AgRemote Software

Guide for *Ag*GPS Receivers

Trimble

Revision A
February 2004

Corporate Office

Trimble Navigation Limited
Agriculture Business Area
9290 Bond Street, Suite 102
Overland Park, KS 66214
USA

+1-913-495-2700 Phone
trimble_support@trimble.com
www.trimble.com

Copyright and Trademarks

Release Notice

This is the February 2004 release (Revision A) of the *AgRemote Software Guide for AgGPS Receivers*.

Contents

Introduction

This document describes how to set up and begin using the AgRemote software. It includes an overview of the *Ag*GPS® menu system.

The AgRemote software provides an interface that you can use to access the internal *Ag*GPS menu system. Use the AgRemote menus and screens to configure the receiver settings and review the receiver status. To view the entire *Ag*GPS menu system, see the AgRemote navigation maps document for your receiver firmware, on the Trimble website: www.trimble.com.

Downloading and Installing AgRemote

AgRemote requires Microsoft® Windows® 95, 98, Me, Windows 2000, or XP.

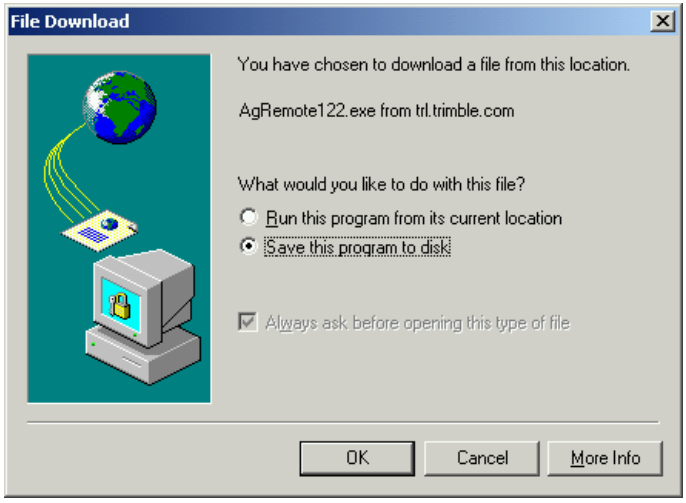
Note – *Later versions of the AgRemote software may not install correctly under Windows 95.*

Downloading the install software from the Web

Note – *Some buttons and dialogs described in this procedure appear differently in different versions of Windows. Their functions and the steps to follow remain the same.*

1. Go to www.trimble.com/agremote.html.

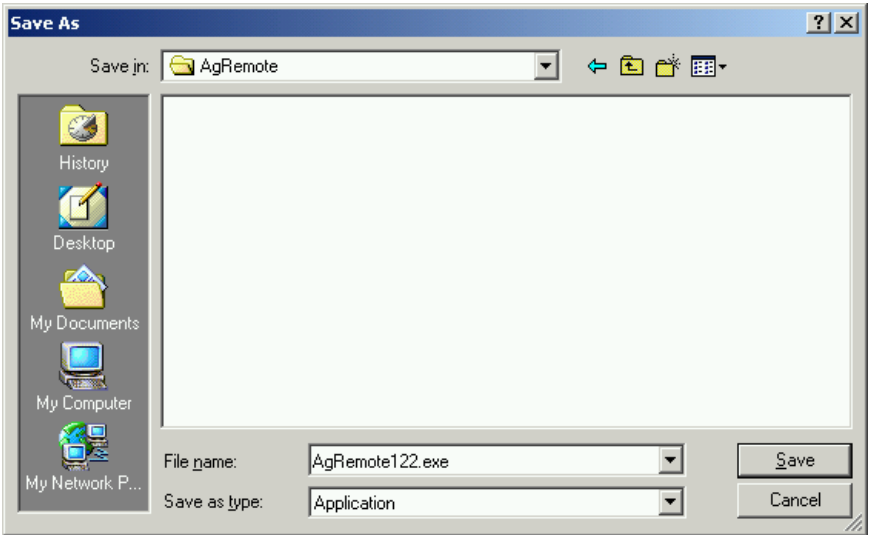
   Click *Download it now.*



   You are prompted to run the install program over the Web or download the install software to your computer.

