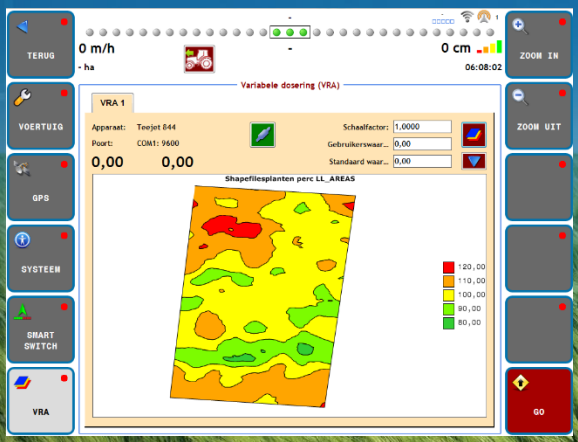
# VRA

## SBGUIDANCE 4.X

016-8000-023EN REV. A



User Manual

(English) (Original)

RAVEN

# PREFACE

This user manual is intended for persons responsible for working with the VRA application in SBGuidance. The manual contains important instructions that should be complied with when commissioning, operating and servicing the SBGuidance system.

This manual has been compiled with the utmost care. Raven Europe assumes no responsibility for any errors or omissions in this document.

Any comments or questions can be sent to service-eu@ravenind.com.

**Raven Europe or any of its suppliers will accept no liability for physical or material damage caused whilst using the SBGuidance system.**

The installed SBGuidance system produces less than 70dB (A) noise.

This user guide uses a number of concepts for extra attention to a few things:

**Tip:**
*Provides recommendations on how certain activities can be performed much easier.*

**Pleas note!:**
*Indicates certain problems that the user should take note of.*

**Caution!:**
*Indicates that the machine can be damaged.*

**Warning!:**
*Indicates a risk of injury.*

## DISCLAIMER

# WARNING!

- The safety instructions contained in the manuals of the tractor or implements must be complied with at all times.
- Always switch off the tractor before installing or repairing hydraulic and electrical components of the SBGuidance system.
- It is strictly prohibited to use the SBGuidance system on public roads.
- It is strictly prohibited to leave a driving vehicle unattended when the SBGuidance system is switched on. The driver is always responsible for the direction and course of the vehicle.
- To prevent injury or fire, replace defective fuses only with fuses of the same type and amperage.
- The SBGuidance the operating system is not able to detect and avoid obstacles. If there is an obstacle in your path, you will always need to take action for it to be avoided.
- Only allow authorized/qualified persons to operate the system. Authorized/qualified persons are defined as: persons who have read and understood the manual, have been given instructions by a product specialist, and who are both physically and mentally fit and able to operate the system.
- The system contains moving parts! Make sure the immediate environment is clear of people before operating the system.
- In case of system failure or breakdown switch of the tractor and disconnect the electrical power source to avoid further damage. Contact your dealer for further instructions on how to repair your system.
- Always wear personal protective equipment when operating/adjusting/repairing the system outside of the tractor cab.
- In order to prevent power surges from occurring, always start the machine first, before initiating the SBGuidance control system.

# PAY ATTENTION!

- Only touch the touch-screen with your finger or by using a special touch-screen stylus/pen. Operating the touch-screen with sharp objects may cause permanent damage to the screen.
- Always consult your supplier as to which products are best suited first before cleaning the touch-screen with chemicals or alcohol.
- If the terminal is not used for a long period, better remove the terminal from the tractor and store in a heated environment. This will extend the life span of the electronic components.
- To prevent theft, it is better to not let the terminal and GPS-antenna unattended in the tractor on the field.

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# 1 REQUIREMENTS

The SBGuidance system needs, depending on the type of terminal, some additional requirements.

## 1.1 LICENSE

To use VRA with SBGuidance, an additional license is needed. Contact your dealer for this license. It can be installed using Remote Support.

## 1.2 CABLING

VRA information is sent out using Rx / Tx communication through a serial cable.

### 1.2.1 VIPER 4 / VIPER 4+

To use VRA on a Viper 4 or Viper 4+ there is a serial RS232 connector in the cable harness (label VRA / NMEA2) as to see in Figure 1. This connector is used to transfer information.

A normal serial cable can be used to extend this cable to the receiving terminal (for example sprayer, seeder). A null-modem can be needed to change Rx / Tx.

