

user's guide

for Windows Mobile and Windows CE 6

www.carlson-gis360.com www.carlsonsw.com www.carlsonEMEA.com







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Introduction

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GIS360 is designed as a Geographical Information System recording and logging facility. Lists of attributes can be specified by the user to describe the information being stored. These attributes can then be used to collect data at positions that the user wants. The information can then be attached to areas, points and linear objects in a geographical area. These areas are described on a back drop of either satellite imagery or maps from 14 different map servers. Attributes and geometries may be saved and used in other situations like rendering them onto Google Earth [™] for examplee. Attributes may be edited and GNSS used to accurately place the geometric elements onto the map.

This system is made for Mobile PC and Tablet PC although there is no problem using this system on a Desktop PC either. All the examples shown in this brief guide are for the Mobile PC environment. GIS360 has a list of equipment which we have been able to test this system with. Whilst every care has been taken to conform to conventions, there is a variability in the features and performance of many mobile devices so we can not guarantee that our software will work on every product.



GIS360 Installation - download from GIS360 website

Go to http://www.carlson-GIS360.com and choose to download the GIS360 product.

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Fill in the form and you will be given the link to download the GIS360 software.

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GIS360 first time installation

Important note: The installation procedure in this manual describes the installation of GIS360 on a Windows Mobile 6.5 device.

After you have downloaded the GIS360 software on your computer, here's what you get:





Cancel

Click "Next"

Then click "Next"

Cancel

6

GIS360 first time installation



Select "Typical", then click "Next"



Add/Remove Programs	Application Downloading Complete
Select a program's check box if you want to install it on your mobile device, or clear the or remove the program from your device. Note: If a program that you installed is not listed, the program was not designed to be use	ou want to Please check your mobile device screen to see if additional steps are necessary to complete this installation.
Installing Applications	
Installing Catson GIS360	UK
Program description	
Space required for selected programs. Space available on device: (2) Initial program into the default installation folder	You can click "OK" and from now on the lowing steps happen on your mobile dev
OK Car	Bee
1111111111000000	



GIS360 first time installation

Choose the location, device or storage card (if available), then click "Install"



Instaling Carlson GIS360.CAB ...

The installer will also install "Microsoft .NET CF 3.5". Select the same location as for the GIS360 Software.

Then click "Install"



In the meantime, on your computer screen, you can click "Finish"





Click "OK" to finish

Click the GIS360 Icon on your windows mobile device to launch the application.



Installation of a new GIS360 version

In case GIS360 is already installed on your device, you must first remove it before installing a new version.



Double click on the installer on your computer with your mobile device connected to your computer with either "Mobile Device Center" (Windows 7) or "Active Sync" (windows XP or Wondows Vista).

You will be guided through the following uninstall procedure:

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Installation of a new GIS360 version

Mobile s you selected are being uninstalled.	2
: while the InstallShield Wizard uninstalls GIS al minutes.	360Mobile. This may
	es you selected are being uninstalled. it while the InstallShield Wizard uninstalls GIS ral minutes. <pre></pre>



Clear a program's checkbox if you want to remove it from your device. Then click "OK"



GIS360 First time launch

Special note: Whilst every effort has been made to keep up to date with the most recent version of the software, some changes inevitably will be made before the manual changes. Please keep up to date by downloading the most recent manual from our site.

When you have downloaded the GIS360 Software from http://www.carlson-GIS360.com to your your mobile device, you get the following screens on Windows Mobile:





GIS360 First time launch

You are now guided through the steps that will enable you to configure GIS360 according to your requirements. Select the parameters corresponding to your country/area and to your device configuration.

Select Country?	Select Preset?
	None
Sweden	
	Switzerland CH1903 (LV03/MN03)
Switzerland	
	Switzerland CH1903+ (LV95/MN95)
Turkey	X AND
Uganda	
199	
United Kingdom	
USA	
Select GPS2]
Green Brick	Select GPS?
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WMG Zinc II	
	WMG Zinc II
None	
None	None
NMEA	
NITEA	NMEA
Tanana CMC D	
Topcon GMS-2	Topcon GMS-2
-	
Topcon GMS-2Pro	Topcon GMS-2Pro
Topcon GRS1	Topcon GRS1

In case your device is not listed here, choose NMEA.

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GIS360 First time launch





Slide to unlock



Load your data

This is the final screen after the GIS360 launch, with your desired settings and maps.

Now we will set up the parameters to allow GIS360 to work with your GNSS receiver. To do so, enter the utilities menu



GIS360 First time launch - Enter Software key

It is essential to first enter your software key, in order to enable all GIS360 functionalities.

🐴 Config S	Settings		÷	! -€	ok
Key User ID <u>58c7-19c6-3f3a</u> <i>PostProcessing</i>					
Land	Ente	er Key	,		-
Total Station	eCOMS	Кеу	About		_ • •
In the utilities menu, go to the "Key" tab. Click "Enter Key"					



Your license is now activated.



Enter your key in the highlighted green field. Confirm with the green button.



In the "About" tab you can see that you are now using a full license.

🐉 Config Settings	€ € ok
	Display Map
Background Color	
Double Tap	None 💌
AutoSave	Off 👻
Home Position	Go Homel
Drint Mon	toSave Directory
	tosave Directory
	XX 💜
Main Map Grid Data	a GPS Map Cacl

GIS360 First time launch - Communication ports

You first have to set up the communication parameters between the instrument and GIS360 in order to receive the GNSS signal.

🌮 Communications	## *⊡ •€ ok
Brand: GIS360	•
Model: NMEA	-
Port: COM4	•
🗌 Ext Ant 🛛 Baud Rate	4800 🔻
GPS LASER Sensor Total St	ation
	\simeq
	\sim

Chose the instrument from list, else choose NMEA to allow for GIS360 to communicate with your GNSS receiver.

You will have to determine the communication port and the correct baudrate until GIS360 confirms you have set the correct parameters.

In this example, we are setting up a Handheld Nautiz X7 to use the internal receiver with GIS360.





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Brand: Ca Model: M Port: CC	ntogoo 1EA DM4		• •
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#** *2 •€ •k	🐴 Config Settings	ដ 🎦 📢 ok
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Î	Mag Dec: 0.00	Man Auto
	Data GPS Map Cache Port	s Total Station
vorking	Once your settings are	correct and

Once your settings are correct and you have confirmed with the green button, you are now back in the main utilities menu. Here you can click "ok" or navigate to the "Main" tab (left side of the screen). Use the arrows to navigate to the "Main" tab if needed.



with an external antenna, check this box.

> To confirm your settings, click the green button

GIS360 First time launch - Enabling GNSS



Upon exiting the utilities menu, here's what you get. The red bar on the bottom right of the screen has to be clicked in order to enable the GNSS.



We can now see the GNSS cursor indicating our position.

Several informations are now displayed at the bottom of the screen: arison GIS360

- the coordinates
- signal correction if availabe
- GNSS enabled (no red line)
- number of satellites

CARLSON GIS 360

Basics

GIS360 is an intuitive Software with an easy to use main menu screen.

Here are the main functionalities. The menus will be explained in detail in the following pages.



Grid lines may be turned on/off using the configuration dialog on the **utility menu**

File menu

The File types include KML,KMZ, SHP and Tiles format respectively. KML is the format you load and save your surveys in.

SHP allows you to import data from an ESRI Shapefile and Tiles* allow you to load local map data for use in wireless blocked regions

Notart Start	# €	🚑 Start	# €	💦 Start	# €
Open		Open		Open	
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		200			



* only available on the professional versions

CARLSON GIS 360

Edit menu: Edit



Edit Attribute data: When enabled, please note it is not possible to 'drag' the map. To re-enable the map drag, you must click this feature again to disable Edit Attribute data: Allows attribute data already collected by the application to be altered. Click to enable feature

Edit Attribute data: After changing Map Mode we get:





Edit menu: Edit

Edit Attribute data: Clicking the tip of the pin-point show the attributes:



Edit Attribute data: Double Clicking the Name or Value of Cause allows you to change the attributs:



Edit Attribute data: Double clicking a field with numeric values will display the keypad.



arison GIS360



Edit menu: Undo

Undo: Deletes the last graphical feature added along with the attribute data.



