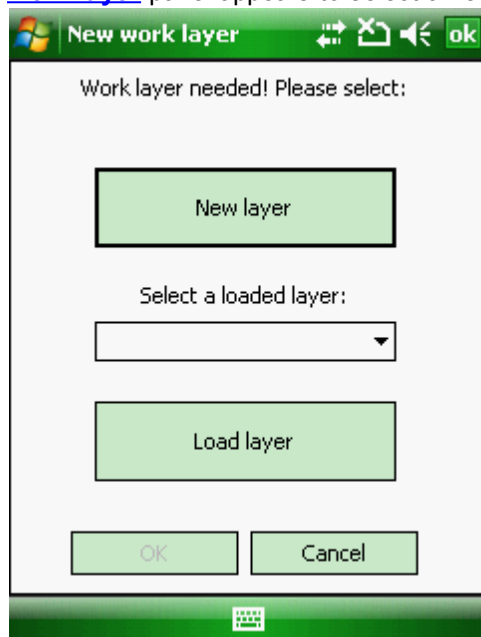
1. If the [active layer](#) is a [LINE feature layer](#) but the [editing is turned off](#) or the layer [locked](#) on the [Layer Manager](#) the following message box appears to enable editing in the active layer:



2. If the [active layer](#) is a [LINE feature layer](#) but the [edited layer](#) is a [point or polygon feature layer](#) (or a data table or a text file) the following message box appears:



3. If the [active layer](#) is a [raster layer](#) or there is no vector layer on the [Layer Manager](#) the [New work layer](#) panel appears to select an existing layer from the project or create a new one:



Available in

☀ = new feature

Availability of the "Line" tool in different editions

Basic



Advanced



Professional



4.2.3 Polygon



Polygon

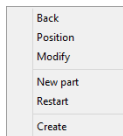
Activates the **polygon feature type** for data capture. Tap the map to add the vertices of a new polygon feature into the [edited layer](#) then **Tap and hold / Right click** to open the context menu and select **Create** to create the feature. Once you selected the **Create** option in the context menu DigiTerra Explorer proceeds to capture attributes according to the Settings > Record > New record: [<selected option>](#). The polygon feature type remains active for data capture until another tool is activated. The Polygon button allows capture on the screen with the pen or mouse but not with incoming GPS coordinates.

Tap / Left click: adds vertex into the edited layer at the tapped location

Drag: adds vertex into the edited layer at the tapped location using [crosshairs](#)

Tap and hold / Right click: displays the Context menu

Context menu



Undoes the last edit made to a feature

Opens the [New vertex](#) panel

Opens the [Modify](#) panel

Activates the **multipolygon feature type** for data capture

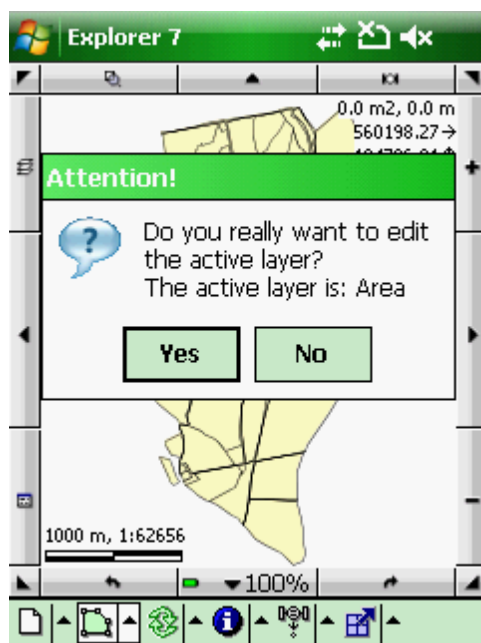
Undoes all edit made to a feature

Creates the [polygon](#) or [multipolygon](#) feature

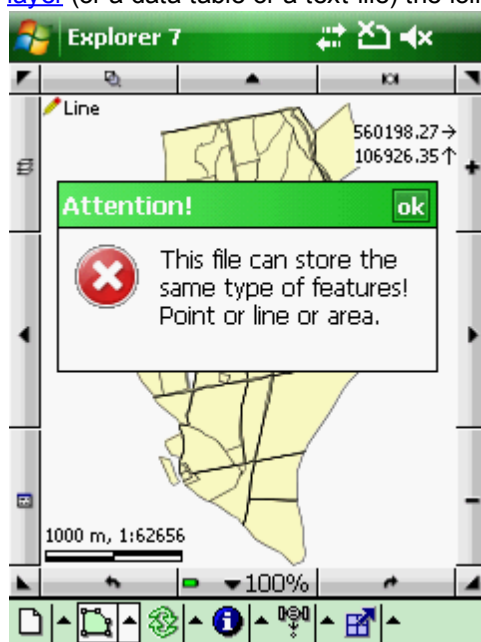
☐ Troubleshooting

The polygon feature type for data capture is only available when [editing is turned on for the active layer](#) on the [Layer Manager](#) and the [layer's feature type is POLYGON](#), anyway the following cases are possible:

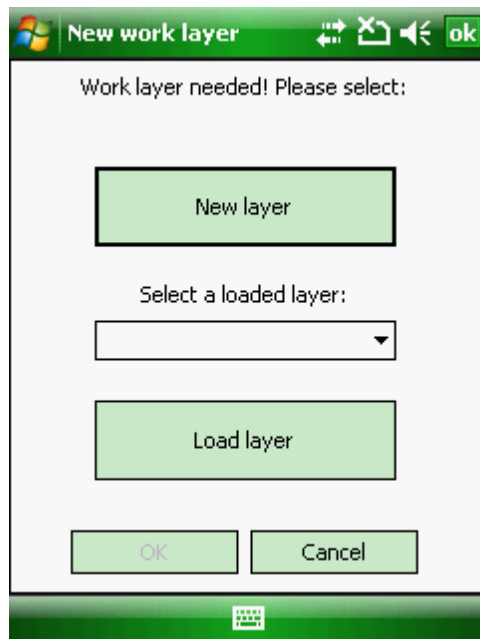
1. If the [active layer](#) is a [POLYGON feature layer](#) but the [editing is turned off](#) or the layer [locked](#) on the [Layer Manager](#) the following message box appears to enable editing in the active layer:



2. If the [active layer](#) is a [POLYGON feature layer](#) but the [edited layer](#) is a [point or line feature layer](#) (or a data table or a text file) the following message box appears:



3. If the [active layer](#) is a [raster layer](#) or there is no vector layer on the [Layer Manager](#) the [New work layer](#) panel appears to select an existing layer from the project or create a new one:



Available in


☀ = new feature

Availability of the "Polygon" tool in different editions

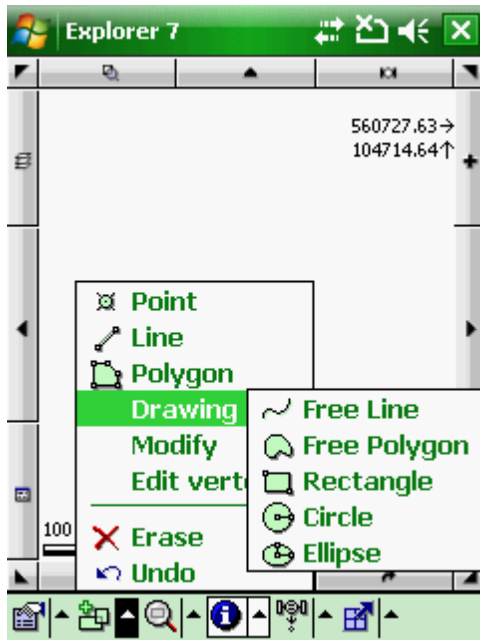
Basic	Advanced	Professional
✓	✓	✓

4.2.4 Drawing sub-menu

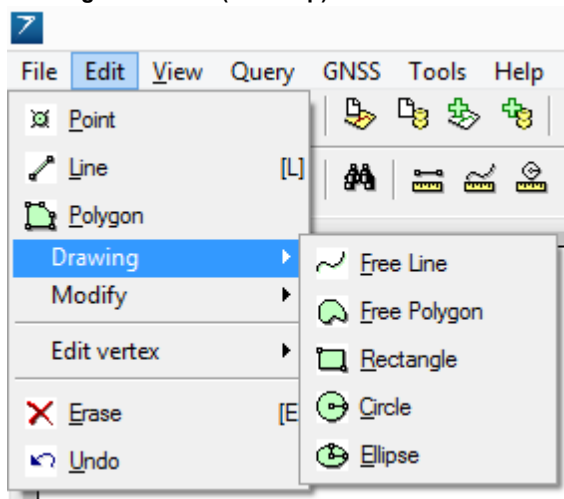
This sub-menu is accessible in the [Edit menu](#) and contains the following items:

-  [Free Line](#)
-  [Free Polygon](#)
-  [Rectangle](#)
-  [Circle](#)
-  [Ellipse](#)

Drawing sub-menu (Mobile)



Drawing sub-menu (Desktop)



4.2.4.1 Free Line



Free Line

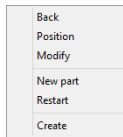
Activates the **freehand line feature type** for data capture. Tap the map to add the vertices of a new line or polyline feature into the [edited layer](#) then **Tap and hold / Right click** to open the context menu and select **Create** to create the feature. Once you selected the **Create** option in the context menu DigiTerra Explorer proceeds to capture attributes according to the Settings > Record > New record: [<selected option>](#). The freehand line feature type remains active for data capture until another tool is activated. The Free Line button allows capture on the screen with the pen or mouse but not with incoming GPS coordinates.

Tap / Left click: adds vertex into the edited layer at the tapped location one by one

Drag: adds vertices continuously into the edited layer at the tapped location

Tap and hold / Right click: displays the Context menu

Context menu



Undoes the last edit made to a feature

Opens the [New vertex](#) panel

Opens the [Modify](#) panel

Activates the [multiline](#) **feature type** for data capture

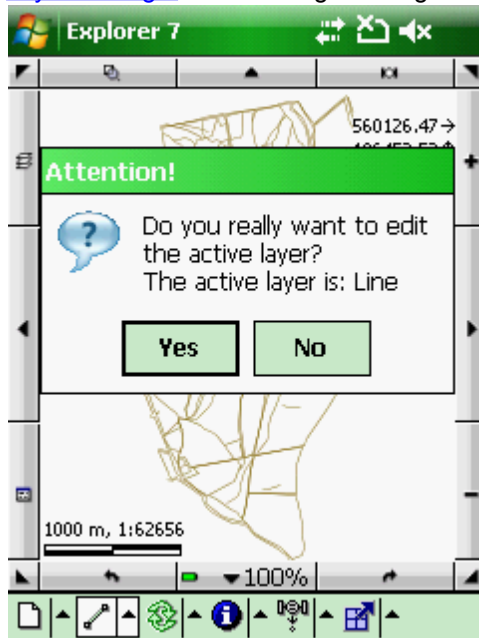
Undoes all edit made to a feature

Creates the [line](#) or [multiline](#) feature

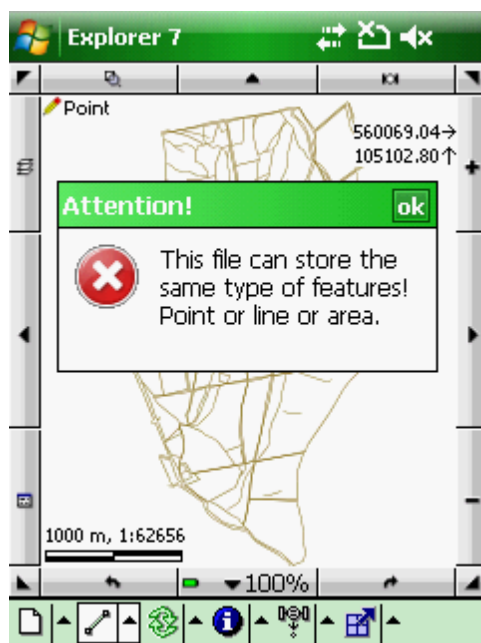
☐ Troubleshooting

The line feature type for data capture is only available when [editing is turned on for the active layer](#) on the [Layer Manager](#) and the [layer's feature type is LINE](#), anyway the following cases are possible:

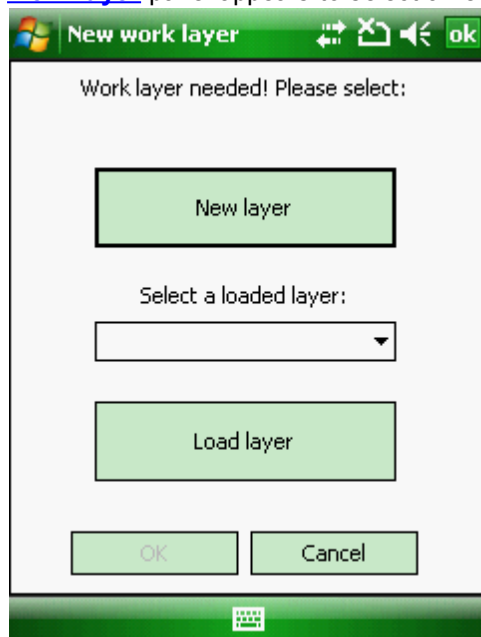
1. If the [active layer](#) is a [LINE feature layer](#) but the [editing is turned off](#) or the layer [locked](#) on the [Layer Manager](#) the following message box appears to enable editing in the active layer:



2. If the [active layer](#) is a [LINE feature layer](#) but the [edited layer](#) is a [point or polygon feature layer](#) (or a data table or a text file) the following message box appears:



3. If the [active layer](#) is a [raster layer](#) or there is no vector layer on the [Layer Manager](#) the [New work layer](#) panel appears to select an existing layer from the project or create a new one:



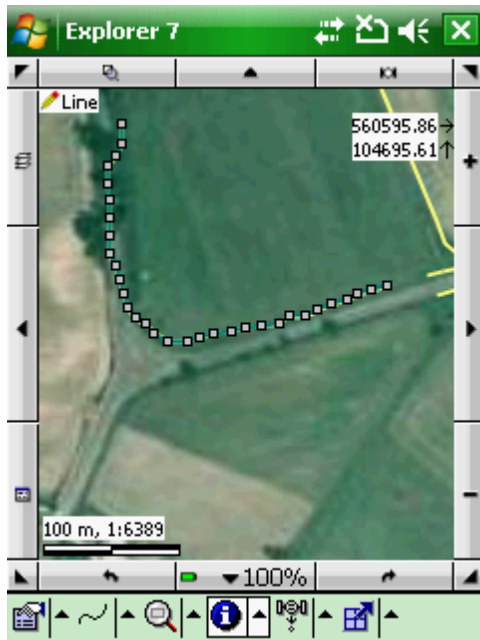
Available in

☀ = new feature

Availability of the "Free Line" tool in different editions

Captured polyline with the Free line tool

Basic	Advanced	Professional
✗	✓	✓



4.2.4.2 Free Polygon



Free Polygon

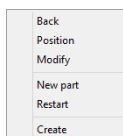
Activates the **freehand polygon feature type** for data capture. Tap the map to add the vertices of a new polygon feature into the [edited layer](#) then **Tap and hold / Right click** to open the context menu and select **Create** to create the feature. Once you selected the **Create** option in the context menu DigiTerra Explorer proceeds to capture attributes according to the Settings > Record > New record: [<selected option>](#). The freehand polygon feature type remains active for data capture until another tool is activated. The Free Polygon button allows capture on the screen with the pen or mouse but not with incoming GPS coordinates.

Tap / Left click: adds vertex into the edited layer at the tapped location one by one

Drag: adds vertices continuously into the edited layer at the tapped location

Tap and hold / Right click: displays the Context menu

Context menu



Undoes the last edit made to a feature

Opens the [New vertex](#) panel

Opens the [Modify](#) panel

Activates the **multipolygon feature type** for data capture

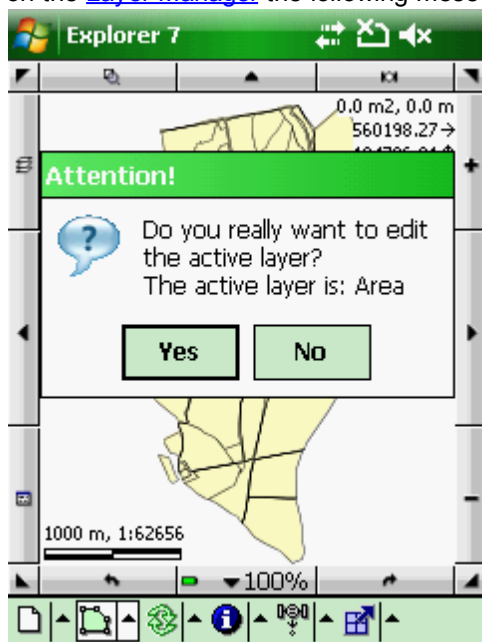
Undoes all edit made to a feature

Creates the [polygon](#) or [multipolygon](#) feature

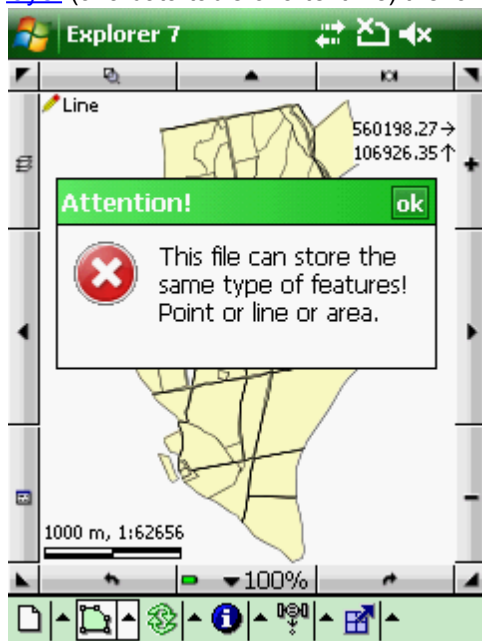
☐ Troubleshooting

The polygon feature type for data capture is only available when [editing is turned on for the active layer](#) on the [Layer Manager](#) and the [layer's feature type is POLYGON](#), anyway the following cases are possible:

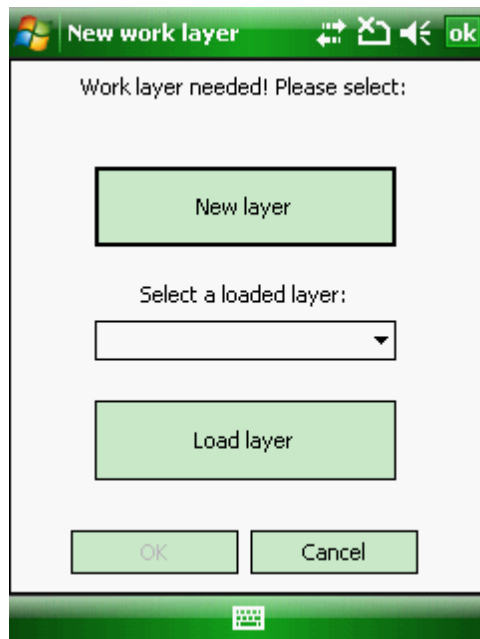
1. If the [active layer](#) is a [POLYGON feature layer](#) but the [editing is turned off](#) or the layer [locked](#) on the [Layer Manager](#) the following message box appears to enable editing in the active layer:



2. If the [active layer](#) is a [POLYGON feature layer](#) but the [edited layer](#) is a [point or line feature layer](#) (or a data table or a text file) the following message box appears:



3. If the [active layer](#) is a [raster layer](#) or there is no vector layer on the [Layer Manager](#) the [New work layer](#) panel appears to select an existing layer from the project or create a new one:



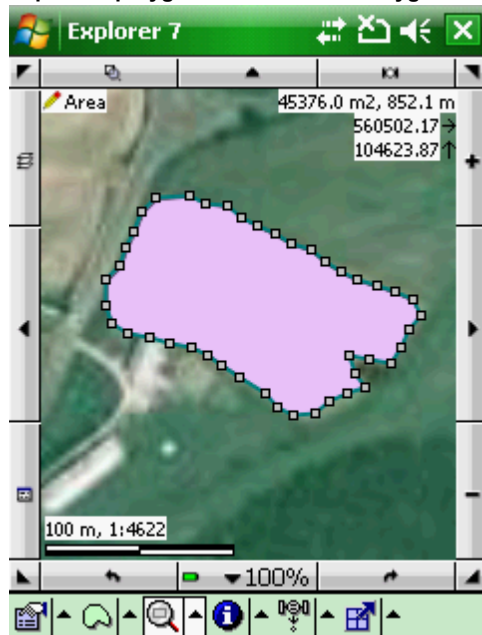
Available in

☀ = new feature

Availability of the "Free Polygon" tool in different editions

Basic	Advanced	Professional
✗	✓	✓

Captured polygon with the Free Polygon tool



4.2.4.3 Rectangle



Rectangle

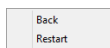
Activates the **rectangle polygon feature type** for data capture. Tap the map to add two vertices: *top left (1) and bottom right (2) vertices* of a new polygon feature into the [edited layer](#) using [crosshairs](#). Once you placed the second vertex on the map DigiTerra Explorer proceeds to capture attributes according to the Settings > Record > New record: [<selected option>](#). The rectangle polygon feature type remains active for data capture until another tool is activated. The Rectangle button allows capture on the screen with the pen or mouse but not with incoming GPS coordinates.

Tap / Left click: adds two vertices: *top left (1) and bottom right (2) vertices* of a rectangle into the edited layer at the tapped location one by one then creates the feature

Drag: adds two vertices: *top left (1) and bottom right (2) vertices* of a rectangle continuously into the edited layer using [crosshairs](#) then creates the feature

Tap and hold / Right click: displays the Context menu

Context menu



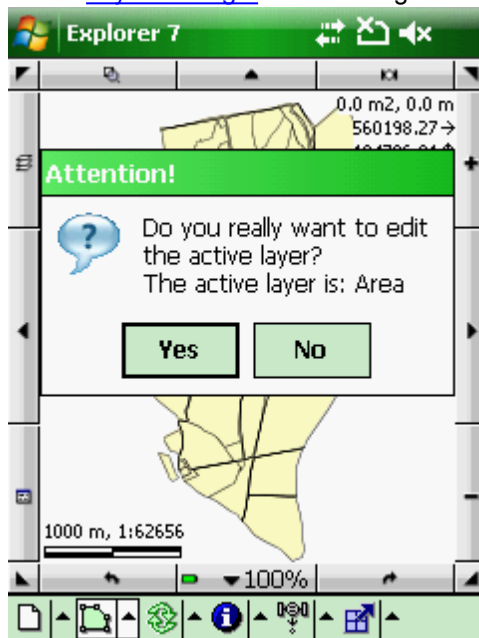
Undoes the last edit made to a feature

Undoes all edit made to a feature

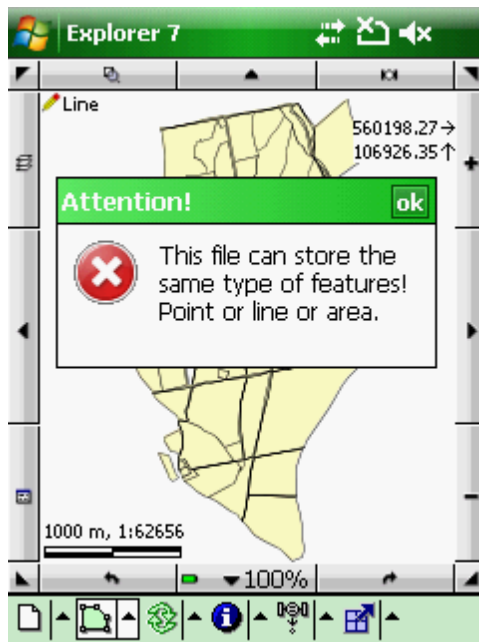
Troubleshooting

The polygon feature type for data capture is only available when [editing is turned on for the active layer](#) on the [Layer Manager](#) and the [layer's feature type is POLYGON](#), anyway the following cases are possible:

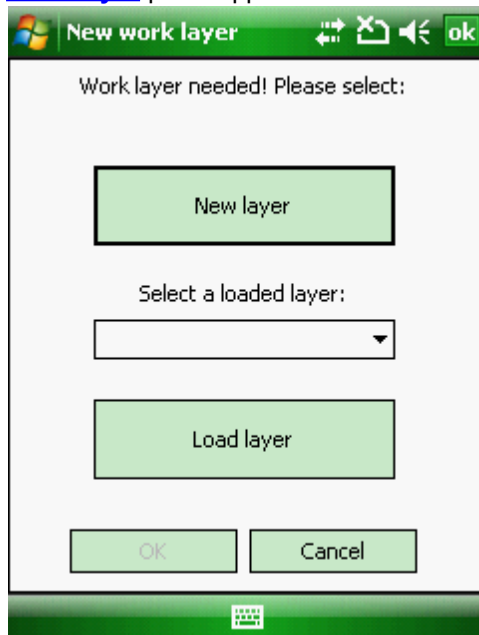
1. If the [active layer](#) is a [POLYGON feature layer](#) but the [editing is turned off](#) or the layer [locked](#) on the [Layer Manager](#) the following message box appears to enable editing in the active layer:



2. If the [active layer](#) is a [POLYGON feature layer](#) but the [edited layer](#) is a [point or line feature layer](#) (or a data table or a text file) the following message box appears:



3. If the [active layer](#) is a [raster layer](#) or there is no vector layer on the [Layer Manager](#) the [New work layer](#) panel appears to select an existing layer from the project or create a new one:



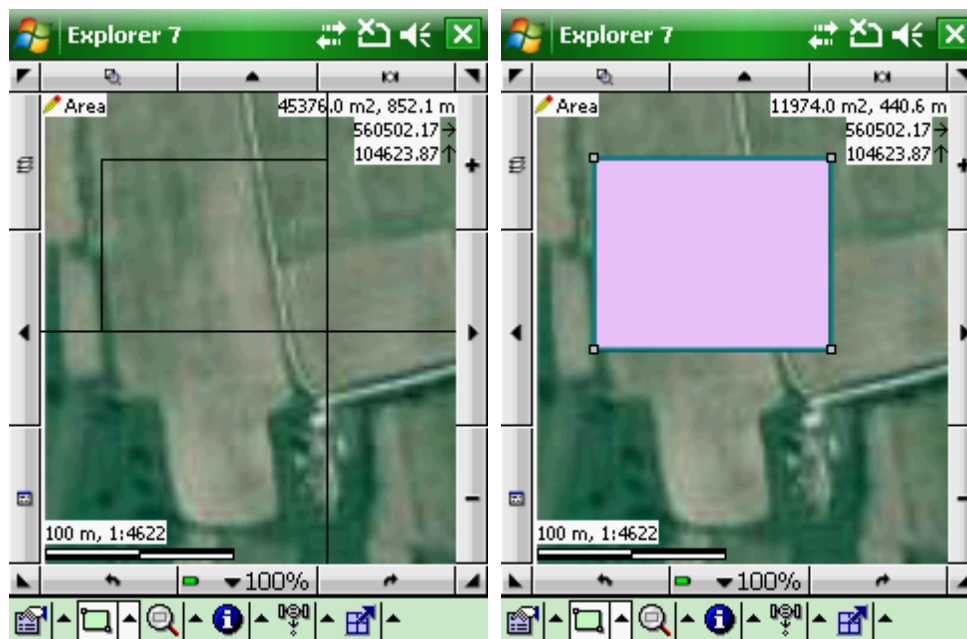
Available in

☀ = new feature

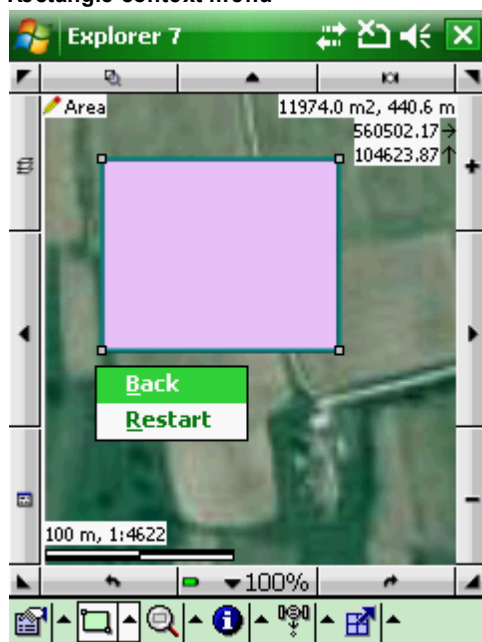
Availability of the "Free Polygon" tool in different editions

Rectangle

Basic	Advanced	Professional
✖	✓	✓



Rectangle context menu



4.2.4.4 Circle



Circle

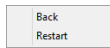
Activates the **circle polygon feature type** for data capture. Tap the map to add two vertices: *top left* (1) and *bottom right* (2) vertices of a new polygon feature into the [edited layer](#) using [crosshairs](#). Once you placed the second vertex on the map DigiTerra Explorer proceeds to capture attributes according to the Settings > Record > New record: [<selected option>](#). The circle polygon feature type remains active for data capture until another tool is activated. The Circle button allows capture on the screen with the pen or mouse but not with incoming GPS coordinates.

Tap / Left click: adds two vertices: *top left (1) and bottom right (2) vertices* of a circle into the edited layer at the tapped location one by one then creates the feature

Drag: adds two vertices: *top left (1) and bottom right (2) vertices* of a circle continuously into the edited layer using crosshairs then creates the feature

Tap and hold / Right click: displays the Context menu

Context menu



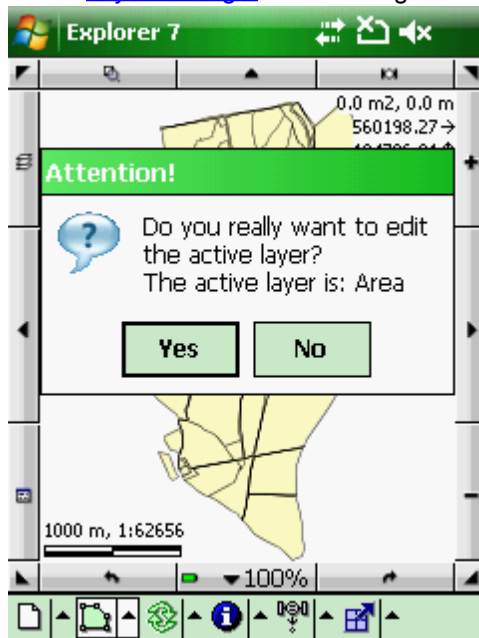
Undoes the last edit made to a feature

Undoes all edit made to a feature

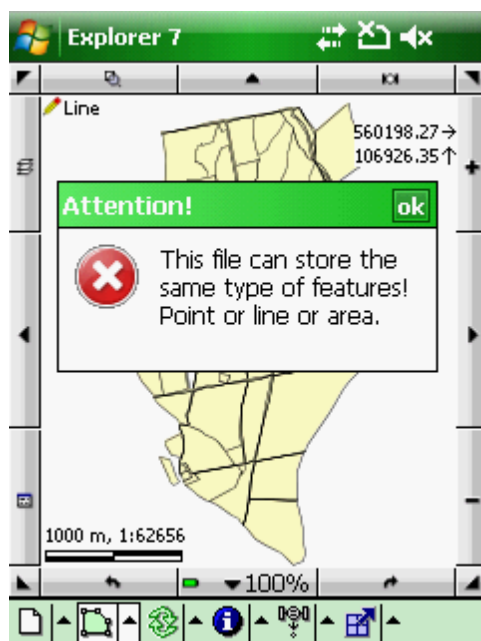
Troubleshooting

The polygon feature type for data capture is only available when editing is turned on for the active layer on the Layer Manager and the layer's feature type is POLYGON, anyway the following cases are possible:

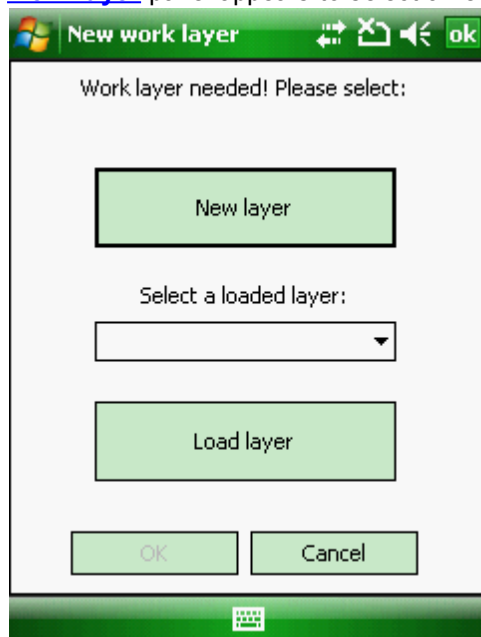
1. If the active layer is a POLYGON feature layer but the editing is turned off or the layer locked on the Layer Manager the following message box appears to enable editing in the active layer:



2. If the active layer is a POLYGON feature layer but the edited layer is a point or line feature layer (or a data table or a text file) the following message box appears:



3. If the [active layer](#) is a [raster layer](#) or there is no vector layer on the [Layer Manager](#) the [New work layer](#) panel appears to select an existing layer from the project or create a new one:



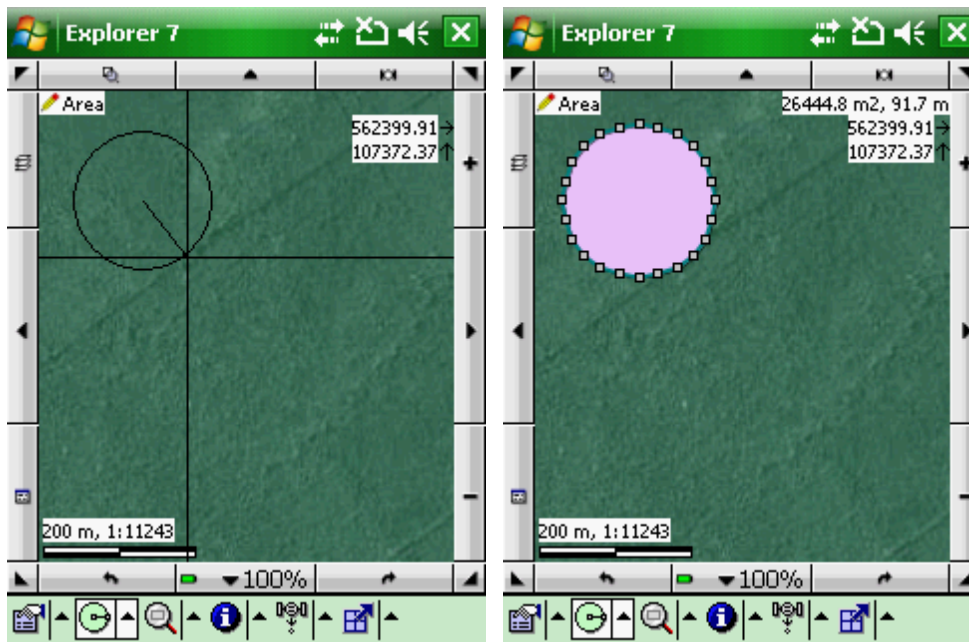
Available in

☀ = new feature

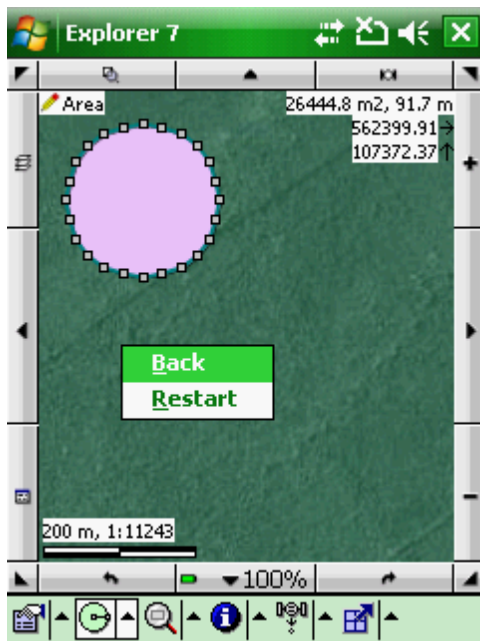
Availability of the "Free Polygon" tool in different editions

Circle

Basic	Advanced	Professional
✖	✓	✓



Circle context menu



4.2.4.5 Ellipse



Ellipse

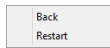
Activates the **ellipse polygon feature type** for data capture. Tap the map to add two vertices: *top left* (1) and *bottom right* (2) vertices of a new polygon feature into the [edited layer](#) using [crosshairs](#). Once you placed the second vertex on the map DigiTerra Explorer proceeds to capture attributes according to the Settings > Record > New record: [<selected option>](#). The ellipse polygon feature type remains active for data capture until another tool is activated. The Ellipse button allows capture on the screen with the pen or mouse but not with incoming GPS coordinates.

Tap / Left click: adds two vertices: *top left (1) and bottom right (2) vertices* of a ellipse into the edited layer at the tapped location one by one then creates the feature

Drag: adds two vertices: *top left (1) and bottom right (2) vertices* of a ellipse continuously into the edited layer using crosshairs then creates the feature

Tap and hold / Right click: displays the Context menu

Context menu



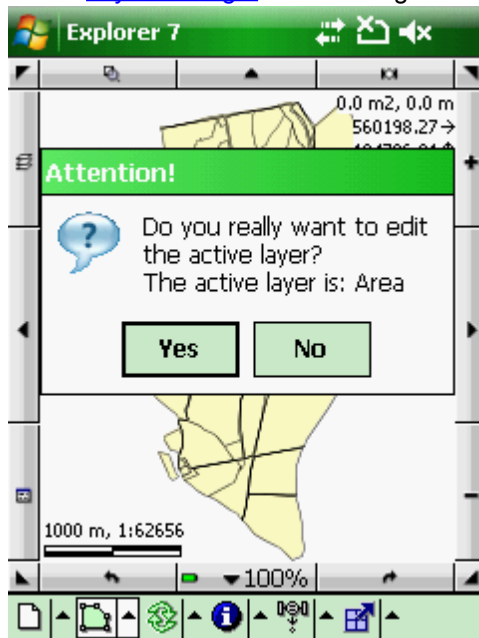
Undoes the last edit made to a feature

Undoes all edit made to a feature

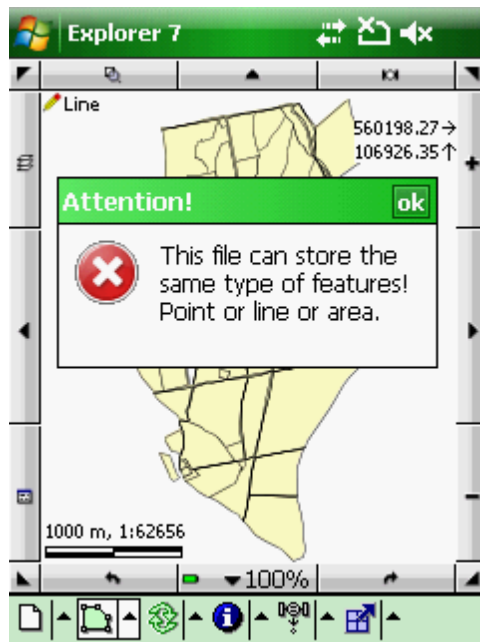
Troubleshooting

The polygon feature type for data capture is only available when editing is turned on for the active layer on the Layer Manager and the layer's feature type is POLYGON, anyway the following cases are possible:

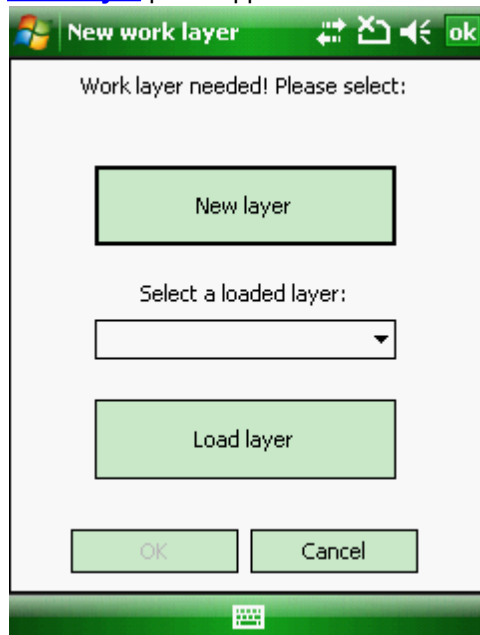
1. If the active layer is a POLYGON feature layer but the editing is turned off or the layer locked on the Layer Manager the following message box appears to enable editing in the active layer:



2. If the active layer is a POLYGON feature layer but the edited layer is a point or line feature layer (or a data table or a text file) the following message box appears:



3. If the [active layer](#) is a [raster layer](#) or there is no vector layer on the [Layer Manager](#) the [New work layer](#) panel appears to select an existing layer from the project or create a new one:



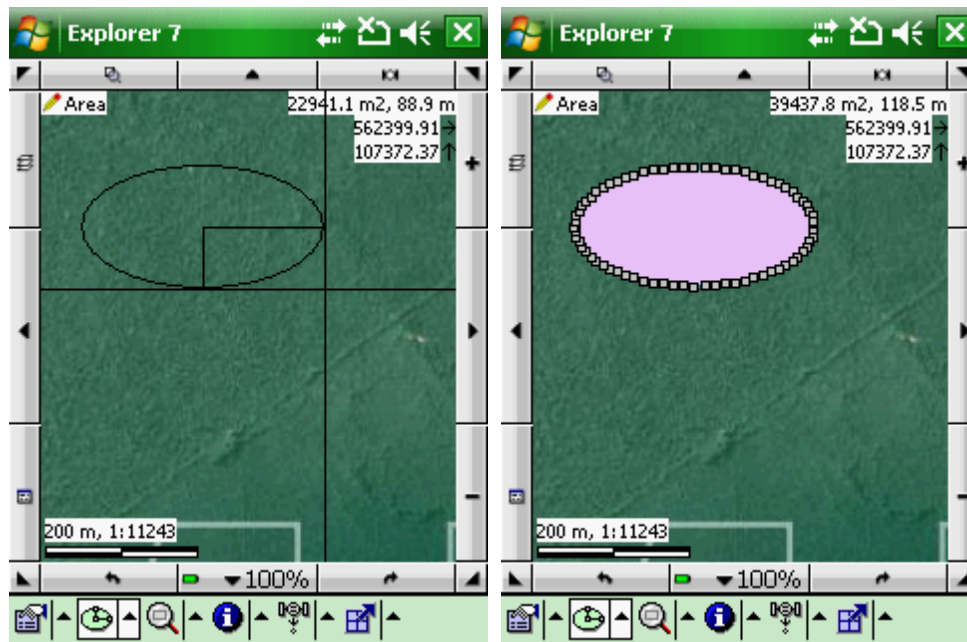
Available in

☀ = new feature

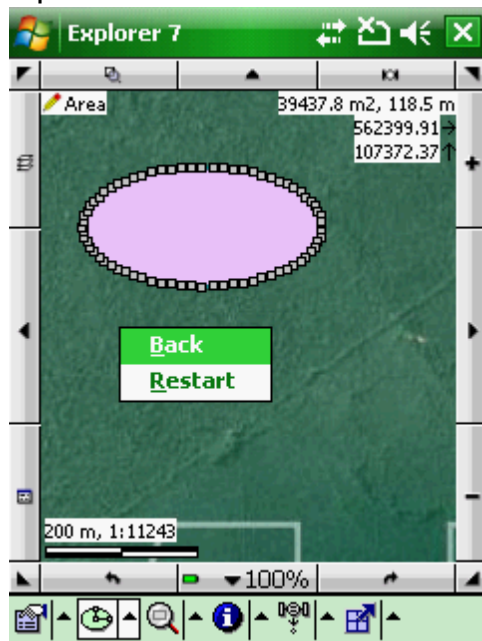
Availability of the "Free Polygon" tool in different editions

Ellipse

Basic	Advanced	Professional
✖	✓	✓










Ellipse context menu



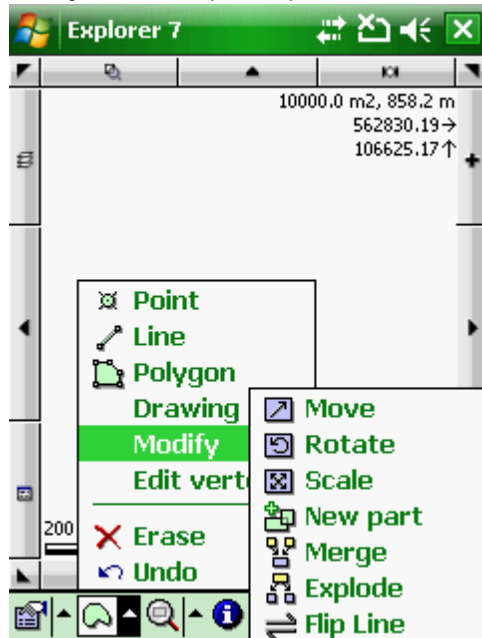
4.2.5 Modify sub-menu

This sub-menu is accessible in the [Edit menu](#) and contains the following items:

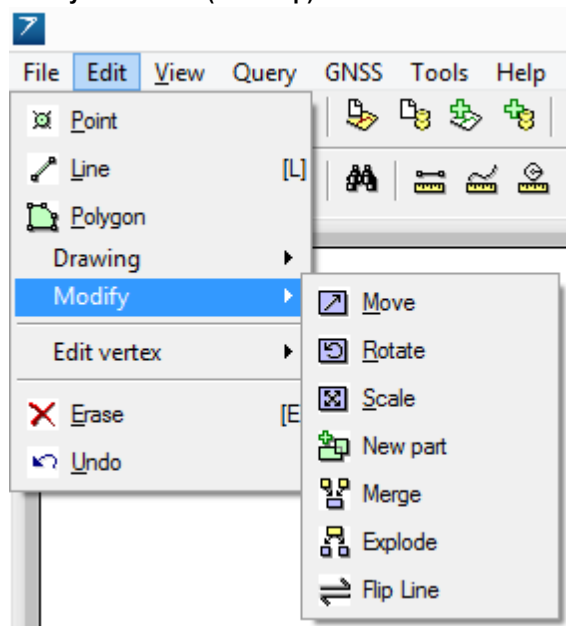
-  [Move](#)
-  [Rotate](#)
-  [Scale](#)
-  [New part](#)

-  [Merge](#)
-  [Explode](#)
-  [Flip Line](#)

Modify sub-menu (Mobile)



Modify sub-menu (Desktop)



4.2.5.1 Move



Move


Moves the selected feature(s) in the [edited layer](#). The Move tool remains active for moving the selected feature until another tool is activated.

Tap / Left click: selects/deselects the feature on the map at the tapped location. Second Tap / Left click on the polyline or on the polygon's boundary defines the reference point.

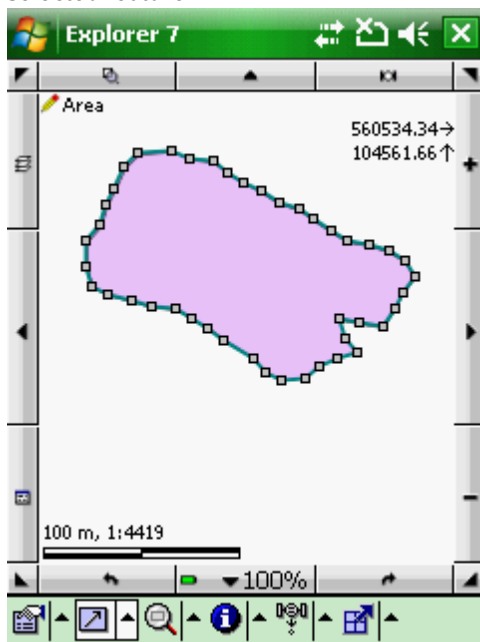
Drag / Left drag: moves the selected feature, [crosshairs](#) appear

Tap and hold / Right click: opens the **Offset values** panel to move the selected feature **based on entered offset values**

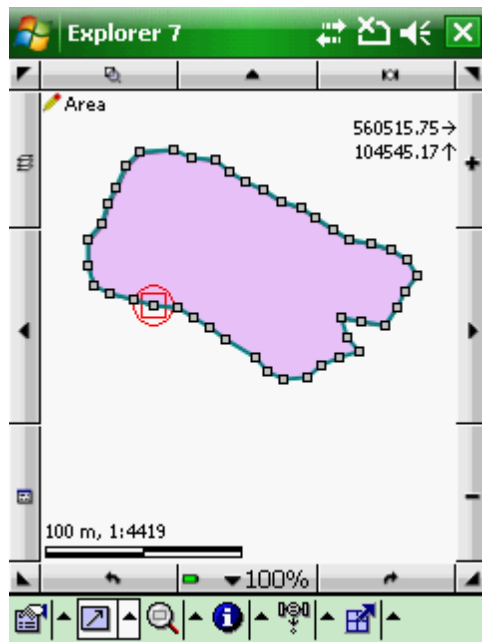
Basic Steps on how to use the Move tool

1. Select the desired feature on the map when the Move tool is active (you can also pre-select it with the  **Identify** command)
 - > If you want to move more than one feature you have to select them with the [multiselection tools](#)
2. Select a reference point/vertex: it is suggested to select it on the boundary (line and polygon features) with a snapped red position mark
 - > Open the Offset values panel, enter the offset values then tap OK to offset
 - > In case of moving more than one feature it is necessary to select a feature from one of them then select a reference point/vertex
3. Drag the feature to the desired position

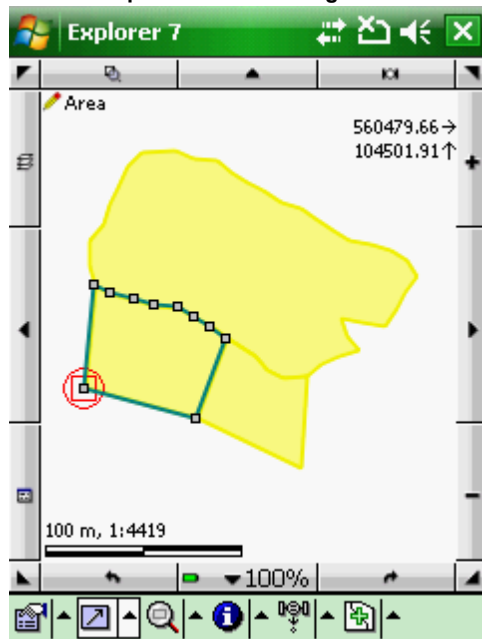
Selected feature



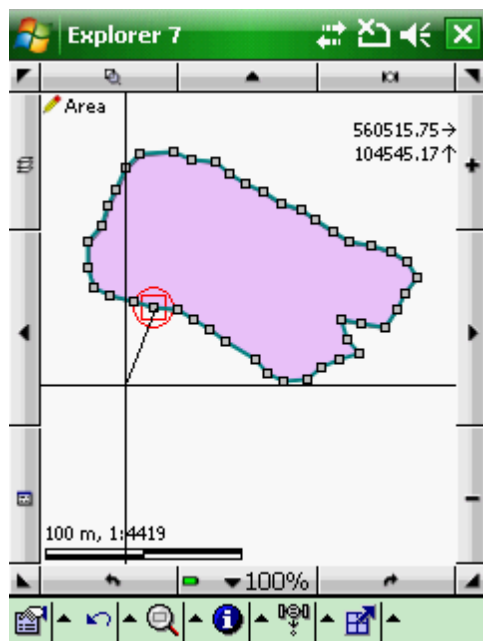
Reference point



Reference point when moving more features



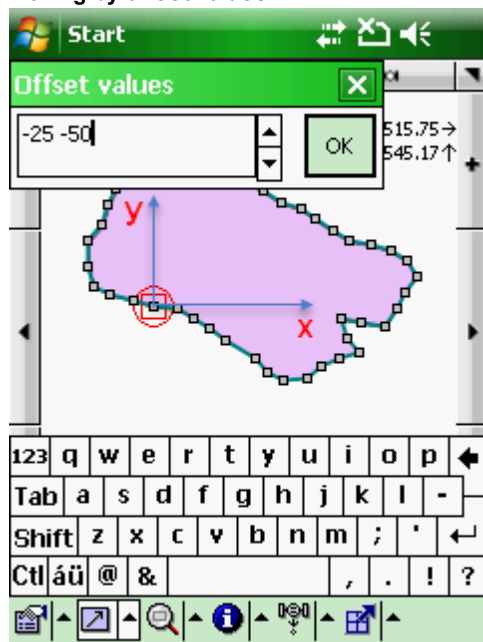
Dragging



Offset values panel

Enter the x,y directions in the current [length unit](#) with space separated values, then tap OK to offset

Moving by offset values



☀ = new feature

Availability of the "Move" tool in different editions

Basic



Advanced



Professional



4.2.5.2 Rotate



Rotate

Rotates the selected multipoint, polyline or polygon feature(s) in the [edited layer](#). The Rotate tool remains active for rotating selected feature until another tool is activated.

Tap / Left click: selects feature on the map at the tapped location, reference point appears. Second Tap / Left click reset the position of the center point to default.

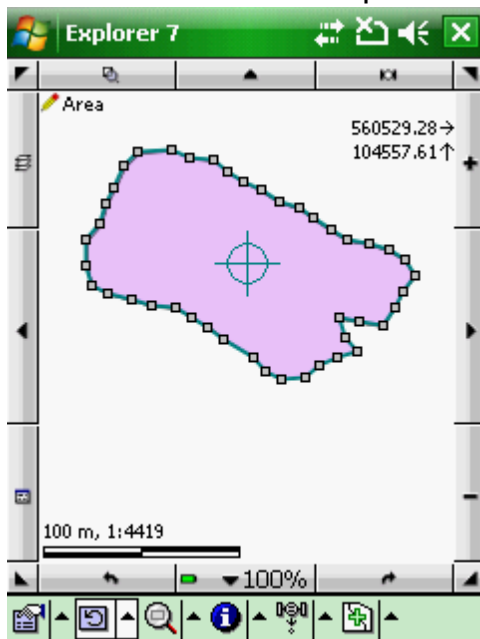
Drag / Left drag: rotates the selected feature or moves the center point (reference point) of the rotation, [crosshairs](#) appear

Tap and hold / Right click: opens **Rotation angle panel** to rotate the selected feature based on the entered angle

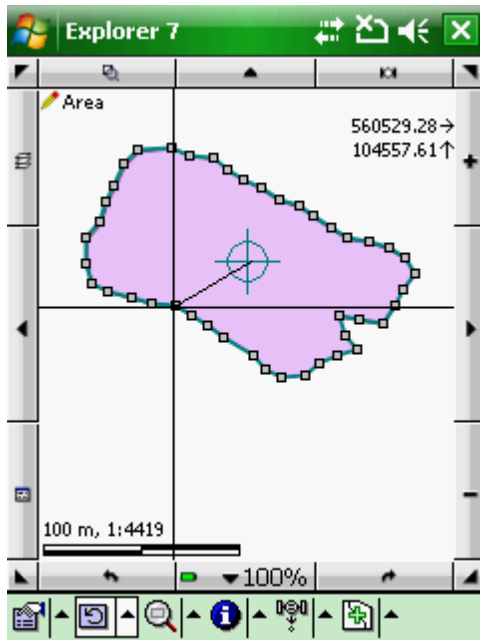
Basic Steps on how to use the Rotate tool

1. Select the desired feature on the map when the Rotate tool is active (you can also pre-select it with the **Identify** command)
 - > If you want to rotate more than one features you have to select them with the [multiselection tools](#)
2. Drag the reference point to the desired location, snapped red position mark can also be used
3. Use dragging or open the Rotation angle panel, enter the angle then tap OK to rotate
 - > In case of rotating more than one features it is necessary to select a feature from one of them then drag the reference point to the desired location

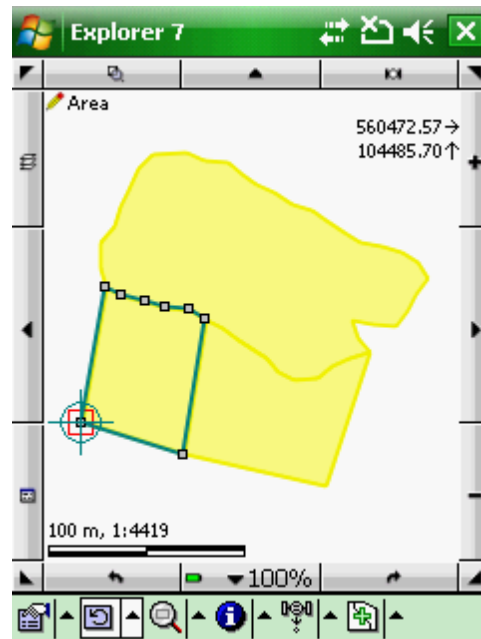
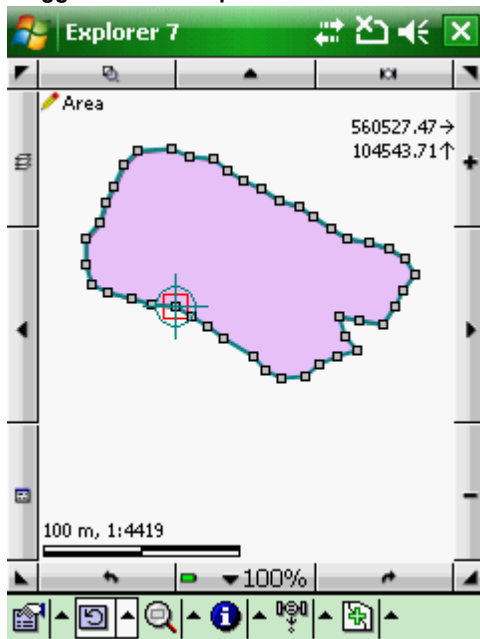
Selected feature with reference point



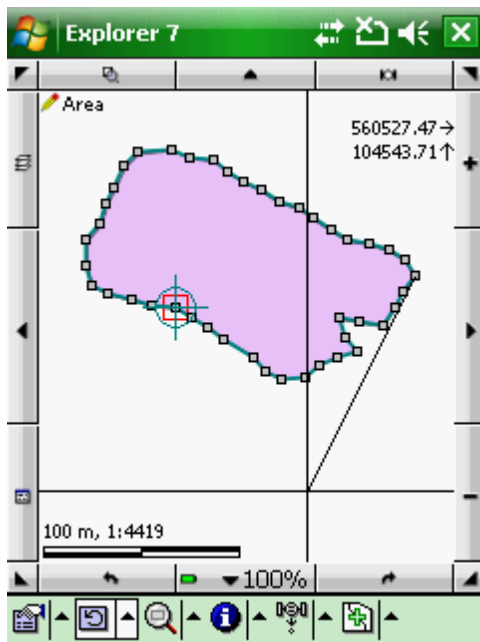
Dragging the reference point



Dragged reference point



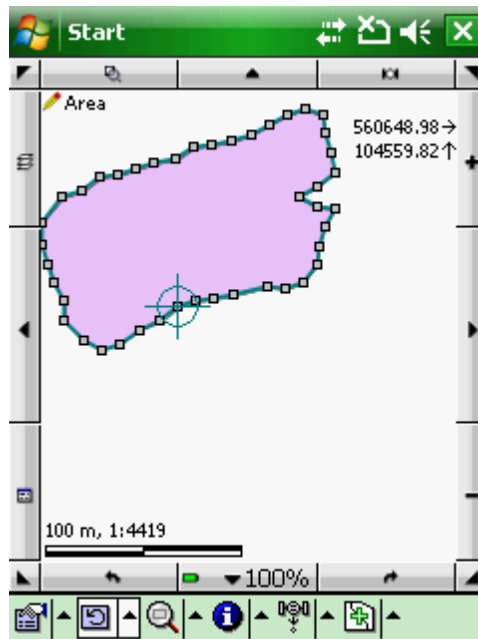
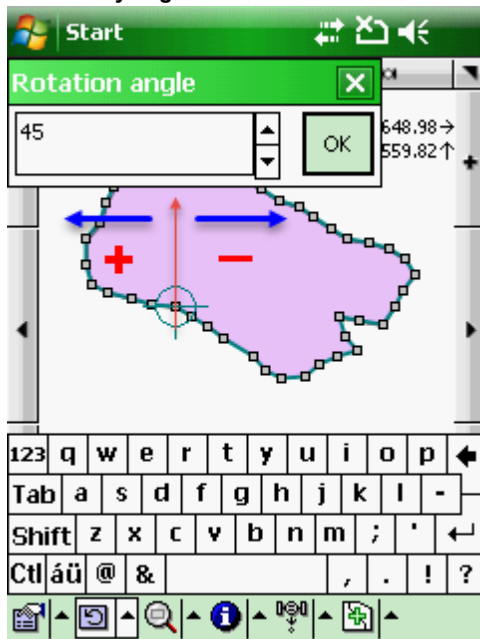
Rotation by dragging



Rotation angle panel

Enter the angle of the rotation to rotate the selected feature. The positive direction of rotation is counterclockwise, zero is the North direction.

Rotation by angle



☀ = new feature

Availability of the "Rotate" tool in different editions

Basic



Advanced



Professional



4.2.5.3 Scale

**Scale**


Changes the size of the selected polyline or polygon feature(s) in the [edited layer](#). The Scale tool remains active for scaling selected feature until another tool is activated.

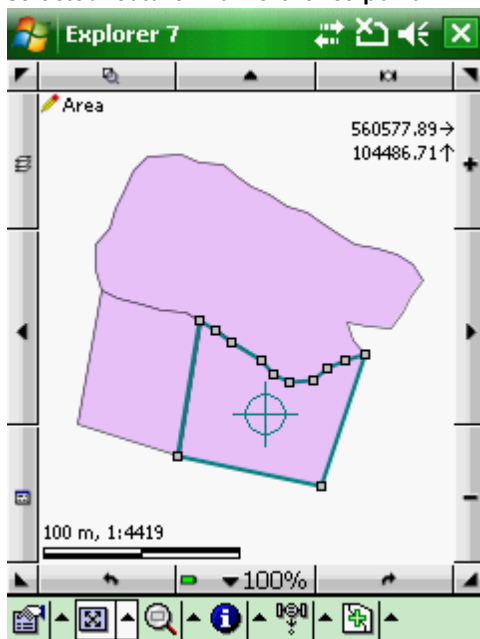
Tap / Left click: selects feature on the map at the tapped location, reference point appears. Second Tap / Left click reset the position of the center point to default.

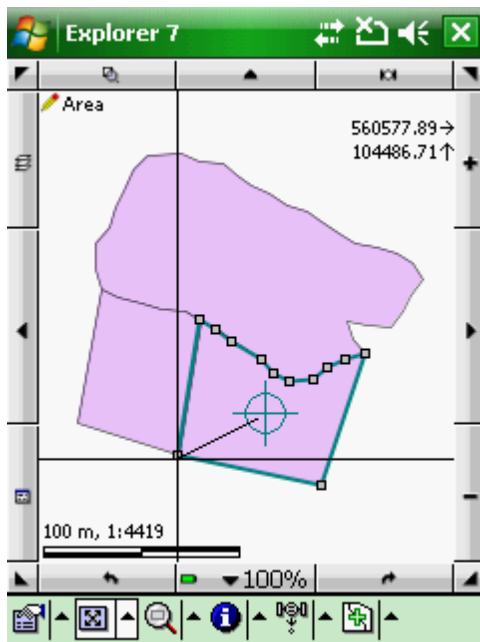
Drag / Left drag: changes the size of the selected feature or moves the center point (reference point) of the scaling, [crosshairs](#) appear. Dragging **towards to the center point will decrease the size** of, **opposite direction will increase the size** of the geometry.

Tap and hold / Right click: opens **Scaling factor panel** to scale the selected feature based on the entered value

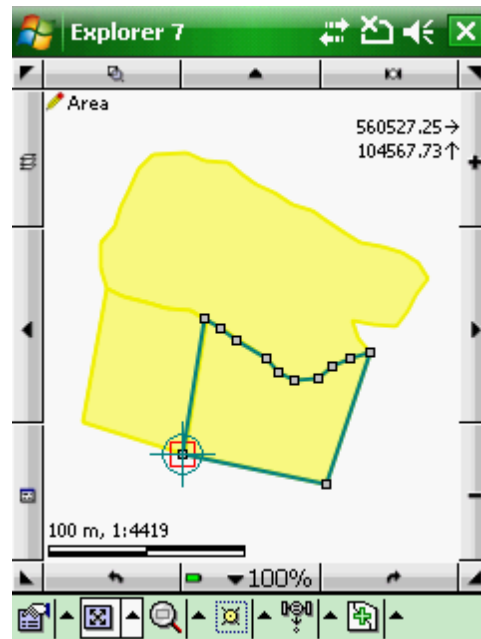
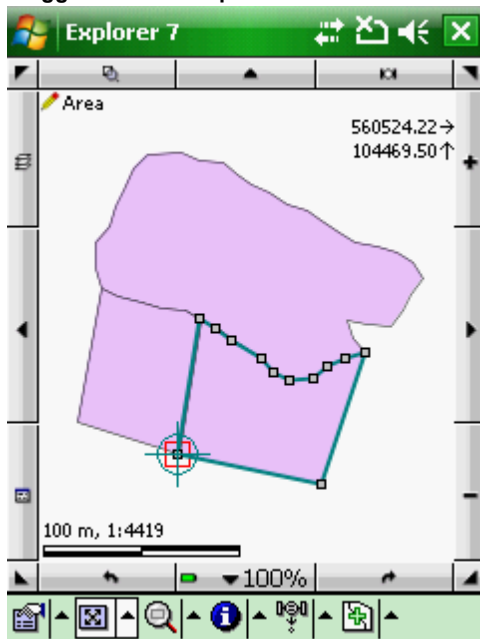
Basic Steps on how to use the Scale tool

1. Select the desired feature on the map when the Scale tool is active (you can also pre-select it with the  **Identify** command)
> If you want to Scale more then one features you have to select them with the [multiselection tools](#)
2. Drag the reference point to the desired location, snapped red position mark can also be used
3. Use dragging or open the Scaling factor panel, enter the scale value then tap OK to Scale
> In case of scaling more then one features it is necessary to select a feature from one of them then drag the reference point to the desired location

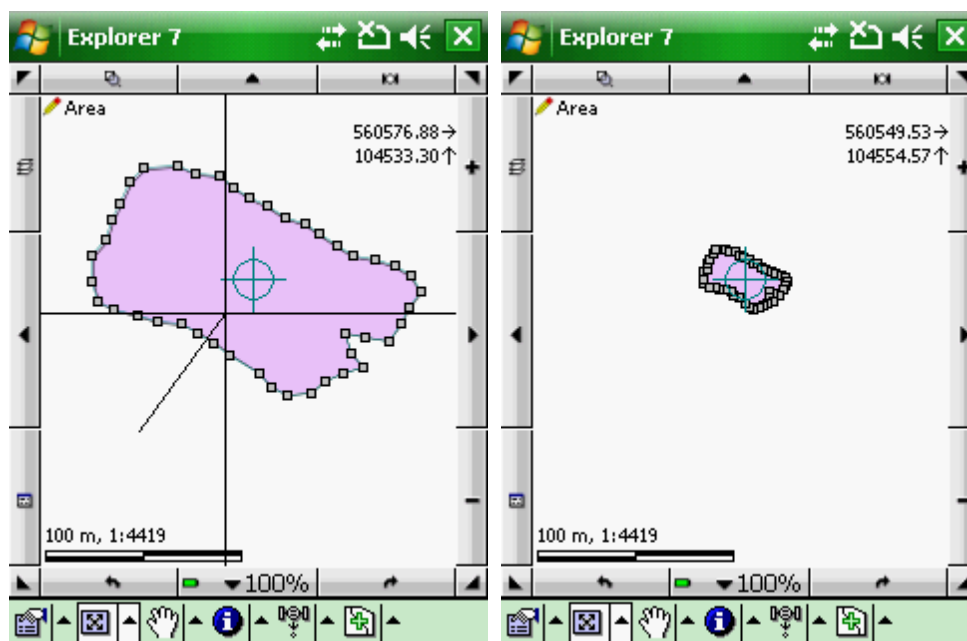
Selected feature with reference point**Dragging reference point**



Dragged reference point

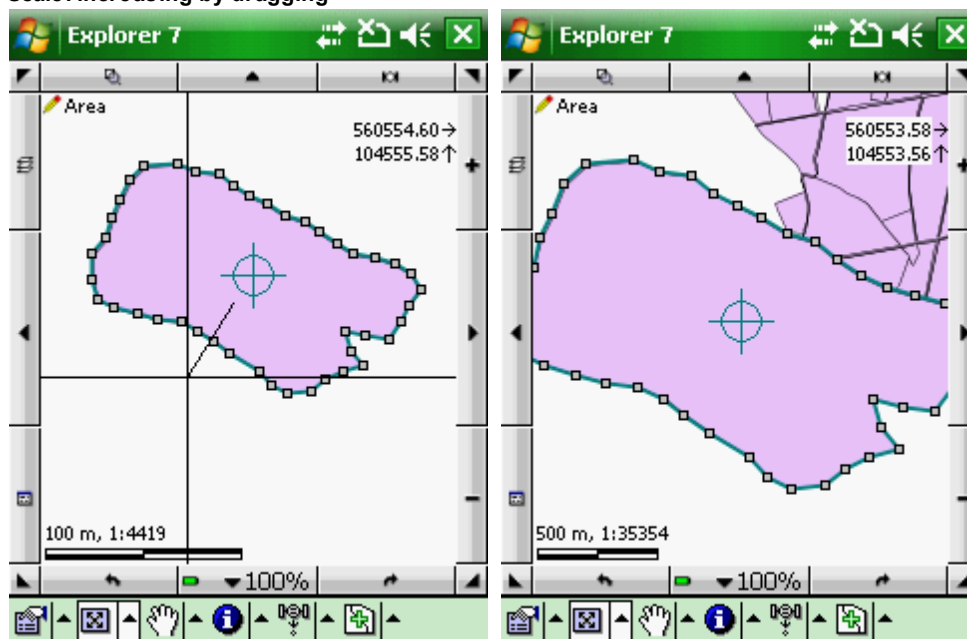


Scale: decreasing by dragging



Please note when increasing the geometry with dragging you need to tap the screen outside of the reference point's marked area

Scale: increasing by dragging

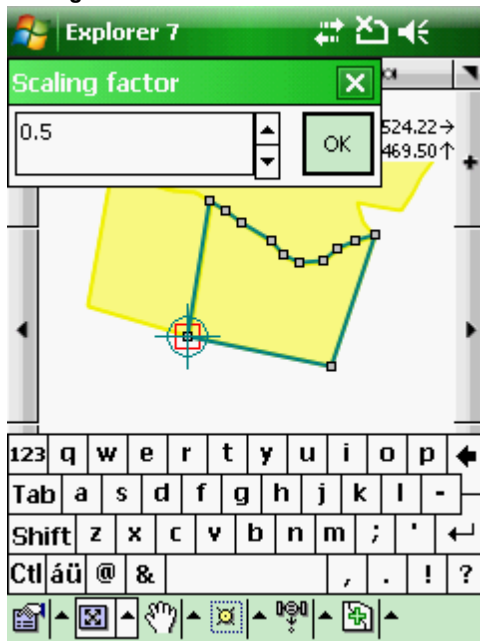


Scaling factor panel

Enter the scale factor of the scaling to change the size of the selected feature. The default value is 1, meaning that the transformation keeps the original size of the geometry.

When the **scaling factor is > 1** the size of the selected feature will be increased and if the **scaling factor is < 1** the selected feature will be decreased relative to the original size.

Scaling factor



 = new feature

Availability of the "Scale" tool in different editions

Basic



Advanced



Professional



4.2.5.4 New part


**New part**

Allows you to add new part(s) to the geometry of a selected point, line or polygon feature in the [edited layer](#). The New part tool remains active for adding new part to a selected feature until another tool is activated.

Possible use cases

- In case of **point** and MAP - DigiTerra vector file format the new geometry will be a [multipoint](#)
- In case of **line or polyline** feature the new geometry will be a [multiline](#)
- In case of **polygon** feature the new geometry will be a [multipolygon](#)

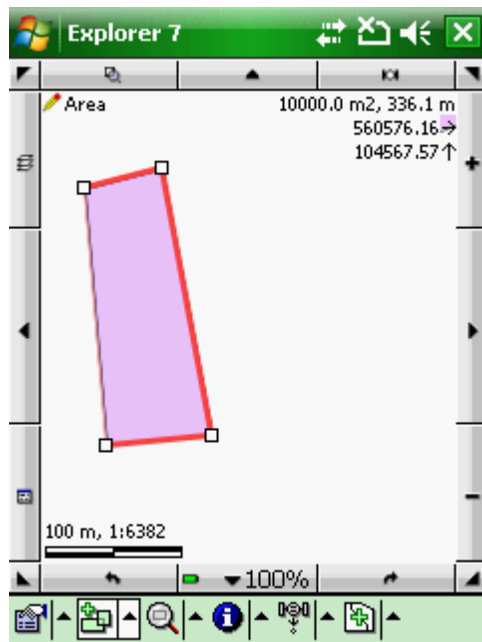


Multifeature vector geometries can be exploded into single features with the [Explode](#) tool. 

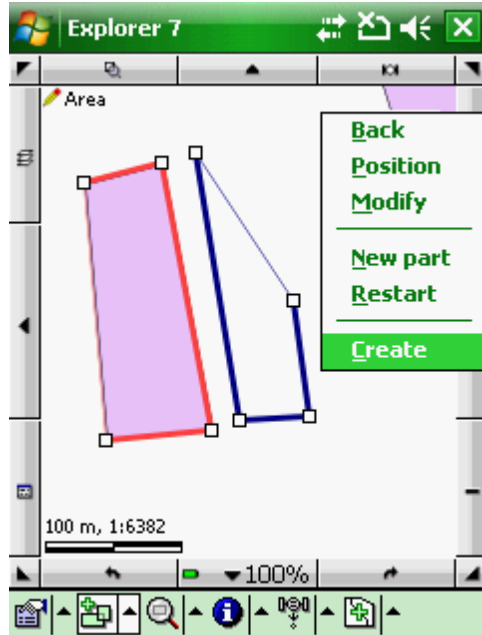
Tap / Left click: selects feature on the map at the tapped location then adds a vertex of the new part

Tap and hold / Right click: displays the [Editing context menu](#) to use the Create option to update the geometry

Selected feature

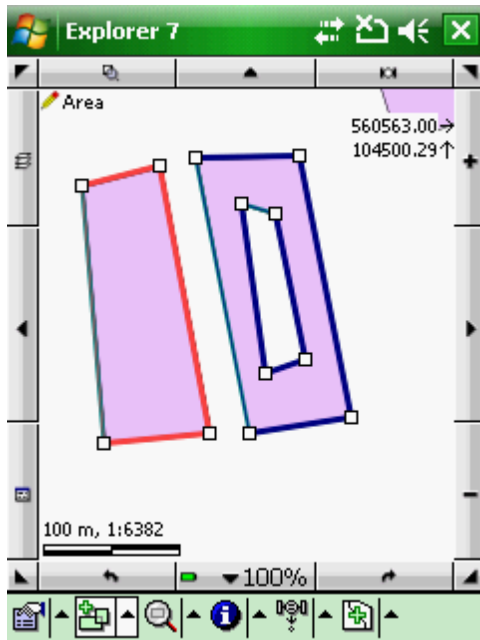


Adding new polygon part and context menu



You can add new parts inside and also outside of the selected polygon feature and also inside the created new part.

Island in a polygon part



New part tool can be identify a feature for adding new part on the map when [information query property](#) and [editing is turned on](#) for a vector layer in the Layers panel.

☀ = new feature

Availability of the "New part" tool in different editions

Basic



Advanced



Professional



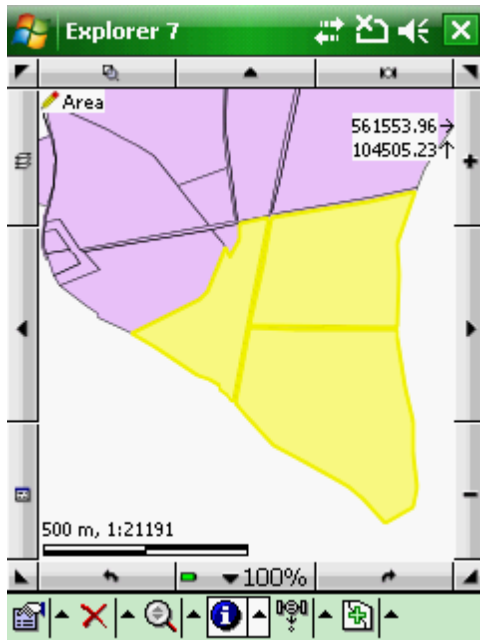
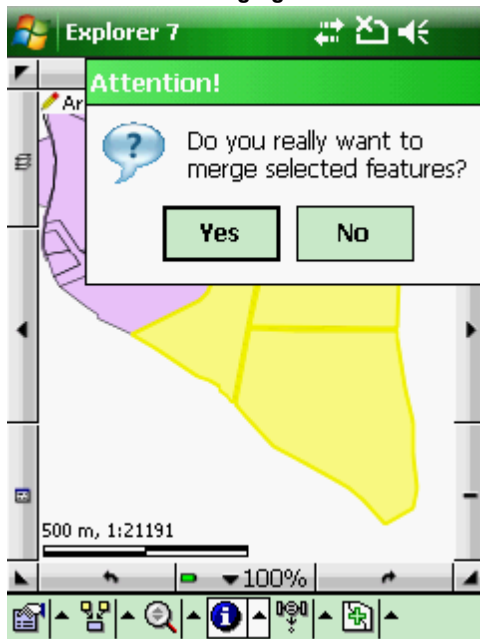
4.2.5.5 Merge

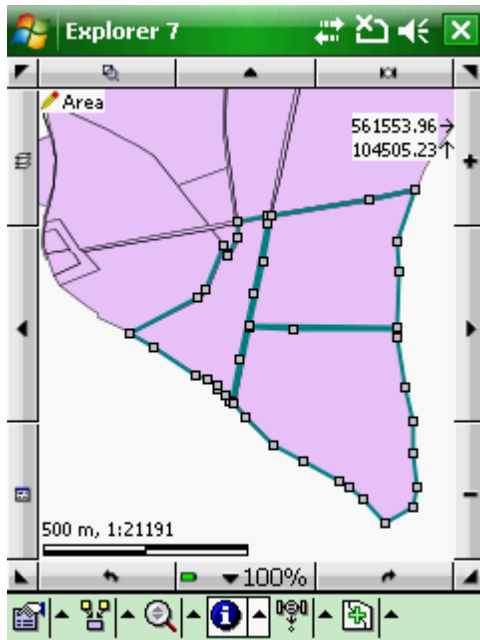


Merge

Merges [selected features](#) of same feature type into a [multifeature geometry](#) into the [edited layer](#).

Selected features for merging

**Question before merging features****Merged features**



☀ = new feature

Availability of the "Merge" tool in different editions

Basic



Advanced



Professional



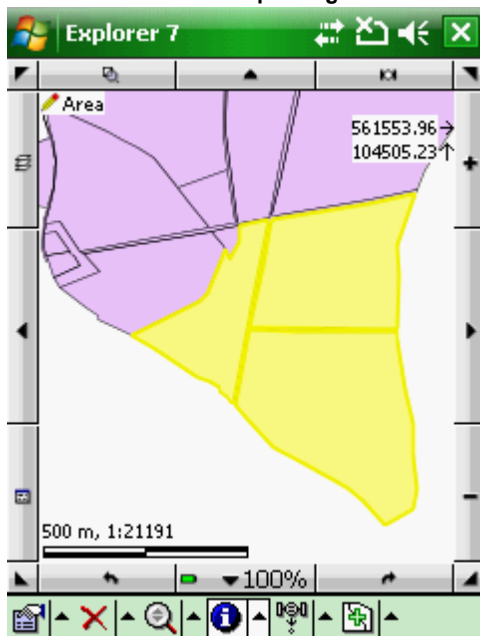
4.2.5.6 Explode



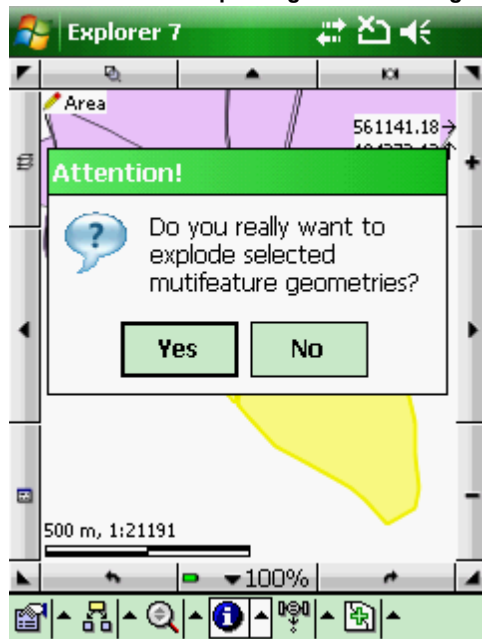
Explode

Explodes the [selected multifeature](#) geometry into the [edited layer](#)

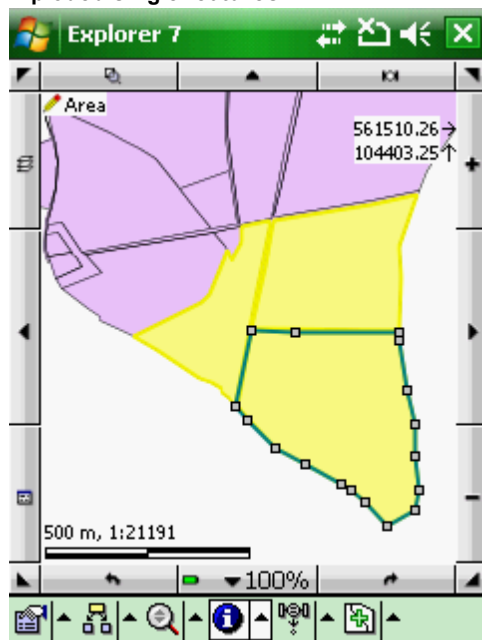
Selected feature for exploding



Question before exploding multifeature geometry



Exploded single features



☀ = new feature

Availability of the "Explode" tool in different editions

Basic



Advanced



Professional



4.2.5.7 Flip Line

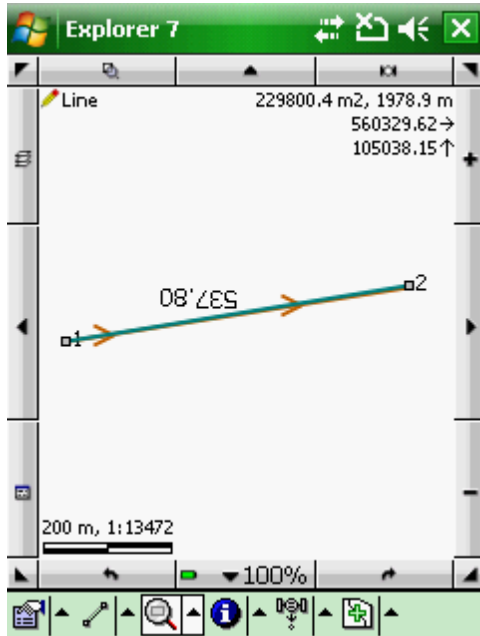


Flip Line

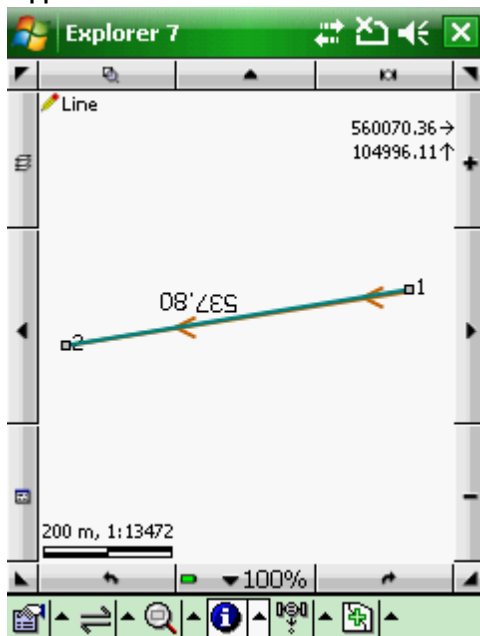
Flips the vertex order in the selected polyline feature into the edited layer

Tap / Left click: selects a feature on the map at the tapped location then flips the order of the vertices in the selected geometry in the [edited layer](#).

