HELPDESK SBGUIDANCE

2018

RAVEN

HELPDESK SBGUIDANCE

2017

RAVEN

Signal

Error Messages

Steering

FAQ

MAIN MENU

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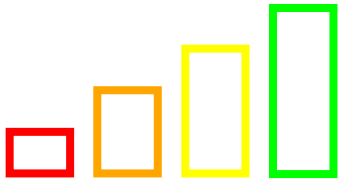
1. Check GPS modus, you can find this at the right top button in the screen



No GPS

No correction signals

SIGNAL

1. Choose the right type of antenna

Septentrio

NO GPS

1. Follow the next steps to find out what the problem is

Make sure the tractor is outside, the antenna has a clear view and is mounted on the roof of the tractor.

1. Check cabling
2. Replace antenna & cable
3. Set up GPS receiver
4. Measure terminal connector

SEPTENTRIO

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1. Check if the antenna cable is connected with the antenna. Choose the right type of terminal and look where the antenna cable needs to be connected. GPS1 = tractor GPS2 = implement

GeoStar 200 / 250

Viper 4 / 4+

Solved

Not solved

CHECK CABLING

1. Visual control antenna cable
2. Rusty?
3. Inner pin skewed?

TWIN steering → change GPS antennas to check

4. Replace antenna cable and antenna.

Solved

Not solved

REPLACE ANTENNA & CABLE

1. When you are sure the antenna and antenna cable are in order, the GPS receiver can be reset.

   Open the Configurator and GO to Interfaces → GPS → Septentrio Receivers.
   Select the right receiver, port and baudrate. Press on Connect.

   Choose at Channel configuration Single or Multi.

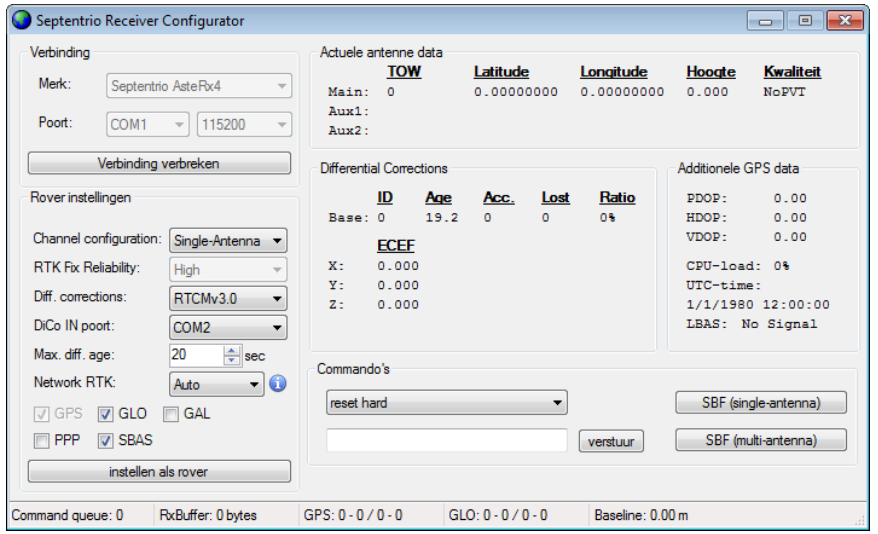
   Choose the right type of Diff. corrections, RTCMv3.0 or CMR

   Press on Setup as Rover

   Wait till Command queue is on 0.

   Press on SBF (single-antenna) for one antenna
   Press on SBG (multi-antenna) for two antenna's

   Setup for Septentrio AsteRx4 Viper 4(+)



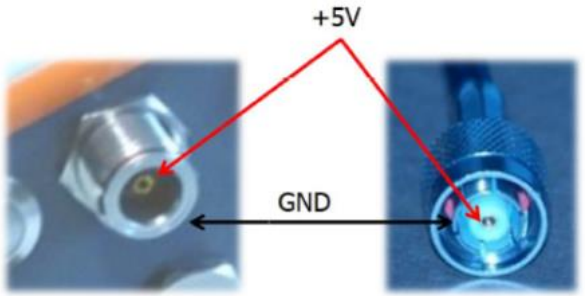
Solved

Not solved

SET UP GPS RECEIVER

1. Measure the GPS connector at the terminal, this should be 5V. When there is no 5V the terminal must be repaired at Raven Europe.

Solved

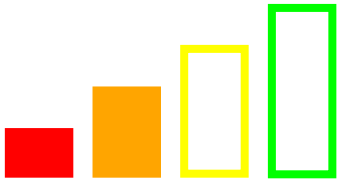


MEASURE TERMINAL CONNECTOR

1. Choose the way the corrections should be received

Base station

GSM modem
(Geoconnect, Slingshot)



NO CORRECTION SIGNALS

1. Choose the type of modem

GeoConnect

SlingShot

GSM MODEM

1. Follow the next steps to find out what the problem is.

1. Check cabling

2. Settings

GEOCONNECT

1. Antenna connected?
2. Power cable connected?
3. Ethernet cable connected?

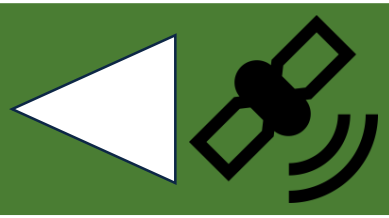
- Viper 4 adapter harness, Dico In & Dico Out connected?
- Viper 4 terminal harness, RTK-COR & COM5 connected?