*FIGURE 1 - VRA CONNECTOR*

### 1.2.2 GEOSTAR

To use VRA on a GeoStar (200 / 250), the M12 connector on the side of the terminal is used to transfer information. The next cable is needed:

11158000134 – HRNS, VRA COMMUNICATION

This cable has an M12 connector on one side and a standard serial RS232 connector on the other side.

# 2 SETTINGS SBGUIDANCE

After the needed license is installed, some settings need to be done in the dealer settings in the terminal (contact your dealer to set this settings).

## 2.1 SETTINGS DEALER

Go to the SBGuidance Configurator and select **Settings > Add-ons.** Checkmark the 'Variable Rate Application'.

Go to the tab '**VRA**' after this checkmark is set. Set the right protocol and the right COM-port (see Figure 2). The following protocols are integrated:

- Teejet 844
- Startec P530
- Raven SCS4000
- Miedema
- LH-Agro (LH5000)
- Kverneland
- Kuhn/Rauch
- Bollenplanter (Dutch type machine)
- Agrifac Condor
- Amazone Amatron+ (seeder)
- Amazone Amatron+ (sprayer)
- Amazone Amatron+ (spreader)

The COM-port for VRA 1 is standard COM4.

Also set up the filter (from which row in the .dbf file needs the value be selected). Standard are the columns named:

- rate
- rating
- dose
- dosering

If the supplier from the VRA map uses one of these names for the column in the .dbf file, it is not needed to change this filter.

If there is need for more VRA maps on one terminal, also set up the other protocols and COM-ports. The COM-ports for VRA 2 till VRA 4 are depending on the used connectors. Contact SBG when this needs to be set up.

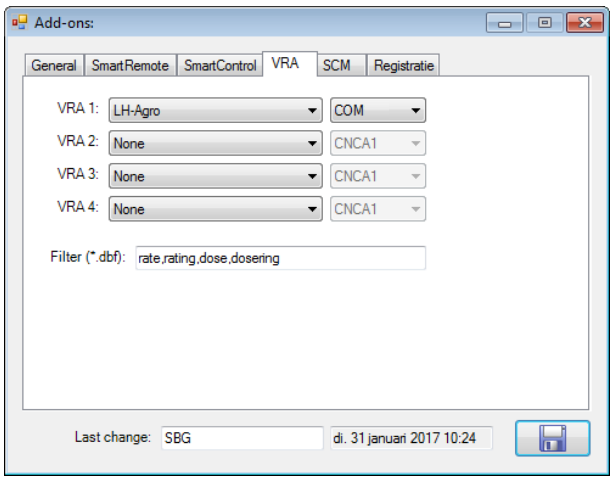


*FIGURE 2 - DEALER SETTINGS*

## 2.2 SETTINGS SBGUIDANCE

The VRA settings can be found in **Settings > VRA** (see Figure 3).

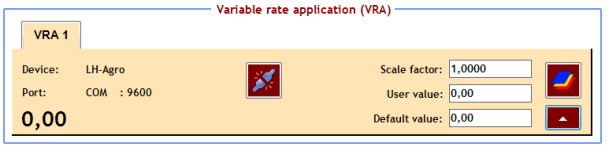


*FIGURE 3 - VRA IN SBGUIDANCE*

### 2.2.1 DEFINITION OF SETTINGS

Device: The device which is selected in the Dealer settings.

Port: The COM-port which is selected in the Dealer settings.

0,00: The current VRA value which is being sent out.

Scale factor: Scale the VRA-map value up or down (Normal = 100% = 1,00)

User value: Value which is being sent out when driving outside of the VRA-map

Default value: Value which overrules the VRA-value.

When VRA is connected to the selected COM-port, this button lights up green.

Load a VRA map from USB

Open up to see the loaded VRA map

### 2.2.2 LOAD VRA MAP

Set the VRA map (.shp, .shx, .dbf) on a USB stick. Plug the USB stick in the terminal.

Go to **Settings > VRA** and press to open the wizard to load a VRA map.

Press on (see Figure 4) to search for VRA maps on the USB stick.

Select the VRA map which is needed and press to copy the map to the terminal (see Figure 5).