2. Select *Save this program to disk.*
3. Click **OK**.

4. Choose a folder on the hard drive of your computer.



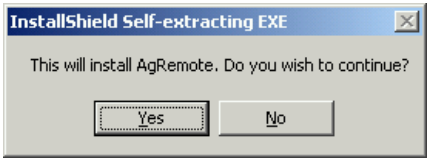
5. Click **Save**.

   The AgRemote install software is downloaded from the website to your computer.

Installing the software in your computer

1. In Windows Explorer, double-click the AgRemote install software file you downloaded earlier.

   The *InstallShield* message appears:



2. Click **Yes**.
3. The InstallShield *Setup* window appears. Follow the prompts to install the AgRemote software.

Starting AgRemote

1. Using the correct receiver cable, connect the receiver to the serial port on the computer.
2. Connect a power supply to the receiver.
3. Turn on the receiver.
4. Select Start / *Programs* / *AgRemote* / *AgRemote*.

   The *AgRemote* window appears.
5. Select *File* / *Connect*.

   The *Port Settings* dialog appears.
6. Make sure that the *Comm Port* field is set to the port to which you have connected the receiver.
7. Click **OK**.

   AgRemote establishes communication with the receiver and displays the *Home* screen of the *Ag*GPS menu system.

Figure 1 shows the *AgRemote* window, the *Home* screen, and the navigation keys.

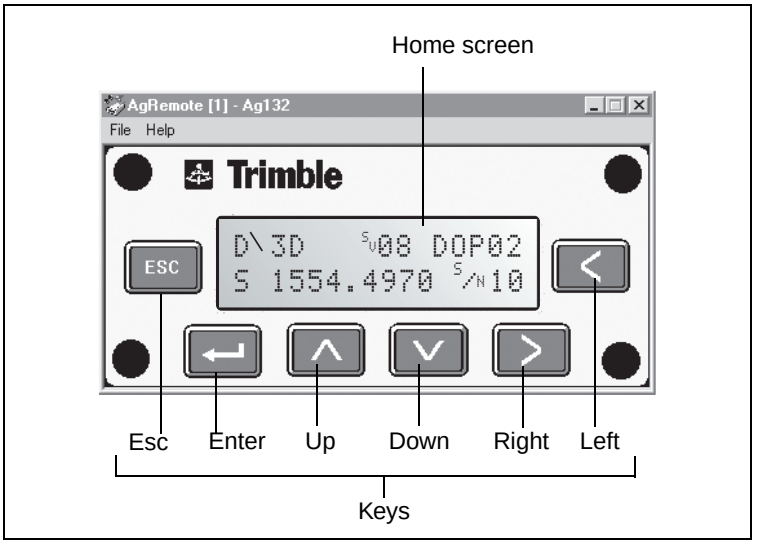


Figure 1 AgRemote window, Home screen, and navigation keys

Figure 2 shows a typical AgRemote *Home* screen. The information that appears on the *Home* screen depends on the type of receiver and how the receiver is configured.

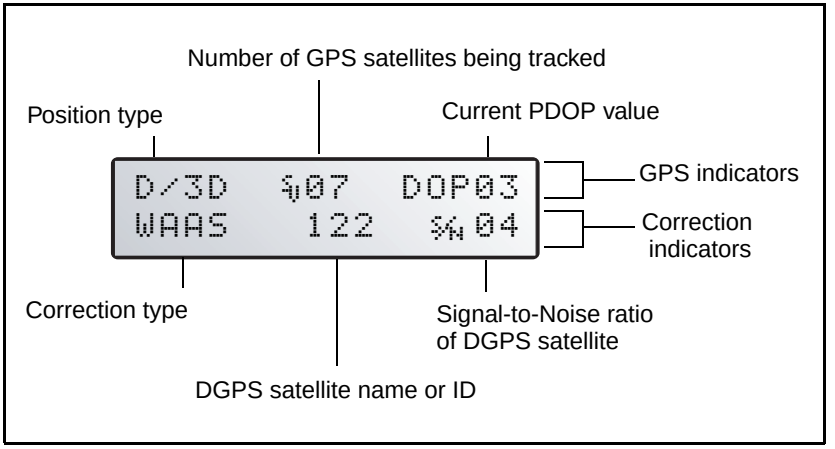


Figure 2 Home screen

You can leave the *Home* screen running while you work. It enables you to monitor the receiver status. To return to the *Home* screen after viewing other receiver menus and screens, press Esc one or more times.