Undo: Clicking the button removes the last graphical feature added.



Edit menu: Delete

Delete: Deletes the graphical feature along with the attribute data.



Delete: The graphical feature will be removed along with any attached attributes.



Delete: Click the base of the Pin Point or Marker that you require to be deleted. This item will flash.



Delete: If your ITEM is covered by this window, just DRAG it away, then Click YES



Carlson GIS360



Edit menu: Delete

Delete: Deleting areas and line items require you to point and select the base of the required marker



Delete: The entire item should flash.



Delete: By selecting **Yes**, the graphical feature is removed along with any attached attributes.





Edit menu: Measure

Measure: Select the Measure icon. The measurement can be done clicking on the map or snaping to two known points.

again will erase the measured distance

between two points.



Carlson GIS360



Edit menu: Display coordinates and stakeout



As for "Edit Menu: Measure", select the Measure symbol, then double tap the point on the screen you wish to know the exact coordinates.

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256358.313		If you w
Level		to stake click on
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Navigate To:		10.
	🗱 🛷	

... the same coordinates in Easting/ Northing/ Level (the coordinates can be set in the "utilities menu" in the "Grid" tab). Click on the green button to return to the map view.

롿 ID Coord	#**2●
Lat	
47 27 13.8966 N	
Lon	
008 031 36.5081 E	
Alt	
0.00	
Navigate To:	
	🗱 🛷

The coordinates are displayed. GIS360 can display Lat/Lon/Alt, or...



The screen displays now a circle with your position around the point to stake out.

Edit menu: Home Marker

Home Marker: The house symbol depicts the base position of the survey. When you start up or select New Survey it draws the map centralised around this point. This is the default position of an earlier session.



This marker can be moved. To do so, go to "Utility Menu".



GIS360 dispays this screen for 2 seconds, asking you to tap the screen at the position of the new home position. Once you have taped, you are shown the original "Utility menu" screen, where you can confirm with the green button.

Click on "Home Position"



Now you see the new position of the Home Marker

-

•



Method Menu

- The purpose of the Method Menu is to define:
- What has to be measured
- How to measure, by GNSS, Total Station, Distancemeter, Tape or manually



Click on the arrow to enable the Method Menu



List of items that can be measures

Point 3 and 3 and 1 and 1

Clicking on the schema will display the list of items that can be measured. This list can be defined individually (see chapter DataDesigner)



Clicking on the arrow will display the measuring methods. These will be explained in the following pages

Method Menu: Snap Point





Snap Point: First, select your graphic type then select the Snap button. While this is selected, the closest survey point to the tapped point will be selected if it is within the search radius.

Snap Point: Allows you to glue a position in your graphic construction onto a point of an existing item. If we already have these three linear objects, we may want to start at a used point for the next linear object.





Tap Point: Select this button to put the application into **Tap Point** mode. This allows **both** tapping on the screen to select a new position **and** using the GNSS when it is enabled. arison GIS360





Tap Point: When you tap a point or select an enabled GNSS position, this leaves a tap point in the survey area.



Enter Point: Select this button to put the application into **Enter Point** mode. This allows coordinates to be added by Easting, Northing and Level (Altitude above Mean Sea Level).





Note: You can only enter the Map coordinates of Easting, Northing and Level. Map coordinates are calculated from Latitude, Longitude and Altitude. This depends on the transformation and projection used which varies from country to country and the map system used there. You can change the projection/datum being used by reselecting it in the Utility Menu.

Method Menu: Enter Point

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Enter Point: Highlight this text bar then key in the Easting value in metres (could possibly be US feet). Please note you can highlight **Easting** (E) **Northing** (N) **Level** (L) in any order and go back and edit them later until you finally click the **Enter button** or **Cancel button** to complete this data entry.



Enter Point: Once all the entries have been entered, click Enter to create the point on the map sheet.

Please Note: In this version of the software, the Level is interpreted as the Altitude from Mean Sea Level.



Cancel button



Please Note: Due to space restrictions, it is not possible to show the Easting Northing and Level simultaneously with the Latitude Longitude and Altitude on the MobilePC platform. However you can see both sets of coordinates on a PC.



Name	Value
pointnumber	
type	
RMS	
PDOP	
	*
	~ ~

Name	Value	
pointnumber	99	
type	Construction 🔹	
RMS		
PDOP		
82	88 🗸	2

Method Menu: COGO

There are several possibilities to enter data, for instance manually by using tape or distancemeter, or with a distancemeter and Bluetooth connection. We will now look in details at the latter method.

First step: enable Bluetooth on the GRS1 in the Bluetooth Manager. Once enabled, the blue Bluetooth led at the bottom of the GRS1 will light up.

Important Features COGO: Using a Laser

First we need to pair the distancemeter with the device.

Also you will need to Software "Disto Transfer" from Leica in case you're using a Disto with Bluetooth (http://ptd.leica-geosystems.com/en/Support-Downloads_6598. htm?cid=12799&linkid=QMNH).





Important Features COGO: Using a Laser

🚰 Settings 🛛 💭 🗱 🗱 🗱			
Bluetooth			
Tap Add new device to search for other Bluetooth devices. Tap on a device to modify its settings.			
Add new device GR3-504-00112			
Devices Mode COM Ports			

Click "Add new device".



Make sure to have activated Bluetooth on both the Disto and the handheld device. The system is looking for Bluetooth devices



💦 Settings	# * *
Enter Passcode	0
Enter a passcode to establ connection with DISTO D8	ish a secure 512320419.
Press 'Next' to continue if required.	a passcode is not
Passcode:	
123 1 2 3 4 5 6 7	890-= 🕈
Tabqwerty	
CAP a s d f g h	
Back 🔛	• Next

Enter the passcode (this code is often either 0000, 1111, or 1234)

🚑 Settings	## 4 ×			
Enter Passcode	0			
Enter a passcode to establish a secure connection with DISTO D8 512320419.				
Press 'Next' to continue if a p required.	asscode is not			
Passcode:				
Device Added				
Your Pocket PC has connecte 512320419.	ed with DISTO D8			
Done 📼	Advanced			

The Disto has been connected

🐉 Setting	5			#	٩×	ok
Bluetooth						
Tap Add nev Bluetooth de its settings.	/ device vices. Ta	to sear ip on a	ch for o device	to n	r nodify	r
Add new d DISTO GR3-50	evice 08 5123 4-00112	20419	9			
Devices Mod	e COM	Ports				
		DT:		-	-	-

It is now visible in the list. Now click on "Mode"

Important Features COGO: Using a Laser



Click "Next"



Choose the correct port. You might have to try until the system doesn't display any error messages. This port is different for each device.



Example of an error message



The correct port has been set (here COM4)



Important Features COGO: Using a Laser



Once the settings are correct, the DISTO will appear on your screen



You can test the transmission by measuring a point and pressing the Bluetooth button (Disto D8) for transmission. The measure shall appear as in the screen.

Start GIS360 once the connection is established





Select now the COGO tools
Important Features COGO: Using a Laser



Select the Cogo tools.



Draw a circle around your first point, the next screen will appear automatically



you can enter the values by hand or by pressing the Bluetooth button on your Disto to automatically enter the measure



The first circle appears on screen with the right diameter



Draw a second circle for the second point



The values can be entered as for the first circle



Important Features COGO: Using a Laser



The 2 circles no appear on screen, with intersections clear and visible



Select the snap tool Click on the intersection that you wish to register as your point





GIS360 will ask you now for the other attributes that you have set up for this point

Important Features COGO: Using a Laser



You probably wish to have the point only and want to delete the construction. Click on the Edit Menu, then select delete



Here you only delete the constructions



The point now appears with its attributes, but without the constructions

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Important Features COGO: Using a Laser

You can use the Cogo tools to draw a line or a polyline



We want to draw a line between these 2 points



Select the Cogo tools, then select the line



Cogo and line are selected



Draw a line on your screen with your pen between the two points



GIS360 will draw this line precisely

GNSS Method

GNSS Method: Make sure you have got the GNSS device connected to the correct port. Instructions are under Utility Menu: GNSS Port.

