

Creating a Network RTK Configuration on the Hiper II using MagNET Field

From the main screen in MagNET Field.





This will take you to the flowing page.





From here we select the Survey icon

This will display the config menu, here you will see the current configurations set for both GPS_{+} and Total Stations.

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In this guide all we are interested in is the GPS+ configuration. It may be set to "Default". Hit the drop down arrow to expand the available predefined configurations.

Surve	ey Config	
Select the create a N	Configuration for the lew Configuration.	lob or
_GPS+ Co	onfig ————	
Name	My Network RTK	
Coptical C	<default> My RTK My Network DGPS</default>	
Name	My RT DGPS	
	My PP Static	
	My PP Kinematic	
	My PP DGPS	
	My Network RTK	

From the list, select "My Network RTK"

Press the **configuration** icon to the right of the GPS+

Configurati	ons	\checkmark	
Configuration I	lame	Туре	
My RTK		RTK	
My Network DO	iPS	RTK	
My RT DGPS		Real Time D	GPS/N
My Generic NM	EA	Real Time D	GPS/N
My PP Static		PP Static	
My PP Kinemati	с	PP Kinematic	
My PP DGPS		PP DGPS	
My Network RT	К	Network RTk	(
	III		
Delete	<u>E</u> dit	Ad	d

In the configurations screen, the configuration selected is still highlighted. This is the configuration we wish to edit, leave the My Network RTK

highlighted and press



Survey	\checkmark
Name	My Network RTK
Туре	Network RTK
Corrections	VRS
	<u>N</u> ext >>

Now we start with the editable options in the configuration. The configuration name can be changed if required.

Type – should be set to Network RTK

Corrections - should be set to VRS





The Rover Manufacture should be set to Topcon.

Simulation Mode should be left UNCHECKED.

RAW data can be recorded on the Hiper II to run post processing exercises, if required check the Post Processing box or leave unchecked if post processing is not required.

For this guide we will leave post processing unchecked.

Press	<u>N</u> ext >	>	
Rover	Receive	er	\checkmark
🖌 Ext. Re	ceiver	Bluetooth	
Receiver M	lodel	Hiper II	
Elevation N	1ask	13	deg
Protocol	Hiper II		
Ant Ht	2 000	m	
Ant fit	Vertical		
Periphera	als <	< <u>B</u> ack	<u>N</u> ext >>

The parameters in the Rover Receiver menu should be set as above.

Ensure Ext Receiver is checked (external receiver)

Ensure the Receiver Model is set to Hiper II

The Elevation mask can be defined as required.

Protocol should be set to NTRIP

Antenna should be Hiper II

Antenna Ht defaults to 2meters but can be set as required.

Measurement method can be vertical or slant.



The Modem Connect should be set to Receiver in this case if a field controller is used which does not



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contain an internal modem, the GPRS modem in the Hiper II receiver will be used in this example.

Press Next >>

Rover	· Radio
Radio Mo	dem
Internal G	PRS (legacy)
_┌ Port Conr	ected to Modem
Port	C
Baud	115200
Data	8
Parity	None
Stop	1
Modem	HiperII Digital UHF 💽
	<u>D</u> efaults
	<< <u>B</u> ack <u>N</u> ext >>

The Rover Radio in this case is the internal GPRS modem.

Network Type should be set to Internal GPRS (legacy).

The baud rate should be set to 115200

All other parameters are set by default to the correct values.

Press Ne	xt >>	
Config: Mo Internet Info - Address	odem Internet I 🛛	
Name <u>A</u> dd new	/ <u>U</u> pda	ite
Address list:	● IP	Web
Delete	Use (SPUID
	<< <u>B</u> ack	ext >>

::Quick Guide YR SUBJ NUM:: t: 01224 66 99 99 e: <u>support@topconsokkia.co.uk</u> w: www.topcon-positioning.eu The internet info is the TopNET or NTRIP server IP address or host name.

Tap in the address field to enter an IP address



Use the op screen keyboard to enter the IP address as above.

Press

when the address has been entered.

Press Add new to update the IP address to the available server list.

4odem	Internet I	🗸 🔰
88.8	36.109.13	5:2101
×۷	Ļ	<u>I</u> pdate
	🔘 IP	🔘 Web
5:2101		
	4odem 88.8 85:2101	4odem Internet I 88.86.109.13

To enter a host name rather than an IP address, select Web rather than IP below the update button.

Add new	ļ	<u>I</u> pdate
Address list:	● IP	💽 Web

Then instead of entering an IP address, enter the host name of the server as below.

M							4	\checkmark	×
uk.t	uk.topnetlive.com:2101						ear		
									0000
1	2	З	4	5	6	7	8	9	0
~	w		٣	÷	v		i	^	

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Add new Press

to update the server list.

Config: Moo	dem Internet I √ 🗙		
Address	uk.topnetlive.com:2101		
Name			
Add new	<u>U</u> pdate		
Address list:	🔵 IP 🛛 🔘 Web		
88.86.109.135:2101			
uk.topnetlive.com:2101			

Either method works in MagNET Field although the host name is the preferred method of connecting from a user point of view. It reduces the potential need to change IP addresses should any server issues arise.