4. Led Power is on?
5. GSM antenna has a clear view?

6. Unscrew the cap and remove the SIM card, clean the card and the housing and replace the SIM card.

Solved

Not solved



CHECK CABLING

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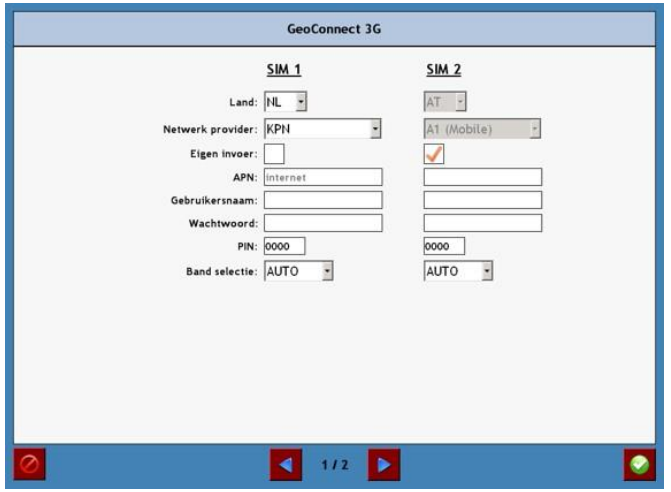
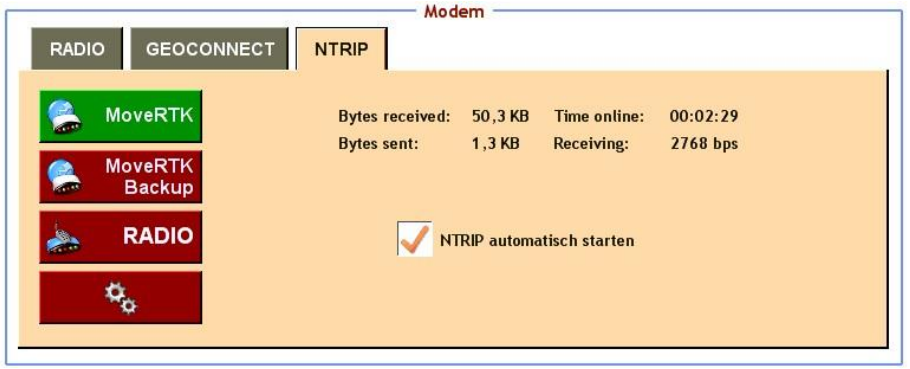
1. No/bad internet
   - Settings correct? Settings > GPS > Modem > Geoconnect > Change settings

2. Change internet mode 2G or 3G
3. Provider malfunction?

4. Move-RTK button must be green and receiving frames must raise to receive correction signals
   - If not, try MoveRTK Backup or another correction profile by pressing the sprocket wheel button



Solved



SETTINGS

1. Follow the next steps to find out what the problem is

1. Check cabling

2. Settings Terminal

3. Settings Portal

SLINGSHOT

1. Press on the magnifier to take a closer look on the cabling.

2. Some notes:
   - Antenna's connected? 2x Laird 1x patch antenna
   - Power cable connected?
   - Ethernet cable connected?

   - Viper 4 adapter harness, Dico In connected to SlingShot modem?
   - Viper 4, RTK-COR connected to SlingShot modem?

Solved

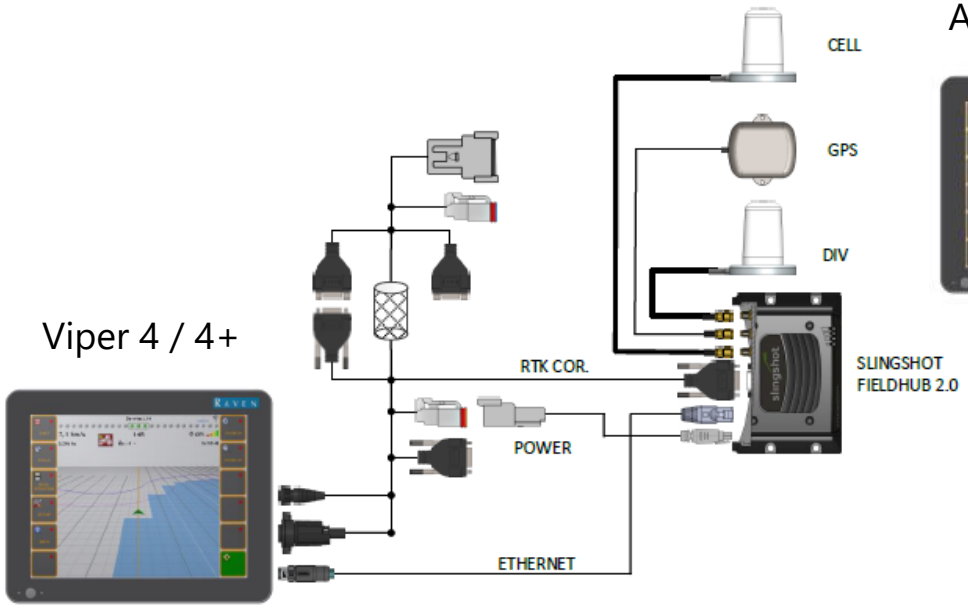
3. Slingshot is on?
4. Antenna's have a clear view?

