GeoMax Zoom70/90 FAQ Sheet

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1 Hardware

1.1 What does "STReAM360" mean?

STReAm360 stands for…
- Scout – finds your passive prism fully automatically
- TRack – continuously follows your prism
- AiM – highest precision aiming at your prism – any time, any condition with constant accuracy

1.2 What is the range of the "SCOUT360" feature?

The range is about 300m.

1.3 What is the range of the "TRACK360" feature?

The range is about 800m to a round prism and 600m to a 360° prism.

1.4 What is the range of the "AIM360" feature?

The range is about 1000m to a round prism and 800m to a 360° prism.

1.5 What is GeoTRAil?

GeoTRAil is the name of the GNSS based prism search within the X-PAD field software.

1.6 Is the GNSS based prism search related to hardware?

It is based on 3 main components:
- Field Controller being capable to receive and process GNSS signals to derive a coordinate
- Field Software (e.g. X-PAD) being capable to handle the GNSS position, transforming it into the right coordinate system, calculating and transferring the direction the instrument needs to turn.
- The Total Station being capable to receive the signal and to initiate the rotation of the instrument towards the prism.

1.7 Which Total Station support the GNSS based prism search?

If the field controller is equipped with a GNSS device and the field software can cope with those data, the GNSS based prism search works on Zoom90S, Zoom90 R and Zoom70.

1.8 What is the max. range of the GNSS based prism search?

The limiting factors are the range of the Bluetooth connection (up to 600m), the prism tracking functionality (600-800m), the aiming functionality (800-1000m) and GNSS location (you have to be on earth).

1.9 What influences the performance of the GNSS based prism search?

- The distance between the TPS and the point
  (the longer the distance, the higher the search accuracy)
- The number of measurements
  (the more points measured, the search accuracy will become more robust)
- The geometry of points measured (Avoid dangerous angles)
- The precision of the GNSS module inside the data-collector

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- Available satellites in view.
- Buildings or other objects that could obstruct GNSS signal (multipath etc.)

1.10 Can I upgrade a Zoom70 to a Zoom90?

No, the instrument cannot be upgraded. The hardware is different.

1.11 What is the benefit of the ZRT82 Bluetooth handle compared to the internal Bluetooth module?

The internal Bluetooth module located in the sidecover of the instrument is only intended for short range communication and therefore only suitable if the datacollector is located at the tripod. To work in full robotic mode with the Zoom90 a ZRT82 handle would be needed to guarantee stress free operation at a larger distance.

1.12 Can I use the previous ZRT81 handle with the Zoom90?

The previous ZRT81 handle is still supported by the Zoom70 and Zoom90 instrument. There will not be any additional settings or firmware upgrades necessary.

1.13 Can I use the old ZRT80 handle with the Zoom70 or Zoom90?

The ZRT80 handle is not be supported by the Zoom70 or Zoom90 and will therefore not be recognized within the GeoMax Toolkit Comm settings.

1.14 What is the range of the "Long Range Bluetooth" Handles (ZRT81/82)?

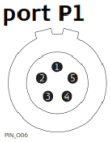
The range you can achieve in open field conditions without obstacles between the instrument and the controller is about 600m. This is of course depending on the Bluetooth module inside the datacollector as well and therefore our reference is the GeoMax Zenius5.

1.15 What is the difference between the ZRT81 and ZRT82 "Long Range Bluetooth" handle?

From 1/1/2015 onwards there is a new law for Bluetooth modules regulating the emitting power. The ZRT82 "Long Range Bluetooth" complies with the EN300328 standard. There is no significant difference in the range compared to the ZRT81.

1.16 What is the PIN assignment of the Lemo connector?

Pin assignments for port P1



Pin	Signal Name	Function	Direction
1	PWR	Power input, + 12 V nominal (11 V - 16 V)	In
2	-	Not used	-
3	GND	Single ground	-
4	RxD	RS232, receive data	In
5	TxD	RS232, transmit data	Out

Sockets

Port 1: LEMO-0, 5 pin, LEMO ENA.OB.305.CLN

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1.17 "Quadruple axis compensation": What does it mean?

Quadruple axis compensation means two axis compensation combined with Hz collimation and V-index correction. Please be aware that it is not a quadruple-axis/4-axis compensator – it is compensation.

1.18 Do you offer a steep sight ocular?

Yes, there is steep sight ocular available (Art.No.: 767428 - ZDE100). The maximum targeting to Zenith direction is about 2.7 gon (2° 29`).

1.19 Can I use other USB Sticks/ SD cards than the GeoMax one?

Yes, however we recommend using only original accessories in order to obtain maximum performance and data security.

1.20 USB-Memory: What maximum capacity is supported?

At the moment all available memory sizes are supported – even >100GB.

1.21 Firmware Upload: Can I use an USB-Stick

At this moment we only allow firmware upload by SD Card method.

1.22 SD Card memory: What maximum capacity is supported?

Actually from hardware there is no limitation. We tried with up to 32 GB working without any problem. However the memory needs to be formatted as FAT32. Microsoft has some limitations here, but those can be bypassed by using special formatting tools.

2 Firmware

2.1 What is "GeoTRAil"?

GeoTRAil is an advanced prism search, based on the GNSS position of the controller, mounted on the pole. The controller`s GNSS position is transferred via the long range Bluetooth handle to the Total Station allowing to turn the telescope towards the position of the prism.