AgRemote Keys

Press AgRemote keys to access menus and screens where you can:

- view the receiver status
- change the receiver configuration (for more information, see page 21)
- control the receiver utility/guidance functions
- enter data
- select options

The action associated with each of the AgRemote keys depends on whether a menu or a screen is displayed. See Table 1.

Table 1 AgRemote key actions

Key	Action when a menu is displayed	Action when a screen is displayed
↵	Return to the top of the menu when an *Exit* screen appears after the last screen in a menu.	From the *Home* screen: change Satellite DGPS source mode. From the *Lock Display Cfg* screen: display the *Enter Password* screen. From other screens: perform an action associated with that screen.
∨	Move down a menu level. Display the first screen from a lower level menu.	Move down through the screens in a menu. Move down through the list of options in multiple-choice fields.
∧	Move up a menu level.	Move up through the screens in a menu. Move up through the list of options in multiple-choice fields.
>	Move horizontally through the upper- and lower-level menus. Move from the last upper-level menu to the *Home* screen.	Select the next alphanumeric or multiple-choice field on a screen. When alphanumeric or multiple-choice fields are available, the ⌶ symbol appears in the corner of the screen. Move to the next letter or digit of a field.
Esc	Move up one menu level. Ultimately, return to the *Home* screen.	Move from a screen to the menu screen for that screen. If pressed again: return to the previous level. If pressed again: return to the *Home* screen.

Navigating Menus and Screens

AgRemote uses menus and sub-menus to organize configuration and status screens.

AgRemote displays menus such as *Field Operations*, *Status*, and *Configuration*. These are accessed from the *Home* screen. Use a menu to navigate to another menu or a sub-menu.

Each menu has one or more lower level menus (sub-menus) which are used to access status and configuration screens. Use screens to view the receiver status or to change a configuration setting.

Not all menus, sub-menus, and screens are available for all receivers. For a diagram showing the full menu system, see the navigation map for your receiver and associated firmware. See also Navigation Maps, page 40.

When you are using the receiver front panel keypad to navigate the menu system, press ⌄+⌃ simultaneously to move to the previous menu. Press and hold (or press repeatedly) ⌄+⌃ simultaneously to return to the *Home* screen.

Figure 3 shows the structure of a typical sub-menu (accessed from the *Home* screen).