5. Field hub 1: take out the SIM card, clean the card and the housing and replace the SIM card.

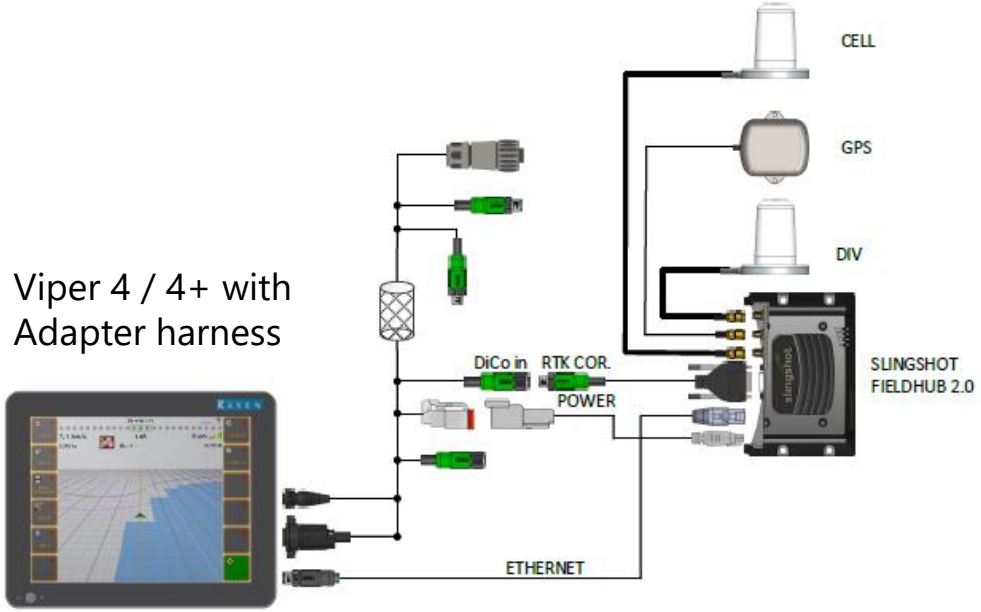
Not solved

CHECK CABLING

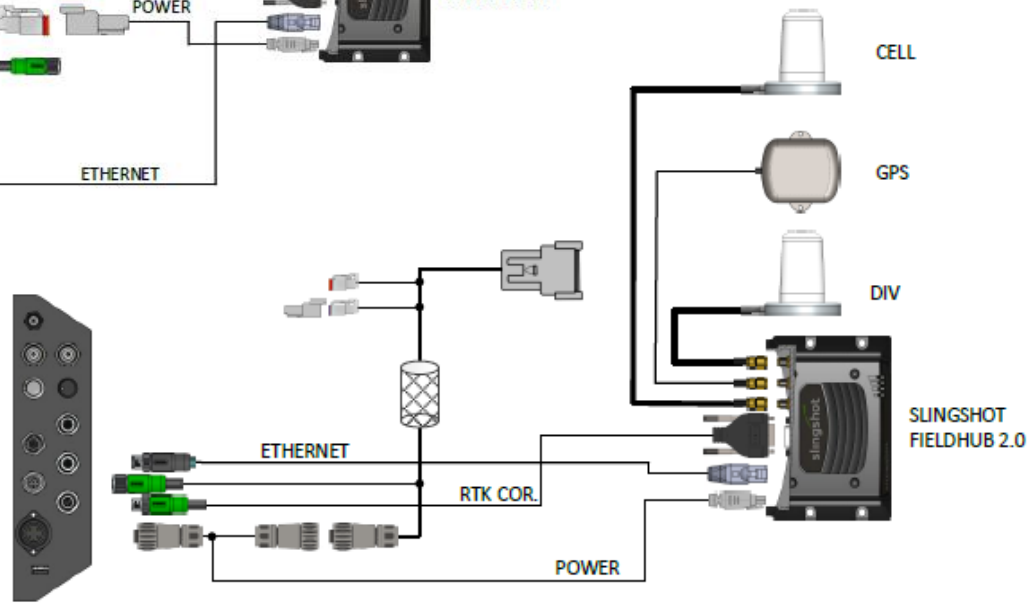
Viper 4 / 4+



Viper 4 / 4+ with
Adapter harness



Geostar 200/250

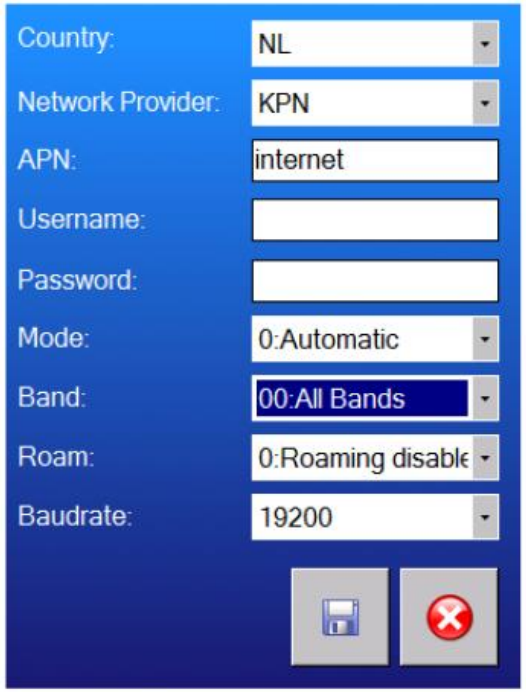


CHECK CABLING

1. Settings correct?
   - Start the SlingShot Manager and connect to the modem, press on the question mark. Be sure the right data is used.
   - No Username and Password must be filled in here.
   - Baudrate always on 19200

2. Change internet mode 2G, 3G or 4G (at SlingShot Field Hub 2.0) (Change ‘’Band”)
3. Provider malfunction?

4. Move-RTK button must be green in SBGuidance (Settings > GPS > Modem > NTRIP). If not, try MoveRTK Backup profile.



Solved

Not solved

KPN		**MoveRTK**		**Vodafone particulier**	
APN:	internet	APN:	m2m-gps	APN:	live.vodafone.com
Username:		Username:		Username:	vodafone
Password:		Password:		Password:	vodafone

SETTINGS TERMINAL

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1. Fill in the IMEI number at Manage > Field Hubs > Field Hub ID
2. Press Search
3. Press on the Field Hub
4. Check Field Hub Status, this must be Green and Ignition ON