GNSS Accept: Click this button whenever you need to record a position at the GNSS cursor.





GNSS Enabled: The current GNSS position is shown by this cursor:

GNSS Enabled: Click this button to enable the GNSS.

GNSS setup: Please note this version of the application assumes that the GNSS device will automatically transmit NMEA instructions at a baud rate of 115'000, com 7, Port 7, 1 start bit, 8 data bits, 1 stop bits and no parity.

If you use Bluetooth [™] these values are not important. You must also have the upgrade to support this service.

GNSS Accept: For instance if the Graphics was set to Parcel mode, a trail would be created joining consecutive Accepted GNSS points.



GNSS Enabled: Select your Graphics Mode to create new objects from selected points using **GNSS Method**.



Graphics Menu CAD



Graphics: If accepted, you will be offered the list of attributes available for that Graphics Mode.



After pressing the **single point item**, a new sub menu will appear with the choice of Single Point Mode, Linear Mode and Area Mode



Please note: Once you select a mode, it is only valid for the lifespan of creating the new graphic item. To use it again to create another item, you have to reselect the mode in question, by pressing at big PLUS.

Graphics Menu CAD

Note: Single Point Mode items do not require closure, they are automatically accepted but may be removed later using Edit: Undo.



Graphics: When a new Graphics Item has been constructed, you can Accept the data or Cancel it.







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Graphics Menu: GIS

Single Point Mode: A single point item will be created by selecting this button. When a new point is added to the map sheet, a new Pin Point symbol will be created.

å Schmidgasse untwyler Huttenweg Schulstr 56200 11 Spin 56150 662100 2 66215 Point 54,204 56150 56100 Sector

Single Point Mode: Select your position using tap point, snap point, enter point or GNSS point. The next screen frame to be shown is the one where you must choose which GIS. If you choose **<CAD>** the feature will not have any GIS fields attached to it.



Name	Value
pointnumber	
type	
RMS	0.795
PDOP	1.200

Graphics: Finally the table of the chosen database can be populated with relevant data. if the Accept button is clicked otherwise Cancel bypasses this operation.

Note: The style of these entries can be set in the Form Generator which creates Schema (*.XSD) files that control the way data is requested and edited.

Graphics Menu: GIS Single Point

Single Point Mode: Populate the fields according to relevant values then click the tick mark to accept the entries.



Name	Value
pointnumber	123455
type	Parcel
RMS	0.795
PDOP	1.200
82	🗱 🖋

Single Point Mode: After refreshing the map area, the data pin point should appear.



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Graphics Menu: GIS Area Mode

GIS Mode: Tapping in this window will list all options available:









Note: The style of these entries can be set in the DataDesigner which creates Schema (*.XSD) files that control the way data is requested and edited. For more details, see chapter DataDesigner.



Measure your points with the appropriate method, then confirm with the green button

GIS360 will guide you to enter the values you have set up for the chosen item.



		_
Name	Value	
housenumbei	23	
buildingmate		
use	Brick/HCB Stone Wood Metal Other	
82	🗱 🗹	

Name	Value
housenumbei	23
buildingmate	Stone
use	Residential
	😭 🏈

Name	Value	
housenumbei	23	
buildingmate	Stone	
use		
	Residential Commercial Industrial Public Other	
	🗱 🗹	



Once all values entered, the item appears on screen with all its attributes

Graphics Menu: Linear Mode

Linear Mode: A linear type item will be created by selecting this button. When new points are added to the map sheet and accepted, a **new Linear** Mode Item will be created.



By clicking accept, if you have selected a database, the next screen will pop up

Linear Mode: Finally, the linear item (polyline) will be shown along with a marker. This marker is used to identify the item and allow the attributes to edited or viewed in the future. Also the entire linear item and attributes may be removed (see Edit Menu: Delete for details).

Note: The style of these entries can be set in the DataDesigner which creates Schema (*.XSD) files that control the way data is requested and edited. Linear Mode: Use the point method you have selected (can be altered any time during the operation in this mode), to trace out the path of this linear object. Use the closure buttons to complete or cancel the polyline.





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Graphics Menu: GIS Area Mode

Name	Value	
GeoID		
Parcel No		
Owner		
Area	4009.355	
Use		
Photo		
		💥 🗹

All values can be entered or skipped. For each field, either a list menu, or a keyboard, or a numeric pad will pop up.





Name	Value
GeoID	
Parcel No	
Owner	john doe
Area	4009.355
Use	
Photo	

Graphics Menu: Area Mode



]			
Name	Value	1	Name	Value	
GeoID			GeoID	632477.67	
Parcel No	2254		Parcel No	2254	
Owner	john doe		Owner	john doe	
Area	4009.355		Area	4009.355	
Use	Residential 🗸		Use	Agricultural	
Photo	Residential		Photo		
8C	×	J	80		🗱 🔇



Graphics Menu: Area Mode

If your device is equiped with a camera, you can simply double click the "Photo Field"



"Click" to take the picture



You can verify that the picture corresponds to your expectations, then "Exit" to register and exit this mode

Name	Value
GeoID	632477.67
Parcel No	2254
Owner	john doe
Area	4009.355
Use	Agricultural
Photo	6346749710000000
	🗱 🖋

All attributes are now given, click the green button to save and return to the map view

Map Mode





Map Mode: Clicking this button will produce a change in the type of background map being used.



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Configuration: Clicking this button will allow you to view the available configuration properties and the ability to store some local maps for use in wireless shadow regions*.



	🍠 Confi	. અન્સ	ok			
		[🖌 Dis	splay M	lap	
	Backgro	ound Co	lor [
	D	ouble Ta	ap [None		•
		AutoSa	ve [Off		◄
•						
	Home	Positio	on	Go	Home!	
	Home Print N	Positio 1ap	on Auto	Go Save	Home! Director	y
	Home Print N	Positio 1ap	Auto	Go Save	Home! Director	y
	Print M	Positio 1ap	Auto	Go oSave	Home! Director	y
	Home Print Main Map	Positio Map Grid	on Auto Data	Go Save	Home! Director	
	Home Print Main Map	Position Map	Auto Data	Go oSave	Home! Director	

You can choose the background color. When clicking in the area from background color, you will be given the choice of colors

 \ast Only available in the professional version



Config Settings	‡ ‡ √ € ok			
🖌 Display Map				
Background Color				
Double Tap	None			
AutoSave	None			
	ZoomIn			
Home Position	NavigateTo			
	Remeasure			
Print Map Au	toSave Directory			
× ×				
Main Map Grid Data	a GPS Map Cac ◀ ▶			

The double Tab function allows the user to place to point, to zoom , or to navigate to...

캳	Config	Settin	igs		ta d€ ok
		[🖌 Dis	splay	Мар
Bad	ckgrou	ind Co	lor [
	Dou	uble Ta	ap [None	-
	A	utoSav	ve [Off	-
				Off	
He	ome P	ositio	on	10 M	in
				20 M	n
Pr	int Ma	ар	Aut	30 M	n
				60 M	n h
				Ŝ	
				\sim	× ×
Main	Мар	Grid	Data	GPS	Map Cacl

...Autosave





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ಶ Config Se	ttings		^ ,	€	ok		
	>	Display	Map				
Background	Color						
Doubl	е Тар	None	None 🔻				
Auto	10 M	10 Min 🔻					
Home Pos	sition	6	io Ho	me!			
Print Map		utoSav	o Dire	-			
		utosav	e Dire	ctory	/		
		utosav	e Dire	ctory			

If you "loose" yourself, please go to Config Settings and press the Go Home button



As a result, your whole map will be moved around your Home symbol

🐉 Config Settings	‡ ‡ 4 € ok	
	Display Map	
Background Color		
Double Tap	None -	
AutoSave	10 Min 👻	
Home Position	Go Home!	
Print Map A	utoSave Directory	
	\sim	
	\sim	
Main Map Grid Da	ta GPS Map Cac	

餐 Config Settings	# ₽ • {€ ok
D	isplay Map
Background Color	
Double Tap	None 🗸
AutoSave	10 Min 🔻
Home Position	Go Home!
Home Position Print Map Aut	Go Home! coSave Directory
Home Position Print Map Aut My Documents	Go Home! coSave Directory
Home Position Print Map Aut My Documents	Go Home!
Home Position Print Map Aut My Documents Main Map Grid Data	Go Home!