Original line: the vertex order is 1 then 2 from left to right



Flipped line: the vertex order is 2 then 1 from left to right





The Flip Line tool is useful to simply change the direction of the arrowhead in the arrowed line types by flipping the vertex order in the geometry.

☀ = new feature

Availability of the "Flip Line" tool in different editions

Basic



Advanced



Professional

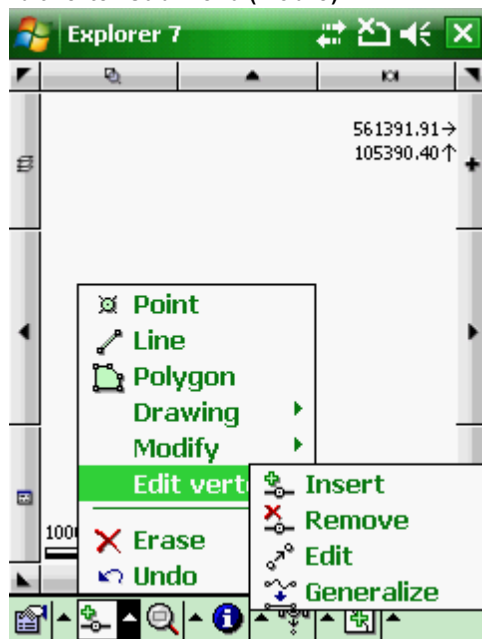


4.2.6 Edit vertex sub-menu

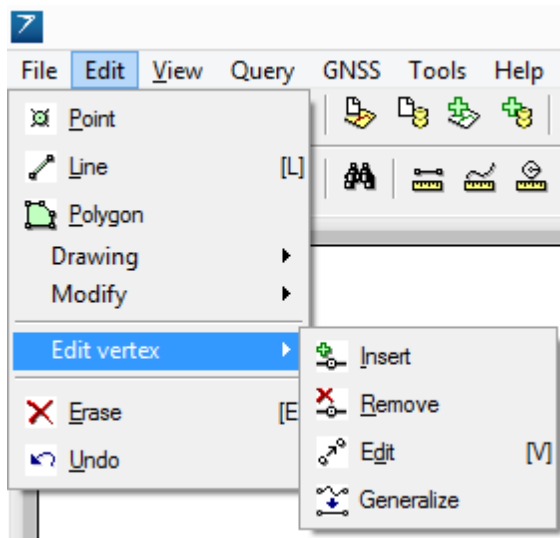
This sub-menu is accessible in the [Edit menu](#) and contains the following items **to edit vertices** in the selected feature's geometry. In this topic we'll take a look at how you can change the vertices in any vector geometry after you've made it. This way you can alter the shape of geometry and perform the "fine-tune" until every vertices just right.

-  [Insert](#)
-  [Remove](#)
-  [Edit](#)
-  [Generalize](#)

Edit vertex sub-menu (Mobile)



Edit vertex sub-menu (Desktop)



 = new feature

Availability of the "Edit vertex" sub-menu in different editions

Basic	Advanced	Professional
		

4.2.6.1 Insert



Insert

This tool is designed for **quickly selecting a feature** and then **insert new vertices into the existing geometry**. The Insert tool remains active for adding new vertices into a selected feature until another tool is activated.

Tap / Left click: selects feature on the map at the tapped location for [vertex editing mode](#) then you can insert new vertices [among two vertices](#) in the selected geometry

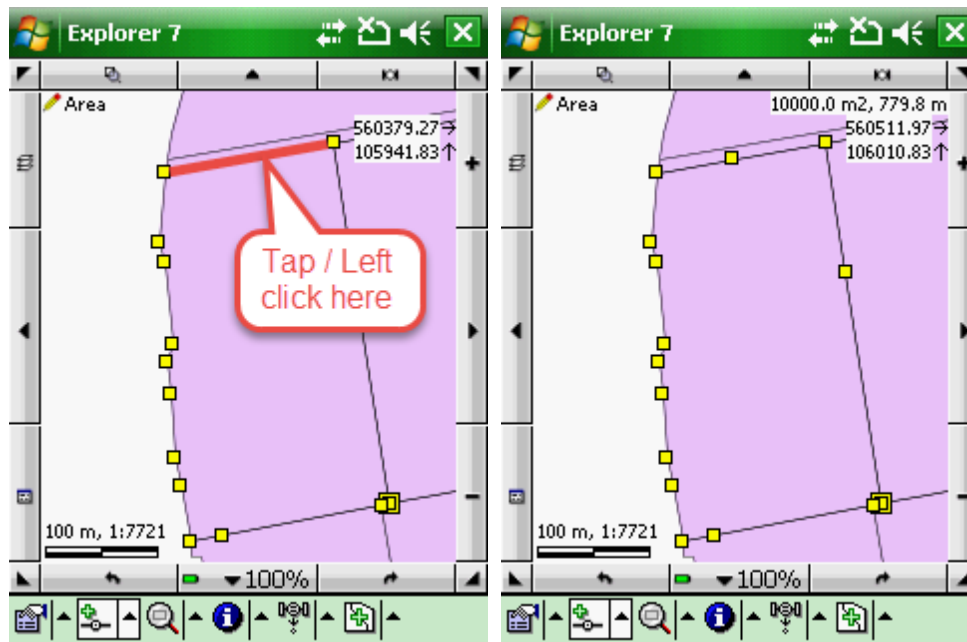
Drag / Left drag: [moves the selected vertex](#) using [crosshairs](#)

Tap and hold / Right click: opens the [New Vertex panel](#) or the [Existing Vertex panel](#) if you started the **Tap and hold / Right click** over existing vertex

Possible use cases

- In case of **point** feature and [MAP - DigiTerra](#) vector layer format the new geometry will be a [multipoint](#) geometry
- In case of **line or polyline** adds new vertices into the existing geometry
- In case of **polygon** adds new vertices into the existing geometry

Inserting new vertex




See also




The [multipoint](#) geometry can also be created with the [Point editing tool](#), but you cannot convert existing point feature to multipoint





The [multipoint](#) geometry can also be created with the  **New part** tool and you can also convert an existing point feature to multipoint



The [multipoint](#) geometry can be converted from the [selected](#) existing point features with the  **Merge** tool



The feature will be immediately in vertex editing mode if you pre-selected it with the  Identify command prior to activating the  **Insert** tool

4.2.6.2 Remove



Remove

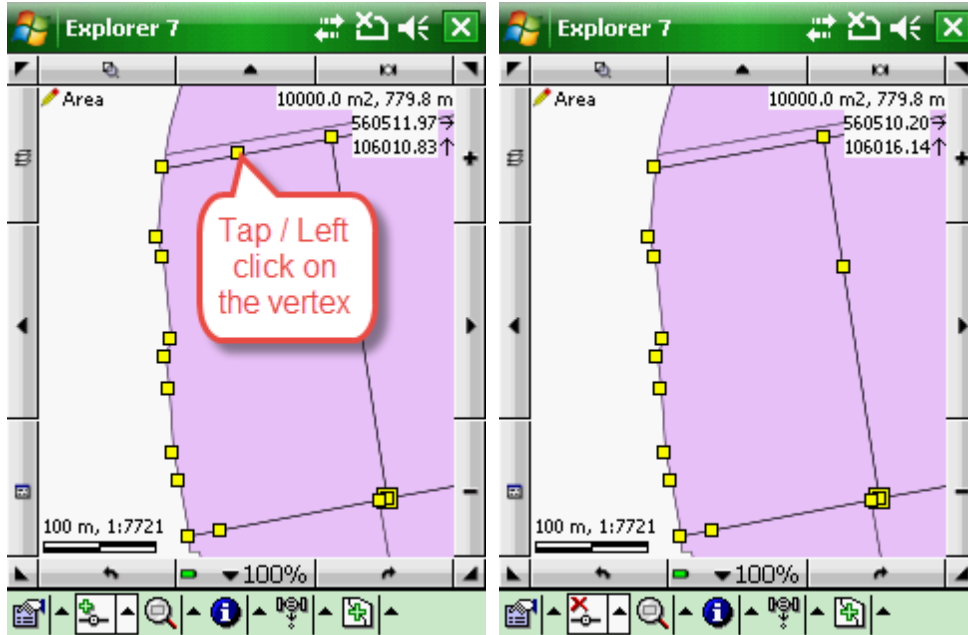
Selects the feature to delete vertices from the feature's geometry. The Remove tool remains active for removing vertices until another tool is activated.

Tap / Left click: selects feature on the map at the tapped location for [vertex editing mode](#) then you can remove vertices from the selected geometry

Drag / Left drag: [moves the selected vertex](#) using [crosshairs](#)



Tap and hold / Right click: opens the [New Vertex panel](#) or the [Existing Vertex panel](#) if you started the **Tap and hold / Right click** over existing vertex

Removing vertex



See also



The feature will be immediately in vertex editing mode if you pre-selected it with the  Identify command prior to activating the  Remove tool

4.2.6.3 Edit



Edit

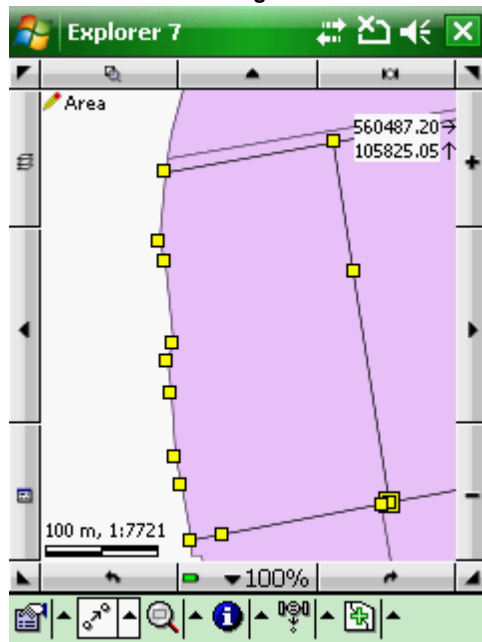
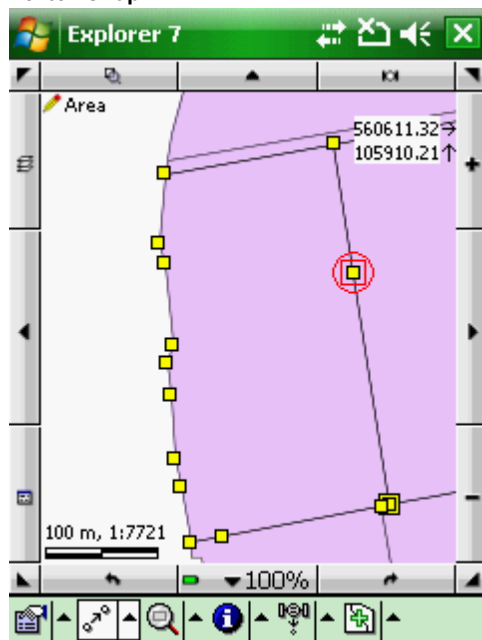
Edits the vertices of a selected geometry. The Edit tool remains active for editing the geometry of the selected feature until another tool is activated.

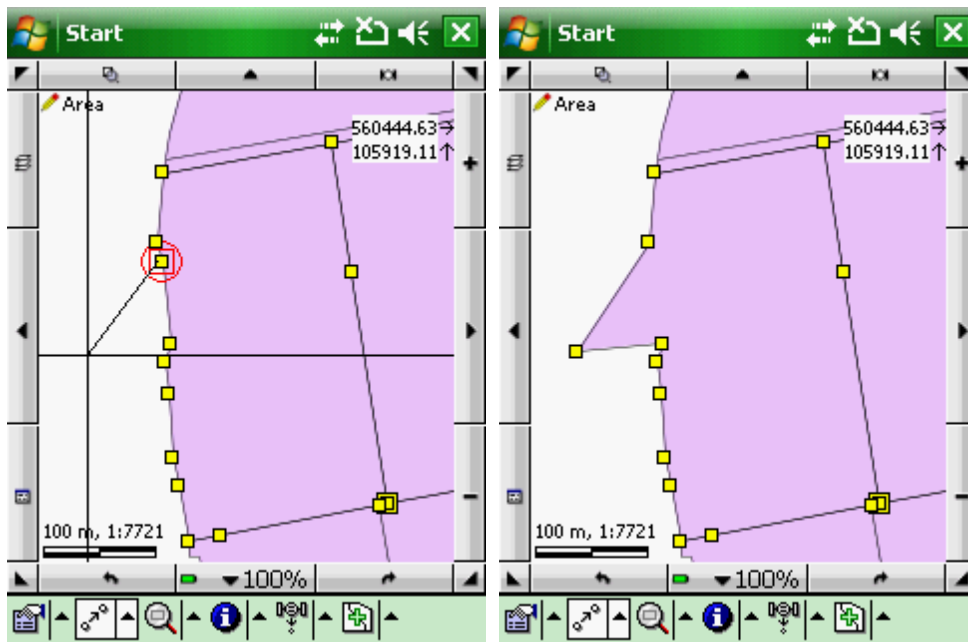
Keyboard command: V

Tap / Left click: selects feature on the map at the tapped location for [vertex editing mode](#), selects vertex using the vertex snap

Drag / Left drag: moves the selected vertex using [crosshairs](#)



Tap and hold / Right click: opens the [New Vertex panel](#) or the [Existing Vertex panel](#) if you started the **Tap and hold / Right click** over existing vertex

Activated vertex editing mode**Vertex snap****Moving a vertex**



See also



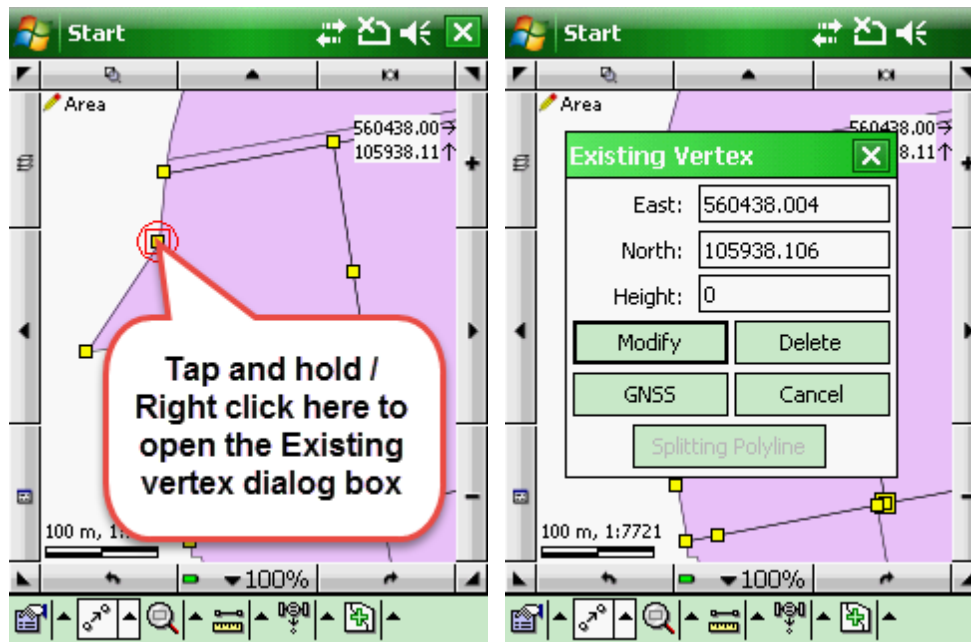
The feature will be immediately in vertex editing mode if you pre-selected it with the  Identify command prior to activating the  Remove tool

4.2.6.4 Existing Vertex dialog box

The Existing vertex panel enables you to update existing vertex in the selected feature's geometry by coordinates and by GPS. It also enables you to split a polyline feature into two separate features.

This panel can be accessed only from the [Editing context menu](#) > Position menu option

Existing vertex panel



East: Displays the current Easting coordinate of the tapped/clicked position as default. Enables you to enter the new Easting coordinate.

North: Displays the current Northing coordinate of the tapped/clicked position as default. Enables you to enter the new Northing coordinate.

Height: enables you to enter the [Height of the new vertex](#) that you can save with the **[Insert Vertex]** button if the the layer can [store 3D-coordinate](#)

Modify - updates the vertex with the modified coordinates in the selected geometry

GNSS - takes over the Easting, Northing, [Height coordinates](#) of the current GNSS position to update a vertex into the geometry at the current GPS position

Delete - Removes the selected vertex from the selected feature's geometry

Cancel - Closes the panel

Splitting Polyline - Splits the polyline geometry at the selected vertex into two separate features. Disabled when working with point and polygon features.



Height (Z value) can be stored in MAP, SHP, DXF layer file formats. Please also have a look at this tutorial here: <http://forum.digiterra.hu/viewtopic.php?f=60&t=302>

4.2.6.5 Generalize

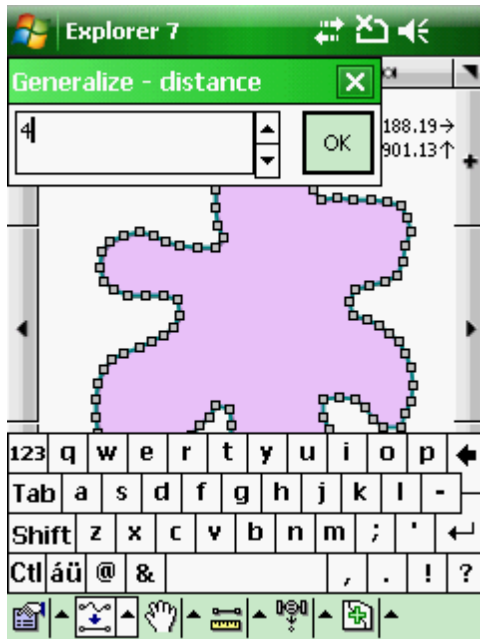


Generalize

Enables you to select the desired feature for vertex editing to generalize the geometry and store the results into the edited layer. The Generalize tool remains active for generalizing the geometry of the selected item until another tool is activated.

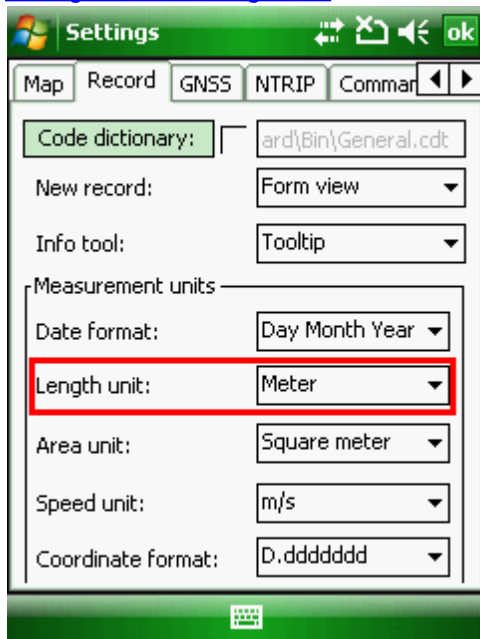
Tap / Left click: selects an item on the map then opens the **Generalize - distance** panel to enter the distance of the generalization in the [current length unit](#).

Generalize



OK - Opens the Generalize panel (see below)

[Settings> Record: Length unit](#)



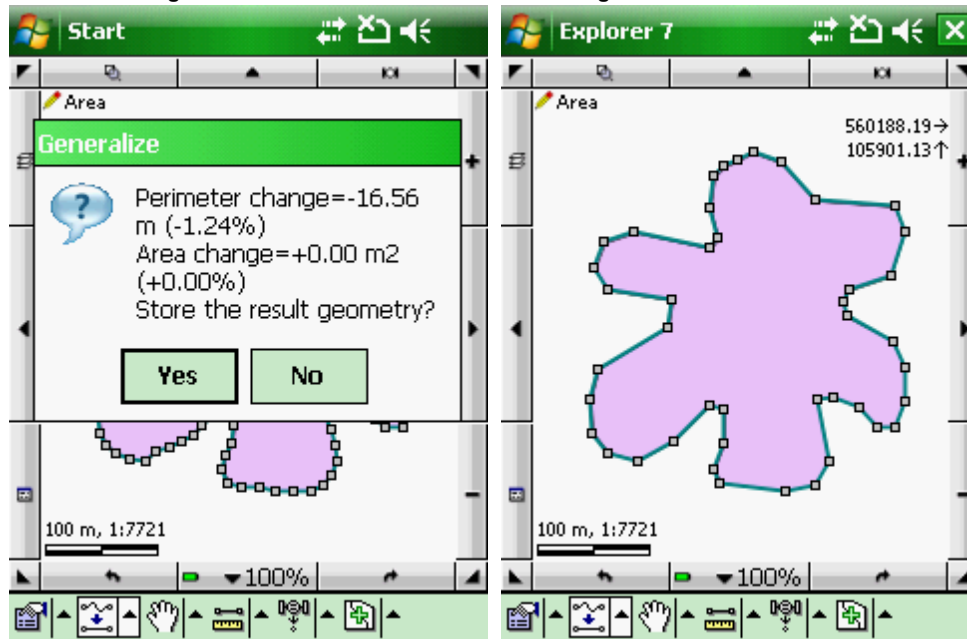
Generalize panel

Appears prior to storing the changes in the feature's geometry.

Yes - Stores the generalized geometry into the edited layer

No - Closes the Generalize panel

Results of the generalization in the Generalize message box



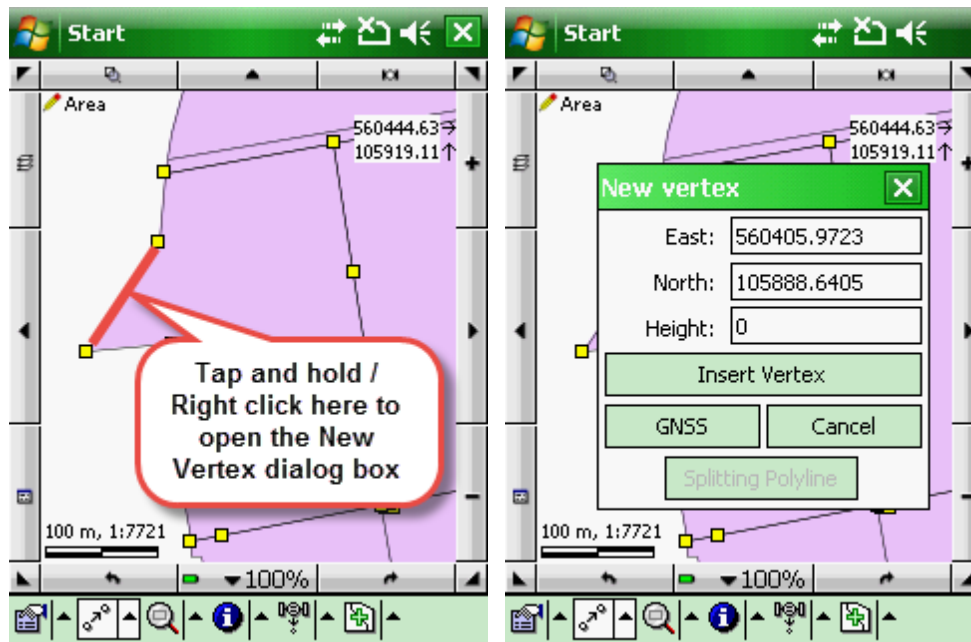
4.2.7 New vertex dialog box

The New vertex panel enables you to add vertex into the selected feature's geometry between two vertices by coordinates and by GPS. It also enables you to split a polyline feature into two separate features. When using it from the context menu of the Query menu > Measuring tools you can add the vertex to the red editing line to measure on the map.

This panel can be accessed from the followings

1. From the [Editing context menu](#) > Position menu option
2. With the [Insert](#), [Remove](#), [Edit](#) vertex editing tools

New vertex panel



East: Displays the current Easting coordinate of the tapped/clicked position as default. Enables you to enter the new Easting coordinate.

North: Displays the current Northing coordinate of the tapped/clicked position as default. Enables you to enter the new Northing coordinate.

Height: enables you to enter the [Height of the new vertex](#) that you can save with the **[Insert Vertex]** button if the the layer can [store 3D-coordinate](#)

Insert Vertex - adds the vertex with the modified coordinates into the selected geometry

GNSS - takes over the Easting, Northing, [Height coordinates](#) of the current GNSS position to add a vertex into the geometry at the current GPS position

Cancel - Closes the panel

Splitting Polyline - Splits the polyline geometry at the tapped position between two vertices into two separate features. Disabled when working with point and polygon features. Hidden when you opened the New vertex panel from the [Editing context menu](#).

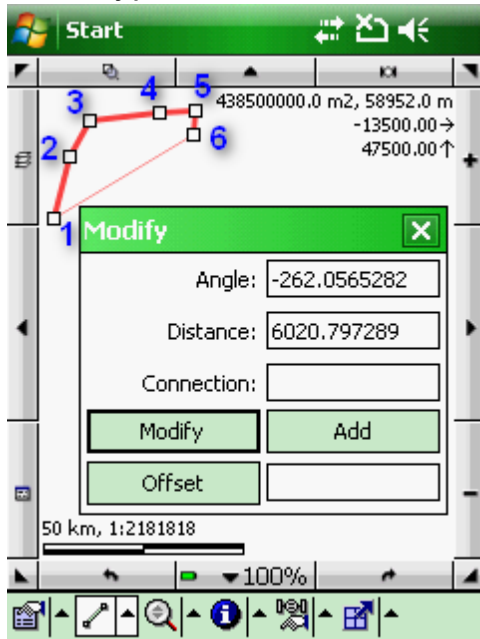


Height (Z value) can be stored in MAP, SHP, DXF layer file formats. Please also have a look at this tutorial here: <http://forum.digiterra.hu/viewtopic.php?f=60&t=302>

4.2.8 Modify dialog box

The Modify panel contains the following controls:

The Modify panel



Angle: Angle between the last two (current and the previous) segments (4-5 and 5-6). If there is no two segments the angle is the azimuth (0 = NORTH, 90 = EAST). The Angle can be modified with the **Modify** or a new vertex can be added to the polyline, polygon with the **Add**

Distance: Length of the last (current) segment (5-6). You can enter a new value to modify the length of the current segment by tapping/clicking on the **Modify** button.

Connection: Connection angle if the last vertex (6) connects to a section of a polyline or polygon, anyway 0. It can be modified by entering a new value and tapping/clicking on the **Modify** button. After modification the Angle and the Distance values change; **this can be achieved to connect to an existing section 90 degrees (perpendicular).**

Modify - Modifies the position of the last vertex (6) based on the Angle and Distance

Add - Adds a new vertex to the polyline or polygon based on the Angle and Distance

Offset - Parallel shifts the polyline. In case of positive value shifts to the left, right for negative values, accordance with the direction of travel

4.2.9 Erase



Erase

Deletes the selected feature. The Erase tool remains active for deletion until another tool activated.

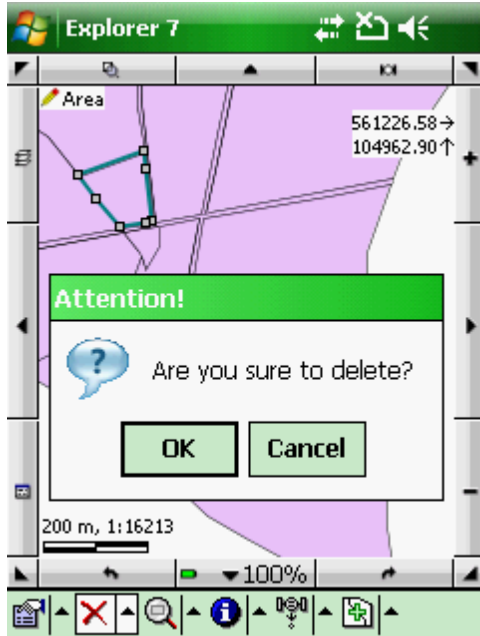
Keyboard command: E

Tap / Left click: selects the feature on the map at the tapped location then displays a message box to confirm the deletion

Drag / Left drag: [scrolls](#) the map (dynamic pan)

Tap and hold then drag/ Right drag: dynamic zoom

Erase



OK - Deletes the selected feature

Cancel - Closes the Message box



Erase tool can identify a feature for deletion in the edited layer when [information query property is turned on](#) for the vector layer in the Layers panel

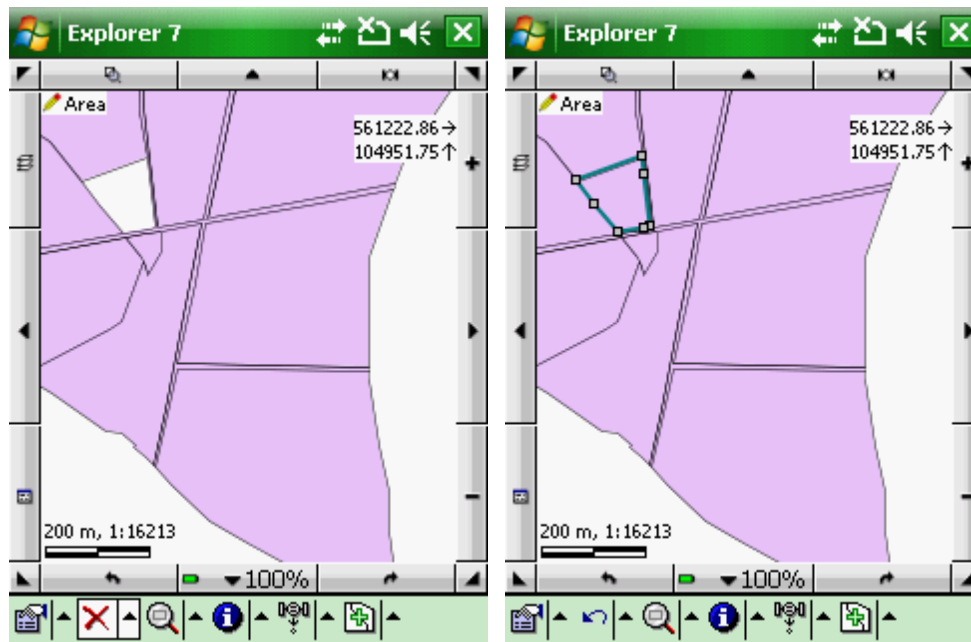
4.2.10 Undo




Undo

Undoes the last edit made to a feature

A deleted and restored feature



The operations performed on multiple objects at the same time can not be undone. For example when you selected more than one features with the [multiselection](#) tools and then used the  **Erase** command.

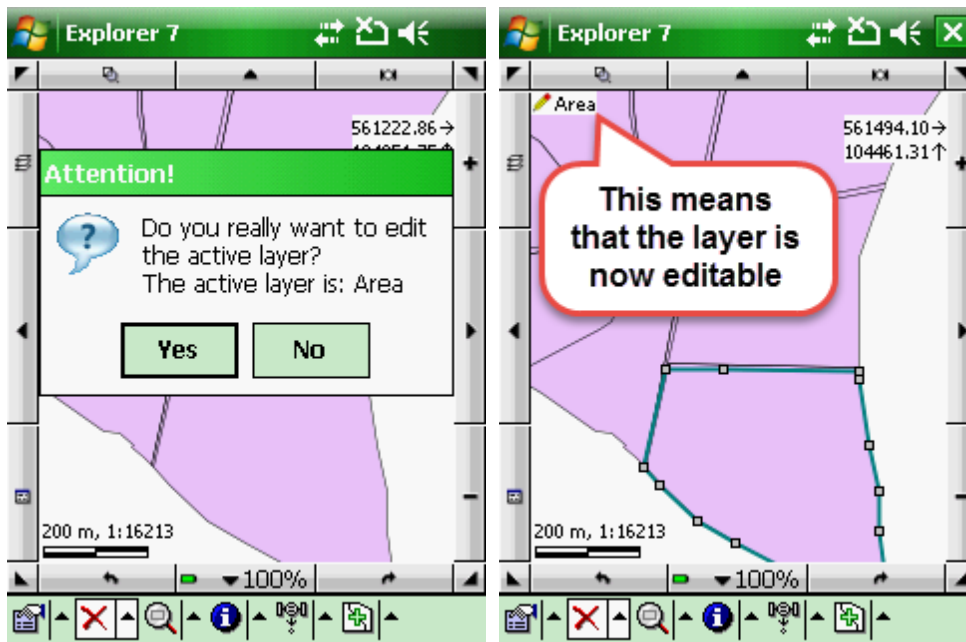
4.2.11 Edited layer properties

In this topic we'll take a look at how you can make a layer editable.

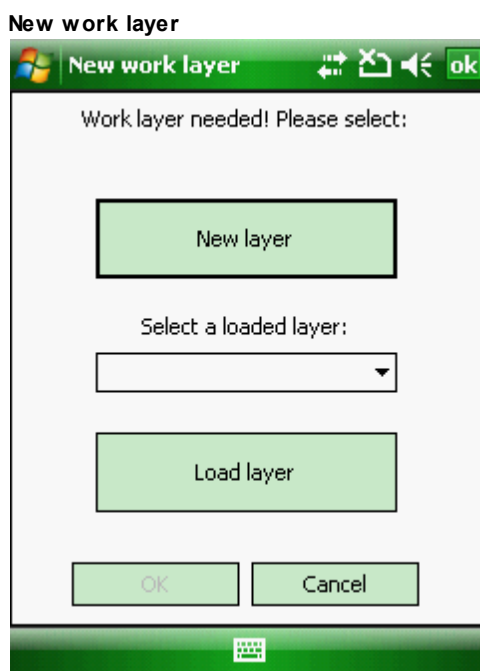
Possible use cases

1. If you want to edit an existing feature in a layer and you have an [active vector layer in the Layers Manager](#) DigiTerra Explorer asks you before you could do anything

Making a layer editable



2. If you want to capture a new feature, but there is no editable layer, or the active layer is not a vector layer in your project the following panel appears



New layer - Open the [Create Layer](#) panel to create a new layer

Select a loaded layer: - Lists the layers in the current project to select one for editing

Load layer - Opens the [Append Layer panel](#) to add an existing layer to the mapping project for editing

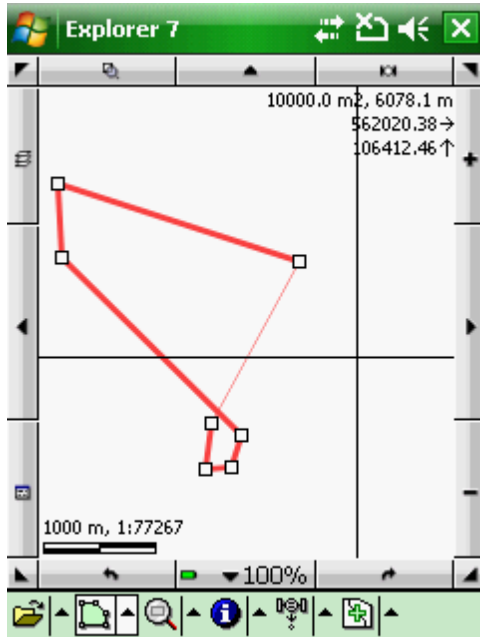
OK - Active once you have selected a layer from the list from the "**Select a loaded layer**" drop-down

Cancel - Closes the panel

4.2.12 Using crosshairs









Crosshairs appears during the editing process when using the **drag** technique.

Crosshairs display when dragging



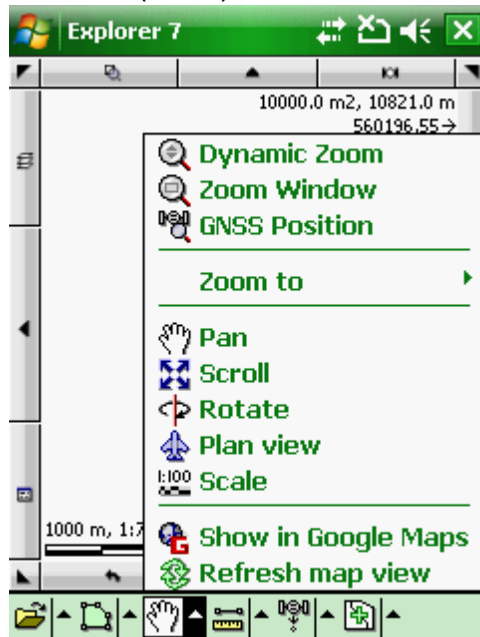
4.3 View menu

The View menu contains the following **options** and **sub-menu** for map view-related operations

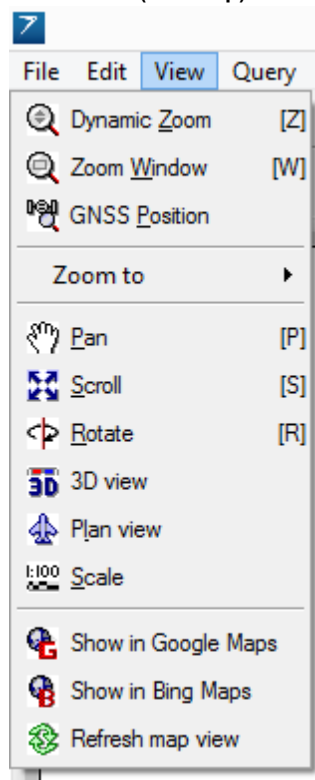
-  [Dynamic Zoom](#)
-  [Zoom Window](#)
-  [GNSS position](#)
 - [Zoom to](#)
-  [Pan](#)
-  [Scroll](#)
-  [Rotate](#)
-  [3D view](#) (*Desktop function*)
-  [Plan view](#)
-  [Scale](#)
-  [Show in Google Maps](#)
-  [Show in Bing Maps](#) (*Desktop function*)

-  [Refresh map view](#)

View menu (Mobile)



View menu (Desktop)



4.3.1 Dynamic Zoom



Dynamic Zoom

Zooms in/out the map using dragging with the pen or the mouse. The Dynamic Zoom button remains active for zooming until another tool is activated.

Keyboard command: Z

Tap / Left click: centers the map on the tapped location

Drag up/down: dynamically zooms in/out on the map

Tap and hold / Right click: dynamically pans the map

☀ = new feature

Availability of the "Dynamic Zoom" command in different editions

Basic



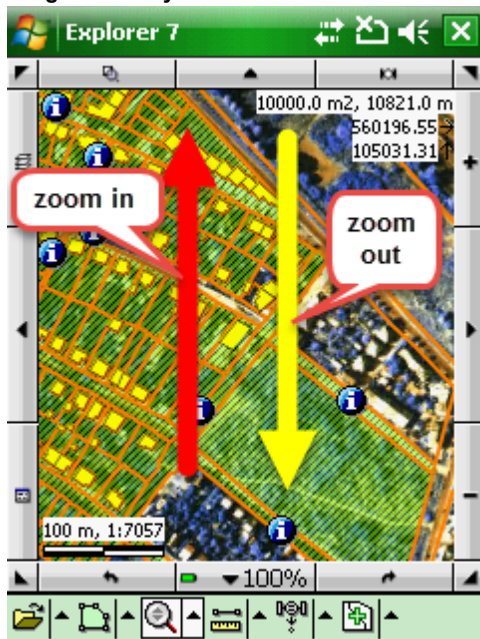
Advanced



Professional



Usage of the Dynamic zoom



4.3.2 Zoom Window



Zoom Window

Zooms in to a rectangular area using dragging. The Zoom Window button remains active for zooming until another tool is activated.

Keyboard command: W

Tap / Left click: centers the map on the tapped location

Drag: draws a window on the map using [crosshairs](#) and zooms in to that rectangular area

Tap and hold / Right click: dynamically pans the map

☀ = new feature

Basic

Advanced

Professional

Availability of the "Zoom Window" command in different editions



Using the Zoom Window command

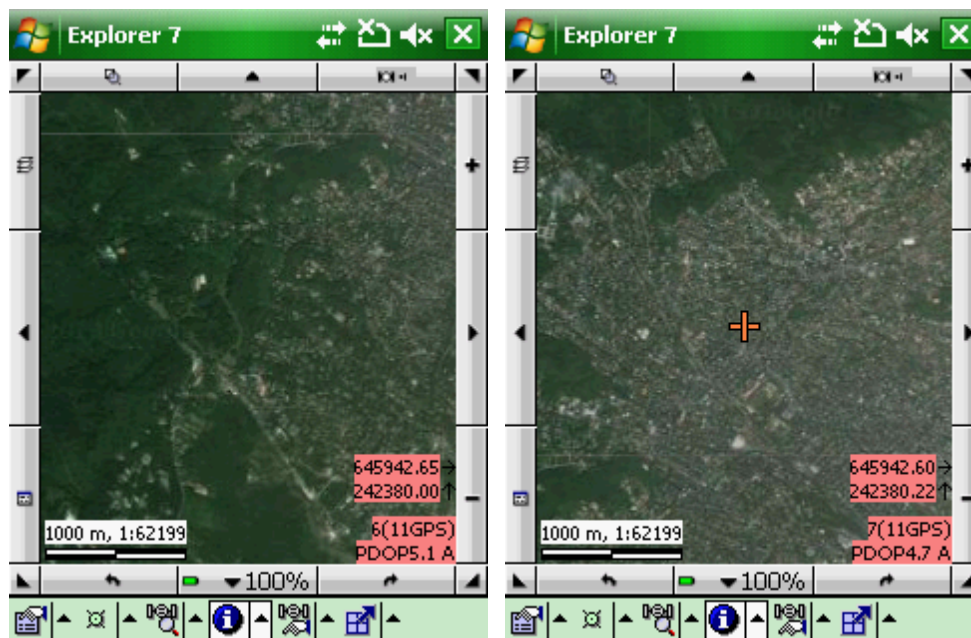


4.3.3 GNSS Position



GNSS position

Centers the map on the current [GPS position](#). Useful when using the [Display option](#) = Display position on the Settings > GNSS tab.

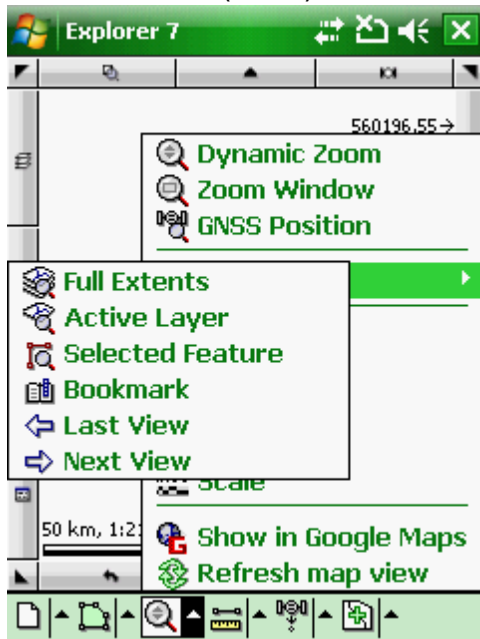


4.3.4 Zoom to sub-menu

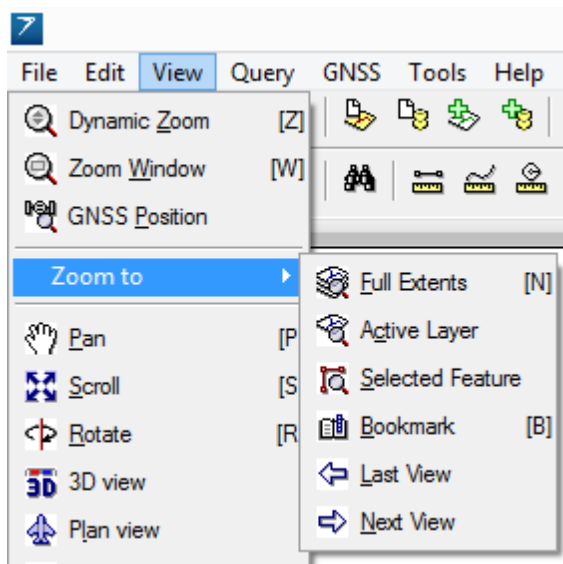
This sub-menu is accessible in the [View menu](#) and contains the following items:

-  [Full Extents](#)
-  [Active Layer](#)
-  [Selected Feature](#)
-  [Bookmark](#)
-  [Last View](#)
-  [Next View](#)

Zoom to sub-menu (Mobile)



Zoom to sub-menu (Desktop)

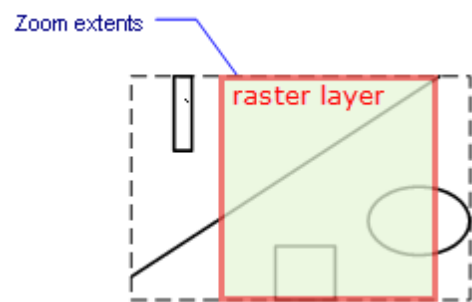


4.3.4.1 Full Extents



Full Extents

Zooms to the full extent of all the layers in the map. Equivalent button can be found on the [Pan frame](#) at the top right corner.



Full extent: displays the map to the extents of all vector and raster layers used in the current project

Keyboard command: N

☀ = new feature

Availability of the Zoom to "Full Extents" command in different editions

Basic	Advanced	Professional
✗	✓	✓

4.3.4.2 Active Layer



Active Layer

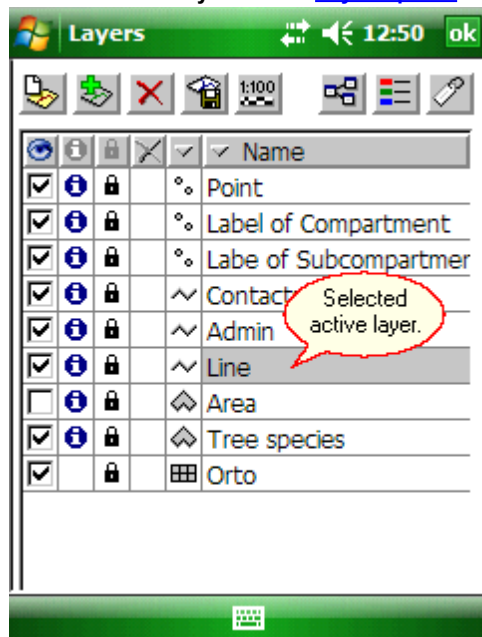
Zooms to the extent of the [active layer](#)

Usage

1. Select a layer on the Layers panel (this will be the active layer)

2. Click/tap on the Active Layer button to zoom to the active layer's extent

Selected active layer on the [Layers panel](#)



☀ = new feature

Availability of the Zoom to "Active Layer" command in different editions

Basic



Advanced




Professional



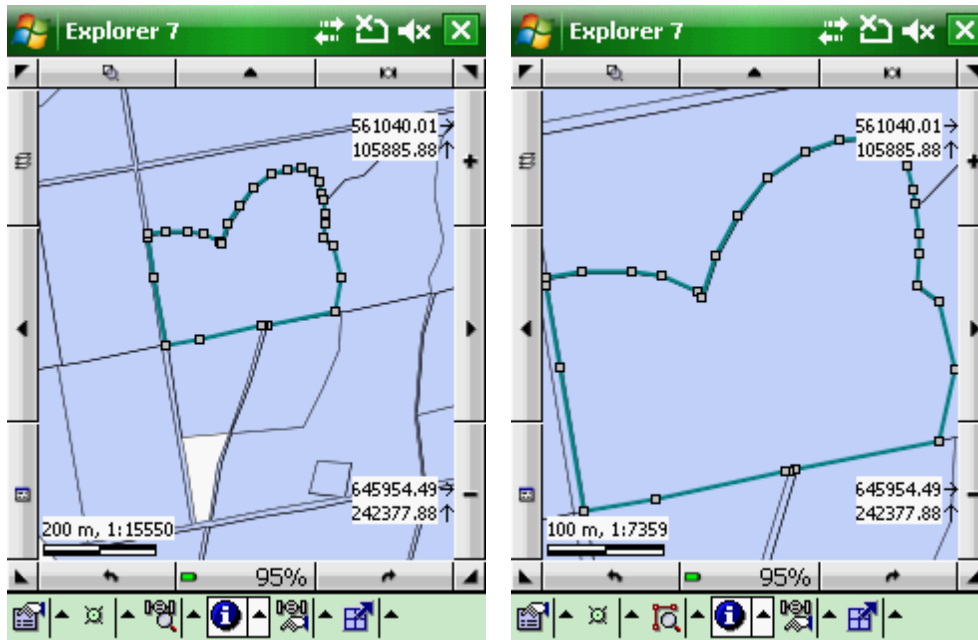
4.3.4.3 Selected Feature



Selected Feature

Zooms to the extent of the selected feature that you have selected with the  [Identify](#) button.

Zooming to the selected feature



☀ = new feature

Availability of the Zoom to "Selected Feature" command in different editions

Basic	Advanced	Professional
✗	✓	✓

4.3.4.4 Bookmark

Bookmark

Opens the **Bookmarks** panel to create a spatial bookmark or to zoom to an existing spatial bookmark.

Spatial bookmark: stored center position, current map scale and [rotation](#) parameters

Keyboard command: B

Bookmark



Store - Saves the spatial bookmark with the name you entered

Delete - Removes the selected spatial bookmark



The scale, center position of the map, map rotation and bookmarks can be stored in the [DigiTerra Explorer Map](#) file (.EXP) or [DigiTerra Map Pack file](#) (.DMP) formats.

☀ = new feature

Availability of the "Bookmark" tool in different editions

Basic



Advanced



Professional



4.3.4.5 Last view / Next view



Last View

Zooms back to the previous extent and [rotation](#) you were viewing. DigiTerra Explorer stores the last 32 extents you have looked at since opening the map, so you can use this tool along with the Next view tool to retrace your last 32 steps.



Next View

Zooms forward to the next extent and [rotation](#) in the map view history. DigiTerra Explorer stores the last 32 extents you have looked at since opening the map, so you can use this tool along with the Last View tool to retrace your last 32 steps.

☀ = new feature

Availability of the "Last view / Next view" tool in different editions

Basic



Advanced



Professional



4.3.5 Pan



Pan

Pans the map using the pen or the cursor in the Desktop version. The Pan button remains active for panning the map until another tool is activated.

Keyboard command: P

Tap / Left click: centers the map to the tapped location

Drag: moves the map in any direction: horizontally, vertically, or diagonally. The view [scale](#) of the map remains the same, as does its orientation (rotation) in space.

Tap and hold / Right click: dynamically zooms the map

☀ = new feature

Availability of the "Pan" command in different editions

Basic



Advanced



Professional



4.3.6 Scroll



Scroll

Dynamically moves the map in the opposite direction of the movement using the pen or the cursor in the Desktop version. The Scroll button remains active until another tool is activated.

Keyboard command: S

Tap / Left click: centers the map on the tapped location

Drag: moves the map in any direction in the opposite direction of the movement: horizontally, vertically, or diagonally. The view [scale](#) of the map remains the same, as does its orientation (rotation) in space.

Tap and hold / Right click: dynamically zooms the map

☀ = new feature

Availability of the "Scroll" command in different editions

Basic



Advanced



Professional



4.3.7 Rotate



Rotate

Rotates and tilts the map. The Rotate button remains active until another tool is activated.

Keyboard command: R

Tap / Left click: centers the map on the tapped location

Drag: Rotates and tilts the map. The view scale of the map remains the same.

Tap and hold / Right click: dynamically zooms the map

Rotate



☀ = new feature

Availability of the "Rotate" command in different editions

Basic	Advanced	Professional
✗	✓	✓

4.3.8 3D view



3D view

Switches the map into 3D view and back to [plan view](#). Available in the Desktop version.



An overview is available about 3D related features at <http://forum.digiterra.hu/viewtopic.php?f=59&t=310>

☀ = new feature

Availability of the "3D view" command in different editions

Basic	Advanced	Professional
✗	✗	☀

4.3.9 Plan view



Plan view

Changes the map view back to the default vertical orthographic view and sets the North direction (Y axis) to upwards. Displays the map from overhead (without [perspective](#)).

Plan view



☀ = new feature

Availability of the "Rotate" command in different editions

Basic	Advanced	Professional
✗	✓	✓

4.3.10 Scale



Opens the **Set Scale** panel to change the scale of the map based on the value you can enter into the text box. Default value is the current scale.

Set scale



☀ = new feature

Availability of the "Rotate" command in different editions

Basic



Advanced



Professional



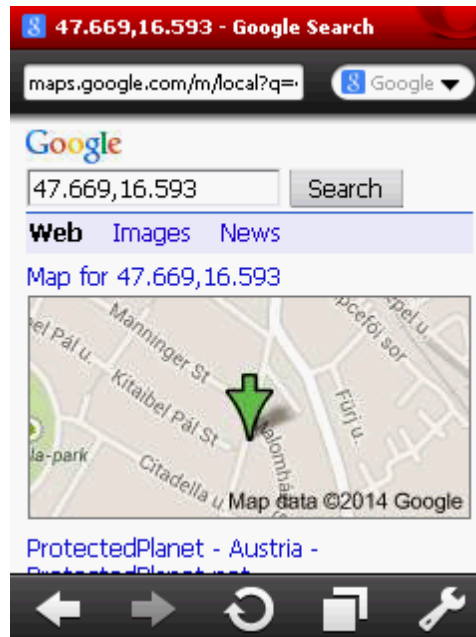
4.3.11 Show in Google Maps



Show in Google Maps

Displays the center position of the map in Google Maps in the default web browser

Show in Google Maps



☀ = new feature

Availability of the "Show in Google Maps" command in different editions

Basic



Advanced



Professional



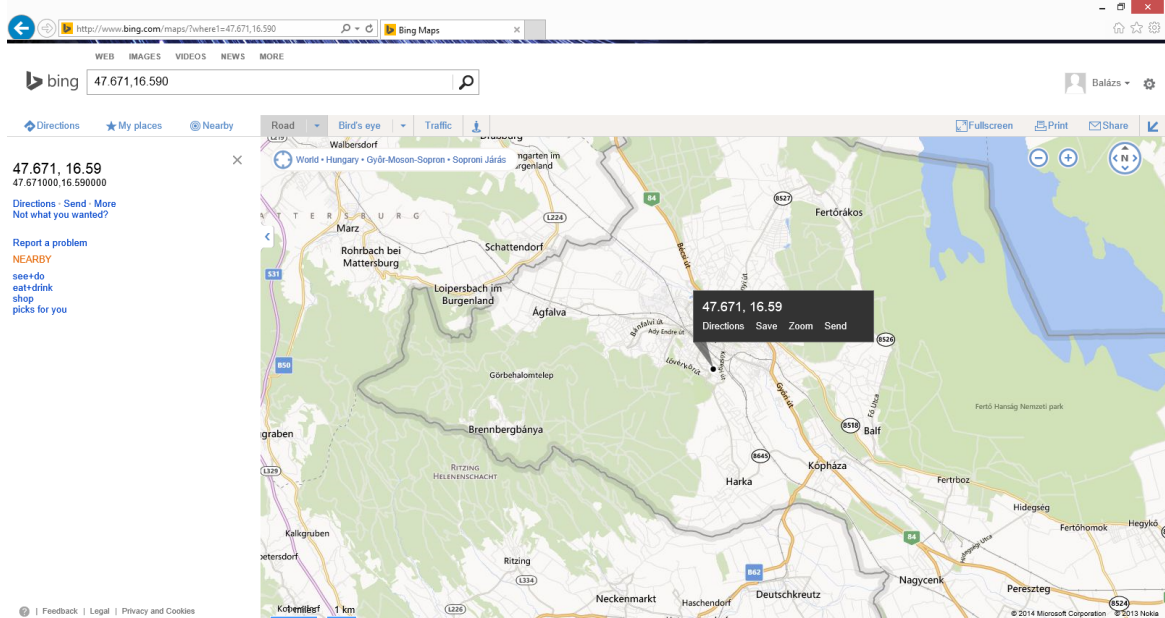
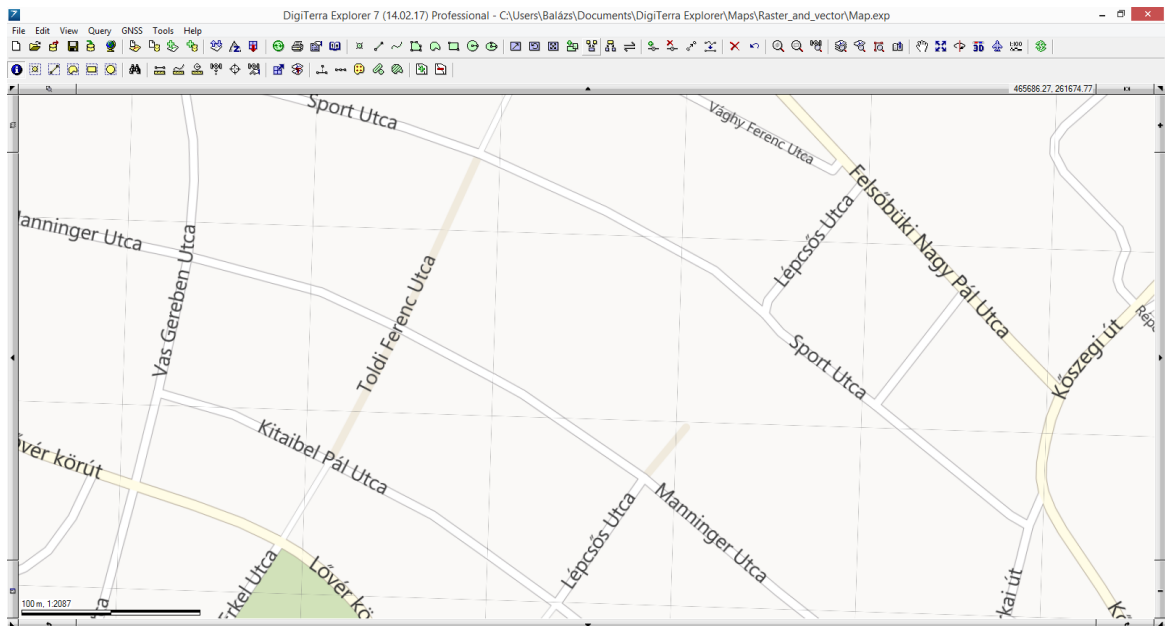
4.3.12 Show in Bing Maps



Show in Bing Maps

Displays the center position of the map in Bing Maps in the default web browser. Available in the Desktop version.

Show in Bing Maps



☀ = new feature

Availability of the "Show in Bing Maps" command in different editions

Basic



Advanced



Professional



4.3.13 Refresh map view



Refresh map view

Redraws the map view and clears all editing lines.

Clears the cached content and re-download the tiles covered by the boundaries of the map view at the current scale when using [WMS](#), [TMS](#), [background maps](#). Useful when the downloaded tiles are

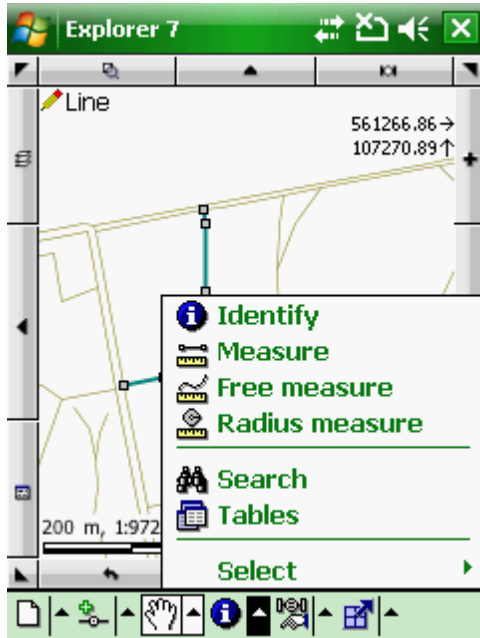
corrupt, or the cached map tiles are not-up-to-date.

4.4 Query menu

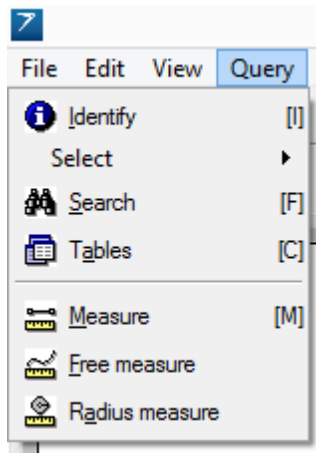
The Query menu contains the following **options** and **sub-menu** for query-related operations

-  [Identify](#)
 - [Select](#)
-  [Search](#)
-  [Tables](#)
-  [Measure](#)
-  [Free measure](#)
-  [Radius measure](#)

View menu (Mobile)




View menu (Desktop)



4.4.1 Identify

Identify

Activates the Identify tool. Displays attributes for any feature you tap/click according to the Settings at Record tab > Info tool: [<selected option>](#). It also selects and deselects the feature. The [identify option](#) ( button before the layer name) must be turned on for the layer in the [Layers panel](#) for a feature in that layer to be identified. The Identify button remains active until another tool is activated.

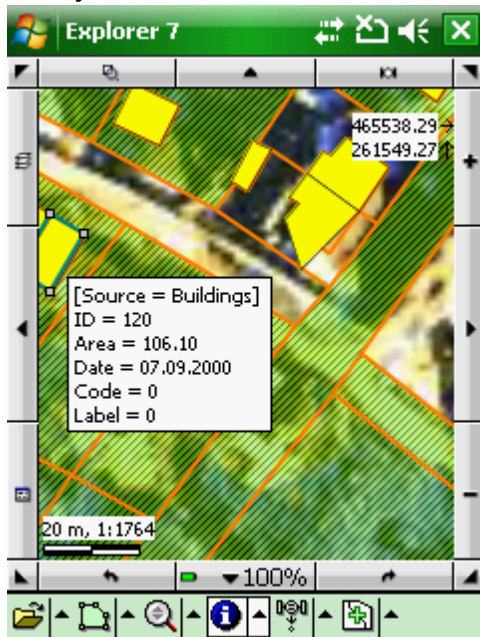
Keyboard command: I

Tap / Left click: identifies/selects the feature then displays the attributes of the feature according to the Settings at Record tab > Info tool: [<selected option>](#)

Drag: scrolls the map

Tap and hold / Right click: activates the [Dynamic Zoom](#) command while holding down

Identify











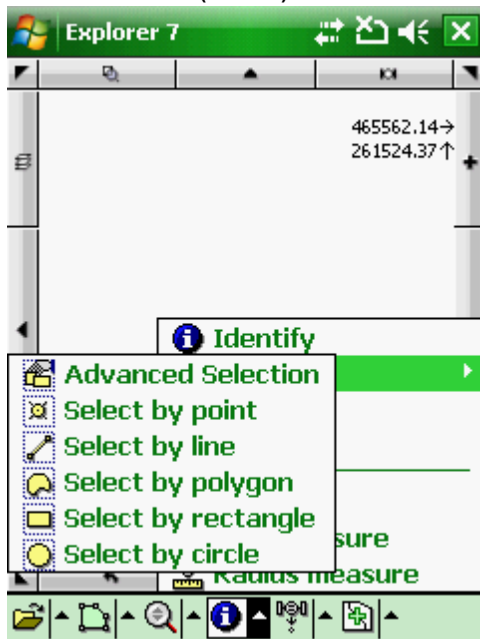
The attributes of the queried and selected feature can be edited in the [Record panel](#)

4.4.2 Select sub-menu

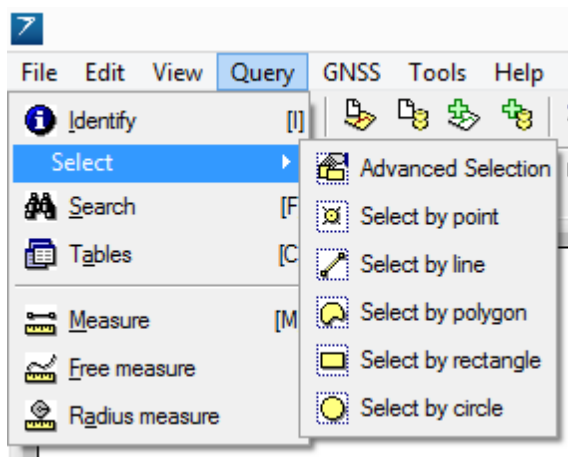
With the tools of this sub-menu you can select many features at the same time. The [Selection settings](#) panel allows you to select multiply features on the map by geometry or by a layer of the map view. The Selection tools remain active for selecting features until another tool is activated. This menu is accessible in the [Query menu](#) and contains the following items:

-  [Advanced Selection](#)
-  [Select by point](#)
-  [Select by line](#)
-  [Select by polygon](#)
-  [Select by rectangle](#)
-  [Select by circle](#)

Select sub-menu (Mobile)



Select sub-menu (Desktop)



Selected features can be combined with the following functions

- Export selected features into File or Database on the Layers panel > selected active layer > **Layer export**
- **Change Layer**: copies/moves the selected feature(s) into the edited layer
- **Move**, **Rotate** or **Scale** selected features
- **Merge** selected features
- **Explode** selected features
- **Erase** selected features
- Create **buffer zone** around the selected features
- **Polygon Delineation** and creating topology

= new feature

Availability of the "Select" sub-menu and its tools in different editions

Basic



Advanced



Professional



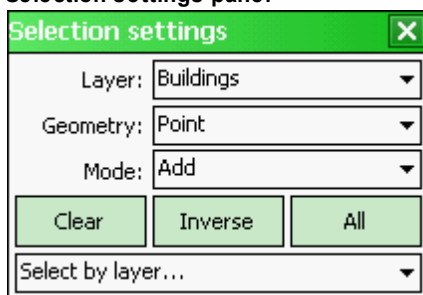
4.4.2.1 Advanced Selection



Advanced Selection

Opens the **Selection settings** panel with its default settings. The Selection settings panel can be dragged while any tool from the Select sub-menu is active.

Selection settings panel








Selection settings panel

Layer: Lists the selectable vector feature layers of the map view. Enables you to select the desired

layer in which you can select features. Default layer is the top item in the list.

Geometry

- **Point:** Selects features by point. Equal with the  [Select by point](#) tool. Default option.
- **Line:** Selects features by line. Equal with the  [Select by line](#) tool.
- **Polygon:** Selects features by polygon. Equal with the  [Select by polygon](#) tool.
- **Within polygon:** Selects features within the polygon
- **Rectangle:** Selects features by rectangle. Equal with the  [Select by rectangle](#) tool.
- **Within rectangle:** Selects features within the rectangle
- **Circle:** Selects features by circle. Equal with the  [Select by circle](#) tool.
- **Within circle:** Selects features within the circle

Mode

- **New selection:** Creates a new selection
- **Add:** Adds the result(s) of the current selection to previous selection(s). Press and hold the **Shift** key while making a selection to temporarily enter add mode. **Default option.**
- **Subtract:** Subtracts the result(s) of the current selection from the previous selection(s). Press and hold the **Ctrl** key while making a selection to temporarily enter subtract mode.

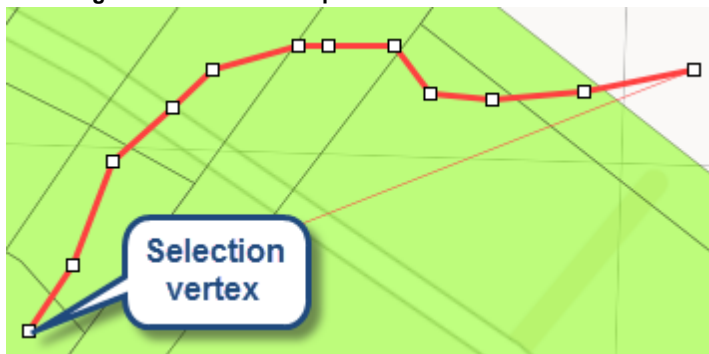
Clear - Clears the the current selection in the source layer

Inverse - Creates the inverse selection of the currently selected features in the source layer

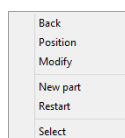
All - Selects all features in the source layer

Select by layer... - Selects features in the source layer by using overlapping geometries in the selection layer of the map view.

Selecting features on the map



Context menu



Undoes the last edit made to a selection

Opens the [New vertex](#) panel

Opens the [Modify](#) panel

Activates the [multiline](#) feature type for data capture

Undoes all edit made to a feature

Selects the feature

4.4.2.2 Select by point



Select by point

Opens the Selection settings panel **with Geometry = Point option** to select multiply features in a layer. The Select by point button remains active until another tool is activated.

Tap / Left click: selects item on the map at the tapped location

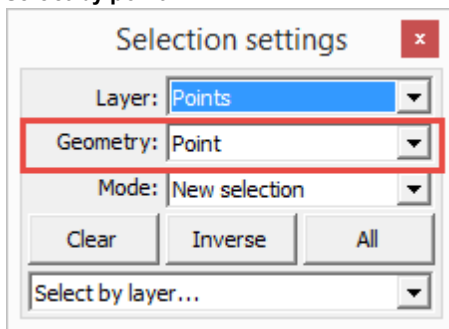
Drag: adds selection point to the map at the tapped location with [crosshairs](#)

Tap and hold / Right click: opens the [Advanced Selection panel](#)

Using Hotkeys

- Press and hold the **Shift** key while making a selection to temporarily enter add mode.
- Press and hold the **Ctrl** key while making a selection to temporarily enter subtract mode.

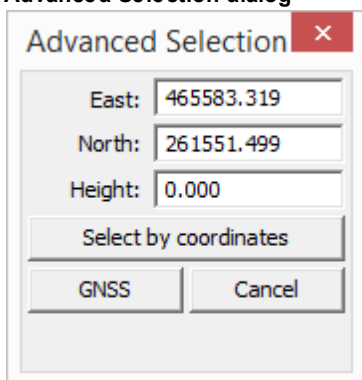
Select by point



4.4.2.2.1 Advanced selection dialog box

The **Advanced Selection** dialog is used to select a feature in a layer **by given coordinates** or **by GPS**. You can access this dialog when using the [Select by point](#) tool using tap and hold or right click in the Desktop.

Advanced Selection dialog



East: Displays the current Easting coordinate of the tapped/clicked position. Enables you to enter the new Easting coordinate.

North: Displays the current Northing coordinate of the tapped/clicked position. Enables you to enter

the new Northing coordinate.

Height: Displays the height of the tapped/clicked position

Select by coordinates - Selects feature by entered coordinates

GNSS - takes over the Easting, Northing, [Height coordinates](#) of the current GNSS position and selects the feature at the current GPS position

Cancel - Closes the panel

4.4.2.3 Select by line



Select by line

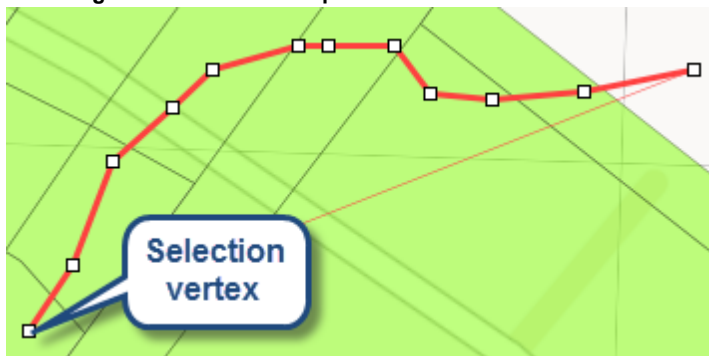
Opens the Selection settings panel **with Geometry = Line option** to select multiply features in a layer. The Select by line button remains active until another tool is activated.

Tap / Left click: adds selection point/vertex on the map at the tapped location

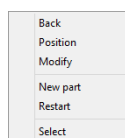
Drag: adds selection point/vertex to the map at the tapped location with [crosshairs](#)

Tap and hold / Right click: displays the [Context menu](#) to select features by using the **Select** option in the menu

Selecting features on the map



Context menu



Undoes the last edit made to a selection

Opens the [New vertex](#) panel

Opens the [Modify](#) panel

Activates the [multiline](#) feature type for data capture

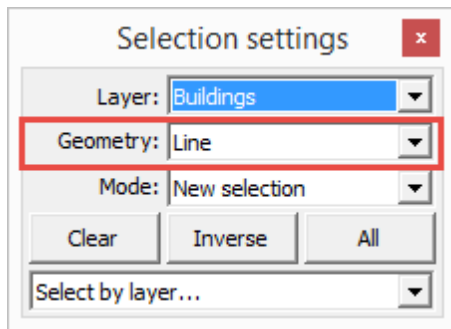
Undoes all edit made to a feature

Selects the feature

Using Hotkeys

- Press and hold the **Shift** key while making a selection to temporarily enter add mode.
- Press and hold the **Ctrl** key while making a selection to temporarily enter subtract mode.

Select by line



4.4.2.4 Select by polygon



Select by polygon

Opens the Selection settings panel **with Geometry = Polygon option** to select multiple features in a layer. The Select by polygon button remains active until another tool is activated.

Tap / Left click: adds selection point/vertex on the map at the tapped location

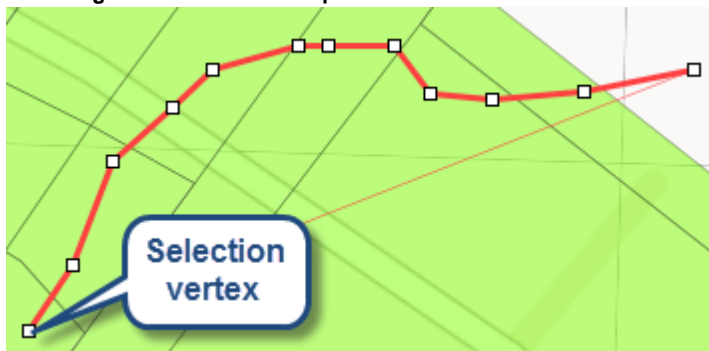
Drag: draws a rectangle on the map at the tapped locations with [crosshairs](#), then selects the covered features

Tap and hold / Right click: displays the [Context menu](#) to select features by using the **Select** option in the menu

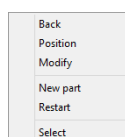
Using Hotkeys

- Press and hold the **Shift** key while making a selection to temporarily enter add mode.
- Press and hold the **Ctrl** key while making a selection to temporarily enter subtract mode.

Selecting features on the map



Context menu



Undoes the last edit made to a selection

Opens the [New vertex](#) panel

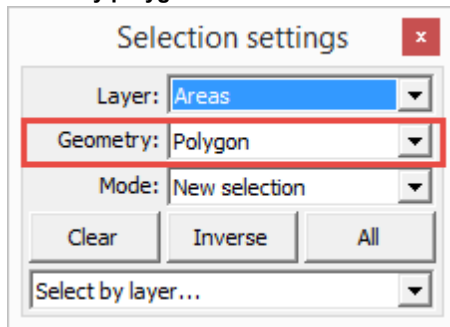
Opens the [Modify](#) panel

Activates the [multiline](#) feature type for data capture

Undoes all edit made to a feature

Selects the feature

Select by polygon



4.4.2.5 Select by rectangle

**Select by rectangle**

Opens the Selection settings panel **with Geometry = Rectangle** option to select multiply features in a layer. The Select by rectangle button remains active until another tool is activated.

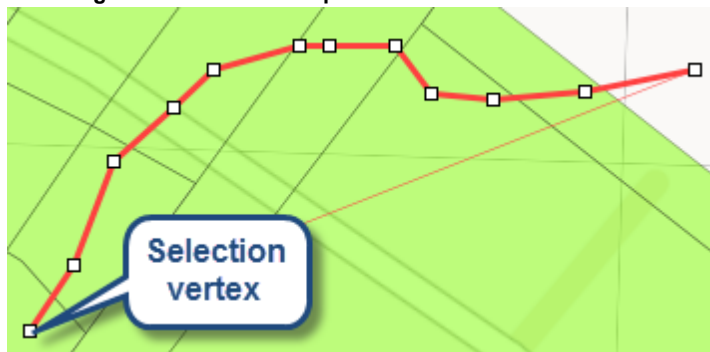
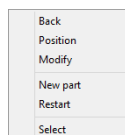
Tap / Left click: adds two vertices: *top left (1) and bottom right (2) vertices* of a rectangle

Drag: draws a rectangle on the map at the tapped locations with [crosshairs](#), then selects the covered features

Tap and hold / Right click: displays the [Context menu](#) to select features by using the **Select** option in the menu

Using Hotkeys

- Press and hold the **Shift** key while making a selection to temporarily enter add mode.
- Press and hold the **Ctrl** key while making a selection to temporarily enter subtract mode.

Selecting features on the map**Context menu**

Undoes the last edit made to a selection

Opens the [New vertex](#) panel

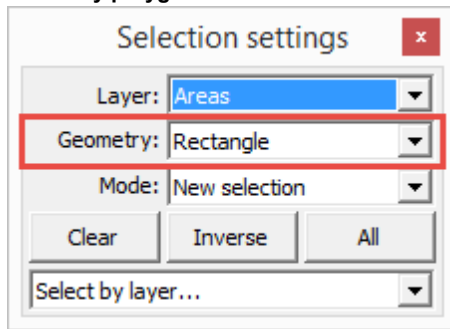
Opens the [Modify](#) panel

Activates the [multiline](#) feature type for data capture

Undoes all edit made to a feature

Selects the feature

Select by polygon



4.4.2.6 Select by circle

**Select by circle**

Opens the Selection settings panel **with Geometry = Circle option** to select multiply features in a layer. The Select by rectangle button remains active until another tool is activated.

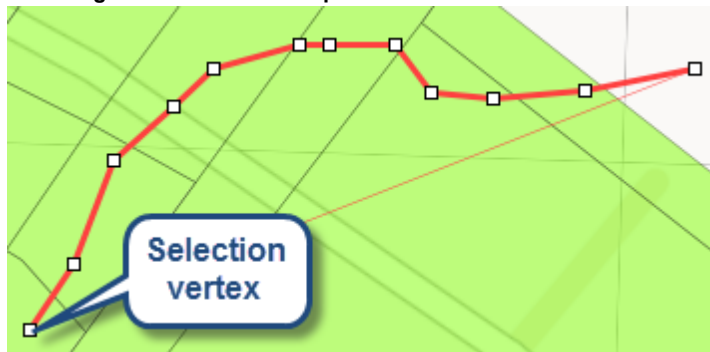
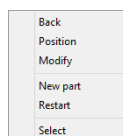
Tap / Left click: adds two vertices: *top left (1) and bottom right (2) vertices* of the radius of a circle

Drag: draws a circle on the map at the tapped locations with [crosshairs](#), then selects the covered features

Tap and hold / Right click: displays the [Context menu](#) to select features by using the **Select** option in the menu

Using Hotkeys

- Press and hold the **Shift** key while making a selection to temporarily enter add mode.
- Press and hold the **Ctrl** key while making a selection to temporarily enter subtract mode.

Selecting features on the map**Context menu**

Undoes the last edit made to a selection

Opens the [New vertex](#) panel

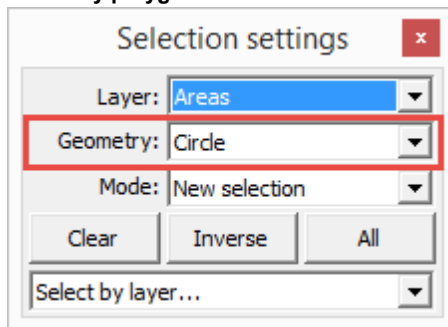
Opens the [Modify](#) panel

Activates the [multiline](#) feature type for data capture

Undoes all edit made to a feature

Selects the feature


Select by polygon



4.4.3 Search

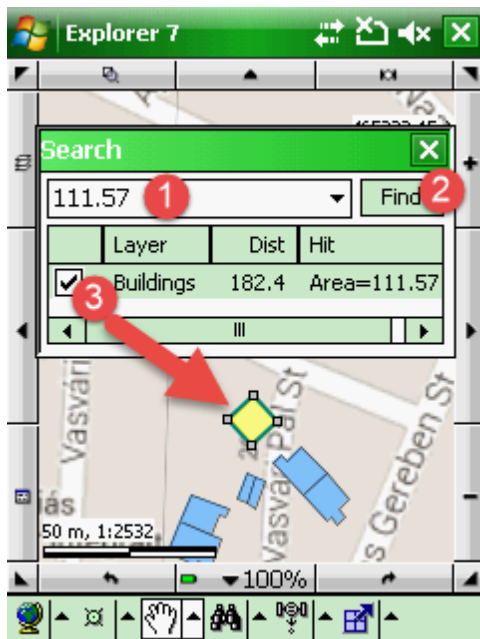


Search

Opens the **Search** panel to find or select features. The [identify option](#) ( button before the layer name) must be turned on for the layer in the [Layers panel](#) for a feature in that layer to be identified.

Keyboard command: F

Search



Search panel

- 1** - Use the Input box to type in the value (with spaces between the values) that you want to search for in the attribute tables of the vector layers in the map. You can use the drop-down the list to retrieve the previous keywords.
- 2** - **Find** button: executes the search expression. DigiTerra Explorer examines full comparison in

case of number and partial comparison in case of texts. The result list will contain those records where all of the keywords occur.

3 - Results: this table displays all of the found features

- **Header of the results:** orders the search records by **Layer**, **Distance** and **Hit**
- **Result list:** Lists the records the search tool found. You can **tap on the row** to select the record and **pan the map to record's geometry**.
- **Double tap on the row:** selects the record and zooms the map to the extent of the record's geometry
- You can **tick the check-box** before the result item to **select it** on the map view
- **Layer:** the source of the layer
- **Dist:** distance between the center of the map and the found geometry in current map unit
- **Hit:** found data field with the cell value

 = new feature

Availability of the "Search" tool in different editions

Basic	Advanced	Professional
		

4.4.4 Tables



Tables

Opens the [Record panel](#). It can also be accessed by using the [Record panel button](#) on the [Pan frame](#).

Keyboard command: C



All details of the Record panel can be found within the [Attribute Properties](#) topic

4.4.5 Measure



Measure

Measures positions, distances, area and angle in the map view by added vertices on the map at the tapped locations (in point mode). Display the [Editing context menu](#) and tap on the Finish option to end and view the measurements in the [Geometry panel](#). The Measure tool remains active for measuring until another tool is activated.