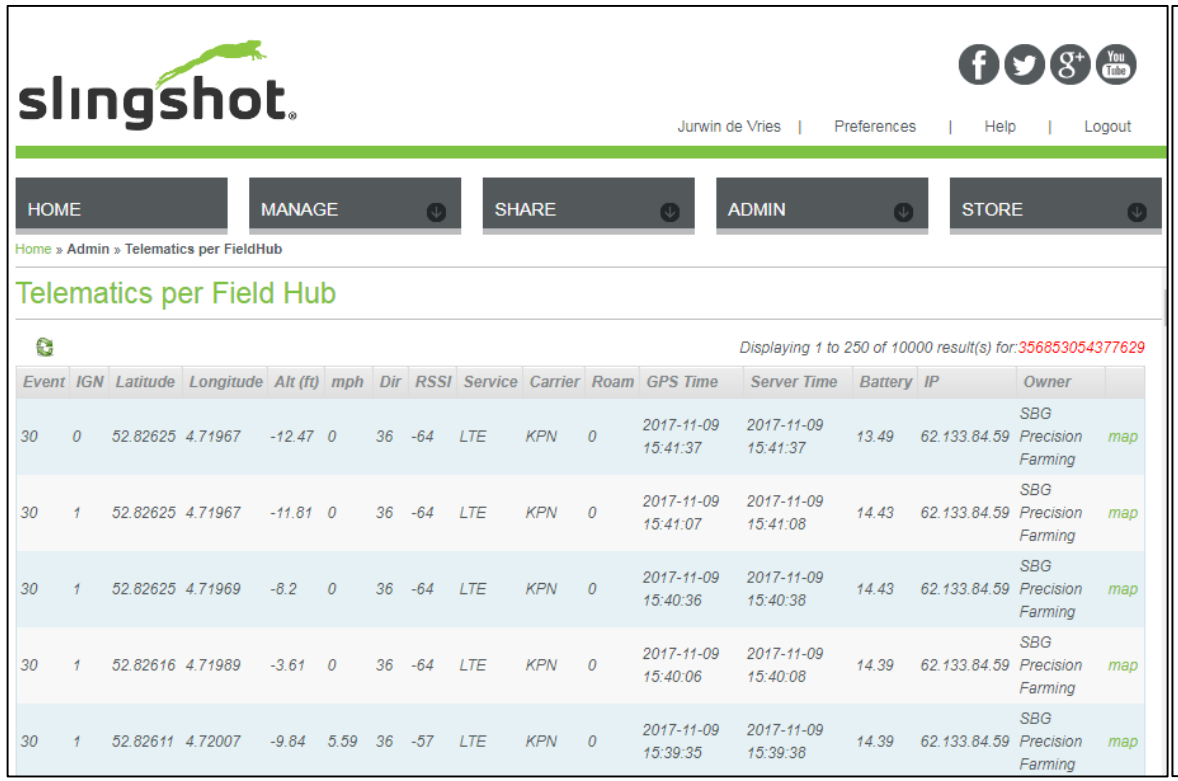
5. Press on Correction Profiles and see if there is a Profile activated. Press on the pencil to check the settings of the Profile such as Username and Password.

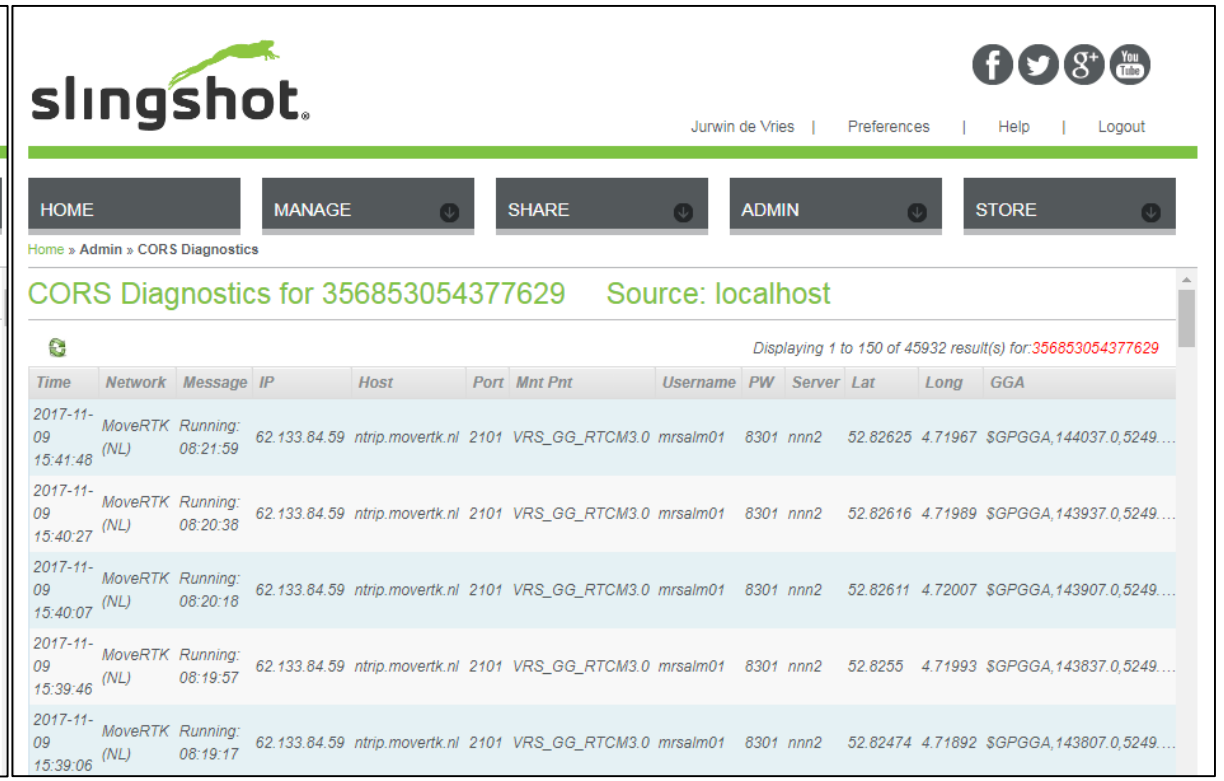
6. Press on Telematics and see if there is a GPS location. If not, the Patch antenna is not connected or broken.