2	Con	nfig Set	tings	1		# ◄	£	
Ope	n							
Fold	ler:	All Fo	ders		•	Can	cel	
Тур	e:	Save	Data				•	·
Nam	e	•				Folde	r	*
a) 02	2122	2010						=
20 🙋	2122	20101						
20 🙋	2122	20101-1						
D2 🙋	2122	20101-2	2					
D2 🙋	2122	20101-3	3					
2 🔊	112	2010						
2 🙋	0112	2010ma	ster					-
•		III					•	
			ii.					

Where to save the data



7	Config	Settin	gs		t‡ ∎€ ok
	Ma	p Brig	htness	0	_
Bas	е Мар	Selec	tion 1	:	
	Rüm	lang_0	G_N.tile	es	-
Bas	e Map Rüml	Selec	tion 2: SS_N.ti	les	
Main	Map	Grid	Data	GPS	Map Cac

We will now set the maps to display ...

🍠 Con	#: +€	ok			
	Map Brig	htness	0]
Base N	Map Selec	tion 1:			
R	ümlang_C	G_N.tile	es	T	
N	one				
Gi Gi BaseGi Qi Ya Bi	oogleMap oogleSate oogleTerr penStreel ahooMap ahooSatel ngMap	ellite ain Map llite		=	
Main M		Data	CDS	Map Carl	
Main M	ap Grid	Data	GPS	Map Cacl	`

clicking on the Base Map Selection will display the list of maps available





Clicking on the Map Menu will switch from one map view to the next

Config Settings 🚓 📢 ok Map Brightness 0 0.05 Base Map Selection 1: 0.1 Rümlang_G_N.tiles 0.15 0.2 0.25 0.3 0.4 Base Map Selection 2: Rümlang_GS_N.tiles Map Map Cacl Grid Data GPS Main

Utility Menu: Configuration Map

When clicking on "Map brightness", you will be able to set the value anywhere from 0 to 0.8. This function is essential, should the map be too light or too dark.

🐉 Config Settings	at d€ ok
Map Brightness 0.2	T
Base Map Selection 1:	
Rümlang_G_N.tiles	•
Base Map Selection 2: Rümlang_GS_N.tiles	•
Main Map Grid Data GPS	Map Cac



Before brightness application



After brightness application





Show Grid: Show or Hide the grid lines on the screen area.

By clicking on grid color, you can choose the convenient color for your grid, as displayed in the next image.

You can also choose the grid thickness



You can also choose the grid thickness



Nonfig Settings	₩.	ok
 Display Grid Lat, Lon, Alt Coordinates Grid Color Grid Thickness 	•	
Grid System	■ ← N03)	_
Display Memory Availa	ble	
Main Map Grid Data GPS	Map Cac	Þ



 Switzerland CH1903 (LV03/MN03)

 Sudan-Adindan (UTM 36M)

 Sweden (Bursa Wolf)

 Sweden (RT90 SWEREF 93)

 Switzerland Ch1903 (LV03/MN03)

 Switzerland Ch1903+ (LV95/MN95)

 Turkey (UTM 35N ED1950)

 Turkey (UTM 36N ED1950)

 Switzerland Systems

Confirm with OK

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Main Data Configuration screen

🚰 Config Se	ttings	₩ €	ok
	1 •	• • 1	
Databases Parcel	Icon Color Fill	% Fill2	
Building		100 -	
Point			
Choose Sch	nema ghana		
Choose Sch	nema ghana		

Define point size

背 Config Setti	ngs	# ⊀€	ok
Databases I2	lor Fi	• • 1	•
Parcel 3 4 Building		100 v	
Point			
Choose Scher	na lahan:	2	
Choose Scher	lia giana	a	
Main Map Grid	Data GPS	6 Map Cac	• •

Define the line thikness. When clicking on the attribute, you will be asked to choose the desired color



Choose the color and confirm



The Data module allows you to configure the settings of your choice. The blue arrows allow you to navigate through the attributes.



The blue arrows help for the navigation through your attributes, if you have more than 5 or 6 attributes



背 Config Settin	gs	++ •€	ok
	•	• • 1	•
Databases Icor Parcel	Color Fill	% Fill 100 ▼	
Building		100 👻	
Point			
Choose Schem	ghana		
Main Map Grid	Data GPS	Map Cac	••



Choose Schema

Note: The style of these entries can be set in the DataDesigner which creates Schema (*.XSD) files that control the way data is requested and edited.

For more details, see chapter DataDesigner.







#	Config	Settir	ıgs		₽	ok
Save local cache						
Are	a size	(m):	10	000		•
s	elect	LLM		Ren	nove LL	M
Map Line Thickness: 1						
Mar	0.1	Dete	CDC	N C-		
Мар	Grid	Data	GPS	Map Ca	che 🔫 o	11

Save local area map: Click this button to save the tiles into a file for use in wireless blocked areas. The area fragment stored is a square of this edge length in metres. Make sure before you save you have repositioned your Home Marker to the centre of the area that you are interested in.



Choose the size of the background map

🍠 Config	Setti	ings		#‡ +€
Save As				
Name:				
Folder:	Non	e		•
Туре:	TI LE	ES file(*	tiles)	•
Location:	Mair	n memo	ory	•
		Sa	ve	Cancel
123 1 2 3	141	5 6	7 8 9	9 0 - = +
Tab q w	e r	ty	ui	0 P []
CAP a s	d (fg	hjj	k ; '
Shift z x	I d I	v b	n m	, / I + I
Ctl áü 🄪	1			[↓ [† [+]→

Choose the name of the background map before saving

考 Config	Settings	att ∎{ ok
Save As		
Name: \My Docur	nents\test123.tiles	
Folder:	None	-
Type:	TILES file(*.tiles)	-
Location:	Main m	•
	Save	Cancel

Save As		40 4 5
Name:	Itect122	3
Folder:	No	
Type:	T in the file: \My	-
Location:	Documents\test123	-
	and a state	Cancel
	Section of the sectio	



The tiles are always saved into "My Documents", which is also where you shall put any tiles you intend to use.

You can now use these tiles or choose to use them later



🚰 Config Settings 🛛 🚓 👫 📢 ok					
Save local cache					
Area size (m): 1000 🔻					
Select LLM Remove LLM					
Map Line Thickness: 1 👻					
Map Grid Data GPS Map Cache Po					

To load LLM tiles, click "Select LLM"

🎥 Config Settin	gs	#: +€
Open		
Folder: All Folde Type: LLM Dat	rs 🔻	Cancel
Name 🔺	Folder	Date
📓 kuzo_av_dor		17/10 15:35
• •		•

You are now choose your file or browse another folder and select the file you intend to use

🐉 Config Settings 🛛 👯 🕂 ok						
Save local cache						
\My Documents\test123.tiles						
Area size (m): 2000 -						
Select LLM Remove LLM						
Map Line Thickness: 1						

Click "OK" to use the file











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LOGU DAY D	W/G	
Clear		
Tile size (m) 20	• 0	
Small tile thresho	ild (m)	
3 🔻	Contract of	
Ignor	e small objects les	s than (m) 0
Ignor	e small objects les psl/Home/Docum	s than (m) 0 ents
Ignor W Convert to	e small objects les pst/\Home/Docum Convert to LLA	s than (m) 0 ents Convert to LL

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Utility Menu Ports



Please note: To display the GNSS cursor on the screen, confirming all communication parameters are ok, you need to tap this red line to make it disappear and see the GNSS cursor. If the cursor is off the screen, it will refresh it centred on the GNSS current position.* * Only available on the professional version









2	Commu	nications		- #‡ +€	ok
G	PS Bran		▼		
G	PS Mode		•		
		•			
D E>	kt Ant	Baud F	Rate:	115200	•
				4800	٦
GPS	LASER	SENSOR	TOTA	19200	
				38400 57600	- E
				115200	

This example displays the paramters with a Topcon GRS1 device.