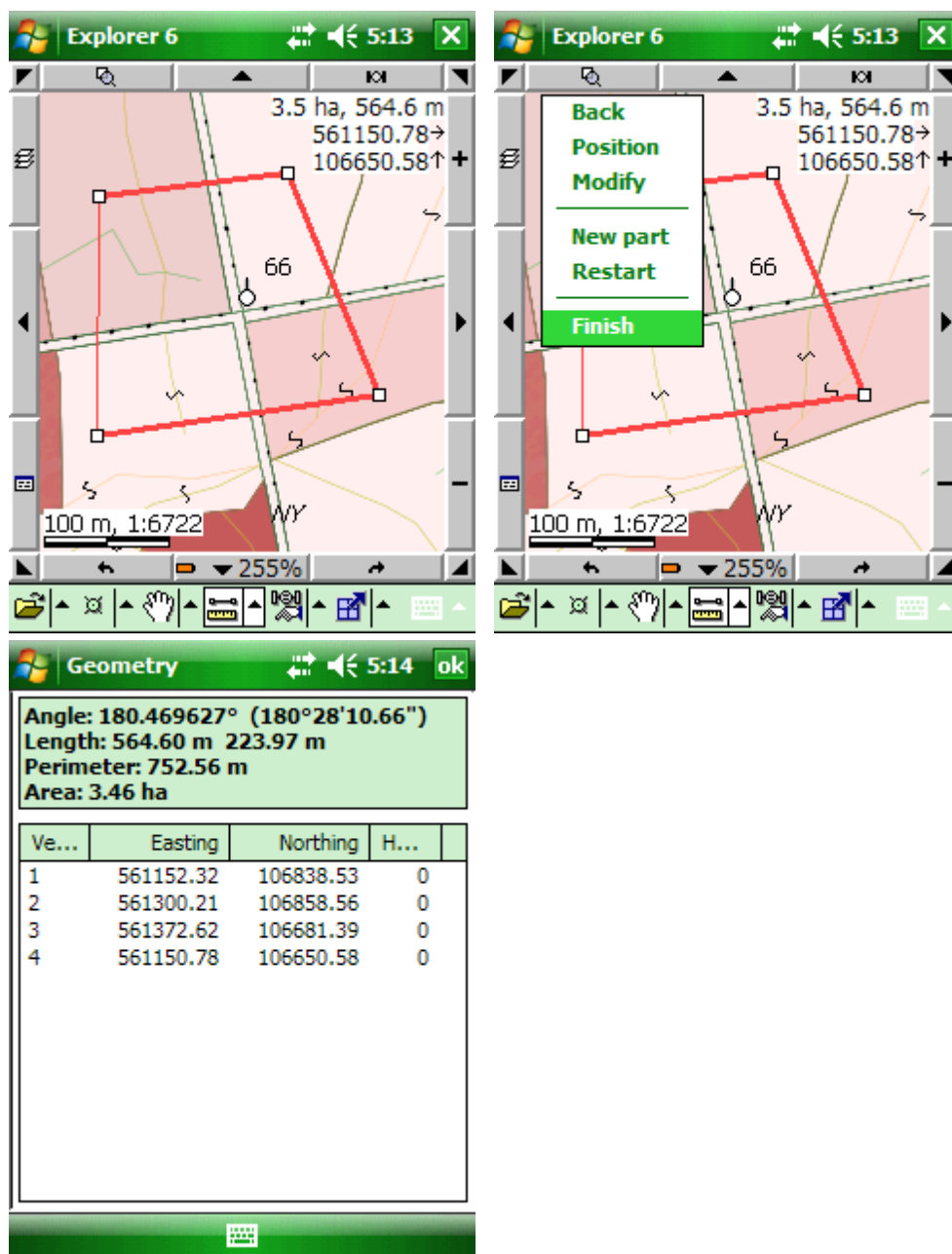
Keyboard command: M

Tap / Left click: adds vertex on the map at the tapped location.

Drag: adds vertex on the map at the tapped location with displayed [crosshairs](#).

Tap and hold / Right click: displays the [Editing context menu](#) to finish the measurement and open the [Geometry panel](#).

Vertices on the map view for the measurement and the measurement information in the [Geometry panel](#)



4.4.6 Free measure



Free measure

Measures positions, distances, area and angle in the map view in freehand mode. Display the [Editing context menu](#) and tap on the Finish option to end and view the measurements in the **Geometry** panel. The Free measure tool remains active for measuring by freehand line until another tool is activated.

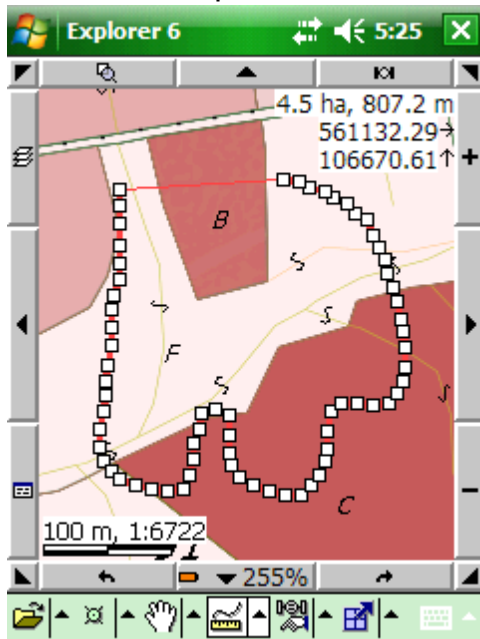
Tap / Left click: adds vertex on the map at the tapped location.

Drag: adds vertices on the map at the tapped locations.

Tap and hold / Right click: displays the [Editing context menu](#) to finish the measurement and open

the [Geometry panel](#).

Vertices on the map view for a freehand measurement



☀ = new feature

Availability of the "Measure" tool in different editions

Basic	Advanced	Professional
✗	✓	✓

4.4.7 Radius measure

Radius measure

The Radius measure tool remains active for measuring radial distances until another tool is activated.

Tap / Left click: adds vertex (center point and end point of the radius) on the map at the tapped location then opens the [Geometry panel](#).

Drag: draws circle on the map at the tapped locations with displayed [crosshairs](#) then creates the feature.

☀ = new feature

Availability of the "Radius measure" tool in different editions

Basic	Advanced	Professional
✗	✓	✓

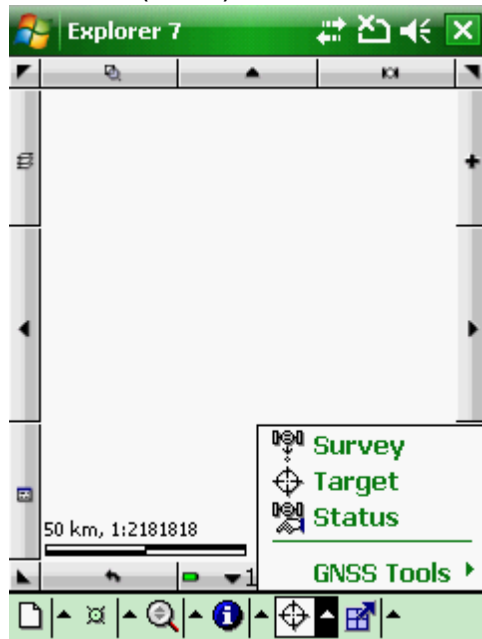
4.5 GNSS menu

The GNSS menu contains the following **options** and **sub-menu** for GNSS-related operations:

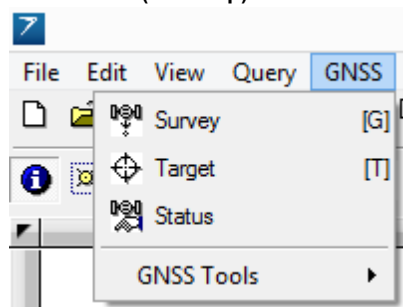
-  [Survey](#)
-  [Target](#)

-  [Status](#)
 - [GNSS Tools](#)

GNSS menu (Mobile)



GNSS menu (Desktop)



4.5.1 Survey



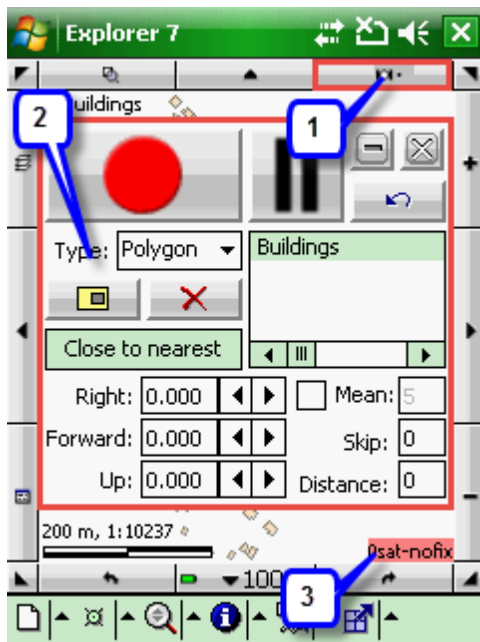
Survey

Possible use cases

1. **Connects the application to the GNSS receiver** according to the [Serial port](#), [NTRIP](#), [Antenna](#) and [Startup commands](#) settings then opens the **GNSS surveying panel** to capture incoming GPS positions as [point, line or polygon features](#) into [vector feature layers](#).
2. If there is no [editable layer](#) in the [Layer Manager](#) the [New work layer dialog](#) appears to select an existing or create a new vector feature layer before connecting to the GNSS receiver

Keyboard command: G

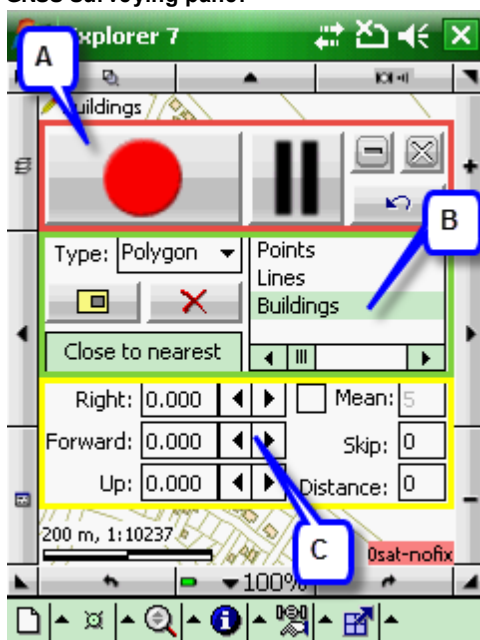
GNSS Surveying







1. **GPS satellite button:** indicates the GPS port reading. Flashing when the GPS connection was success.
2. **GNSS Survey panel:** the description can be found below...
3. [GNSS status information](#)

GNSS Surveying panel

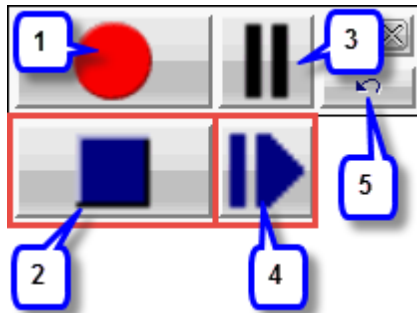
GNSS Surveying panel



Appearance modes and controls of the panel

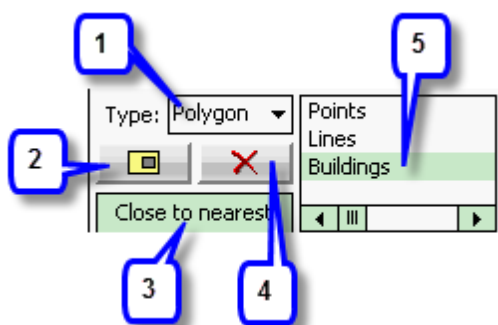
-  - minimizes the panel to **Mode "A"**
-  - maximizes the panel to **Mode "A" + Mode "B" + Mode "C"**
-  - shows the default size of the panel as **Mode "B"**
-  - closes the panel, but the started data capture(s) doesn't stop in the relevant layers

Displayed controls in **Mode "A"**:



1. **Record > Stop toggle button:** starts data capture in the selected layer (*see the layer list at the left hand side in figure - Mode "B"*)
2. **Stop > Record toggle button:** stops data capture and creates the geometry then proceeds to capture attributes according to the Settings > Record > New record: [<selected option>](#)
3. **Pause > Continue toggle button:** pauses data capture in the selected layer. Switches on automatically in **averaging mode** and when you **start or stop surveying a subpolygon**.
4. **Continue > Pause toggle button:** continues data capture in the selected layer
5. **Undo last vertex:** deletes the last captured vertex

Displayed further controls in **Mode "B"**:





1. **Type:** displays the feature type/method that DigiTerra Explorer can capture into the selected layer. If the selected layer is a multi-feature type layer = namely more than one feature type stored in the same layer, you can capture different feature types also as:

- **N/A:** means you have to select a feature type. Appears when working with DBF, TAB or TXT files.
- **Point:** captures point feature type
- **Line:** captures line feature type
- **Polygon:** captures polygon/multipolygon feature type
- **Points:** captures point features continuously. The [attribute record of the new geometry appears](#) to the first and then to every hundredth point features as default. The only exceptional case when the "No panel" option set under Settings > Record > [New record](#).

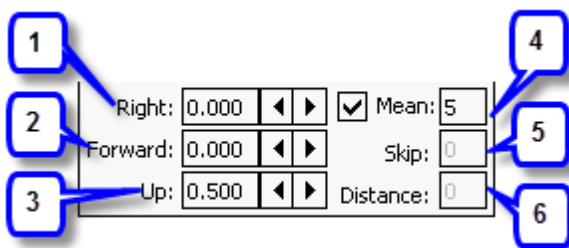


More than one feature types can be selected at the **Type** option above only for [DGN, DXF and MIF file formats](#), in that special case when mixed feature types stored in the layer inherently. Otherwise it is not allowed in DigiTerra Explorer to store more than one feature types in the same vector feature layer.

2. Start/Stop subpolygon toggle button:

-  **Activate subpolygon survey:** activates subpolygon survey, [Pause toggle button switches into continue mode](#). The data capture of the subpolygon can be started by tapping / clicking on the Continue button.
 -  **Stop subpolygon survey:** closes the data capture of the subpolygon, [Pause toggle button switches into continue mode](#). The data capture of the 'main' polygon can be started by tapping / clicking on the Continue button.
3. **Close to nearest** - closes the polygon geometry in the current data capture to adjacent polygon features and [creates a common boundary between them](#). The data capture process can only be closed when the nearest vertex will be within 5 meters to the adjacent polygon boundary.
4. **Delete all vertices:** deletes all captured vertices in the current data capture
5. **Layer list:** lists all editable = unlocked layers from the [Layer Manager](#). Enables you to [tap / click on the layer's name to select it for capturing data](#). GPS survey can be done simultaneously in the listed layers.

Displayed further controls in **Mode "C"**: these options below related to the data capture process in the selected layer



1. **Right/Left:** horizontally offsets continuously captured GPS positions to the right, in case of negative value offsets to the left
2. **Forward/Back:** horizontally offsets continuously captured GPS positions forward, in case of negative value backward

3. **Up/Down:** vertically offsets captured GPS positions upwards, in case of negative value downwards
4. **[] Mean:** Activates stop & go measurement mode when checked anyway the software captures continuously. Unchecked as default. Enables position averaging. Enter the number of positions to calculate the averaged Easting, Northing (Latitude, Longitude) coordinates.

The coordinate of the averaged GPS position calculated by the following formula:

Easting/Longitude coordinate= $(X_1 + X_2 + X_3 + \dots + X_n)/n$

Northing/Latitude coordinate= $(Y_1 + Y_2 + Y_3 + \dots + Y_n)/n$

where *n*: meaning value

5. **Skip:** enables you to control the number of omitted positions between two captured positions
6. **Distance:** enables you to control the data capture with a distance based filter. If the distance between the last captured position and the current position is less than this value DigiTerra Explorer omits the incoming GPS position.

4.5.2 Target



Target

Activates the Target tool. The Target tool remains active until you deactivate it by tapping on the Target's position again.

Keyboard command: T

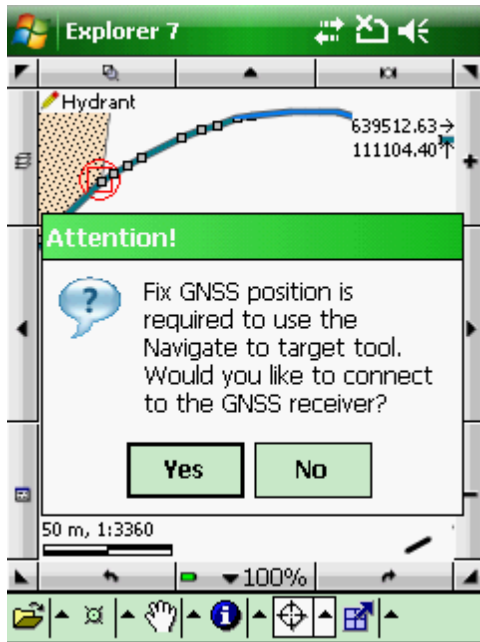
Tap / Left click: Sets the location you tap to be the current destination for navigation while the Navigate to Target tool is active. Displays the "Would You like to relocate the target position" message box when the target is on the map.

Drag: adds selection point to the map at the tapped location with [crosshairs](#)

Tap and hold / Right click: opens the Target context menu

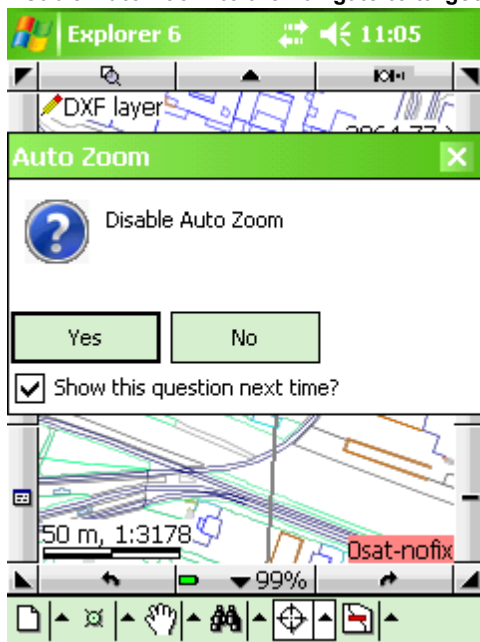
Once the Navigate to Target tool became active DigiTerra Explorer automatically connects to the GPS receiver.

Connecting to GPS



The Navigate to Target tool zooms to the extent of the GPS position and the target. It can be disabled when activating this tool.

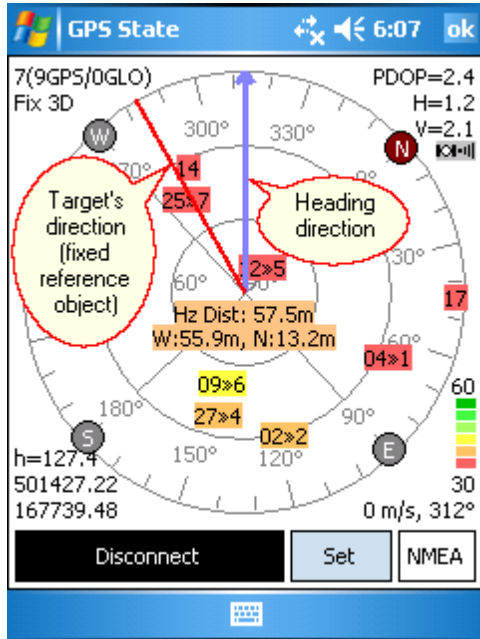
Disable Auto Zoom to the Navigate to target tool



The Navigate to Target tool can be combined with the **GPS Status panel** and you can see the following parameters of the navigation:

- your current heading (blue arrow)
- direction of the target (red line)
- parameters of the navigation (with orange background)

The current direction (blue line) and the direction of the target (orange line) on the Skyplot

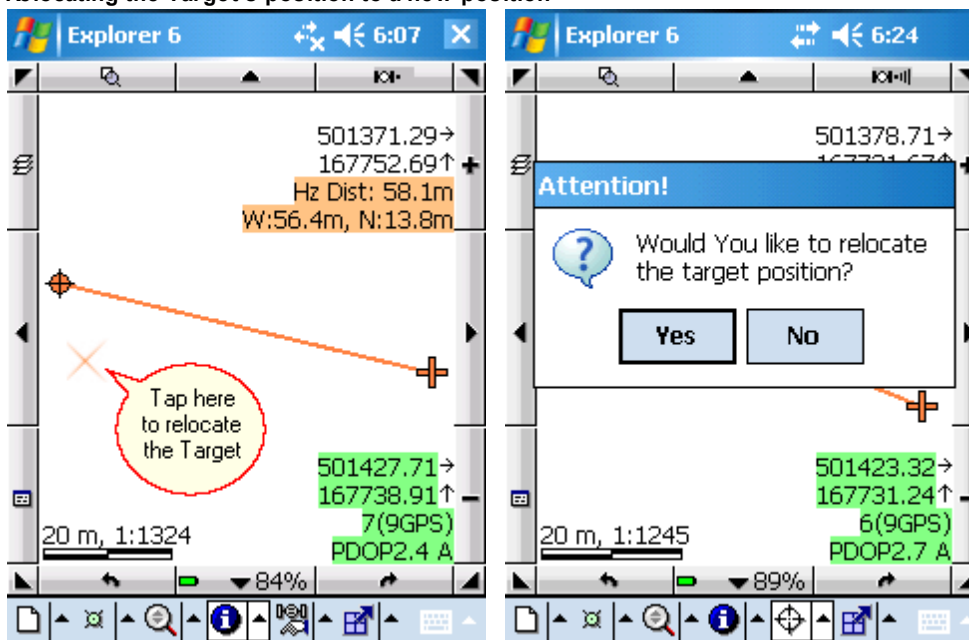


Relocating and deactivating the target's position:

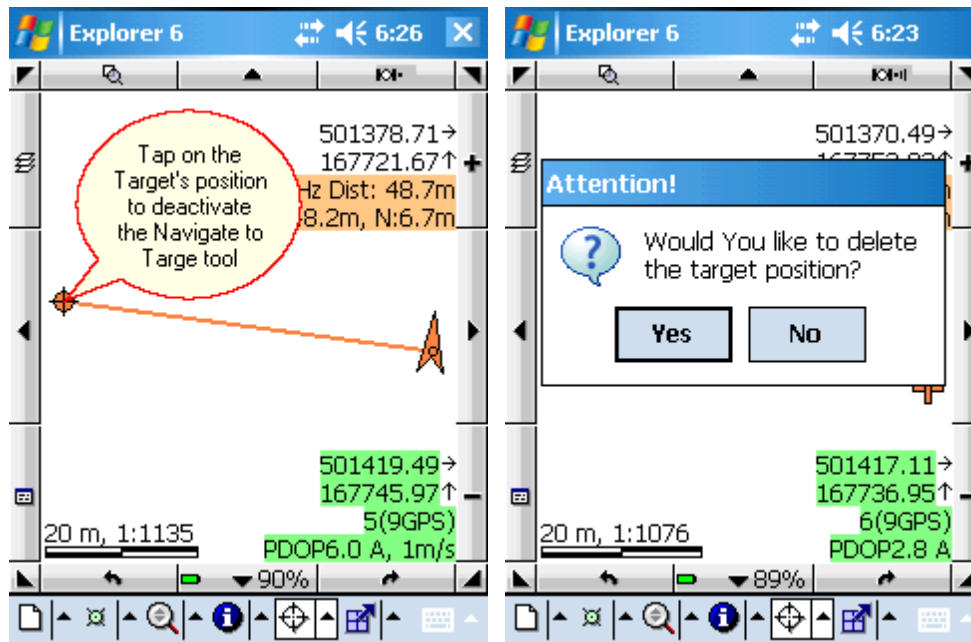
Relocating: tap on a new position on the map view and select Yes in the appeared message box

Deactivation: tap on the target button on the screen to remove it from the map then select an other command

Relocating the Target's position to a new position



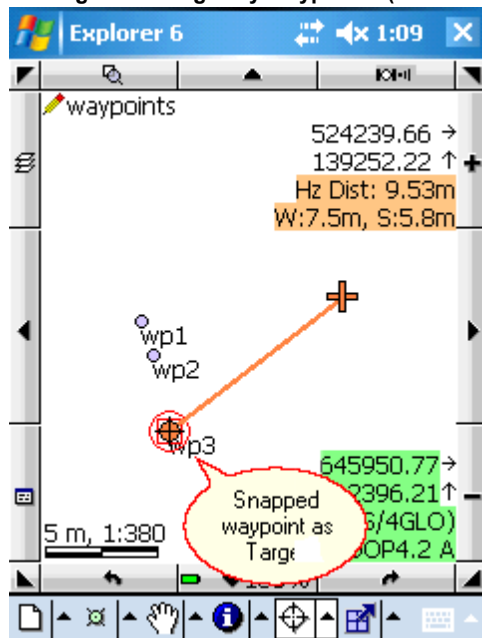
Deactivating the Target tool by tapping on the Target's position



How to use the Navigate to target tool:

1. Navigate by waypoints (previously placed features in a vector layer) on the map view
2. Navigate by given coordinates
3. [Navigate by data records](#): you can activate the Navigate to Target tool on the Record panel. Open the Record panel, select a record then select the Navigate by record option in the menu. This option activates the Navigate to Target tool to the selected the record's geometry on the map view.

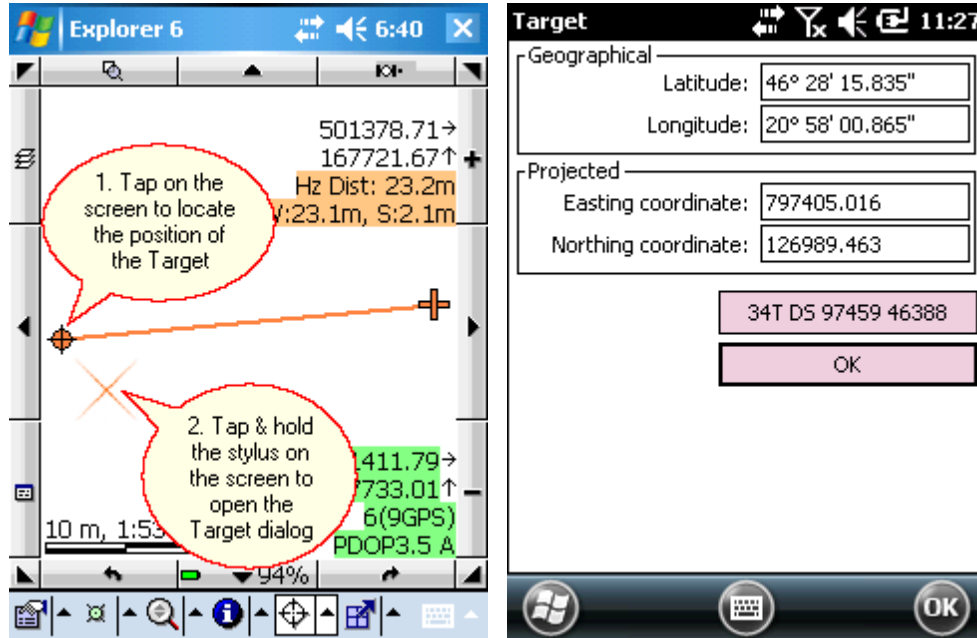
1. Navigate to Target by waypoints (added target at the tapping location on the map view)



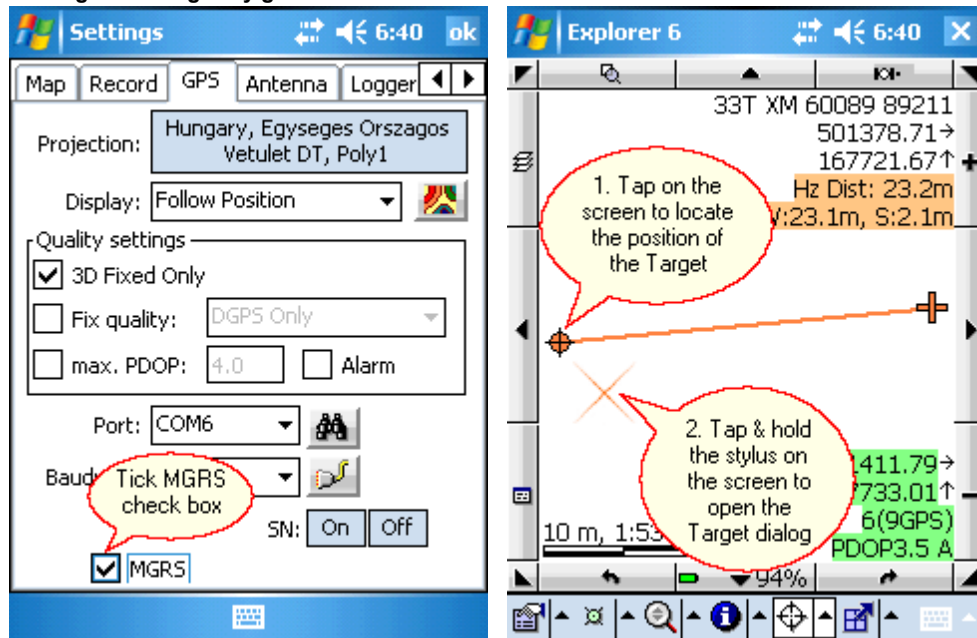


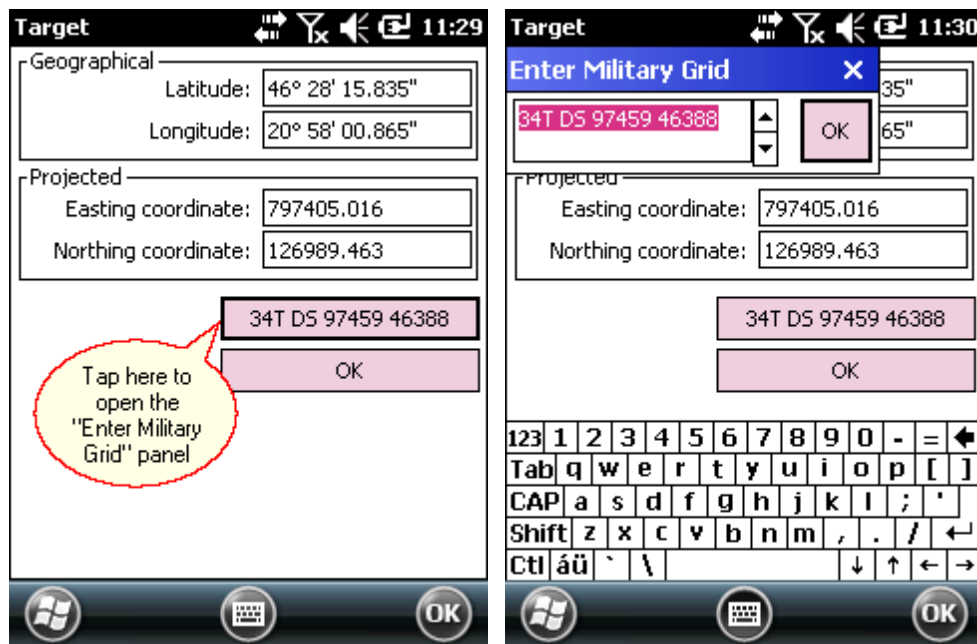
You can access to the Target panel by using the tap and hold technique or right click on the desktop.

2. Navigate to target by given geographical or projected coordinates



3. Navigate to target by given MGRS identifier





Please, also have a look at this detailed tutorial about the MGRS identifier support in DigiTerra Explorer here:

<http://www.digiterra.hu/en/newsevents/64-digiterra-explorer-news/207-military-grid-reference-system-in-digiterra-explorer.html>

☀ = new feature

Availability of the "Navigate to target" tool in different editions

Basic

Advanced

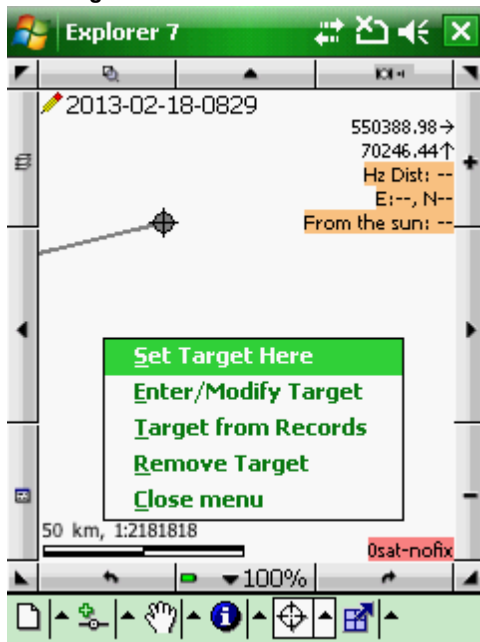
Professional



4.5.2.1 Target context menu

You can access this menu by tap and hold the stylus on the screen / right click.

The Target context menu



Set Target Here: sets the target to the tapped position on the map view

Enter/Modify Target: opens the [Set target panel](#) to type the coordinates of the target

Target from Records: opens the [Record panel](#) to select the target by attribute records and then use the Menu > Navigate by Record to set the target

Remove Target: removes the target from the map

Close menu: closes this context menu

4.5.2.2 Set target

This panel can be accessed by selecting the **Enter/Modify Target** option in the [Target context menu](#)

The Set target panel

Projected

North: Northing coordinate of the target

East: Easting coordinate of the target

Recalculate

- Calculates the geographical (WGS 84) coordinate when the Projected option selected
- Calculates the projected coordinate when the WGS 84 option selected

WGS 84

Lat: Latitude coordinate of the target

Lon: Longitude coordinate of the target

MGRS

Military Grid Coordinates of the Target

Cancel -

Remove target -

OK -

4.5.3 Status



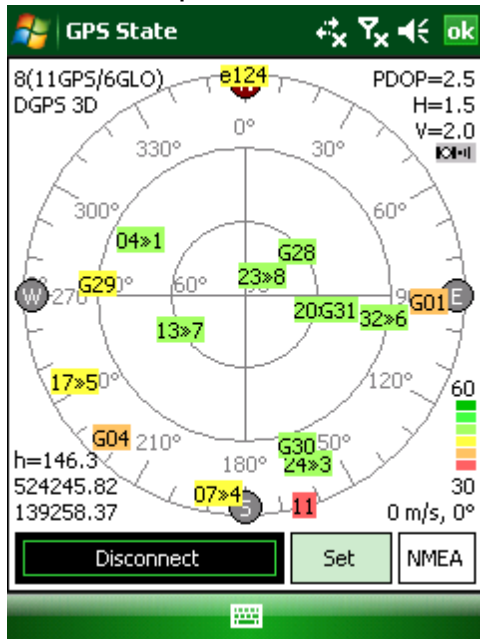
GPS Status

Opens the **GPS Status panel** and activates the GPS if it wasn't active.

GPS Status panel

The GPS Status utility allows you to quickly see if the GPS receiver is calculating a position from the currently visible GPS constellation.

The GPS Status panel



The GPS Status panel displays the following, from left to right:

GPS status information:

8(11GPS/6GLO): shows in this example that there are 8 satellites in use and there are 11 GPS and 6 GLONASS viewable satellites

DGPS 3D: shows the type of position; following other values are possible:


Solution type:

- "___" or "nofix" - Fixed position not available
- "Fix 2D" or "Fix 3D" - Fixed 2D or 3D autonomous solution
- "DGPS 3D" - Fixed differential GPS solution
- "FLRTK 3D" - Real Time Kinematic (RTK) floated solution
- "RTK 3D" - Real Time Kinematic (RTK) fixed solution

PDOP=2.5 - shows the current PDOP value

H=1.5 - shows the current HDOP value

V=2.0 - shows the current VDOP value

 satellite button: Shows the GPS activity. Displays when the GPS port can be opened (in case of using correct [GPS port settings](#)). Becomes animated when the GPS connection is activated.



The current Easting, Northing GPS coordinate and the GPS status information (number of used/viewable GPS/GLO satellites, PDOP, solution type) displayed on

the [map view](#) at the bottom right corner.

Skyplot - shows all the satellites currently in view/use. This window allows you to monitor Signal/Noise ratios (SNR) for received satellites. This information is shown as graphical to each satellite with a coloured number from red to green. Each satellite is identified by its Pseudo-Random Number (PRN), its azimuth and elevation angles on the Skyplot. The Skyplot will turn into the current calculated direction and shows the last direction and can be combined with the Navigate to Target function.

26x3 - shows the satellite (PRN = 26) currently in use on channel 3

19 - shows the satellite (PRN = 19) currently in view

SBAS satellites marked with "D" beside the displayed PRN number

GLONASS satellites marked with "G" beside the displayed PRN number



30 - **SNR** (Signal/Noise ratio) **range** to interpret the sign quality to the displayed satellite on the Skyplot (the greener the better).

h=146.3 - shows the calculated **Height Above Ellipsoid** of the current GPS position as default. Shows the calculated **Height** if the [geoid undulation](#) is available and can be used with the current GPS position.

524245.82 - shows the calculated **Easting coordinates** of the current GPS position in the [selected projection](#)

139259.37 - shows the calculated **Northing coordinates** of the current GPS position in the [selected projection](#)

0 m/s, 0° - shows the calculated speed in the current [speed unit](#) and the last calculated heading

Connect / Disconnect - activates the GPS receiver (opens the GPS connection) / deactivates the GPS receiver (closes the GPS connection).

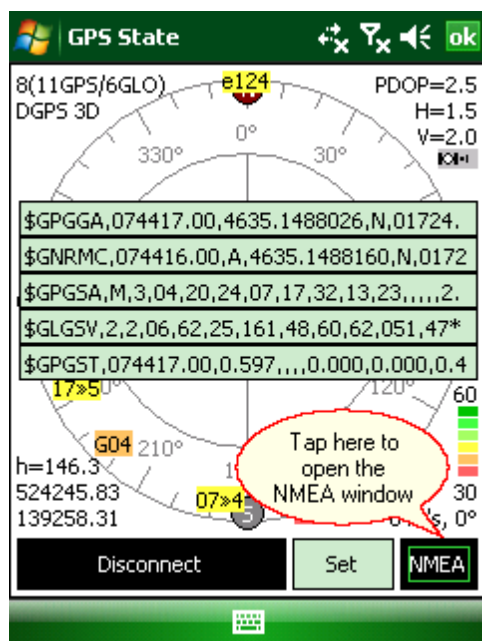
Set - opens the Settings panel > GPS tab to set / modify the currently used [GPS related settings](#).

NMEA - displays the currently received NMEA sentences from the GPS device. Tap on the NMEA button again to close the NMEA window.



The NMEA button can also switches the NMEA and the TSIP or SiRF modes on [Trimble devices](#).

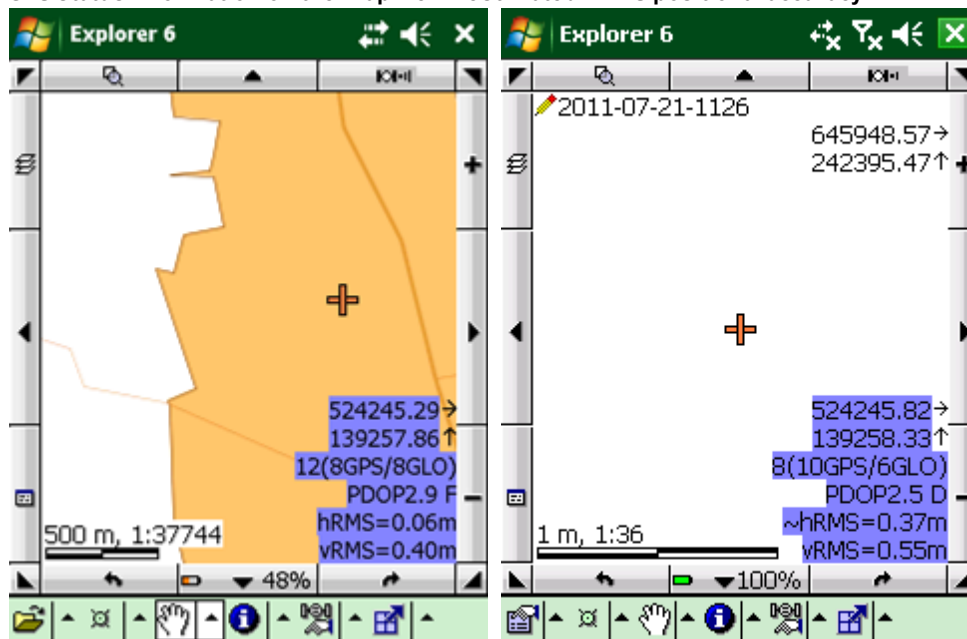
Displayed NMEA sentences in the NMEA window



The displayed NMEA sentences can be logged in the [Logger tab](#) of the Settings panel.

4.5.3.1 Status on the map view

GPS status information on the map view / estimated hRMS positional accuracy



524245.29 - Current Easting coordinate

139257.86 - Current Northing coordinate

12(8GPS/8GLO) - Number of used satellites (number of viewable GPS/GLONASS satellites) of the current position

PDOP2.9p F - PDOP value of the current position; **F** - Solution type of the current position

Solution types on the map view:

A - Autonomous solution

D - DGPS corrected solution

F - Floated RTK solution

R - Fixed RTK solution

Position accuracy on NMEA based GNSS receivers:

When the software connected to the receiver and the NMEA **GST** sentence is available on the device, the GPS status area displays two position accuracy values: the horizontal and the vertical accuracy of the current GNSS position.

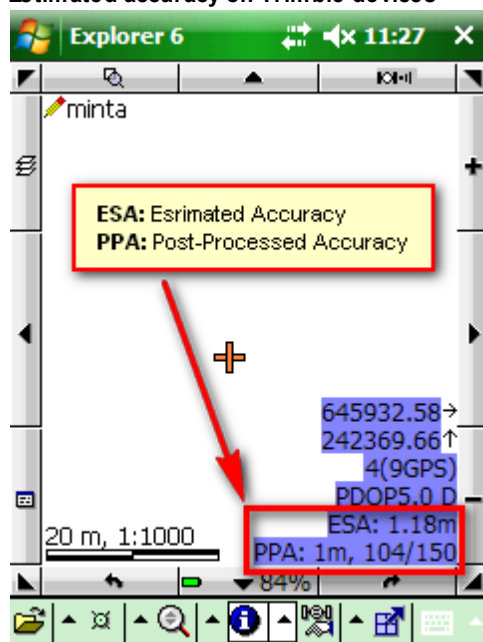
hRMS=0.06m - horizontal root mean square positional accuracy

~hRMS - estimated hRMS positional accuracy displays based on **vRMS = ~1.5 x hRMS** when the value of the hRMS cannot be calculated by the NMEA **GST** sentence

vRMS=0.40m - vertical root mean square positional accuracy

Position accuracy on Trimble (Pathfinder Tools SDK based connection: SiRF or TSIP protocol) GNSS receivers:

Estimated accuracy on Trimble devices



As you log features, the GPS status area displays a value in the Estimated Accuracy (ESA) that provides information about the accuracy of the current GNSS position.

The estimated accuracy value may be:

- **ESA:** the estimated accuracy of the current GNSS position
- **PPA:** the predicted accuracy after postprocessing the current GNSS position



The value shown depends on several factors, including satellite geometry and the type of Trimble GNSS receiver that is connected.

To show the predicted postprocessed accuracy (PPA), there must be a vector layer open and the software must be logging GNSS positions. The predicted postprocessed accuracy is a prediction of the accuracy that will be achieved after postprocessing. When logging H-Star or carrier data, the predicted postprocessed accuracy value applies to all the positions collected since you achieved lock on the required minimum number of satellites. For all other Trimble receivers, this value applies only to the current position. The predicted postprocessed accuracy has a 68% confidence level, which means that 68% of the time the postprocessed position will be within the predicted postprocessed accuracy value shown when the position was collected.

Background colour of the status information:

- **Red:** Indicates that the GPS/GNSS quality does not correspond to the used Quality settings on the Settings panel > [GPS tab](#) or fix position not available
- **Green:** Indicates, that the current solution type is an autonomous solution
- **Blue:** Indicates, that the current solution type is DGNSS solution
- Yellow: Float RTK
- Pink: Fix RTK

4.5.4 GNSS Tools

This sub-menu is accessible in the [GNSS menu](#) and contains the following items:

-  [Statistics](#)
-  [Log analysis](#)
-  [FieldWork](#)
-  [Guidance](#)

4.5.4.1 Statistics

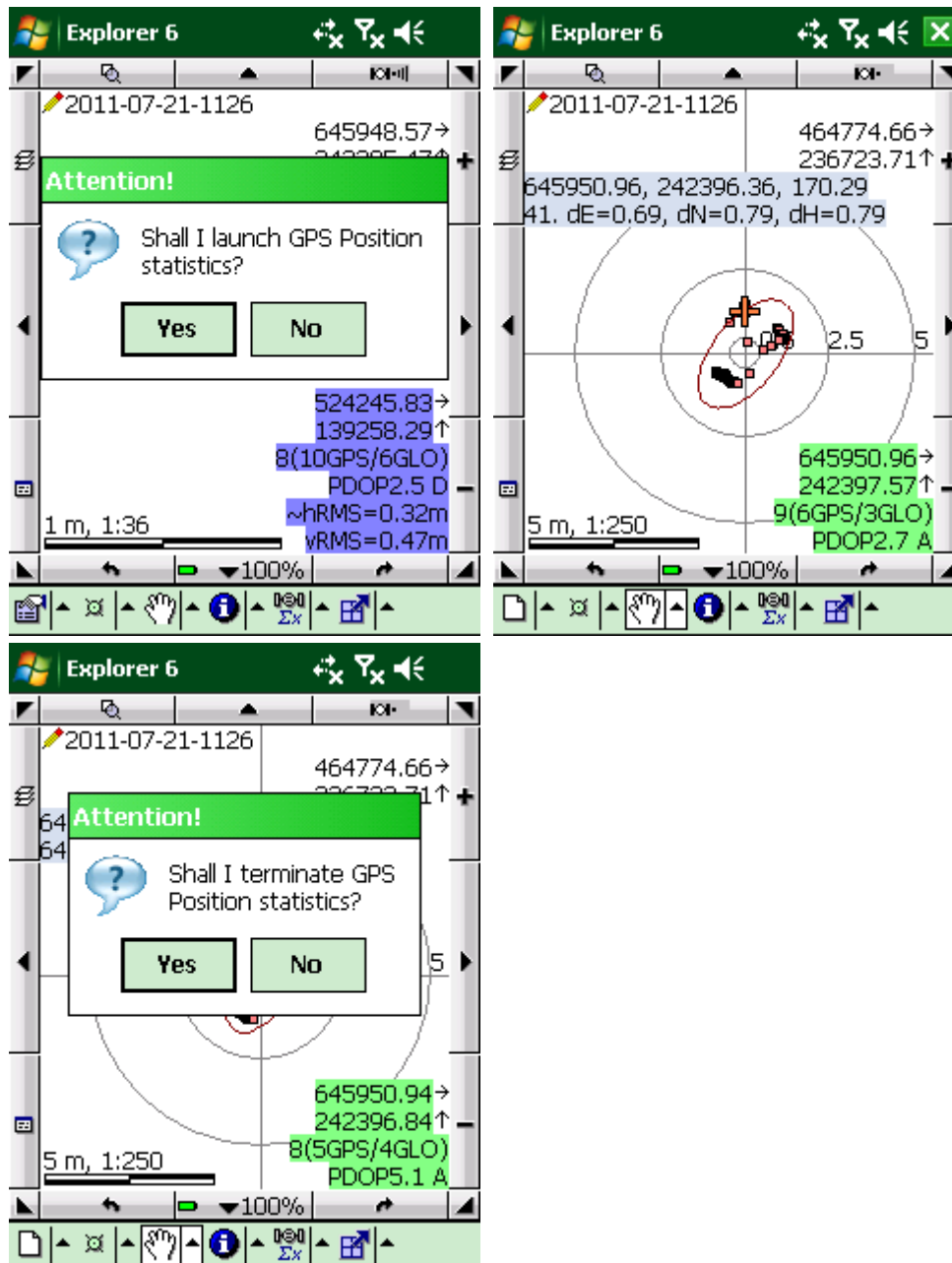


GPS Statistics

Starts displaying statistical information about the current GPS positions on the map view and activates the GPS if it wasn't active. The Statistics tool remains active until you deactivate it by selecting it again in the menu.

The probability whether a position occurs within the horizontal confidence error ellipse is 86,6%.

Displayed GPS statistics on the map view




645950.96: averaged Easting coordinate
242396.36: averaged Northing coordinate
170.29: averaged height

42: averaged number of positions
dE: delta East (Easting difference of the Horizontal RMS)
dN: delta North (Northing difference of the Horizontal RMS)
dH: delta Height (Vertical RMS)

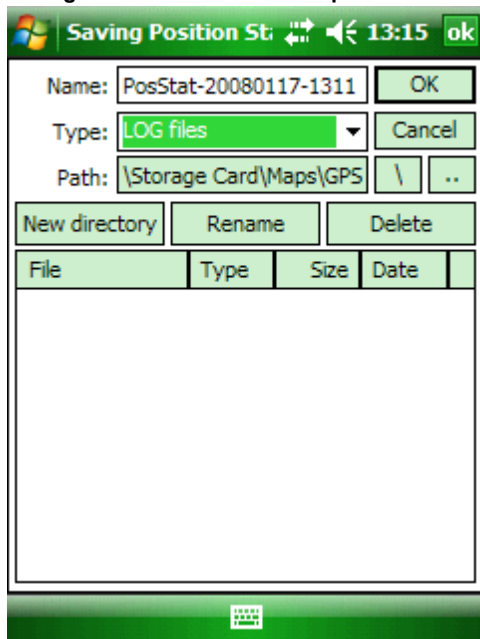


The GPS positions can be processed to calculate and display the parameters of the GPS statistics tool if the current GPS position is in accordance with the conditions defined in the [Quality filter settings](#).

Saving Position Statistics

When you deactivate the GPS Statistics tool the Saving Position Statistics [File panel](#) appears automatically to save the current position statistics into a LOG file. The LOG file can be added to the map view by using the  **Add layer** tool.

Saving Position Statistics File panel



 = new feature

Availability of the "GPS Statistics" tool in different editions

Basic	Advanced	Professional
		

4.5.4.2 Log analysis

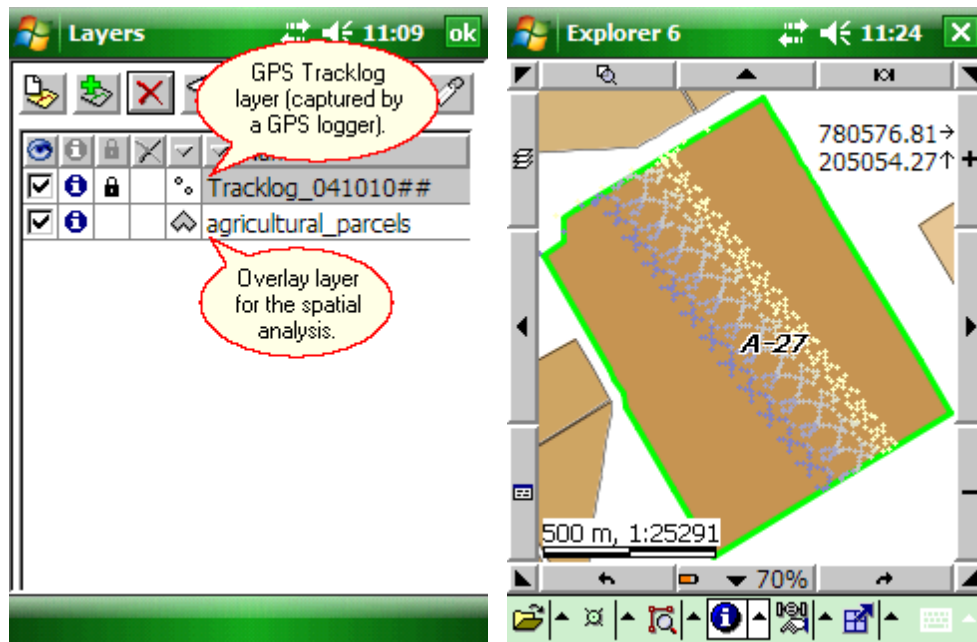


GPS Log analysis

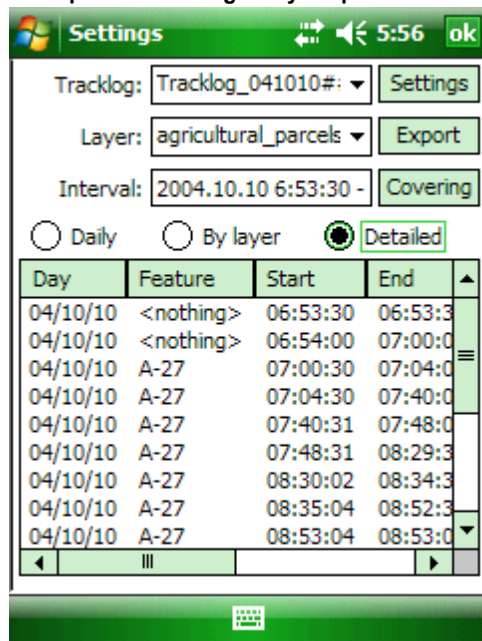
Opens the **GPS log analyzer panel** to analyze GPS tracklog files.

GPS Log analyzer panel

A GPS Tracklog and a polygon feature layer in the Layers panel and on the map view



The opened GPS Log analyzer panel



Tracklog: Select a [GPS logfile](#) (or a point feature layer) that stores logged GPS positions for processing. The default is "<nothing>".



You have to delete and re add the tracklog file to the current map view after you changed the language of DigiTerra Explorer.

Layer: Select a reference layer to analyze the GPS logfile by a spatial analysis. The default is "<nothing>".

The spatial analysis works based on:

- **Overlay analysis:** can be used with a **polygon** feature layer (as overlay layer).
What GPS positions are within what parcels?
When GPS positions are within what parcels?
When GPS positions enter/leave what parcels?
What is the distance along the logged GPS positions within what parcels?
How long was made that distance within what parcels?
What is the average speed within what parcels?
What was the duration of the standing within what parcels?
- **Proximity analysis:** can be used with a **point or polyline** feature layer (as proximity reference layer). This analysis can identify logged GPS positions in the tracklog (or features in a layer) that are closest to an another feature of the proximity reference layer.
When GPS positions are closest to which point feature of the reference layer?

Interval: Set the time interval of the processing. Displays the duration of the GPS tracklog as default.

Settings - Opens the [Logger tab](#) on the Settings panel.

Export - Opens the Export list [File dialog](#) to export the results of the analysis as a report.

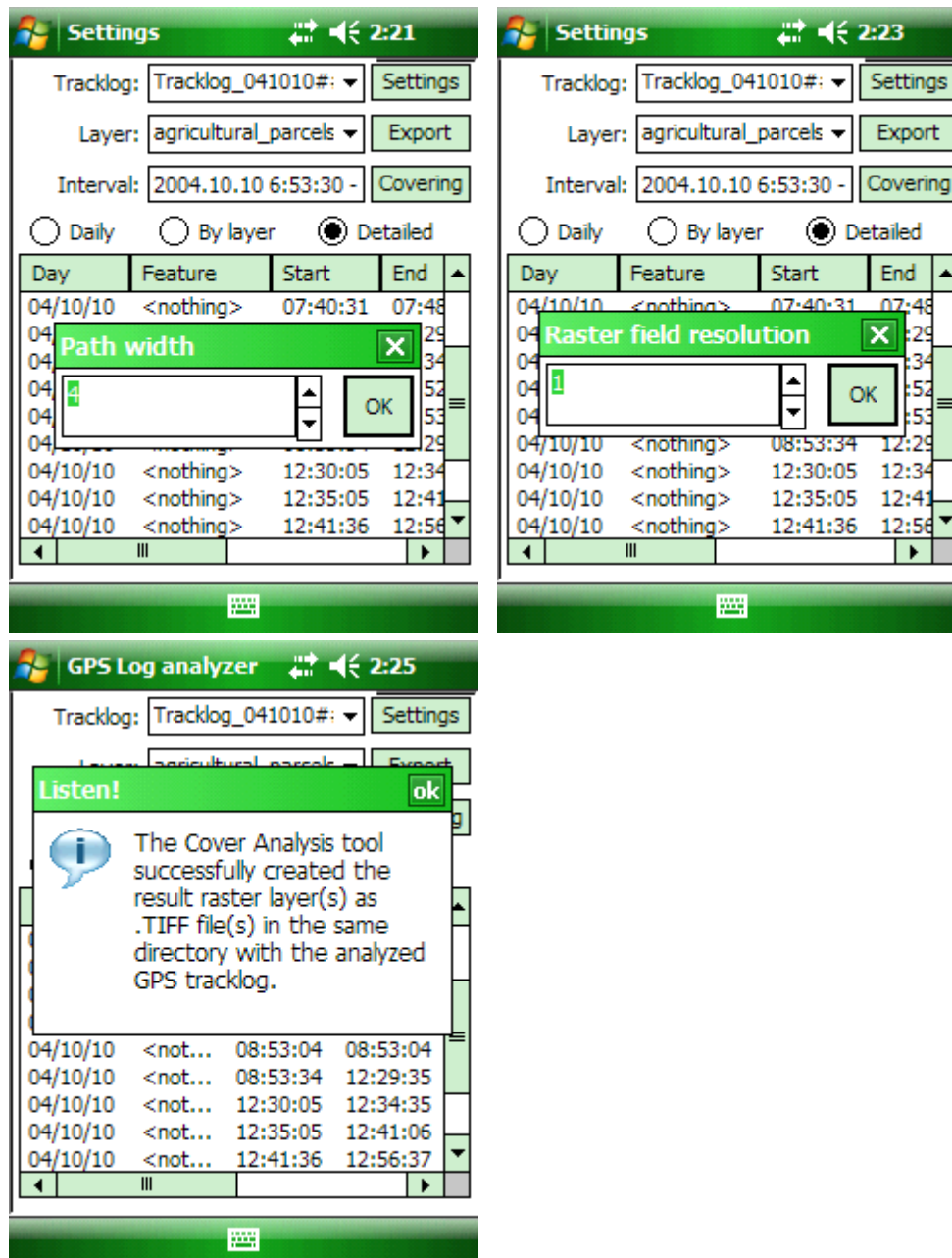
TXT - Exports the results by the selected current control (Daily, By Layer, Detailed) into a Tab limited Text file format.

XLS - Exports the results by the selected current control (Daily, By Layer, Detailed) into a Excel file format.

HTM - Exports the results for all current control (Daily, By Layer and Detailed) into a HTML file format.

Covering Calculates the covers between paths of the GPS Tracklog and stores the results of the Cover Analysis in **.TIF raster layers** and **.TXT text files** to the overlaid polygon features of the reference layer.

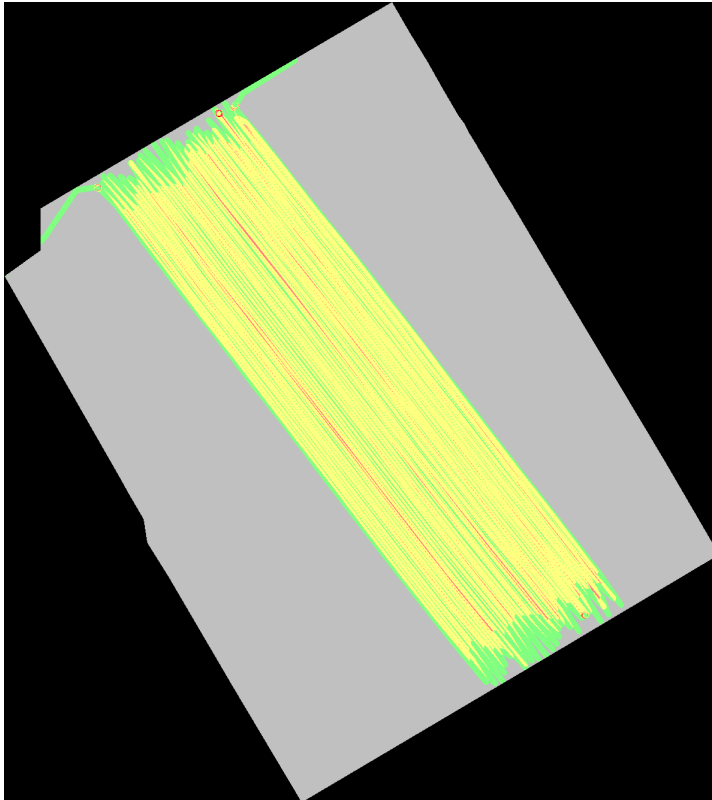
Process of the Covering Analysis: enter the path width and the raster field resolution



Path width: working width in current map unit.

Raster field resolution: size of one pixel in current map unit.

Result of an analyzed GPS tracklog for a parcel



Results of the cover analysis for the same parcel

Cover	Pixel	Percent	Area
0	564689	66.07	564689.00
1	62179	7.28	62179.00
2	221583	25.93	221583.00
3	6147	0.72	6147.00
4	38	0.00	38.00
5	2	0.00	2.00

Controls to the details of the report

Daily: Groups GPS positions by days.

By layer: Connects/groups GPS positions to the identified features of the reference layer.

Detailed: Shows the detailed processing of GPS positions. Separates motion and standing.

Meaning of the table columns

Day: Year, month, day of the grouped GPS positions.

Feature: Identifier of a feature that contains (polygon feature reference layer) or locates closest (point, polyline feature reference layer) the GPS positions. The data fields for identification can be selectable.

Start: Time of the start of the movement (entering the containing polygon feature).

End: Time of finish of the movement (leaving the containing polygon feature). Equal with the Start at the identified feature in case of proximity analysis (point or polyline feature reference layer).

Road: Total length of the movement (length within the containing polygon feature). Zero (0) at the identified feature in case of proximity analysis (point or polyline feature reference layer).

Move: Duration of the movement (duration within the containing polygon feature). Zero (0) at the identified feature in case of proximity analysis (point or polyline feature reference layer).

Speed: Average speed of the movement (average speed within the polygon feature).

Stand: Duration of the standing after the movement.

☀ = new feature

Availability of the "GPS Log analysis" tool in different editions

Basic

Advanced

Professional



4.5.4.3 FieldWork



FieldWork

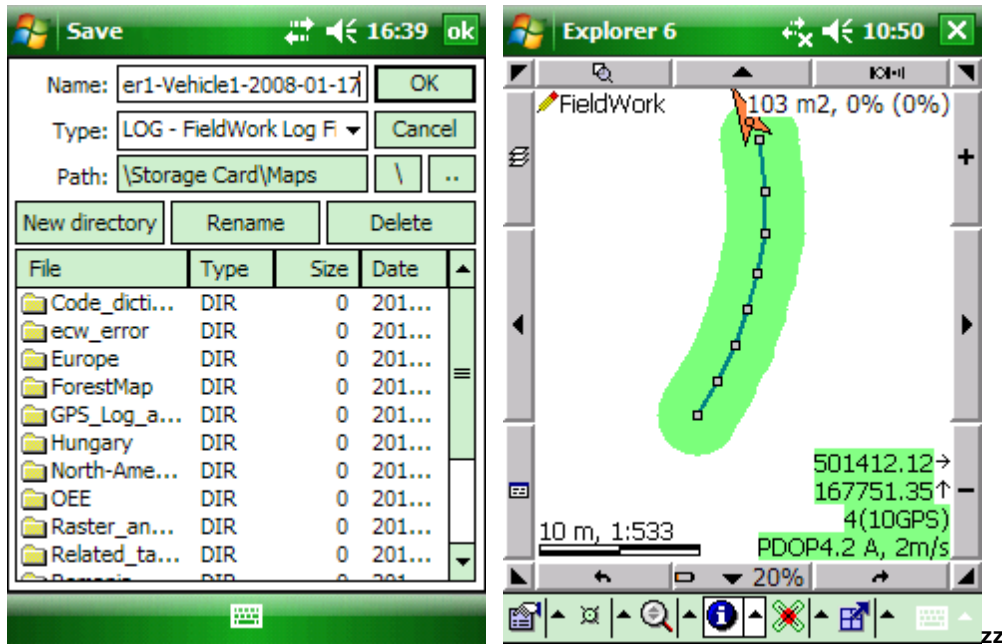
Opens the **Field work panel**. The FieldWork tool remains active until you deactivate it by tapping on the Stop button.

Field work panel

The Field work panel

The Field work panel consists of a green header bar with a Windows logo, the title 'Field work', and icons for zoom, volume, and a clock showing 10:49. Below the header are three buttons: 'New', 'Open', and 'Save as'. The main area is divided into two sections: 'Settings' and 'Area'. The 'Settings' section contains five fields: 'Area ID' (text input), 'Driver' (dropdown menu), 'Vehicle' (dropdown menu), 'Work session' (dropdown menu), and 'Work width' (text input with a unit 'm'). The 'Area' section contains a 'Net/Gross' field (text input) and a 'Recalculate' button. At the bottom are three buttons: 'Start', 'Map', and 'Export'. The right screenshot shows the same panel but with the clock at 10:50 and the following values entered: Area ID: A1, Driver: Driver1, Vehicle: Vehicle1, Work session: Work session1, Work width: 5, and Net/Gross: (empty). The 'Recalculate' button is highlighted in green.

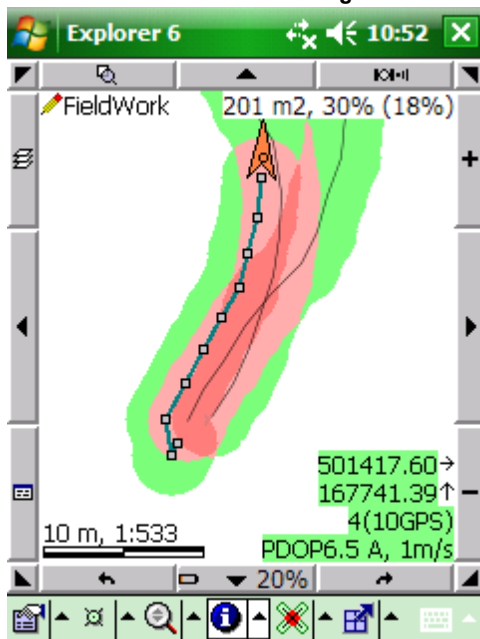
Save File panel; FieldWork in progress: displays the work width, the cultivated area in [m²] and the covered area in [%]



New - Creates a new Field work [GPS Tracklog](#) (.LOG) file. Fill the parameters of the **Settings**: Area ID, Driver, Vehicle, Work session, Work width then tap on the **Start** button to open and save the log file by using the [Save File panel](#).

Open - Opens the Open file [File panel](#) to open an existing Field work [GPS Tracklog](#) (.LOG) file.

Covers in a Field work Tracklog



Save as - Opens the [Save as File panel](#) to save as the current Field work [GPS Tracklog](#) (.LOG) as a new file with a different name.

Settings: attribute data for the current Field work GPS Tracklog file.

Area ID: Unique identification value of the current area where you work. Textual field, e.g. "parcel A3". Default value is empty. The software automatically increments the last value: 1, 2, 3, 4 ...; A1, A2, A3, A4 etc.

Driver: Name of the driver. Textual field, e.g. "John Smith".
Data Field name in the [General.cdt code dictionary](#): **FieldWorkDriver**

Vehicle: Type of the vehicle. Textual field, e.g. "CAT Challenger 55".
Data Field name in the [General.cdt code dictionary](#): **FieldWorkMachine**

Work session: Type of the current work session. Textual field, e.g. "plowing".
Data Field name in the [General.cdt code dictionary](#): **FieldWorkProcess**

The following code sets can be used to the **Driver, Vehicle and Work session** setting parameters by enabling the default [General.cdt code dictionary](#) on the Settings > [Record tab](#). The default code sets can be edited in a simple text editor.

```
-----
FieldWork code sets
-----

#      FieldWorkDriver
1      Driver-1
2      Driver-2
3      Driver-3

#      FieldWorkMachine
1      Vehicle-1
2      Vehicle-2
3      Vehicle-3

#      FieldWorkProcess
1      Work session-1
2      Work session-2
3      Work session-3
```

Work width: Path width in meter. Default value is 5 m.

Area:

Net/Gross: The calculated net/gross covered (cultivated) area in current area unit, that calculated by work width.

Recalculate - Recalculates the net/gross value of the covered area.

Start - Opens and save the log file by using the Save [File panel](#). / Starts logging the current GPS positions continuously in the selected Field work GPS Tracklog file.

Map - Switches to the map view to display the current Field work GPS Tracklog file on the map.

Export - **Calculates the covers between paths** of the Field work GPS Tracklog and **stores the results of the Cover Analysis in a TIFF raster layer** in the same directory with the current Field work GPS Tracklog file.

☀ = new feature

Availability of the "FieldWork" tool in different editions

Basic



Advanced



Professional



4.5.4.4 Guidance



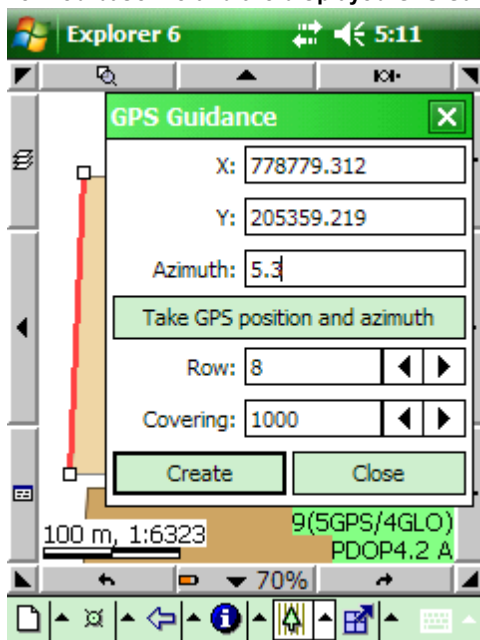
GPS Guidance

You can define a GPS guidance layer with parallel lines above an area for GPS guidance. The GPS Guidance tool remains active for (re)defining a new GPS guidance layer until another tool is activated. Please note that the GPS Guidance layer does not stored to the opened project automatically it is an auxiliary layer only.

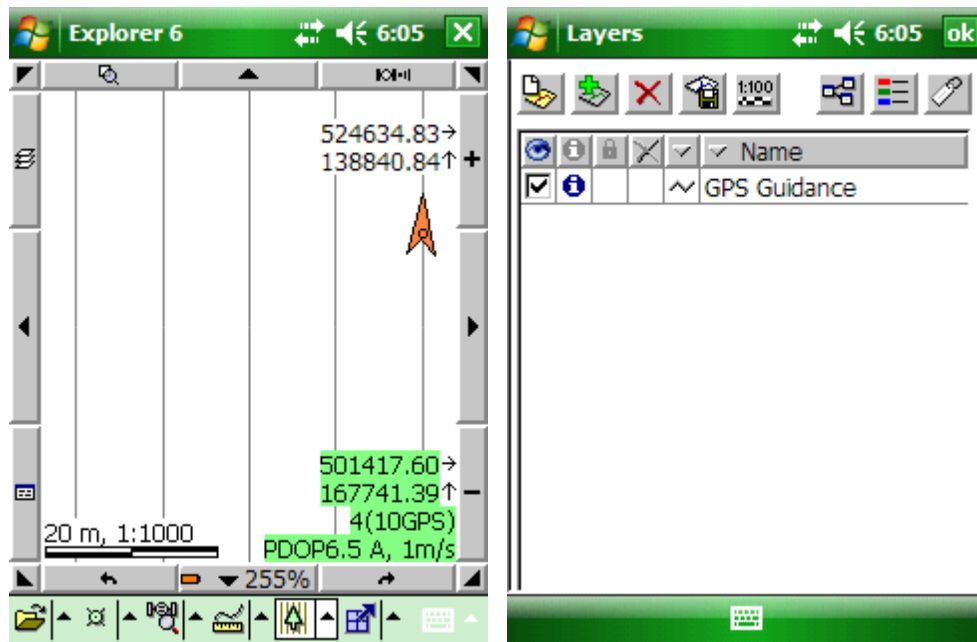
Tap / Left click: adds vertex of the start and the end point of the **baseline** on the map at the tapped location then opens the **GPS Guidance panel**.

Drag: adds vertex of the baseline on the map at the tapped location with displayed [crosshairs](#).

Defined baseline and the displayed GPS Guidance panel



Parallel guidance lines on the map view and the GPS Guidance layer in the Layers panel



GPS guidance panel

X: Easting coordinate of the baseline's first placed vertex.

Y: Northing coordinate of the baseline's first placed vertex.

Azimuth: Direction of the baseline. 0 angle is upwards, positive direction is clockwise.

Take GPS position and azimuth - Takes over the calculated GPS heading and the current GPS position to the X, Y and Azimuth values.

Row: Distance between parallel guidance lines.

Covering: Covered area by parallel guidance lines in four direction.

Create: Stores the parallel guidance lines in the GPS guidance line feature layer. The GPS guidance layer can be arbitrarily redefined to a new baseline.

☀ = new feature

Availability of the "GPS Guidance" tool in different editions

Basic



Advanced









Professional



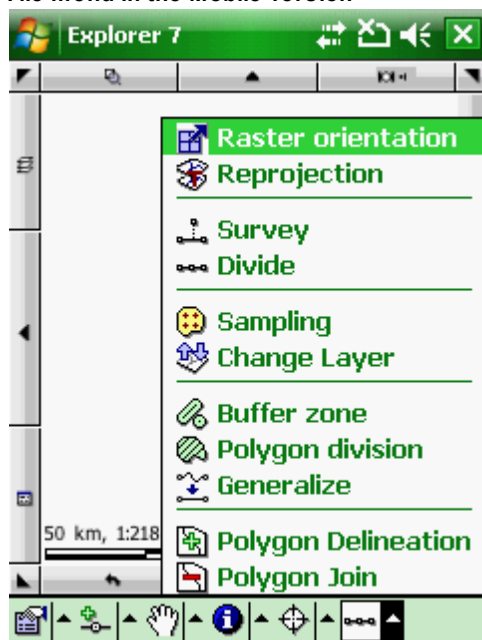
4.6 Tools menu

The Tools menu contains the following options for advanced operations

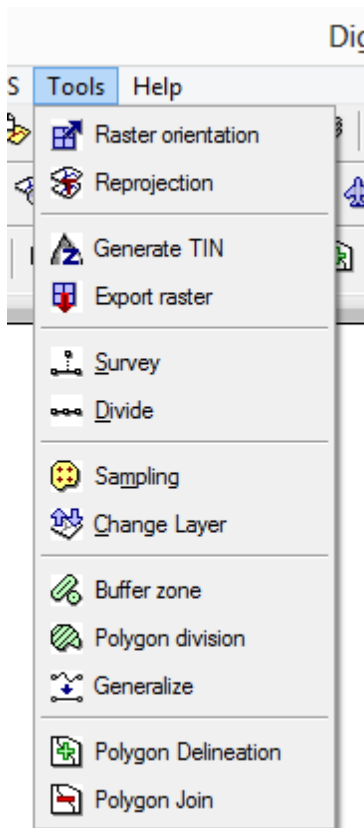
-  [Raster orientation](#)
-  [Reprojection](#)
-  [Generate TIN](#) (in the *Desktop* version)
-  [Export raster](#) (in the *Desktop* version)
-  [Survey](#)
-  [Divide](#)
-  [Sampling](#)

-  [Change Layer](#)
-  [Buffer Zone](#)
-  [Polygon division](#)
-  [Polygon Delineation](#)
-  [Polygon Join](#)
-  [Botany extension](#) (in the *Desktop* version)
-  [Tree surveying extension](#)
-  [Tree volume assessment](#)

File menu in the Mobile version



File menu in the Desktop version



 = new feature

Availability of the "Tools" menu in different editions

Basic	Advanced	Professional
		

4.6.1 Raster orientation

Raster orientation

You can modify the [georeference data](#) of the current [raster image](#) by using affine (1st order) polynomial transformation **on-the-fly**.

Tap / Left click on the map: designates/deletes control point on the map.

Drag: modifies the real position of the point.

Tap and Hold / Right click on the control point: enter coordinates to the existing control point.

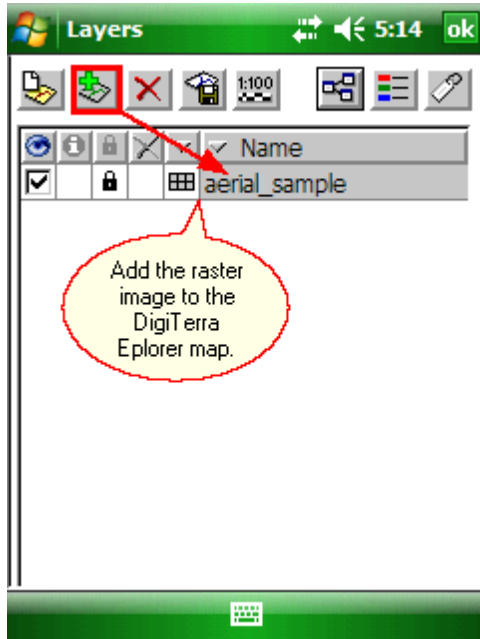
The Raster orientation remains active for georeferencing until another tool is activated.

When you georeference a raster image, you define its location using map coordinates in the selected [coordinate system](#) of the DigiTerra Explorer map. Georeferenced raster data allows it to be viewed, with other geographic data.

General steps for georeferencing a raster image are:

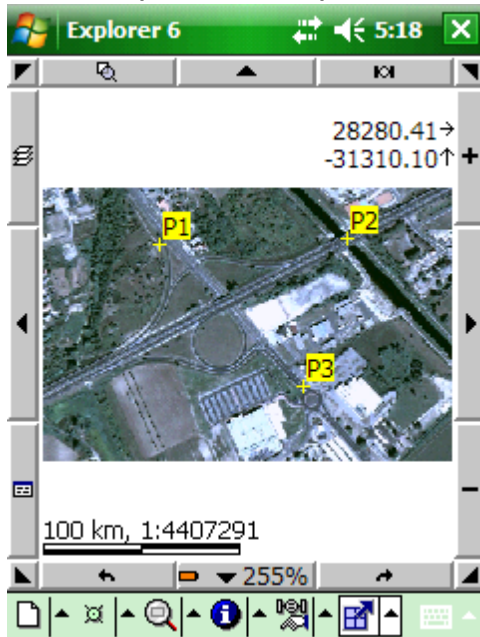
1. [Add](#) the raster image that you want to align with your projected data to the map view.

Add the raster image to the map

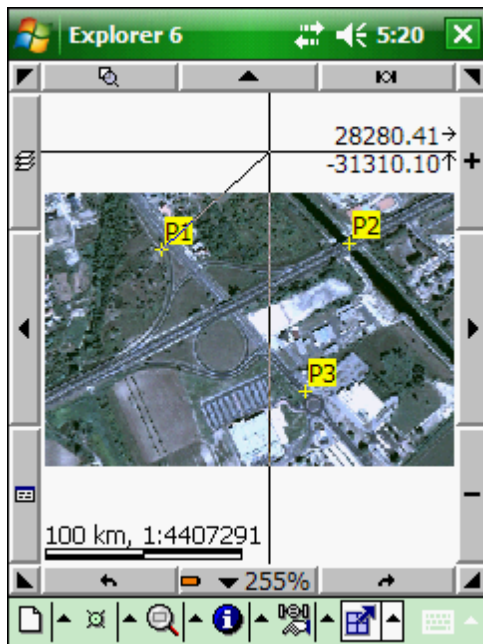


2. Add control points (maximum three control points can be used) and **link** them as known raster image positions to known positions in map coordinates.

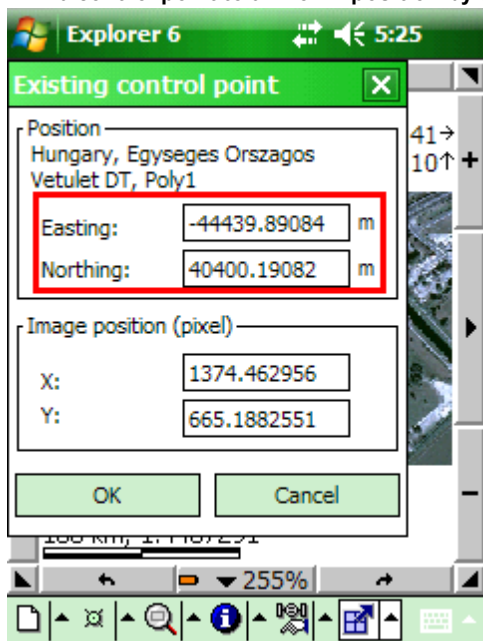
Add control points to the map



Link a control point to a known position by dragging



Link a control point to a known position by entering the map coordinates



3. Save the georeferencing information into the [DigiTerra Explorer Map](#) file (.EXP), or [save them into a World file](#) when you're satisfied with the alignment (also referred to as registration).

Aligning the raster image with control points

Generally, you will georeference your raster image using existing spatial data (target data), such as a vector feature class, that resides in the desired map coordinate system. The process involves identifying three control points (known x,y coordinates) that link locations on the raster image with locations in the spatially referenced data (target data). Control points are locations that can be accurately identified on the raster dataset and in real-world coordinates. There are many different types of features that can be used as identifiable locations, such as road or stream intersections,

the mouth of a stream, rock outcrops, the end of a jetty of land, the corner of an established field, street corners, or the intersection of two hedgerows.



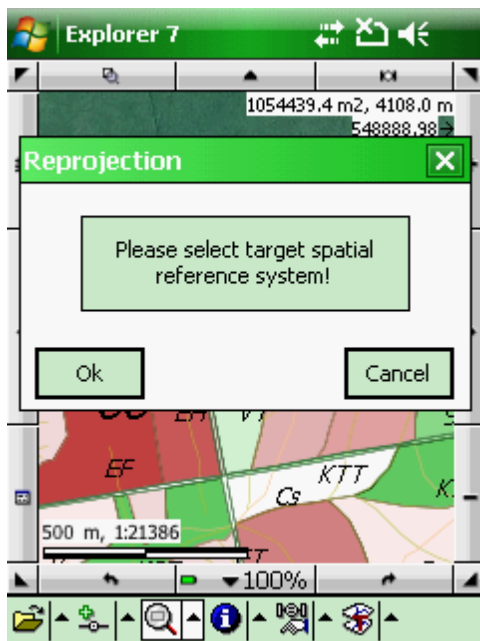
The modified georeferenced data can be stored to each image in the [DigiTerra Explorer Map](#) file (.EXP) format or can be saved to the active raster layer as a [World file](#).

4.6.2 Reprojection



Reprojection

Opens the Reprojection panel to reproject the layers of the map view into the selected spatial reference system



Please select target spatial - Opens the [Select Projection panel](#) reference system!

OK - Reprojects all layers of the map view

Cancel - Closes the Reprojection panel

4.6.3 Survey



Survey

Opens the Survey panel. You can use five surveying methods with this tool. Designated base line (defined auxiliary coordinate system) is required for the first four methods. The Survey tool remains

active for surveying until another tool is activated.