2.2 Data Storage: When measuring, where is the data stored?

It depends on the field software running onboard the Zoom90 if the data is stored on the internal memory or directly on USB or SD Card.

2.3 Which software is running onboard the Total Station?

The Zoom90 is designed to be used with 3rd party software and therefore does not have any measurement software installed of its own. The only software installed on the unit is GeoMax Toolkit which can be used to update firmware, calibrate the instrument and set various settings.

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2.4 Do I need onboard software when operating it remotely?

When the instrument is only remotely operated then no 3rd party software is needed onboard the instrument. However, if the user wants to take measurements from behind the instrument, then an additional 3rd party software license would need to be bought.

2.5 Is it possible to make measurements with "GeoMax toolkit"?

No, there is no dedicated measurement dialog within GeoMax Toolkit. In order to perform measurements a Field Software such as FieldGenius, XPAD or SurvCE needs to be installed.

2.6 Can I change the language of the "GeoMax Toolkit"?

Yes, this can be done by using the firmware update functionality within the GeoMax Toolkit application.

2.7 What is the main benefit of Zoom90 with Windows CE® operating system?

The Zoom90 allows running field software such as GeoMax FieldGenius, GeoMax Layout Pro, X-PAD and Carlson SurvCE onboard. So the customer can decide which onboard software suits him best according to his needs.

2.8 Can I change the system language of Windows CE® operating system?

Yes, this is possible. This is done by uploading new a new firmware package. Currently English, German, Spanish and French are available.

2.9 Does the instrument contain "XSite Software"?

No, XSite is not and will not be available for the Zoom90 as its platform differs greatly from the Zoom80.

2.10 Is it possible to run FieldGenius/XPAD/SurvCE onboard the TS?

Yes, the Zoom90 is designed solely for this task.

2.11 How to prevent getting corrupt data on SD card?

In order to prevent corrupt measurement data that cannot be imported into other software packages it is recommended to format the SD card on a regular base. In addition it is recommended not to remove the battery during operation – always shut down the instrument by pressing the OFF key. Furthermore do not use the battery until it is completely empty resulting in an irregular shutdown of the instrument.

2.12 How are atmospheric and geometric corrections applied?

Atmospheric ppm`s are applied to the slope distance, while geometric ppm`s are applied to the horizontal distance. However, 3rd party software can and will overrule these settings most of the time and apply their own correction. GeoMax Toolkit will automatically update its Atmospheric Settings values if it receives new settings applied by the 3rd party software.

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2.13 Which software is running on the handheld/controller?

There are various choices of software, like GeoMax FieldGenius, LSE XPAD or Carlson SurvCE

2.14 Where do I obtain the FieldGenius software?

The current version of FieldGenius is available for download from GeoMax website at http://www.geomax-positioning.com/Downloads.htm?cid=15200
Click on the "comprehensive list of installations" link and scroll down to the FieldGenius section. Here the software installer for various languages and the release notes can be found.

2.15 How do I register my FieldGenius installation?

When ordering a FieldGenius module, a GUID number will be supplied on a printed card. The registeration of your installed software is done using MicroStation's Web Registration Portal at http://microsurveylicenseserver.com/ValidateSerialNumber.aspx
Here you enter the supplied GUID number.
Your Device ID is requested next. You will find this ID number when starting FieldGenius on the handheld as shown in the example below:

A key is then generated which needs to be entered into the handheld and then click "Apply Key".

2.16 How can I upload the field software?

This is depending on the software installation file. Either the installation file needs to be copied to the instrument (if it is a CAB file) and can be run and installed onboard or the installer needs to be executed on the desktop PC while the instrument is connected to the Windows Mobile Device Center or ActiveSync. Please refer also to the Installation Guide.

2.17 Can I install several field software packages in parallel?

Yes, it is possible to install several field software packages. The internal memory of 1 GB allows installing several packages.

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2.18 Is it possible to run the Zoom80 software onboard Zoom90?

No – the Zoom80 onboard software is developed on another platform, and cannot be uploaded.

2.19 Can I develop my own program onboard Zoom90?

An own development is not foreseen so far. Please get in contact with your regional manager to discuss the use case.

2.20 Can I connect the Zoom90 to any 3rd party software installed on a device?

No, the connectivity is restricted to certain field software packages. Please get in contact with your regional manager to discuss the case.

2.21 Is there an Office Software package available for Zoom90?

No, as there is no GeoMax onboard application that can measure and save data, there is no GeoMax Office software available supporting Zoom90. The customer must use the office software supporting the format of his onboard software.

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3 Data Collector Related

3.1 Which Windows based Field Controller can I connect to the instrument?

The Field Controller supported depends on the field software running onboard. Getac PS336 and PS336 E are supported in any case from XPAD and FieldGenius.

3.2 Which Android based Field Controller can I connect to the instrument?

In general "all" Android devices are supported. However due to the massive offering of Android devices it cannot be guaranteed that each and every device is supported. It is recommended to use devices offered by GeoMax, since those are thoroughly tested and verified.
Besides that, although Android OS could be the same, the used Bluetooth modules and Bluetooth drivers are different in each and every device. Therefore, for this reason it is impossible to test and verify each device that is currently in the market.

3.3 Can I connect with my Zoom80C controller to a Zoom70 or Zoom90?

No. Zoom80 C communication is based on radio communication and requires ZRT80 radio handle mounted on the instrument. ZRT80 is not supported.

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