

Leica GS16 GNSS Receiver + CS20 Data Controller with Captivate Software RTK Rover Wizard: MA CORS RTN



Be **Captivated**



Leica Geosystems Captivate Software

This Quick Guide outlines the steps within the Leica Captivate Software, from the **Settings > Connections > RTK Rover Wizard** to create a new Profile for Network RTK Surveying using the GS16 GNSS Receiver and CS20 Data Controller with a Cellular Internet connection to the **MA CORS RTN, (Real-Time Network)**.

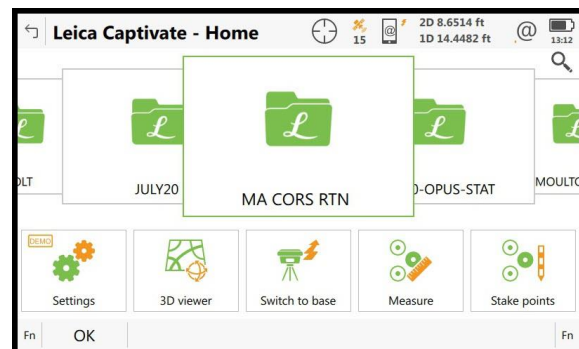
The end user must register for a Free, (No Charge), RTK Rover Account, create their Username and Password Credentials with MASS DOT; then activate their RTK Rover account on the MaCORS Spider Business Center web page, before the RTK Rover Account can be used in the field.

The following link is provided for the MaCORS – RTN, (Real-Time Network), Home page, <http://macors.massdot.state.ma.us/spiderweb/frmIndex.aspx>

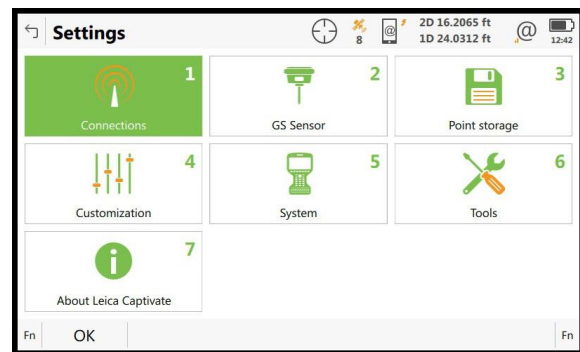
For RTK Rover account registration on the MaCORS – RTN, (Real-Time Network): <http://66.128.64.251/sbc/Account/Register>

Typically, the MaCORS CORS Account Team will send the Registered User an Email link for the Spider Business Center, the End User clicks on this link to activate their RTK and Rinex Products, the following link for the Spider Business Center Login page is provided: <http://66.128.64.251/sbc>

Step 1- From the Captivate Software Main Menu, Job Carousel, Select any current Job,



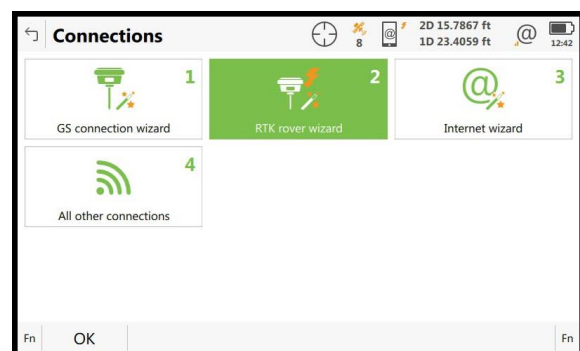
Step 2- From the Apps Carousel,
Select **Settings > Connections**,



Step 3- From the **Connections**
panel,

Select **RTK rover wizard**

Select F1 OK

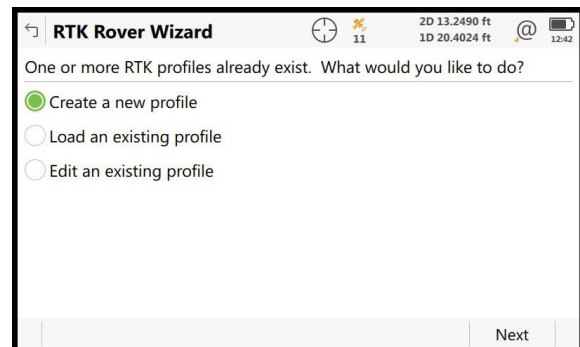


Step 4- From the **RTK Rover Wizard**
panel, One or more RTK profiles
already exist. What would you like to
do?