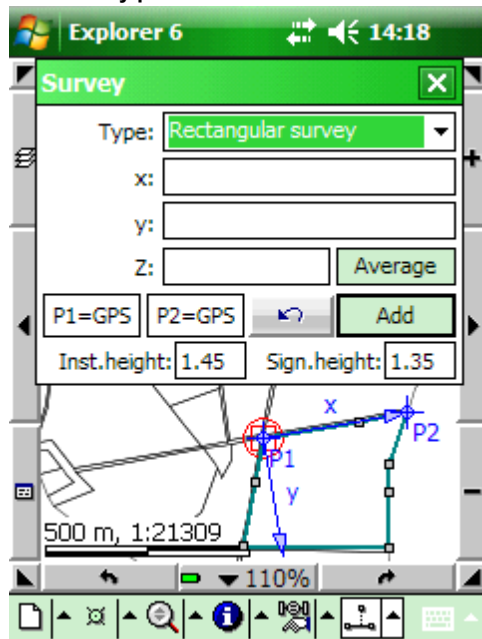
Tap / Left click: add **start** P1 and **endpoint** P2 (snapped) of the base line/auxiliary coordinate system on the map

Drag: drag the **start** P1 and **endpoint** P2 (snapped) of the base line/auxiliary coordinate system on the map



You can fill the fields of the supported surveying methods with laser rangefinder/ecompass by measuring the proper distance/angle after you tapped on the field you wish to measure.

The Survey panel



Type: select the survey method you wish to use

The following surveying methods can be used on the Survey panel

1. Rectangular survey
2. Polar survey
3. Angle Intersection
4. Distance Intersection
5. Polar survey from start point

Z: height of the surveyed point/vertex position

Average - Averages the positions you have surveyed in the edited layer. In case of point feature type, last measured positions of existing point features will be replaced to an averaged point position; in case of working with a line/polygon feature type, last measured positions will be replaced to an averaged vertex position. (Measured positions are displayed on the map view as red vertices and/or auxiliary lines.)

P1=GPS - Takes over the current GPS position as the **startpoint** P1 of the baseline/auxiliary coordinate system

P2=GPS - Takes over the current GPS position as the **endpoint** P2 of the baseline/auxiliary coordinate system



- Erases the last survey made to a feature

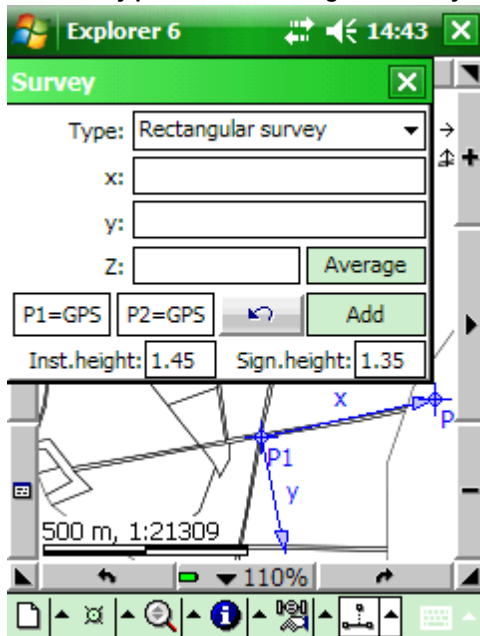
Add - Adds point, vertex or vertices into the edited layer based on the entered values of the current survey method. They are displayed on the map view as red vertex and/or auxiliary line. This button will create the point feature also. In case of using line or polygon features you need to tap and hold the stylus on the screen then select "Create" to store the feature in the edited vector layer.

Inst. height: Instance height. The default value is 1.45 m.

Sign. height: Signal height. The default value is 1.35 m.

1. Rectangular survey

The Survey panel with rectangular survey



x: abscissa, the x coordinate

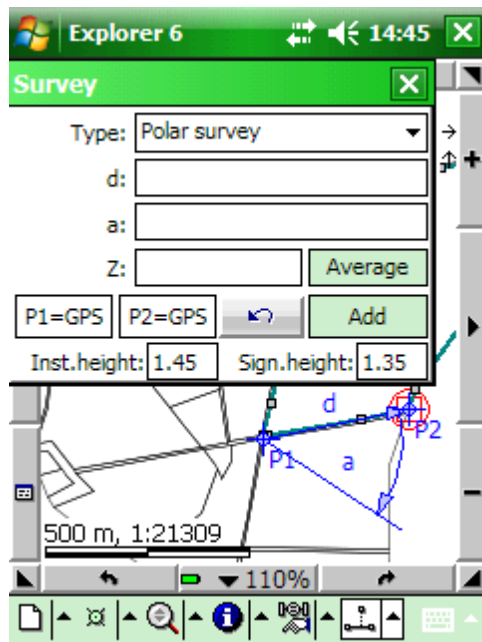
y: ordinate, the y coordinate



"x", "y" values can be measured with the **Set** buttons on Topcon GMS-2PRO

2. Polar survey

The Survey panel with polar survey



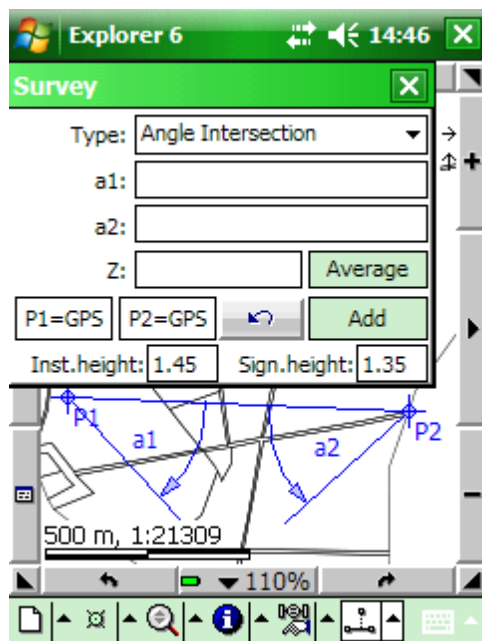
d: distance
a: angle



"d", "a" values can be measured with the **Set** buttons on Topcon GMS-2PRO,
"a" value can be measured with the **Set** button on Topcon GMS-2

3. Angle Intersection

The Survey panel with angle intersection



a1: measured angle from P1

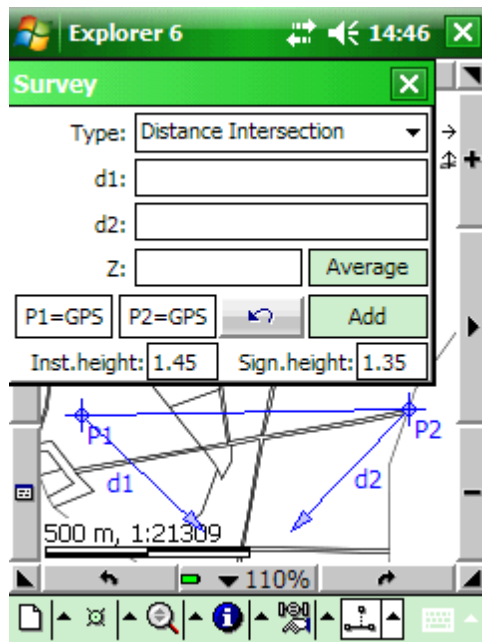
a2: measured angle from P2



"a1", "a2" values can be measured with the **Set** buttons on Topcon GMS-2 and Topcon GMS-2PRO

4. Distance Intersection

The Survey panel with distance intersection



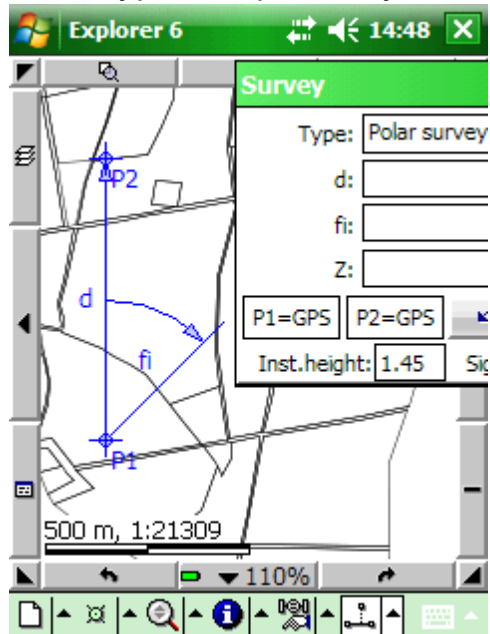
d1: measured distance (radius) from P1
 d2: measured distance (radius) from P2



"d1", "d2" values can be measured with the **Set** buttons on Topcon GMS-2PRO

5. Polar survey from start point

The Survey panel with polar survey from start point method



d: distance

fi: polar angle, azimuth



"d", "fi" values can be measured with the **Set** buttons on Topcon GMS-2PRO, "fi" value can be measured with the **Set** button on Topcon GMS-2



DigiTerra Explorer calculates in decimal degrees (not in radian). The zero value is equal with the direction of the North. You have to enter every angle in decimal mode not in DD-MM-SS format. Negative decimal degrees can be used.

0° = North

90° = East

180° = South

270° = West

4.6.4 Divide




Divide

DigiTerra Explorer enables you to create divided polyline features. There are two ways to use the Divide tool:

- 1.) You can divide an **auxiliary line** (red line) into sections by using **different methods** on the Divide panel. DigiTerra Explorer **stores the splitting points** into a **point feature layer**.
- 2.) The Divide tool **can be also used on selected polyline or polygon features**. In this case the Divide tool **stores the divided line segments in the edited polyline feature layer**, or in a new layer if there is no edited layer on the [Layers panel](#).



The polygon feature can be selected by using the  [Identify tool](#) in the [Query menu\toolbar](#).

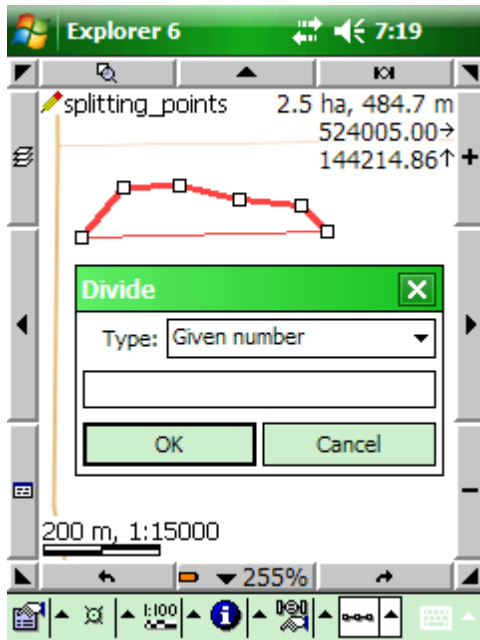
Tap / Left click: adds vertices of the auxiliary line on the map.

Drag: adds vertices of the auxiliary line on the map with displayed [crosshairs](#).

Tap and hold / Right click: displays the [editing context menu](#). The **Divide panel** can be opened by selecting the **Create** option from the [editing context menu](#).

The Divide tool remains active until another tool is activated.

The Divide panel



Divide panel

Type: select a dividing method you wish to use. Enter the value(s) that you want use to the selected method.

Usable dividing methods:

1. **Given numbers of sections:** divides the auxiliary line into **n** equal parts.
2. **Equal lengths:** divides the auxiliary line **from the first vertex** into **n equal length** sections **with remainder**.
3. **Given distances:** divides the auxiliary line **from the first vertex** into **n given (different) length** sections **with remainder**. *For example: 10 10 50 18.9* (space separated values).
4. **Given ratios:** divides the auxiliary line into **n different length** sections **by given ratios**. *For example: 2 3 2* (space separated values).

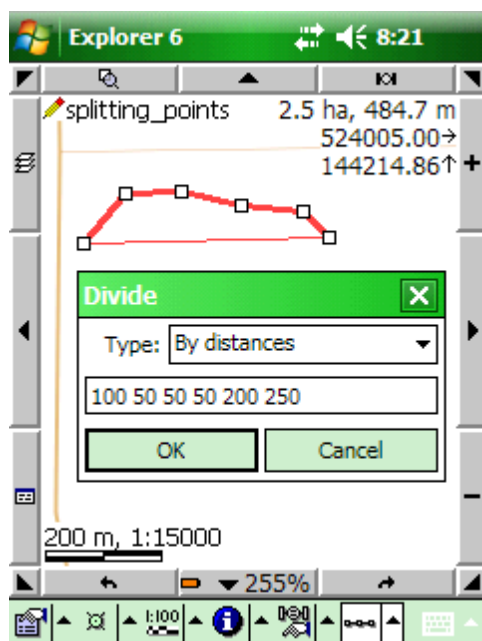
Enter the values in [current map unit](#) for method 2 and 3.

OK stores the splitting points into the edited point layer.

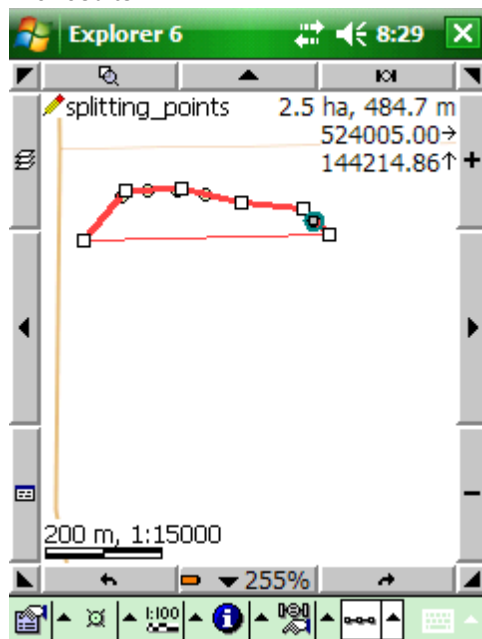


The splitting points can be created when [editing is turned on](#) for a **point layer** in the Layers panel.

Dividing by distances



The results



4.6.5 Sampling



Sampling

Opens the Sampling wizard panel to define the location of sample points, -lines or -polygons for a sampling procedure into an edited layer by using pre-defined sampling methods.

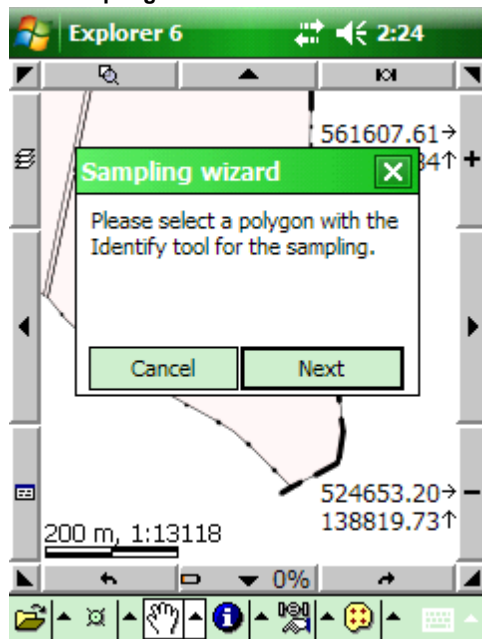


The Sampling tool combined with the [Navigate to Target](#) function provides a convenient method to collect data at specified intervals on the field for observations. Such as soil samples, measuring the degree of weed infestation of a designated area, water depth, chemical concentration which required for contour map generation.

The general steps of the Sampling wizard tool are:

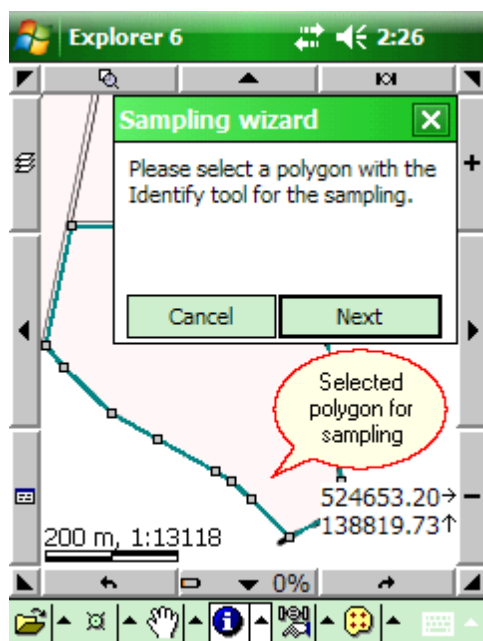
1. Tap  **Sampling** and the **Sampling wizard** dialog appears.

The Sampling wizard



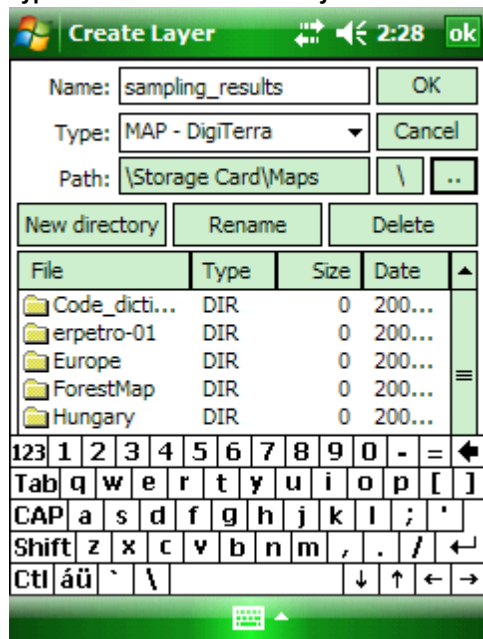
2. Select a polygon with the [Identify tool](#) on the map to designate the sampling area.

Selected polygon feature with the Identify tool



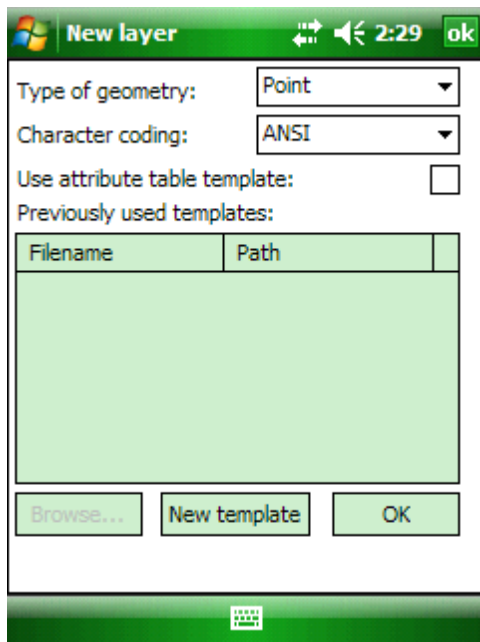
3. Create a new Layer on the [Create Layer panel](#) for storing the results in a vector layer.

Type the name of the new layer and select a file format you want to use. Select path



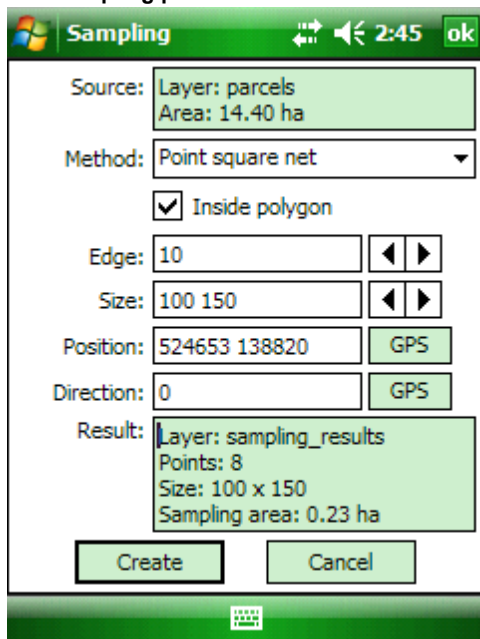
4. Select point, line or polygon feature type depending on the **sampling method** you want to use. Use an [attribute table template](#) if required on the **New layer dialog**.

Select attribute table template



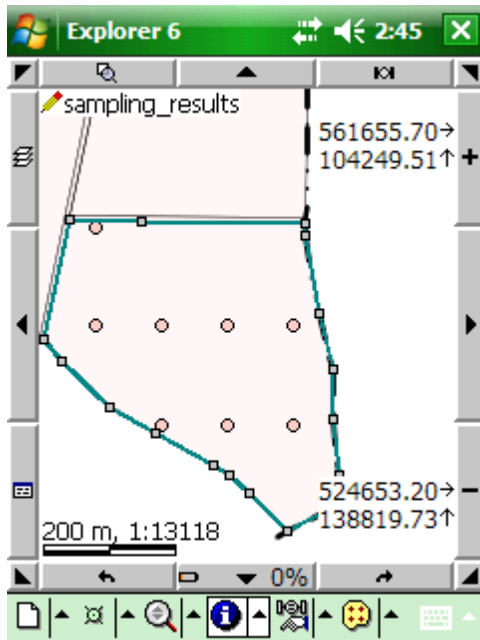
5. Select a sampling method and enter its parameters on the **Sampling panel**.

The Sampling panel



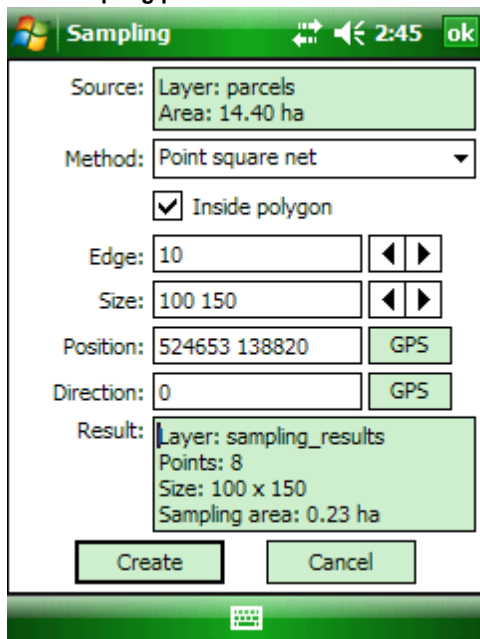
6. Add the results into the created new layer by tapping the **Create** button.

Results of the sampling in a point layer



The Sampling panel

The Sampling panel



Source: displays the source layer's name and the area in hectare of the selected polygon feature.

Method: select a sampling method you wish to use.

Usable sampling methods:

1. **Point square net:** creates nodes of a **square grid/rectangular grid** into a point layer. If you want to create a **square grid** enter the **length of the cell** into the Size textbox. You can define a **rectangular grid** by entering the **width and height of one cell as space separated values**.

2. **Point triangle net:** creates nodes of a regular **triangular grid** into a point layer. If you want to create an **equilateral triangular grid** enter the size of the cell (all sides have the same length) into the Size textbox. You can define **isosceles triangular grid** by entering the **length of the base and the height as space separated values**.
3. **Random point:** create points within the area randomly into a point layer.
4. **Polygon line net:** creates **parallel lines (rectangles)** over the selected polygon into a polygon layer.
5. **Polygon square net:** same as **Point square net**; creates cells of a **square grid/rectangular grid** into a polygon layer.
6. **Polygon triangle net:** same as **Point triangle net**; creates cells of a **equilateral/isosceles triangular grid** into a polygon layer.
7. **Polygon hexagon net:** creates cells of a **hexagonal grid** into a polygon layer.
8. **Line net:** same as **Point square net**; creates lines of a **square grid/rectangular grid** into a line layer.

Inside polygon: create result points, lines, polygons within the polygon.

Edge: buffer on the boundary of the selected polygon.

Size: size of the grid cells in the current map unit. Space separated values are enabled.

Position: center of the grid with easting, northing [coordinates](#). Default is 0,0.

Direction: direction of the grid. Default is 0, the north direction.

GPS button: takes over the current GPS coordinates to the position. Takes over the current GPS direction to the direction.

Result: displays the name of the edited layer (that will store the results of the selected sampling method), number of sampling points/areas, cell size and the sampling area size (area of one cell) in square meter.

Create: adds the results of the sampling into the edited layer.

4.6.6 Buffer zone



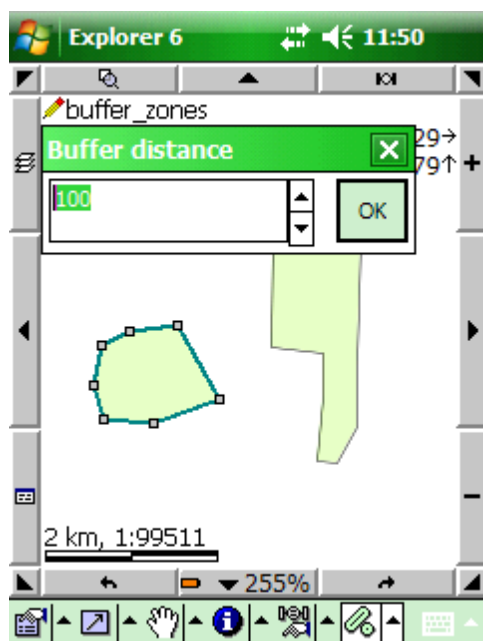
Buffer zone

Creates a buffer zone around the selected point, line or polygon feature and stores it into the [edited layer](#). Adds **BufferDist** field into the attribute table of the edited layer which stores the entered diameter of the buffer zone.

Tap / Left click: selects an item on the map to buffer zone creation.

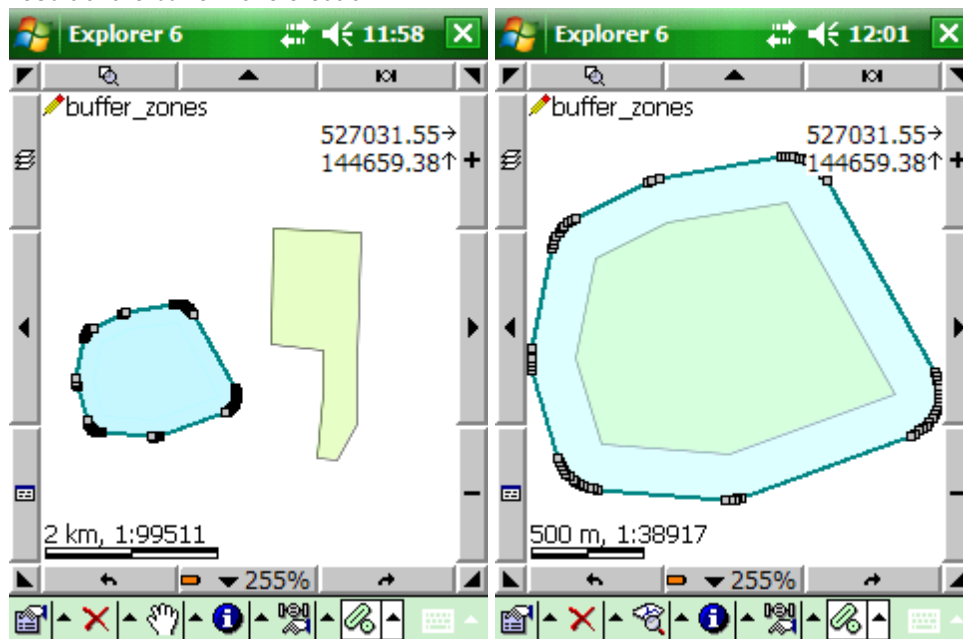
The Buffer zone remains active for creating buffer zones until another tool is activated.

Selected item for buffer zone creation

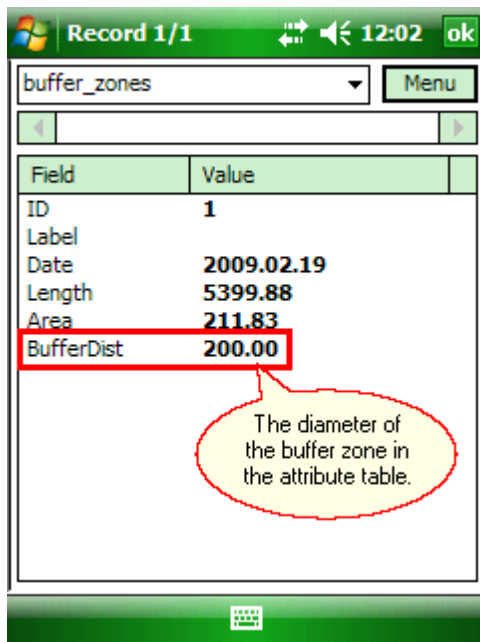


Buffer distance: diameter of the buffer zone in current [map_unit](#). Default is 100 for area features, 20 to point and line features.

Result of the buffer zone creation



BufferDist field in the attribute table of the buffer zone's layer




4.6.7 Polygon division



Polygon division

Divides the **selected polygon** parallel with the base line by using **different polygon dividing methods** and stores the divided polygons into the edited layer. If there is no editable layer on the Layers panel, DigiTerra Explorer will create a new polygon feature layer to store divided polygons.



The polygon feature can be selected by using the  [Identify tool](#) in the [Query menu\toolbar](#).

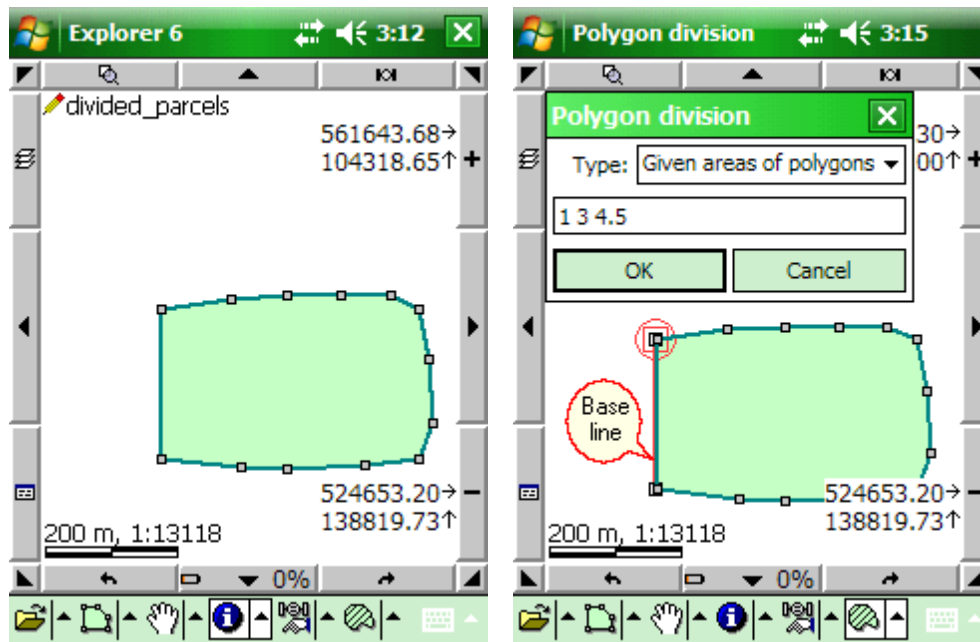
Tap / Left click: designates the start and the endpoint of the base line on the map then opens the Polygon division panel.

Drag: designates the start and the endpoint of the base line on the map with displayed [crosshairs](#) then opens the Polygon division panel.

Tap and hold / Right click: displays the [editing context menu](#).

The Polygon division remains active for dividing a polygon until another tool is activated.

Selected polygon, Polygon division panel, polygon and base line



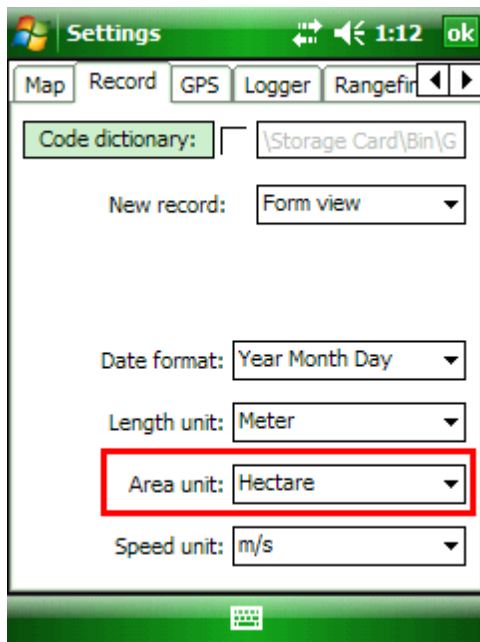
Polygon division panel

Type: select a dividing method you wish to use. Enter the value(s) that you want use to the selected method.

Usable polygon dividing methods:

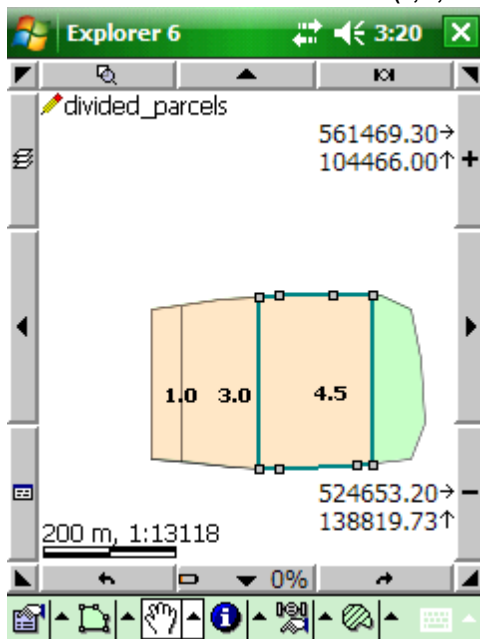
1. **Given number of polygons:** divides the selected polygon into **n equal part area of polygons**.
2. **Equal area of polygons:** divides the selected polygon into **n equal part area of polygons with remainder**.
3. **Given areas of polygons:** divides the selected polygon into **n given (different) part area of polygons with remainder**. For example: 10 5 20 35.8 (space separated values).
4. **Given ratios:** divides the selected polygon into **n different part area of polygons** by given ratios. For example: 2 3 2 (space separated values).

Enter the values in [current area unit](#) for method 2 and 3.



OK stores the divided polygons into the edited polygon layer.

Results of the Given areas method (1, 3, 4.5 hectare)



Divided polygons can be created when [editing is turned on](#) for a **polygon feature layer** in the Layers panel.



The **last topological edit operation can be undo** by using the  [Undo tool](#) that you made to a feature with the **Polygon Division** tool.

4.6.8 Polygon Delineation



Polygon Delineation

Separates one or more polygon features into separated polygons based on an overlapped polyline (auxiliary line) into the same edited layer. The corresponding segments of the auxiliary line will be the boundary between the created new polygons.

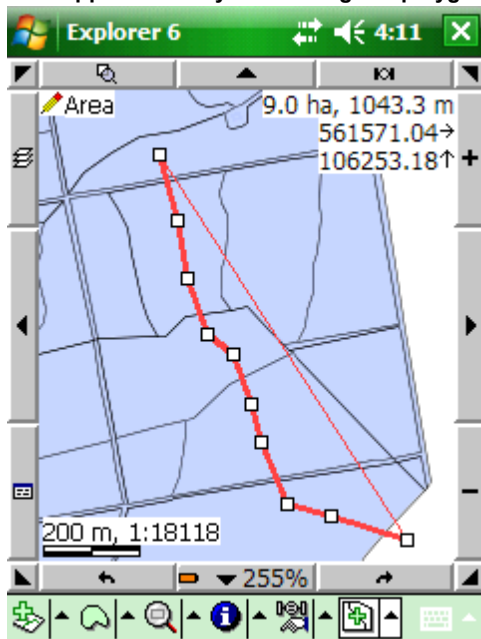
Tap / Left click: adds vertices of the auxiliary line on the map.

Drag: adds vertices of the auxiliary line on the map with displayed [crosshairs](#).

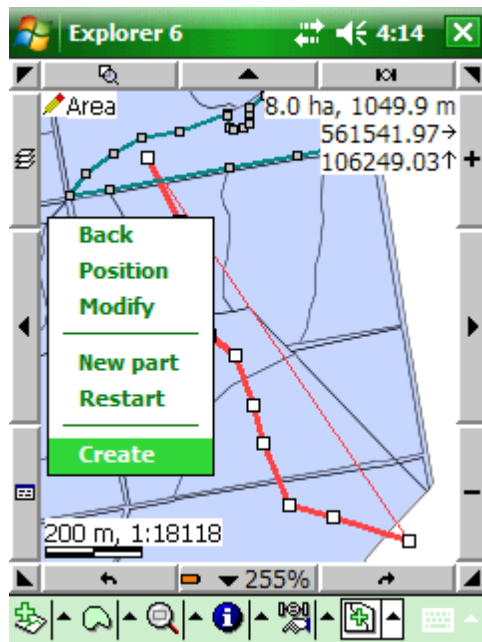
Tap and hold / Right click: displays the [editing context menu](#). The **Polygon Delineation** can be stored by selecting the **Create** option from the [editing context menu](#).

The Polygon Delineation remains active until another tool is activated.

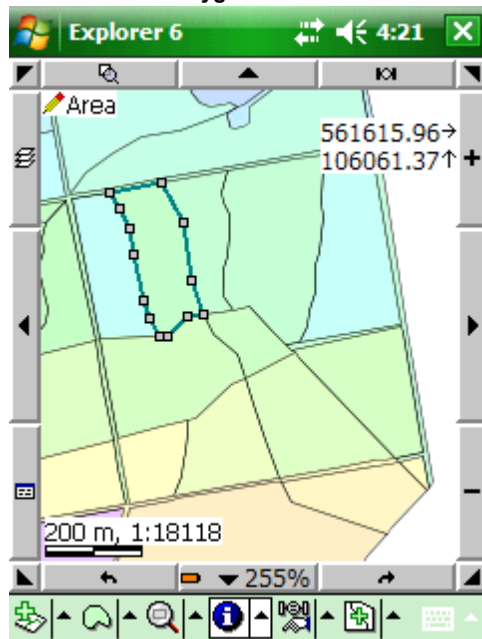
Overlapped auxiliary line through to polygons



Selected Create option in editing context menu to store new polygons



Results of the Polygon Delineation



The **last topological edit operation** can be **undo** by using the  [Undo tool](#) that you made to a feature with the **Polygon Delineation** tool.

4.6.9 Polygon Join



Polygon Join

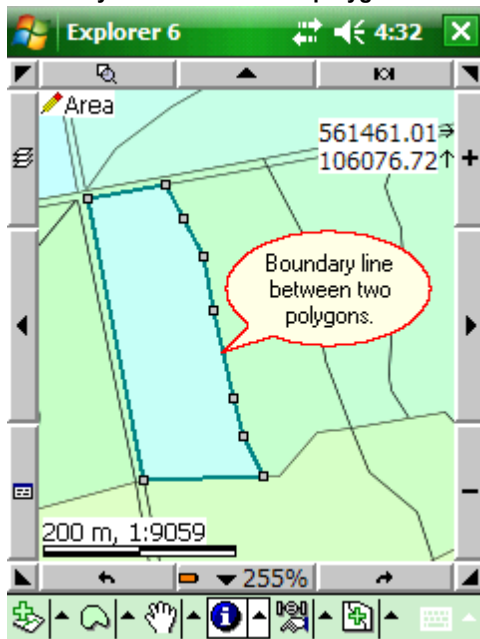
Deletes the boundary line between two polygons and create a new polygon. Once you selected the boundary line between the polygons DigiTerra Explorer opens the Area join panel to select which attribute data record you want to store to the new polygon. Please, note that all geometry based data field will be recalculated in the new polygon's data record. The boundary line can be selected when the identify button turned on for the edited layer in the Layers panel.

Tap / Left click: selects boundary line.

Drag: selects boundary line (drags selection point) on the map with displayed [crosshairs](#).

The Polygon Join remains active until another tool is activated.

Boundary line between two polygons



Area join panel

Area join 12:13 ok

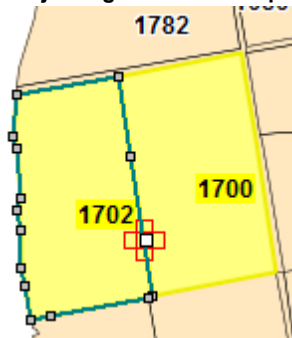
Field	1. value	2. value
Sorszám	1029	1030
Hely	5550	5550
Tag	21	21
Részlet	1	2
Alrészlet	0	0
Művág	8	8
TerületTípus	0	0
Terület	14.44	4.26
Fafaj	411	411
Kor	16	21
EA	12	24
Magasság	5	
Fatömeg	9	

Tap here if you want to store this data record

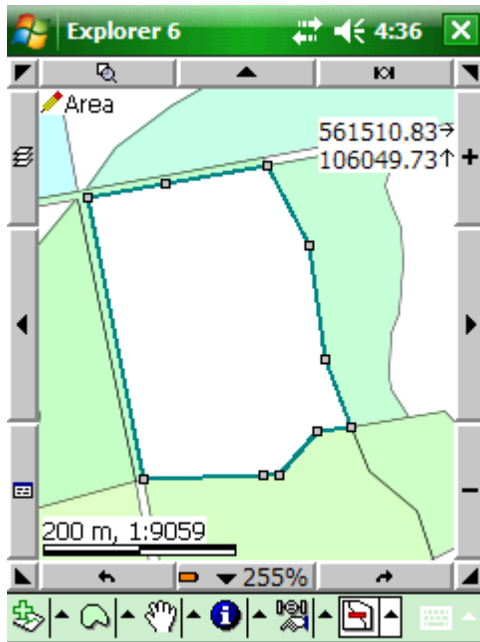
1. value 2. value

In the Desktop version the neighboring polygons filled with yellow colour and the edited source layer is labeled by the first data field to help you identify the polygon's data in the Area join dialog.

Area joining in the Desktop version



Joined new polygon



The **Polygon Delineation** and the **Polygon Join** can be stored when [editing is turned on](#) for the edited polygon layer in the Layers panel. If the attribute table contains data fields with geometry related [default value](#), the cell value of current data field will be updated after you have applied the **Polygon Delineation** or the **Polygon Join** tool.



The **last topological edit operation can be undo** by using the  [Undo tool](#) that you made to a feature with the **Polygon Join** tool.



4.6.10 Extensions

Enter topic text here.

4.6.10.1 Tree volume assessment extension

Have a look at this short description about this extension here: http://www.digiterra.hu/wiki/en/downloads/Tree_volume_Assessment_extension.pdf or read the detailed help: <http://wiki.digiterra.hu/en/downloads/treevolume>.

4.6.10.2 Tree surveying extension

The Tree surveying extension is not part of the core DigiTerra Explorer. It is an additional software module for surveying trees with GPS/GNSS receiver and Lasertech Trupulse 360B. It can be accessed in the menu bar: Tools >  **Tree surveying** and in the toolbar with the  **Tree**

Reference Point #0 - Tap on this button to define your standing point on the field with the **Add new reference point** panel. "#0" means that your standing point is not yet defined.

Reference Point #1 - "#1" means that you are on the first standing point. Tap on this button again if you want to measure more trees from an other standing point.

Add new reference point panel

GPS - takes over the Easting, Northing coordinates of the current GPS position to define the standing point at the current GPS location.

Ok - saves the standing point and then closes the panel

Cancel - closes the panel without saving the standing point

Reference point symbol on the map view



Connection (Off) - Opens the Settings > [Rangefinder tab](#) to connect DigiTerra Explorer to the Rangefinder. "Off" means the software not connected to the Rangefinder.



Remember to enable the Trupulse 360B for Bluetooth operation before start working with the Tree surveying extension. Please [continue with the following help tutorial about "Enabling Bluetooth"](#).

Connection (On) - Opens the Settings > [Rangefinder tab](#) to modify connection settings with the Rangefinder. "On" means the software connected to the Rangefinder.

Species: Select an existing tree species or enter a new species and use it later. The Species drop-down list automatically stores the entered tree species in the **TreeSurvey.cdt** code dictionary. This [code dictionary](#) can also be edited manually in your preferred text editor.

Path:

Desktop version: \$DOCUMENTS\DigiTerra Explorer
 \Maps\TreeSurvey.cdt
Mobile version: \$SDCARD\Maps\TreeSurvey.cdt

Polar position: Displays the measured values. You can also enter the values in [degree, meter].

Measure - Displays the following message box: *"DigiTerra Explorer controls TruPulse 360B to measure an Azimuth (AZ) and Horizontal Distance (HD). Look through the eyepiece and use the crosshair to aim to the target. Press-and-hold the FIRE button."* The message box closes automatically once your finished the measurement.

Tree height: Displays the measured value. You can also enter the values in [meter].

Measure - Displays the following message box: *"DigiTerra Explorer controls TruPulse 360B to measure the Tree height with the Height Routine. Height Measurements involve a simple routine that prompts you to take 3 shots to the target: HD, INC base (or top), and INC top (or base). The TruPulse uses these results to calculate the height of the target."* The message box closes automatically once your finished the measurement.

Trunk height: Displays the measured value. You can also enter the values in [meter].

Measure - Displays the following message box: *"DigiTerra Explorer controls TruPulse 360B to measure the Trunk height with the Height Routine. Height Measurements involve a simple routine that prompts you to take 3 shots to the target: HD, INC base (or top), and INC top (or base). The TruPulse uses these results to calculate the height of the target."* The message box closes automatically once your finished the measurement.

Stem diameter: Displays the measured value. You can also enter the values in [meter].

Measure - Displays the following message box: *"DigiTerra Explorer controls TruPulse 360B to measure the Stem diameter with the Missing Line Routine. The Missing Line Routine calculates distances and angles to describe the relationship between two extremities of the stem. The simple routine prompts you to take two shots to targets: "Shot 1" and "Shot 2"."* The message box closes automatically once your finished the measurement.

Crown diameter: Displays the measured value. You can also enter the values in [meter].

Measure - Displays the following message box: *"DigiTerra Explorer controls TruPulse 360B to measure the Crown diameter with the Missing Line Routine. The Missing Line Routine calculates distances and angles to describe the relationship between two extremities of the crown. The simple routine prompts you to take two shots to targets: "Shot 1" and "Shot 2"."* The message box closes automatically once your finished the measurement.



The measurement can be repeatable by tapping on the Measure button.

New (Num#0, Total#0) - Displays the currently measured Tree's number and the total number of surveyed trees. Tap on this button to start surveying a new tree.



Undo - Removes the last measurement.

Attribute table structure of the Tree surveying point feature layer

Field	Value
ID	
Label	
Date	
Length	
Area	
TreeSpec	
TreeHeight	
TrunkHeight	
StemDiam	
CrownDiam	
RefPosX	
RefPosY	

4.6.10.3 Botany extension

The Botany extension is not part of the core DigiTerra Explorer software. It is an additional module for botanical analysis and available only in the desktop version. It can be accessed in the menu bar:

Tools >  **Botany** and in the toolbar with the  **Botany** button.



Botany

Opens the Botanical analysis configuration panel.

The BS5837 British Standard provides guidance, in respect of development sites, for a balanced approach on deciding which trees are appropriate for retention, on the effect of trees on design considerations and on the means of protecting trees during development. This applies to applications for most developments where construction work is involved. If the site contains trees, shrubs and/or hedges, it is required to submit a Tree Report that contain appropriate plans and drawings. DigiTerra Explorer and this module will help you to survey the site and its trees and to create a Tree Report.

In DigiTerra Explorer user interface the Botanical analysis panel is a **modal panel**. It is a child window of the application that requires you to interact with it before you can return to operating the main application or any of its other dialogs, thus preventing the workflow on the application main window.



The following **sample** can be used to learn this extension:

Path:

Desktop \$DOCUMENTS\DigiTerra

version: Explorer\Maps\Botany\

Mobile \$SDCARD\Maps\Botany\

version:

Botanical analysis configuration panel

Source layer: Select a **point feature layer** that contains the surveyed trees and their attributes



The source layer will be set **by the first point feature layer** of the [Layers panel](#)

Category (A,B,C,R): Select a data field from the source layer's attribute table that contains [tree quality assessment](#) (*BS 5837:2005 – Trees in Relation to Construction Recommendations for Submitting Planning Applications; British Standard*). Each tree category (A, B, C, R) are assigned

with a colour on the map view based on the British Standard above. DigiTerra Explorer automatically assigns the correct colour to dot symbol of the tree which represents the stem when create the **Crown Map**.



The Category field will be automatically selected from the attribute table of the source layer if the data field that stores the categories named as 'Category'

Category field in the source point feature layer

Record 1/9

Trees Menu

Field	Value
ID	1
Species	Fagus sylvatica 'pur...
East	4.50
North	3.20
West	3.90
South	3.70
Diameter	0.48
StemNum	2
Height	16.0
Trunk	3.6
Category	A

Crown shape box

Crown shape

Crown definition: 4 radiuses (E, N, S, W)

East: East North: North

West: West South: South

data fields Create Crown Map

Crown shape: The crown shape defines the horizontal parameters of the crown. Currently the following five Crown Definitions are built in DigiTerra Explorer to describe the parameters of the crown.

Crown definition: Select a crown definition to create Crown Maps. The selected method can be defined by proper data fields of the source layer's attribute table. The Crown definition **must** be set to create the Crown Map and the Shadow Map.

Selectable Crown definitions in the drop-down list

Crown definition: 4 radiuses (E, N, S, W)

- 1 radius
- 2 radiuses (E, N)
- 4 radiuses (E, N, S, W)
- 1 diameter (W-E)
- 2 diameters (W-E, S-N)



The Crown definition fields will be automatically selected from the attribute table of the source layer if the data fields which store the definitions named as 'East, West, North, South'

Applicable crown definitions:

- **1 radius:** Select a data field from the source layer's attribute table that stores 1 radius

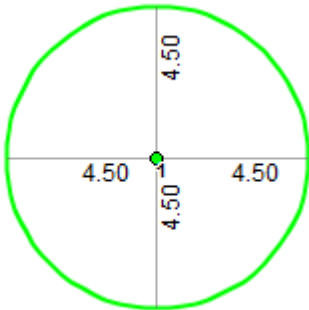
1 radius - based crown shape

Crown shape

Crown definition: 1 radius

Radius: East Diam. (S-N): North

West: West South: South



- **2 radiuses (E, N):** Select proper data fields from the source layer's attribute table which store 2 radiuses

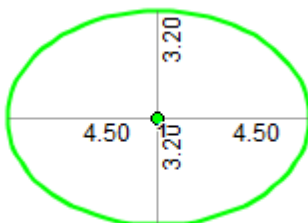
2 radiuses - based crown shape

Crown shape

Crown definition: 2 radiuses (E, N)

East: East North: North

West: West South: South



- **4 radiuses (E, N, S, W):** Select proper data fields from the source layer's attribute table which store 4 radiuses

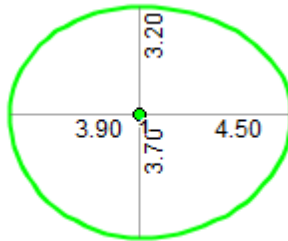
4 radiuses - based crown shape

Crown shape

Crown definition: 4 radiuses (E, N, S, W) ▼

East: East ▼ North: North ▼

West: West ▼ South: South ▼



- **1 diameter (W-E):** Select a data field from the source layer's attribute table that stores 1 diameter

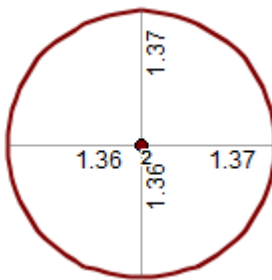
1 diameter - based crown shape

Crown shape

Crown definition: 1 diameter (W-E) ▼

Diam.(W-E): East ▼ North: North ▼

West: West ▼ South: South ▼



- **2 diameters (W-E, S-N):** Select proper data fields from the source layer's attribute table which store 2 diameters

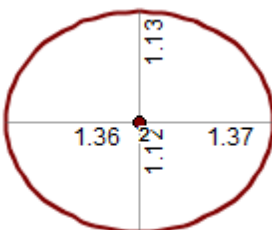
2 diameters - based crown shape

Crown shape

Crown definition: 2 diameters (W-E, S-N) ▼

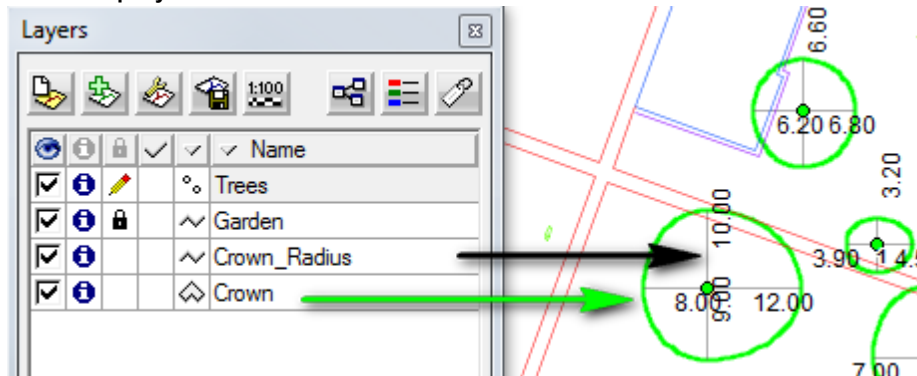
Diam.(W-E): East ▼ Diam.(S-N): North ▼

West: West ▼ South: South ▼



Create Crown Map - Creates the **Crown** polygon feature layer and the **Crown_Radius** line feature layer in ESRI Shape (.SHP) format. The **Category** data field (described above) will be stored in the attribute table of the Crown polygon feature layer.

Crown Map layers



Root area box

Root area

Root definition: Different factor for multi-stems

Stem diameter: Diameter

Number of Stems: StemNum

Scale factor: 10 Multi-stem factor: 12

data fields: Garden

Create Root Map

Root area: The root area defines the horizontal parameters of the root



Root Protection Area (RPA): The area that needed for a tree to survive and grow

Root definition: Select a root definition method to create the root map

- **Proportion to Crown size:** **Crown shape** and **Scale factor** must be set to create the root map
- **Proportion to Stem diameter:** **Stem diameter** and **Scale factor** must be set to create the root map
- **Different factor for multi-stems:** **Number of Stems**, **Stem diameter**, **Scale factor** and **Multi-stem factor** must be set to create the root map. (Required method to the British Standard: *BS 5837:2005*)

Stem diameter: Select a data field from the source layer's attribute table that stores the Stem diameter. The Stem diameter must also be set to create the Shadow Map.



The Stem diameter field will be automatically selected from the attribute table of the source layer **if the data field that stores the Stem diameter named as 'Diameter'**

Number of Stems: Select the data field from the source layer's attribute table that stores the Number of Stems



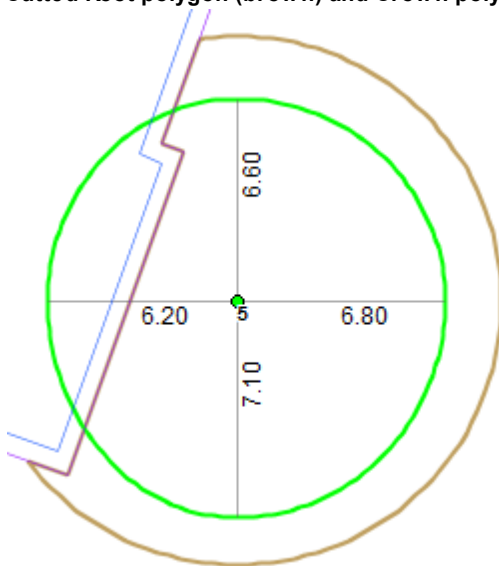
The Number of stems field will be automatically selected from the attribute table of the source layer **if the data field that stores the Number of stems named as 'StemNum'**

Scale factor: Enter a scale factor you want to use to create the root map. Default Scale factor is 10.

Multi-stem factor: Enter a scale factor you want to use to create the root map when using the "Different factor for multi-stems" method. Default Multi-stem factor is 12.

Cutting layer: Select the line or polygon feature layer you want to use to cut the root map. If you have a line or polygon feature that crosses the root map, you can use the line or polygon layer to cut the root map layers. Default is "none".

Cutted Root polygon (brown) and Crown polygon ()

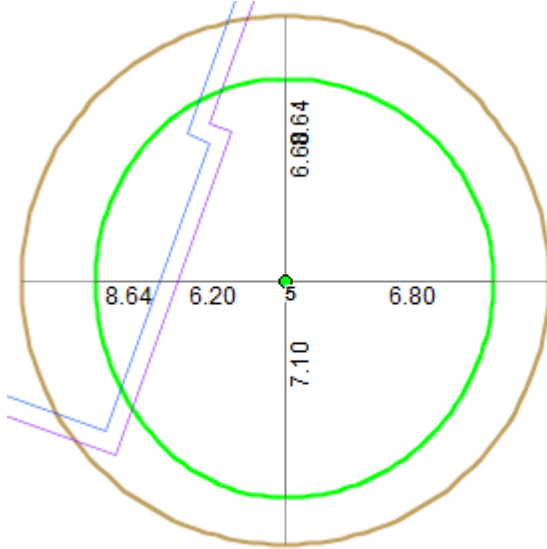


Go to Settings > Record > Measurement units and **set the Area unit to square**

meter to store the RPA in square meter in the Area field of the Root polygon layer

Create Root Map - Creates the **Root** polygon layer and the **Root_Radius** line feature layer in ESRI Shape (.SHP) format. The Root Protection Area (described above) will be stored in the Area field of the Root polygon feature layer's attribute table.

Root Protection Area (brown), Crown polygon (green) and the footprint of the building



Shadow calculation

Date: 2012.01.18 Time: 10:00:00

Timezone: UTC+00:00 Ireland, Mali, Portugal, UK

☒ Daylight saving

Position: Latitude, longitude

Latitude: 47.5 Longitude: 19.1

Tree height: Height

Trunk height: Trunk

Crown profile: Triangle

data fields

Create Shadow Map

Shadow calculation: The Shadow Map shows the shadow of the trees by using the **Source layer**, **Crown shape**, **Stem diameter** and the following additional parameters:

Date: Enter the date you want to use. Default is the today's date.

Time: Enter the time you want to use. Default is the current time.

Timezone: Select the timezone you want to use. Default is UTC +00.00.

Daylight saving: Check this parameter if you want to use it. Default is checked.

Position: Defines the center position of trees in the Source layer

- Latitude, Longitude: You need to enter the center position of trees in the Source layer
- Current Projection System: Automatically calculates the center position of trees in the Source layer in the current projection system

Latitude: Enter the Latitude coordinate you want to use.

Longitude: Enter the Longitude coordinate you want to use.

Tree height: Select the data field from the source layer's attribute table that stores the Number of Stems



The Tree height field will be automatically selected from the attribute table of the source layer **if the data field that stores the Tree height named as 'Height'**

Trunk height: Select the data field from the source layer's attribute table that stores the Number of Stems



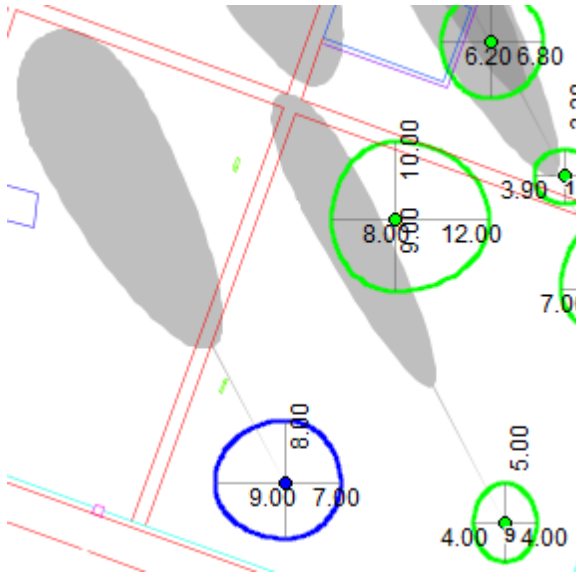
The Trunk height field will be automatically selected from the attribute table of the source layer **if the data field that stores the Stem diameter named as 'Trunk'**

Crown profile: Select the crown profile you want to use

- Ellipse
- Triangle
- Egg
- Balloon

Create Shadow Map - Creates the **Shadow** polygon feature layer in ESRI Shape (.SHP) format

Shadow map on the map view



4.7 Help menu

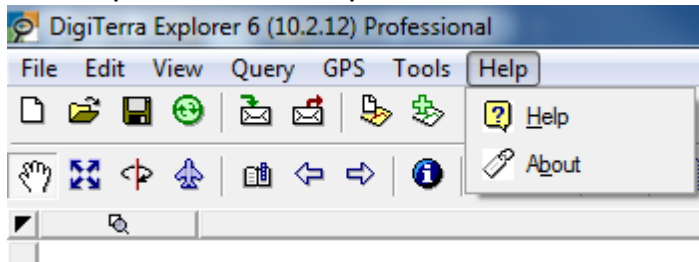
The [Help menu](#) available **only in the Desktop version** and contains the following options:

[Help](#) - Opens the CHM help file

[About](#) - Opens the About panel

The Help menu can be found in the Mobile version as a [sub-menu](#) in the [File menu](#).

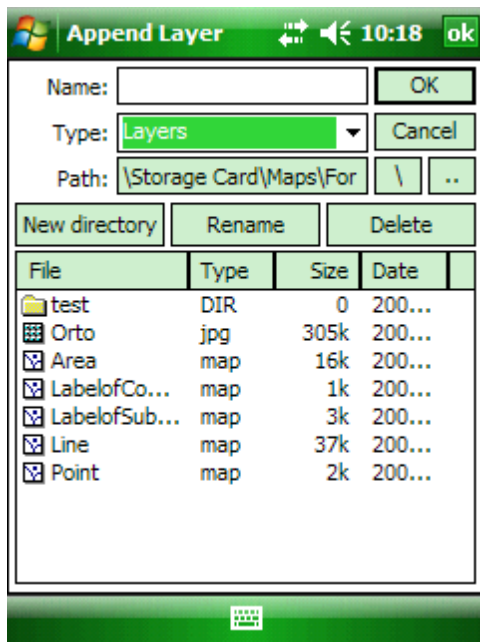
About Help menu in the Desktop version



4.8 File dialog boxes

The File dialog allows to open/save one or more files in DigiTerra Explorer. This dialog is commonly used in the software for [creating a new layer](#), [adding layers](#) to the map, [saving a layer with a new name](#), [exporting the layer](#) into a [new format](#) etc. The File dialog is different on the Mobile and on the Desktop version. The Desktop version of DigiTerra Explorer uses the standard Windows® File dialog.

File dialog (Mobile version)



Name: Enter the name of the file (without extension).

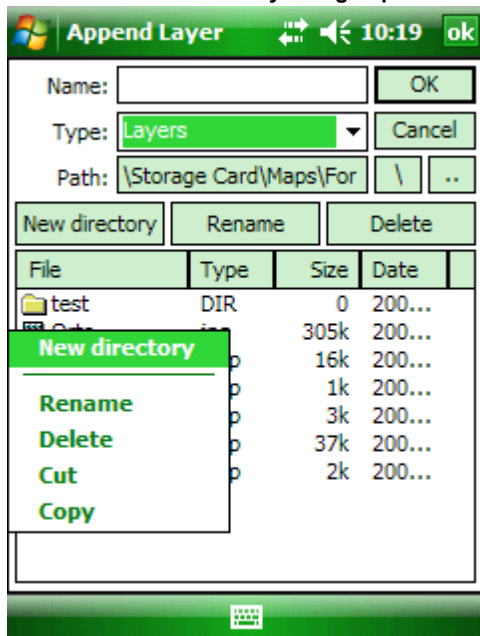
Type: Select a file format/file group mask. **File format 'group' mask:** Layers, Vector files, Tables, Raster files, All files.

Path: Shows the current path.

**** - Changes the path to the root path.

.. - Changes the path one directory back.

The File context menu by using Tap and hold technique in the Mobile version



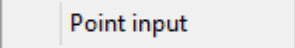
4.9 Context menus

Context menus are popup menu that can be accessed by **tap and hold** / **right click** with the following commands:

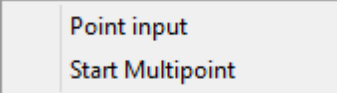
Edit menu

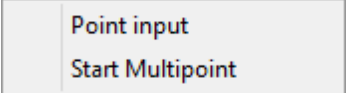
1. [Point](#)

If there is no vector feature layer in the [project](#):

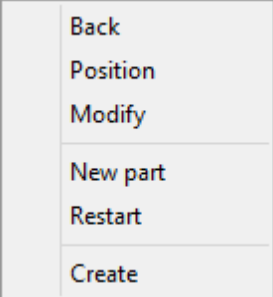
 - Opens the [Insert Point panel](#)

If there is at least one vector feature layer in the [project](#):

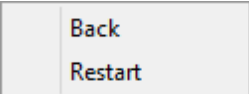




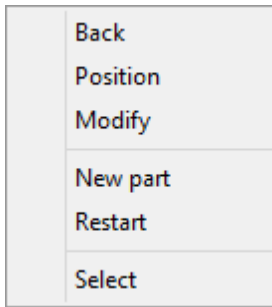
2. [Line](#), [Free Line](#), [Polygon](#), [Free Polygon](#), [New part](#)



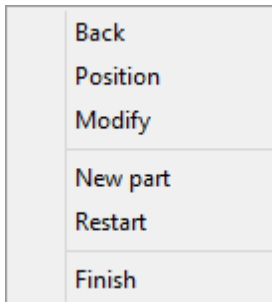
3. [Rectangle](#), [Circle](#), [Ellipse](#)



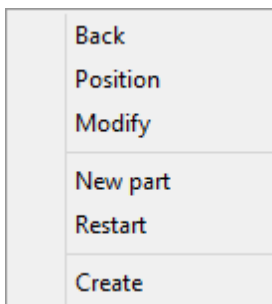
4. [Select by line](#), [Select by polygon](#), [Select by rectangle](#), [Select by circle](#)



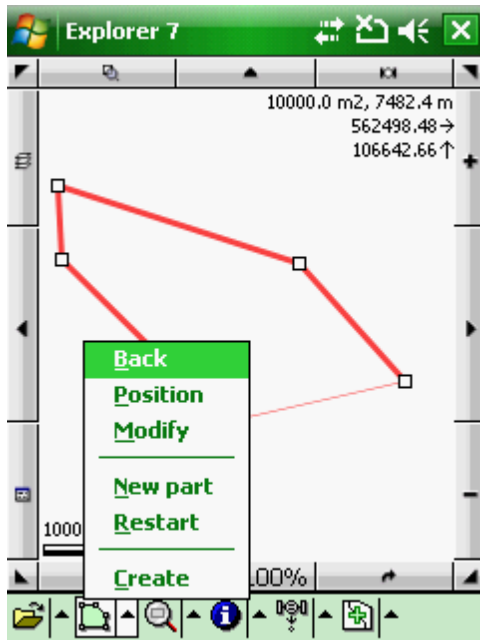
5.  [Measure](#),  [Free measure](#),  [Radius measure](#)



6.  [Polygon Delineation](#)



Editing context menu when using Tap and hold / Right click



Back: Deletes the last vertex made to a feature (Backspace)

Position: Opens the [Insert Point panel](#) or the [New vertex panel](#) to add a new vertex into the edited layer

Modify: Opens the [Modify panel](#) to modify the angle and length of the last section

New part: Adds new part(s) to the currently edited feature

- in case of area: isle, hole or new part beside the area
- in case of line: multiline
- in case of point: multipoint



The usefulness of the new part feature depends on the selected vector layer format.

Restart: Erases all vertices and editing lines (construction lines) from the map view. Cancels changes to an existing feature's geometry or cancels capture of a new feature.

Create / Finish / Select: Creates multipoint, line/polyline or polygon/multipolygon feature from vertices. (Opens panel for the related tools) / Finishes the editing of the polyline. (Opens Geometry panel for the Measurement tools). Selects features.

5 Printing maps and reports



Print

[Prints](#) the current Map. This menu item is available only in the Desktop version.

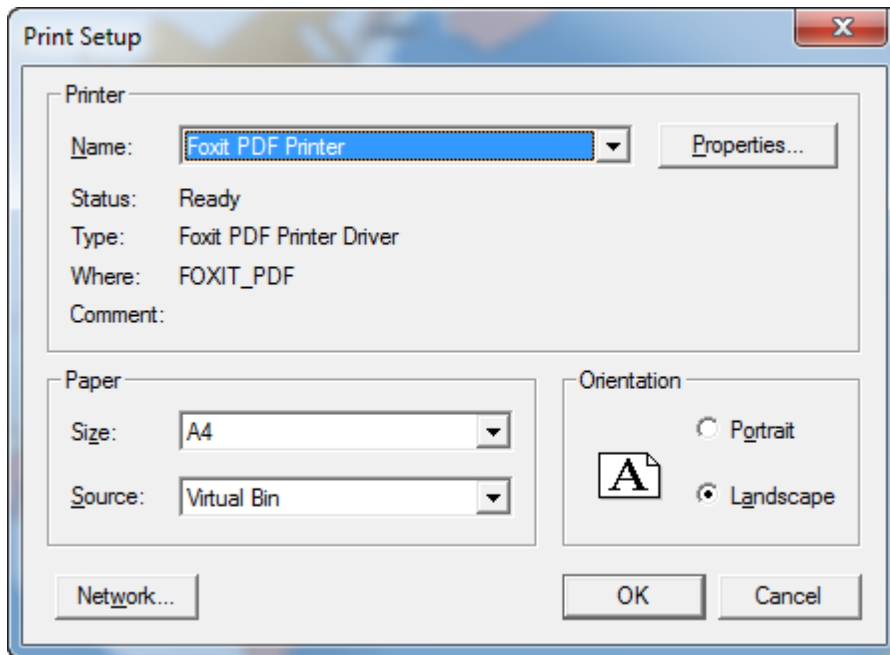
The Printing available in the Desktop version only. You can print the [map view](#), [attributes](#) and an [area](#)

[measuring report](#) through the default **Print Setup** and by using three special panes (one for the [map view](#), [attributes](#) and for the [area measuring report](#)).

Print Setup panel

Use the Print Setup panel to select the printer, page orientation, and paper size you want to use to print the report/map view. If you do not select a printer, the program will print to the Windows default printer.

This panel appears when you click on the  [Print button](#) in the menu bar/toolbar, OK button in the [Print Report panel](#), and click on OK button in the [Printing Area Report panel](#).



Printer

Name: Find the name of the printer to which you can send reports/map views in the Name list.

Properties - Click the Properties button to bring up the Properties panel for the selected printer.

Paper

Size: Use the Size list to select from a variety of paper- or envelope-size options.

Source: Use the Source list to select from a variety of feed or paper source options.

Orientation



Portrait: Select the Portrait option to print your report in a standard-letter orientation.

Landscape: Select the Landscape option to print your report in landscape orientation.

Network: Click the Network button to connect to a network printer.

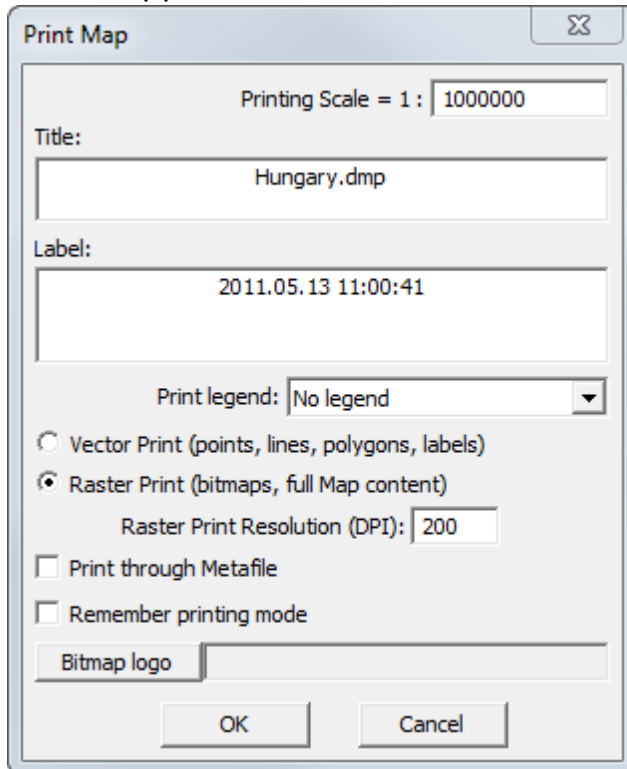
5.1 Printing maps

You can print the map view to printer/plotter or file through the [Print Setup](#) and the Print Map panel.

You can access to this desktop command in the menu bar: File >  **Print** and in the toolbar:  as well.

Print Map panel

The Print Map panel

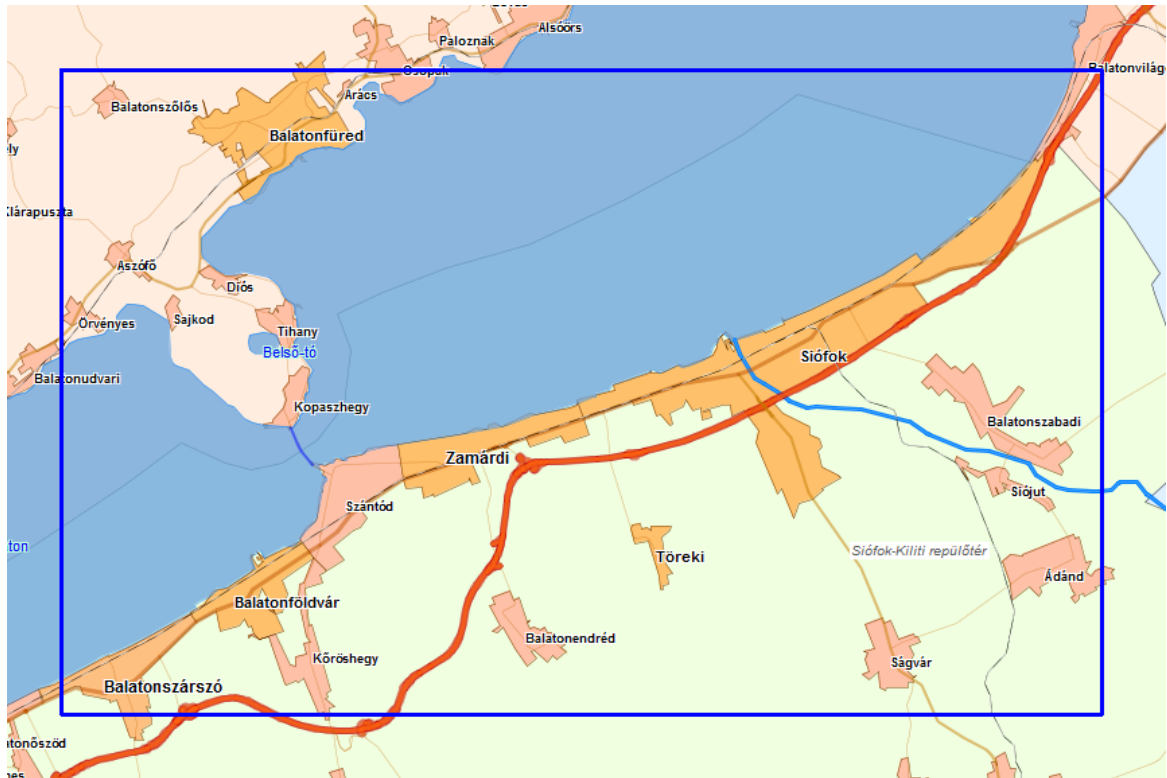


Printing scale = 1: Enter the value of the Printing Scale to the printable map view. You can see what will be printed in real-time on the map view as you entered a different Printing Scale value. The **printable area** marked with blue boundary on the map view. Default is Printing Scale is 1: 10 000.



You can adjust the what will be inside the printable area (blue boundary on the map view) by entering the **Printing Scale** and by using the [Pan](#) tool in the View menu/toolbar.

Boundary of the printable area on the map view



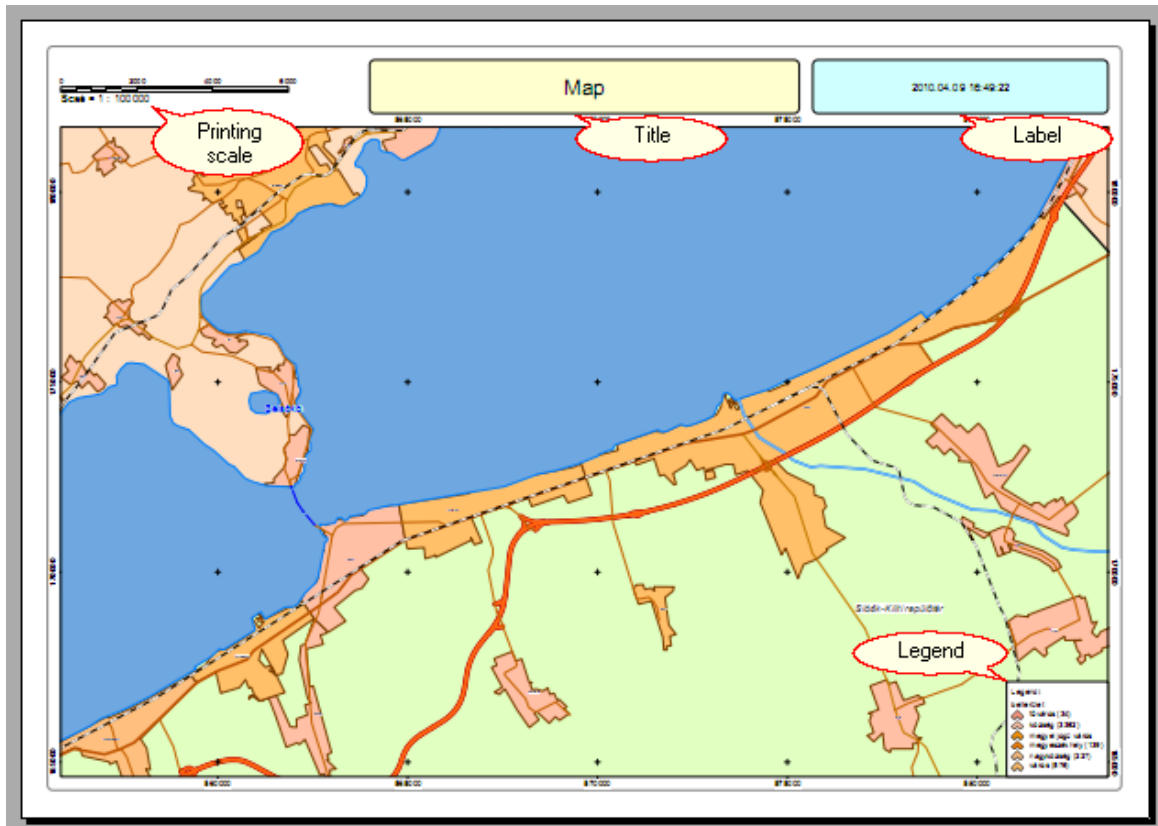
Title: Customizable textual field that will be placed on the printed map as Map Title. Default Title is the name of the mapping project.

Label: Customizable textual field that will be placed on the printed map as Map Label. Default Label is the current system date.

Print legend: Optionally printable legend of the [thematic classes](#). You can customize the contents of the map legend in the [Classes/Class panel](#) and by using the Identify option (on/off) in the [Layers panel](#). Default is No legend.

- **No legend:** Map legend won't be placed on the printed map.
- **Legend ad Top-Left:** Map legend will be placed in the top-left corner on the printed map.
- **Legend ad Top-Right:** Map legend will be placed in the top-right corner on the printed map.
- **Legend ad Bottom-Left:** Map legend will be placed in the bottom-left corner on the printed map.
- **Legend ad Bottom-Right:** Map legend will be placed in the bottom-right corner on the printed map.

Printed map



Vector Print: (points, lines, polygons, labels): Uses the Windows graphics device interface (GDI) at the printing. When you want to print only vector layers/symbols Vector Print mode is recommended to use. Raster layers, raster symbols, transparency cannot be printed in this printing mode. Default is Vector Print mode.

Raster Print: (bitmaps, full Map content): When you want to print the full content of the map view (including raster/vector layers and raster symbols) Raster Print mode is recommended to use.

Raster Print Resolution (DPI): You can customize the resolution of the printable map depending on print quality. Default is 200 dpi.

Print through Metafile: Prints through Metafile. This option is recommended to use for some special older printers.

Remember printing mode: Saves and reloads the last selected vector or raster printing mode.

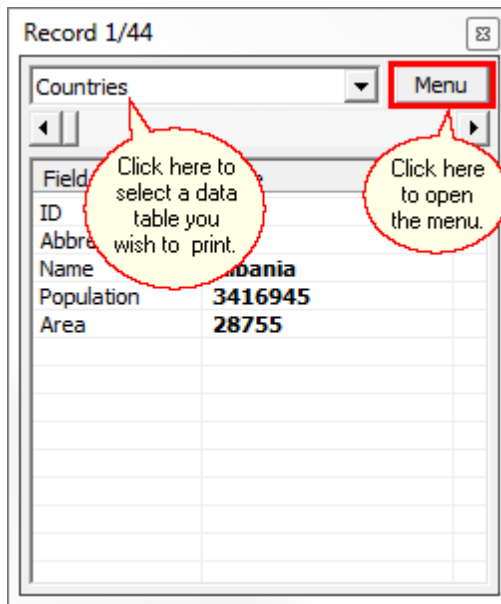
Bitmap logo: You can add a bitmap logo in these formats to your printable map: BMP, PCX, JPG, TIF

OK - Sends the printable content to the selected Printer.

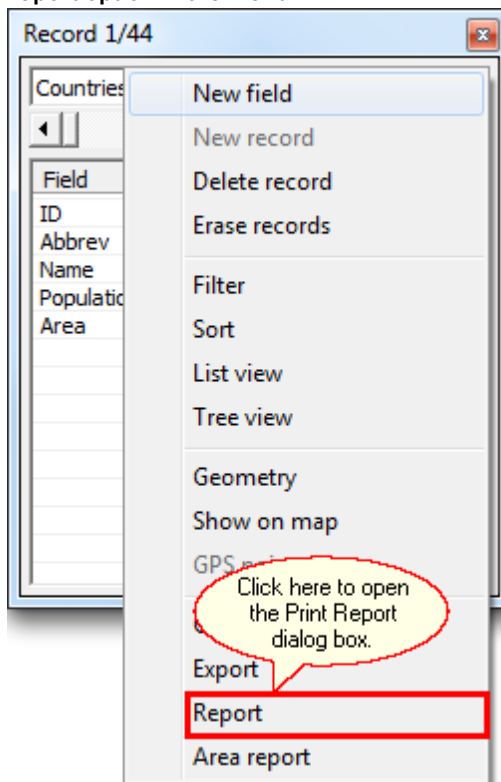
5.2 Printing attributes

You can print the selected data table through the [Print Setup](#) and the Print Report panel. You can access to this command in the Menu of the [Record panel](#): Menu > **Report**.

Select data table; open the Menu

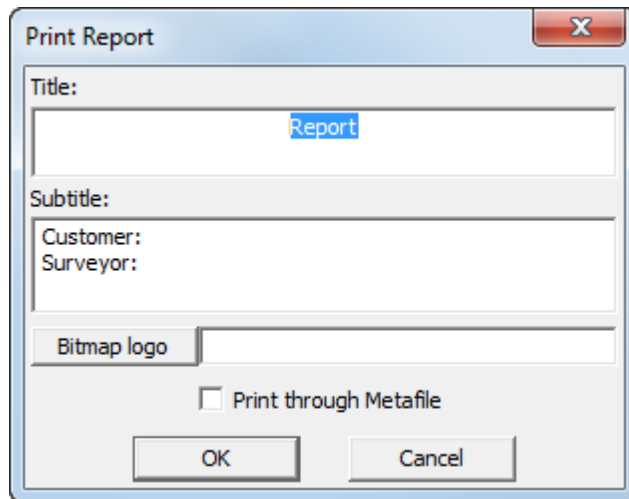


Report option in the Menu



Print Report panel

The Print Report panel



Title: Customizable textual field that will be placed on the printed report as Report Title. Default Title is 'Report'.