Each device might use different ports and Baud Rate. You have to find the correct parameters for your device
Utility Menu: Ports

Communications 📰 🎦 📢 ok	LASER type: This allows you to select the type of communications you have with your LASER.
Model: Model: Port: Baud Rate: 9600	LASER port: This allows you to select the port that your LASER is connected to.
GPS LASER Sensor Total Station	LASER baud rate: This has to match the data rate of the LASER device. (9600 is the default).



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The same procedure as for the lasers applies to the sensors. Choose the model, then the port and baud rate.

This menu allows to choose between several available sensors.

Communications 👫 🏠 📢 ok	Sensor type: This allows you to select the type of communications you have with your SENSOR.
Model: Depth Sensor Port: COM7 Baud Rate: 9600	Sensor port: This allows you to select the port that your SENSOR is connected to.
GPS LASER Sensor Total Station	Sensor baud rate: This has to match the data rate of the SENSOR device. (9600 is the default value).

Utility Menu: ECOMS

GIS360 can be configured to send periodical emails with the saved fieldwork. This feature allows the office to be precisely informed about the work progress.

Config Settings	Click on the arrow next to "Email Comms" to see the list of possibilites
Name (To)	*
Address Subject	
Attachment	
Prompt on Send	
Delete on Read	
Update Now Off 🔻	
Ports Total Station eCOMS Key Abou	

🐉 Config Settings 🛛 👯 🏠 📢 ok
Email Comms On Save 🔻
Name (To)
Address
Subject
Attachment
Body Text
Prompt on Send Delete on Read
Update Now Off 🗸
Map Cache Ports Total Station eCOMS Key

To set Name, Adress and Email of adressee, tap in the green box to show the keypad



Enter the corresponding information Carlson GIS360



🐉 Text Input 🛛 🗱 📢 ok	🐉 Config Settings 🛛 👫 📢 ok
kuzo@geozone.ch	Email Comms On Save -
	Name (To) Kuzo
	Address kuzo@geozone.ch
	Subject Ejitsu
	Attachment
	Body Text
123 1 2 3 4 5 6 7 8 9 0 - = +	Prompt on Send
Tab q w e r t y u i o p []	Delete on Read
Shift z x c v b n m , . / 4	Update Now Off 🔻
	Ports Total Station eCOMS Key Abou

Enter all necessary information

	Config	Setting	s				ŧ€	ok
	Email	Comms	5	On S	Save			•
Name	e (To)	Kuzo						
Addre	ess	kuzo@	ge	ozone	e.ch			
Subje	ect	Ejitsu	05.	11.20	11			
Attac	Attachment							
Body	Body Text							
Ejitsu Data								
Prompt on Send Delete on Read Update Now Off								
Ports	Total	Station	eC	COMS	Key	A	bou	

背 Config Settings					÷	:	€	ok
E	Email	Comms	5	On S	Save			•
Name	(To)	Kuzo						
Addre	SS	kuzo@	þge	ozone	e.ch			
Subje	ct	Ejitsu	05.	11.20	11			
Attach	Attachment							
Body	Text							
Ejitsu Data Off								
Prompt on Send Delete on Read			2 min 2 min 10 m 20 m	i in in				
Update Now Off			×					
Ports	Total 9	Station	eC	OMS	Key	A	bor	↔



To test the Ecoms settings, will shall save the work in order to send the file

ಶ Start		#: ⊀€
Save As		
Name:	Test123	
Folder:	None	-
Type:	KML file(*.kml)	-
Location:	Main memory	•
	Save	Cancel

Enter Name, Tape of file, Folder and Loction, then save





If this file is already existing, a pop up message will ask if you want to replace this file, if yes, your file will be saved Carlson GIS360





Upon saving, a message confirming that the file shall be sent

🍠 EmailFor	m ati 4 € ok
Name	Kuzo
Address	kuzo@geozone.ch
Subject	Ejitsu 05.11.2011
Attachment Body Text	\My Documents\Test123.k
Ejitsu Data	i
	🗱 🛷

Now the file is shown in the "Attachement"

🐉 Config Settings 🛛 📰 📢 ok		
Email Comms Individual Record		
Name (To) Kuzo		
Address kuzo@geozone.ch		
Subject Ejitsu 05.11.2011		
Attachment My Documents\Test123.		
Body Text		
Ejitsu Data		
Prompt on Send		
Delete on Read		
Update Now Off 👻		
Total Station eCOMS Key About		

If you have set the Ecoms on "Individual Record", the data will appear as in the next screen



Confirming with the green arrow will send the file by email



Utility Menu: Key

This is where you enter your software key and also where you set the language

🐉 Config Settings 🛛 🖨 🍋 🕻 ok
User ID c7d0-f679-e72d
PostProcessing
2
Language English 🗸 🔻
Display Memory Available
Ports Total Station eCOMS Key About

Tap in the language menu to display the list of languages available

背 Config Settings	#ੈ *⊡ •€ ok			
User ID 2740-f67	79-e72d			
Post	Processing			
	English Turkish Spanish Slovak Russian Portuguese Portugese Polish			
Language	English 🚽			
Display Memory Available				
Ports Total Station eCC	DMS Key About			

🐉 Config Settings 🛛 🗱 📢 ol					
Key 7823 7739 67F7 64DE					
User ID 58c7-19c6-3f3a					
PostProcessing					
Enter Key					
Language					
Total Station eCOMS Key About					

Tap on "Enter Key" to see the keypad in order to enter your software key



Once the key entered, click on the green button to confirm



Walk Mode

Walk Mode: A trail of points will be created, which will always be a closed pathway or boundary of some type. It will always be forced to have boundaries that are parallel or at right angles to one another. This is useful for creating building outlines.

Name	Value	
GeoID	621543.63	
Parcel No	25547	
Owner	john doe	
Area	7648.057	
Use	Residential	
Photo		
		*

Click on Walk Mode



Each time we will determine to walk either straight, left or right, or change direction



This window appears. Click either Left or right arrow to start the walk mode



Clicking on the direction, you are prompted to enter the distance. Confirm with enter and you come back to the previous screen. Draw the building or parcel you need, then once finished confirm with the green button

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Name	Value			
GeoID	621543.63			
Parcel No	25547			
Owner	john doe			
Area	10526.505			
Use	Residential			
Photo				
	<u> </u>			

The walk mode designed area appears with its attributes.

Click the green button to confirm



The new construction appears on the screen





Important features: Saved

Saved data: When you save data to disk, it will be in a KML format. This format is compatible with being shown on Google Earth $^{\text{TM}}$ and other Google Map $^{\text{TM}}$ applications. For instance saving the data as shown in this example...

(map drawn on the PC version)





Important features: Saved



Saved attributes: Data with attributes will be saved in KML format. This format is compatible with Google Earth [™] and other Google Map [™] applications. For instance saving the data as shown in this example...

Saved data: ...will display like this on Google Earth ${}^{\rm \tiny TM}$



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Important Features: Importing Shape Files

Importing Shape Files: These files are generated by ArcGIS[™], ArcPad[™] and similar ESRI[™] products. Please see www.esri.com for details. This application needs two basic files to be available with extensions *.dbf (for attributes) and *.shp (for geometry). These files usually give no indication regarding the coordinate system. You have to select the type from a conversion list to proceed.

Importing Shape Files 1: Start Loading your SHP file by using the **Load Survey** button. Please note that both *.shp and its accompanying *.dbf file must reside in the same directory. This operation actually loads both files.







Importing Shape Files 3: Select the way Shapefile [™] have the coordinates. Note: The 'datum' can be altered in Utils (slide 33).