7. Press on View Last Reports and/or View CORS Diagnostics. Check if the system is connected with a network.

Solved

SETTINGS PORTAL





SLINGSHOT PORTAL

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1. Choose the way the corrections should be received

Base station

BASE STATION (RADIO)

1. Follow the next steps to find out what the problem is.

1. Check cabling

2. Check settings

3. Other

BASE STATION

1. Check if the radioantenna cable is connected with the radioantenna. Choose the right type of terminal and look where the radioantenna cable needs to be connected.

GeoStar 200 / 250

Viper 4 / 4+

Solved

Not solved

CHECK CABLING

1. First check if ‘’Enable internal SATEL radio” is on. You can find this setting at Setup > GPS > Modem.

2. Go to the Base Manager.

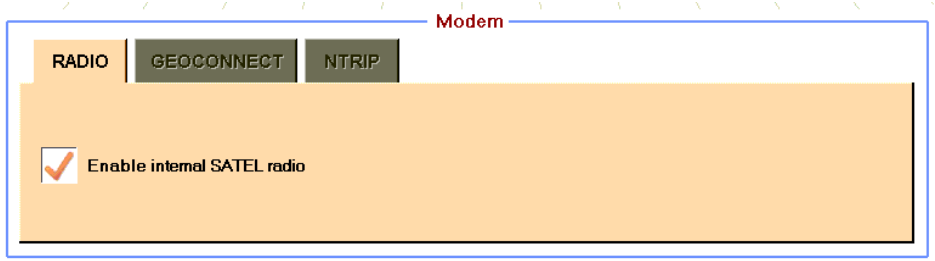
   The ideal situation is shown in the figure.

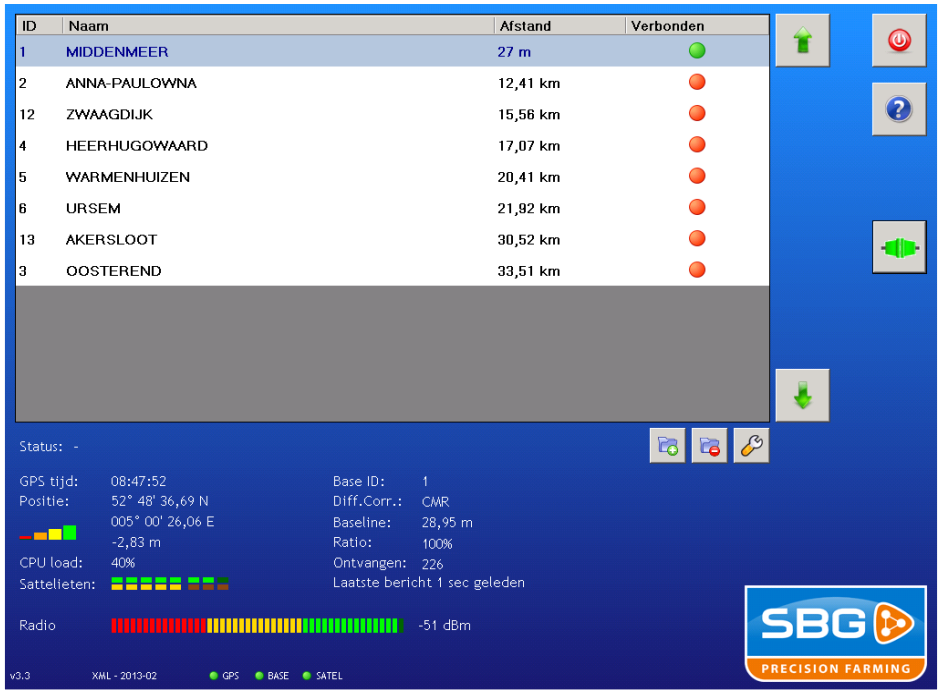
   The Base Station is less than 10 kilometers away, and the terminal is connected with it. (green sign)

   If not connected (red or orange) select a station and press on the two red connectors.

   If the system doesn’t connect, try another Base Station.

   Check the settings of the Base Station by selecting the station and press the tool button.





Solved

Not solved

CHECK SETTINGS

1. When the system doesn't connect with any Base Station and the radio signal is -118 dBm replace the radio antenna and/or cable.

2. If the settings are correct and the radioantenna is connected call Raven Europe to ask if there is something wrong with the Base Station.

3. When the settings are correct and the radio antenna is not the problem there could be something wrong with the terminal.

Solved

OTHER

1. Check if the radioantenna cable is connected with the radioantenna. Choose the right type of terminal and look where the radioantenna cable needs to be connected.