Subtitle: Customizable textual field that will be placed on the printed report as Report Subtitle under the Report Title.
Default Title is:
'Customer:
Surveyor:'.

Bitmap logo: You can add a bitmap logo in these formats to your printable map: BMP, PCX, JPG, TIF

Print through Metafile: Prints through Metafile. This option is recommended to use for some special older printers.

OK - Opens the [Print Setup panel](#) and sends the printable content to the selected Printer.

Printed report

Report

Customer:
Surveyor:

ID	Abbrev	Name	Population	Area
207	AL	Albania	3418945	28755
208	AN	Andorra	55335	452
163	BE	Belgium	10032480	30480
70	FO	Faroe Islands	47087	1412
171	GB	Guernsey	62920	78
172	JE	Jersey	87848	120
181	LS	Liechtenstein	29342	165
199	LU	Luxembourg	387084	2594
210	MK	Macedonia	2104035	25321
152	IM	Man, Isle of	71295	575
176	MD	Moldova	4473570	33557
195	MN	Monaco	27409	12
198	MW	Montenegro	635442	13743
161	NL	Netherlands	15447470	35493
195	SM	San Marino	23758	63
183	SI	Slovenia	1951443	20246

2010.04.13 11:20:27

Signature

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[Filter](#) conditions can be used to the Print Report function.

5.3 Print Point reports

You can print a point measurement report to the [selected attribute table](#) through the [Print Setup](#) and the Print Point report panel. You can access to this command in the Menu of the [Record panel](#): Menu > **Point report**.

☀ = new feature

Availability of the "Point report" feature in different editions

Basic



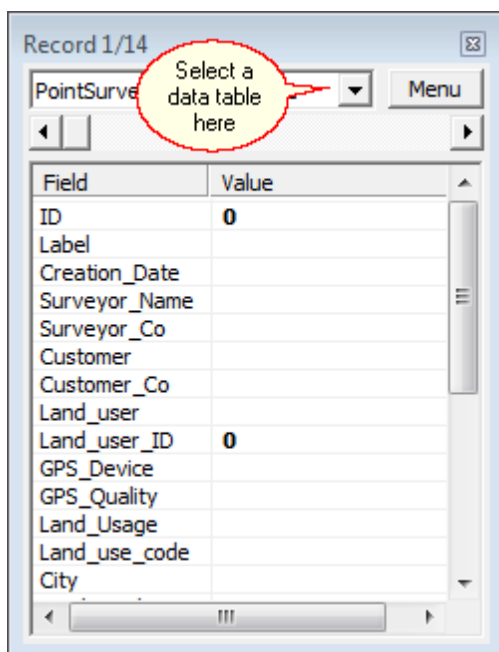
Advanced



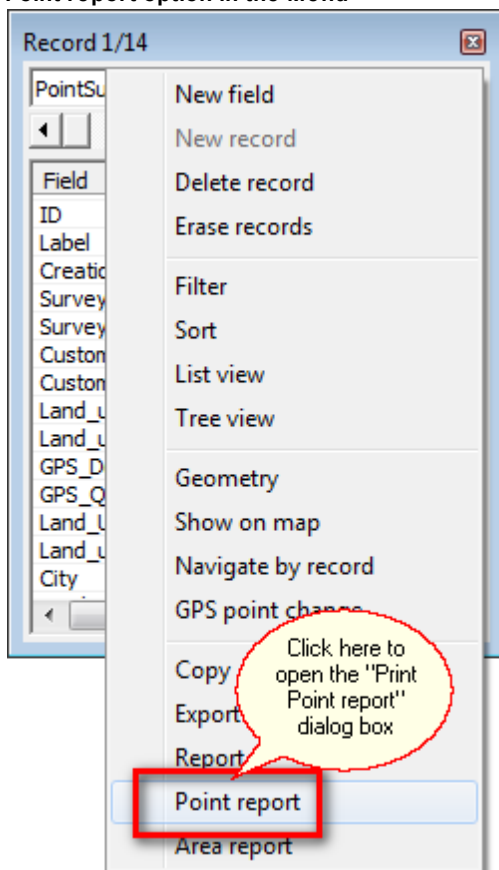
Professional



Select data table and data record; open the Menu



Point report option in the Menu



Print Point report panel

The Print Point report panel

Print Point report

Title:

☒ Content:

Name of the surveyor: %Surveyor_Nan%
 Survey Comp.: %Surveyor_Co%
 Name of the customer: %Customer%
 Customer Comp. %Customer_Co%
 Land user: %Land_user%
 Land user Reg. number: %Land_user_I%
 Surveying date: %GPS_datetime%

Target: %Land_Usage%
 Subsidiance code: %Land_use_code%
 City: %City%
 Field ID: %Land_number%
 Field code: %Land_code%
 Registered area: %Registered_area%
 Surveyed area: %Area%
 Device: %GPS_Device%
 GPS quality: %GPS_Quality%

☒ Map draft:

☒ Every points ☐ Selected points

☒ Coordinates:

☒ Projected coordinates ☒ Geographic coordinates ☒ Survey reliability

Print

☒ Vector Print (points, lines, polygons, labels)
☐ Raster Print (bitmaps, full Map content)

Raster Print Resolution (DPI):

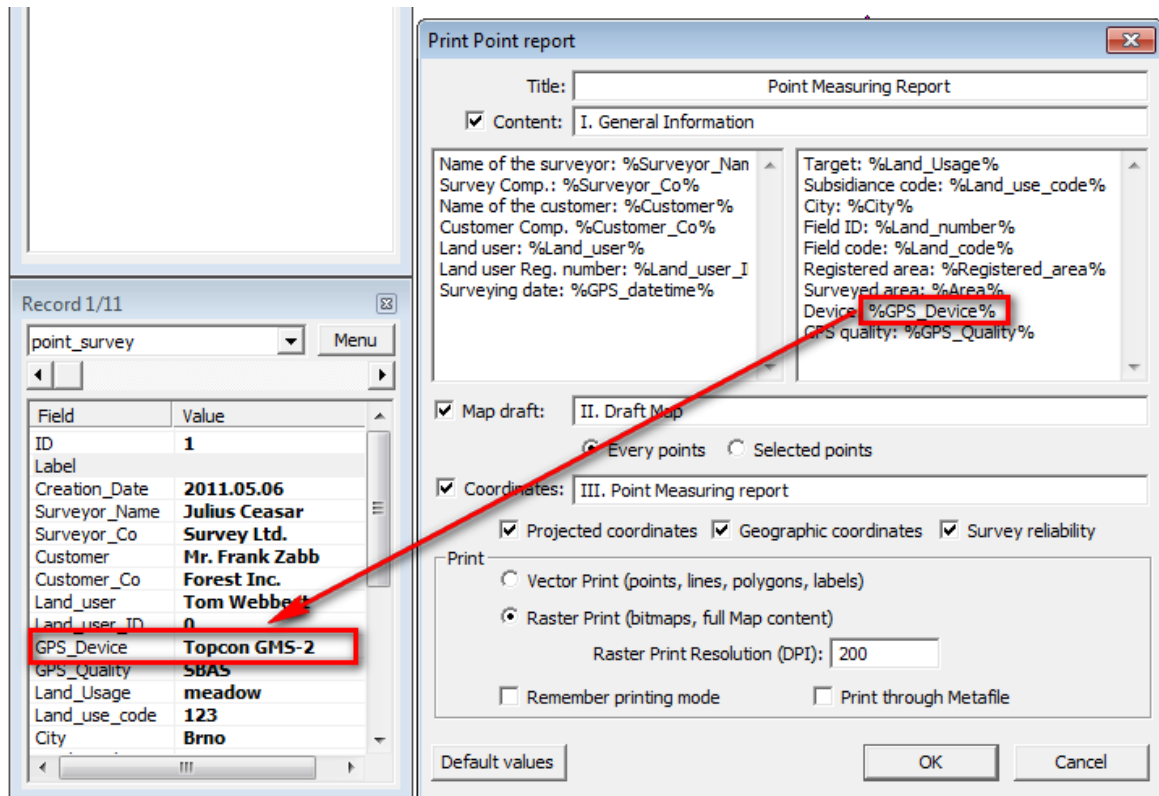
☐ Remember printing mode ☐ Print through Metafile

Title: Customizable textual field that will be placed on the printed report as Title. Default Title is 'Point Measuring Report'.

Content: Customizable textual field. Default is 'I. General Information'.
check-box: enabled as default.

Customizable part of the Point Report: Customizable textual fields. You can print data values to any data fields of the selected record by using the data field name between percents: %**FieldName** %.

Customizable parts of the Point Report



Map draft: Customizable textual field. Default is 'II. Draft Map'.

check-box: enabled as default.

Every points: prints all points from the attribute table

Selected points: prints only the selected points (you can select them with the [selection tools](#))

Coordinates: Customizable textual field. Default is 'III. Point Measuring report'.

check-box: enabled as default.

Projected coordinates: prints the projected coordinates from the selected attribute table.

Geographic coordinates: prints the geographic coordinates from the selected attribute table

Survey reliability: prints the reliability information of the GPS survey from the selected attribute table

Print through Metafile: Prints through Metafile. This option is recommended to use for some special older printers.

Vector Print: (points, lines, polygons, labels): Uses the Windows graphics device interface (GDI) at the printing. When you want to print only vector layers/symbols Vector Print mode is recommended to use. Raster layers, raster symbols, transparency cannot be printed in this printing mode. Default is Vector Print mode.

Raster Print: (bitmaps, full Map content): When you want to print the full content of the map view (including raster/vector layers and raster symbols) Raster Print mode is recommended to use.

Raster Print Resolution (DPI): You can customize the resolution of the printable map depending on print quality. Default is 200 dpi.

Remember printing mode: Saves and reloads the last selected vector or raster printing mode.

OK - Sends the printable content to the selected Printer.

Cancel - Closes the panel (to select an other record/feature).

Printed Point Measuring Report

Point Measuring Report

I. General Information

Name of the surveyor: Julius Caesar
Survey Comp.: Survey Ltd.
Name of the customer: Mr. Frank Zabb
Customer Comp. Forest Inc.
Land user: Tom Webbest
Land user Reg. number: 0
Surveying date: 2011.05.06 11:58:09

Target: meadow
Subsidence code: 123
City: Brno
Field ID: 16
Field code: q47665
Registered area: 12.50
Surveyed area: 12.23
Device: Topcon GMS-2
GPS quality: SBAS

II. Draft Map

III. Point Measuring report

Egyseg: Orszagos Vektort DT

ID	Easting	Northing	WGS84 Easting	WGS84 Northing	Dist	Date	Satellites	PDOP	DGPS
1	139250.59	524243.57	45.59	17.41	3.55	2011/05/06 11:58:09	8	1.85	100
2	139259.59	524243.64	45.59	17.41	1.00	2011/05/06 12:05:59	8	1.82	100
3	139251.44	524241.69	45.59	17.41	2.89	2011/05/06 12:06:02	8	2.54	100
4	139258.99	524245.45	45.59	17.41	4.48	2011/05/06 12:06:05	8	1.82	100
5	139257.77	524243.97	45.59	17.41	1.92	2011/05/06 12:06:09	8	1.82	100
6	139250.88	524242.50	45.59	17.41	3.43	2011/05/06 12:06:16	7	1.82	100
7	139257.46	524245.62	45.59	17.41	4.83	2011/05/06 12:06:22	8	2.54	100
8	139250.06	524245.03	45.59	17.41	2.87	2011/05/06 12:06:25	7	1.82	100
9	139259.51	524242.60	0.00	0.00	2.46		0	0.00	0
10	139257.53	524242.60	0.00	0.00	2.08		0	0.00	0
11	139257.46	524241.88	0.00	0.00	0.72		0	0.00	0

Date: 2011.05.06 14:13:51

signature, Surveyor

signature, Customer

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5.4 Print Area reports

You can print an area measurement report to the [selected data record](#) or [selected feature](#) through the [Print Setup](#) and the Print Area Report panel. You can access to this command in the Menu of the [Record panel](#): Menu > **Area report**.

☀ = new feature

Availability of the "Area report" feature in different editions

Basic



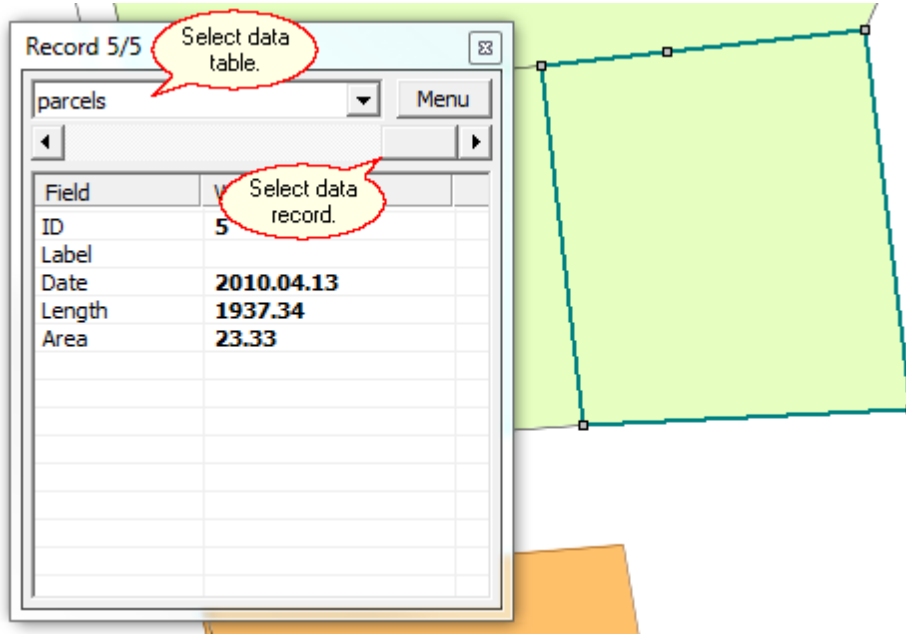
Advanced



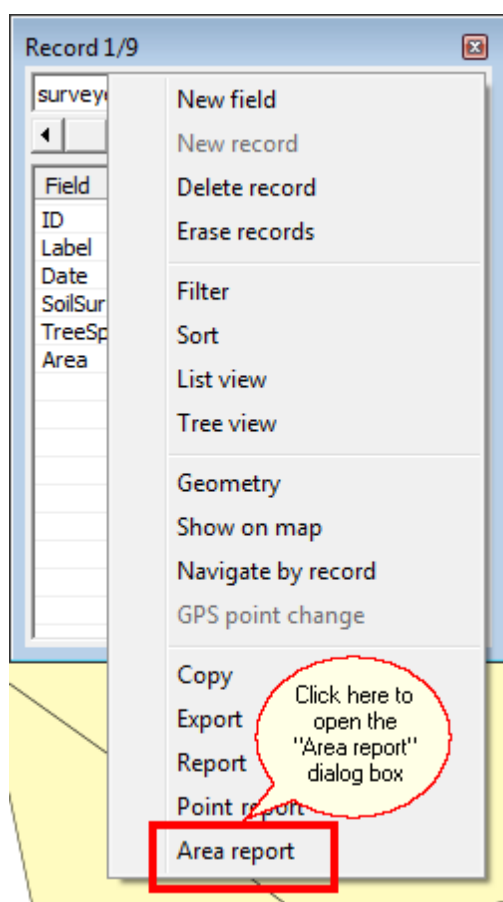
Professional



Select data table and data record; open the Menu



Area report option in the Menu



Print Area report panel

The Print Area report panel

Print Area Report

Title:

Content:

Name of surveyor: %user%
Date of measuring: %date%

Area identifier: %id%
Size of area: %area%

Map draft:

Coordinates:

Marked point: ☐ Print through Metafile

☐ Vector Print (points, lines, polygons, labels)
☒ Raster Print (bitmaps, full Map content)

Raster Print Resolution (DPI):

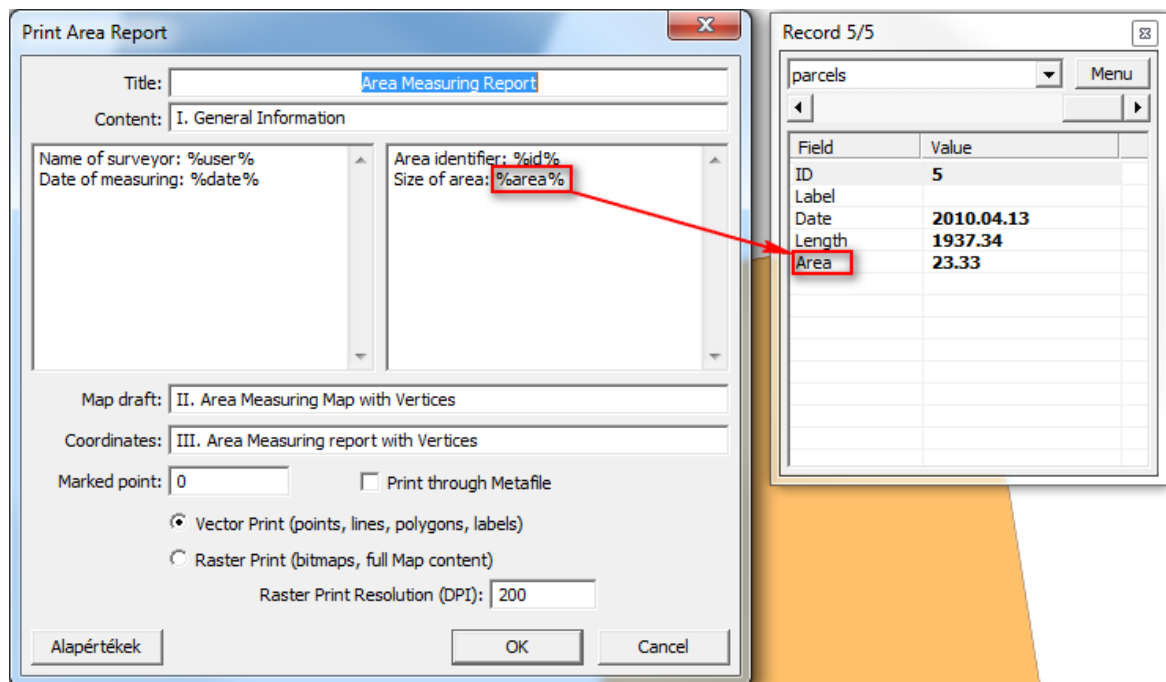
☐ Remember printing mode

Title: Customizable textual field that will be placed on the printed report as Title. Default Title is 'Area Measuring Report'.

Content: Customizable textual field. Default is 'I. General Information'.

Customizable part of the Area Report: Customizable textual fields. You can print data values to any data fields of the selected record by using the data field name between percents: **%FieldName %**.

Customizable parts of the Area Report



Print Area Report

Title:

Content:

Name of surveyor: %user%
Date of measuring: %date%

Area identifier: %id%
Size of area: **%area%**

Map draft:

Coordinates:

Marked point: ☐ Print through Metafile

☒ Vector Print (points, lines, polygons, labels)
☐ Raster Print (bitmaps, full Map content)

Raster Print Resolution (DPI):

Record 5/5

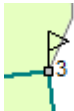
Field	Value
ID	5
Label	
Date	2010.04.13
Length	1937.34
Area	23.33

Map draft: Customizable textual field. Default is 'II. Area Measuring Map with Vertices'.

Coordinates: Customizable textual field. Default is 'III. Area Measuring report with Vertices'.

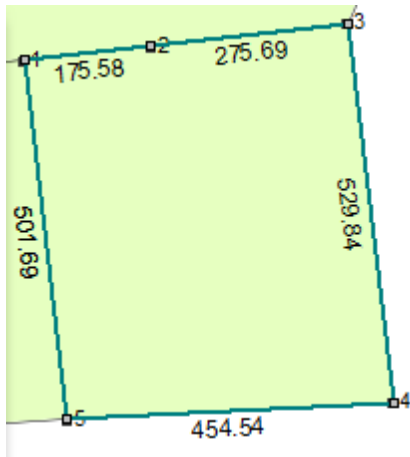
Marked point: Enter the ordinal number of the vertex you want to mark on the map draft with a flag symbol.

Marked vertex



When you open the Print Area Report panel the [ordinal numbers and the lengths labels](#) between vertices becomes visible.

Ordinal numbers and lengths of a selected area feature



Print through Metafile: Prints through Metafile. This option is recommended to use for some special older printers.

Vector Print: (points, lines, polygons, labels): Uses the Windows graphics device interface (GDI) at the printing. When you want to print only vector layers/symbols Vector Print mode is recommended to use. Raster layers, raster symbols, transparency cannot be printed in this printing mode. Default is Vector Print mode.

Raster Print: (bitmaps, full Map content): When you want to print the full content of the map view (including raster/vector layers and raster symbols) Raster Print mode is recommended to use.

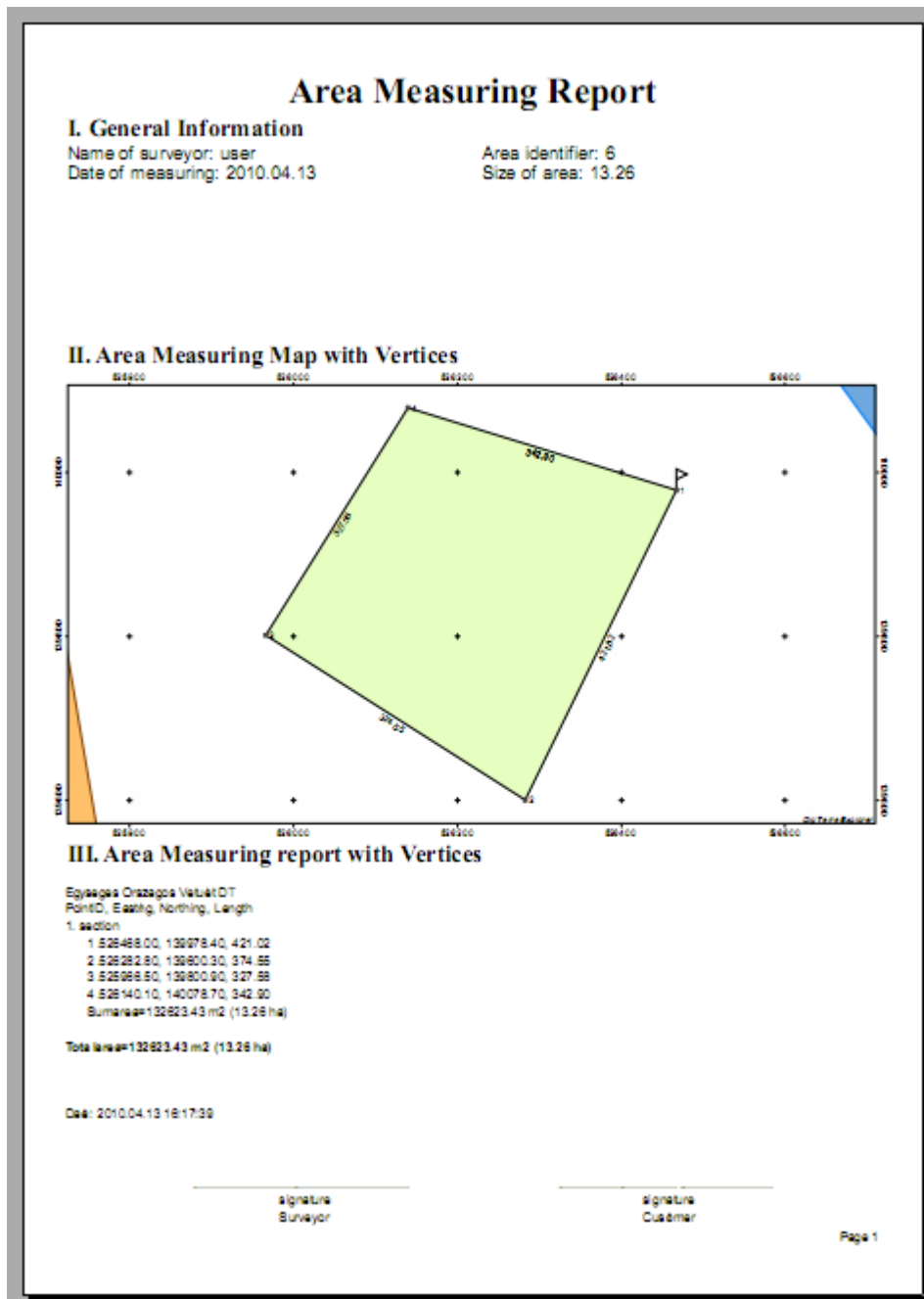
Raster Print Resolution (DPI): You can customize the resolution of the printable map depending on print quality. Default is 200 dpi.

Remember printing mode: Saves and reloads the last selected vector or raster printing mode.

OK - Sends the printable content to the selected Printer.

Cancel - Closes the panel (to select an other record/feature).

Printed Area Report



6 Settings



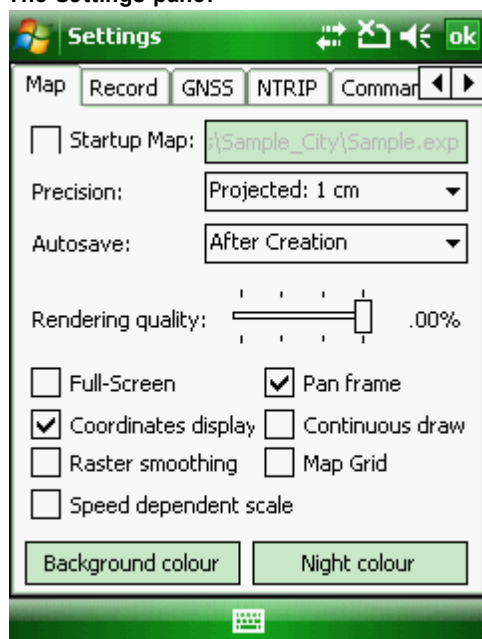
Settings

Opens the [Settings](#) panel. The Settings panel is used to configure various aspects of DigiTerra Explorer that may be customized to each user but which are seldom changed. You can access the Settings panel by tapping the Settings option in the [File menu](#) (1) or in the toolbar (2) in case of using the desktop version.

The Settings panel consists of the following tabs, that are described detailed in this section:

- [Map](#)
- [Record](#)
- [GNSS](#)
- [NTRIP](#)
- [Send Command](#)
- [Antenna](#)
- [Logger](#)
- [Rangefinder](#)
- [Cable locator](#)
- [Camera control](#)
- [Media](#)
- [System](#)
- [Messages](#)
- [Layout](#)

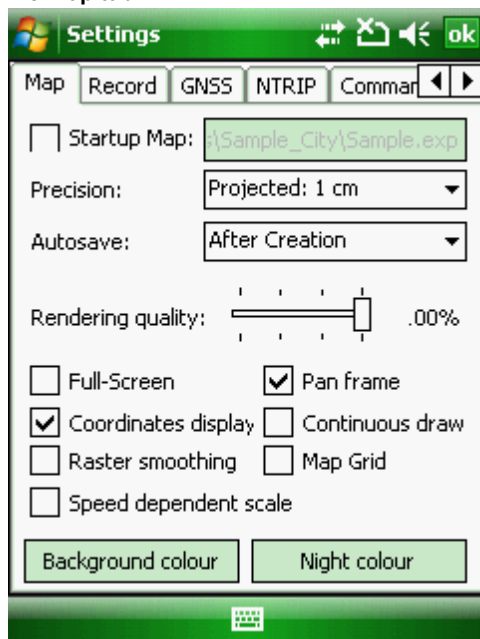
The Settings panel



6.1 Map

The Map tab contains the following controls:

The Map tab



[] Startup Map: Displays the PATH to the map project that DigiTerra Explorer opens at startup. When this check-box checked the PATH is clickable as a button to open the [Open map file panel](#) to change the preset map project. Default is unchecked.

Default Startup map file: Sample.exp

Path:

Desktop version: \$DOCUMENTS\DigiTerra Explorer\Maps\Sample_City\Sample.exp

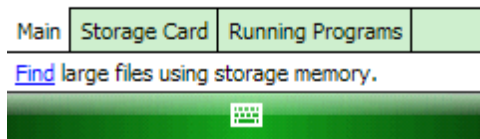
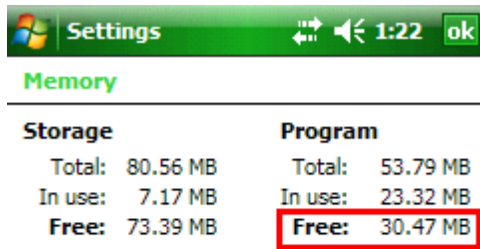
Mobile version: \$SDCARD\Maps\Sample_City\Sample.exp



Please not **when using the Startup Map** option in DigiTerra Explorer the [Startup options](#) panel not appears at startup.

Precision: Controls the precision of the displayed map view coordinates. Working with lower map precision is useful if your mobile device's free program memory is nearly equal or lower than the used program memory of vector layers you wish to add in your mapping project.

Free program memory in Windows Mobile



Selectable values

- **Projected: 1 m** projected coordinates, precision is 1 meter
- **Projected: 1 dm** projected coordinates, precision is 1 decimeter (0.1 meter)
 - **Projected: 1 cm** projected coordinates, precision is 1 centimeter (0.01 meter) - **default value for local projection systems**
- **Projected: 1 mm** projected coordinates, precision is 1 millimeter (0.001 meter)
- **Geographic: 10 m** geographic coordinates, precision is 10 meters
- **Geographic: 1 m** geographic coordinates, precision is 1 meter
- **Geographic: 1 dm** geographic coordinates, precision is 1 decimeter (0.1 meter)
 - **Geographic: 1 cm** geographic coordinates, precision is 1 centimeter (0.01 meter) - **default value for WGS reference systems**



Until you have not saved the current mapping project and it does not contains a layer **the precision can be changed.**

Autosave: Controls the saving of edited [vector layers](#), [text and tabular formats](#). **Default is After Creation.**



The vector geometry and its attributes will be saved automatically when they are created.

Rendering quality: provides a way to switch to an alternative rendering mode for your data to make your map draw faster if necessary.

Default values

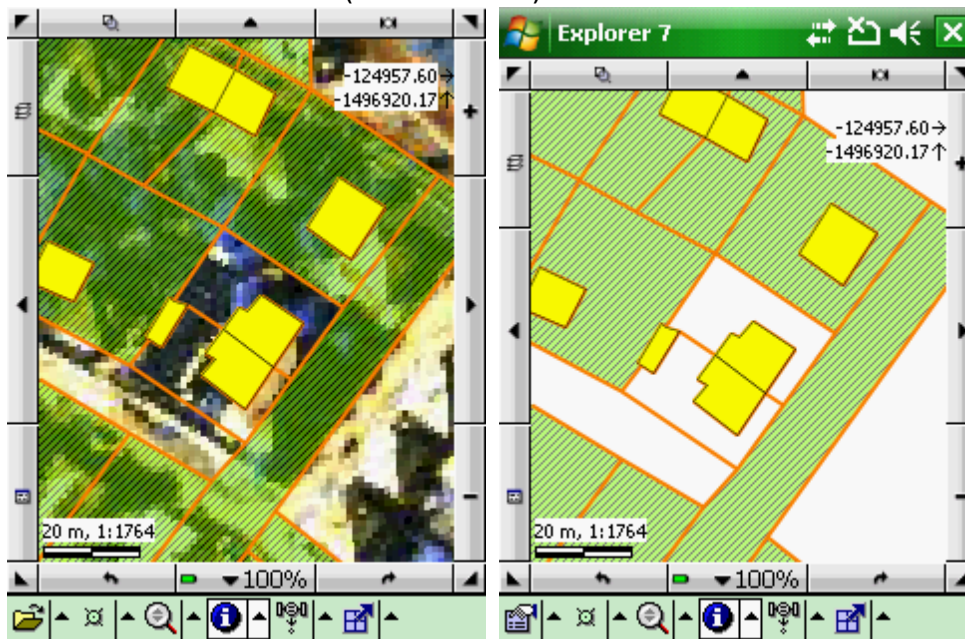
- 240x320 screen resolution and in the Desktop version: **100%**
- 480x640 screen resolution: **50%**



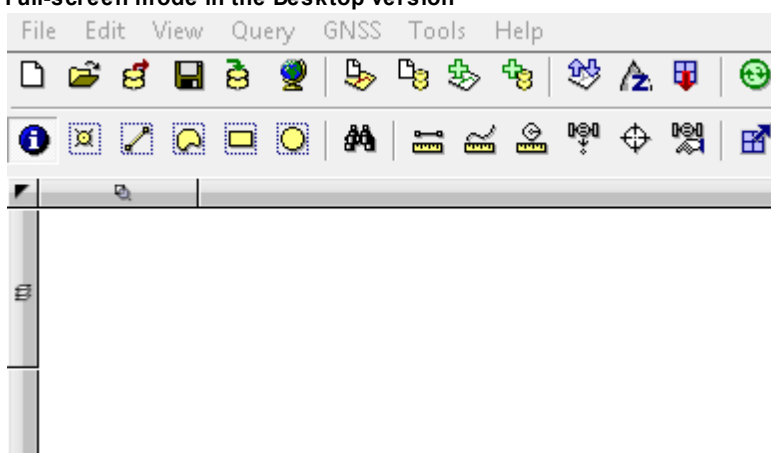
The rendering quality can be changed at runtime without needs to restart the application.

Full-Screen: Enables the full-screen display mode to increase the workspace.

Full-screen mode is turned on (first screenshot) and turned off



Full-screen mode in the Desktop version



☀ = new feature

Availability of the "Full-Screen" option in different editions

Basic

Advanced

Professional



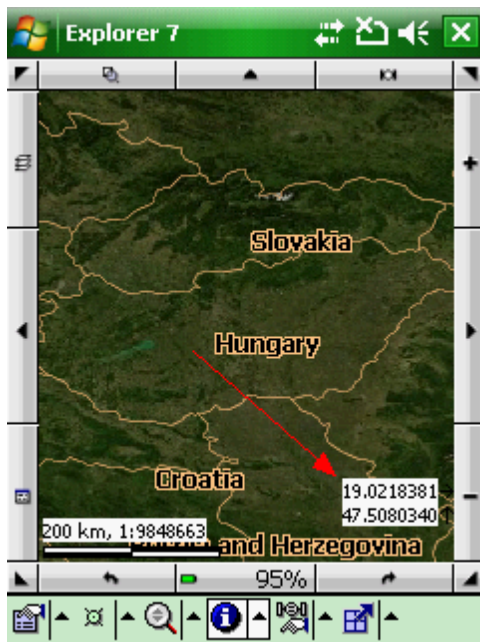
Coordinate display: Controls the coordinate display on the map and on the Pan frame in the Desktop version as.

1. Current GNSS position in the bottom right corner
2. Last GNSS position at the same location
3. Queried map position in the top right corner
4. Current cursor position on the Pan frame

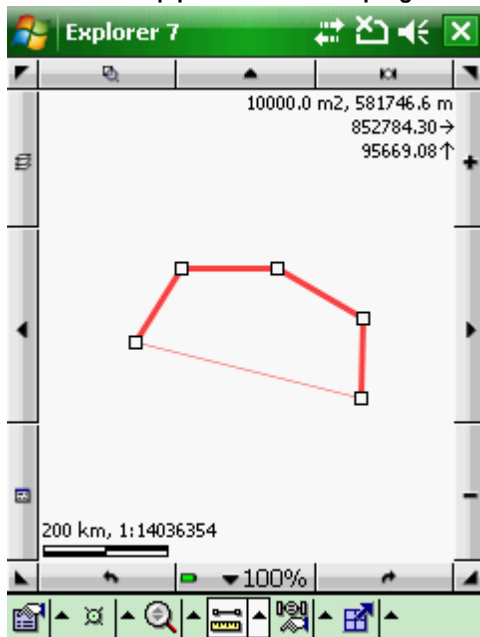
1. Current GNSS position in the bottom right corner



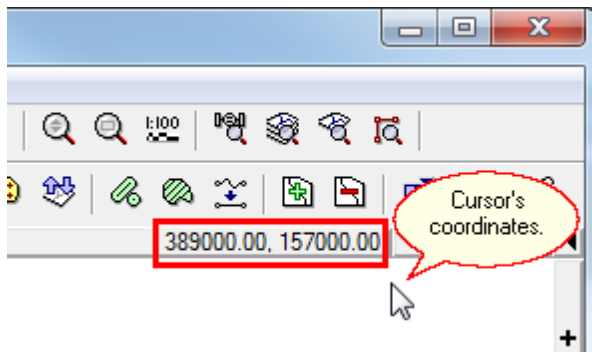
2. Last GNSS position at the same location



3. Queried map position in the top right corner



4. Current cursor position on the Pan frame



Raster smoothing: Enables bi-linear interpolation raster pixels in the map view so the raster layer will not be pixels picture

Speed dependent scale: Changes the current scale on the basis of the actual speed.

☀ = new feature

Availability of the "Speed dependent scale" option in different editions

Basic

Advanced

Professional



Pan frame: Active navigation frame around the map view with the frequently used tools. Untick the check-box if you don't wish to use it.

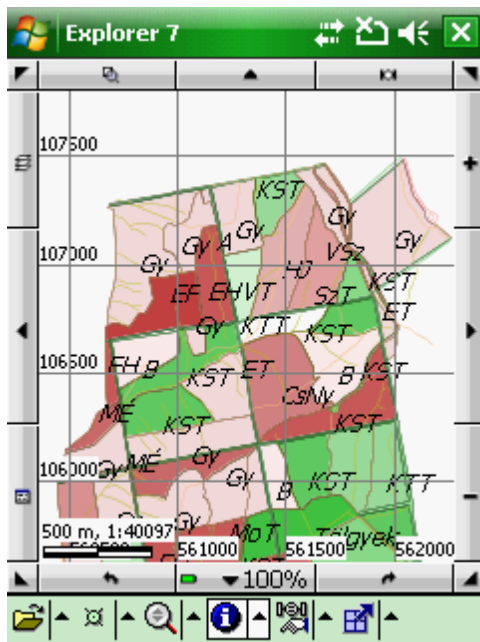
Continuous drawing: provides a way to switch to an alternative rendering mode for your data to make your map draw faster if necessary.

Default values

- Unchecked in the Mobile version
- Checked in the Desktop version

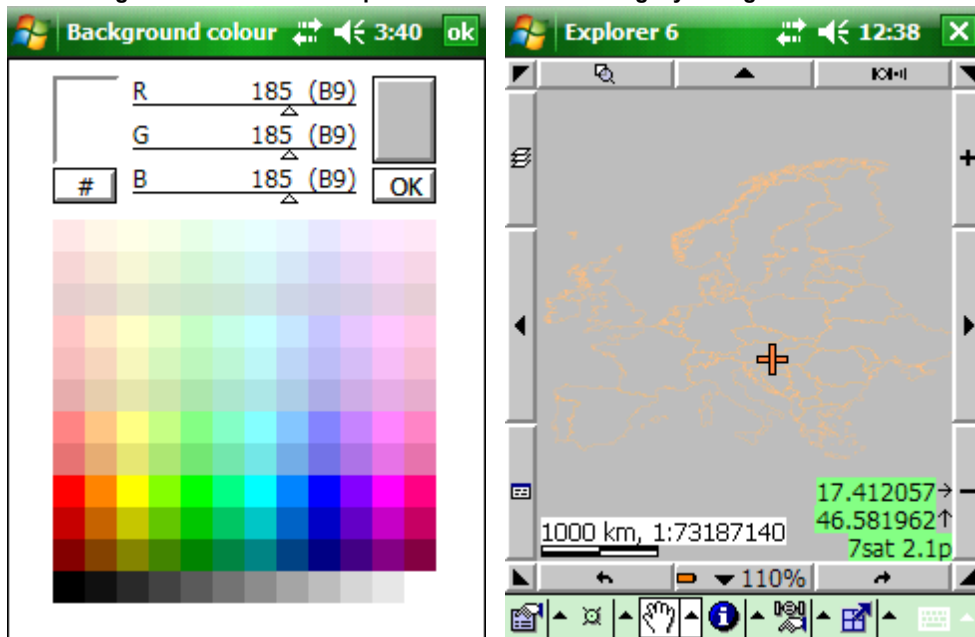
Map Grid: displays a map grid based on the current map projection on the map view. The size of each grid cell is automatically calculated, based on the current map scale.

Map Grid on the map view



Background colour: Opens the [colour palette](#) to set the background colour of the map view (default is white).

The "Background colour" colour palette and the selected grey background colour on the map view



☀ = new feature

Availability of the "Background colour" option in different editions

Basic



Advanced

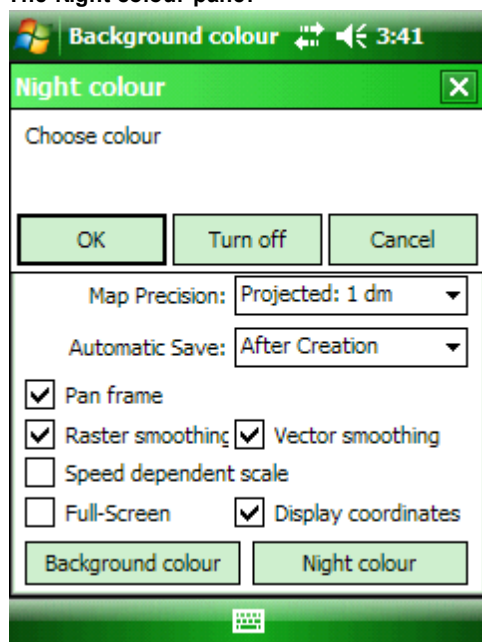


Professional



Night colour: Opens the Night colour dialog to set or turn off the tint colour of the night screen.

The Night colour panel

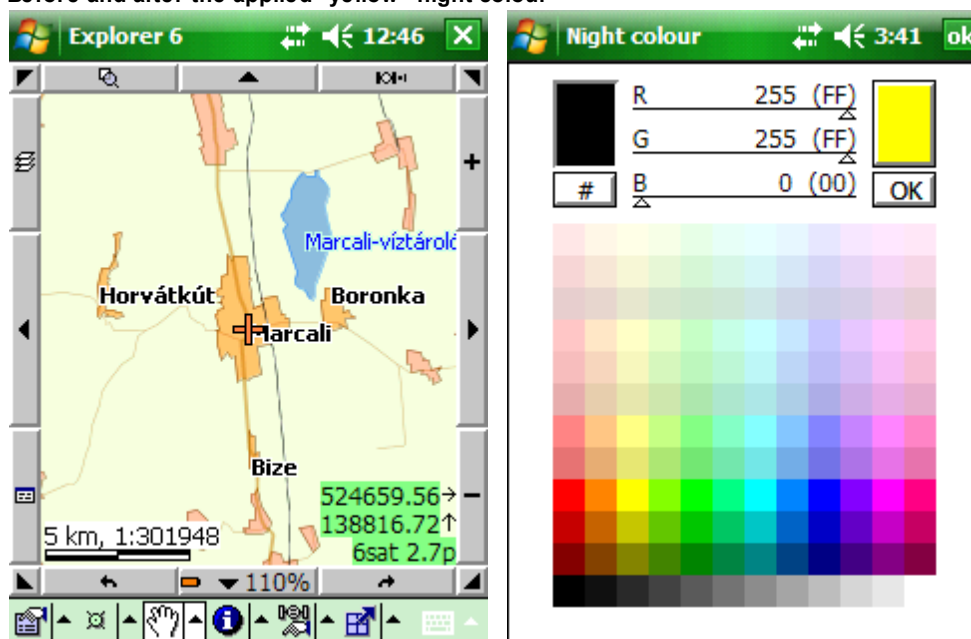


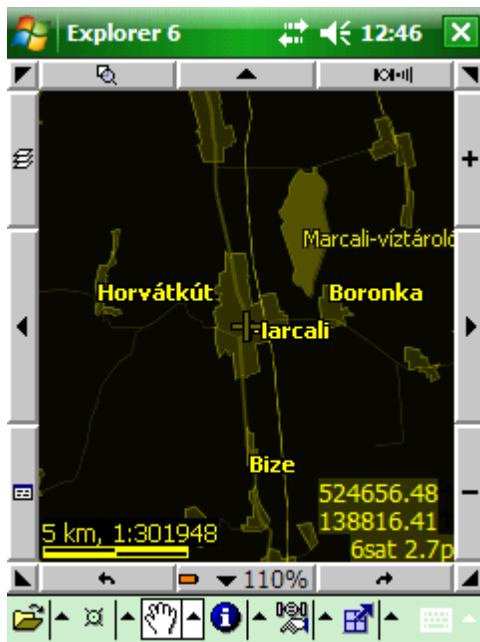
Night colour

OK - Opens the Night colour [colour palette](#).

Turn off - Turns off the current night colour (black colour switches the night colour off also).

Before and after the applied "yellow" night colour





☀ = new feature

Availability of the "Night colour" option in different editions

Basic



Advanced



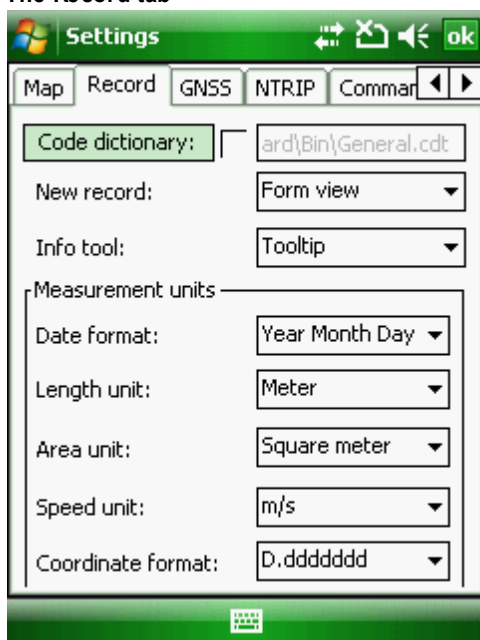
Professional



6.2 Record

The Record tab contains the following controls:

The Record tab



Code dictionary - Displays the PATH to the [code dictionary](#) that is used in the current map

project. There is a [default code dictionary](#) in DigiTerra Explorer for every newly created mapping projects called [General.cdt](#) that you can use globally to store every code sets in it you are using instead of creating a new code dictionary file next to the map project. The left button opens the [Code dictionary file panel](#) to change the code dictionary you are using in the mapping project.

The default code dictionary file, General.cdt is unchecked. That means it is not in use. So if you want to use it in your map project tick the check-box before the PATH and DigiTerra Explorer will immediately use it. ie the new codes and code sets will be added into this file and the attributes display based on the code dictionary if there is a reference to a given code set in the data field name.

Path to the default code dictionary:

Desktop version: \$DOCUMENTS\DigiTerra Explorer\Maps\General.cdt

Mobile version: \$SDCARD\Maps\General.cdt

 = new feature

Availability of the "Code dictionary" feature in different editions

Basic	Advanced	Professional
		



The path of the project's code dictionary file stored in the [DigiTerra Explorer Map](#) project file (.EXP). If you are using separate [code dictionary](#) in the project DigiTerra Explorer saves it next to the project file once you have added the first code set to a data field and closed the Record panel.

New record: Once the geometry capture of a new feature finished DigiTerra Explorer proceeds to attribute data capture and opens a panel with the attributes automatically.

The default panel is the **Form view**, that can be modified as:

No panel: Does not appear the dialog after recording geometry

Form view: Opens the [Form view panel](#)

List view: Opens the [Record panel](#) = [List view](#)

Tree view: Opens the [Tree view panel](#). Useful when working with [related attribute tables](#).

Info tool: Controls the operation of the  Identify command.

The default option is the Tooltip, that can be modified as:

- **Tooltip:** the queried attributes display as [tooltip](#) on the map view
- **Form view:** the queried attributes display in the [Form view panel](#)
- **List view:** the queried attributes display in the [Record panel](#) = [List view](#)
- **Tree view:** the queried attributes display in the [Tree view panel](#)

Measurement units: You can choose the date format, length, area, speed unit and the

coordinate format for degrees from drop-down lists as:

Date format

- **Year Month Day (default)**
- Month Day Year
- Day Month Year

Length unit

- **Meter (default)**
- Hectometer
- Kilometer
- Millimeter
- Centimeter
- Decimeter
- Inch
- Feet
- Feet (Clarke)
- Feet (Gold Coast)
- Feet (Sears)
- Feet (US)
- Yard
- Yard (Indian 1937)
- Yard (Indian)
- Yard (Sears)
- Fathom (1.8288 m)
- Fathom (Wien) (1.89m)
- Mile
- Nautical mile

Area unit

- **Square meter (default)**
- Acre
- Are
- Hold
- Hectare
- Square millimeter
- Square centimeter
- Square decimeter
- Square inch
- Square kilometer
- Square foot
- Square yard
- Square fathom
- Square fathom (Wien)
- Square mile
- Square nautical mile

Speed unit

- **m/s (default)**
- km/h
- f/s
- mph
- knot

Coordinate format

- **D.ddddddd (default)**
- D-M.mmmmm
- D-M-S.sss
- D.ddddddd°
- D°M.mmmmm
- D°M'S.sss




These settings above are used in conjunction with the Creation time, GNSS Time, Area (custom), Perimeter (custom), Length (custom), Distance to last object (custom), Speed (custom), Latitude, Longitude [data field default values](#) on the [Data field panel](#).

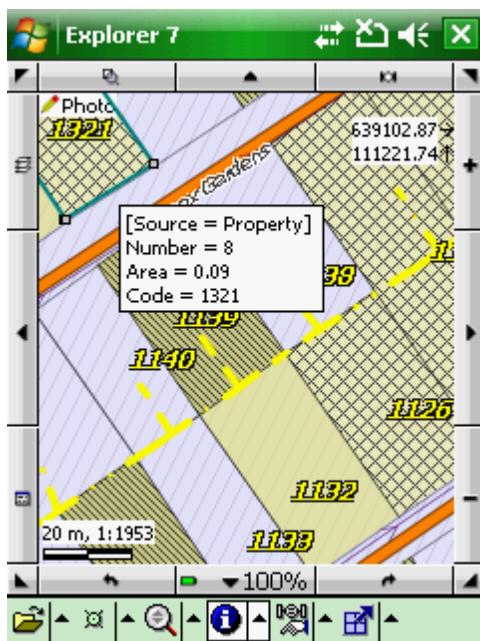


The map display unit is metric in the software. The default map unit is meter.

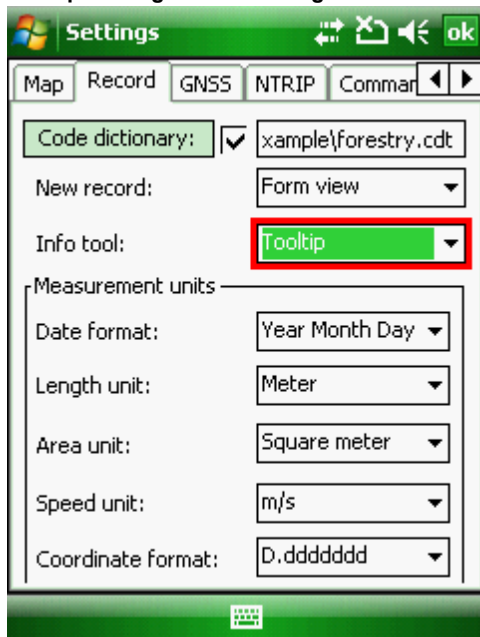
6.2.1 Tooltip

The Tooltip displays on the map when using the  **Identify** tool on a [queryable](#) vector layer according to the Settings > Record > Info tool = Tooltip setting

Tooltip




Tooltip setting on the Settings > Record tab



6.2.2 Form view

The Form view panel displays in the following two cases:

1. When using the  **Identify** tool on a [queryable](#) vector layer according to the Settings > Record > Info tool = Form view setting
2. Once captured the point, line, polygon feature's geometry according to the Settings > Record > New record = Form view setting

Form view panel

OK - Approves all changes and saves the data record. Active button as default.




Cancel - Cancels the changes you typed on the Form then DigiTerra Explorer saves those record values that has been captured by automatically using [default attribute field values](#)

Delete - Erases the current record and the related geometry (if exists)

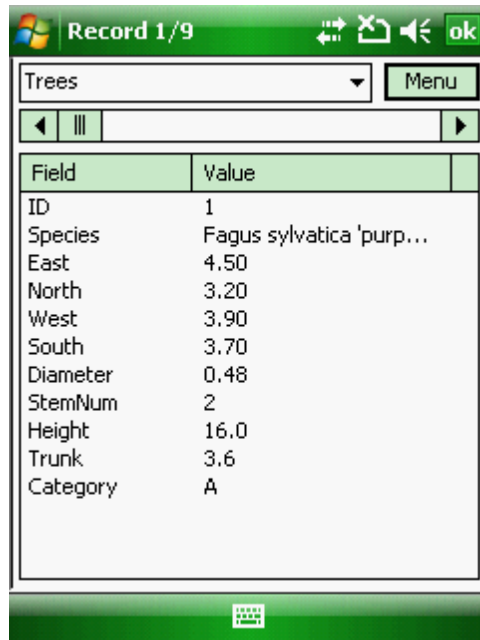
Related Form view settings

6.2.3 List view

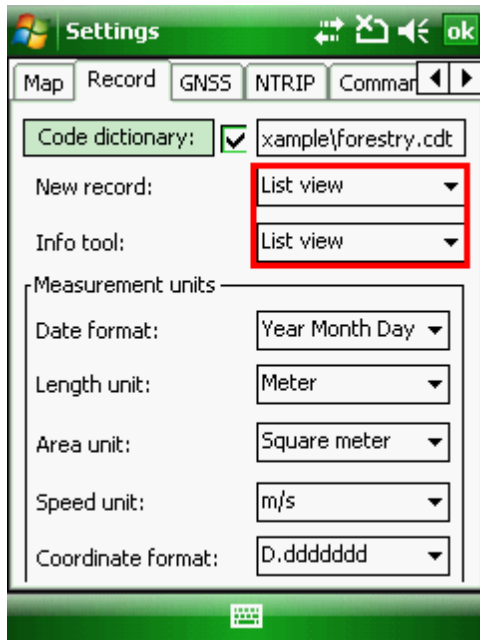
The List view panel = [Record panel](#) displays in the following four cases:

1. When using the  **Identify** tool on a [queryable](#) vector layer according to the Settings > Record > Info tool = List view setting
2. Once captured the point, line, polygon feature's geometry according to the Settings > Record > New record = List view setting
3. Opening it manually from the Query >  **Tables** command or from the Pan frame >  **Record** button in the button in left hand side at the bottom
4. Changing from Tree view to List view on the Record panel > Menu > List view option

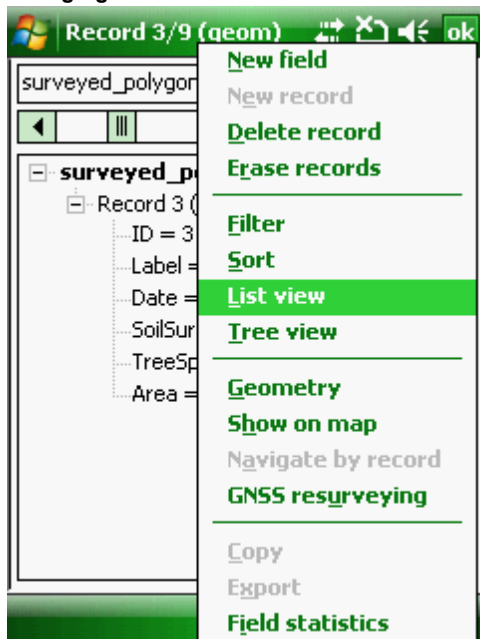
List view



Related List view settings






Changing from Tree view to List view

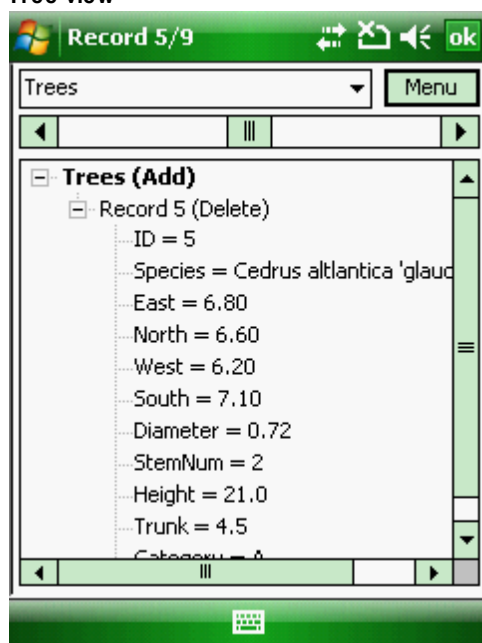


6.2.4 Tree view

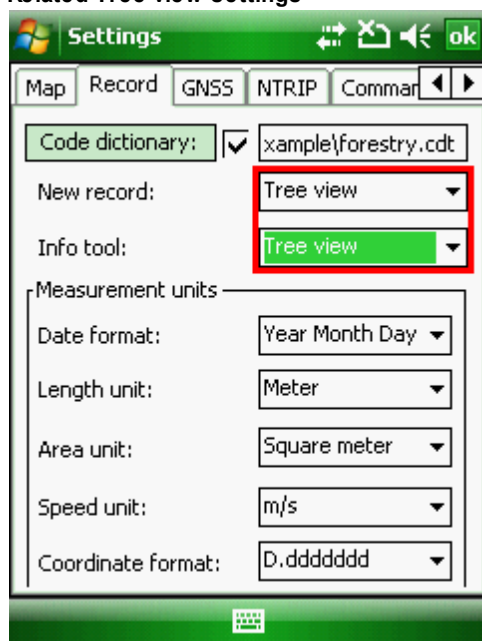
The Tree view panel displays in the following three cases:

1. When using the  **Identify** tool on a [queryable](#) vector layer according to the Settings > Record > Info tool = Tree view setting
2. Once captured the point, line, polygon feature's geometry according to the Settings > Record > New record = Tree view setting
3. Opening it manually from the Query >  **Tables** command or from the Pan frame >  **Record** button in the button in left hand side at the bottom

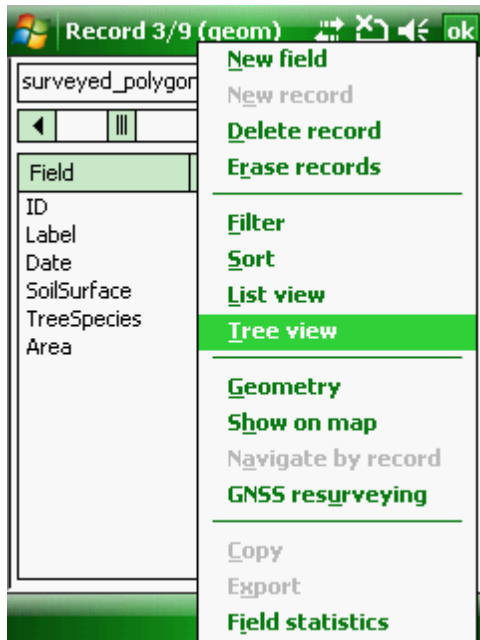
Tree view



Related Tree view settings




Changing from Tree view to List view



6.3 GNSS

The GNSS tab is used to **configure communication settings for your GNSS receiver or use GNSS signal simulation**, as well as

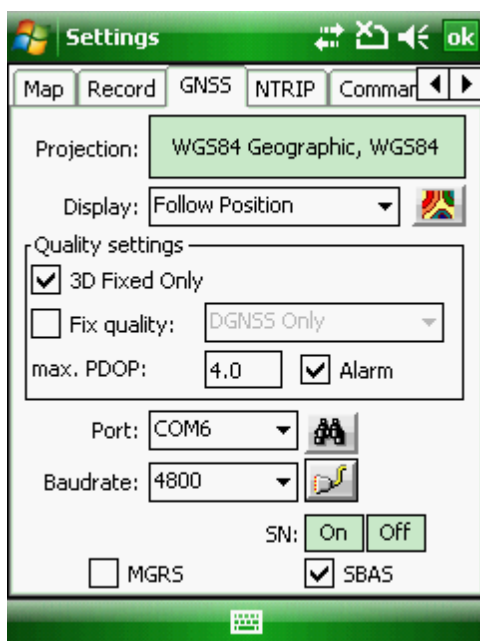
- displays the current [projection](#) of the map view to inform you about the real-time coordinate transformation that applies to the incoming GNSS positions
- allows you to configure how the GNSS position to be displayed on the map view
- usage of geoid undulation here with the  button
- quality thresholds
- alerts for the data capture
- MGRS coordinate usage
- enabling/disabling SBAS (on some devices only)
- turning on/off the static navigation (on some devices only)
- controls the data collection for post processing and

Other GNSS data capture related settings can be found on the [GNSS Survey panel](#).



Please note that the controls of the GNSS tab are slightly differ [on Trimble handhelds](#).

The GNSS tab



Projection: Displays the current spatial reference system of the map view. The projection button is clickable so it also opens the [Select Projection panel](#) to change the projection of the map view.



Please note that the projection of an existing map view with layers can be changed with caution!

Display: Control the display of the GNSS position on the map view

- **Display position:** Shows the current GNSS position on the map view
 - **Follow position:** Shows the GNSS position within the current map view. **Default setting.**
- **Tight following:** Shows the GNSS position in the centre of the map view
- **Follow and rotate:** Shows GNSS position in the centre of the map view and also rotates it into the calculated GNSS heading. In case of higher speed the GNSS position gets to the lower part of the map view.



Geoid File: This command allows you to define a [Geoid Separation File](#). Opens a dialog to display the current geoid separation file or replace it to an other one.

Quality settings:

3D Fixed Only: The GNSS position can be processed if the current GNSS position is a fix 3D position. The default is unchecked.

Fix quality: The GNSS position can be processed if the current GNSS position is a differential

corrected GNSS position. The default is unchecked. The following values can be selected:

- **DGNSS Only**
- **PPS Only**
- **RTK Float or Fixed**
- **RTK Fixed Only**

max. PDOP: The GNSS position can be processed if the current PDOP value less or equals or is less than the maximum PDOP. Default max. PDOP is 4.

Alarm: beeps when the GNSS is active. The Alarm option is used to play alert sound (beep) that notifies you about various GNSS quality that occur when your GNSS receiver is communicating with DigiTerra Explorer. This check-box is ticked as default.

- *max. PDOP exceed:* The current PDOP value from the GNSS receiver exceeds the maximum PDOP value.

- *Not a DGNSS fix:* "DGNSS Only" is checked on the GNSS tab, and the current position fix from the GNSS receiver is not a DGNSS fix.

- *Not a 3D fix:* "3D Fixed Only" is checked on the GNSS tab, and the current position fix from the GNSS receiver is a two dimensional fix.

GNSS serial port settings

The serial port parameters are used to specify communication settings for your auxiliary serial port. For most serial devices, it should not be necessary to specify the Parity, Databits and Stopbits additional serial communication settings. Advanced serial port parameters and [GNSS signal](#)

[simulation](#) can be set in the [Port settings panel](#) by tapping on the  button.

Port: Choose the COM port that your GNSS receiver is connected to on your device. The default is COM6 (commonly used ports are COM2, COM4, COM6, COM7 and COM8).

Baud: Choose the baud rate (data transfer speed) of your GNSS receiver's output. The default is 4800 (commonly used Baud rates are 4800, 9600, 57600 or 115200).



- Searches and set the GNSS port settings

Tap to search for a connected GNSS if you do not know which port on your device your GNSS is connected to. You need to make sure that your GNSS is connected and turned on (if necessary) so the Search GNSS tool can detect your GNSS. The Port, Parity, Baud, Databits and Stopbits dropdown lists will be updated as the Search GNSS tool searches for a connected GNSS. Once a GNSS has been detected you will be prompted to choose the GNSS and use the corresponding settings.

Raw file: Starts capturing phase data on L1 frequency for postprocessing. The RAW files can be postprocessed with Magellan MobileMapper Office and Magellan MobileMapper 6 Office (for Magellan MobileMapper 6 receiver) desktop softwares. Displays only on Magellan MobileMapper 6, Ashtech MobileMapper 10 and on Ashtech MobileMapper 100 devices. Please note, that only ESRI Shape file can be selected as target layer once enabled the RAW data logging on this tab.

Mm6GNSS.dll version 2.5.4.0 is required in the /BIN folder to start RAW data logging. Please don't delete it or replace it with an older version of this DLL.

☀ = new feature

Availability of the "Raw file" logging feature in different editions

Basic	Advanced	Professional
✖	✖	✓



On Thales/Magellan/Ashtech devices you need to enter the purchased GPSDifferential Code when you start the Raw data collection at the first time.

MGRS: Turns on/off the Military Grid Reference System coordinate display on the map view and on the [Target dialog](#). There is more information about this feature on our website here: <http://www.digiterra.hu/en/newsevents/64-digiterra-explorer-news/207-military-grid-reference-system-in-digiterra-explorer.html>

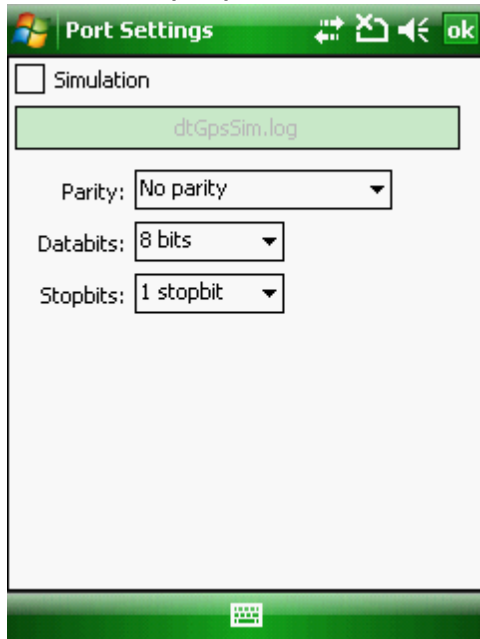
SN: On/Off: Turns on/off the Static navigation mode in SiRF GPS receivers. This option is accessible in the Desktop version as default. In the Mobile version it is controlled by the [device configuration file](#).

SBAS: Turns on/off the SBAS mode in SiRF GPS receivers. This option is accessible in the Desktop version as default. In the Mobile version it is controlled by the [device configuration file](#).

6.3.1 Port settings

The GPS serial port panel contains the following controls:

The GPS serial port panel



[] **Simulation** - Enables to use and play NMEA logfiles.



NMEA logfiles can be captured in DigiTerra Explorer on the [Logger tab](#).

dtGpsSim.log - Clickable button to select a logfile. Default filename is dtGpsSim.log that can be played next to the application's main EXE file: DTExp7.exe.

Parity: Choose the parity of your GPS/GNSS receiver. **The default is No parity.**

Databits: Choose the number of data bits of your GPS/GNSS receiver. **The default is 8 bits.**

Stopbits: Choose the number of stop bits of your GPS/GNSS receiver. **The default is 1 stopbit.**

6.3.2 Trimble GNSS settings tab

If you are using DigiTerra Explorer on Trimble devices the GNSS settings tab appears with basically different controls. The GNSS settings tab has two modes: **I. Trimble Pathfinder Tools** based (SiRF or TSIP) and **II. NMEA**. The default is the first one. These GPS port reading modes can be switched on the [GNSS Status panel](#) with the button in the bottom right corner on Trimble devices only.

Supported Trimble GPS/GNSS receivers:

You can use DigiTerra Explorer with the GPS Pathfinder Tools SDK to control and configure any of the following Trimble receivers:

GeoExplorer ® series handhelds (combined GPS receivers and Windows Mobile powered devices):
GeoXH™ handheld

GeoXM™ handheld
GeoXT™ handheld

Juno™ series handhelds (combined GPS receiver and Windows Mobile powered device)

Juno ST handheld
Juno SB handheld
Juno SC handheld

Trimble Nomad™ series handhelds (combined GPS receivers and Windows Mobile powered devices)

Trimble Nomad G series handhelds (combined GPS receivers and Windows Mobile powered devices)
Trimble Nomad 800/900GL handheld
Trimble Nomad 800/900GLC handheld
Trimble Nomad 800/900GLE handheld
Trimble Nomad 800/900GX handheld
Trimble Nomad 800/900GXC handheld
Trimble Nomad 800/900GXE handheld

GPS Pathfinder Pro series receivers:

GPS Pathfinder ProXH™ receiver
GPS Pathfinder ProXT™ receiver
GPS Pathfinder Pro XRS receiver
GPS Pathfinder ProXRT receiver

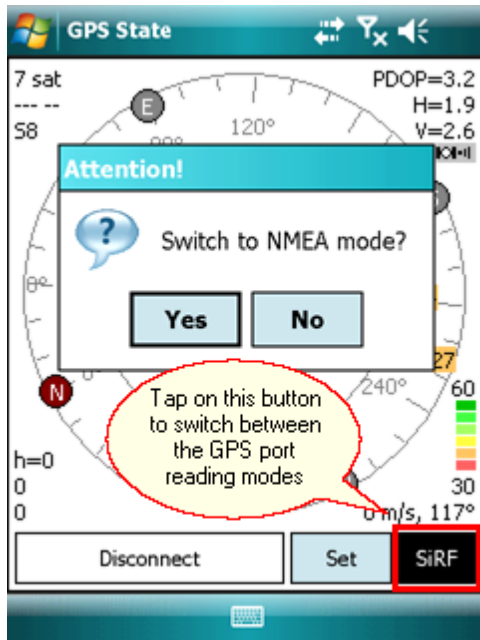
GPS Pathfinder receivers:

GPS Pathfinder XB receiver
GPS Pathfinder XC receiver

Trimble Recon® GPS XB edition

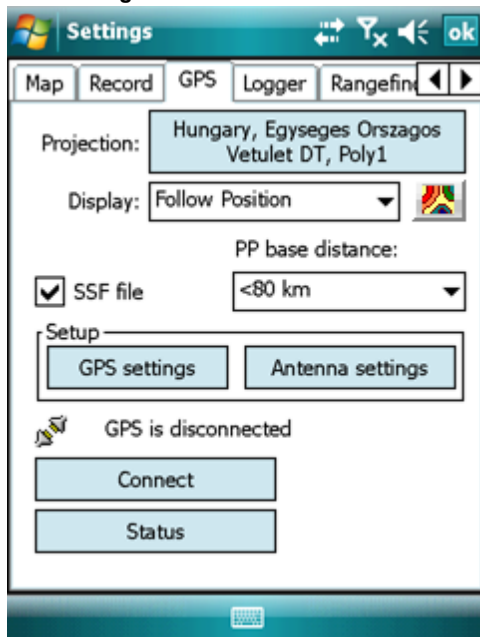
Trimble Recon GPS XC edition

Switching between NMEA and SiRF protocol on Trimble Juno/Nomad



Video tutorial to about the GPS mode switching: <http://www.youtube.com/watch?v=gPHm3Ae5cws>

GPS Settings tab on Trimble devices



PP base distance: base distance for postprocessing. Default value is less than 25 km. Use this property to set or obtain the estimated distance to the base station that will be used during postprocessing. If you will use more than one base station (during H-Star processing), specify the estimated distance to the closest base station.

SSF file: Starts writing into an SSF file for postprocessing when the GPS active. Displays only on Trimble devices. The SSF file can be postprocessed with Trimble Pathfinder Office desktop software.

Setup box:

GPS settings - Opens the [GPS settings panel](#)

Antenna settings - Opens the [Antenna settings panel](#)

GPS is disconnected / GPS is connected: DigiTerra Explorer displays here the status of the GPS connection

Connect - Establishes a connection to a GPS receiver. If the GPS receiver is already connected, this command is not available. When you connect to the GPS receiver, the settings from the software are sent to the GPS receiver to configure its operation.

Disconnect - Disconnects the software from the GPS receiver. If the GPS receiver is already disconnected, this command is not available.

Status - Opens the [Status panel](#)

6.3.2.1 Trimble GPS settings



This panel is English as default and cannot be localized to other languages.

Trimble GPS Settings panel - General tab

Port: Displays the available GPS serial ports. Select a COM port here before connecting to the GPS receiver. If you specify the wrong port, your application cannot communicate with the GPS receiver. The default port setting is COM1.

Masks

DOP Type: Default: PDOP. Use this property to specify whether to use a maximum PDOP or a maximum HDOP value to control whether the GPS receiver is computing positions. A low DOP value indicates that the visible satellites are widely separated in the sky, which gives better position information. When the DOP value rises above the maximum setting, the application stops logging positions.



When using a Juno SB, Juno SC, or Juno ST handheld, a GPS Pathfinder XB receiver, or a GPS Pathfinder XC receiver, or the Trimble Yuma rugged tablet computer, Trimble recommends that you set the DOP type to PDOP and then set the MaximumPDOPMask property to 99

Max. PDOP: Default: 6.0. Use this property to view and set the maximum Position Dilution of Precision (PDOP) for the satellite constellation. If the Trimble GPS receiver detects a higher PDOP value for the current satellite constellation, the receiver stops computing positions until the PDOP drops to or below the value of this property.

The PDOP value indicates the quality of a GPS position. It takes account of the location of each satellite relative to the other satellites in the constellation, and their geometry in relation to the GPS receiver.

Specify a lower maximum PDOP to collect fewer, more precise positions. However, decreasing the maximum PDOP too far below the value recommended for your GPS receiver significantly decreases the time during which you can calculate positions, and does not significantly increase accuracy.

Specify a higher maximum PDOP to collect more, less precise positions. However, increasing the maximum PDOP can seriously degrade position quality.

Legal values for this property are 1-99. A PDOP value of 4 or less gives excellent positions. A PDOP of between 4 and 8 is acceptable. A PDOP of 8.0 or more is poor. The default maximum PDOP is 6.



When using a Juno SB, Juno SC, or Juno ST handheld, a GPS Pathfinder XB receiver, or a GPS Pathfinder XC receiver, or the Trimble Yuma rugged tablet computer, set the maximum PDOP to 99.

Max. HDOP: Default: 4.0. Use this property to view and set the maximum Horizontal Dilution of Precision (HDOP) for the satellite constellation. If the Trimble GPS receiver detects a higher HDOP value for the current satellite constellation, the receiver stops computing positions until the HDOP drops to or below the value of this property.



When using a Juno SB, Juno SC, or Juno ST handheld, a GPS Pathfinder XB receiver, or a GPS Pathfinder XC receiver, or the Trimble Yuma rugged tablet computer, Trimble recommends that you do not use this property. Instead, set the DOP Type property to PDOP and then set the Max. PDOP property to 99.

Specifying a maximum HDOP can give greater productivity than filtering the solutions with a

maximum PDOP. Setting a maximum PDOP rejects some positions that have an acceptable HDOP value, because their VDOP (Vertical Dilution of Precision) value is unacceptable. When you use a maximum HDOP, these positions are accepted.

Use the HDOP setting when vertical precision is not particularly important, and your position yield would be decreased by excluding positions with a high vertical component in the PDOP value (for example, if collecting data under canopy).

Legal values for this property are 1-99. The maximum HDOP should typically be set to approximately two-thirds of your normal PDOP setting. An HDOP value of 4 or less gives excellent positions.

Min. Elevation: Default 15°. Use this property to view and set the maximum Position Dilution of Precision (PDOP) for the satellite constellation. If the Trimble GPS receiver detects a higher PDOP value for the current satellite constellation, the receiver stops computing positions until the PDOP drops to or below the value of this property.

The PDOP value indicates the quality of a GPS position. It takes account of the location of each satellite relative to the other satellites in the constellation, and their geometry in relation to the GPS receiver.

Specify a lower maximum PDOP to collect fewer, more precise positions. However, decreasing the maximum PDOP too far below the value recommended for your GPS receiver significantly decreases the time during which you can calculate positions, and does not significantly increase accuracy.

Specify a higher maximum PDOP to collect more, less precise positions. However, increasing the maximum PDOP can seriously degrade position quality.

Legal values for this property are 1-99. A PDOP value of 4 or less gives excellent positions. A PDOP of between 4 and 8 is acceptable. A PDOP of 8.0 or more is poor. The default maximum PDOP is 6.



When using a Juno SB, Juno SC, or Juno ST handheld, a GPS Pathfinder XB receiver, or a GPS Pathfinder XC receiver, or the Trimble Yuma rugged tablet computer, set the maximum PDOP to 99.

Min. SNR: Default: 39. Use this property to view and set the minimum signal-to-noise ratio (SNR) value of each satellite tracked by the Trimble GPS receiver. The SNR is a measure of the quality of the signal from a satellite. When the SNR of a satellite falls below the minimum value, the receiver stops using that satellite to calculate GPS positions.



If you lower the minimum SNR, the GPS receiver uses satellites with weaker signals. While this may increase the GPS coverage you can obtain in environments where the GPS signal is weakened (such as forests), it can reduce accuracy.

Applications created using version 2.00 and later of the GPS Pathfinder Tools SDK store and display SNR values as Carrier-to-Noise ratio (C/No) values, measured in decibel-Hertz (dBHz). Applications created using previous versions of the SDK stored and displayed signal-to-noise ratio (SNR) values as Amplitude Measurement Unit (AMU) values.

The typical SNR of a satellite at 30° elevation is between 47 and 50 dBHz. The quality of a GPS position degrades as the SNR of one or more satellites in the constellation falls below 39 dBHz.

Legal values for the Minimum SNR property range from 12 to 47 dBHz. Typical Minimum SNR Mask values for most supported Trimble GPS receivers are 33 to 43 dBHz.



When using a Juno SB, Juno SC, or Juno ST handheld, a GPS Pathfinder XB receiver, or a GPS Pathfinder XC receiver, or the Trimble Yuma rugged tablet computer, Trimble recommends that you set the minimum SNR to 12 dBHz.



The Minimum SNR Mask only applies to L1 data. If a satellite is outputting L1 and L2 signals, and the SNR of the satellite's L1 signal meets the required minimum SNR, then the L2 signal from the same satellite is always used.

Min. Satellites: Default: 4 (for three-dimensional positions). Use this property to view and set the minimum number of GPS satellites that must be tracked by the Trimble GPS receiver before a GPS position is calculated. If the receiver detects a lower number of satellites in the sky, it stops calculating positions until the number of qualified satellites (that meet the other property requirements) meets or exceeds the value of this property.

The minimum number of satellites required to calculate a three-dimensional position is four, which is the default setting. If you want to collect high-accuracy data, the minimum number of satellites required to calculate a three-dimensional position when the GPS receiver is moving is five (for example, when logging an area or line feature).

Apply Velocity Filter: Default: Off. Use this property to enable or disable the position velocity filter in the connected Trimble GPS receiver. Velocity filtering smooths the positions from the GPS receiver as they are generated, using velocity information. This filter reduces the effects of multipath on positions computed by the GPS receiver.



Files collected with the Velocity Filter property enabled cannot be differentially corrected using Trimble postprocessing software unless H-Star data or carrier phase measurements are logged.

Velocity filtering is not appropriate in all environments, and should only be applied in situations where hostile GPS conditions are expected to degrade position accuracy. When used on predominantly good data, the filtering may decrease the accuracy of the data. Trimble recommends that you apply velocity filtering during differential correction. This gives you the flexibility to reprocess the data with and without velocity filtering, and then choose the best result.



When using a Juno SB, Juno SC, or Juno ST handheld, a GPS Pathfinder XB receiver, or a GPS Pathfinder XC receiver, or the Trimble Yuma rugged tablet computer, velocity filtering is unavailable.

Use GLONASS (if available): Default: On. Use this property to enable or disable tracking of GLONASS satellites in the connected GPS receiver. If the connected receiver is not GLONASS-capable, the setting for this property has no effect and only GPS satellites are tracked.

Tracking GLONASS satellites as well as GPS satellites can improve productivity by reducing the time required to achieve real-time or postprocessed decimeter or subfoot solutions and increasing the amount of data collected (increased yield), particularly in tough environments such as around tall buildings and under heavy tree canopy.

Trimble GPS Settings panel - Real-time tab

Settings

GPS Settings

Source Type: Internet

Secondary Source: None

Position Mode: Best Available

Age Limit: 50 seconds

General Real-time

Real-time Settings

Use the Real-time Settings form to select the real-time differential GPS sources that you use, if any, and to configure how your system communicates with each source.

Note – Data collected using a Recon GPS CF Card receiver cannot be differentially corrected, either in real time or using postprocessing.

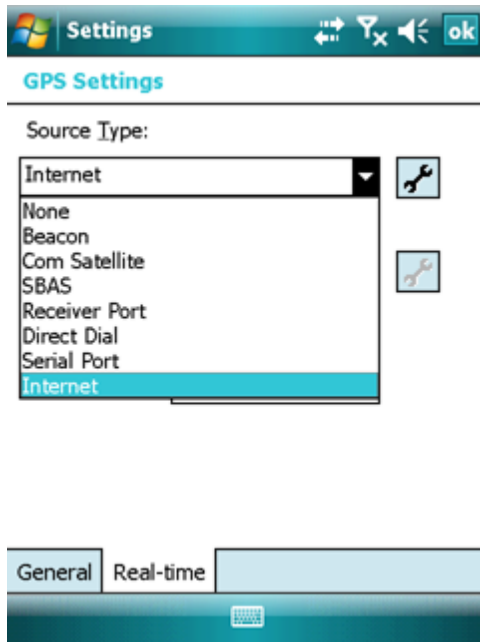
To open the Real-time Settings tab, do one of the following:

- In the GPS Settings panel, tap Real-time.
- In any screen in the Real-time section, tap the Setup button.

DigiTerra Explorer always uses the highest priority real-time source available, according to your list of preferences. If the source it is currently using becomes unavailable, the software switches to the next choice. Whenever DigiTerra Explorer acquires a higher priority real-time source, it switches back to this source. For example, the software will not use your second choice if your first choice is available.

It is important that you set up all of the choices correctly, so that when DigiTerra Explorer software switches between choices it can continue to receive corrections.

Source types



Selectable source types

Default: None to both Source Types

None: The application will not use a real-time DGPS correction stream

Beacon: The application will use real-time DGPS corrections from a marine radio beacon, received by the GPS receiver's integrated beacon receiver

Com Satellite: The application will use real-time DGPS corrections from a satellite differential correction service, received by the GPS receiver's integrated communication satellite receiver

SBAS: The application will use real-time DGPS corrections from a Satellite Based Augmentation System (SBAS), received by the GPS receiver's integrated SBAS receiver

Receiver Port: The application will use real-time DGPS corrections from an external real-time correction source connected to a port on the GPS receiver

Direct Dial: The application will use real-time DGPS corrections from an external real-time correction source connected to the field computer using a direct dial modem

Serial Port: The application will use real-time DGPS corrections from an external real-time correction source connected to a serial port on the field computer

Internet: The application will use real-time DGPS corrections from an external real-time correction source connected to the field computer using an Internet connection

6.3.2.2 Trimble Antenna settings



This panel is English as default and cannot be localized to other languages.