Important Features: Importing Shape Files

Importing Shape Files 4: Select the **Primary** field name from the list. The field value from the selected field will be used in **Google Earth**[™] to identify the record being examined. If you used **<Label as Record Index>** then the index position in the file is used to identify the object. Click the tick mark to proceed.



Importing Shape Files : Use File: Save Survey to save the file as a KML file.

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Important Features: Importing Shape Files

Importing Shape Files: Double click the chosen filename from the saved directory to automatically load Google Earth[™] with the data you have just saved.



Important Features: Importing Shape Files

Importing Shape Files: To view attributes, just click on the Primary Attribute in the list in **Places** to bring up the data.





Important Features: Operating in a wireless blocked region*

Please note: This facility allows you to use your mobile PC to collect data in areas whitout wireless coverage. To enable this functionality, you must have a temporary background Tiles file previously stored using: **Utility Menu: Configuration.**







The area of interest will appear centralised on the **Tiles** files **Home Marker**.

Important Features: Operating in a wireless blocked region*



Zoom into a working level.

Zoom further, alter to satellite images for example, then load in your previous unfinished survey for continued updating.



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Datacollection for Postprocessing



Click on the "Utilities Menu"

GPS Cursor Size: 1	
Min sats: 4 🔻 Ant ht 2.000	
Common Elevation Mask: 20 🔻	
Post Proc: Rov log Ref log	For Base station data, choose "Ref log"
AutoStart Rover	
Correct	For rover data, choose "Rov log"
O AutoStart VRS	
Mag Dec: 0.00	
Man Auto	
Device Reset	
Map Grid Data GPS Map Cache	

GPS Cursor Size: 1 Ant ht 2.000 Min sats: 4 -Common Elevation Mask: 20 Post Proc: Rov log Ref log AutoStart Rover Correct AutoStart VRS Mag Dec: 0.00 Man Auto **Device Reset** Data GPS Map Grid Map Cache

Click on "Ref log" to start saving base station data for post processing



station coordinates for easting, northing and level Click "Start"





If you wish to start collecting and saving data, click "Yes"

Datacollection for Postprocessing

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Datacollection for Postprocessing



🎥 Post Process Base 🛛 🛱 📢					
Fi	word Raco Position Warning	Evit			
D 43 L 8	Are you sure you want to halt the Post Processing reference log and close the file: \Program Files\CartogooMobile2.06\R eference\templogfile.ref ?				
	Yes No]			
É	Epochs: Count:	100 🔻			
C	Duration: s	ats:			
Ē	Error (m)	Stop			
Ma	ain GPS Options VRS Options				

Location of data storage Click "OK"

ļ	582600		582650	G
Fixed I	Base Po	sition		Exit
Latitud	e			
Degrees	Minutes	Second	5	
47 🔻	26 🔻	22.9566	0 N	•
Longite	ude			
8 🔻	32 🔻	2.6992	5 E	•
Altitud	e			
507.	354			
Epoch	s: 698	Count	100	•
Durati	on: 00:0	7:54	Sats:	14
Error (m)	T I		
3.874		l	Sto	P
Main Op	tions		ſ	
			_	

At the end of the working day, press "Stop"

Confirm with "Yes" if you really wish to stop

Datacollection for Postprocessing



You want to stop: Click "Yes"



File location: click "OK"

캳 c	onfig	Settin	igs		📰 📢 ok
G	SPS C	ursor S	Size:	2	-
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Post	Proc	R	ov lo	g	Ref log
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				Correct	
		С) Auto	Start VRS	
Mag Dec: 0.00					
Man Auto					
Мар	Grid	Data	GPS	Map Cach	ne

Press "correct"



Note: it will be important to place the base station data into the same location as the rover data.



Postprocessing: GNSS + VRS Options



20 Televation Mask
Use Glonass if available
GPS wait on point time (s): 20 🔻
GPS message interval (s): 1.0 👻
Serial timer interval (ms): 500 🔻
Main GPS Options VRS Options

GNSS options allow the user to define the satellite constellation and to increase the postprocessing accuracy.

VRS options allow to define the login parameters to the VRS network

🍠 Config Set	tings 🕂 ┥< ok
GPS Curso	or Size: 2 💌
Min sats:	3 ▼ Ant ht 2.000
Post Proc:	Rov log Ref log
	🔿 AutoStart Rover
	Correct
	🔿 AutoStart VRS
Mag Dec:	0.00
	Man Auto
Map Grid Da	ta GPS Map Cache

Datacollection for Postprocessing: Rover

Click on "Rov log" to start saving rover data for post processing

Nonfig Settings 🛛 🗱 📢				
GPS Cursor Size: 2				
Save Correction Data				
Rover support data will be logged in a LOG file called: templogfile.rov. Do you wish to start saving data to correct later?				
Yes No				
Mag Dec: 0.00 Man Auto				
Map Grid Data GPS Map Cache				
Click "Yes"				



Location of data storage



Datacollection for Postprocessing: Rover

If you wish to stop the registration of postprocessing data for the rover, go to:



Choose "Utilities"



都 Config Settings 🛛 🗱 📢 ok				
GPS Cursor Size: 1				
Min sats: 4 Ant ht 2.000				
Common Elevation Mask: 20 👻				
Post Proc: Rov stop				
Correct				
O AutoStart VRS				
Mag Dec: 0.00				
Man Auto				
Device Reset				
Map Grid Data GPS Map Cache				

Click "Rov stop"

Confirm that you wish to stop by clicking "Yes"

Datacollection for Postprocessing: Rover



Note: it is important that you copy your rover postprocessing files into the same location as your base station postprocessing data

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Look for the directory where your GIS360 PC version is installed.

GIS360 GPS Correction Engine 0.45
Reference File:
?
Rover File:
?
Reference Epochs Total
Rover Epochs_Total
Common Epochs
Valid Epochs
Ephemerides Available
Corrected Epochs
Correct Data



To start the postprocessing program, click on the executive file "GIS360PC_ corrections"

This is the Postprocessing program window

The Correction engine will default to the recommended settings so most of these options can be ignored. However the most critical is the Epochs selector which is the number of Epochs to be averaged together to form the final position on each point. If you stayed on the point for 20 seconds each time then select 20 seconds in the Epochs. You may then continue by pressing OK at the bottom of the Options menu.

The other options are as follows....

Filter: Single difference filtering tends to work best for most data sets.

Elevation Mask: This can be adjusted to ignore satellites below a certain elevation.

Correction Method: Single Difference is a Hatch filter and works best for mast cases.

Show Correction Rover Links: On the plot it will show the link between the point where the button was pressed and the corrected point



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Postprocessing: Base + Rover Data



Once you have your rover and reference files, click on **Correct Data**

This is the confirmation of your saved data, click ok



To see the map of your raw data, click on map



On this map you can see how your Rover and Base data look like. These are pure 1 second data. Blue dots are Topcon values and Crosses are corrections.

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Sample: 731 Guiding 1000.0 Topcon value: Cartioso median: Cartioso median: point: +	eptions
	Filter: Mean 🔽
with the + and - you can zoom in and out to see the map of your raw	Correction Method: Double diff. Carrier Ranges 🗸
data.	Elevation Mask:
	Fixed Point Text File: P Ok Cancel
Lat 47 54 57.667969999 Lon 11 26 11.246870000 A 627.584	





Important Note: Your Post Processed ROV file has been saved in the directory "Reference" and has a .COR extension.

To end this view, simply click on X The same applies to closing the postprocessing program



In the GIS360 PC version, click on the OPEN FILE button and look for your kml files, then select the one you wish to process

Look in	Desktop		* = = =	ta i
My Recent Documents Desktop My Documents My Computer	My Documer My Compute My Compute My Network States Shi States Shi	ts Places red Polders ançais_922-29077 indowsCE_922-29077 5		
My Network Places	File name.	04022010		Open



After opening your KML file, this is your raw KML data in GIS360, as surveyed in the field. Now you want to apply the postprocessing corrections



Click on "utilities" to see the following "dialog box", where you click on "correct"



You can now choose the correction file (extention .cor) and click "open"



You can now see that the corrected points have a different color. In this example only 6 points have been surveyed, and we see 6 corrections. Carlson GIS360

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Postprocessing: Base + Rover Data

Here an example with a Polygon, following the same procedure as previously for single points. Without going as much in details as for single points.