Panel, select the option,

(•) Create a new profile

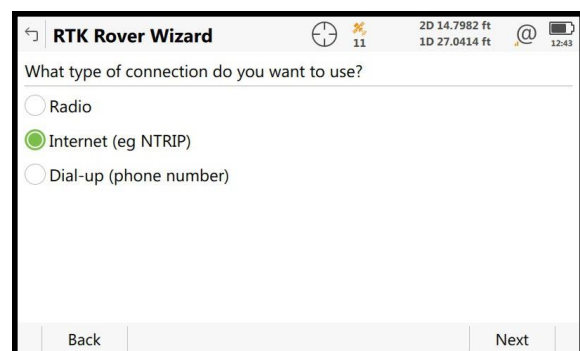
Select F6 Next



Step 5- From the **RTK Rover Wizard**
What type of connection do you want
to use Panel, select the option:

(•) Internet (eg NTRIP)

Select F6 Next



Step 6- From the **RTK Rover Wizard**
Which port is the RTK device connected to? Panel, select the option:

(•) CS 3.5G modem port

Select F6 Next

Step 7- From the **RTK Rover Wizard**
Which RTK device is being used?

If you are using AT&T, or T-Mobile Cellular Service with a SIM card in the CS20 Data Controller, select the option

(•) GSM/GPRS/UMTS device

Select F6 Next

Step 8- From the **RTK Rover Wizard**
Which RTK device is being used?

If you are using Verizon Wireless Cellular Service (No SIM card) in the CS20 Data Controller, select the option

(•) CDMA device

Select F6 Next

Step 9- From the **RTK Rover Wizard**
Enter PIN & PUK codes of the SIM card, panel

Leave the Defaults, Do Not Change,
Do Not Enter ANY Information here,

Select F6 Next

Step 10-

From the **RTK Rover Wizard**
How is the device connecting to the Internet, select the option,

(•) Using GPRS/CDMA Internet Connection

Select F6 Next

**Step 11-**

From the **RTK Rover Wizard**
Enter the APN for your Internet connection

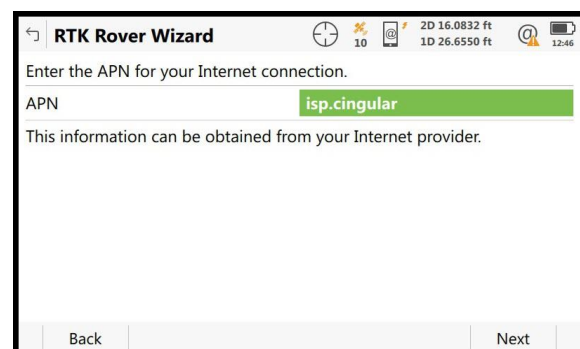
Enter the APN value

The APN is required if using SIM card,

For AT&T: isp.cingular or broadband

For T-Mobile: epc.tmobile.com

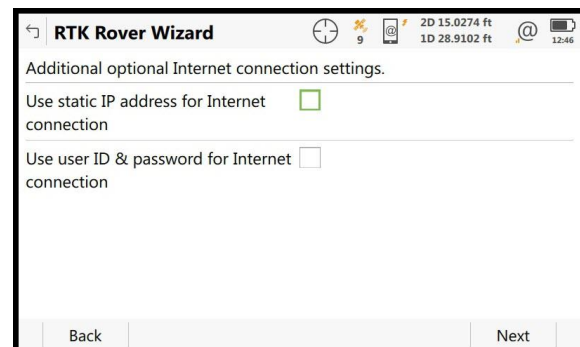
Select F6 Next

**Step 12-**

From the **RTK Rover Wizard**
Additional optional Internet connection settings, panel

Leave these options Unchecked,

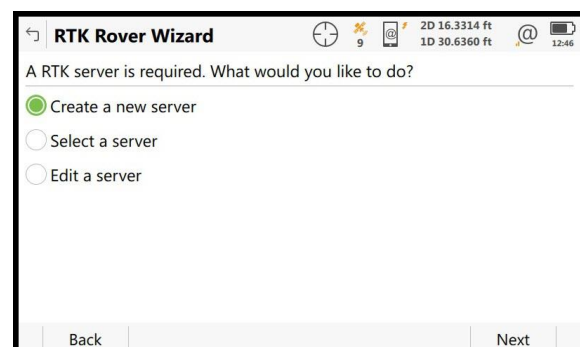
Select F6 Next

**Step 13-**

From the **RTK Rover Wizard**
A RTK server is required.
What would you like to do?