Trimble Antenna settings

Height: 0.000 m

Type: GeoXH Internal

Measure Height To:

OK Cancel

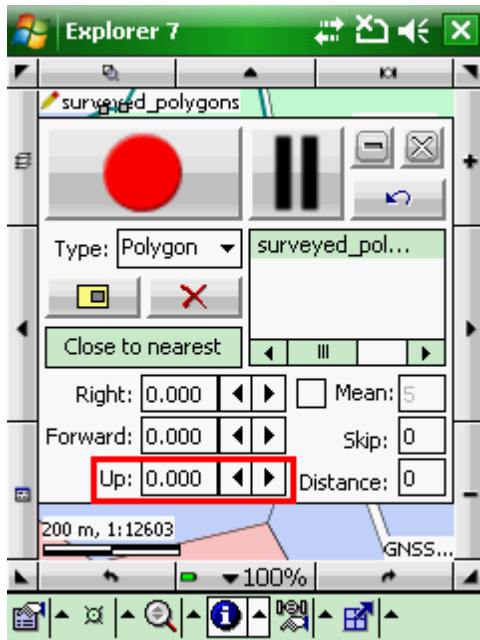
Help

Height: the height of the antenna above the ground



Please, **enter "0" on the GNSS Survey panel when using the Height parameter on the Trimble Antenna Settings panel**, anyway the measured height offsets with the default value of the Antenna height (on the GPS Survey dialog.)

GNSS Survey Up/Down offset



Type: the type of antenna that is being used

Measure Height To: the physical point on the antenna that was used when measuring the height (the "measurement method")

Trimble postprocessing software uses "Measure Height To" information to compensate for the antenna height when displaying positional information, which gives more accurate elevation readings. For example, if an antenna height of 2.0 meters is specified, the postprocessing software automatically subtracts 2.0 meters from all GPS position and feature elevations, and displays the true ground elevation rather than the elevation at the antenna.

DigiTerra Explorer determines the list of available antennas and measurement methods. If the application is connected to a GPS receiver, only the antenna types supported by the connected receiver are shown. If the application is not connected to a GPS receiver, all antenna types are shown.

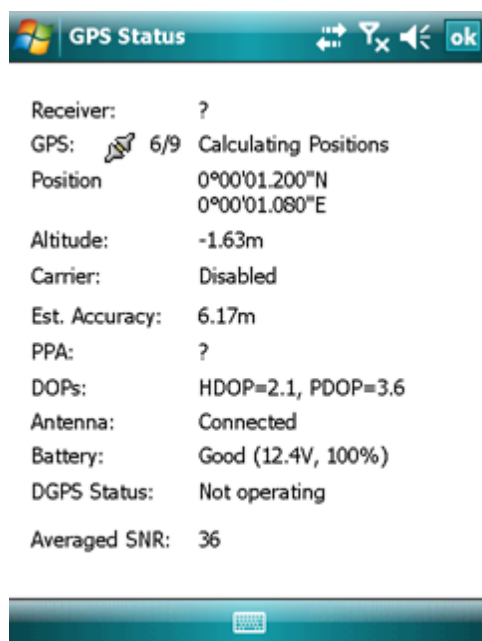
When the user clicks the OK button, the new antenna settings are applied. If an SSF file is open, an SSF Survey Station record is also written. The Survey Station record allows the postprocessing software to determine the antenna settings, and to apply the appropriate offset to all subsequent elevations in the file.

6.3.2.3 Trimble Status



This panel is English as default and cannot be localised to other languages.

Trimble Status panel



Receiver: Shows the type of the receiver

GPS: Shows the used/viewed number of satellites; and the GPS status codes:

- Calculating Positions
- Waiting For GPS Time
- High PDOP
- Waiting For Satellites
- High HDOP

Position: Shows the coordinates of the current position.

Altitude: Shows the current altitude in meter.

Carrier: Shows the current status of carrier logging, and the length of time that carrier phase or H-Star data has been recorded since lock on the required number of satellites was obtained.

Est. Accuracy: This property shows the estimated accuracy of the GPS position in meters. The estimated accuracy has a confidence level of 68%, which means that 68% of the time the actual position should be within the estimated distance of the measured position. The estimated accuracy reflects the accuracy of the positions that are being collected in real-time, whether they are autonomous positions, or real-time differentially corrected positions. To differentiate it from the PPA, the estimated accuracy is sometimes referred to as the Current Estimated Accuracy (CEA).

PPA: The Predicted Postprocessed Accuracy (PPA) value can provide an estimate of postprocessed accuracy, but only when logging H-Star data. It does indicate the accuracy that might be achieved after postprocessing.

DOPs: Shows the current HDOP and PDOP values

Antenna: Retrieves the current status of the antenna. The Status value indicates whether the antenna is disconnected, or whether the Trimble GPS receiver is using its internal antenna, or is connected to an external antenna. (Not all GPS receivers report the antenna status.)

Battery: Indicates the current battery level. In addition, this event can notify your application of a battery level change as soon as the change occurs. The battery level of the receiver is checked at

least once every 30 seconds. If the battery voltage has changed by more than 0.1 volts, or if the percentage remaining has changed by more than 1.0%.

DGPS Status: Indicates the current DGPS statuses

- No DGPS Source Selected - A real-time differential correction source is not selected.
- DGPS Operating - A real-time differential correction source is selected and corrected positions are being received.
- DGPS Not Operating - A real-time differential correction source is selected but corrected positions are not being received.

Averaged SNR: Shows the averaged SNR value to all used satellites

6.3.3 The geoid undulation

DigiTerra Explorer calculates heights in two ways:

1. **Height above ellipsoid.** This is the default.
2. **Height above Mean Sea Level** if a geoid undulation value is specified by [using a geoid undulation file](#).



About the height calculation please also have a look at this tutorial at <http://forum.digiterra.hu/viewtopic.php?f=59&t=308>

To specify appropriate value of the [Upward offset field](#) on the [GPS Survey panel](#) for calculating the height value it is necessary to understand how DigiTerra Explorer calculates heights

GPS receivers output the height of the GPS antenna, in meters, via the GGA sentence of the NMEA protocol. This height is relative to Mean Sea Level. Many GPS receivers also output the geoid undulation, in meters, via the same GGA sentence. The geoid undulation is the distance between the geoid and ellipsoid. DigiTerra Explorer then calculates the sum of the GPS antenna height (relative to Main Sea Level) and the geoid undulation to produce the ellipsoidal height (Height Above Ellipsoid) which is potentially stored as the height value. So from the GGA message, DigiTerra Explorer calculates Height Above Ellipsoid using the following formula:

Height Above Ellipsoid = Main See Level Height ± Geoid undulation value

This Height Above Ellipsoid value is based on the datum used by the GPS receiver, which is typically WGS84. The default unit for Height Above Ellipsoid value is meter. When the TSIP protocol is used on Trimble devices, DigiTerra Explorer requests the Height Above Ellipsoid height from the GPS. Consequently, no calculation of the Height Above Ellipsoid is needed by DigiTerra Explorer.

To store accurate height values, it is necessary to provide DigiTerra Explorer with additional information to be used for calculating the height values. [Upward offset](#): Since the height reported by the GPS is actually the [height of the GPS antenna](#), it is necessary to let DigiTerra Explorer know the height of the GPS antenna above the ground. DigiTerra Explorer then subtracts the antenna height from the GPS height to determine the height value for the GPS position at ground level. The default Upward offset (antenna height) is -1.5 meter.

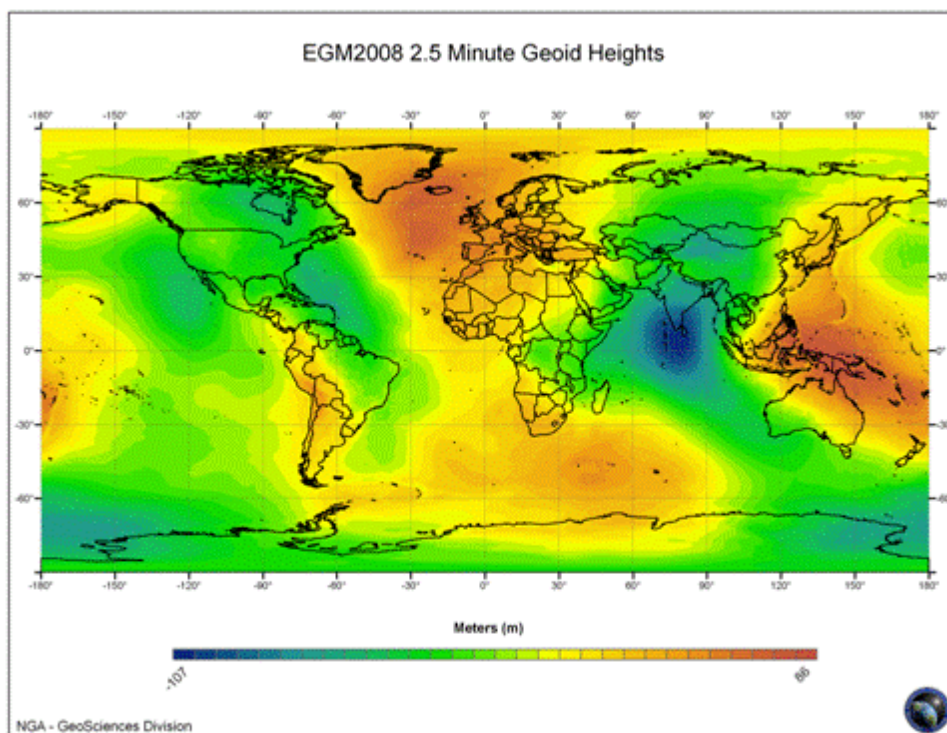
Geoid undulation

The geoid undulation file provides the geoid separation value (distance between the geoid and ellipsoid) to the current Latitude, Longitude GPS position. DigiTerra Explorer subtracts the geoid

undulation from the ellipsoidal height to determine the height for the heights value. The resultant height is the Mean Sea Level, or orthometric height. The Geoid undulation is negative where the geoid lies below the ellipsoid.

The geoid undulation file built based on the official [Earth Gravitation Model's \(EGM2008\) 2.5 Minute Geoid Heights](#) (has been publicly released by the U.S. National Geospatial-Intelligence Agency (NGA) EGM Development Team.)

The EGM2008 Model



GGA String

GGA - Global Positioning System Fix Data, Time, Position and fix related data for a GPS receiver.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

\$--GGA,hhmmss.ss,llll.ll,a,yyyyy.yy,a,x,xx,x.x,x.x,M,x.x,M,x.x,xxxx*hh<CR><LF>

Field Number:

- 1) Universal Time Coordinated (UTC)
- 2) Latitude
- 3) N or S (North or South)
- 4) Longitude
- 5) E or W (East or West)
- 6) GPS Quality Indicator,
 - 0 - fix not available,
 - 1 - GPS fix,
 - 2 - Differential GPS fix
 - (values above 2 are 2.3 features)
 - 3 - PPS fix

4 - Real Time Kinematic

5 - Float RTK

6 - estimated (dead reckoning)

7 - Manual input mode

8 - Simulation mode

7) Number of satellites in view, 00 – 12

8) Horizontal Dilution of precision

9) Antenna Altitude above/below mean-sea-level (geoid)

10) Units of antenna altitude, meters

11) Geoidal separation, the difference between the WGS-84 earth ellipsoid and mean-sea-level (geoid), "-" means mean-sea-level below ellipsoid

12) Units of geoidal separation, meters

13) Age of differential GPS data, time in seconds since last SC104 type 1 or 9 update, null field when DGPS is not used

14) Differential reference station ID, 0000-1023

15) Checksum

Relation to Geoid Undulation

$$H = h - N$$

H: Ellipsoid height

h: Orthometric height (Field 9) (mean-sea-level height)

N: Geoidal separation (Field 11)

What you read in field 9 is an orthometric height (h) corrected by global geoidal separation (N) in meters, based on the official NATO's standard mean-sea-level algorithm (5-degree grid of height).

To calculate the ellipsoid height (H) use this formula:

$$H = h - N \text{ (NATO)}$$

(H = Field 9 - Field 11)

Now use the interpolated geoidal separation to calculate the correct ellipsoid height (h).

$$h = H + N \text{ (EGM2008 interpolated)}$$

The EGM2008 geoid undulation file can be downloaded to DigiTerra Explorer from the following link: http://www.digiterra.hu/downloads/DigiTerra_Explorer/geoidUnd.rar. Must be copied the uncompressed files [to the \Geoids path](#).

The geoidund.rar contains the following files:

- geoidUnd.dat
- geoidUnd.ers
- geoidUnd.hdr

Custom raster grids (more accurate) can be used by replacing the **geoidUnd.dat** file with the new raster's header file: **geoidUnd.hdr**. In case of using a custom grid file you have to copy or calculate the next values based on the **geoidUnd.ers** file (header file values = ERS file values):

EastMin = Eastings
EastMax = Eastings + NrOfCellsPerLine * Xdimension
EastSize = Xdimension
NorthMin = Northings - NrOfLines * Ydimension
NorthMax = Northings
NorthSize = Ydimension

The original **geoidUnd.ers** (ERS file values):

```

DatasetHeader Begin
    DataFile      = "geoidUnd.dat"
    DataSetType   = ERStorage
    DataType      = Raster
    ByteOrder     = LSBFirst
    Commnet       = "Geoid undulation 2.5 x 2.5 min global"
    CoordinateSpace Begin
        Datum      = "WGS84"
        Projection  = "Geographic"
        CoordinateType = EN
        Rotation    = 0:0:0.0
    CoordinateSpace End
    RasterInfo Begin
        CellType    = IEEE4ByteReal
        CellInfo Begin
            Xdimension = 0.04166666666666667
            Ydimension = 0.04166666666666667
        CellInfo End
        NrOfLines    = 4321
        NrOfCellsPerLine = 8642
        RegistrationCoord Begin
            Eastings    = -0.04166666666666667
            Northings   = 90
        RegistrationCoord End
        NrOfBands     = 1
    RasterInfo End
DatasetHeader End
  
```

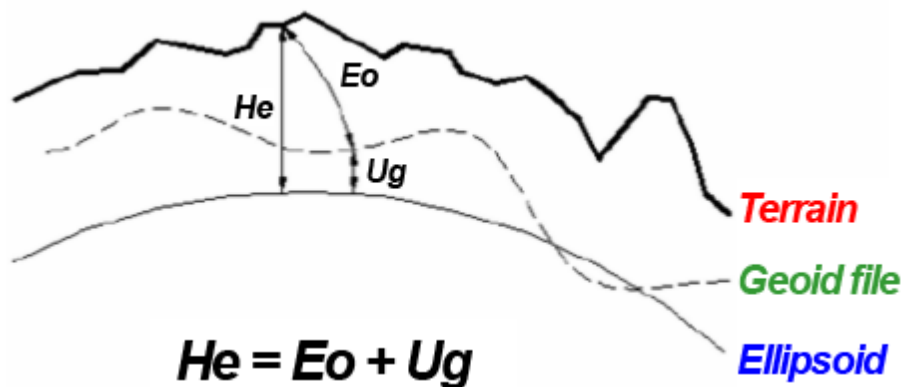
The original **geoidUnd.hdr** (header file values):

```

// Geoid Undulation Matrix
// Format: 4 or 8 byte floating point, little endian encoding
// Data Order: rows from eastmin to eastmax, columns from northmax to northmin
EastMin=-0.04166666666666667
EastMax=360
EastSize=0.04166666666666667
NorthMin=-90
NorthMax=90
NorthSize=0.04166666666666667
Header=0
DataSize=4
Dimension=1
NullValue=0
  
```

6.3.4 Using geoid files

Geoid Separation File: This option will incorporate the geoid undulation in determining the orthometric elevation of the measurement. The definition of the geoid model as currently adopted by the National Geodetic Survey is the equipotential surface of the Earth's gravity field which best fits, in a least squares sense, global mean sea level. Orthometric elevation measurements are used in survey calculations. In order to convert ellipsoid heights (**He**) as measured by GPS into orthometric elevations (**Eo**), you must provide for a correction between the GPS-measured ellipsoid (**reference ellipsoid**) and a constant level gravitational surface, the geoid. This correction is the geoid undulation (**Ug**).



How to use Geoid Separation Files with DigiTerra Explorer


1. Copy the Geoid Separation File(s) to the following directory:

Default Geoid Directory

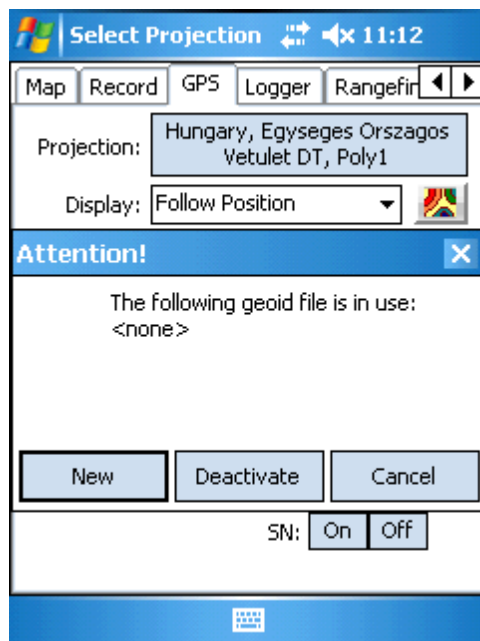
Path:

Desktop version: \$DOCUMENTS\DigiTerra Explorer\Geoids

Mobile version: \$SDCARD\Geoids

2. Tap on the  **Geoid File** button on the Settings panel > GPS tab
3. Tap on the **New** button on the appeared message box to open the Geoid [File panel](#)

Geoid file selection message box

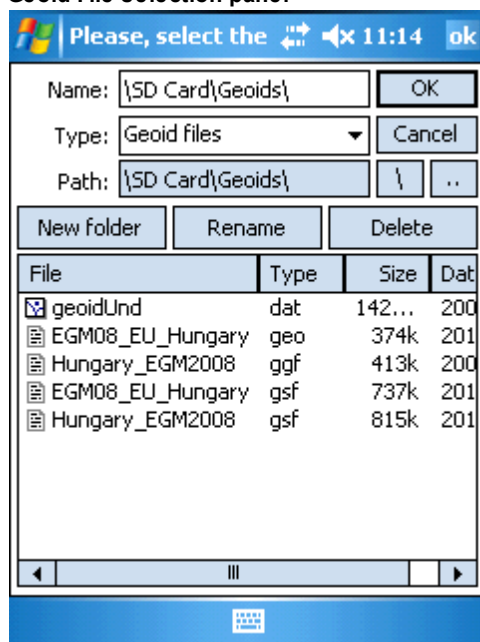


Deactivate - Deactivates the geoid file usage

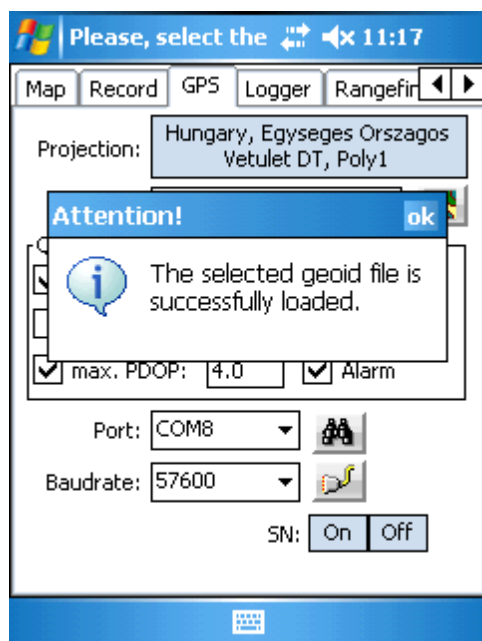
Cancel - Closes the geoid file selection message box

4. Select a geoid file

Geoid File selection panel



Successfully loaded geoid file



Supported geoid file formats:

- .DAT files
- .BIN files
- .GSF files
- .GGF files
- .GEO files



You can download several geoid separation files here: <http://resources.ashtech.com/GEOIDS>



The selected geoid separation file can be applied on the [Calculate panel](#) in determining the orthometric elevation of the calculated position.

6.4 NTRIP

The DGPS tab is an **NTRIP Client** and available only in DigiTerra Explorer Professional edition. The program handles the HTTP communication to receive streams from an NTRIP Caster. After downloading a source table, setting up the session parameters and connect to the receiver on the GPS Status dialog with the Connect button or by opening the GPS Survey panel, the software connects to the NTRIP Caster and writes the received GNSS data stream to a defined serial port until the session is stopped.

Receiving a stream is continuously indicated by the "Received data" control. In addition, the total amount of received bytes is displayed as long as a session continues. Handling instructions as well as error messages are shown on the message boxes. The program keeps the last session

parameters, containing i.e. IP Address, Port, Username, Password, selected Mount point and COM-port settings.

This tab is accessible in the Professional edition in the Desktop version as default. In the Mobile version it is controlled by the [device configuration file](#).

☀ = new feature

Availability of the "DGPS" tab in different editions

Basic	Advanced	Professional
✗	✗	✓

The DGPS tab contains the following controls:

The DGPS tab

For **Trimble Mapping & GIS products**, please read the [Trimble GPS settings topic](#) to set up a real-time correction.



On Spectra products (MobileMapper 100 series, Promark 120 series) you have to use the on-board DGNSS Configuration software.

The DGPS tab contains the following controls:

Max age: Real-Time correction Age Limit. **50 second or 150 second** are good values to work with in most cases. If for any reason, the reception of DGPS/DGNSS corrections is of poor quality, you can increase this time limit up to **250 second** without significantly impairing the position accuracy normally achieved with DGPS. The default is **20 second**.

Usage of the Max age property:

Use this property to set the maximum age of RTCM data that will be used. RTCM is a format for real-time differential correction messages. RTCM are the initial letters of the Radio Technical

Commission for Maritime Services. When a DGPS source is in operation, the GPS receiver gets a stream of RTCM data. This data stream contains the corrections that improve the accuracy of the GPS position. If the RTCM data is current, then maximum accuracy is achieved. If the DGPS data stream is interrupted, the data already saved in the receiver ages. It is still useful, but the accuracy begins to degrade as time goes on. If the data is too old, it is not useful.

This property allows you to trade off accuracy for yield. Choose a small value, for example 5 seconds, to ensure that all DGPS positions have the maximum accuracy. However, some positions may not be corrected when the DGPS data stream is interrupted for more than 5 seconds. Choose a larger value, for example 50 seconds, to allow DGPS positions to be computed with older data. In this case, if the DGPS data stream is interrupted for 40 seconds, DGPS corrections continue to be applied but the accuracy of these positions is not as good.

DigiTerra Explorer sends NMEA GGA sentence based on the selected Max age value. e.g. if you selected 20 sec the GGA will be sent in every 20 seconds to the service provider if it is necessary to receive corrections in the selected stream.

Broadcaster settings:

IP Address and port of an NTRIP Caster, Username and Password are broadcaster information.

Broadcaster settings

NTRIP	
Address:	84.206.45.44
Port:	2101
Username:	digiterra
Password:	*****

- **Address:** NTRIP Caster IP Address or Host name
- **Port:** Port number of the NTRIP Caster's IP Address or Host name. In most cases you can use 80 or 2101 as port number. The default is **2101**.
- **Username:** Used-ID for the NTRIP Caster
- **Password:** Password for the NTRIP Caster

Mount point selection and Output settings:

Select Mount point and Output

Mount point:	Choose...
Received data:	0 Bytes
COM1 1200kbps	
Apply	

- **Mount point:** Tap on the Choose... button to open the [Source table panel](#) with the available streams
- **Received data:** Displays the total amount of received RTCM data in bytes as long as a session continues
- **Serial COM-Port settings:** Tap on this button to open the Output's [Serial port settings panel](#)
- **Apply:** This button is active only when the software is connected to the receiver and you changed the currently used Mount point. Tap on this button to apply changes.

6.4.1 Source table

Once you have entered the connection settings of an NTRIP Caster within the DGPS dialog, you find details about its data streams in the this panel. Select the stream in the Source drop-down list you are looking for. The dialog also shows details about the Network the stream belongs to.

Source table

Field	Data
Mountpoint	SGO_DGNSS-RTCM3.0
Identifier	DGNSS_RTCM3.0
Format	RTCM 3.0
Carrier Ph...	L1
GNSS	GPS+GLO
Network	EUPOS
Country	HUN
Position	N47.79° E19.28°
Sending p...	Yes
Solution	Single base
Generator	GNSMART
Authentica...	Basic

Select Network: Select a Network to filter the list of the selectable streams

Select Stream: Select a mount point

Stream details: Shows the details of the selected NTRIP mount point

Refresh - Updates the list of the available mount points

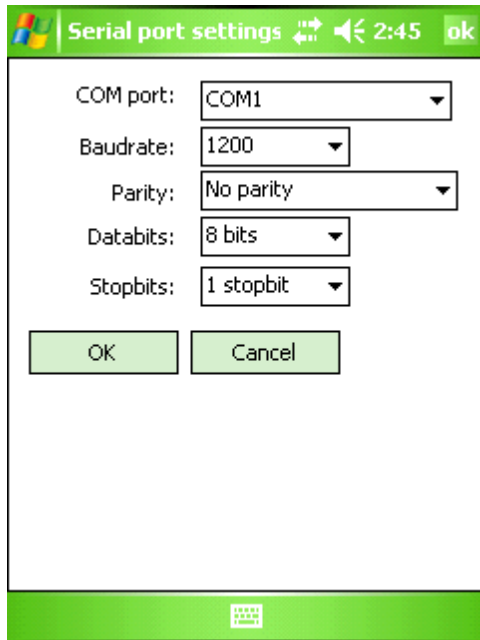
Cancel - Cancels the selected mount point and closes the Source table panel

OK - Selects the current mount point and closes the Source table panel

6.4.2 Serial port settings

This dialog enables you to define the serial COM port output option to forward a DGNSS or RTK data stream as received from an NTRIP Caster to the serial connected GNSS receiver. Details defining the COM-port communication are to be entered through this dialog.

NTRIP Serial COM port settings



In the most cases you need to apply the same connection settings as on the [GPS serial port settings dialog](#).

COM port: Select a COM port to forward the received NTRIP data stream. The default is COM1

Baudrate: Select a baudrate. The usage of a high baud-rate is recommended (e.g. 19200 or higher) if supported by your hardware.

Parity: Choose the parity of your GPS receiver. The default is No parity.

Databits: Choose the number of data bits of your GPS receiver. The default is 8 bits.

Stopbits: Choose the number of stop bits of your GPS receiver. The default is 1 stopbit.

Cancel - Cancels the port configuration and closes the dialog.

OK - Enables the defined port configuration and closes the dialog.

6.5 Command

The Send command tab is a serial command line interface tool to any GNSS receivers that connects via serial COM port to DigiTerra Explorer and supports this feature. You can type serial commands / use serial command files using with your GNSS receiver to set or report internal settings.

This should be done only in consultation with your GNSS receiver's dealer. See the GNSS receiver's operations manuals for a complete list of GNSS receiver commands.

Coming serial command files with DigiTerra Explorer are located in the following paths:

Path:

Desktop version: \$DOCUMENTS\DigiTerra Explorer\Scripts\

Mobile version: \$SDCARD\Scripts\

☀ = new feature

Basic

Advanced

Professional

Availability of the "Send Command" tab in different editions



The Send Command tab contains the following controls:

The Send Command tab



Command combo box: type the command here you want to send to the connected receiver then tap on the Send button. This combo also lists the previously sent serial commands as a drop-down list. Saved commands are stored in the GNSSCommandHistory.txt file.

Path:

Desktop version: \$DOCUMENTS\DigiTerra Explorer\GNSSCommandHistory.txt

Mobile version: \$SDCARD\Bin\GNSSCommandHistory.txt

Target Device: list the operation modes of the sending command

- **<General>:** General mode, can be used with most of the receivers
- **Altus:** Recommended for Altus receivers
- **Hemisphere:** Recommended for Hemisphere receivers

Report window: list the sent commands and reports the response coming from the receiver

Startup Commands - You can select a Command File here that will be sent to the receiver upon serial port connection

Close Commands - You can select a Command File here that will be sent to the receiver when disconnecting from the receiver

Clear - Clears the report window

Command File - Select a Command File here and tap on the Send button to send it to the receiver

Save Log - Saves the content of the Report window into a .LOG file

6.6 Antenna

The Antenna tab is used to configure the receivers external Antenna.

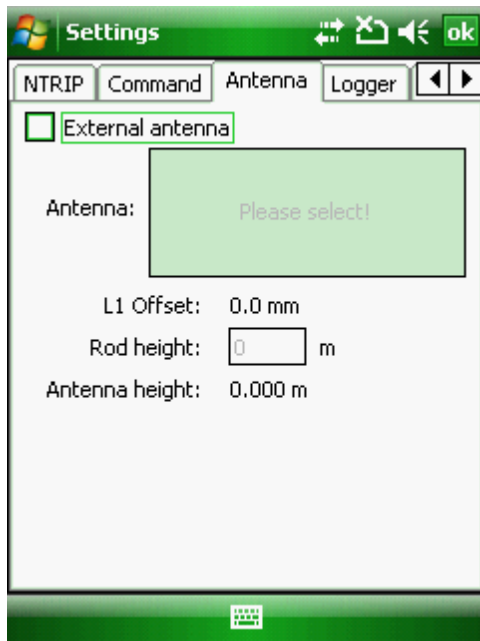
☀ = new feature

Availability of the "Antenna" tab in different editions

Basic	Advanced	Professional
✗	✗	✓

The Antenna tab contains the following controls:

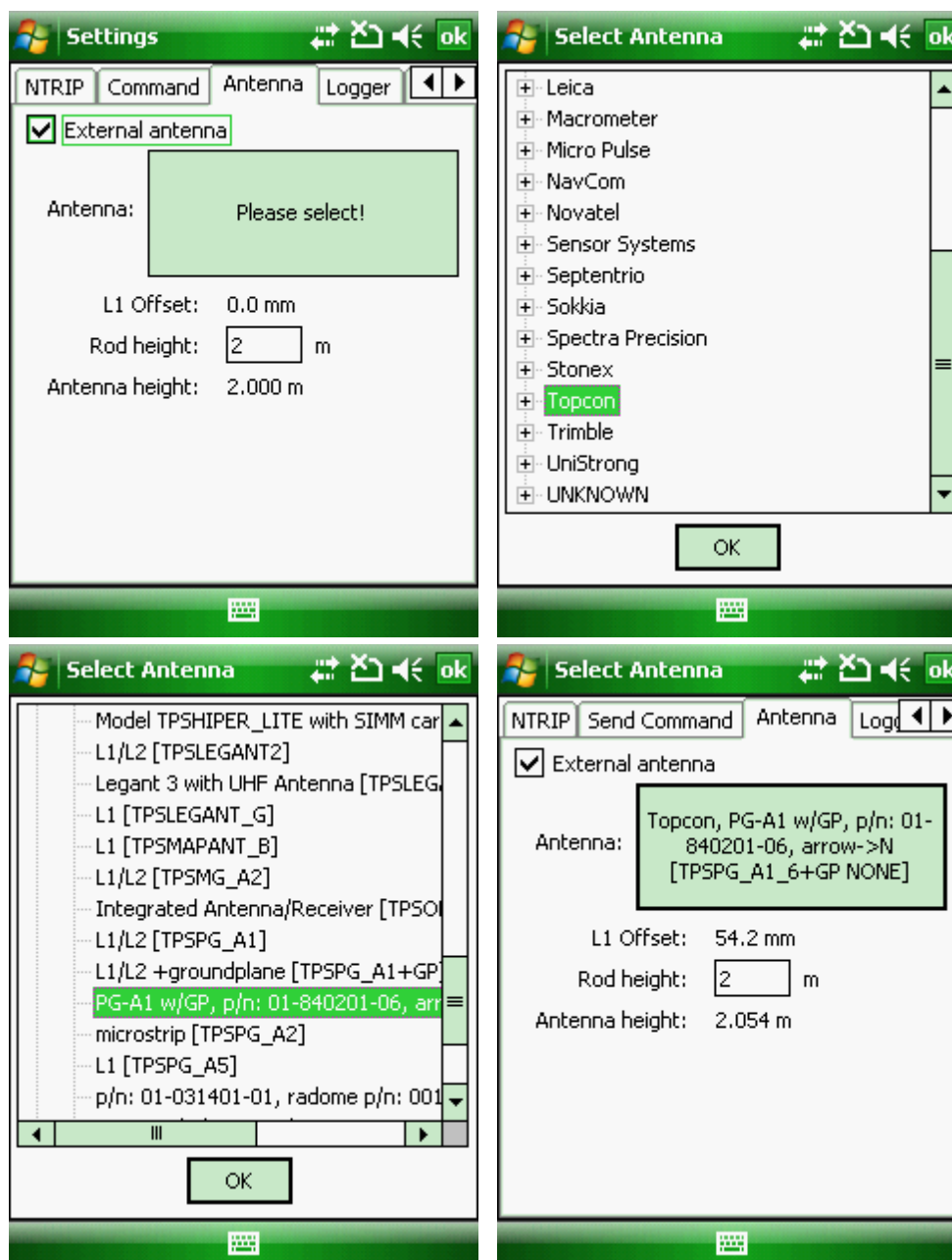
The Antenna tab



External antenna: Enables to use external antenna

Antenna: The entire list of supported antennas is available for selection if the **External antenna** check-box is checked. To select/change an antenna tap on the large **Please select!** button and select in the tree by manufacturer on the Select Antenna panel. The chosen antenna model can now be seen on the place of the **Please select!** button.

Selecting an external antenna



L1 Offset: Vertical Phase Center Eccentricity for L1. This value in mm refers to the vertical distance between the top of the pole (or the base of the antenna) and the L1 phase center of the selected antenna. **The L1 Offset is = 0 mm if there is no selected external antenna.**

Rod height: Height of the rod in meters. **The Rod height is = 0 m if there is no selected antenna. Default Rod height = 2 m.**

Antenna height = Rod height + L1 Offset. It is global variable (for all layers) and its value will be deducted from the HAE (Height Above Ellipsoid).



About the height calculation please also have a look at this tutorial at <http://forum.digiterra.hu/viewtopic.php?f=59&t=308>



Please note, that the Antenna height is not applied on the GNSS Survey dialog as in version 6, but you can still apply different Up/Down offset values there for any layer.

6.7 Logger

The Logger tab contains the following controls:



Please note that the GNSS logfile button inactive in the trial edition.

☀ = new feature

Availability of the "Logger" tab in different editions

Basic



Advanced



Professional



The Logger tab

GNSS log: - You can save the [projected](#) GPS coordinates into a [GPS tracklog file](#) when the GPS active. Tap on the GPS log: button to set the path of the GPS tracklog file. The GPS logfile is turned off as default.

NMEA: Stores NMEA 0183 sentences in the selected GPS tracklog file when the GPS active. The

default is unchecked.

GNSS position: Sets the type of geometry for processing of last added GPS tracklog file.

- **Points:** Creates points from every GPS position with ID, Date data fields.
- **Lines:** Creates lines between GPS positions with ID, Date, Length, Speed data fields.
- **Polyline:** Connects the GPS positions and create **one** polyline from it. Data fields are: Label, Date, Length, Area.
- **Polygon:** Connects the GPS positions and create **one** polygon from it. Data fields are: Label, Date, Length, Area.

Move/Stand separation in the GNSS log:

Determination of standing status for [GPS log statistics](#).

Time interval (±sec): Set the time interval to select nearest points for speed calculation. It must be larger than the sampling frequency in the GPS tracklog file! The default time interval is ±5 sec.

Speed limit (km/hour): Set the limit to delineate the standing (less) or movement (more). The default speed limit is 2 km/hour.

Spatial analysis with the overlay layer:

Connecting GPS positions to polygons or nearest vector feature:

Polygon edge size (m): The program does not connect those positions to the area, where the distance between the outline of the area and the position is closer than the defined polygon edge size. The default edge is 5 m wide.

Proximity threshold (m): The minimum distance where the algorithm will interpret the current position of the GPS tracklog as nearest position. The default proximity threshold is 0 m.

1. Identifier field: Select the data field to identify the connected feature in the Feature field of the GPS log statistics. Default value is nothing.

2. Identifier field: Select an other data field to identify the connected feature in the Feature field of the GPS log statistics. Default value is nothing.

6.8 Rangefinder

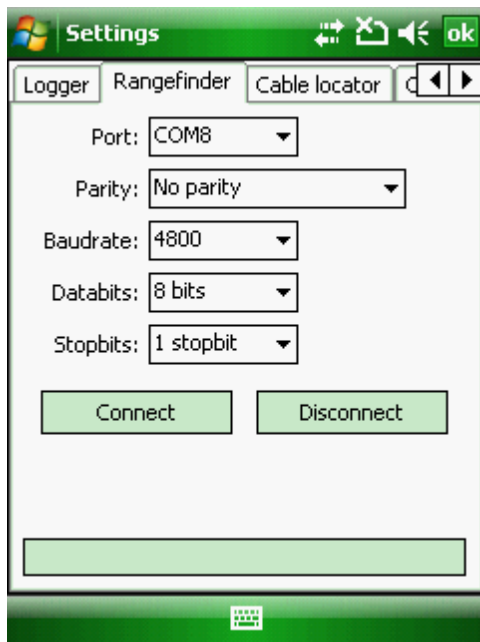
The Rangefinder tab contains the following controls:

☀ = new feature

Availability of the "Rangefinder" tab in different editions

Basic	Advanced	Professional
✗	✗	✓

The Rangefinder tab



Rangefinder serial port settings:

The Serial Port Parameters are used to specify communication settings for your auxiliary serial port. For most serial devices, it is usually not necessary to specify the Parity, Databits and Stopbits additional serial communication settings.

Port: Choose the COM port that your Rangefinder is connected to on your device. The default is COM8.

Parity: Choose the parity of your Rangefinder. The default is No parity.

Baud: Choose the baud rate (data transfer speed) of your Rangefinder's output. The default is 4800.

Databits: Choose the number of data bits of your Rangefinder. The default is 8 bits.

Stopbits: Choose the number of stop bits of your Rangefinder. The default is 1 stopbit.

Connect - Connects to the Rangefinder.

Disconnect - Disconnects the Rangefinder.

Rangefinder debug: shows NMEA sentences when the Rangefinder is active.

6.9 Cable locator

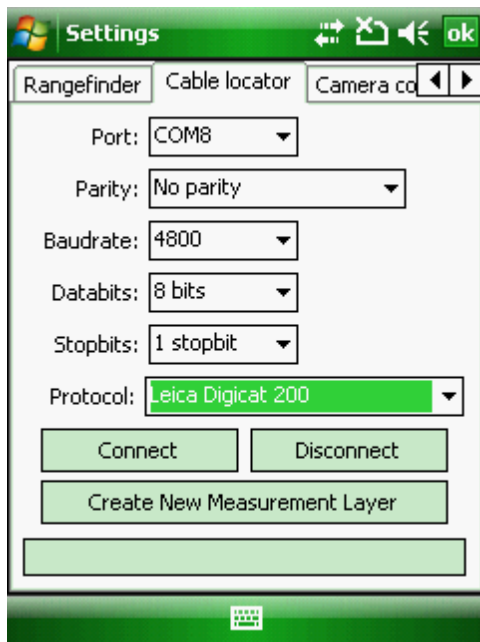
The Cable locator tab contains the following controls:

☀ = new feature

Availability of the "Cable locator" tab in different editions

Basic	Advanced	Professional
✗	✗	✓

The Cable locator tab



Serial port settings

The Serial Port Parameters are used to specify communication settings for your auxiliary serial port. For most serial devices, it is usually not necessary to specify the Parity, Databits and Stopbits additional serial communication settings.

Port: Choose the COM port that your Cable locator is connected to on your device. The default is COM8.

Parity: Choose the parity of your Cable locator. The default is No parity.

Baud: Choose the baud rate (data transfer speed) of your Cable locator's output. The default is 4800.

Databits: Choose the number of data bits of your Cable locator. The default is 8 bits.

Stopbits: Choose the number of stop bits of your Cable locator. The default is 1 stopbit.

Protocols settings

Protocol: Choose one from the following protocols

- **Leica Digicat 200** - or newer Digicat cable locators
- **3M Dynatel**
- **SebaKMT vLocPro2**
- **RD8000** - Radio Detection RD8000



Video tutorials: [SebaKMT vLocPro2](#); [Radio Detection RD8000](#)

Buttons

Connect - Connects to the Cable locator

Disconnect - Disconnects the Cable locator

Create New Measurement Layer - Creates a point feature layer with the following attributes:

- [-] You can capture the following attributes with 3M Dynatel
 - ID
 - Count
 - Date
 - PosX
 - PosY
- [-] You can capture the following attributes with Leica Digicat 200 or newer Digicat cable locators
 - ID
 - Device
 - SerialNumber
 - SoftwareID
 - Date
 - Calibration
 - SelfTest
 - Battery
 - Mode
 - Signal
 - Unit
 - Depth
- [-] You can capture the following attributes with SebaKMT vLocPro2
 - ID
 - Date
 - PosX
 - PosY
 - Command
 - Frequency
 - Depth (mm)
 - Current (mA)
 - Locate Current Direction
- [-] You can capture the following attributes with Radio Detection RD8000
 - ID
 - Date
 - PosX
 - PosY
 - Mode

- Frequency (HZ)
- Depth (m)
- Fault find signal (dB microvolts)
- Locate current (A)
- Phase (degrees)
- Signal strength
- Gain

Cable locator debug: shows NMEA sentences when the Cable locator is active.

6.10 Camera control

The Camera control tab is used to control a digital camera to take a picture by using camera control commands and store the position of the taken picture in the edited point layer.

☀ = new feature

Availability of the "Camera control" tab in different editions

Basic	Advanced	Professional
✗	✗	✓

The Camera control tab contains the following controls:

The Camera control tab

Camera control serial port settings:

The Serial Port Parameters are used to specify communication settings for your auxiliary serial port. For most serial devices, it is usually not necessary to specify the Parity, Databits and Stopbits additional serial communication settings.

Port: Choose the COM port that your Camera is connected to on your device. The default is COM8.

Parity: Choose the parity of your Camera. The default is No parity.

Baud: Choose the baud rate (data transfer speed) of your Camera's output. The default is 4800.

Databits: Choose the number of data bits of your Camera. The default is 8 bits.

Stopbits: Choose the number of stop bits of your Camera. The default is 1 stopbit.

Connect - Connects to the Camera.

Disconnect - Disconnects the Camera.

Camera control command: Sends this command to the camera (to take a picture). The default command is A.

Geometry distance: Sends the camera control command to the camera (to take a picture) when the geometry distance is less or equal with the geometry distance between the nearest geometry and the current GPS position in the active layer. The default distance is 1000 m.

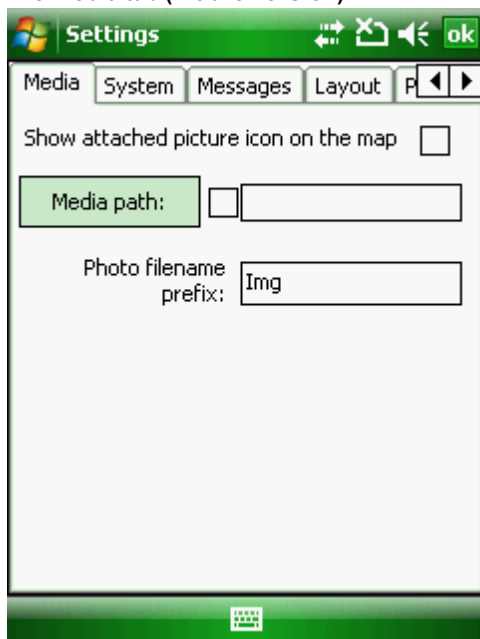
6.11 Media

The Media tab is used to display an button to those features where the attribute record stores JPEG photo, that is associated with the selected feature. The file name and the path of the digital JPEG image is stored in a field associated with the selected feature's geometry. A feature can have multiple JPEG photos associated with it, but each photo file name needs to be stored in a unique field or in a [related child table](#).

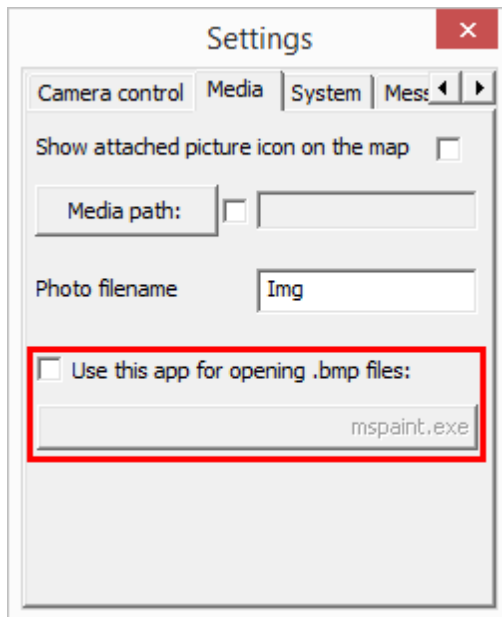
The associated photo can be changed by either tapping on the file name on the Record dialog to open the [Document panel](#) > **Start Digital Camera** button for capturing a new photo or by using the **Open document** button to choose an existing photo on your device.

The Media tab contains the following controls:

The Media tab (Mobile version)



The Media tab (Desktop version)



Show attached picture button on the map: Camera button displays on the map view if a **JPEG** file attached in the geometry's attribute record

Media path - You can set the default media path where the software will store the transferred **JPEG pictures or AVI videos** in case you are using a Ricoh Caplio digital camera.

To use the Media path feature please follow these steps:

1. Go Settings > System and Select the folder with the Media path button where the photos will be saved
2. After these settings Create a New layer
3. Then open the Record panel to edit the Attribute table
4. Add a new Document (N) type field – by using this field the software will copy the image file next to the layer and store it to the the current record

This solution can be used for:

- selected feature
- active record
- active form

5. Take a picture with the camera

Photo filename prefix: you can change the first part of the default image file name captured with the built-in camera. The second part is the continuous file number.

Use this app for opening .BMP files: Enables you to replace the default image viewer in the desktop version. Default application for this setting is mspaint.exe.

☀ = new feature

Availability of the "Media path" option in different editions

Basic



Advanced



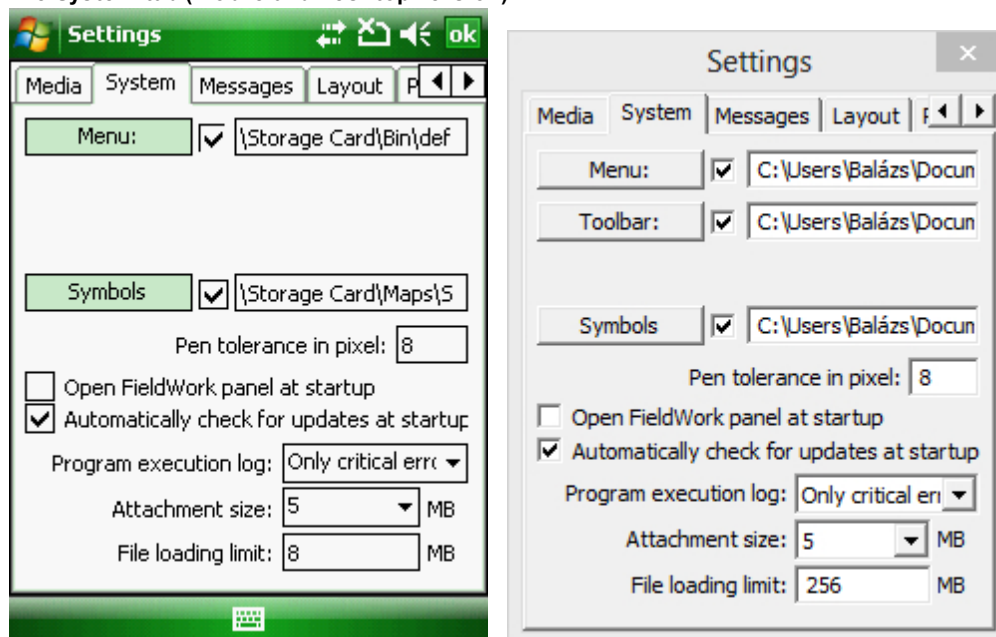
Professional



6.12 System

The System tab contains the following controls:

The System tab (Mobile and Desktop version)



Menu - The Menu option allows you to use a customized DigiTerra Explorer menu automatically at startup. The default menu files are [located in different paths in the Desktop and in the Mobile version](#). Tap on the [Menu] button to select a custom menu then restart the software.

Default menu file: Default.mnu

Path:

Desktop version: \$DOCUMENTS\DigiTerra Explorer\Default.mnu

Mobile version: \$SDCARD\BIN\Default.mnu

☀ = new feature

Availability of the "custom menu" option in different editions

Basic	Advanced	Professional
✗	✗	✓

Toolbar - The Toolbar option allows you to load a customized DigiTerra Explorer toolbar automatically at startup. Tap on the [Toolbar] button to select a custom toolbar then restart the software.

Default toolbar file: Default.tbr

Path:

Desktop version: \$DOCUMENTS\DigiTerra Explorer\Default.tbr

☀ = new feature

Availability of the "custom toolbar" option

Basic	Advanced	Professional
✗	✗	✓

in different editions



The used commands can be found in [Menu and Toolbar definitions](#) topic for menu (.mnu) and toolbar definition file (.tbr).

Install Trimble SDK - Installs the Trimble SDK CAB components from the \$SDCARD\2577\Trimble\ folder on the Mobile version. This button active only on Trimble Pathfinder Tools SDK related devices.

☀ = new feature

Availability of the "Pathfinder Tools SDK" feature for Trimble receiver in different editions

Basic	Advanced	Professional
✗	✗	✓

Symbols - The Symbols option allows you to load a customized symbols file at startup.

Default symbol file: Symbols.bmp

Path:

Desktop version: \$DOCUMENTS\DigiTerra Explorer\Maps\Symbols.bmp

Mobile version: \$SDCARD\Maps\Symbols.bmp

☀ = new feature

Availability of the "custom symbol" option in different editions

Basic	Advanced	Professional
✗	✗	✓



The path of the used Symbols file stored in the [DigiTerra Explorer Map](#) file (.EXP) and reloaded automatically (if exists) when open the DigiTerra Explorer Map file. If you use a customized Symbols file, suggested to store it in the same directory with the DigiTerra Explorer Map file.

Pen tolerance (pix): You can set the editing tolerance in pixels. The default pen tolerance is 8 pixels.

Open FieldWork panel on startup: Starts DigiTerra Explorer automatically with the [FieldWork panel](#) at startup. Default is unchecked.

Automatically check for updates at startup: Updates DigiTerra Explorer automatically when new updates are available. Default is unchecked.

Program execution log: On - Logs the required parameters for support issues. Full - fully detailed log. Default is Off.

Attachment size: Enabled size of the attachment, that you can send with the [E-mail](#) > Send E-mail function. Values: -, 3, 5, 10, 20 MB; default is 5 MB.

☀ = new feature

Basic	Advanced	Professional
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Availability of the "Attachment size" option in different editions

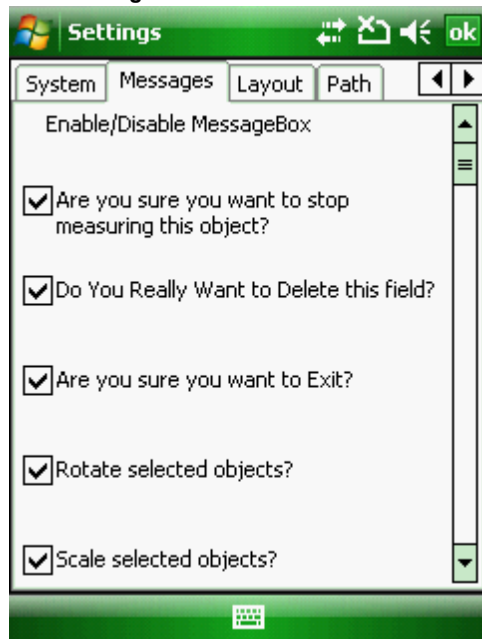
File loading limit: Default is 8 MB.

6.13 Messages

The Messages tab is used to configure the appearance of the listed Message boxes that notify you about various events in DigiTerra Explorer. On this dialog you can enable or disable them. When checked, the selected alert message will be active.

The Messages tab contains the following controls:

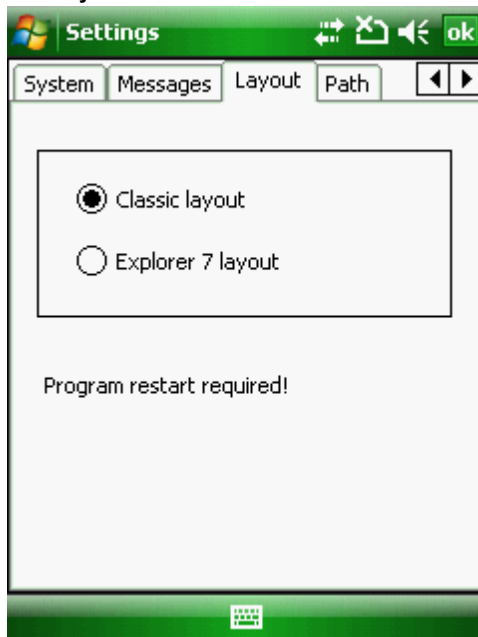
The Messages tab



6.14 Layout

The Layout tab contains the following controls:

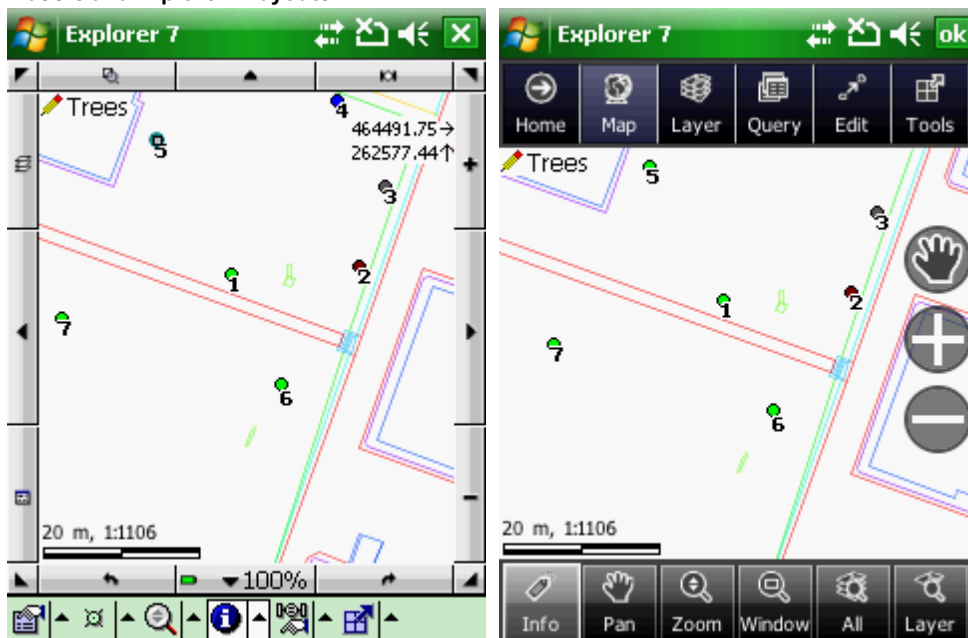
The Layout tab



Classic layout: DigiTerra Explorer uses the Windows API® controls

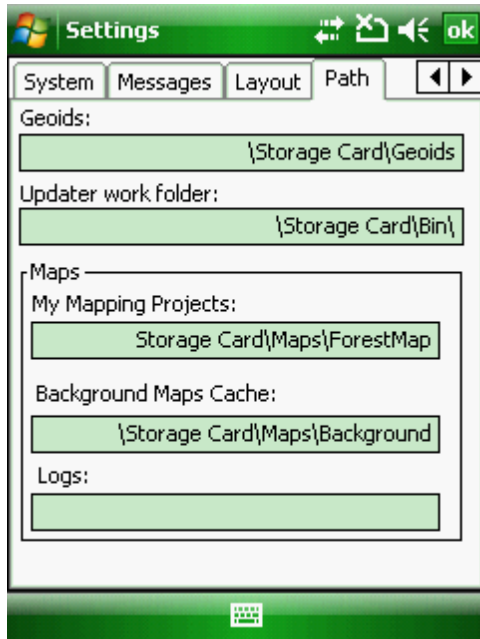
Explorer 7 layout: DigiTerra Explorer uses the DigiTerra GUI controls

Classic and Explorer 7 layouts



6.15 Path

The Path tab contains the following controls:



The following buttons displays the default folders on the current device which can be changed by pressing the proper button

Geoids - Changes the path of the geoid files

Updater work folder - Changes the path where the updater download temporarily data

Maps

My Mapping Projects - Changes the path of the default Mapping Projects

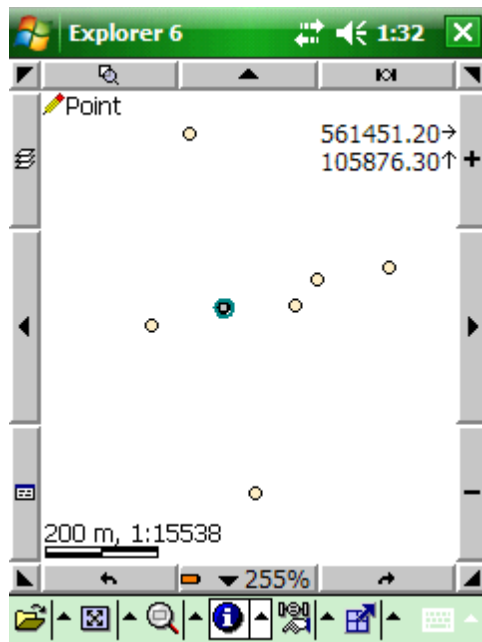
Background Maps Cache - Changes the path of the Background Maps cache. It is important to change this folder if you have not enough free space in the main memory on a handheld but you have an SD Card to store large amount of data.

Logs - Changes the logging folder

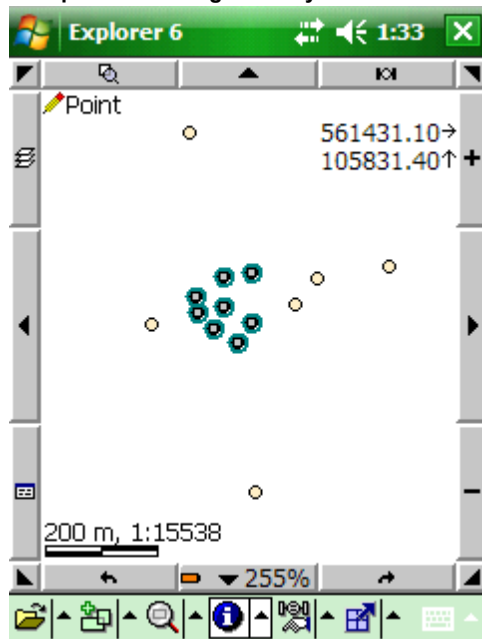
7 Feature Properties

The following feature types can be used with DigiTerra Explorer (depending on the selected [vector layer format](#)):

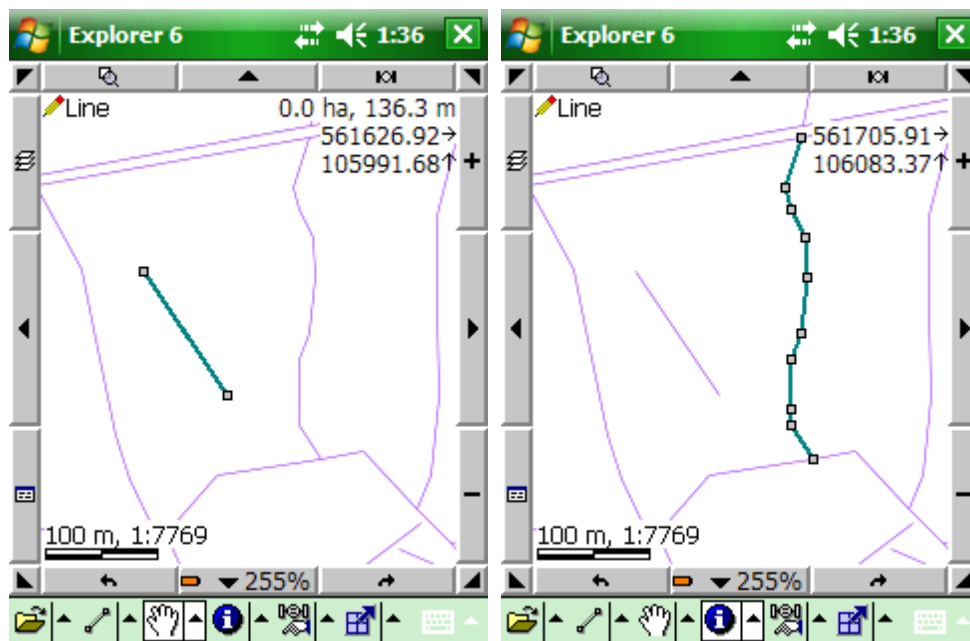
Point feature geometry



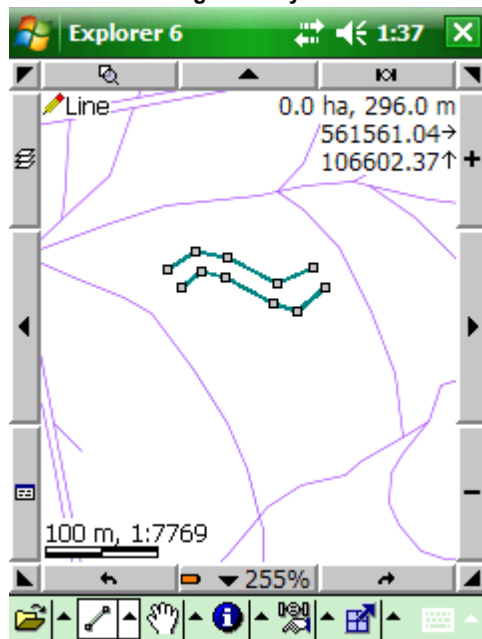
Multipoint feature geometry



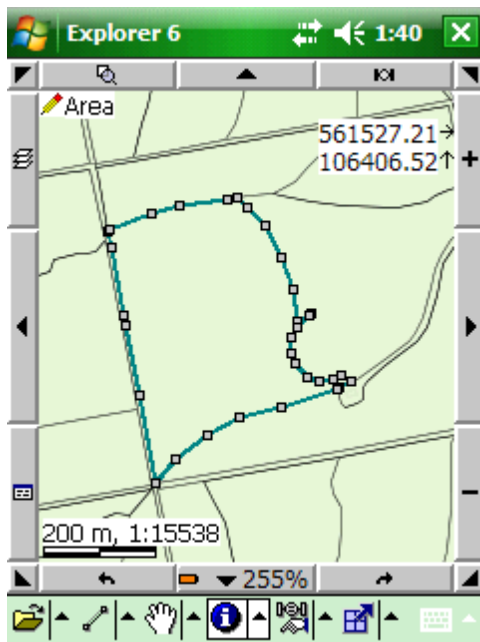
Line/polyline feature geometry



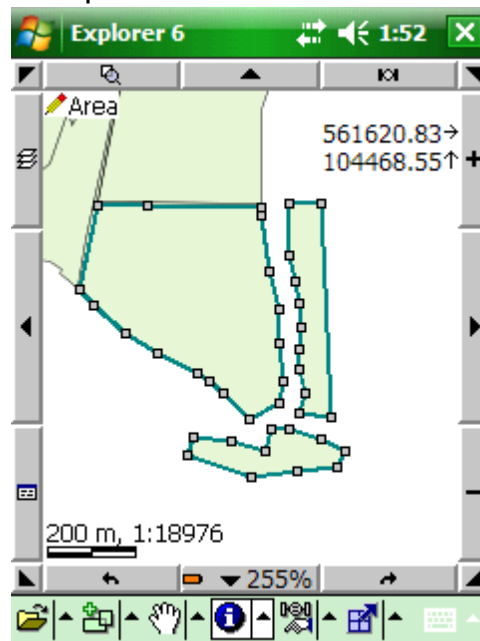
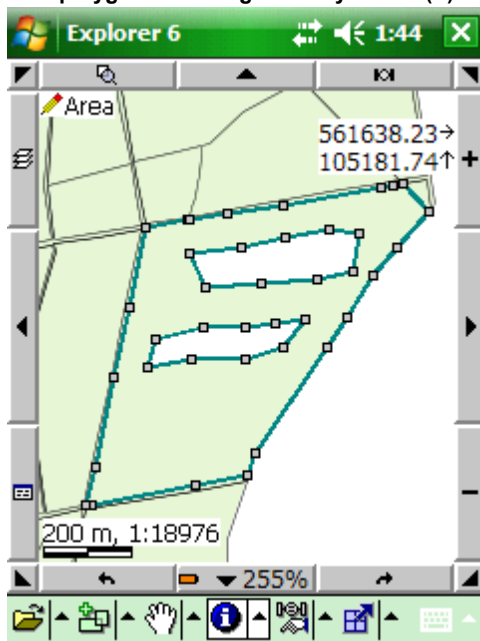
Multiline feature geometry



Polygon feature geometry



Multipolygon feature geometry: island(s) and outer parts

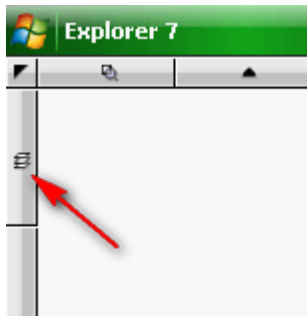


8 Layer Properties

Layer properties can be managed on the [Layers panel](#). It is used to configure various options that are specific to each layer in the map view.

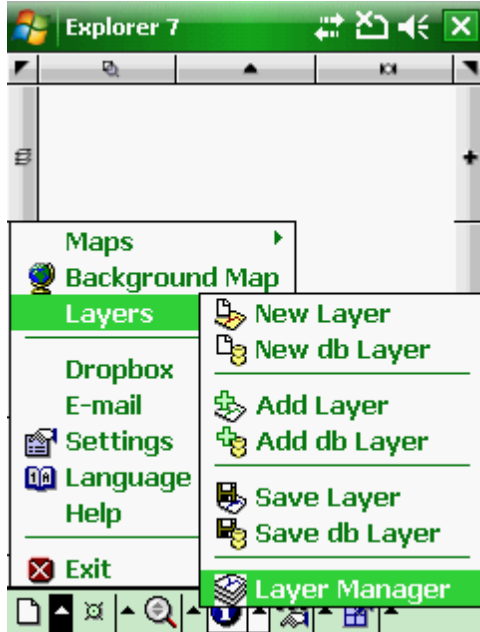
Accessing:

- Layer Manager icon at the top left side on the Pan frame
- Accessing to the Layers panel on the Pan frame



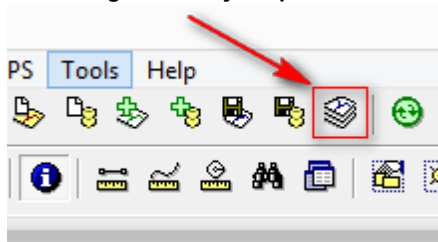
- Layer Manager command in the File > Layers sub-menu

Accessing to the Layers panel in the Menu

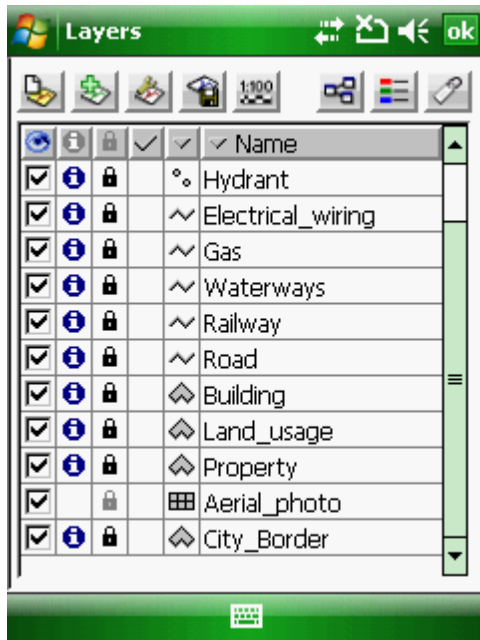


- Layer Manager icon in the Toolbar (Desktop) (in the Desktop version)

Accessing to the Layers panel on the Toolbar



The Layers panel



The following type of layers can be managed on the Layers panel:

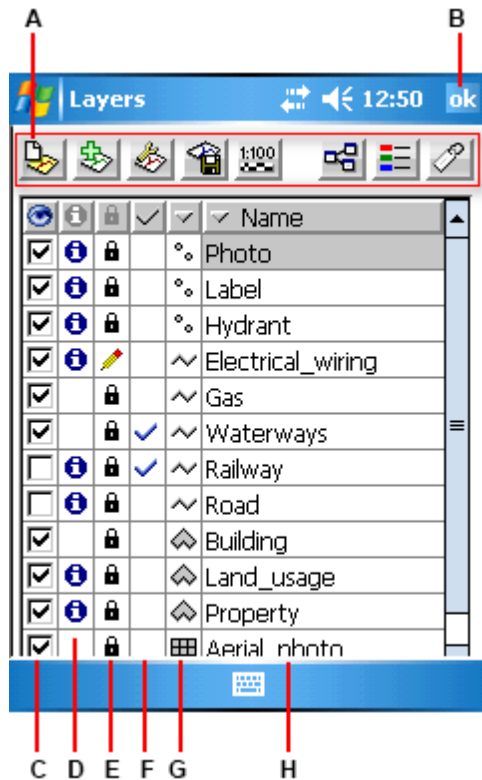
- [Vector](#) (2D, 3D, TIN)
- [Raster](#)
- [Text and tabular files](#)

8.1 Overview

The Layers panel shows all the layers of the current map view, including [vector](#) and [raster](#) layers, individual [text](#) (text file layer) and [related data tables](#). It is used to manage the layers in the map view and set various layer properties.

- The layers in the map view are drawn in reverse order, from the bottom of the layers list to the top
- On the Layers panel
 - the order of the layers can be changed
 - the visibility of the layers can be turned on or off
 - layers can be activated for the Identify and Snapping command
 - layers can be activated (or locked) for editing or set the point info layer property for point feature layers
 - layers can be selected for removing
 - displays the layer type (vector, raster, textual, tabular) and the feature type (point, line, polygon)
 - displays the layer name
 - new layers can be created to the map view
 - existing layers can be added to the map view
 - selected vector layers can be merged
 - active layer can be exported into different file formats
- The [Scale](#), Source: [Vector](#), [Raster](#), [TIN](#), [Classes](#), and [Labels](#) panel can be opened to view and change various properties for the active layer.

Layers panel



A - Buttons: New Layer, Add Layer, Layer operations (Remove, Merge), Export layer, Display scale range, Layer properties, Layer classification, edit classes, Labeling

B - The OK button applies any changes to the current map view and closes the Layers panel. The changes are not saved unless you explicitly save the changes with the [Save project](#) command.

C - [Layer visibility](#)

D - [Identify](#): identify and [snapping](#) commands and [printable legend](#)

E - [Edit](#)

F - [Select](#)

G - [Layer buttons](#)

H - Layer name (it can be changed on the Source panel)



More details about the relevant commands to this button can be found in the [Layers sub-menu](#) topic.

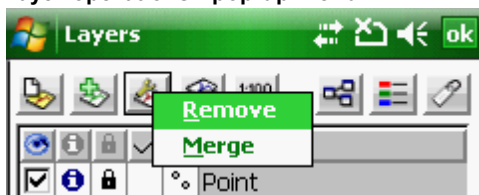


Layer operations

Opens a pop-up menu with the following options:

- **Remove**: Removes [selected layers](#) from the list
- **Merge**: Merges [selected layers](#) from the list. The merged layers can be saved into a new vector layer file.

Layer operations - pop-up menu



Only the selected vector layers can be merged into **MAP, DGN, DXF and MIF** multi feature vector format: *more than one feature type i.e. point, line and polygon within one layer*

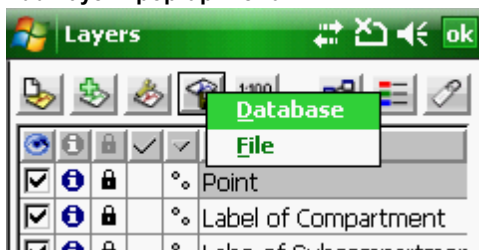


Layer export

Opens a pop-up menu with the following options:

- **Database**: Opens the [Save db Layer](#) panel to save (export) the active layer as a geodatabase layer
- **File**: Opens the Save as file panel file to export the active layer into another file format or to save it with a different new name.

Add Layer - pop-up menu



More details about the relevant commands to this button can be found in the [Layers sub-menu](#) topic.



Display scale range

Opens the [Scale panel](#). Sets the display [scale](#) range of the layers.



Layer properties

Opens different Source paneles by data source type as:

- [Vector layers, text and tabular files](#)
- [Raster layers](#)
- [TIN layers](#)

to display and edit the properties of the data source.



Layer classification, edit classes

Opens different paneles by data source type as:

- Vector layers --> [Classes panel](#). The Classes panel lists all the [thematic classes](#) to the active DigiTerra Explorer vector layer as well as the [symbology](#) defined for the layer.
 - Raster layers --> [Raster Options panel](#)
 - TIN layers --> [DEM Options panel](#)
-

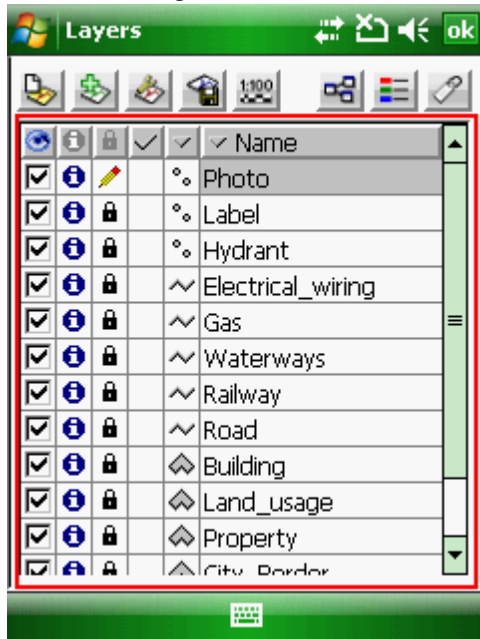


Labeling

Opens the [Labels panel](#). Labels a vector layer with the contents of the selected attribute field. Sets label properties.

8.3 List handling

The list handling area is marked with **red line** in the Layers panel



Layer Visibility

- Tapping toggle turns the visibility for **all** layers on/off.
- ☒ Turns on/off the visibility of the **active** layer. **Drag:** turns on/off the visibility **collectively**.

When **checked**, the layer is drawn on the DigiTerra Explorer map, provided that the map scale is within the range specified on the [Scale panel](#) of the Layers panel.

When **unchecked**, the layer will not be drawn.



The layer visibility settings can be stored in [DigiTerra Explorer Map](#) file (.EXP) or [DigiTerra Map Pack file](#) (.DMP) formats.

Identifying

- Tapping toggle turns identify and [snapping](#) commands and [printable legend](#) on/off for **all** layers.
- Turns on/off the identify and [snapping](#) commands and [printable legend](#) of the **active** layer. **Drag:** turns on/off the identify option and snapping **collectively**.

When **checked**, the layer is active for querying with the [Identify](#) and with the [Search](#) tool.

When **checked**, the snapping is used to the layer (and between layers) when creating or editing features.

When **unchecked**, the layer is not active for Identify and for the Search tool.

When **unchecked**, the snapping is not used to the layer (and between layers) when creating or editing features.



The layer identify settings can be stored in [DigiTerra Explorer Map](#) file (.EXP) or [DigiTerra Map Pack file](#) (.DMP) formats.

Editing



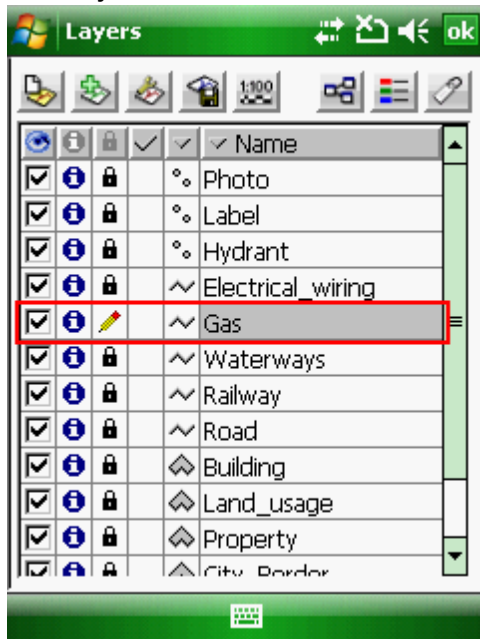
Locks **all** layers.



Designates a layer for editing. Only **one layer** can be edited at the same time.

When **checked** the layer is active for editing. When **unchecked** the layer is not active for editing.

Edited layer



Editable layer on the map





Layers without a corresponding Edit button are not editable in DigiTerra Explorer.

Layers are not editable due to one of the following reasons:

1. Editing of the layer type is not supported in DigiTerra Explorer (image layers).
2. The layer is read-only. Vector layers can be read-only if the file permissions are set as read-only.


Locked layer

Unlock a locked layer: tap on the  button and select the Edit option from the displayed "Lock / Edit / Point info" menu.

 **Not unlockable layer:** raster layers and [protected DMP layers](#)

Lock: locks the active layer

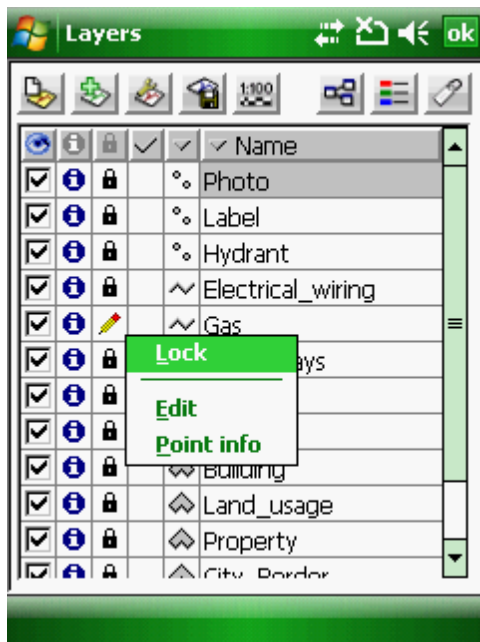
Edit: edits the active layer

Point info:  can be set to a point feature layer which **collects attributes for vertices** during a GPS measurement in a line or polygon feature layer



Tutorial: <http://forum.digiterra.hu/viewtopic.php?f=48&t=235>

Lock / Edit / Point info menu



The layer edit settings can be stored in [DigiTerra Explorer Map](#) file (.EXP) or [DigiTerra Map Pack file](#) (.DMP) formats.

Selecting for removing or merging

- ☒ Tapping toggle ☒ marks on **all** layers for removing or merging
- ☒ Marks the selected layer for removing or merging. **Drag**: collective mark

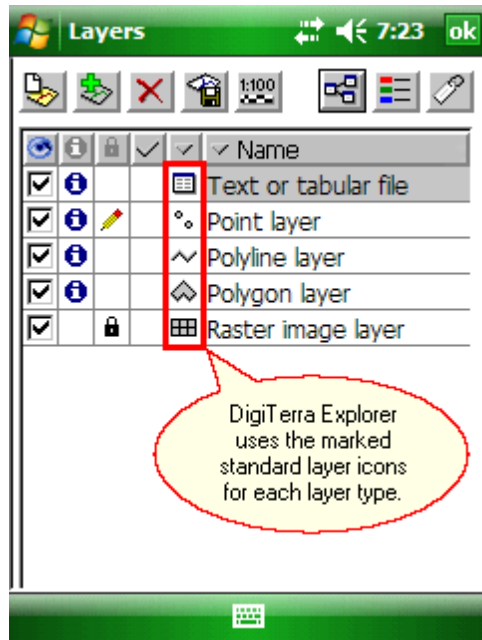
Layer buttons

- ☒ Sorts layers **by layer type**.

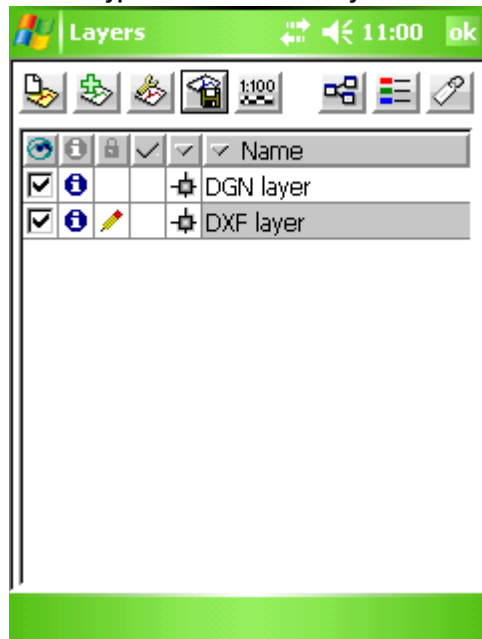
Default order:

- ☒ [Text file or data table](#) without geometry.
- ☒ The layer contains points.
- ☒ The layer contains lines.
- ☒ The layer contains polygons
- ☒ The layer contains points, lines, polygons: DXF, DGN only
- ☒ Raster image layer.

Layer buttons for the common layer types in the Layers panel



Feature type for DGN and DXF layers



▼ Name Sorts layers **by name**.

Name area

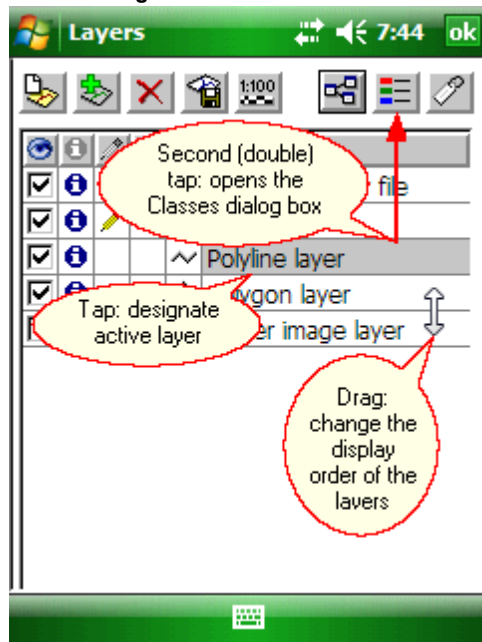
The default is the displayed **source name** for new layers added to the map in the list. The displayed **name can be renamed** on the [Source](#) panel.