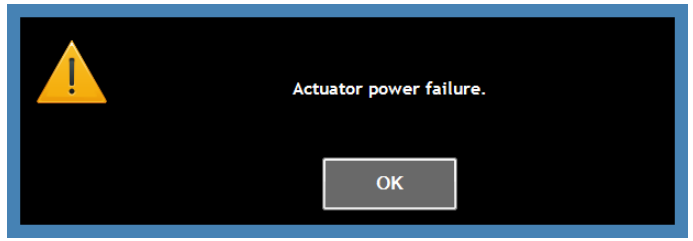
GeoStar 200 / 250

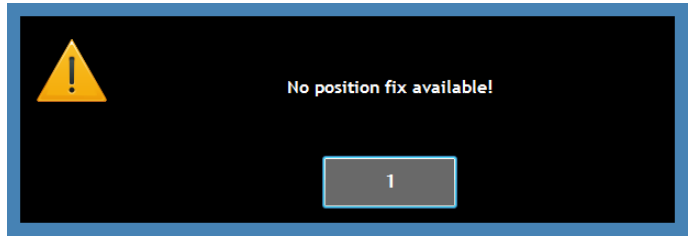
Viper 4 / 4+

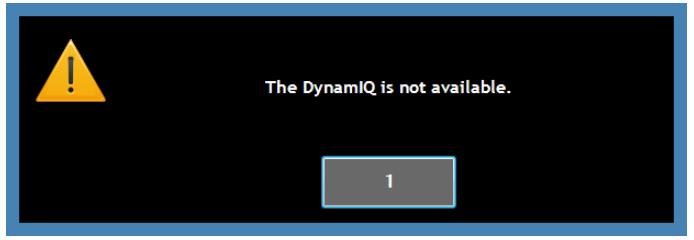
Solved

Not solved

CHECK CABLING ON TERMINAL







ERROR MESSAGES

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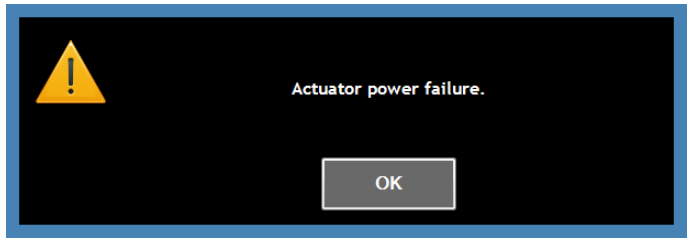
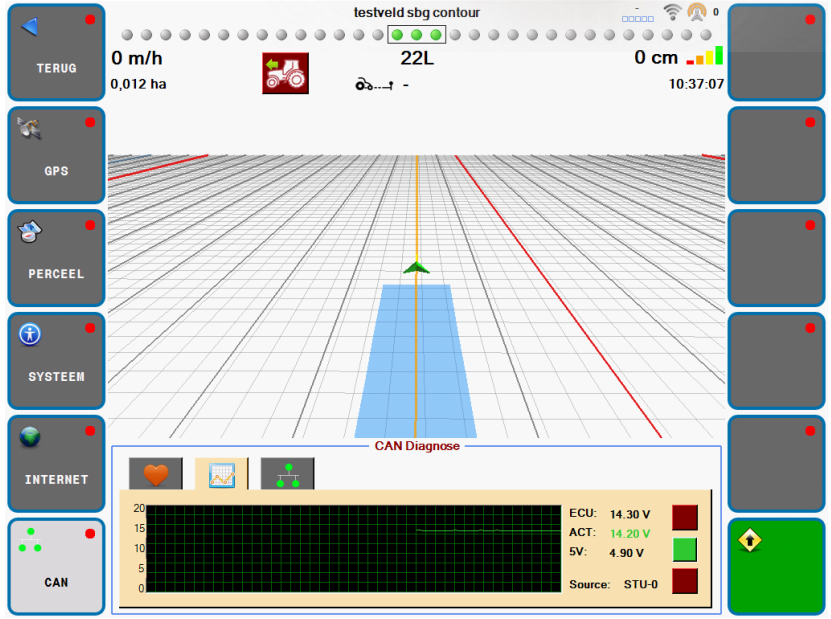
1. Check at Info > CAN > second tab if ACT Power is around 14V. If ACT is 0 check relays, fuses and cabling.

2. ACT is around 14V try another STU.

3. Replacing the STU by another one can indicate that the STU is broken.

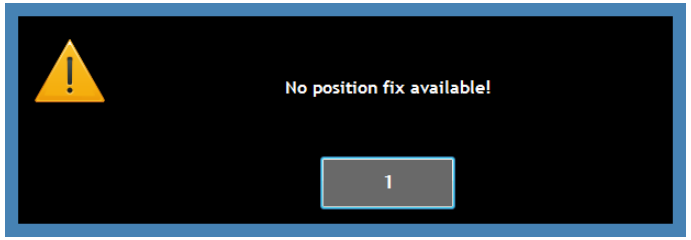




ERROR MESSAGES

1. The system should work with RTK-GPS but the system is not in RTK modus at the moment.

   Find out what the problem is: No correction signal



ERROR MESSAGES

1. The system should work with RTK-GPS but the system is not in RTK modus at the moment.

   Find out what the problem is: No GPS signal

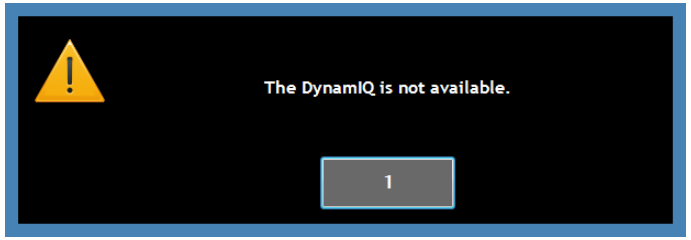
ERROR MESSAGES

No communication with DynamIQ.

1. Check relays, fuses and cabling.
2. Check the CAN connector at the terminal.

3. Switch off the terminal and measure the CAN resistance on the green and yellow wires at the DynamIQ and STU (grey Deutsch connector)
   - Implement Ready without implement 120 Ohm
   - Implement Ready with implement 60 Ohm
   - Basic Harness 60 Ohm