Next >>Press

Config: Logir	n Info	 X
Credentials —		
User ID	test	
Password	test	

Enter your NTRIP user ID and Password, these would have been provided on an email from

info@topnetlive.com

if you have lost or forgotten your NTRIP detail please email topnetlive@topconsokkia.co.uk

Next >>Press

Config: Mo	dem Dialup Info 🗹 🔀
Provider	UK/Vodafone (contra 💌
Dialup Num	*99***1#
User ID	web
Password	web
PIN	0000
APN	internet
	<u>D</u> efaults
[<< <u>B</u> ack <u>N</u> ext >>

Select your SIM card provider from the dropdown list.





In the Topo Survey Parameters options we now move on to options that are definable by the user.

Two measurement options are available which will correspond to two record buttons in the Topo data collection screen.

A Precise observation where the epoch count may be set to >3 for example and quick observation option which allows the epoch rate to be set lower.



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This essentially allows the user to have the option in the field of recording at two possible epoch rates without having to enter the settings menu each time to change the recording intervals.

Solution Type should be set to Fixed Only.

Number of measurements to Average is the number of epochs per measurement.

Precision, if checked the measurement will not be recorded until the Horiz and Vert values defined here are met.

Quick, set the epoch rate to a lower value than the precise option i.e 1, the solution type should remain set to fixed only.



Auto Topo options, for automatic point collection by time or by distance. The interval and Method can be defined as required.

Press

Stake out or setting out parameters.

M Stake Settings	∕ 🗙
Horiz Distance Tolerance	
0.050	m
Reference Direction	
Moving Direction	
<< <u>B</u> ack <u>N</u> e	xt >>

The default is 50mm for setting out, this can be defined by the user as can the reference direction.



Solution Type should again be left to Fixed Only.

The selectable options here in the Stake Settings page are the same as previously seen on the Topo Survey screen and can be set and used in exactly the same way.



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The stake parameters, if a point staked out is recorded in the field the point will be stored as the same point ID but with Suffix _stk for example 100_STK to indicate that point was recorded in stake out mode. This test can be changed as per the user's requirements.



In the Advanced Tab for standard Network RTK operation all options should be UNCHECKED.

The satellite system set to GPS+GLONASS.

RTK Position set to Extrapolation.

Base Station Make set to Automatic Detection.



м	Miscellaneous	\checkmark	$\boldsymbol{\times}$
	Display coordinates after measurement		
	Prompt for antenna height		
V	Beep on storing points		
V	Auto-connect to server		
	Check signal quality		
<	Auto-disconnect from server		
	<< <u>B</u> ack		

In the Miscellaneous menu select any prompts and alarms that you may wish to use. The screen shot above shows the default options checked.

Press the **M** to confirm and complete the configuration.

This will take you back to the configuration list.

Configurations	
Configuration Name	Туре
My RTK	RTK
My Network DGPS	RTK
My RT DGPS	Real Time DGPS/N
My Generic NMEA	Real Time DGPS/N
My PP Static	PP Static
My PP Kinematic	PP Kinematic
My PP DGPS	PP DGPS
My Network RTK	Network RTK
Delete Edit	Add

Press the *icon* to return to the main configuration screen.



Surv Select the	rey Config e Configuration for	the Job or
create a	New Configuration.	
-GPS+ C	onfig ———	
Name	My Network RTK	····
-Optical	Config ———	
Name	<default></default>	

Press the kicon to go to the connection page.

🔤 Connections 🛛 😼 💮 🕋
General Enterprise
Device type
● GPS My Network RTK 🔽 📟
Optical <default></default>
Y Prompt at startup
Connect

At this point we are ready in initiate the connection to the internet and NTRIP sever to start our field work.

If we do not wish to connect at this time, press the icon to return to the MagNET home page.

То	initiate	the	<u>connection</u>	press
Connect				



The connection will be established. If the message "no mount point to connect to automatically, please select one" is displayed. Press the drop down arrow above.

Mount PT	1
VRS_GG_CMR+;VRS_GG_CM	R+;CMR+;🔽
Test_Zero_Offset;Test_Zero_	Offset;RT(🔺
VRS_GG_CMR;VRS_GG_CMR;	CMR;1(10
VRS_GG_CMR+;VRS_GG_CM	R+;CMR+;
VRS_GG_RTCM2.3;VRS_GG_F	RTCM2.3;R
VRS_GG_RTCM3.0;VRS_GG_F	KICM3.U;R
VRS_G_RTCM2.5;VRS_G_RTC	MZ.SKIC
Stop	Connect

Select the required mount point. For standard Network RTK this should be:

NRTK_GG_RTCM3.0

Connect Press





Once the connection to the server has been established, user name and password verified the message Data received.... will be displayed.

Press the icon to return to the MagNET Field home screen.

We are now ready to work.