Tap: designate active layer

Second (double) tap: opens the [Classes panel](#)

Drag: change the display order of the layers

List handling on the name area

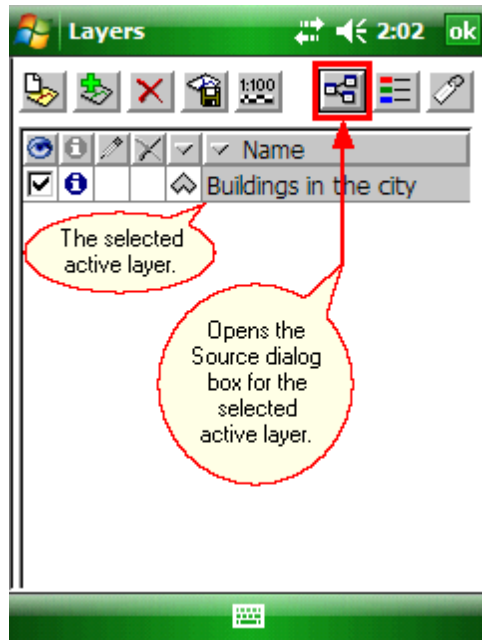


The layer order can be stored in [DigiTerra Explorer Map](#) file (.EXP) or [DigiTerra Map Pack file](#) (.DMP) formats.

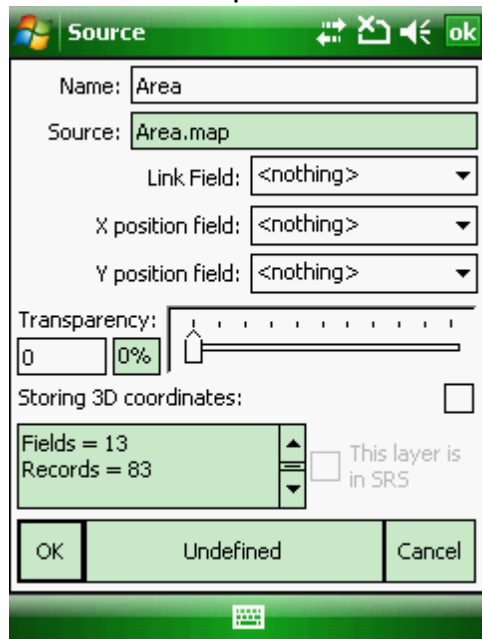
8.4 Source: Vector layer

The Source panel is used to configure some options that are specific to each layer in your map. You can access the Source panel by tapping the [Source button](#) in the Layers panel. This panel contains the same controls for vector layers, text and tabular files. The layer properties for raster layers can be found in the [next topic](#).

Open the Source panel to the selected vector layer



The Vector - Source panel



Name: The layer's name can be edited which will be displayed in the Layers panel. The default name of the layer is equal with the Source name.

Source: Displays the data source of the layer. DigiTerra Explorer stores relative path to the [DigiTerra Explorer Map](#) file (.EXP).

Link field: In [Tree view](#) the records of the [related table](#) connect to the [parent table](#) by the value of this selected data field. The default is "<nothing>".

X position field: Select the data field which stores the X (**horizontal**) coordinates of the point. The

default is "<nothing>"

Y position field: Select the data field which stores the Y (**vertical**) coordinates of the point. The default is "<nothing>"



X position field and Y position field can be applied with a [text file layer to create a point feature layer](#)



DigiTerra Explorer can display the selected X,Y positions from a [text or tabular file](#) as a point layer on the map.

Transparency

The Transparency feature is used to specify the transparency settings for the vector layer. The layer transparency can be specified for the vector and [raster layers](#).

Use the slider to specify the amount of transparency for the entire layer. Transparency can range from 0% (i.e. opaque, or no transparency) to 100% (i.e. completely transparent). The default is 0%, i.e. opaque or no transparency.

Storing 3D coordinates: Enables to store 3D coordinates (X,Y,Z) in the edited layer when using the [supported vector layer formats](#). 3D geometry (X, Y, Z) can be a point and also a vertex in a polyline or polygon feature. When using the GPS Survey panel DigiTerra Explorer stores the Z coordinate as a measured value.

- On the [Source dialog of the layer](#) you can enable to store Z coordinates in the geometry to an existing vector layer
- On the [New layer panel](#) (at layer creation) you can enable to store Z coordinates in the geometry to the new vector layer
- Height (Z) coordinates of the geometry can be viewed on the [Geometry panel](#)
- Height (Z) coordinates of the geometry can be edited on the [Existing Vertex panel](#)



The **Storing 3D coordinates** option is enabled after adding [supported vector layers](#) only when there is minimum one point, polyline or polygon feature geometry with Height value in the geometry.

Vector information: Displays the number of fields, records, the geometry precision and the amount of allocated memory

This layer is in SRS: Active only when the .dtproj file exists next to the layer. Please note that the .dtproj file will be removed when you uncheck this option.

OK - Saves the modification you have made on this panel and closes the panel.

Undefined - Opens the Select Projection dialog to set the known projection of the layer then displays the selected projection on this button. When adding a new layer to the map view DigiTerra Explorer assumes that its spatial reference system (SRS) is identical with the map view's SRS. When you select the known SRS to the layer on this panel DigiTerra Explorer on-the-fly transforms it into the map view's SRS and writes a .dtproj file next to the layer file. When the .dtproj file exists next to the layer it is Identified and you can see its projection parameters on this button.

Cancel - Closes the Source panel

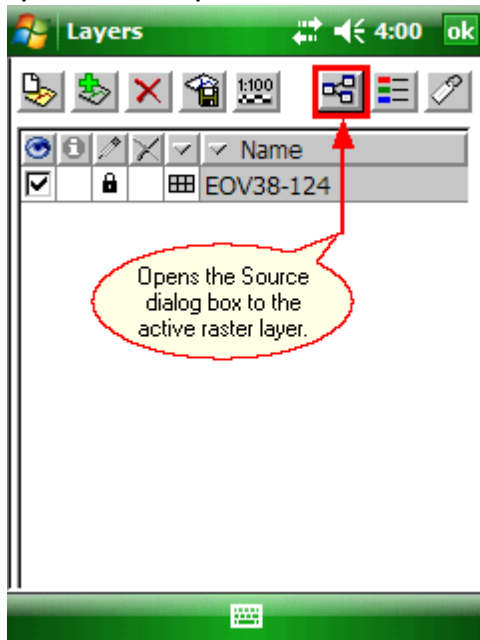


The source settings of the vector layers can be stored in the [DigiTerra Explorer Map](#) file (.EXP) or [DigiTerra Map Pack file](#) (.DMP) formats.

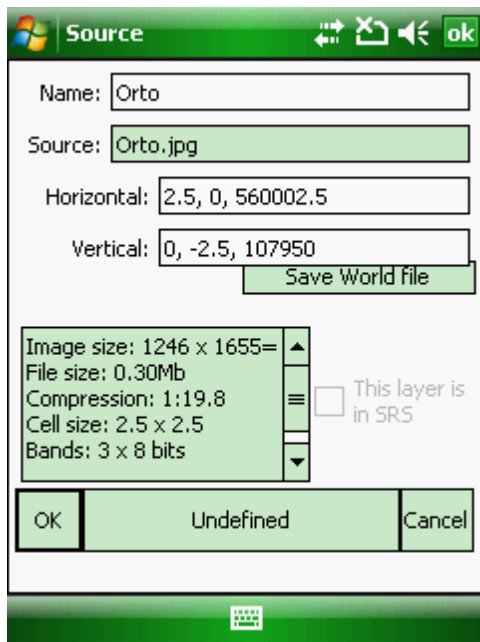
8.5 Source: Raster layer

The Source panel is used to configure some options that are specific to each layer in your map. You can access the Source panel by tapping the [Source button](#) in the Layers panel.

Open the Source panel to the selected raster layer



The Raster - Source panel to a raster layer



Name: The layer's name can be edited which will be displayed in the Layers panel. The default name of the layer is equal with the Source name.

Source: Displays the data source of the layer. DigiTerra Explorer stores relative path to the [DigiTerra Explorer Map](#) file (.EXP).

Georeferencing data: Can be edited by manually or with the [raster orientation tool](#).

Horizontal: horizontal components of the georeferencing

1, 0, 786000

1: easting component of the pixel's x coordinate

0: easting component of the pixel's y coordinate

78600: easting offset (number of columns(x))

Vertical: vertical components of the georeferencing

0, -1, 156000

0: northing component of the pixel's x coordinate

-1: northing component of the pixel's y coordinate

156000: northing offset (number of rows(y))

Save World file: Saves the **world file** to the active raster layer based on the horizontal and vertical parameters of the raster layer. (A world file is a plain text computer data file used by geographic information systems to georeference raster map images.)

The generic meaning of world file parameters are:

Line 1: A: pixel size in the x-direction in map units/pixel

Line 2: D: rotation about y-axis

Line 3: B: rotation about x-axis

Line 4: E: pixel size in the y-direction in map units, almost always negative[3]

Line 5: C: x-coordinate of the center of the upper left pixel

Line 6: F: y-coordinate of the center of the upper left pixel



You will find more information about the world file here: http://en.wikipedia.org/wiki/World_file

Raster information: Displays the uncompressed image size (number of columns(x) and rows(y) of pixels), the compressed file size, compression rate, cell size (x,y) in meter and the number of bands with pixel depth/bit depth.

This layer is in SRS: Active only when the .dtproj file exists next to the layer. Please note that the .dtproj file will be removed when you uncheck this option.

OK - Saves the modification you have made on this panel and closes the panel.

Undefined - Opens the Select Projection dialog to set the known projection of the layer then displays the selected projection on this button. When adding a new layer to the map view DigiTerra Explorer assumes that its spatial reference system (SRS) is identical with the map view's SRS. When you select the known SRS to the layer on this panel DigiTerra Explorer on-the-fly transforms it into the map view's SRS and writes a .dtproj file next to the layer file. When the .dtproj file exists next to the layer it is Identified and you can see its projection parameters on this button.

Cancel - Closes the Source panel



The source settings of the raster layers can be stored in the [DigiTerra Explorer Map](#) file (.EXP) or [DigiTerra Map Pack file](#) (.DMP) formats.

8.6 Source: TIN layer

This panel for TIN layers is available only in the Desktop version.

Source panel for TIN layers

This layer is in SRS: Active only when the .dtproj file exists next to the layer. Please note that the .dtproj file will be removed when you uncheck this option.

OK - Saves the modification you have made on this panel and closes the panel.

Undefined - Opens the Select Projection dialog to set the known projection of the layer then displays the selected projection on this button. When adding a new layer to the map view DigiTerra Explorer assumes that its spatial reference system (SRS) is identical with the map view's SRS. When you select the known SRS to the layer on this panel DigiTerra Explorer on-the-fly transforms it into the map view's SRS and writes a .dtproj file next to the layer file. When the .dtproj file exists next to the layer it is Identified and you can see its projection parameters on this button.

Cancel - Closes the Source panel



An overview is available about 3D related features at <http://forum.digiterra.hu/viewtopic.php?f=59&t=310>

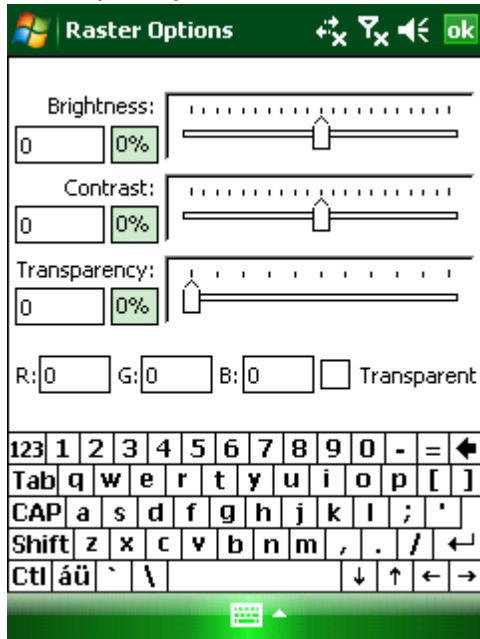
☀ = new feature

Availability of this TIN "Source" panel in different editions

Basic	Advanced	Professional
✗	✗	☀

8.7 Raster Options

Raster options panel



Brightness - The Brightness feature is used to specify the brightness settings for the raster layer. Use the slider to specify the amount of brightness for the entire layer. Brightness can range from -100% to +100%. The default is 0%.

Contrast - The Contrast feature is used to specify the contrast settings for the raster layer. Use the slider to specify the amount of contrast for the entire layer. Contrast can range from -100% to +100%. The default is 0%.

Transparency - The Transparency feature is used to specify the transparency settings for the raster layer. The layer transparency can be specified for the raster and [vector layers](#). Use the slider to specify the amount of transparency for the entire layer. Transparency can range from 0% (i.e. opaque, or no transparency) to 100% (i.e. completely transparent). The default is 0%, i.e. opaque or no transparency.

Colour transparency:

R - Red value of the RGB colour model (0-255)

G - Green value of the RGB colour model (0-255)

B - Blue value of the RGB colour model (0-255)

Transparent - Sets the transparency of the defined RGB colour in the entire raster layer

Examples:

White: 255, 255, 255

Black: 0, 0, 0

Red: 255, 0, 0

Blue: 0, 0, 255

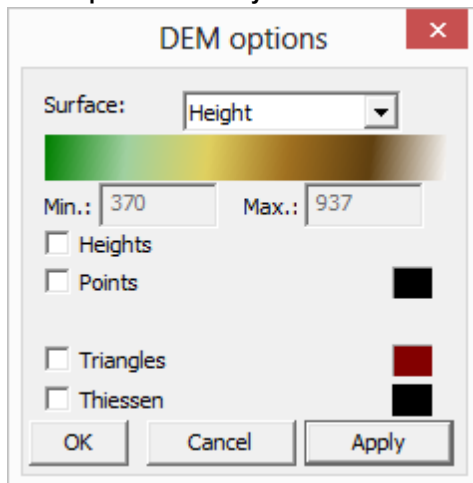
Yellow: 255, 255, 0

More examples can be found here: <http://www.tayloredmktg.com/rgb>

8.8 DEM Options

This panel for TIN layers is available only in the Desktop version.

Source panel for TIN layers



An overview is available about 3D related features at <http://forum.digiterra.hu/viewtopic.php?f=59&t=310>

☀ = new feature

Availability of the "DEMO options" panel in different editions

Basic



Advanced



Professional

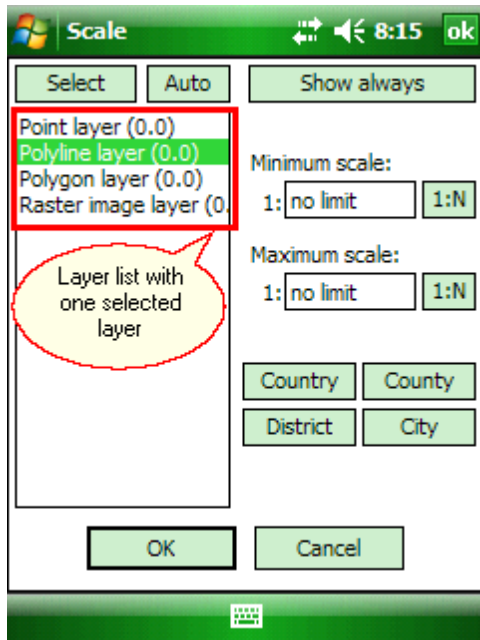


8.9 Scale

The Scale panel is used to specify the minimum and the maximum display scales of the **layer**.

The display scale for the layer's **symbols and labels** can be specified on the [Labels panel](#). The display scale and the label scale can be specified for the layer's thematic classes on the [Class panel](#).

Scale panel



Select: Selects all layers, or clears the selection.

Auto: Sets the scale range of each layer on the basis of its data density.

Show always: Displays the selected layer at all scales.



When added a new layer to the DigiTerra Explorer map the default setting is show layer at all scales.

List: Select layers. **Drag:** multiple selection. **Value in brackets:** average occupied area of one geometry in square kilometers.

Minimum scale

Selected layer cannot be seen under this scale. **1:N** Chooses the current map scale for layer's minimum scale. The default is no limit.

Type the minimum scale at which the layer will be displayed or tap to **1:N** choose the current map scale. When it displays the "no limit" value, the layer is always displayed. In other cases, the layer is not displayed when the map scale is larger than the scale specified in this field. For example, if this field is set to 10000, the layer is displayed at a map scale of 1:10001 but not at a map scale of 1:9999.

Maximum scale

Selected layer cannot be seen over this scale. **1:N** Chooses the current scale for layer's maximum scale. The default is no limit.

Type the maximum scale at which the layer will be displayed or tap to **1:N** choose the current map scale. When it displays the "no limit" value, the layer is always displayed. In other cases, the layer is not displayed when the map scale is smaller than the scale specified in this field. For example, if this field is set to 10000, the layer is displayed at a map scale of 1:9999 but not at a map scale of

1:10001.

Country: Set the minimum scale of the selected layer to 1:500 000.

County: Set the maximum scale of the selected layer to 1:1 000 000.

District: Set the maximum scale of the selected layer to 1:500 000.

City: Set the maximum scale of the selected layer to 1:100 000.



The layer's display scale settings can be stored in [DigiTerra Explorer Map](#) file (.EXP) or [DigiTerra Map Pack file](#) (.DMP) formats.

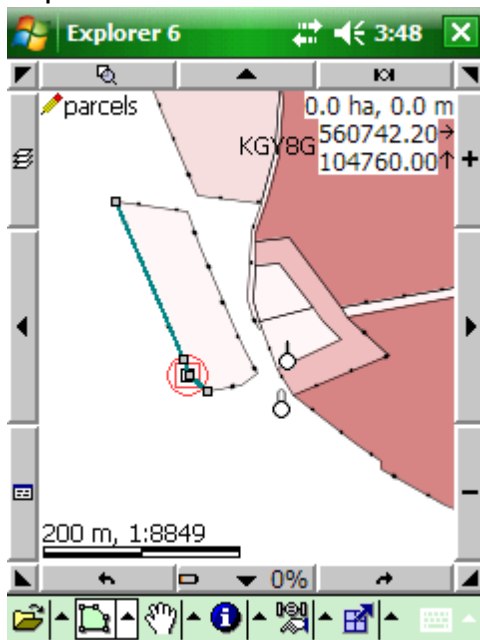
8.10 Snapping

The [Identify option](#) is used in the [Layers panel](#) to specify which layers will be used to snap to when creating or editing features. Snapping is also used by tools such as Identify, Select, Measure, GPS Guidance, Navigate to Target and most special tools in the [Tools menu](#).

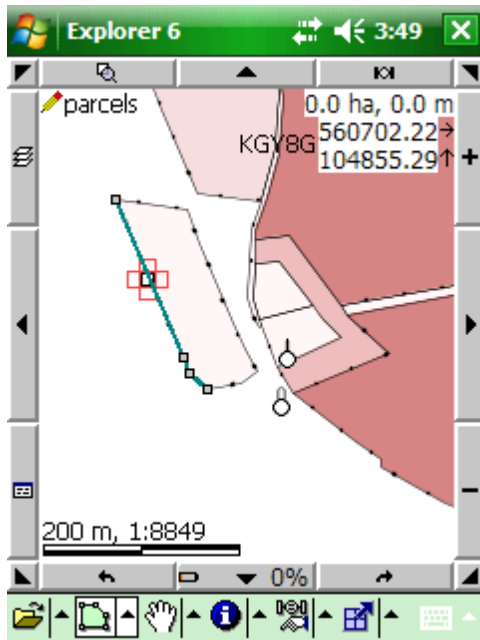
The snapping tolerance (pen tolerance) can also be set on the [System tab](#) of the Settings panel. The default snapping tolerance value is 8 pixel on the map view.

The snapping algorithm will be snapped to **edge** and to **vertex** of the feature.

Snap to vertex



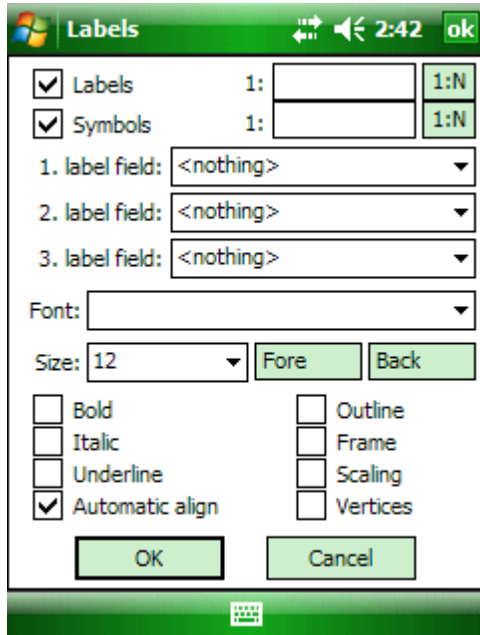
Snap to edge



9 Labelling

The Labels panel is used to specify display settings for labels and symbols of a point, line, or polygon [vector layer](#). If any labeling or symbol scale is defined in the [DigiTerra Explorer Map](#) file (.EXP) or in the [DigiTerra Map Pack](#) file (.DMP), it is displayed on this panel; otherwise, the [default settings](#) are used.

The Labels panel



Reference scale of the layer's label text and symbols

Labels: Turns on/off the labels.

When selected, text labels will be displayed. The default is selected.

Labels maximum display scale:

Sets the [maximum scale](#) for labels. 1:N Chooses the **current map scale** for label's maximum scale.

Symbols: Turns on/off the symbols.

When selected, symbols will be displayed. The default is selected.

Symbols maximum display scale:

Sets the [maximum scale](#) for symbols. 1:N Chooses the **current map scale** for symbol's maximum scale.

Type the reference scale for the layer's label text and symbols or tap 1:N to choose the current map scale. When blank, labels and symbols drawn at the [specified symbol](#) and font size. When not blank, the label and symbol size is based on the reference scale of the layer.

The default is blank.



The label scale can be also specified for the layer's thematic classes on the [Class panel](#).

1.label field: Select the **first data field** of the active layer's attribute table for labelling. The default is the ["Label" data field](#) of the active layer's [attribute table](#) if the field exists.

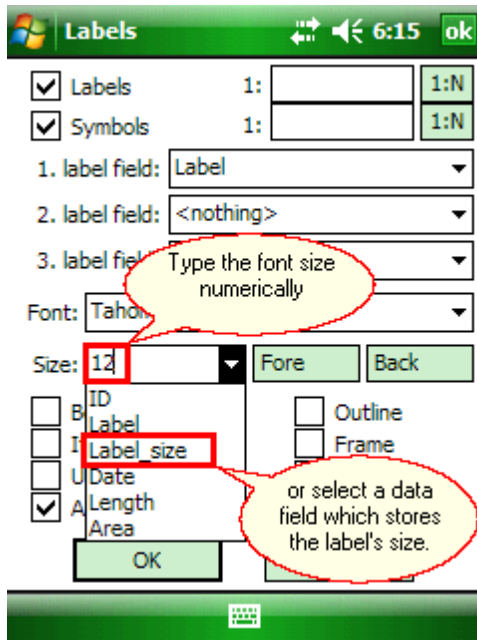
2.label field: Select the **second data field** of the active layer's attribute table for labelling. The default is "<nothing>".

3.label field: Select the **third data field** of the active layer's attribute table for labelling. The default is "<nothing>".

Font: Choose the font to be used for labeling features.

Size: Type the font size **numerically** or select a **data field which stores the font size** (if the field exists) of the labels to specify the font size of the label text. The default font size is 8.

Font size settings



Fore: Choose the [foreground colour](#) of the label. The default foreground colour is black.

Back: Choose the [frame and outline colour](#) of the label. The default background colour is white.

Bold: Bold font style switch. The default is unchecked.

Italic: Italic font style switch. The default is unchecked.

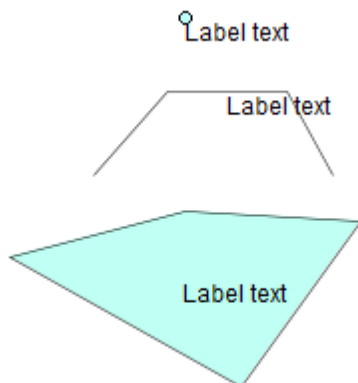
Underline: Underline font style switch. The default is unchecked.

Automatic align: Hides the overlapping labels. The placement of the labels is use an overlapping technique in order to a better labelling. The default is checked.



Switch off Automatic align if the labels are not displayed properly.

Label placement for point, line and area feature



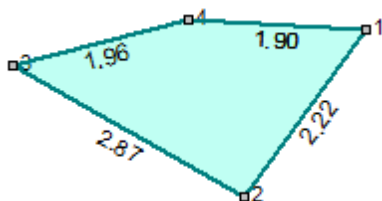
Outline: Outlines the font with the selected background colour. The default background colour is opaque.

Frame: Draws a boundary box around the label with the background colour. The default background colour is opaque.

Scaling: The font size is given in real (map) unit. When you specify a reference scale, the label text and symbol size change as you zoom in or out.

Vertices: Displays the vertex's ordinal number and lengths between vertices in [meter] for the selected point line or area feature. The default is unchecked.

Ordinal numbers and lengths of a selected area feature



The layer's labelling can be stored in [DigiTerra Explorer Map](#) file (.EXP) or [DigiTerra Map Pack file](#) (.DMP) formats.

9.1 Default label settings

The default label settings are the followings for a layer:

Default label settings of a layer on the Labels panel

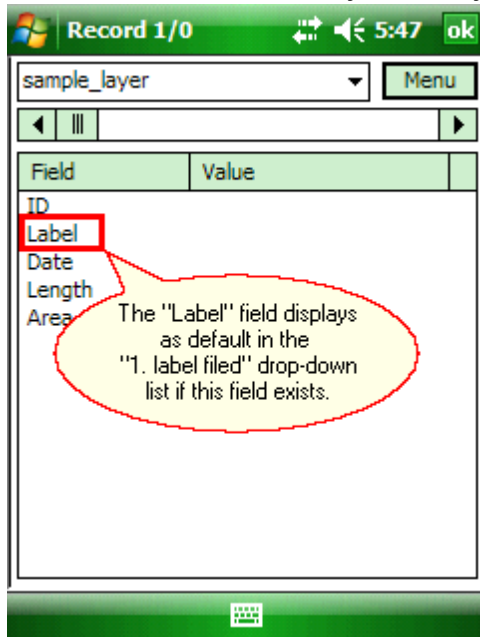
The screenshot shows the 'Labels' panel with the following settings:

- ☒ Labels: 1: [] 1:N [1:N]
- ☒ Symbols: 1: [] 1:N [1:N]
- 1. label field: [Label]
- 2. label field: [<nothing>]
- 3. label field: [<nothing>]
- Font: []
- Size: [12] [Fore] [Back]
- ☐ Bold
- ☐ Italic
- ☐ Underline
- ☒ Automatic align
- ☐ Outline
- ☐ Frame
- ☐ Scaling
- ☐ Vertices
- [OK] [Cancel]

9.2 The default "Label" data field

The following data field name used as default label field: "Label".

[Default attribute table](#) of a newly created layer on the Record panel

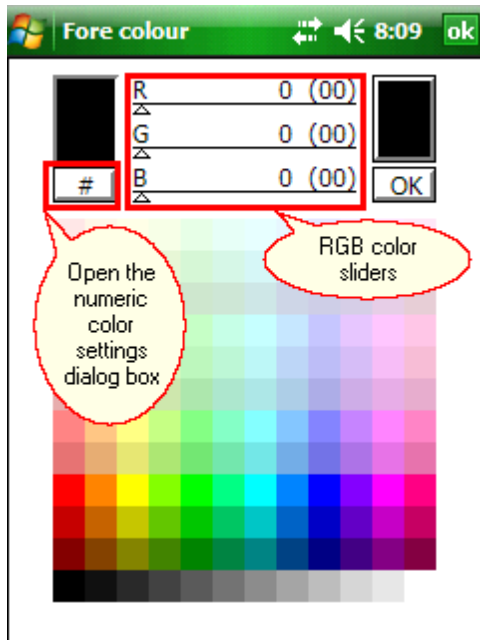


9.3 Label color

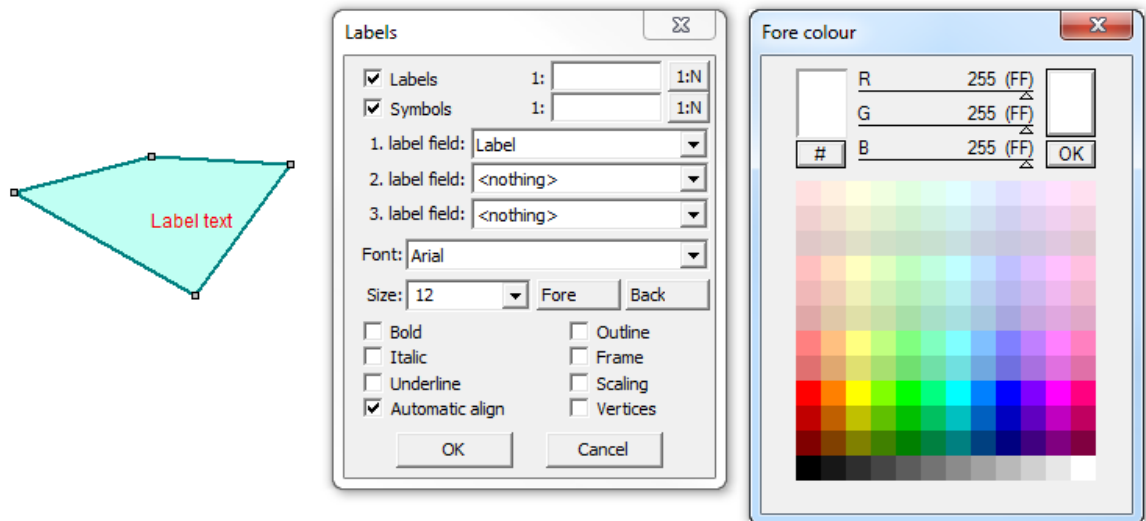
Foreground colour picker

Choose a colour on the palette and fine-tune it using the **RGB sliders** or the **# numeric colour settings panel** for the foreground colour of the label.

Foreground colour panel



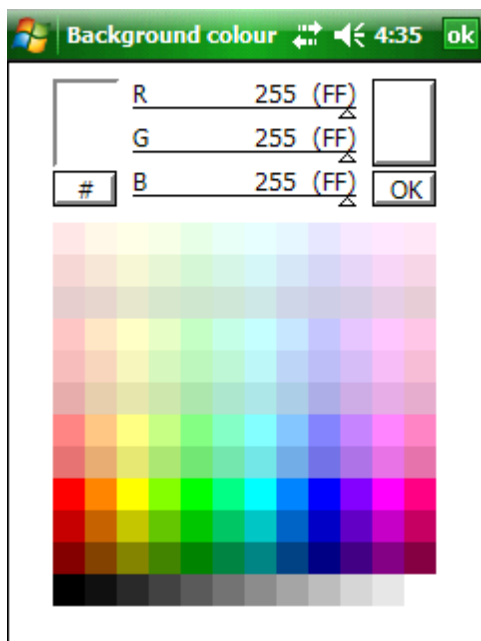
Foreground colour = #0000FF (RED)



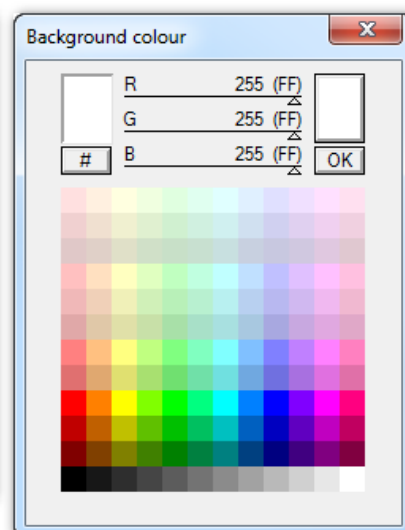
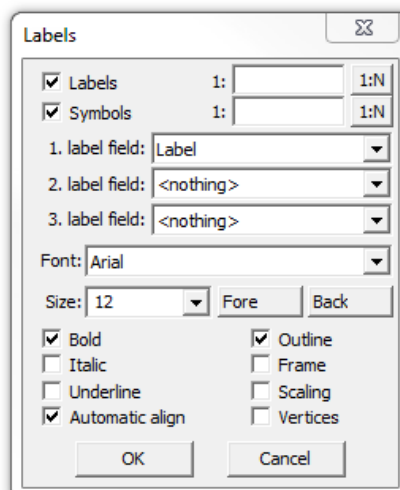
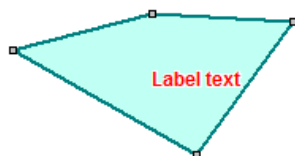
Frame and background colour picker

Choose a colour on the palette and fine-tune it using the **RGB sliders** or the **# numeric colour settings panel** for the frame and outline colour of the label.

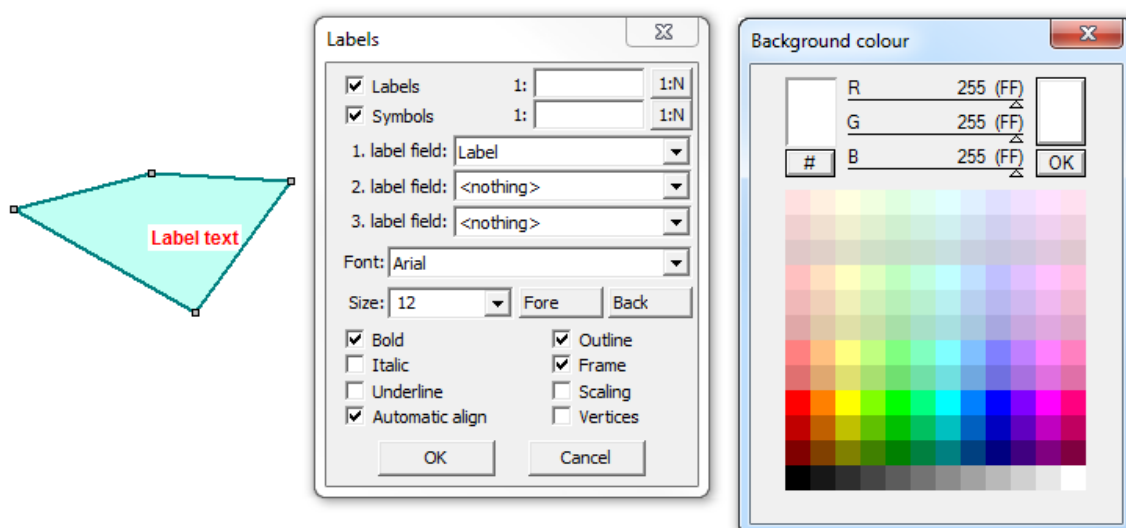
Background colour panel



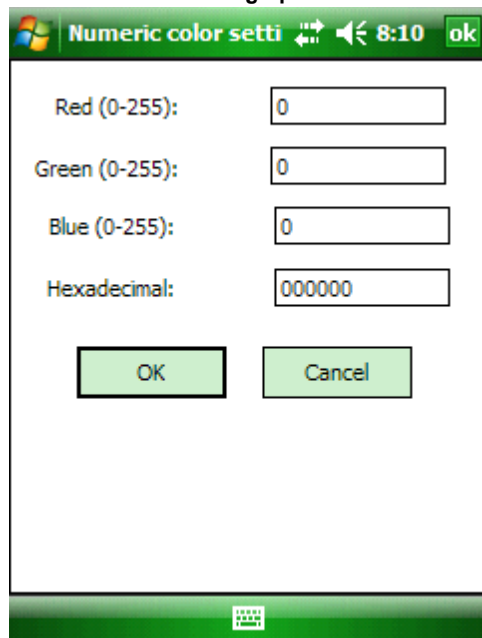
Outline: Background colour=#FFFFFF (white)



Frame: Background colour=#FFFFFF (white)



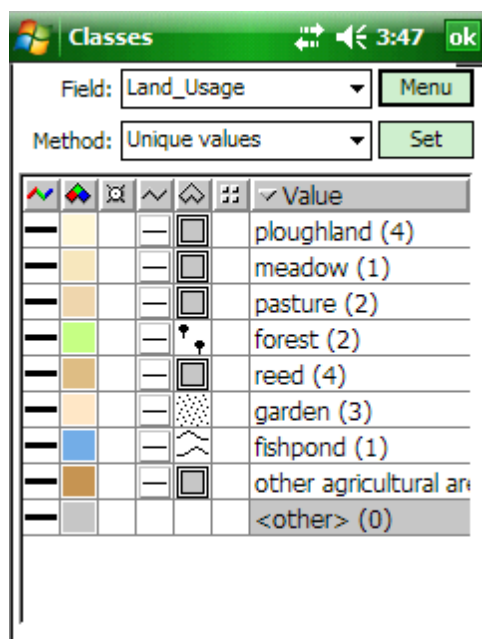
Numeric colour settings panel



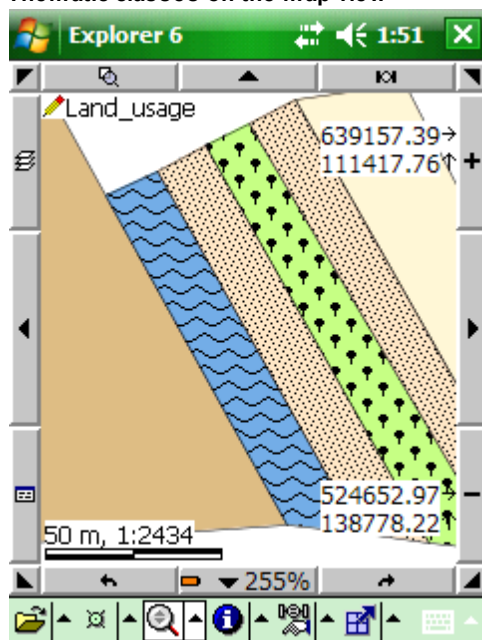
10 Thematic classification

The thematic classification on the [Classes panel](#) is used to define line colour, fill colour, symbology, linetype, filltype for **vector layers** or **thematic classes of a vector layer**. You can access the Classes panel by double-tapping the layer name on the [Layers panel](#) or by tapping on the [Layer classification button](#) after you selected a layer in the Layers panel.

Thematic classes on the Classes panel



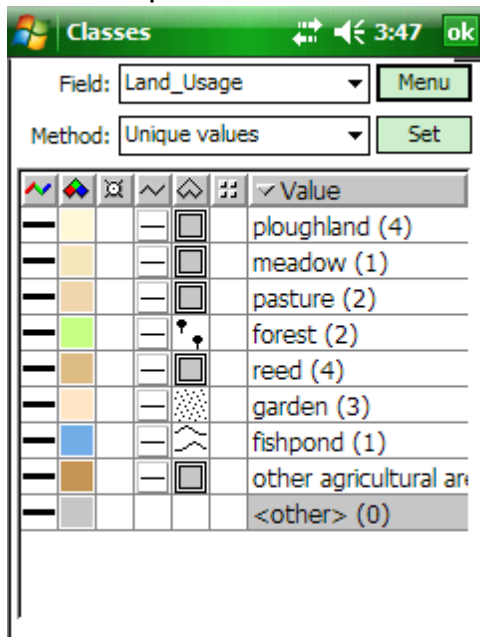
Thematic classes on the map view



10.1 The Classes dialog box

The Classes panel contains the following controls:

The Classes panel



Field: Select a data field from the vector layer's attribute table to classify. After selection the classes are created on the basis of the type of the field.

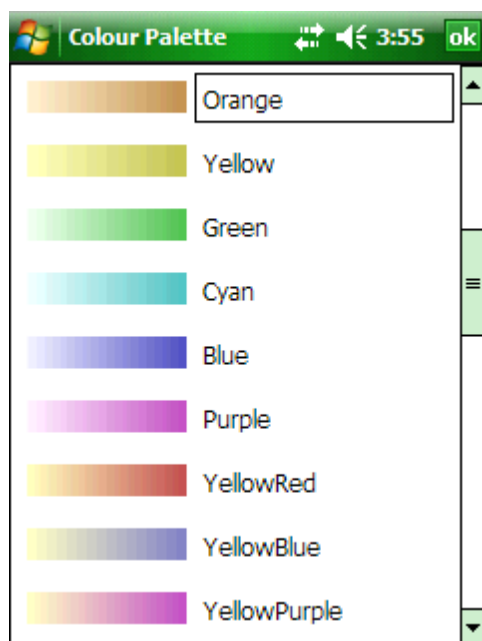
Method: Select the classification method.

- **No classification:** Sorts every item to the "<other>" class.
- **Unique values:** Creates classes by the **unique values** of the data field.
- **Modulo:** Creates classes by the [modulo](#) operator.
- **Natural breaks:** The classes contains **same amount of items**. The class borders pick up the values of the field.
- **Equal quantities:** The classes contains **same amount of items**.
- **Equal interval:** Creates classes with the **same interval between the minimum and maximum values of the field**.
- **Given interval:** Creates **given number of classes between the minimum and maximum values of the field**.
- **Normal distribution:** Creates classes with the **same interval between the mean-2*deviation ... mean+2*deviation of the field**. The central class will contain the items with average values.

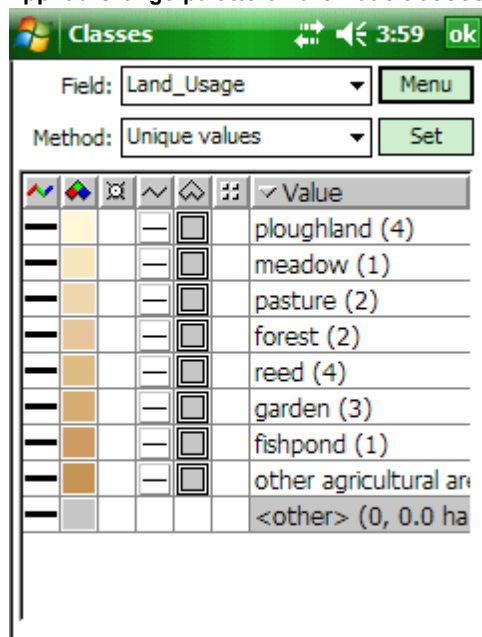
Menu

Palette: Opens the colour Palette panel to select a colour palette and apply it to the thematic classes.

The Colour Palette panel



Applied Orange palette on thematic classes



New class: Inserts a new class.

Delete class: Deletes the selected class.

Load: Opens the Load classes [File panel](#) to load classes and thematic settings from a [CLS file](#).

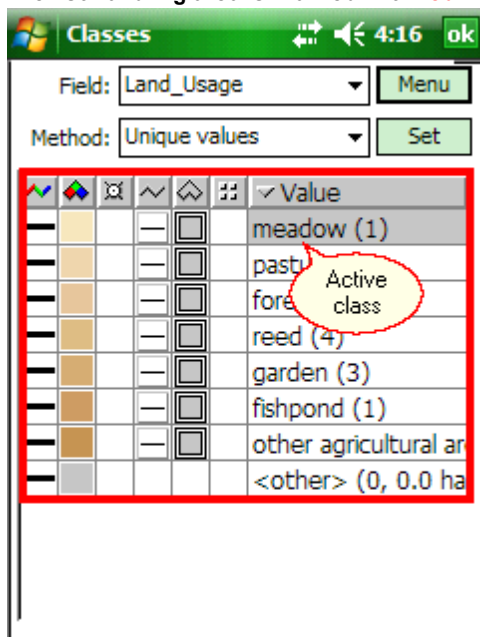
Save: Opens the Save classes [File panel](#) to save classes and thematic settings into a [CLS file](#).

Set - Sets the number of classes. Sets the interval in case of **Given interval** method.

10.2 List handling on the Classes dialog box

The following list handling used on the Classes panel:

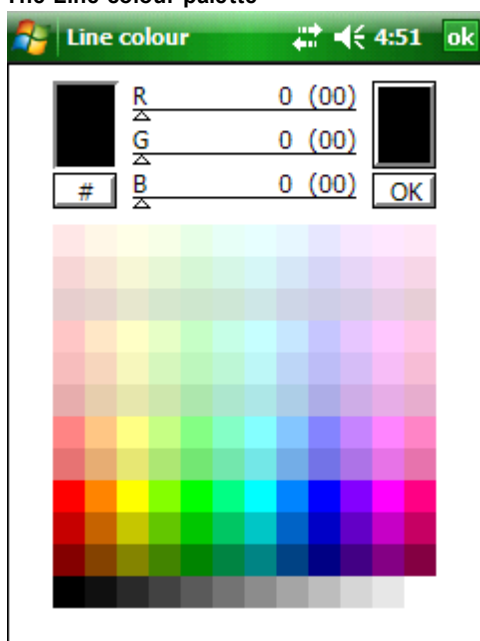
The list handling area is marked with **red line** on the Classes panel




Line colour

- **Tap on the row:** Opens the Line colour [colour palette](#) to set the line colour.

The Line colour palette



- **Tap on the  header:** Sets the line colour of all classes under the current (active) class to the

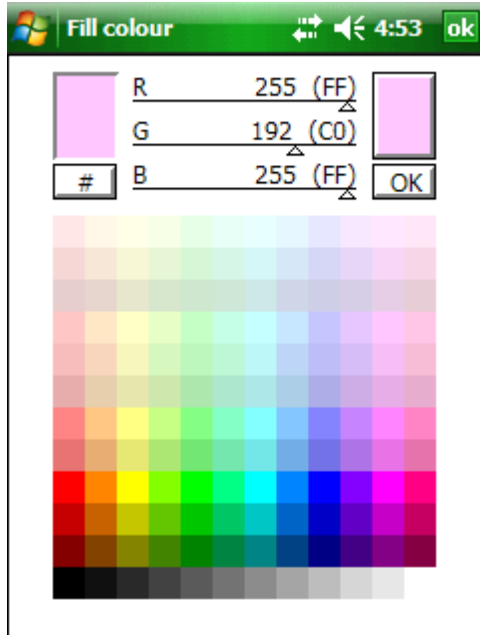
line colour of the current (active) class.


- **Drag:** Drag the current line colour and set this line colour to all marked classes.

Fill colour

- **Tap on the row:** Opens the Fill colour [colour palette](#) to set fill colour.

The Fill colour palette




- **Tap on the  header:** Sets the fill colour of all classes under the current (active) class to the fill colour of the current (active) class.
- **Drag:** Drag the current fill colour and set this fill colour to all marked classes.

Symbol

- **Tap on the row:** Opens the Symbol panel to select symbol. There is no drawing in case of null symbol (Bitmap 0) selection.

The Symbol panel

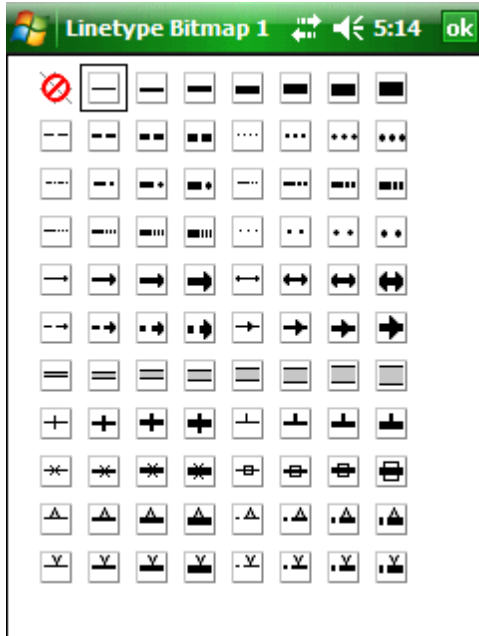



- **Tap on the  header:** Sets the symbol of all classes under the current class to the symbol of the current class.
- **Drag:** Drag the current symbol and set this symbol to all marked classes.

Linetype

- **Tap on the row:** Select linetype. There is no drawing in case of null linetype (Bitmap 0) selection.

The Linetype panel



- **Tap on the  header:** Set the linetype of all classes under the current class to the linetype of

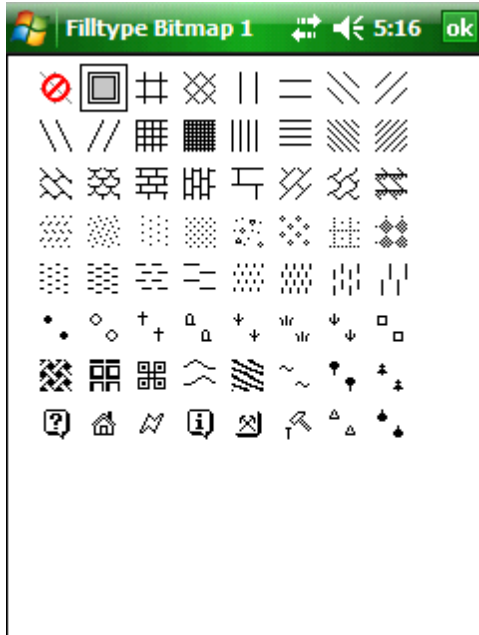
the current class.


- **Drag:** Drag the current linetype and set this linetype to all marked classes.

Filltype

- **Tap on the row:** Select filltype. There is no filling in case of null filltype (Bitmap 0) selection.

The Filltype panel

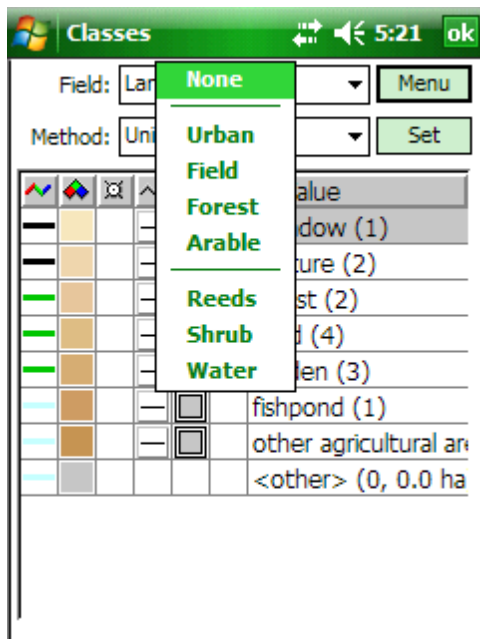


- **Tap on the  header:** Set the fillpattern of all classes under the current class to the fillpattern of the current class.
- **Drag:** Drag the current fillpattern and set this pattern to all marked classes.

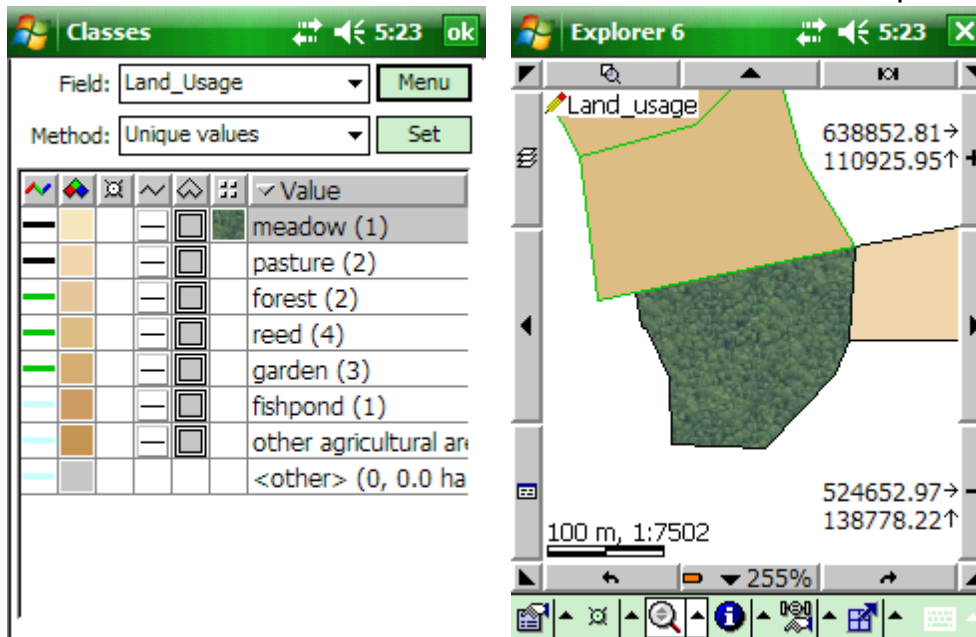
Texture

- **Tap on the row:** Opens the Texture selection context menu to select texture. There is no filling in case of "None" selection.

The Texture selection context menu

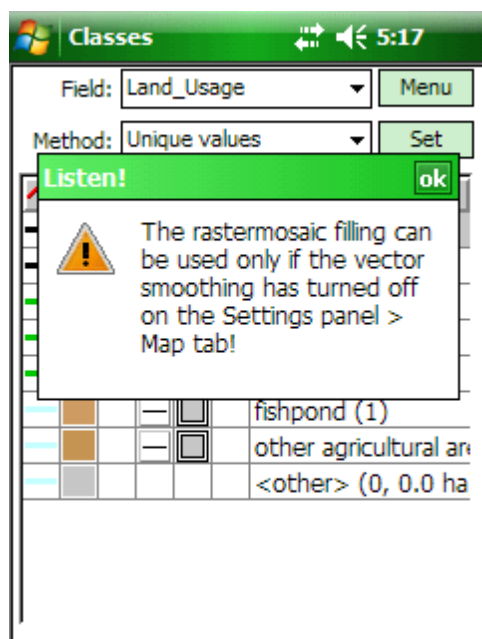


Selected "Forest" texture to one thematic class and the thematic class on the map view



- **Tap on the [Texture] header:** Sets the texture of all classes under the current class to the texture of the current class.
- **Drag:** Drag the current texture and set this texture to all marked classes.

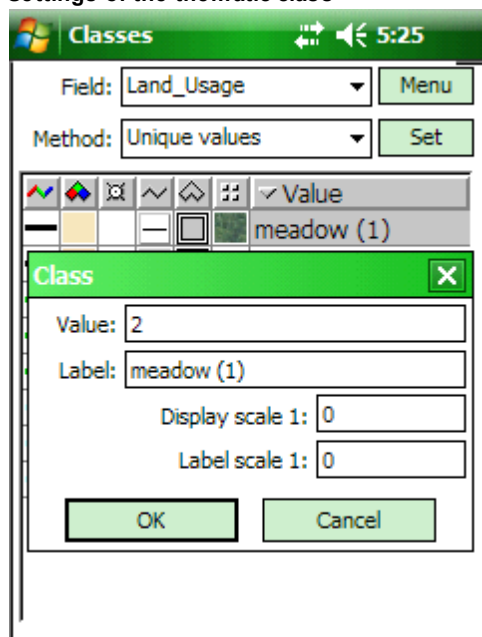
The raster textures cannot be used when the vector smoothing is turned on



Value

Tap on the row: Opens the **Class panel** to set the value range, label, Display scale and the label scale of the selected class.

Settings of the thematic class



Class panel

Value: Cell value of the selected data field to the thematic classification.

Label: Shows the textual value of the [code dictionary](#) (if exists) and the number of features in this class as default. Displays in the legend of the [printed map](#).

Display scale: Enables you to define a display scale to the current thematic class. Default is "1:0", displays the thematic class at all scales.

Label scale: Enables you to define a label scale to the current thematic class. Default is "1:0", displays the labels of the thematic class at all scales.

11 Attribute Properties

In this topic you can find reference type information about **attribute data related information** as:

- tables,
- fields,
- records,
- values,
- data types,
- rules,
- code dictionaries,
- attribute handling related functions

their panes and controls.

Fundamentals of database definitions

There are five main elements to any table in a database, and each of these have (somewhat inevitably) a number of names:

1. **Table** (also known as Attribute Table, Data Table)
2. **Field** (also variously known as Column)
3. **Record** (also known as Row)
4. **Value** (also known as Attribute)
5. **Field name** (also known as the Attribute name)

Table

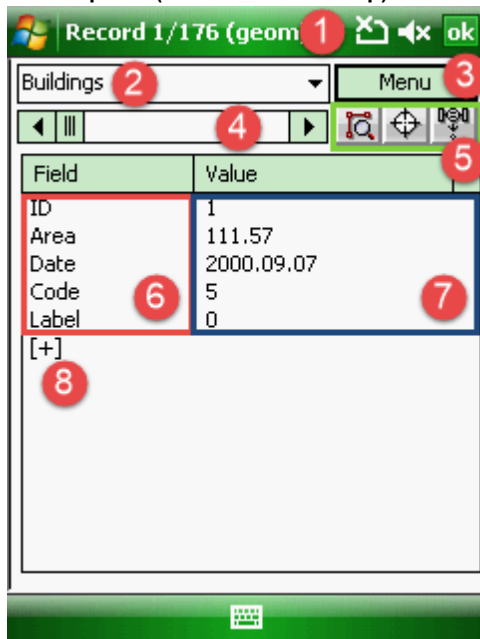
The diagram illustrates a database table structure. It consists of a grid with 4 columns and 6 rows. The columns are labeled 'Field name 1' (blue), 'Field name 2' (yellow), 'Field name 3' (red), and 'Field name 4' (green). The rows are labeled 'Record' (light blue), 'Value' (red), and three unlabeled rows (light blue, yellow, red, green). A label 'Field name' points to the first column header, and a label 'Field' points to the second column header. A label 'Record' points to the first row, and a label 'Value' points to the second row.

Field name 1	Field name 2	Field name 3	Field name 4
		Value	

11.1 The Record dialog box

The **Record** panel contains the following controls:

Record panel (Mobile and Desktop)



1 - **Header:** "Record 1/176" means that you are viewing the **1st** record of the **total 176** records. "(geom)" means that the current attribute table **176 features** with vector geometry




2 - **Lists all** attribute tables of the vector feature layers you are using in the map project

3 - **Menu** button: opens the [menu](#)

4 - **Horizontal scroll bar:**

- Drag the scroll box to move forward or backward in the attribute table
- Click the scroll arrows to move forward or backward in the attribute table

5 - **Buttons:**

-  - **displays the linked feature** of the selected record on the map
-  - activates the [Target tool](#) and **sets the Target position** to the selected feature of the record
-  - **activates the GNSS resurveying** function

6 - **Field names:** Lists all data field from the attribute table **in the left column**. Tap on the **data field name** to open and edit the field definitions on the [Data field panel](#)

7 - **Attribute values:** Lists all values to the current record **in the right column**. Tap on the value to edit as:

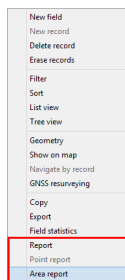
- Opening the [Attribute editor](#) to edit data
- [Read only attribute](#)
- Opening the [Enum](#) panel to use a code from the code dictionary

8 - **[+]** Opens the [New data field](#) panel to create a new data field

ok / **x** - Approves and saves all changes you made then closes the panel and proceeds to save the [code dictionary](#) if you defined codes to a data field the very first time

11.1.1 Menu

This menu is accessible from the [Record panel](#) when tapping/click on the **[Menu]** button in the top right corner:



Opens the [New data field panel](#) to add a **new data field** to the current attribute table. Equivalent with the **[+]** button on the Record panel at the bottom

Adds a **new record** to the current attribute table. It can be used only when working with a data table without geometry in [DBF](#), [TAB](#), [TXT](#) file formats

Deletes the current record with its geometry

Deletes all or only the [filtered](#) records. **This change cannot be undone!**

Opens the [Filter panel](#) to filter attribute records

Opens the [Sort panel](#) to sort attribute records

Switches the Record panel to [List view](#). The default view is [List view](#).

Switches the Record panel to [Tree view](#). It is useful when working with [linked attribute tables](#).

Opens the [Geometry panel](#) to display properties of the current attribute record's feature

Displays the linked feature of the selected record on the map

Activates the [Target tool](#) and **sets the Target position** to the selected feature of the record, equivalent with the [Target button](#) on the Record panel

Activates the [GNSS resurveying](#) function, equivalent with the [GNSS resurveying button](#) on the Record panel

[Copies all content of the current table](#) or only the filtered records to the clipboard

Opens the [Datatable export](#) file panel to export the content of the attribute table into different file formats: ANL, GRN, TXT, CSV

Opens the [Field statistics](#) panel

Opens the [Print Report panel](#) to print the content of the current table or the filtered records. Available in the Desktop version only.


Opens the [Print Point Report panel](#) to print an area report with a map attachment to the active record. Available in the Desktop version only.

Opens the [Print Area Report panel](#) to print an area report with a map attachment to the active record. Available in the Desktop version only.



Please note that the [Point report](#) and [Area report](#) options in the menu are printing related functions. The "Point report" disabled when the current data table is a polygon or line feature layer's attribute table. The "Area report" will be disabled when the current data table is a point or line feature layer's attribute table.

11.1.1.1 Filter dialog box

The **Filter panel** is accessible through the [Record panel](#) by going into the [Menu](#) and selecting **Filter** option. This panel is designed to quickly formulate an expression to filter the attributes and to control the display of the linked features in a layer. Furthermore the filtered records and their features can be exported into an other layer on the Layers panel with the  [Layer export](#) button.

Filter panel

[Clear Filter Conditions] - Erases the current Filter Conditions. Once you have tapped/clicked on this button all records will display in the [Record panel](#) and also all linked features will be displayed in the current layer.

1-3 Data field drop-down lists: Lists all data fields from the current attribute table to select and create a filter definition. Altogether three expression can be combined to define a filter.

Relation: Lists the available operators to select a **relation operator** between the data field and the value:

- "=" Equal
- "<>" Not Equal
- "<" Less
- "<=" Less or equal

- ">" Greater
- ">=" Greater or equal
- "[+]" Field contains the given string
- "[-]" Field does NOT contain the given string

Value drop-down lists: Lists unique values in the selected data field to select an existing value from the list or enter the filter value.

Logical operators: And, Or

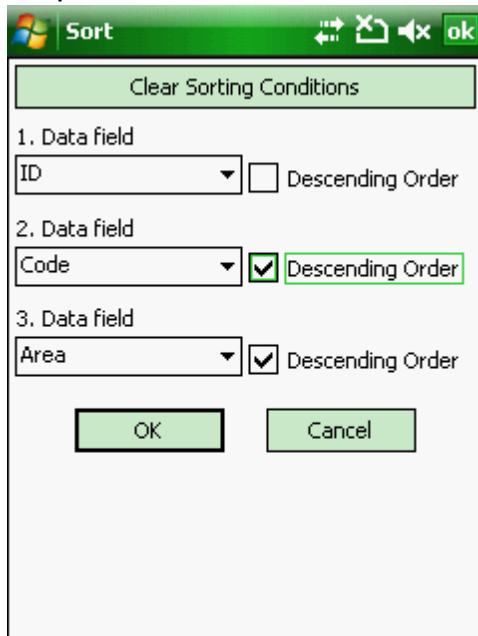
[OK] - Applies the filter definition on the selected attribute table

[Cancel] - Ignores changes and closes the panel

11.1.1.2 Sort dialog box

The **Sort panel** is accessible through the [Record panel](#) by going into the [Menu](#) and selecting **Sort** option. This panel is designed to sort the attribute values in the selected data fields. The **Sort panel** contains the following controls:

Sort panel



[Clear Sorting Conditions] - Erases the current Sorting Conditions. You can see the sorted records in the [Record panel](#)

1-3 Data field drop-down lists: Lists all data fields from the current attribute table to select and sort attribute values in the selected data field. Altogether three data fields can be combined to sort.

Descending order: Controls the switch between ascending and descending order. Tick the check-box to use descending order. The default order is ascending when the check-box is unchecked.

[OK] - Applies the sorting definition in the attribute table

[**Cancel**] - Ignores changes and closes the panel

11.1.1.3 Geometry dialog box

The **Geometry panel** is accessible through the [Record panel](#) by going into the [Menu](#) and selecting **Geometry** option and also with the [Query menu](#) > [Measure](#) tools. This panel is designed to display geometric data of the attribute record's feature and also to display geometric data for the on-screen measuring tools. The **Geometry panel** contains the following controls:

Geometry panel

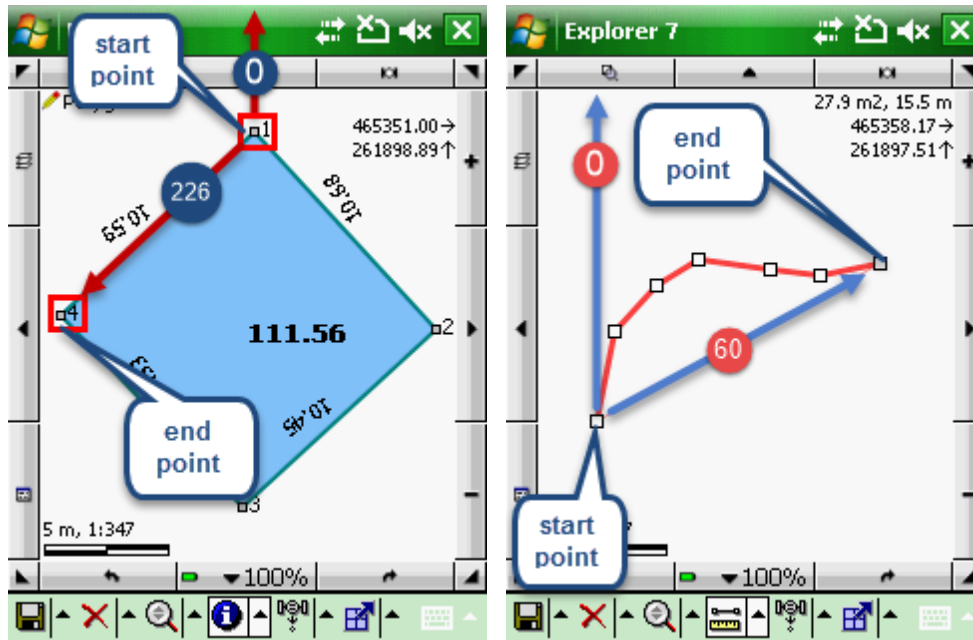
Vertex	Easting	Northing	Height
1	465351.438	261904.391	
2	465358.688	261896.548	
3	465351.001	261889.470	
4	465343.751	261897.110	

Below the table is a scrollbar. At the bottom of the panel is a green bar with a small icon.

Below the panel, the same geometric data is displayed in a separate box:

Angle: 226.553740° (226°33'13.46")
 Length: 42.25 m 10.53 m
 Perimeter: 42.25 m
 Area: 111.56 m2

- **Angle:** Azimuth of the start point and the endpoint defined section in the feature, measurement



- **Length:** Length of the geometry in current [length unit](#). The second value means the length between two last vertices in the current [length unit](#)
- **Perimeter:** Perimeter of the geometry in current [length unit](#)
- **Area:** Area of the geometry in current [area unit](#)

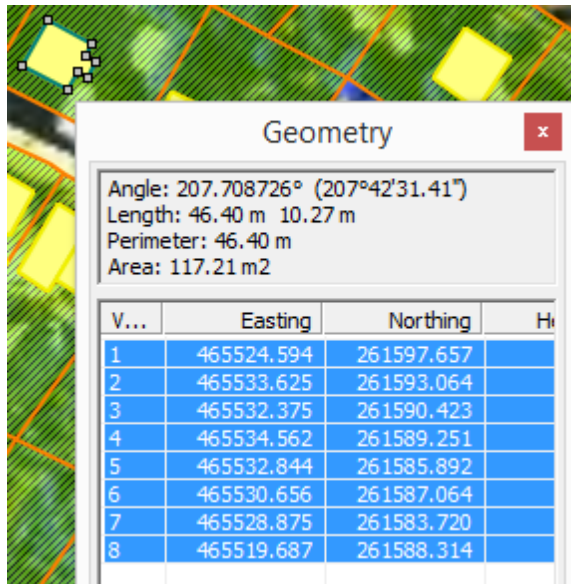
V...	Easting	Northing	Height
1	465345.275	261892.897	0
2	465345.912	261896.400	0
3	465347.584	261898.310	0
4	465349.335	261899.345	0
5	465352.122	261898.947	0
6	465354.112	261898.708	0
7	465356.580	261899.106	0

- **Vertex:** ID of the vertex
- **Easting:** Easting coordinate of the vertex
- **Northing:** Northing coordinate of the vertex
- **Height:** Height of the vertex

Using clipboard on the Geometry panel in the Desktop version

Select the vertices in the list then use **[Ctrl]+[C]** to copy and then **[Ctrl]+[V]** to paste the selected values into e.g. a text editor

Selected vertices



Pasted vertices in Notepad

The Notepad window, titled 'Untitled - Notepad', shows the following text:

```

1, 465524.594, 261597.657, 0
2, 465533.625, 261593.064, 0
3, 465532.375, 261590.423, 0
4, 465534.562, 261589.251, 0
5, 465532.844, 261585.892, 0
6, 465530.656, 261587.064, 0
7, 465528.875, 261583.720, 0
8, 465519.687, 261588.314, 0

```

11.1.1.4 GNSS Resurveying

The GNSS Resurveying designed for:

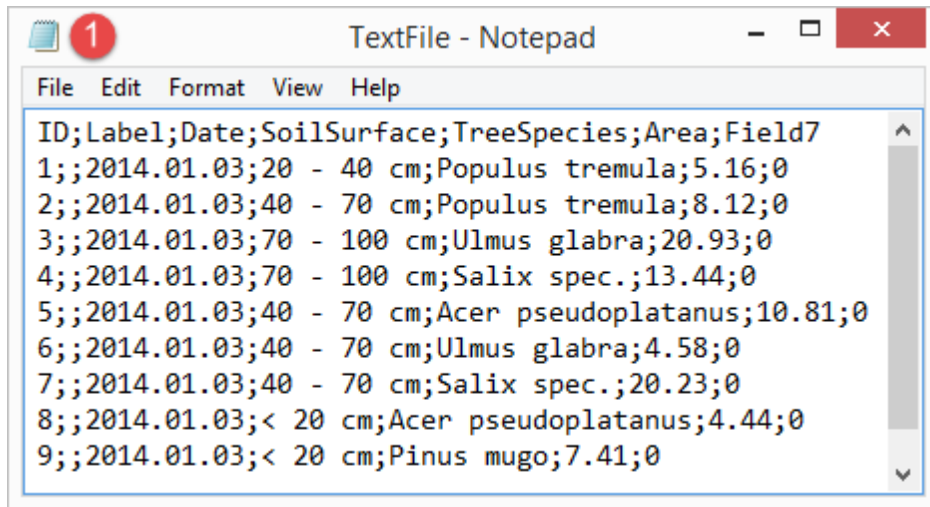
A.) Updating the geometry of an existing point, line or polygon feature to the selected attribute record with the [GNSS menu](#) > [Survey](#) panel using GPS

B.) Surveying geometry to a **separate data table or TXT file** with the [GNSS menu](#) > [Survey](#) panel by creating a vector feature layer using GPS

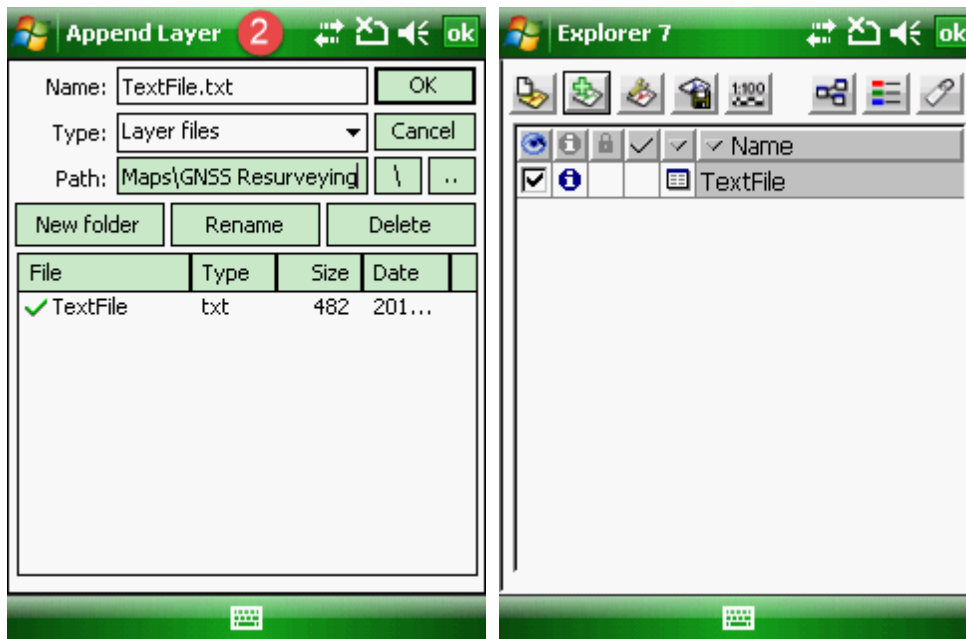
- separate TXT file -> the result will be a MAP - DigiTerra layer with a TAB - DigiTerra file
- separate DBF file -> the result will be a SHP - ESRI Shape layer with an SHX file, null-geometries are allowed
- separate TAB file -> the result will be a MAP - DigiTerra layer to the existing TAB file, null-geometries are allowed

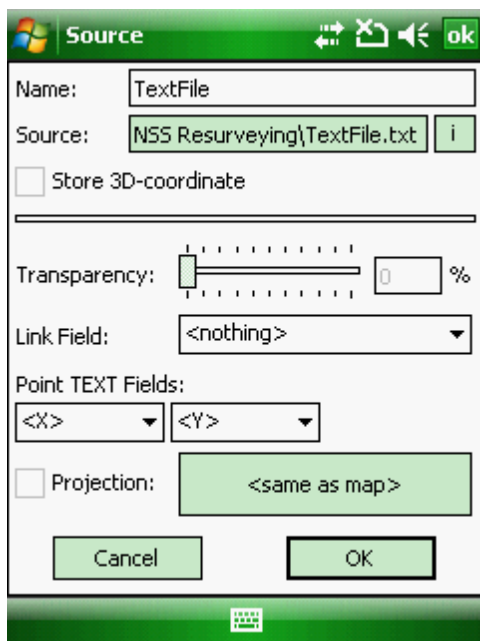
Using the GNSS Resurveying function


- Let's say we have an data table (a TEXT file, a DBF or a TAB file) with important descriptive data but without any geographical information. If we know where they are on the field and additionally would like to link geometries to the records, GNSS Resurveying is the tool in our hand to do this painlessly.

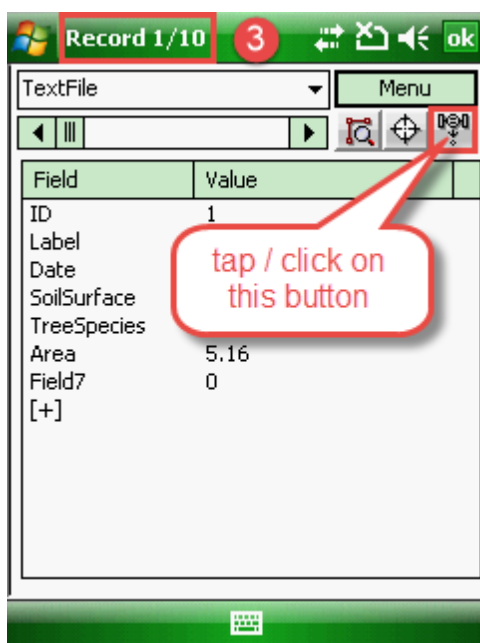


- Add this TEXT file to the Layers panel with the  **Add Layer** command

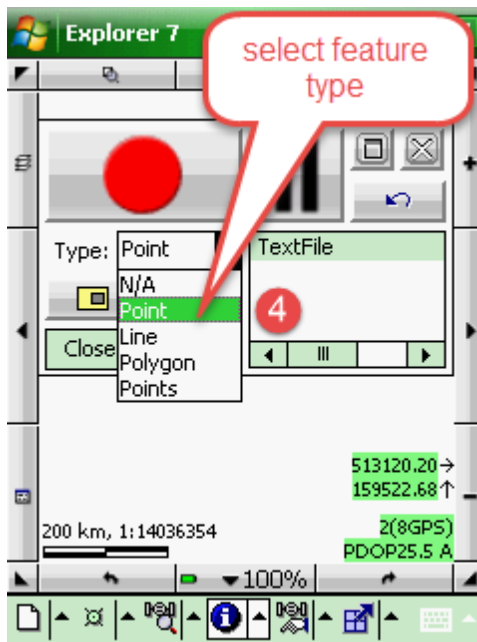




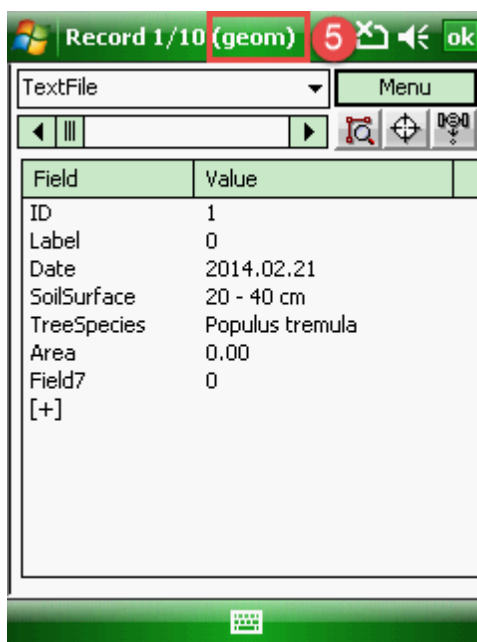
3. Open the Record panel to start the data capture. "**Record 1/10**" means the you have **10** records without geometry and you are at the first record, which is the current record. Use the scroll bar to find the proper record you want to start with then tap / click on the  **GNSS Resurveying button**.



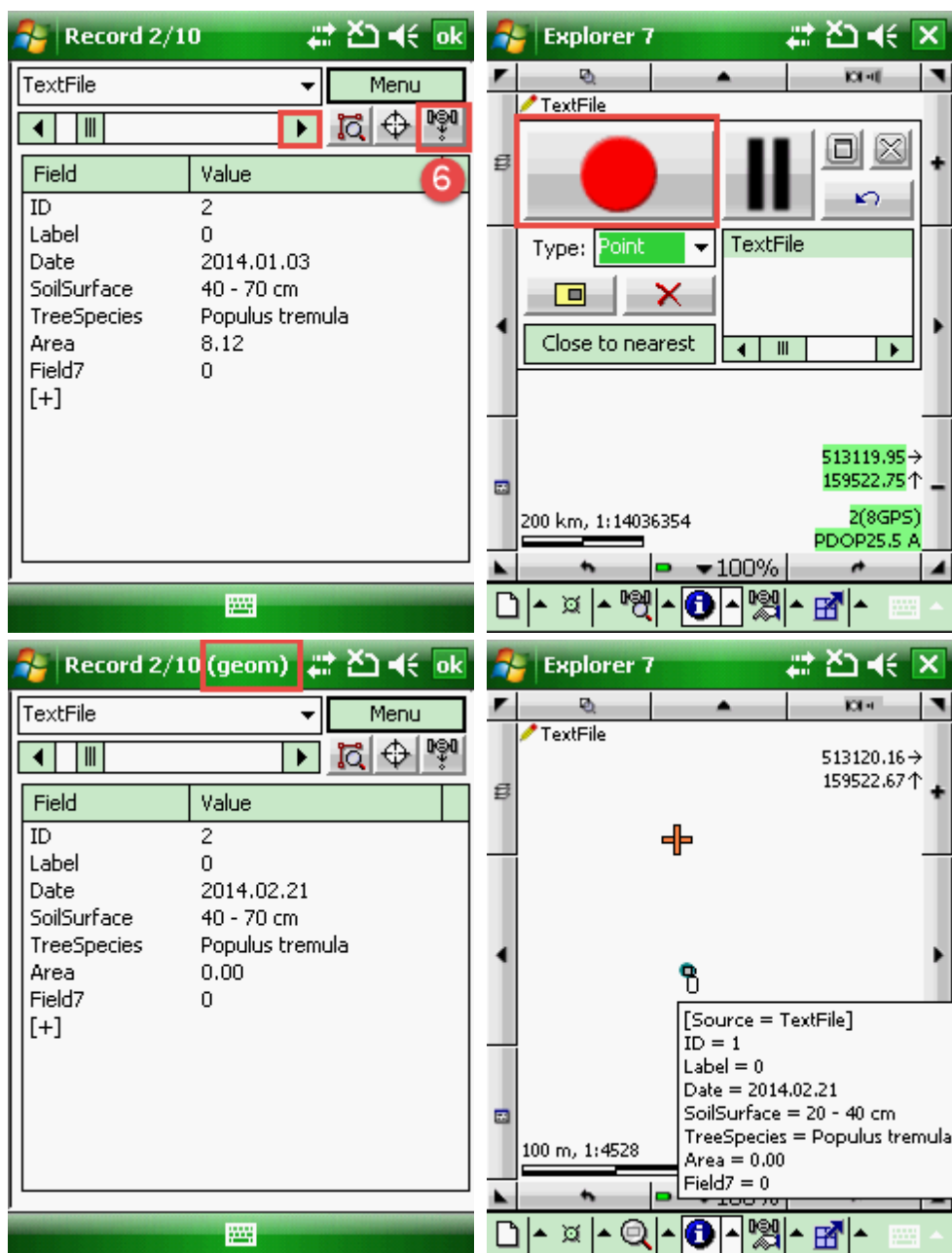
4. The [GNSS Survey panel](#) appears. Select feature type from the [Type](#) drop-down list, then you can start collecting GPS data with the RED button.



5. Once the geometry of the feature have been measured the GNSS Survey panel closes and the Record panel appears again with the same record where the GNSS Resurveying started.

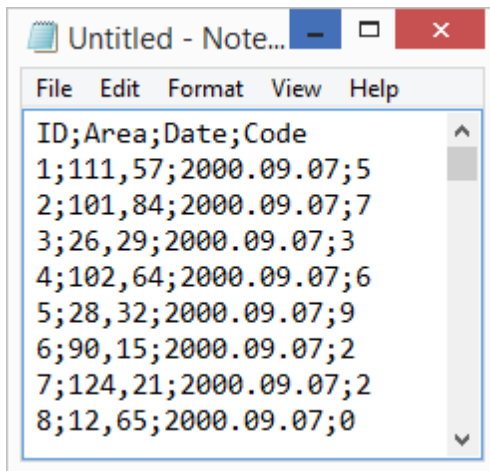


6. Select the next record to link geometry or update the existing geometry of the selected feature. Then tap / click on the GNSS Resurveying button to continue.



11.1.1.5 Copied datatable

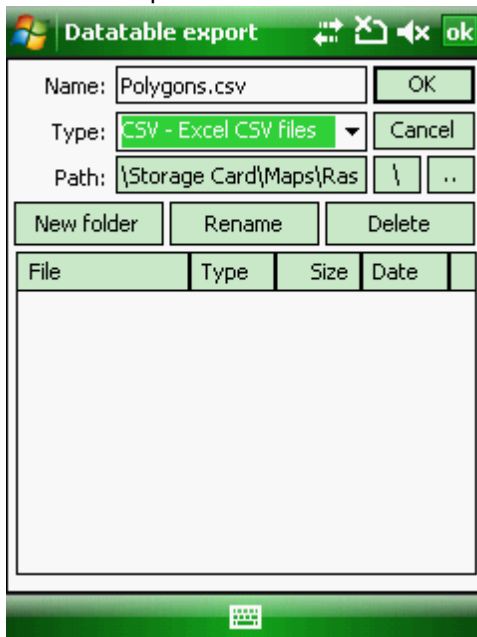
[Copied](#) and pasted data table looks like this in a text editor:



11.1.1.6 Datatable export

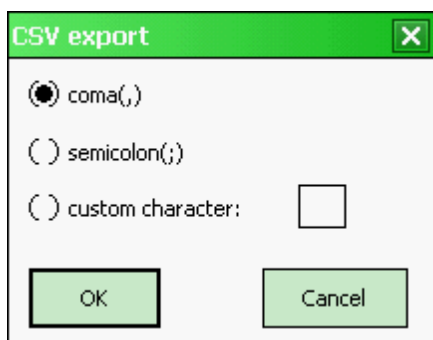
The **Datatable export** [file panel](#) is accessible through the [Record panel](#) by going into the [Menu](#) and selecting **Export** option to export all or only the [filtered](#) content of the data table into the selected file format. Default file format is [CSV](#).