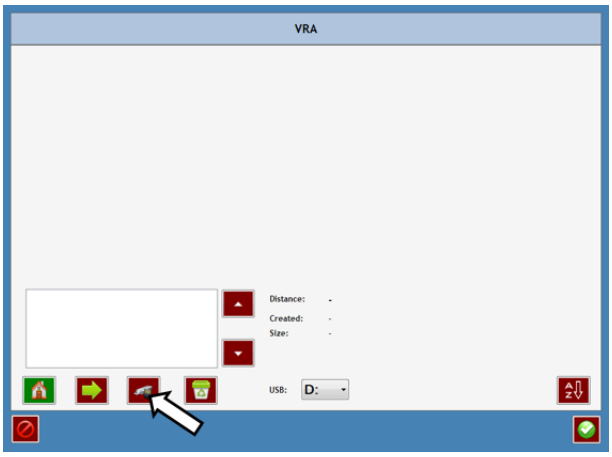


*FIGURE 4 - LOAD VRA MAP*

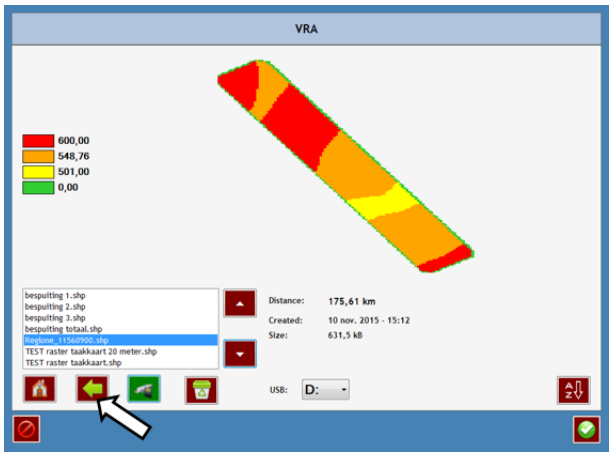


*FIGURE 5 - COPY VRA MAP TO TERMINAL*

After the map is loaded, it is visible in **Settings > VRA** after pressing on the button (see Figure 6).

Current position of the machine

There is a connection between SBGuidance and the selected COM-port.

**Warning!** If the receiving device is set up wrong, it is still possible that this device is not receiving the value!

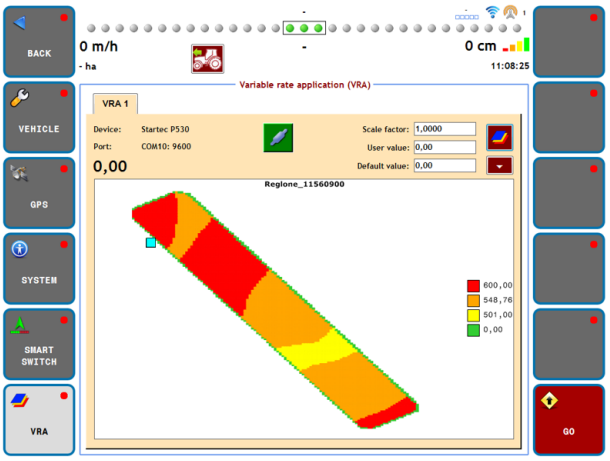


*FIGURE 6 - VRA MAP IN SBGUIDANCE*

When closing the VRA settings, the current value which is being sent out serial is always shown on the top left corner (see Figure 7).

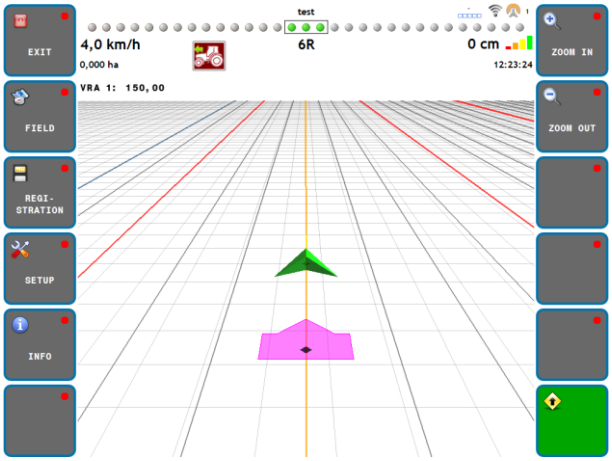


*FIGURE 7 - VRA VALUE IN MAIN SCREEN*

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