(•) Create a new server

Select F6 Next



Step 14-

From the **RTK Rover Wizard**
Enter new server details

Server name: MA CORS RTN
Address: 64.28.83.185
Port: 10000
Use NTRIP with this server [✓]
Enter your NTRIP user ID
Enter your NTRIP password

Select F6 Next

NEW ADDRESS: 66.128.64.251

Step 15-

From the **RTK Rover Wizard**
A mountpoint is required.
What would you like to do?

(•) Select mountpoint from source table

Select F6 Next

Step 16-

From the **RTK Rover Wizard**
Choose a mountpoint.

From the **Mountpoint** drop-down menu, Browse the list, **select a Mountpoint**, The Identifier, Format, Solution and System details, describe the Mountpoints, or RTK Data Product.

Select F6 Next

Step 17-

From the **RTK Rover Wizard**
Enter the RTK network details

Receive RTK Corrections from RTK
[✓]
network

Network type [Nearest]

If you selected a **Nearsite** Mountpoint,
You MUST select/match the **Network**
type: [Nearest]

Select F6 Next

The Network type **Nearest** = Single Baseline RTK Corrections from the Closest Network RTK Base, Based on the RTK Rover's position.

Step 18- (Other mountpoint options)

From the **RTK Rover Wizard**
Choose a mountpoint

From the **Mountpoint** drop-down menu, Browse the list, **select a Mountpoint**, The Identifier, Format, Solution and System details, describe the Mountpoints, or RTK Data Product.

Select F6 Next

Step 19-

From the **RTK Rover Wizard**
Enter the RTK network details

Receive RTK Corrections from RTK
[✓]
network

Network type [i-MAX]

If you selected a **i-MAX** Mountpoint,
You MUST select/match the **Network**
type: [i-MAX]

Select F6 Next

The Network type **i-MAX** = Network RTK Corrections from Multiple Network RTK Base Stations, based on your RTK Rover's position. The Network RTK Server computes these **i-MAX** RTK Corrections, sends them to the Network RTK Rover.

Step 20- (Other mountpoint options)

From the **RTK Rover Wizard**
Choose a mountpoint

From the **Mountpoint** drop-down menu, Browse the list, **select a Mountpoint**, The Identifier, Format, Solution and System details, describe the Mountpoints, or RTK Data Product.

Select F6 Next

RTK Rover Wizard

Choose a mountpoint.

Mountpoint	RTCM3_MAX
Identifier	RTCM3_MAX
Format	RTCM 3
Solution	Network
System	GPS & GLONASS

Back Next

Step 21-

From the **RTK Rover Wizard**
Enter the RTK network details

Receive RTK Corrections from RTK [✓] network

Network type [MAX]

If you selected a **MAX** Mountpoint,
You MUST select/match the **Network type: [MAX]**

Select F6 Next

RTK Rover Wizard

Enter the RTK network details

Receive RTK corrections from RTK network	<input checked="" type="checkbox"/>
Network type	MAX
Send GGA message	<input checked="" type="checkbox"/>
Send user ID	<input type="checkbox"/>

Back Next

The Network type **MAX** = MAX Network
RTK Corrections from Multiple Network RTK Base
Stations, based on the RTK Rover's position.
The RTK Rover computes the MAX Network solution.

Step 22-

From the **RTK Rover Wizard**
Enter the RTK Network details

RTK data format [RTCM v3]
Sensor at Base [Automatically detect]
Antenna at Base [ADVNULLANTENNA]

Select F6 Next

RTK Rover Wizard

Enter the RTK connection details

RTK data format	RTCM v3
Sensor at base	Automatically detect
Antenna at base	ADVNULLANTENNA
RTK base has a unique ID	<input type="checkbox"/>
Use auto coordinate system	<input type="checkbox"/>
Receive RTK network information	<input type="checkbox"/>

Back Next

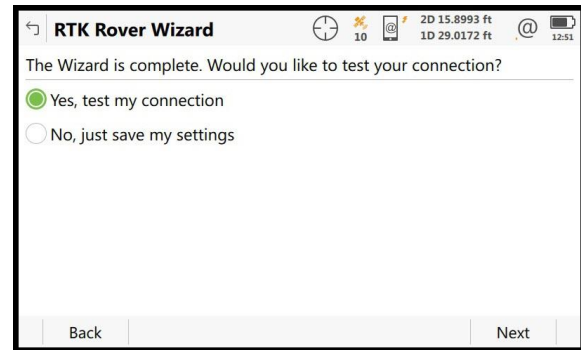
Step 23-**From the RTK Rover Wizard**

The Wizard is complete. Would you like to test your connection?