4. Replacing the DynamIQ by another one can indicate that the DynamIQ is broken.



ERROR MESSAGES

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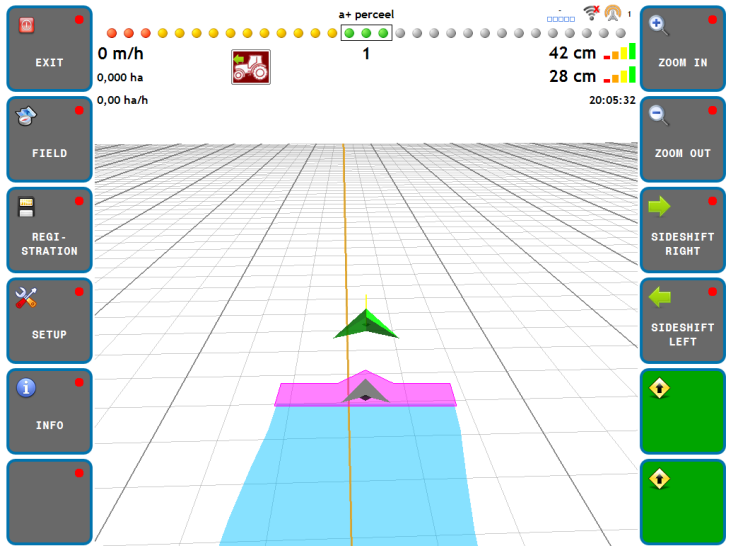
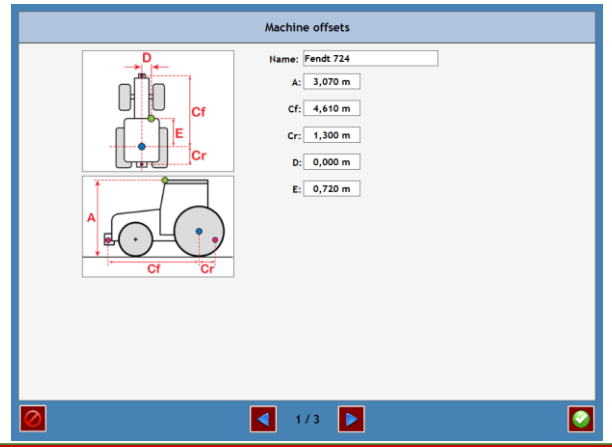
1. If there is a problem with steering in combination with SBGuidance follow the next steps to find out what the problem is. First choose where the problem is, tractor steering or implement steering.



Tractor

Make sure all the offsets are correct! You can find the offsets at Settings > Offsets.



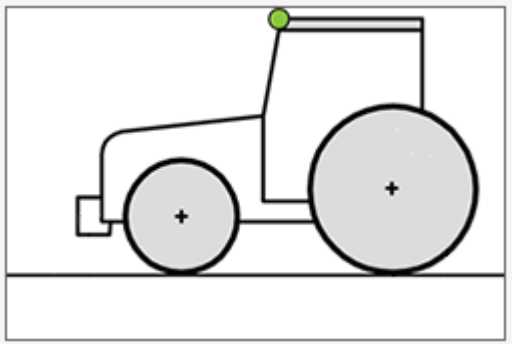
STEERING

1. Choose the type of steering system the customer is using.

Examples of a Steer Ready are:

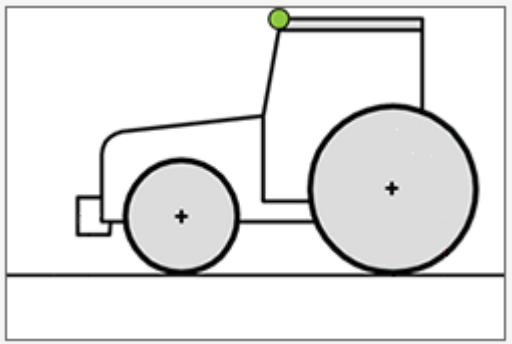
- Fendt VarioGuide
- New Holland IntelliSteer
- Massey Ferguson AutoGuide
- John Deere AutoTrac Ready
- Claas ATP Ready
- Deutz Fahr AgroSky
- Valtra AutoGuide

Non Steer Ready
(SBG/Raven Manifold)



TRACTOR STEERING

1. Choose the topic that most closely relates to the problem



- Steering too agressive
- Tractor is only steering to one side
- Steering too slow
- Disengage problems
- Tractor is swinging
- *Intentionally left blank for your own information*
- Tractor drives next to the line
- *Intentionally left blank for your own information*

NON STEER READY

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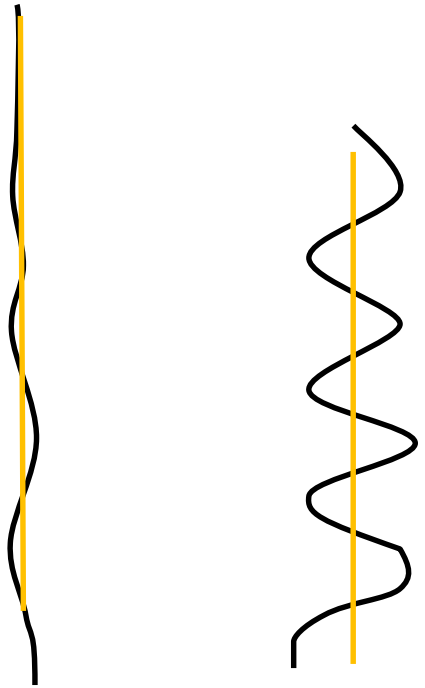
Gain too high

Tractor is driving like the pictures right.

1. Lower the value of the Gain.

2. If it is not getting better you can also check the minimum steering values.



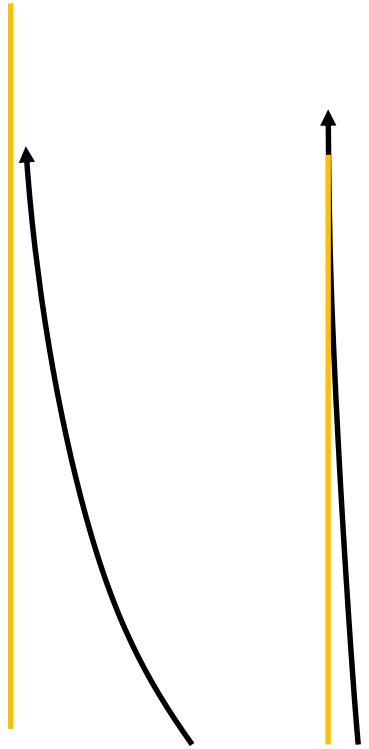
STEERING TOO AGGRESSIVE

Gain too low

Tractor is driving like the pictures right.