Datatable export



In case of selecting CSV export format the **CSV export** panel appears to select the separation character that will be stored in the exported CSV. Default character is coma (,).

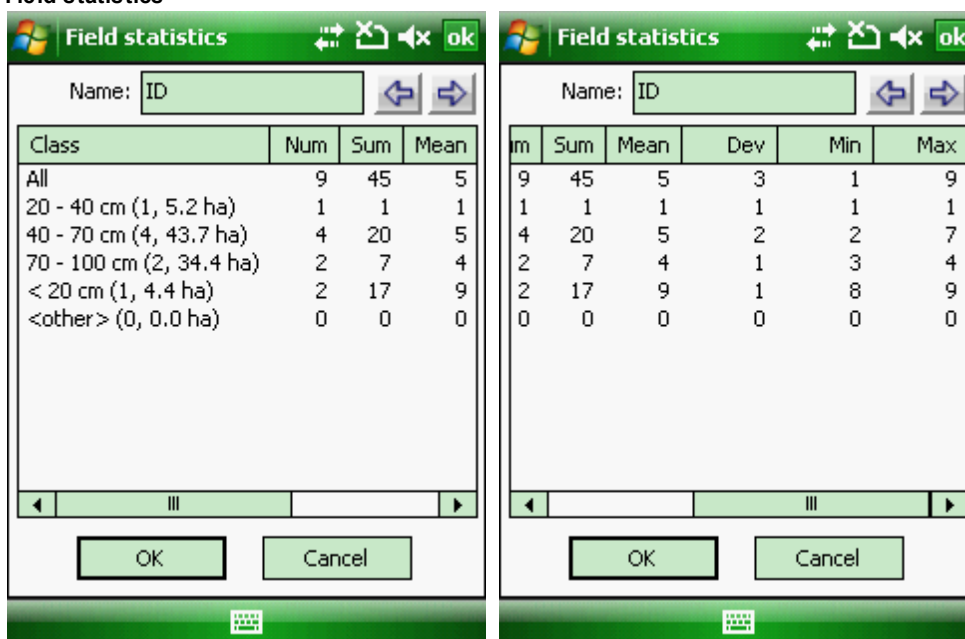
CSV export



11.1.1.7 Field statistics dialog box

Shows a table of the basic statistical values of the field in [All](#) (without classes) or by [Thematic Classes](#) when using [thematic classification](#).

Field statistics



Name: Shows the name of the data field in the current attribute table



- Shows the previous data field



- Shows the next data field

Statistical list: Shows a table of the basic statistical values: **Class**, **Num**, **Sum**, **Mean**, **Dev**, **Min**, **Max**

[OK] - Closes the panel

[Cancel] - Closes the panel

11.1.2 The Data field dialog box

The Data field panel contains the following controls:

The Data field panel

The screenshot shows a dialog box titled 'Data field 2/3'. It has several input fields and dropdown menus: 'Name' (containing 'Name'), 'Alias' (containing 'Name'), 'Default' (containing 'Null'), 'Type' (containing 'Text (N)'), 'Width' (containing '16'), 'Decimal places' (containing '0'), 'Rule' (containing 'None'), and 'Code filter' (containing '<none>'). To the right of these fields are navigation icons: a left arrow, a right arrow, an up arrow, a delete icon (red X), a refresh icon (circular arrows), and a down arrow. At the bottom right is an 'ok' button. Below the fields is a table with three columns: 'Code', 'Name', and 'Description'. The table has a collapse icon '[+]' in the first row.



- Shows the previous data field



- Shows the next data field



- Moves the data field upwards in the [Record panel](#)



- Deletes the current data field



- Refreshes the data field values when using a geometry type data field default value



- Moves the data field downwards in the [Record panel](#)

Name: Shows the editable name of the data field.

Alias: Shows the editable alias name of the data field. Default alias name is equal with the data field name. The alias data field name will be displayed on the [Form view](#).



The data field alias name can be stored in [DigiTerra TAB](#) file format and can be stored in [DigiTerra Explorer Map](#) (.EXP) file in case of using other file formats.

Default: Shows the data field default value that will be used in case of record creation or creating/ changing geometry

- **Null:** Field value will be **zero/empty**
- **Copy last value:** Field value will be the **copy of the previous record value**

- **Copy nearest:** Field value will be the **copy of the nearest feature's record value**
- **Increment last value:** Field value will be the **increased value of the previous record**

- **Creation time:** Field value will be equal to the **creation time** (the stored value depends on the operation system's time settings)
- **GPS time:** Field value will be the **GPS Universal time**

- **Area of Geometry (m²):** Field value will be the **area of the geometry in square meter** on geometry creation/modification
- **Area of Geometry (ha):** Field value will be the **area of the geometry in hectare** on geometry creation/modification
- **Area of Geometry (ac):** Field value will be the **area of the geometry in acre** on geometry creation/modification
- **Area (custom):** Field value will be the **area of the geometry in [current area unit](#)** on geometry creation/modification

- **Perimeter of Geometry (m):** Field value will be the **perimeter of the geometry in meter** on geometry creation/modification
- **Perimeter of Geometry (km):** Field value will be the **perimeter of the geometry in kilometer** on geometry creation/modification
- **Perimeter (custom):** Field value will be the **perimeter of the geometry in [current length unit](#)** on geometry creation/modification

- **Length of Geometry (m):** Field value will be the **length of the geometry in meter** on geometry creation/modification
- **Length of Geometry (km):** Field value will be the **length of the geometry in kilometer** on geometry creation/modification
- **Length (custom):** Field value will be the **length of the geometry in [current length unit](#)** on geometry creation/modification

- **Distance to last object (custom):** Field value will be
 - **the distance between two point features**
 - **the distance between two line features** (distance calculated between the center positions of the middle sections in the line feature)
 - **the distance of the center's positions between two polygon features in [current length unit](#)** on geometry creation/modification

- **Azimuth Angle:** Field value will be the **angle of the geometry** on geometry creation/modification
- **GPS heading:** Field value will be the **angle of the current GPS direction**

- **Speed (m/s):** Field value will be the **current calculated GPS speed in m/s**
- **Speed (custom):** Field value will be the **current calculated GPS speed in [current speed unit](#)**

- **Easting coordinate:** Field value will be the **X coordinate of the geometry** on geometry creation/modification
- **Northing coordinate:** Field value will be the **Y coordinate of the geometry** on geometry creation/modification
- **Latitude:** Field value will be the **Latitude coordinate of the geometry** on geometry creation/modification
- **Longitude:** Field value will be the **Longitude coordinate of the geometry** on geometry creation/modification
- **Altitude:** Field value will be the **[height](#) of the geometry = Mean Sea Level (MSL)** if a geoid separation value is specified

- **Height above ellipsoid:** (HAE) Field value will be the [height above the ellipsoid](#)
- **Satellites in use:** Field value will be the **number of used satellites**
- **Satellites in view:** Field value will be the **number of viewable satellites**
- **PDOP value:** Field value will be the **PDOP value**
- **Horizontal error:** Field value will be the **horizontal RMS error** (horizontal positioning error)
- **Vertical error:** Field value will be the **vertical RMS error** (horizontal positioning error)
- **DGPS fix rate:** Field value will be the **ratio of the DGPS fix positions** (in percent) proportion to uncorrected positions
- **PPS fix rate:** Field value will be the **ratio of the PPS fix positions** (in percent) proportion to uncorrected positions
- **FloatRTK rate:** Field value will be the **ratio of the FloatRTK positions** (in percent) proportion to uncorrected positions
- **FixRTK rate:** Field value will be the **ratio of the FixRTK positions** (in percent) proportion to uncorrected positions
- **Differential Correction Age:** Field value will be the [differential correction age](#)
- **Correction type:** Field value will be the **ratio of differentially corrected positions** (in percent) proportion to corrected positions (e.g. 70% Autonomous, 30% DGPS)
- **Measure reliability:** Reliability value calculated by the PDOP values
- **Measure limit:** Reliability limit calculated by the measured area
- **Measure identifier:** Field value will be a unique identifier of the primary measured feature during the GPS data capture. Required when you collect attributes for vertices in a [point info layer](#)
- **Unique identifier (GUID):** Field value will be a GUID unique identifier of the primary measured feature during the GPS data capture. Required to use it in multi-user environment instead of the Measure identifier default field value. Required when you collect attributes for vertices in a [point info layer](#)
- **Username:** Field value will be the logged in user to the LOGIN module. *(The LOGIN module is an optional module to DigiTerra Explorer, can be purchased additionally.)*

The following default values are display only on Ashtech MobileMapper 6:

- **MM6 Temperature:** Field value will be the **value of the Magellan MobileMapper 6 Temperature sensor**
- **MM6 Air pressure:** Field value will be the **value of the Magellan MobileMapper 6 Air pressure sensor**
- **MM6 G-sensor-X:** Field value will be the **value of the Magellan MobileMapper 6 G-sensor X coordinate**
- **MM6 G-sensor-Y:** Field value will be the **value of the Magellan MobileMapper 6 G-sensor Y coordinate**
- **MM6 G-sensor-Z:** Field value will be the **value of the Magellan MobileMapper 6 G-sensor Z coordinate**
- **MM6 E-compass-X:** Field value will be the **value of the Magellan MobileMapper 6 E-compass X coordinate**
- **MM6 E-compass-Y:** Field value will be the **value of the Magellan MobileMapper 6 E-compass Y coordinate**
- **MM6 E-compass-Z:** Field value will be the **value of the Magellan MobileMapper 6 E-compass Z coordinate**



The data field default value can be stored in [DigiTerra TAB](#) file format and can be stored in the [DigiTerra Explorer Map](#) (.EXP) file in case of using other file formats.

Type: Shows the data type of the field.

- **Logical:** 1 byte length logical (true/false) value
- **Byte:** 1 byte length integer value. Value range: 0..255
- **Short integer:** 2 byte length integer value. Value range: -32768..32767
- **Long integer:** 2 byte length integer value. Value range: -2147483648..2147483647
- **Float:** 4 byte length real value provides up to 7 decimal digits
- **Double:** 8 byte length real value provides up to 15 decimal digits
- **Date:** 4 byte length date with minute precision
- **Time:** 8 byte length date with 1/10000 second precision
- **Text:** Character field without size limit



The maximum character size to Text field type is 254 character in DBF file format (to ESRI Shape files).

- **Document:** This type stores a path or URL of an object (image, sound, document) by using the [Document panel](#)

Width: Shows the number of the characters to the field name in case of fixed record size formats (DBF, TAB)



The maximum field name width is 11 character in DBF file format (to ESRI Shape files)

Decimal places: Number of decimals to display real values

Rule: Verification procedure after each modification of the field value

None: No verification

Read only: The cell value cannot be modified. Recommended for calculated fields

Not null: The cell value cannot be null

Unique value: The cell value cannot be repeated, must be unique in the table

Range: The cell value must be in a given range (between minimum and maximum)

Valid value: The cell value must be an existing value of the data field

Code filter: Filters the selectable codes from the code dictionary based on the geometry or data filed names



A detailed tutorial available about using code filters at <http://forum.digiterra.hu/viewtopic.php?f=59&t=313>



The data field alias name can be stored in [DigiTerra TAB](#) file format and can be stored in [DigiTerra Explorer Map](#) (.EXP) file in case of using other file formats.

List: Shows the defined [code set of the code dictionary](#) to the current data field

11.1.3 New data field

New data field 6/6

Name: Field6

Alias:

Default: Null

Type: Long integer (4)

Width: 8 Decimal places: 0

Rule: None

Code filter: <none> ☐ Multiselect

Code	Name	Description
[+]		

New OK Cancel

11.1.4 Attribute editor

Data values: Tap on to displayed **cell value** to modify the value or select a new value from the [Code dictionary](#).

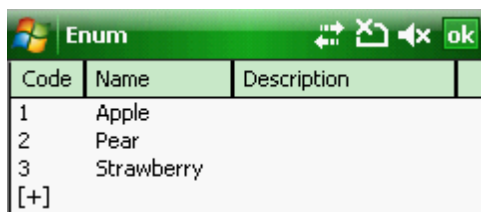
Code

101

OK



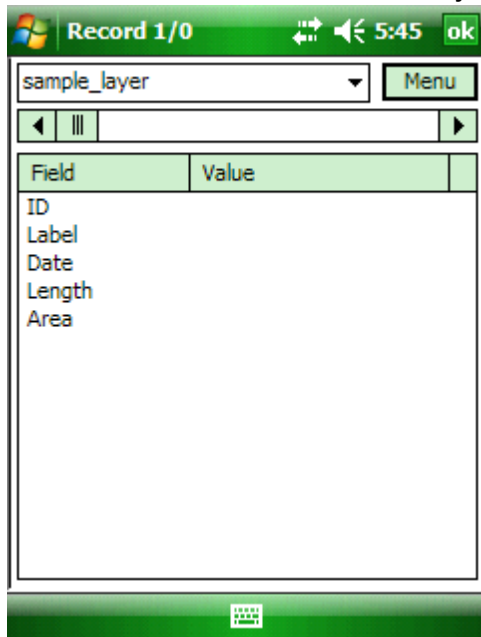
11.1.5 Enum dialog box



11.2 Default attribute table

The default attribute table for newly created layers consists of the following data fields:

Default attribute table of a created new layer on the Record panel



Field definitions:

ID - Increment last value, Long interger (4)

Label - Null, Text (N)

Date - Creation time, Date (4)

Length - Length (custom), Float (4)

Area - Area (custom), Float (4)



You can use predefined [attribute table templates](#) instead of the default attribute table when you create a new layer.

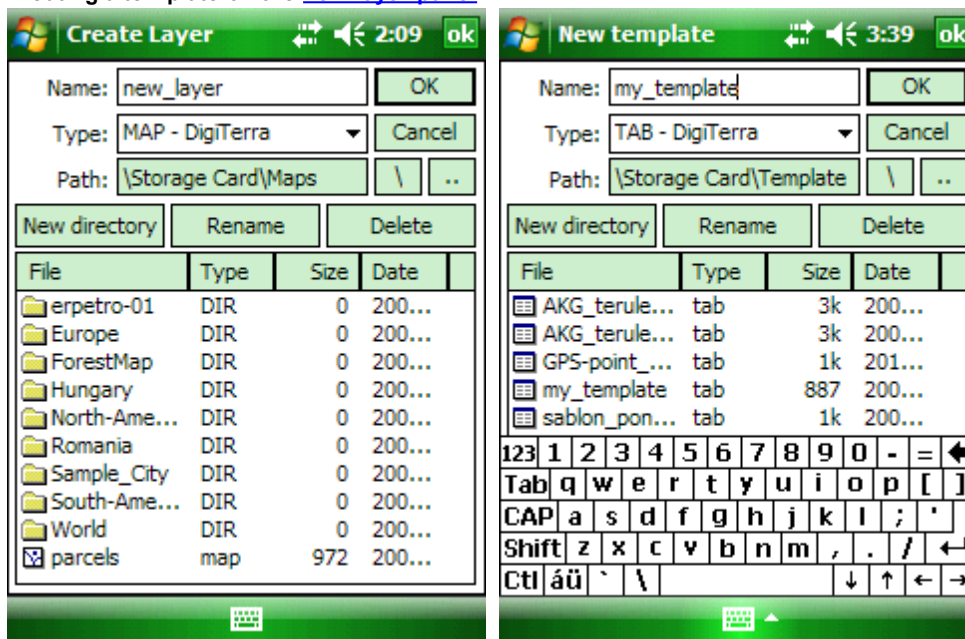
11.3 Attribute table template

Attribute table templates are **predefined data table structures** which can be selected when you create a new layer to provide data field settings/structure in the new layer's attribute table. Their undoubted advantage is to speed up the data capture process when you create a new layer on the field to start the data collection as soon as possible. The file format of the attribute table template is [DigiTerra TAB](#), the sample templates are located in the \Templates directory.

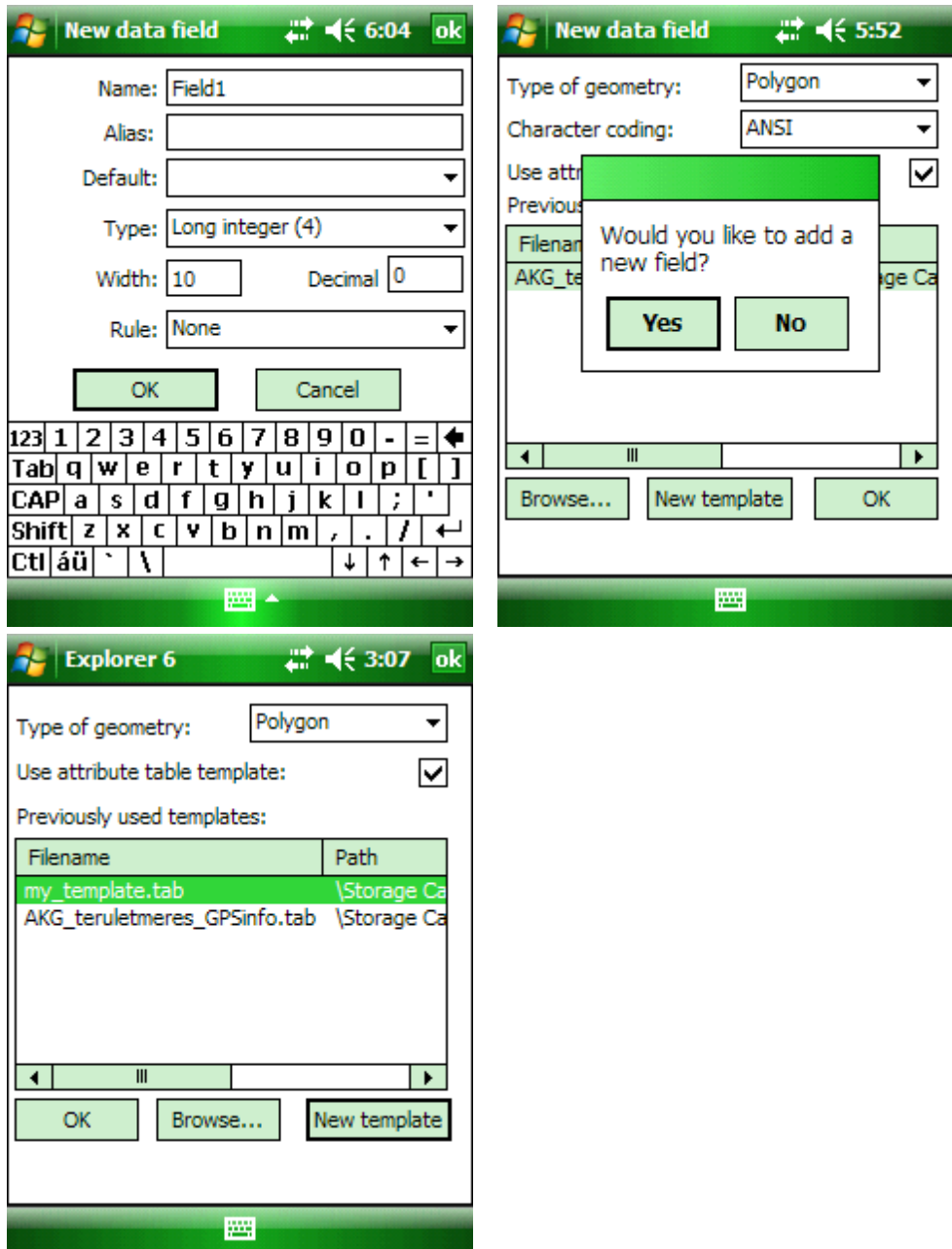
There are two ways to create attribute table templates:

1. On the [New layer panel](#) by using the **New template** button,
2. and with the [New Layer tool](#) in the [File menu](#) (or on the [Layers panel](#)) by creating a [DigiTerra TAB](#) file into the \Templates directory and customizing the data fields on the [Record panel](#) and on the [Data field panel](#).

Creating a template on the [New layer panel](#)



Adding data fields to the new attribute table template



On the Layers Manager by creating a [TAB - DigiTerra](#) file into the [Template Path](#).

11.4 Code dictionary

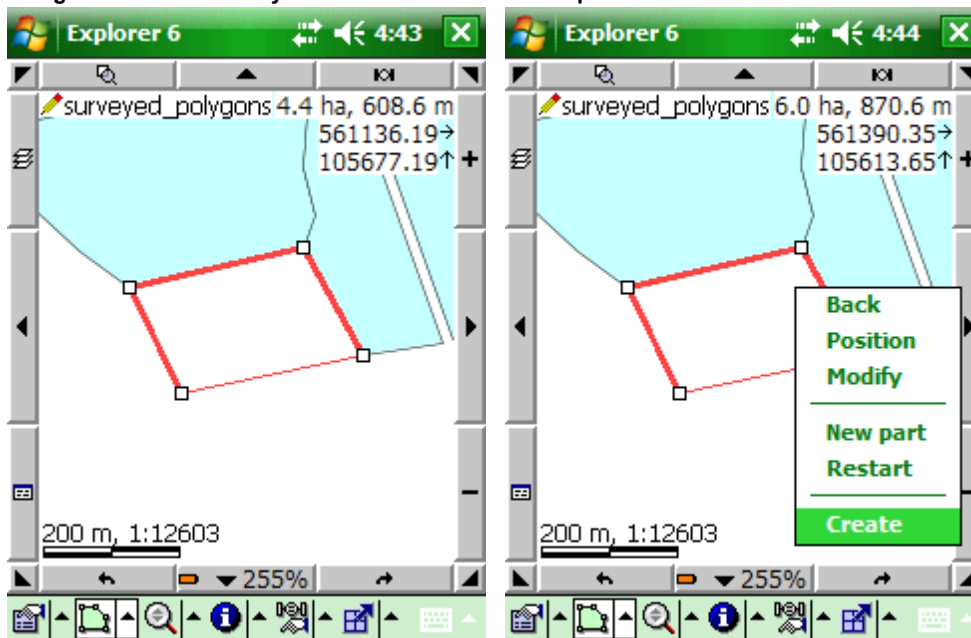
A code dictionary is a **description of the attributes and thematic classes** to a particular mapping project. It is used in the field to control the collection of attributes. It is also used when you create a thematic classification based on a particular data field and the usable [line colour](#), [fill colour](#), [symbol type](#), [linetype](#), [filltype](#) can be controlled by the definitions of the code dictionary to the created [thematic classes](#). A code dictionary includes a list of attributes that describe the feature and the thematic class. The code sets in the code dictionary not contain the actual information collected in the field (positions and actual attribute values occurrence of a feature).

It is important to understand code dictionary and how it is used in the field to control mainly the attribute collection. A code dictionary prompts you to enter information on the data capture form as a pick-list. It can also limit what you enter to ensure data integrity and compatibility with your GIS system. Although a code dictionary is not always required for field work, having one does make both data collection and processing (thematic mapping) faster and easier.



The code dictionaries you create depend on your intended applications. Since different users have differing collection requirements, each user or group of users can design code dictionaries to suit their needs. You may have a code dictionary that specifies information about agricultural farm classes and productivity, while another user may have a code dictionary that details information about utility lines and services. Different users can obtain more useful information about their respective features with their own customized code dictionary.

The code dictionary is primarily text file (.CDT) next to the DigiTerra Explorer Map file (.EXP) that contains code sets and their elements for relevant data fields of the attribute table. Values of a code set can be displayed in a **drop-down list on the data capture form if the relevant data field name in the current attribute table is equal with the name of the code set.**

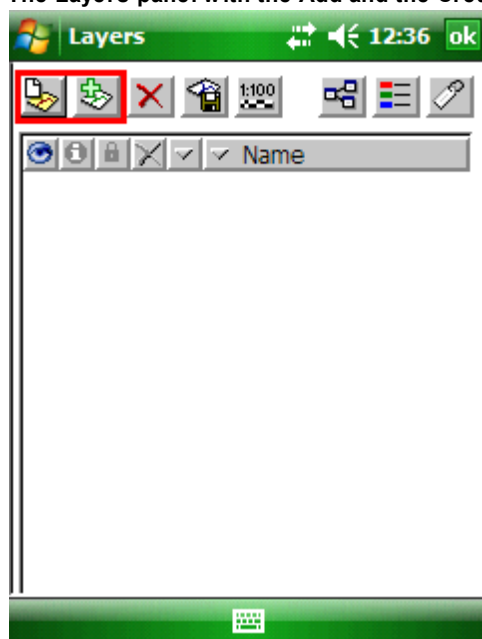
Using the code dictionary's code sets on the data capture form of the current record



General steps for defining a code dictionary are:

1. Tap on [New project](#) on the [Startup options](#) panel
2.  [Add](#) or  [create a new vector layer](#) to the map view

The Layers panel with the Add and the Create layer buttons



3. Open the [Record panel](#)

The Record panel with a marked data field

Field	Value
ID	1
Label	
Date	2010.03.25
SoilSurface	20 - 40 cm
TreeSpecies	Populus
Area	5.16

4. Open the [Data field panel](#) or add a new data field to the data table in the **Menu** , and then tap on the **[+]** button in the code list to open the Code editing panel

The Data field panel without code set

Name:	Name			
Alias:	Name			
Default:	Null			
Type:	Text (N)			
Width:	16	Decimal places:	0	
Rule:	None			
Code filter:	<none>			

Code	Name	Description
[+]		

Code sets can be defined only to the following data field types:

- **Byte:** 1 byte length integer value. Value range: 0..255.
- **Short integer:** 2 byte length integer value. Value range: -32768..32767.
- **Long integer:** 2 byte length integer value. Value range: -2147483648..2147483647.
- **Text:** Character field without size limit.

5. Add the codes to the code set you wish to use by entering their Code and Name, then tap on the Insert button (Description, Default colour, Default symbol are optionally)

The Code editing panel

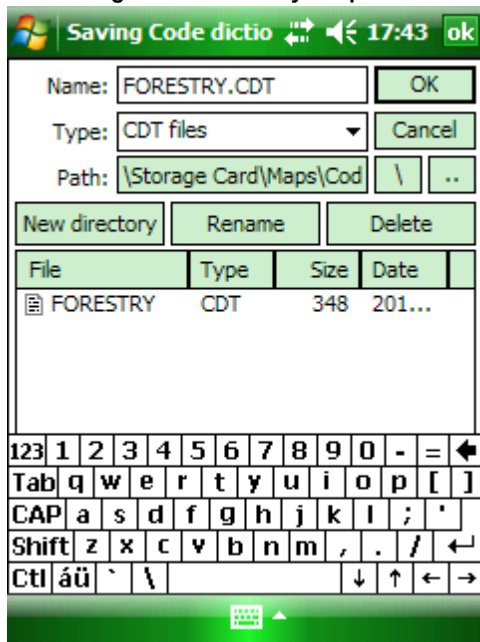
6. Close the Code editing panel by using the Close button on the panel. The defined codes now are displayed in the code list.

Defined code set in the code list

Code	Name	Description
ACP	Acer pseudo...	
PIM	Pinus mugo	
POT	Populus trem...	
SAS	Salix spec.	
ULG	Ulmus glabra	

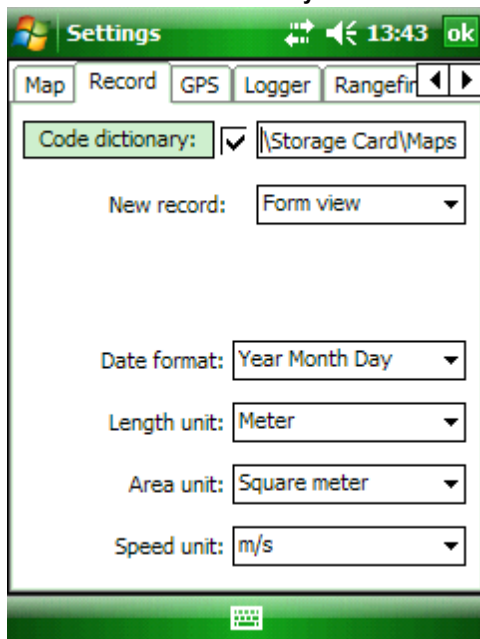
7. Close the Data field panel by tapping on the OK button
8. Then close the Record panel. The Saving Code dictionary file panel appears.

The Saving Code dictionary file panel



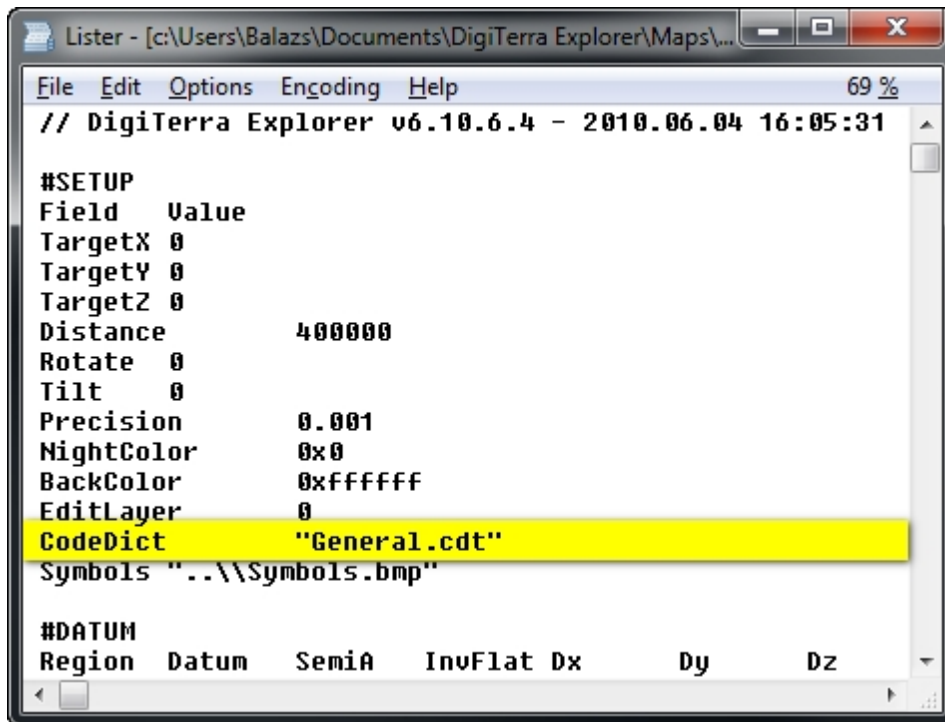
9. Select a dictionary where you wish to store your project with its code dictionary and layers, and then enter the name of the code dictionary (the default name is General.cdt) and Save it.
10. Now the code dictionary file is enabled on the Settings panel > Record tab > [Code dictionary](#)

The enabled code dictionary file on the Record tab



11. Before you exit DigiTerra Explorer Save the Map, now the DigiTerra Explorer Map (.EXP) file contains the path of the code dictionary and load it automatically when you open the project.

Code dictionary in the DigiTerra Explorer Map (.EXP) file



Editing the Code Dictionary (.CDT) file in a text editor

By using code dictionary during the attribute capture process you can customize the selectable values of a data field. When you edit a .CDT file in a simple text editor (e.g. in Notepad) pay attention to the following:

Enter the name of the data fields after the '#' or '\$' signs in the row. The fields' name should not contain space, dot and comma characters. DigiTerra Explorer will not display the codes next to '#' or '\$' signs in [Form view](#) mode. The codes can be displayed in [List view](#) or [Tree view](#) modes only. The same code set can be used for several fields if you separate fields' name by comma.

The '#' sign defines a numerical, the '\$' sign a textual code set. The codes will be followed by the possible values (description) and then the connected colour, items are separated by tabs. Colours must be entered by using 0x followed by colour code. The specification will be closed by an empty row, or a row that does not start with numerical value. Until the next '#' or '\$' signs optional comments can be placed.

Numerical code set:

#	SoilSurface	
1	< 20 cm	0xc0ffc0
2	20 - 40 cm	0x9bff9b
3	40 - 70 cm	0x67ca67
4	70 - 100cm	0x349534
5	> 100 cm	0x006000
9	Water or N/A	0x8080FF

The [data type](#) of a field that uses a numerical code set can be numerical or textual. In case of using

the [Text\(N\) textual field type](#) to a numerical code set, the **data field will store the textual content** of the code set. In case of using any [numerical field type](#) the **data field will store the numeric code only**.

Numeric field types for code sets:

- **Byte:** 1 byte length integer value. Value range: 0..255.
- **Short integer:** 2 byte length integer value. Value range: -32768..32767.
- **Long integer:** 2 byte length integer value. Value range: -2147483648..2147483647.
- **Float:** 4 byte length real value provides up to 7 decimal digits.
- **Double:** 8 byte length real value provides up to 15 decimal digits.



Numeric code sets can be stored as textual and even as numerical data. In that special case when a code set starts with "0" -zero and the data field type is numeric, the form will be filled as default with the related value of the "0" code.

Example code set:

#	SoilSurface	
0	< 20 cm	0xc0ffc0
1	20 - 40 cm	0x9bff9b
2	40 - 70 cm	0x67ca67

The "SoilSurface" field code set on the [form view](#) of the current record

Textual code set:

\$	TreeSpecies	
POT	Populus tremula	0x80ffff
ACP	Acer pseudoplatanus	0x90c060

PIM	Pinus mugo	0xff80c0
ULG	Ulmus glabra	0xffc0e0
SAS	Salix spec.	0x70a0d0

The [data type](#) of the field that use the textual code set must be textual, numeric field types cannot be used for textual code sets!

The "TreeSpecies" field code set on the [form view](#) of the current record

General steps for editing an item of a code set in [List view/Tree view modes](#) are

1. Open the Record panel and tap on the value you wish to edit

2. Tap and hold the stylus on the code you want to edit, the Code editing panel appears

The screenshot shows the 'Code editing' panel with a green header bar containing a Windows logo, the title 'Code editing', and icons for undo, redo, and a speaker. Below the header, there is a dropdown menu showing 'surveyed_polygons' and a 'Menu' button. A table with two columns, 'Field' and 'Value', displays the following data:

Field	Value
ID	1
Label	
Date	2010.06.09
SoilSurface	20 - 40 cm
TreeSp	
Area	

A context menu is open over the 'SoilSurface' field, titled 'SoilSurface' with a close button (X). It contains a table with two columns: 'Name' and 'Description'.

Name	Description
1 < 20 cm	
2 20 - 40 cm	
3 40 - 70 cm	
4 70 - 100 cm	
5 > 100 cm	
9 Water or N/A	

At the bottom of the panel, there is a small 'FIELD FORM' logo.



In case you tapped under the code list in the code set dialog, the Code editing panel will appear without codes.

3. Edit the selected code in the Code editing panel

The screenshot shows the 'Code editing' panel with a green header bar containing a Windows logo, the title 'Code editing', and icons for undo, redo, and a speaker, followed by an 'ok' button. Below the header, there are four text input fields:

Code: 1

Name: < 20 cm

Description:

Filter name:

Below the input fields, there are two buttons: 'Default colour' and 'Default filltype'. At the bottom, there are four buttons arranged in a 2x2 grid: 'Modify', 'Delete', 'Add', and 'Close'. At the very bottom, there is a small 'FIELD FORM' logo.

Context menu of the code set editor

Add new code: Opens the Add code, name panel to type the space separated **code** and **name**.

Edit code: Opens the Edit name panel to edit the name of the selected code.

Delete code: Deletes the selected code.



The path of the current code dictionary can be stored (and reloaded) in [DigiTerra Explorer Map](#) file (.EXP) format. Suggested to store the code dictionary in the same directory with the project file and the layers.

11.5 Related tables

DigiTerra Explorer supports to create mapping projects with related attribute tables. The use of related tables is necessary for example to collect different data from several tree species in one forest compartment, collect different data from several geological rock samples in one place etc. To do this you need a **primary (parent) table** and one (or more) [related \(child\) table](#) with one [key data field](#) in each attribute table to [link](#) the child table to the parent table.

Parent table definitions:

Parent table with three key data fields

The screenshot shows a software window titled 'Record 1/1' with a dropdown menu set to 'MaRF-Basalt' and a 'Menu' button. Below is a table with the following data:

Field	Value
ID	10000
Latitude	0.0000000
Longitude	0.0000000
Date	
Rock color	
Comments	
Photo_ID_ba	10000
Sample_ID_ba	10000
Labor_ID_ba	10000

A red box highlights the three key data fields: Photo_ID_ba, Sample_ID_ba, and Labor_ID_ba. A speech bubble points to these fields with the text: 'Three key fields in the parent table.'



In the **parent table** an integer [data field type](#) and [Increment last value](#) data field default value must be used to the key field. The [Read only](#) rule is suggested to use to any key field.

Field definitions of the key fields in the parent table

Data field 7/9 6:14 **ok**

Name:

Alias:

Default:

Type:

Width: Decimal places:

Rule:

Class	Num	Sum	Mean	D
All	2	20001	10001	
<othe...	2	20001	10001	

Data field 8/9 6:14 **ok**

Name:

Alias:

Default:

Type:

Width: Decimal places:

Rule:

Class	Num	Sum	Mean	D
All	2	20001	10001	
<othe...	2	20001	10001	

Data field 9/9 6:15 **ok**

Name:

Alias:

Default:

Type:

Width: Decimal places:

Rule:

Class	Num	Sum	Mean	D
All	2	20001	10001	
<othe...	2	20001	10001	

Child table definitions:

Child tables with the same key fields.

Record 1/1 6:54 ok

Photos-Basalt Menu

Field	Value
PhotoSubitem ID	1
Photo_ID_ba	10000
Media_Selection	
Description	

Record 1/1 6:56 ok

Samples-Basalt Menu

Field	Value
Sample_Nr	1
Sample_ID_ba	10000
Sample_Type_ID_ba	10000
Comment_on_Sample	
Selected	No

Record 1/1 6:57 ok

Labor-Basalt Menu

Field	Value
ID	1
Labor_ID_ba	10000
IRC	No
MAFI	No
Other	No



In the **child tables** the **same data field name and field type** must be used as in the parent table. The only difference is the default value: [Copy last value](#). The [Read only](#) rule is suggested to use to any key field in the child tables as well.

Field definitions of the key fields in the child tables.

Data field 7/9 7:13 ok

Name: Photo_ID_ba Delete

Alias: Photo_ID_ba

Default: Copy last value

Type: Long integer (4)

Width: 10 Decimal places: 0

Rule: Read only

Up Down << >>

Class	Num	Sum	Mean	D
All	1	10000	10000	100
<othe...	1	10000	10000	100

Data field 8/9 7:13 ok

Name: Sample_ID_ba Delete

Alias: Sample_ID_ba

Default: Copy last value

Type: Long integer (4)

Width: 10 Decimal places: 0

Rule: Read only

Up Down << >>

Class	Num	Sum	Mean	D
All	1	10000	10000	100
<othe...	1	10000	10000	100

Datafield 2/5 7:14 ok

Name: Labor_ID_ba Delete

Alias: Labor_ID_ba

Default: Copy last value

Type: Long integer (4)

Width: 10 Decimal places: 0

Rule: Read only

Up Down << >>

Class	Num	Sum	Mean	D
All	1	10000	10000	100
<othe...	1	10000	10000	100

You must select the key field as a [link field](#) in each child table on the [Source panel](#) to build the relations between the parent table and its child tables.

Selected link fields of the child tables on the Source panel.

Source 7:24 ok

Name:

Source:

Link Field:

X position field:

Y position field:

Transparency: 0%

Fields = 4
Records = 1
Record size = 14
Allocation:
- geometry = 0
- strings = 4

Source 7:23 ok

Name:

Source:

Link Field:

X position field:

Y position field:

Transparency: 0%

Fields = 5
Records = 1
Record size = 11
Allocation:
- geometry = 0
- strings = 0

Source 7:25 ok

Name:

Source:

Link Field:

X position field:

Y position field:

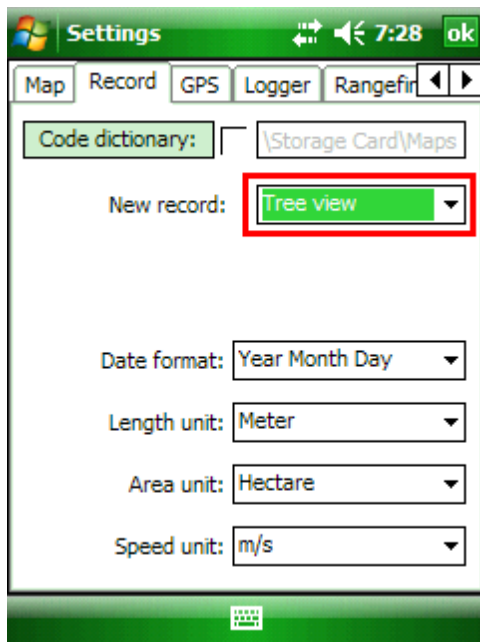
Transparency: 0%

Fields = 5
Records = 1
Record size = 15
Allocation:
- geometry = 0
- strings = 2



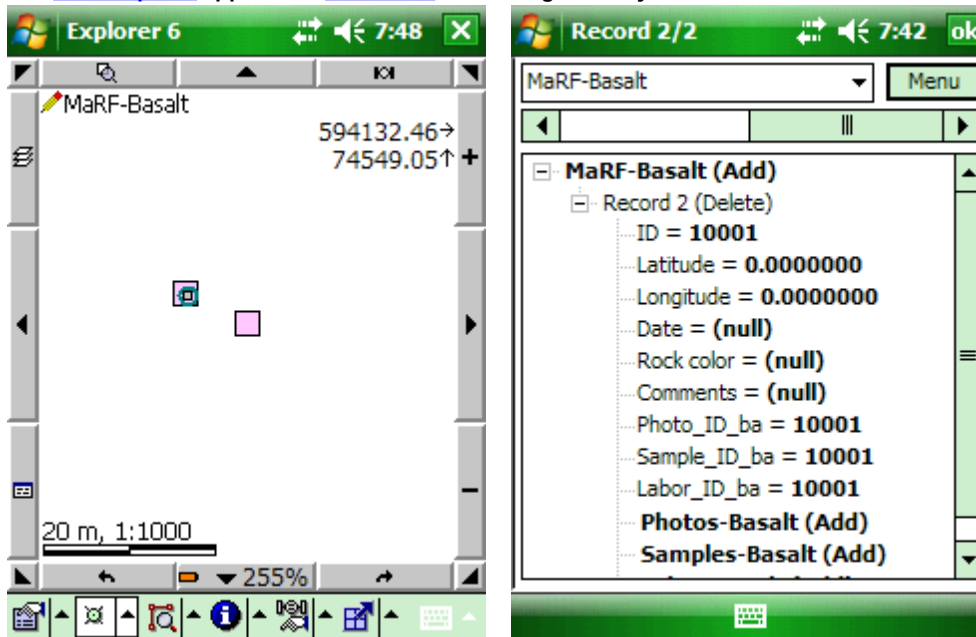
Before you start the data collection with the related tables set the [Tree view](#) for the displayed new record in the [Settings panel](#) > [Record tab](#) and [save your mapping project](#) as a [DigiTerra Explorer Map](#) (.EXP) file.

Selected Tree view option on the Record tab for data collection in related tables.

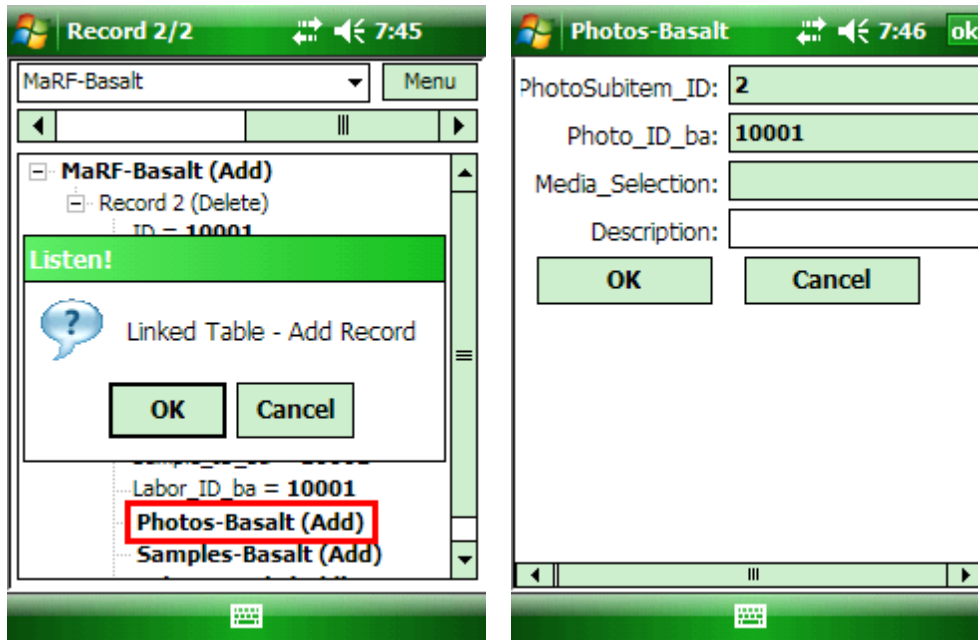


Tree view mode during the data capture

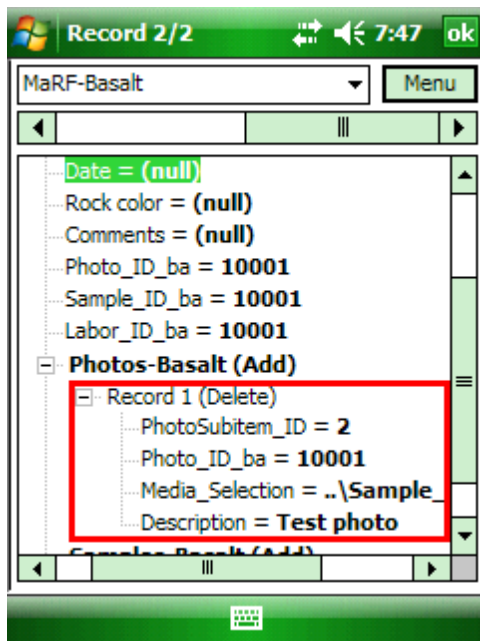
The [Record panel](#) appears in [Tree view](#) after the geometry creation.



Tap on the name of the child table that marked with (Add) to add new the records in the child table.



New added record in the child table.

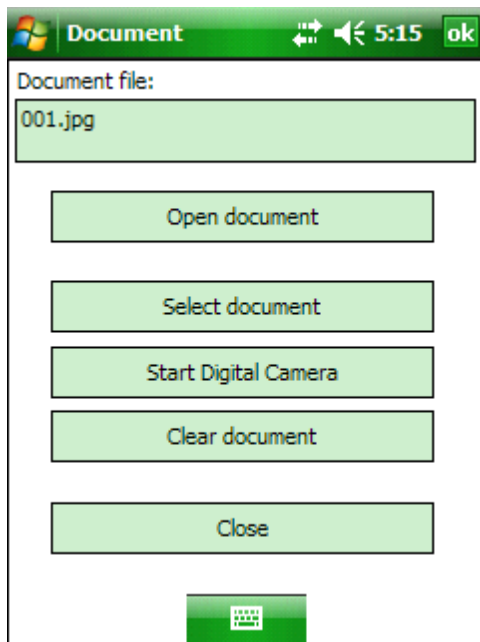


11.6 Document dialog box

Document panel is used to capture a picture with the builtin camera of the Mobile device and store the path of the picture in a document field type data field. Document panel is also used when you want to add an OLE object (file) to a datafield by manually, open or clear the linked document.

The Document panel contains the following controls:

Document panel



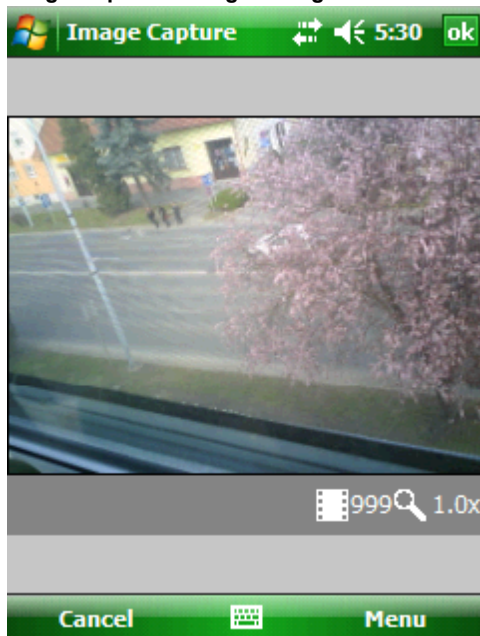
Document file: Shows the name of the linked file.

Open document - Opens the linked document in the associated viewer/application.

Select document - Opens the Document [File panel](#) to select an OLE object.

Start Digital Camera - Starts the builtin camera and opens the associated Image Capture application to take a picture. The created picture will be saved beside the layer file.

Image Capture dialog on Magellan MobileMapper 6



Clear document - Clears the path of the previously linked document.

Close - Closes the dialog.

12 Projections and Datums

This section discusses how DigiTerra Explorer handles projections. DigiTerra Explorer contains cc. 3130 projections and [12 projection types](#) for field mapping, that can be customized easily in the [Custom Projection panel](#) or in the editable Grid.txt file, that can be found in the following directories:

Projection parameters file: Grid.txt

Path:

Desktop version: \$INSTDIR\Grid.txt

Mobile version: \$SDCARD\BIN\Grid.txt

The [projection setting](#) is one of the most important parameter of the DigiTerra Explorer mapping project, that you have to set up for every new [map](#) on the New map panel by tapping on the displayed name of the projection button.

Projection button: Shows the current projection. Tap on this button to open the [Select projection panel](#) to select an other projection.

OK - Creates the new empty [mapping project](#).

More details about the New map dialog can be found in the [Projects sub-menu topic](#)



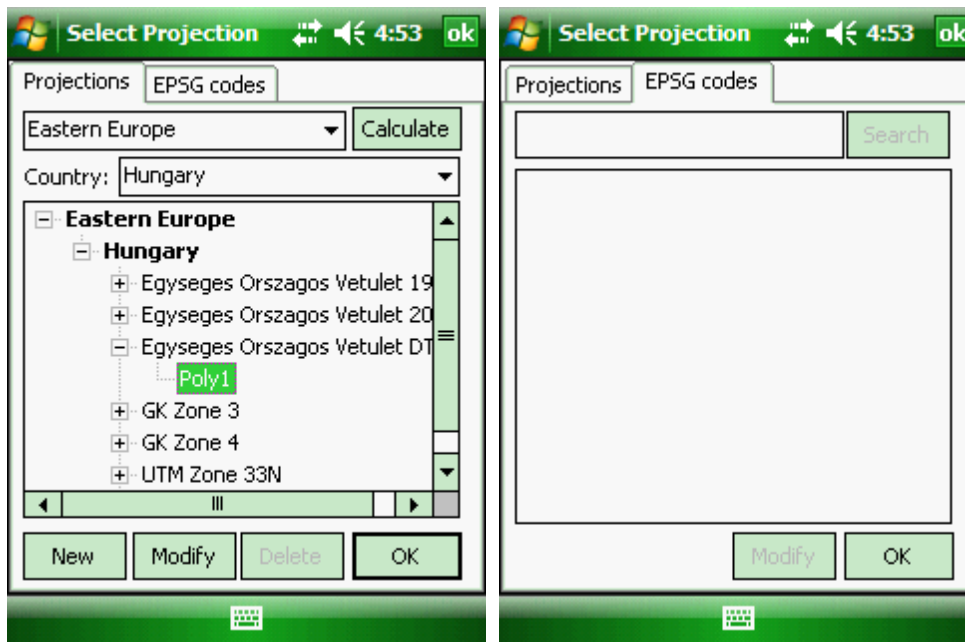
The selected projection can be changed on the Settings panel > GPS tab > [Projection](#) to empty mapping projects. The projection setting can be changed in existing mapping projects because DigiTerra Explorer can reproject into another projection. Please use the [Reprojection](#) tool for this purpose.

12.1 The Select Projection dialog box

The Select projection panel contains the following controls:

The Select projection dialog displays the selectable projections in a tree view menu. **Region > Country > Grid > Projection**.

The Select projection panel: Region > Country > Grid > Projection



Projections tab:

New - Opens the [New projection panel](#) to create a new projection

Modify - Opens the [Custom projection panel](#) to customize the selected projection

Delete - Deletes the selected projection

Calculate - Opens the [Calculate panel](#) to calculate differences between two projections to one reference point in WGS84

OK - Closes the panel

EPSG tab:

Search box: Enter the EPSG code you want you use as the projection of the map view

Search - Searches the EPSG code and lists the results in the list below

Result list: Lists the results. You can select an EPSG code here and use it as the projection of the map view.

Modify - Opens the [Custom projection panel](#) to customize the selected projection

OK - Closes the panel



Please, note that these projections below cannot be modified or deleted:

Romania

- RS70 DT -> Poly2
- TransDatRo-1930 -> ETRS89
- TransDatRo-1970 -> ETRS89

Hungary

- Egyseges Orszagos Vetulet DT -> Poly1

United Kingdom

- British National Grid DT -> Poly3
- OSTN02+OSGM02 -> ETRS89
- Northern Irish Grid DT -> Poly5

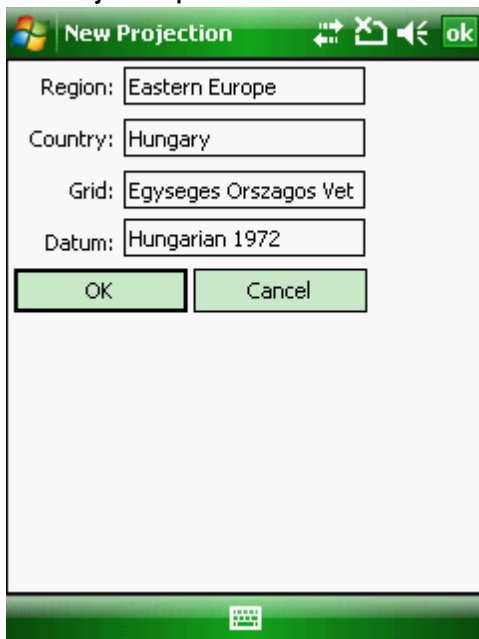
Ireland

- Irish National Grid DT -> Poly4

12.2 New projection dialog box

This panel enables you to define a new projection. After you have entered the basic information to the new projection, DigiTerra Explorer opens the [Custom Projection panel](#) to define the detailed parameters of the projection.

New Projection panel



12.3 The Custom Projection dialog box

The Custom projection panel consists of the following controls to customize the selected projection:

Datum tab

Start [Navigation icons] [ok]

Datum Projection Source Datum

EPSG: 0

Spheroid (a, 1/f): 6378160 298.247100

Offset (dx, dy, dz): 52.6839 -71.194 -13.975

Rotate (rx, ry, rz): -0.3120 -0.1062 -0.3729

Scale (s): 1.019099951

☐ Add to Favorites

OK Cancel

Add favorites: adds the selected projection to the Favorites

Datum tab:

Type of: Select a projection type (algorithm).

- Geographic
- Stereographic projection
- Mercator
- Transverse Mercator
- Oblique Mercator
- Hotine Oblique Mercator
- Lambert conformal conic
- Hungarian stereographic
- Hungarian cylindrical
- Hungarian Unified projection
- Swiss cylindrical
- Romania TransDat 2009

Projection tab:

Projection tab

The screenshot shows a 'Start' dialog box with three tabs: 'Datum', 'Projection', and 'Source Datum'. The 'Datum' tab is active. It contains the following fields and values:

- Type of: Oblique Mercator (dropdown menu)
- Ref. longitude (la0): 19.048572540283
- Ref. latitude (fi0): 47.144393920898
- 1st latitude (fi1): 90.000000000000
- 2nd latitude (fi2): 90.000000000000
- Scale (m): 0.9999300241
- Unit scale: 1
- Origin (fe, fn): 650000, 200000

At the bottom, there is an unchecked checkbox 'Add to favorites', 'OK' and 'Cancel' buttons, and a small 'DigiTerra Explorer' logo.

Datum parameters

Spheroid (a, 1/f): Semi-major Axis, Inverse Flattening ratio.

Offset (dx, dy, dz): Offset DX, DY, DZ to WGS84 parameters in meter.

Rotate (rx, ry, rz): Rotate RX, RY, RZ to WGS84 parameters in arc seconds.

Scale (s): Scale Factor in ppm.

Projection parameters

Ref. longitude (la0): Origin Longitude in degree.

Ref. latitude (fi0): Origin Latitude in degree.

1st latitude (fi1): First Latitude in degree.

2nd latitude (fi2): Second latitude in degree.

Scale (m): Scale Factor.

Unit scale: Unit scale value (indicates the unit value in meter).

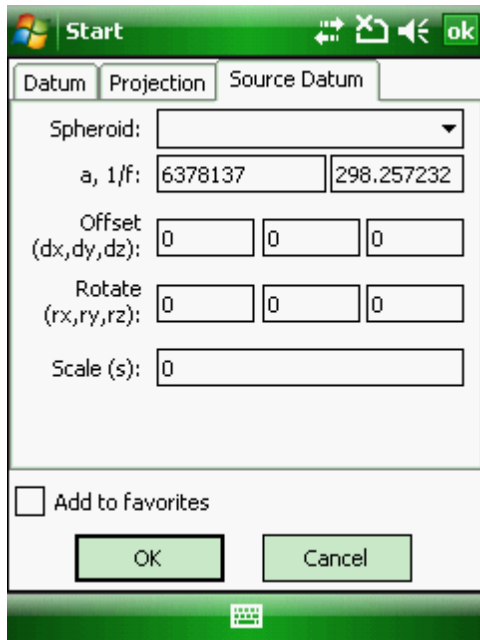
Origin (fe, fn): False easting, False nothing.



The modified Datum and Projection parameters are stored in in DigiTerra Explorer Map (.EXP) / DigiTerra Map Pack (.DMP) files and in the user.db3 file

On the Source Datum tab you can define the GPS Datum when using Real Time Corrections with different Source Datum (not WGS 84)

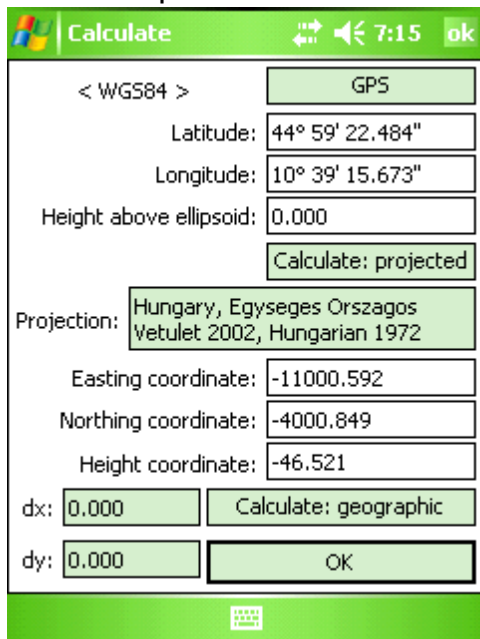
Source Datum tab



12.4 The Calculate dialog box

The Calculate panel calculates differences between two projections based on one reference point with WGS84 coordinates. This panel can be accessed on the [Select Projection panel](#).

The Calculate panel



The Calculate panel contains the following controls:

GPS - Takes over the current GPS coordinates to the reference position.

Latitude: Enter the Latitude coordinate of the reference point in WGS84.

Longitude: Enter the Longitude coordinate of the reference point in WGS84.

Height above ellipsoid: Height above the ellipsoid.

Calculate: projected - Calculates the projected coordinates by using geographical coordinates

Projection: Shows the current projection.

Easting coordinate: Indicates the easting coordinate of the WGS84 reference point in the current projection.

Northing coordinate: Indicates the northing coordinate of the WGS84 reference point in the current projection.

Height coordinate: Indicates the height of the WGS84 reference point in the current projection.

Calculate: geographic - Calculates the geographical coordinates by using projected coordinates

dx: Indicates the horizontal difference between the current and the previously selected projection to the same reference point (with WGS84 coordinates).

dy: Indicates the vertical difference between the current and the previously selected projection to the same reference point (with WGS84 coordinates).

OK - Closes the Calculates panel to select an other projection on the [Select projection panel](#).



The [default geoid undulation file](#) can be used in the calculations on the calculate dialog if it exists in the \BIN directory in the Mobile version (SD Card) or in the installation directory in the Desktop version.

13 Supported data formats

DigiTerra Explorer supports the following file formats

- [Map and mapping project](#) formats
- [Vector](#) layer formats
- [Raster](#) layer formats
- [Text and tabular](#) formats

13.1 Project file formats

☀ = new feature

	Basic	Advanced	Professional
Supported map and mapping project formats			
DigiTerra Explorer Map (.EXP)	✓	✓	✓
DigiTerra Map Pack (.DMP)	✗	✓	✓
OpenGIS KML Map file (.KML)	✗	✗	✓
OpenGIS KMZ Map file (.KMZ)	✗	✗	☀
OpenGIS GML Map file (.GML)	✗	✗	✓
ArcPad Map file (.APM) <i>with ArcPad Layer Definition file(.APL)</i>	✗	✗	✓

Hungarian Digital Base Map (.DAT)
 SQLite 3 Geodatabase file (.DB3)



New Map - Supported map and mapping project formats
EXP, DMP, KML, KMZ, GML



Open Map - Supported map and mapping project formats
EXP, DMP, KML, KMZ, GML, APM, DAT

DigiTerra Explorer Map or DigiTerra Explorer Project file (.EXP)

Default, textual file format of the DigiTerra Explorer mapping project. For detailed information send an e-mail to support@digiterro.hu

Embedded .DMP(s) in .EXP project file:

DigiTerra Map Pack (.DMP) file can be saved as DigiTerra Explorer Map (.EXP) file with additional new raster and vector layers. This feature could be a good solution if you have a .DMP as background map that you don't want to modify or it is protected, but want to use new raster and/or vector layers on the map view of the opened .DMP.

To create this embedded .DMP project open a .DMP file and add some existing raster and/or vector layers (or create some new vector layers) to the map view and finally save the entire project into an .EXP file.

OpenGIS KML Map file or Keyhole Markup Language file (.KML):

KML is an XML grammar and file format for modeling and storing geographic features such as points, lines, images, polygons, and models for display in Google Earth, Google Maps and other applications. You can use KML to share places and information with other users of these applications. You can find example KML files on the KML Gallery and Google Earth Community site that describe interesting features and places. For detailed information please see the source of this definition: <https://developers.google.com/kml/documentation>

OpenGIS KMZ Map file or Zipped Keyhole Markup Language file (.KMZ):

A KMZ file consists of a main KML file and zero or more supporting files that are packaged using a Zip utility into one unit, called an archive. The KMZ file can then be stored and emailed as a single entity. A NetworkLink can fetch a KMZ file from a web server. When the KMZ file is unzipped, the main .kml file and its supporting files are separated into their original formats and directory structure, with their original filenames and extensions. In addition to being an archive format, the Zip format is also compressed, so an archive can include only a single large KML file. Depending on the content of the KML file, this process typically results in 10:1 compression. Your 10 Kbyte KML file can be served with a 1 Kbyte KMZ file. For detailed information please see the source of this definition: <https://developers.google.com/kml/documentation/kmzarchives?hl=en>

OpenGIS GML Map file or Geography Markup Language Encoding Standard (.GML):

The OpenGIS® Geography Markup Language Encoding Standard (GML) The Geography Markup Language (GML) is an XML grammar for expressing geographical features. GML serves as a modeling language for geographic systems as well as an open interchange format for geographic transactions on the Internet. As with most XML based grammars, there are two parts to the grammar – the schema that describes the document and the instance document that contains the actual data. A GML document is described using a GML Schema. This allows users and developers to describe generic geographic data sets that contain points, lines and polygons. However, the developers of GML envision communities working to define community-specific application [schemas](#)

that are specialized extensions of GML. Using application schemas, users can refer to roads, highways, and bridges instead of points, lines and polygons. If everyone in a community agrees to use the same schemas they can exchange data easily and be sure that a road is still a road when they view it. Clients and servers with interfaces that implement the OpenGIS® [Web Feature Service Interface Standard](#) read and write GML data. GML is also an ISO standard ([ISO 19136:2007](#)). See also the GML pages on OGC Network: <http://www.ogcnetwork.net/gml>.

ArcPad Map File (*.APM):

An ArcPad map file, or map, stores a list of the map layers for your ArcPad session. A map lists all of your feature layers together with their display settings, including the extent of your map, color, and projection environment.

ArcPad Layer Definition File (*.APL):

Layer definitions are stored in a file associated with a shapefile, with the same filename as the shapefile but with the extension .apl. Layer definition files provide a way of developing customizations that are delivered and loaded with data. Layer definition files may also contain custom symbology exported from ArcGIS Desktop.

Hungarian Digital Base Map (.DAT):

See details about the DAT standard here: http://fish.fomi.hu/termekek/honlap/adathaz/termekek/szabalyzatok/dat_szabvany.htm, <http://www.agt.bme.hu/tantargyak/bsc/bmeoafasj6/katinfo1.pdf>

SQLite 3 Geodatabase file (.DB3):

SQLite version 3 file geodatabase format is able to store complete map projects with all geometry layers, their attribute tables and code dictionaries in one geodatabase file. The raster sources currently not yet supported in this format. The vector geometry can be stored in Well-known text (WKT), Well-known binary (WKB) and DigiTerra DTGeom binary (encrypted, native, rapid) formats. For detailed information about SQLite version 3 format see <http://www.sqlite.org/version3.html>.

13.2 Vector layer formats

☀ = new feature

	Basic	Advanced	Professional
Supported native vector layer formats (read & write)			
DigiTerra (.MAP)	✓	✓	✓
ESRI Shape (.SHP)	✗	✓	✓
Zipped ESRI Shape (.ZIP)	✗	✗	☀
Mapinfo Interchange (.MIF/MID)	✗	✓	✓
Microstation (.DGN) - up to version 7	✗	✗	✓
AutoDesk (.DXF)	✗	✗	✓
GPS logfile (.LOG)	✗	✗	✓
Coordinates (point) (.CRD)	✗	✗	✓
Coordinates (shape) (.DAT)	✗	✗	✓
Atlas GIS (.BNA)	✗	✗	✓
Triangulated Irregular Network (.TIN)	✗	✗	☀



An overview is available about 3D related features at <http://forum.digiterra.hu/viewtopic.php?f=59&t=310>



About the Atlas GIS BNA file format usage you can find a valuable tutorial to create polygon features from a text file at <http://forum.digiterra.hu/viewtopic.php?f=59&t=300>

UNICODE enabled file formats:

- ESRI Shape with .CPG file
- DigiTerra .MAP format (the Unicode data can be stored in the .TAB format)

Height (Z coordinate values) can be stored in the following file formats:

- in DigiTerra Map, ESRI Shape and DXF file format the Height (Z coordinate) can be stored in all feature type



About the height calculation please have a look at this tutorial at <http://forum.digiterra.hu/viewtopic.php?f=59&t=308>

13.3 Raster layer formats

☀ = new feature

	Basic	Advanced	Professional
Supported raster layer formats			
JPEG file (.JPG)	✓	✓	✓
JPEG2000 file (.JP2)	✗	✓	✓
Er-Mapper Wavelet (.ECW)	✗	✓	✓
Tagged Image file (.TIF)	✗	✓	✓
DigiTerra Raster (.RAS)	✗	✓	✓
ESRI Raster (.BIL)	✗	✗	✓
ERDAS (.LAN)	✗	✗	✓
Er-Mapper (.ERS)	✗	✗	✓
Portable Network Graphics (.PNG)	✗	✗	✓
Paintbrush (.PCX)	✗	✗	✓
Compressed ARC Digitized Raster Graphics (.LF1, .TF1 - CADRG)	✗	✗	✓
Lizardtech MrSID (.SID) - available only in the desktop version	✗	✗	✓
Windows (.BMP)	✗	✗	✓

The following compression algorithms are supported in the Tagged Image file (.TIF) format: **CCITT3** (1), **PackBits**. Supported TIFF tag compressions: 1, 3, 32773

Not supported compression methods (TIFF tag compressions) : **CCITT4** (4), **LZW** (5), **JPEG** (6, 7), **Deflate** (8)



When you open a TIFF raster layer with an unsupported compression method, the following error message appears on the screen: Attention! Unsupported TIFF compression: LZW. In some cases you will see only the number of the TIFF tag compression method. See more information at: <http://www.awaresystems.be/imaging/tiff/tifftags/compression.html>

13.4 Text and tabular formats

☀ = new feature

	Basic	Advanced	Professional
Supported text and tabular formats			
AGROCOM Agro-Map (point) (.ANL)	✗	✗	✓
AGROCOM Agro-Map (area) (.GRN)	✗	✗	✓
dBase (.DBF)	✗	✗	✓
DigiTerra (.TAB)	✗	✗	✓
Report (.HTML)	✗	✗	✓
CSV files (.CSV)	✗	✗	✓
Text files (.TXT)	✗	✗	✓
Leica Total Station Data file (.MDT)	✗	✗	✓

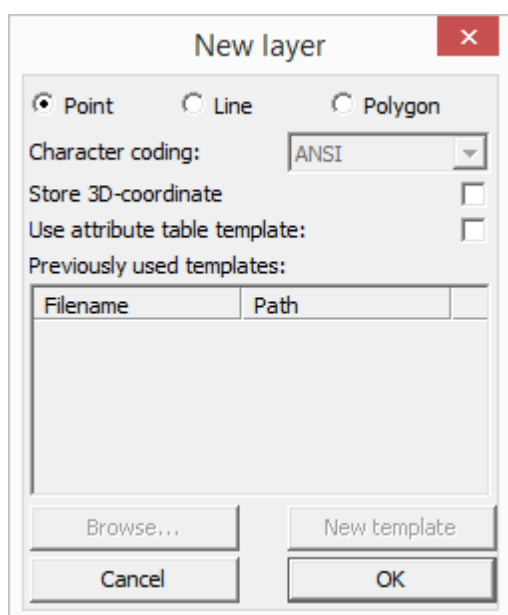
Text file layer as point feature layer (sample)

ID	Easting	Northing
1	639176.501	111264.30
2	639227.625	111071.60
3	638935.501	111102.60

13.5 Other file formats

- **ESRI Map Projection Metadata File (.PRJ):** recommended but not mandatory that shapefiles have associated map projection files in ESRI softwares. DigiTerra Explorer will write this file for every newly created or exported ESRI shape (.SHP) layer.
- **ESRI Code Page File (.CPG):** associated to ESRI Shape (.DBF) files, that stores the used character set of the layer's attribute table. In DigiTerra Explorer the created new ESRI Shape file's code page is ANSI.

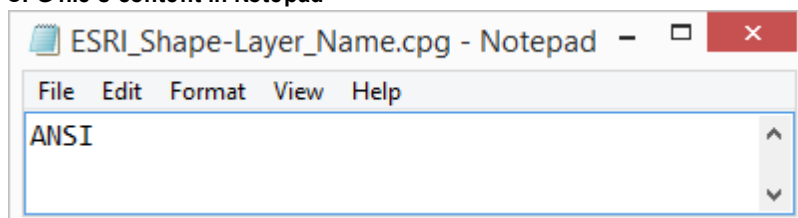
New layer dialog to an ANSI encoded Shapefile



However DigiTerra Explorer can also handle UTF-8 and UTF-16 (UNICODE) encoding also, depending on the CPG file's content.

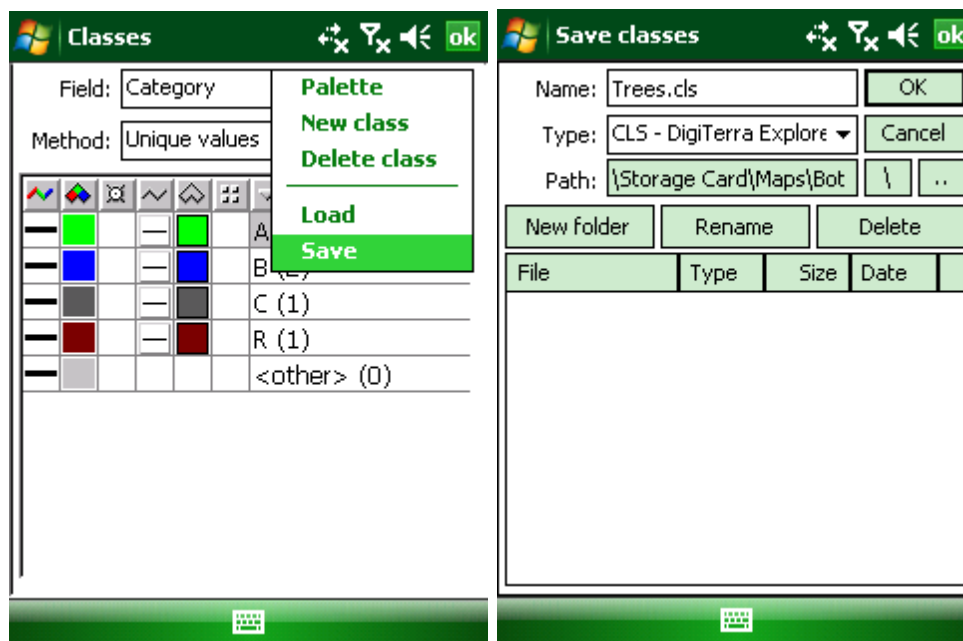
For ArcGIS, Geopublisher and AtlasStyler SLD Editor, just create a .CPG file (with same base filename (prefix) as all other files included in the Shapefile format cluster) and fill it with the name of the encoding: **ANSI**. e.g. create an **ESRI_Shape-Layer_Name.cpg** with a text editor like Notepad and insert 4 characters "ANSI" and save it. If you then open the Shapefile in ArcGIS, Geopublisher or AtlasStyler, they will read the textual contents of the DBF in that charset.

CPG file's content in Notepad

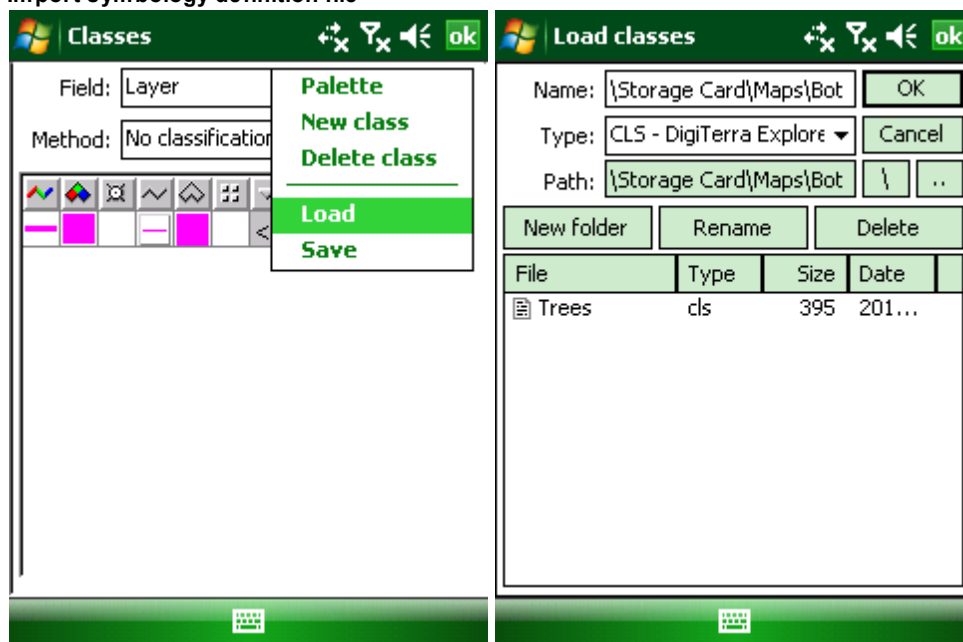


- **DigiTerra [code dictionary](#) file** (.CDT): require for use [code sets](#) to the attribute data collection. The default code dictionary (General.CDT) can be used for newly created mapping projects.
- **DigiTerra Explorer classes - symbology definition file** (.CLS): the symbology definition file can be exported to each classified vector layer of a map view on the [Classes dialog](#) > Menu > with the **Save option**. You can import the symbology definition from a .CLS file on the [Classes dialog](#) > Menu > with the **Load option** when you specify the symbology for a layer in DigiTerra Explorer. Once you've defined the symbology for a layer, it's easy to reuse that same symbology definition in any other layers.

Export symbology definition file



Import symbology definition file



- [Geoid Separation Files](#)

14 Device configuration file

The device configuration file is available only in the Mobile version.

Path:

Mobile version: \$SDCARD\BIN\deviceSizeConf.txt

This file needs to be copied next to the DTEExp.exe file. It contains the font size option to the menu, a multiplier factor to the menu size and the last parameter is responsible to hide or show the SIP button (keyboard button). It can be applied if the "OEM information" can be found on the device's operating system. You can check the OEM info on the About panel in DigiTerra Explorer, under the System information.

```
//Device name
:OEM_INFO or : "Part of OEM_INFO" within quotation marks
:OS version (optional, Required(!) if "Processor" parameter used)
:Processor (optional)
CHARACTER SIZE (the default is 16)
```

MENU SIZE MULTIPLIER FACTOR usually it is:

- "1" if the resolution of the screen is 320x240 QVGA and
- "2" if it is a 640x480 VGA display

HIDE SIP BUTTON

HIDE_SIP=1 - HIDE

HIDE_SIP=0 - SHOW

SHOW DGPS TAB on the Settings panel

DGPS=0 - HIDE

DGPS=1 - SHOW

ENABLE STATIC NAVIGATION

SN=0 - DISABLE

SN=1 - ENABLE

SATELLITE-BASED AUGMENTATION SYSTEMS

SBAS=0 - OFF

SBAS=1 - ON

Example:

```
//Topcon GRS-1
:Topcon
:5.2.20269
:A5 N1 T2577 L4 R6
16
1
HIDE_SIP=1
DGPS=0
SN=0
SBAS=0
```

15 Menu and Toolbar definitions

Commands used in menu (.MNU) and toolbar (.TBR) definition files:

Default menu file: Default.mnu

Path:

Desktop version: \$DOCUMENTS\DigiTerra Explorer\Default.mnu

Mobile version: \$SDCARD\BIN\Default.mnu

Lines begin with '/', '%', '!', ';' characters are comments.

Lines begin with '#' character creates a new menu

Lines begin with '{' character creates a new submenu, nested sub-menus not supported

Lines begin with '}' character closes the previous submenu

Lines begin with '-' character or 'separator' adds a horizontal line

COMMAND - Adds a fix command or tool

Every line can contain one menu item: tool, command or separator

Default toolbar file: Default.tbr

Path:
















Desktop version: \$DOCUMENTS\DigiTerra Explorer\Default.tbr















Lines begin with '/', '%', '!', ';' characters are comments.
































Lines begin with 'separator' adds a vertical dividing line between commands













COMMAND - Adds a fix command or tool

Every line can contain one menu item: tool, command or separator

Command	Description
ABOUT	 About
ADDDBLAYER	 Add db Layer
ADDLAYER	 Add Layer
AREA	 Polygon
AREADIV	 Polygon division
AREAFREE	 Free Polygon
AREAJOIN	 Polygon Join
AREASEP	 Polygon Delineation
BGMAP	 Background Map
BOOK	 Bookmark
BOTANY	 Botany (<i>Extension</i>)
BUFFER	 Buffer zone
CHANGELAYER	 Change Layer
CIRCLE	 Circle
DELETE	 Remove
DICT	 Language
DIVIDE	 Divide
DROPBOX_DOWNLOAD	 Download

DROPBOX_UPLOAD	 Upload
ELLIPSE	 Ellipse
ERASE	 Erase
EXIT	 Exit
EXPLODE	 Explode
FIELDWORK	 FieldWork
FIND	 Search
GENERALIZE	 Generalize
GPSMEAS	 GPS Survey
GPSPOS	 GPS position
GPSSET	 GPS Status
GPSSTAT	 GPS Statistics
HELP	 Help
INFO	 Identify
INSERT	 Insert
LAYERS	 Layers
LINE	 Line
LINEFREE	 Free Line
LOADDBMAP	 Open db project
LOGGER	 GPS Log analysis
MEAS	 Measure
MEASFREE	 Free measure
MEASRAD	 Radius measure
MERGE	 Merge
MOVE	 Move
NEW	 New Map
NEWDBLAYER	 New db Layer
NEWLAYER	 New Layer
NEWPART	 New part
OPEN	 Open Map
PAN	 Pan

PLAN	 Plan view
POINT	 Point
PRINT	 Print
PROJECTTRAFO	 Reprojection
RASTRAN	 Raster orientation
RECMail	 Receive E-mail
RECORD	 Tables
RECT	 Rectangle
ROTATE	 Rotate
ROTATEOBJ	 Rotate
ROWGUIDE	 GPS Guidance
SAMPLING	 Sampling
SAVE	 Save project
SAVEDBLAYER	 Save db Layer
SAVELAYER	 Save Layer
SAVEDBMAP	 Save db project
SCALE	 Scale
SCALEOBJ	 Scale
SCROLL	 Scroll
SELPOINT	 Select by point
SELLINE	 Select by line
SELAREA	 Select by polygon
SELRECT	 Select by rectangle
SELCIRCLE	 Select circle
SENDMAIL	 Send E-mail
SETTING	 Settings
SURVEY	 Survey
SYNC	 Synchronization
TARGET	 Navigate to Target
TINGENERATE	 Generate TIN
TREESURVEY	 Tree surveying (<i>Extension</i>)

UNDO	 Undo
VERTEX	 Edit
VIEWREFRESH	 Refresh map view
WEBMAPGE	 Show in Google Maps
WEBMAPBING	 Show in Bing Maps
WINDOW	 Zoom Window
ZOOM	 Dynamic Zoom
ZOOMACT	 Active Layer
ZOOMALL	 Full Extents
ZOOMLAST	 Last View
ZOOMNEXT	 Next View
ZOOMSEL	 Selected Feature

Nesting commands used in menu definition file:

Command	Description
Drawing	Adds the Drawing sub-menu
Dropbox	Adds the Dropbox sub-menu (used in the Mobile version only)
Edit vertex	Adds the Edit vertex sub-menu
E-mail	Adds the E-mail sub-menu
Help	Adds the Help sub-menu (used in the Mobile version only)
Layers	Adds the Layers sub-menu
Maps	Adds the Projects sub-menu
Select	Adds the Select sub-menu
Zoom to	Adds the Zoom to sub-menu

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