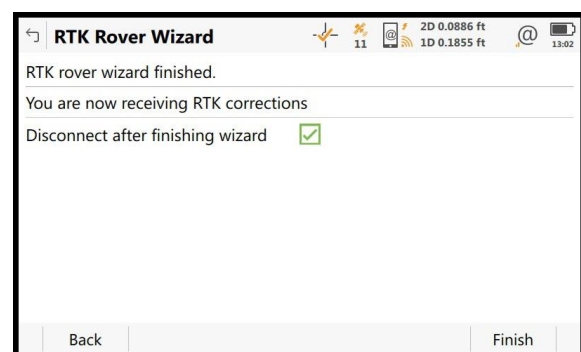
(•) Yes, Test my connection

This tests/verifies the New Servers IP Address, Port and User's Credentials...

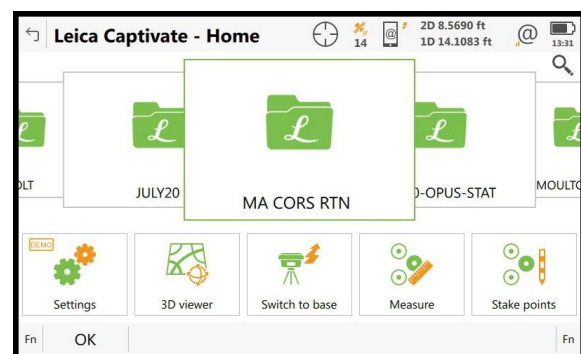
Select F6 Next

**Step 24-****From the RTK Rover Wizard, RTK rover wizard finished**

Select F6 Finish

**Step 25-**

The User is returned to the Captivate Main Menu



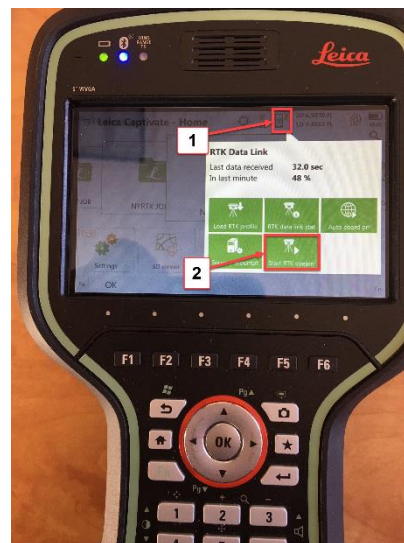
Step 26-

To Start the RTK Data Stream,

(1) *Using the Stylus, Tap on the Cellphone icon on the Top-Row Task Bar,*

(2) Then Select/Tap **Start RTK Stream**,

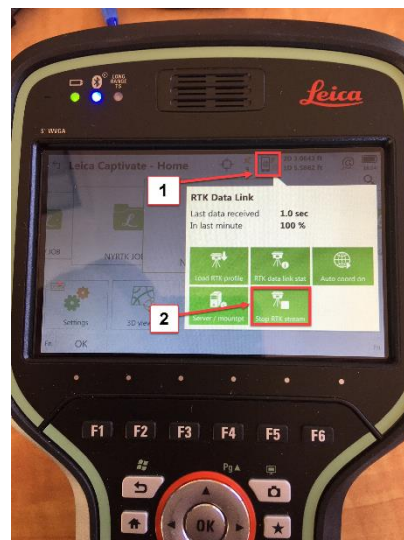
This will Start the RTK Data Link, the RTK Rover will iterate from an Autonomous/Navigated GNSS Solution to a RTK Float Solution, then to a RTK Fixed Solution, so the RTK user can Start Measuring, or Staking Out Points

**Step 27-**

To Stop the RTK Data Stream,

(1) *Using the Stylus, Tap on the Cellphone icon on the Top-Row Task Bar,*

(2) Then Select/Tap **Stop RTK Stream**, This will stop the RTK Data Link.



If you need technical assistance configuring the Internet Connection; configuring the Cellular Modem Device in the Leica CS20 Data Controller, or the Cellular Modem device in the Leica GS16 GNSS receiver; there are PDF Quick Guides available on the MTS Blog page, that provide detailed instructions for Configuring the Data Controller, or GNSS Receiver's internal Cellular Data Modems using AT&T GSM/GPRS cellular network, or Verizon Wireless CDMA cellular Networks for Network RTK Rovers.

blog.mainetechnical.com

Filename: GS16-CS20-RTK Rover Wizard_MACORS Quick Guide_Rev1.2