🛃 GIS360 Corrections 0.13			7
Reference File:		turne 🕀	N
reference time 35869000.	ref		
Rover File:			
rover time 554106000 week !	544.rov		. 1
Reference Epochs Total	1357	1	
Rover Epochs_Total	981		
Common Epochs	983		
Valid Epochs	973		
Ephemerides Available	13		
			ĥ
Rover Epochs Done		Map view of raw data	
Clear Correct data;	Start ³	1	
Options	Map		

Start the rover and reference files



View of your field KML Field data

Here you can import COR file.



This image displays that the corrections have worked and that "old" points moved to the new positions, but with aerial image in the background.



Here we see that the corrections have worked and that "old" points moved to the new positions.

Don't forget to save your "NEW" KML file. We sugest to use the same name as the original KML, but adding and a "sufix" like a ,b or c. Now you can export your NEW KML file into Google Earth.

Save in	Desktop			+ 8 4	<u></u>	
My Recent Decktop Desktop My Documents My Computer	My Document My Concuter My Concuter My Network P Parallels Shar Sharper Logos-gnozor My Mobile SDR+Pro_Fra SDR+Pro_Fra SDR+Pro_Fra SDR+Pro_Fra SDR+Pro_Fra SDR+Pro_Fra SDR+Pro_Fra SDR+Dro SDR+Dro SDR+Dro SDR+Dro SDR+Dro SDR+Dro SDR+Dro SDR+Dro SDR+Dro SDR+Dro SDR+Dro SDR+Dro SDR SDR SDR SDR SDR SDR SDR SDR SDR SDR	s Haces ed Folders In mg.aks_922-19077 vdows/CE_922-29077	9 240120108 9 25012010 9 27012010 9 270120108 9 270120108 9 270120108 9 270120108 9 20012010 9 300120108 9 300120108 9 300120106			
My Network	File name:	040220106		•	Save	





Method Menu: Editing Tool/ Point editing



Point editing: Choose editing button and then tap on the point to be edited





Point editing: Choose the
WALK button then press on
the point (TREE) to be editedPoint editing
and tap on



Point editing: Choose this button and tap on the new point



Point editing: As you can see, the TREE symbol changes place and point editing is finished

Method Menu: Editing Tool/ Line editing

Line editing: Choose LINE to be edited editing button and then press on the LINE to be edited



Line editing: Choose LINE to be edited





Press MINUS to delete one point on the LINE. Choose the Point



As you can see, the point is not anymore part of our LINE.



And the "new" changed LINE looks different now









Line editing



Method Menu: Editing Tool/Line editing/Line extension



Line extending: Choose the last point on the line, choose new point and the line will be extended


Method Menu: Editing Tool/ Parcel editing





Parcel editing: The GIS Table apears. Press the Walk Mode button



Parcel editing: Zoom and Pan choosen parcel to fit your screen



Parcel editing: Press the Line tool and choose the desired line





Parcel editing: After selecting the proper line press + and select the new point to be added



Parcel editing: the new point has been added







Parcel editing: repeat the same procedure for all points involved

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Parcel editing: until your edited parcel doesn't get a proper shape. When finished press YES





Parcel editing: to finalize the process press YES and your parcel is FIXED



Walk Mode: First you have to ensure that you have 2 points specified on your map, where one will be the anchor point of your construction and the other will be a directional node. One corner of your constructed plan will be fixed at the first point and another corner will be fixed in the direction of the other anchor point.



Walk Mode: Example – Define the Anchor Points with GNSS/GNSS

Walk Mode: A walk type item will be created by selecting this button. When new points are added to the walk design and accepted, a new Walk Mode (Special Polygon) Item will be created.



Walk Mode: This is a turtle graphic type of walk where you move forward, left or right and specify the distance from your current position. To complete the walk polygon, there is a complete button which guarantees the walk polygon will be closed. The idea is to ensure that each internal angle is always 0 degrees,90 or 270 degrees from the current direction.



ics until you have most of the walls defined

arison GIS360







Walk Mode: Example – Now you can follow your progress in building construction for example

Now click the Left button then add a new Walk distance to move in the new direction.





Walk Mode: Example – Continue the turtle graphics until you have most of the walls defined





Walk Mode: Example – Continue the turtle graphics until you have most of the walls defined

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Walk Mode: Example – you are almost finished. Now you need only to eliminate the points not needed.



Walk Mode: Example – you are almost finished. now you need only to eliminate the points not needed.





Walk Mode: Example – you are almost finished. Just close the table... ...you are finished.

Walk Mode: Example – if an important AREA is shown as well

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Walk Mode: Example – This returns to the map where the two anchor points were defined.



Walk Mode: Example – Clicking OK renders the walk construction onto the map anchored onto the first clicked point and orientated towards the second point.



Walk Mode: Example – If you save this file, transfer it to a PC then double click on the PC copy, this will launch Google Earth [™] (if set as standard to open KML files)where you can inspect your drawing in this application.

Walk Mode: Please note, ALL of your saved KML files may be displayed simultaneously inside Google Earth[™].

Walk Mode: You need to defined a Datum in the Utility Menu to place your Walk outline onto your survey.

Saving a Map Cache

Frequently before starting to use the field data collection system you need to know how to save maps incase you don't have mobile phone coverage on your site. It is best to do this on the office version of GIS360 and copy the cache to your field system.

1. Start GIS360 on your PC.

When GIS360 starts it will always put your Home position in the centre of the screen with a home marker.

2. Move the Home marker to the centre of the area that you want to save.

The home marker can easily be moved by making sure that the area that you want to move it to is on the screen. Go to the utilities Menu and select "Home Position". You will be prompted to tap the screen at the exact position you want to move the home position to. The Cache is always saved around the home position so that's why we had to move it first.



3. Save your Cache

To save your cache you go to the "Utilities Menu" and then "Map Cache".



The Area size is the size of the Cache to save. This is measured in meters across. Select the required size. Remember that it will save all the maps and aerial photos at all resolutions so don't make the size to big. Then press "Save Local Cache", enter the name, and then wait till its completed. At completion you will be prompted "Do you want to use Tiles now?" answer yes and zoom in to take a look.

4. Copy the Tiles file to the GNSS.

Always put Tile files into the MyDocuments subdirectory of the GNSS unit.

Pairing your Cable Detector with your GNSS

Before you start GIS360 you must make sure that your Cable Detector is paired with the GNSS. To do this you must use the Bluetooth software on the GNSS unit and then make the connection with the Cable Detector.



Once paired then you should not have to do this again. The key outcome of the pairing is that the Bluetooth driver has given the Cable Detector a COM port number. You must know that number to setup GIS360. Different Cable Detectors might be given different COM ports so please be careful.

Setting Up your Cable Detector in GIS360

When GIS360 is running you must setup the Cable Detector by going to the "Utilities Menu" and then "ports". Then pressing the sensors Tab on the Connections dialog will bring up the Sensors selection.



Set the SENSOR type to Depth Sensor (Cable Detection Unit) and then the Correct COM port from the pairing. Then set the Sensor Baud Rate to 9600 (The default setting for the cable detection unit) These Settings will be saved to disk and will not need to be reentered again as long as you are using the same Cable Detector or the same COM port.

Using GIS360 with a Cable Detector

1. Start GIS360 Mobile

You will then be prompted with a splash screen, followed by a couple of quick questions. The first is "Load Mapping From", either you can select Internet if your GNSS has an Internet connection or you can select one of the Map Caches that you downloaded earlier. Select the Map Cache and press OK.

Then you will be asked if you want to load an existing dataset. Just press OK to start a new set.

You will now see your map on the screen.



2. Zooming and Panning

Pan - Is always on. Just touch the screen and drag with the pen.