1. Raise the value of the gain.

2. If it is not getting better you can also check the minimum steering values.



STEERING TOO SLOW

1. Try to find out where the problem is:

   - Steering can be too aggressive: Steering too agressive
   - Steering can be too slow: Steering too slow
   - Wheel angle sensor problem: Wheel angle sensor

At all times: be sure the configuration of the steering controller in the CANTool is as good as possible! That means:

- Left, right and center values of wheel sensor correct
- Min. and max. steering values correct
- Propotional gain correct value

TRACTOR IS SWINGING

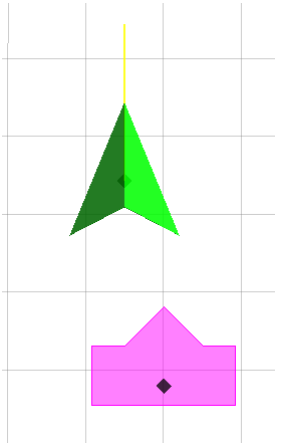
1. Probably the center of the wheel angle sensor has a wrong value. Drive manually a straight line and see what the center position should be. Change the value and try again.

Change the value of the wheel center in the next screen:

You will find the disengage setting in SBGuidance at Setup > Vehicle > button gearwheels at the right bottom side > next page

2. Make sure there is no virtual implement (‘purple machine’) mounted with a D-offset!

Go to Setup > Vehicle > Offsets to change the D-offset



TRACTOR DRIVES NEXT TO THE LINE

1. Check the voltage of the wheel angle sensor. When the sensor is broken, the voltage is 0 and the system only wants to steer to one side.

2. Go to the CANTool in the configurator and go to the settings page of the steering values. Press on the Test buttons and see if you press for example Left the wheels turns to the left. If not, place a checkmark at Invert L/R.

3. Check if Left and Right is working correctly.

TRACTOR IS ONLY STEERING TO ONE SIDE

1. Automatic steering disengages too easy?
   - Raise the disengage value

2. Disengaging automatic steering is too hard?
   - Lower the disengage value

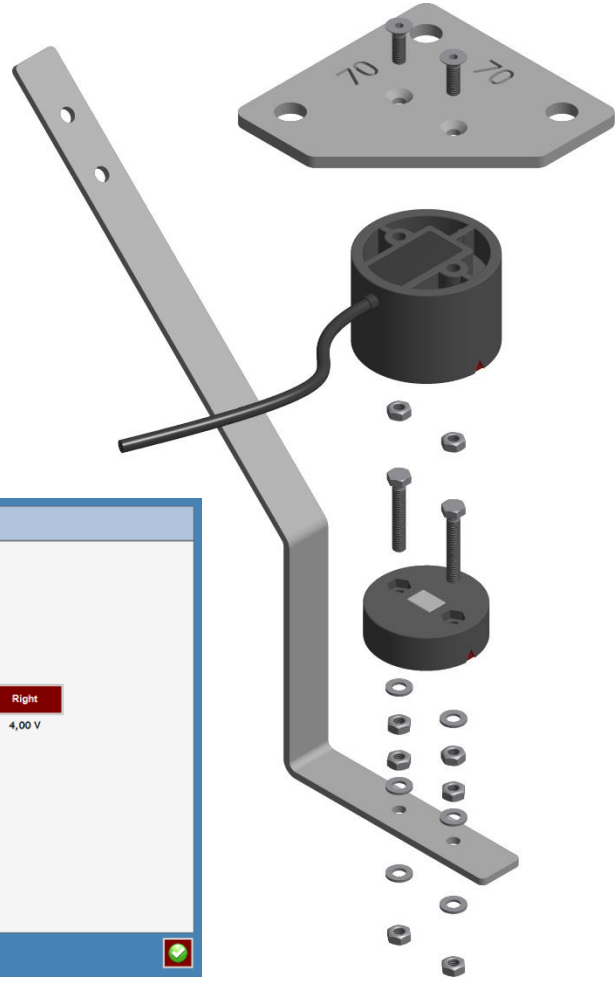
You will find the disengage setting in SBGuidance at Settings > Vehicle > button gearwheels at the right bottom side > next page

DISENGAGE PROBLEMS

In some cases the tractor can be swinging around the guidance line because of a problem with the wheel angle sensor. Figure out if the wheel angle sensor is working correctly:

1. Go to Settings > Vehicle and press on the gearwheels button at the right bottom side. Go to page 2
2. Now you see the actual value and the saved values of the sensor for left, centre and right.
3. Turn the steering wheel completely to the left and check if there is a voltage behind actual voltage. It should be something around 1-1,5 V
4. Now turn the steering wheel slowly to the right, and check if the actual value rises. There must be no gaps! (0 V) When the steering wheel is completely to the right the actual value will be around 4-4,5 V. The mentioned values for left and right can also be opposite.

If there are gaps (0 V) there is something wrong with the wheel angle sensor or the cable. Check the cable and sensor visually. You can disconnect the disk of the sensor and clean it. Replacing the sensor and/or cable can also declare the problem.



WHEEL ANGLE SENSOR PROBLEM

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I have no GPS, what is wrong?
First try to find out what the problem is, no GPS or no correction signals.

Steering controller not ready, what is wrong?

DynamIQ not available, what is wrong?

GPS is not working well, accuracy higher than 1-2 cm, what is wrong?
First try to find out which setting you need to change for a better result.

FAQ

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