Zoom In and Out - Is done with the scroll bar on the right of the screen. Press the + button to Zoom In and the – button to Zoom Out.

Map or Aerial Photo - You can change from viewing a Map to Viewing the Aerial Photography by pressing the "Map Menu".

3. Using GNSS

At the Lower Left of the screen are two GNSS buttons. The GNSS On/Off button will turn the GNSS on and off.

If the Icon has a red line through it then the GNSS is OFF. Clicking the button will turn the GNSS on.

When this happens the GNSS cursor will appear on the screen.



This cursor will move with the GNSS and if you move off of the screen, it will always centre again the map to your position. The GNSS Accept button will mark a GNSS reading on the map. This is used if you want to draw things on the map. If you are using a Cable Detector however then this will not be needed since pressing the Log button on the detector automatically does the same function.

4. Logging Detector Data

Logging data from the Detector is very easy. When you turn the detector on by grabbing the switch on the handle the GIS360 system will start to beep. This means that data is coming in from the detector and that the Bluetooth connection is functioning correctly. Sometimes you might have to wait for 5 or 10 seconds for the beeping to start. If it does not beep them please check the Bluetooth settings, especially the paired COM port setting.

If GIS360 is beeping and you have a GNSS cursor on the screen then press the LOG button on the detector.



GIS360 will then save a Cable Detector record and a yellow "Pin" will appear on your map.



5. Seeing and editing your data.

Once Cable Detection readings have been placed on the map in the form of Yellow "Pins" you can see and edit the attributes by clicking in the "Edit Menu", selecting the pen and taping on the pin on the screen.

Name	Value		
GeoID	641844.51		
Parcel No	5578		
Owner	john doe		
Area	669.490		
Use	Residential		
Photo			
	🛸 💸		

You can then edit and view the data. Press the green button to confirm and go back to the map.

6. Saving your data and Viewing in Google Earth.

The save your data go to the "File Menu" and choose save.

When prompted enter the file name, we recommend that you always save into the My-Documents subdirectory. This will save in the KML format. Copy your saved KML file across to your desktop system and then double click on the file in explorer.



Using DataDesigner

Intro to DataDesigner

What does DataDesigner do and why do we need it?

Most GIS applications need date entry forms to collect data from the use about items being collected. GIS360 uses the DataDesigner to make custom forms for these applications.

For example a property surveyor might want a data form like this:

Name	Yalue	٠
Rooms	12	
Туре	residential	_
Access	private	
Owner	Fred Smith	
Street number		
Floors		
Age of Building		
Build material		Ŧ

This screen allow data entry. The Form contains data fields like Rooms, Type, Owner etc. These fields also have different types, Rooms is the number of rooms and is a number, Owner is a Text String, and Type is a Picklist of choices. There are many different types and these will be discussed later in this document.



Each of these forms relates to a database. For most GIS applications these databases also have a type. The Database Type only has three options: either it's a database for a point database, a line database, or a polygon database. For Example a tree might be a point, a fence is a line, and a parcel of land is a polygon.

Note

The DataDesigner is designed to operate on your PC, it does not operate on a PDA or mobile device.

However the forms and databases designed with XMLFD are meant to be used on the Mobile devices with the GIS360 Mobile software.

About XML and XSD files

XML files are text files that contain data. XSD files are a subset of XML files. XML files can contain both the definition of the Databases as well as the data itself, whereas an XSD file contains only the Database Definitions. The GIS360 Software and 3DSurveyor use XSD files to store the Database definition.

How to Start and Install DataDesigner

DataDesigner will install automatically with the Professional version of the GIS360 Software. It is not available on the standard version.

- To Start DataDesigner:
- 1. Select the Start Icon on the lower left of your screen
- 2. Select All Programs
- 3. Select GIS360 then DataDesigner

The DataDesigner Screen

The main XMLFD screen has 6 main sections.

About 1		_
Databases Name J Type	AddDutation Olange Nare Plenove Ditabain	
Telds Name [Tgee] Name [Tgee	Add Field Change Name Hancon Field	
Field Colors	Deta	
	Adt De	

Main Menu – Contains all Menu functions. This is mostly used for loading and saving files.

XML View – The largest windows on XMLFD shows the current state of the XML File. This is for viewing only and is generally only used by advanced users.

Data View – Some XML Files already have data which data will appear in this window. This is generally only used by advanced users.

Databases Window - Is where Databases are added and removed from the XML file.

Fields Window - Is where Fields are added and removed from Databases

Field Options Window – Is where Picklist options are added and removed from a Picklist type field.

Note

The databases window, fields window, and field options window are the most important part of XMLFD since these windows are where the Database Fields and Picklists are configured.

Adding and Editing Databases

The Databases Window contains everything you need for adding new Databases.



To Add a Database:

1. type the name into the Name textbox

2. Select the Type of database. A point database is for objects that are located by a single point. A Line Database is for Objects described by one or a series of lines, and a polygon database is for objects that are polygons.

3. Once steps 1 and 2 have been completed then press the "Add Database " button.

The name of the database will then appear on the list of databases.

To Remove a Database:

1. Select the Database by clicking on database name in the list of databases.

2. Press " remove database"

Adding and Editing Fields

Fields are added and removed with the functions in the Fields Window

Fields		
Name:		Add Field
Туре:		Change Name
Name	Туре	Remove Field
1		

Databases contain one or more Fields and each field has to have a type.

The Field Types are:

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GIS 36

Boolean - Yes No Fields

Date/Time - Allows the entry of Date and Time

Decimal – Decimal Numbers. (Ones with a decimal point)

ListBox – This is a field that has a picklist of possible answers. The Answers are chosen in the Picklist Window.

TextBox - Items that need a keyboard for data entry.

Int32 - Interger Number. (Whole numbers with no decimal point)

Numeric Up/Down - This is also for Integer numbers but gives also an Up Down button to increment the number.

Adding a Field to a Database:

1. Select the Database to add the field to by Clicking on the Database Name in the Databases List from the Databases Window.

- 2. Enter the Field Name in the Field Name box
- 3. Select the Field Type from the Field Type Picklist.
- 4. Press Add Field to add the Field to the Field List.

Removing a Field from a Database:

- 1. Select the Database containing the field.
- 2. Select the Field to be Removed.
- 3. Press the Remove Field button.

Editing Picklists

If the Field Type of a Field is a ListBox then the Field Options Window is where the Picklist items can be entered.



To Add an Item to a Picklist

1. Select the Field to have the picklist item added to by clicking on the Field Name in the Field List. Remember the Field must be of ListBox type.

- 2. Enter the Picklist Item into the Pick box
- 3. Press "Add Pick"

To Remove a Picklist Item:

- 1. Select the Picklist Item to be removed.
- 2. Press " Remove Pick"

In some cases the Picklist might contain a lot of items so its easier to load them all at once from a file rather than enter them individually. If the file is a Text file with one Picklist item per line in the file then they can all be entered at once by pressing the "Add File " button.

Saving and Loading XML/XSD Files

Once all your Databases are set up it is time to save your data. XMLFD reads and writes both XML and XSD files. XML files can contain both the definition of the Databases as well as the data itself, whereas an XSD file contains only the Database Definitions.

GIS360 and 3DSurveyor require the XSD format.

To Save an XSD file:

- 1. From the Main Menu select File
- 2. From the File Menu select Save
- 3. Make sure the "Save as Type" option is set to XSD
- 4. Press "Save" to Save the file.

To Open an XSD file:

- 5. From the Main Menu select File
- 6. From the File Menu select Open
- 7. Select the File from the Open Database Dialog
- 8. Press "Open" to Open the file.

rison GIS360



Putting XSD files into GIS360

GIS360 stores its XSD files in a subdirectory called Schemas below the main GIS360 directory. Once the XSD file has been created/edited then please place it in this subdirectory. Once this is done then the changes will only take affect after the following steps are taken.

To load a new XSD file:

- 1. Start GIS360
- 2. Select File (The Top Button)
- 3. Select GIS button
- 4. Select the XSD file that you want.

Some screen shots













Carlson GIS360





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