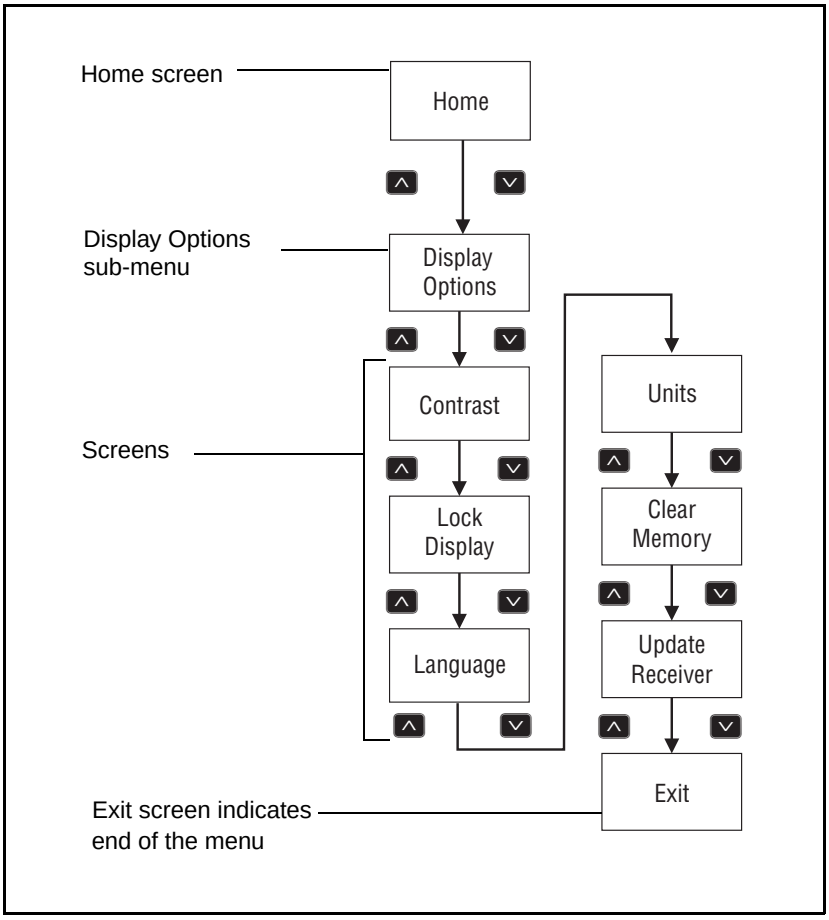


Figure 3 Typical sub-menu structure (Display Options)

To move between screens, press ⌄ or ⌃. When ⇶ appears in a screen, press ↵ to perform the action specified on that screen.

Fields

A field in a screen can display status information or a configuration setting. A field can be:

- display-only
- multiple-choice
- alpha, numeric, or alphanumeric

Display-only fields

You cannot edit a display-only field. A display-only field shows status information and other data that is automatically generated by the receiver or acquired from satellite signals. Examples include DGPS data on the *Home* screen, or details of the current receiver options. See Figure 4.

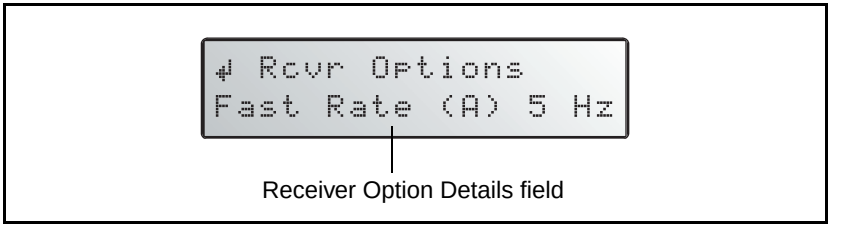


Figure 4 Example of a display-only field

Multiple-choice fields

In a multiple-choice field, you select one option from a list.

To select a multiple-choice field, press >. Then press v or ^ to move through the list. When the required option appears, press ↵ to select it and save the changes.

For example, multiple-choice fields appear in the *EZ Sat DGPS Configuration* screen for some receivers. Figure 5 shows a multiple-choice field that lists available satellite providers and another that lists satellite coverage beams.

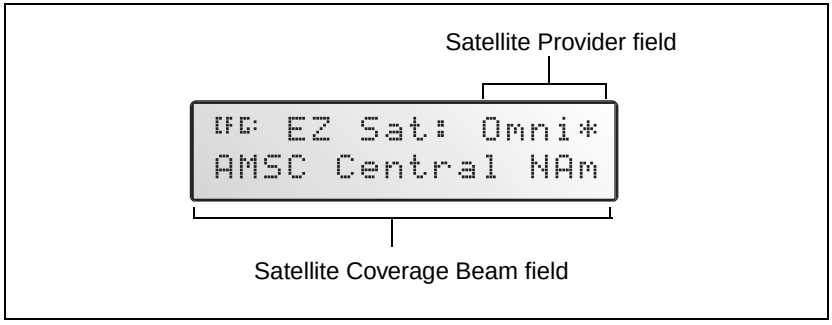


Figure 5 Examples of multiple-choice fields

Alpha, numeric, and alphanumeric fields

You can enter only letters in an alpha field, only numbers in a numeric field, or a combination of letters and numbers in an alphanumeric field.

To enter a value in a field:

1. Press > to select the field and activate the cursor on the first letter or number.
2. Press ∨ or ∧ to move through the list of letters or numbers until the required letter or number appears.
3. Press > to move to the next place in the field.
4. Repeat Steps 2 and 3 to enter all required characters.
5. Press ↵ to save the changes.

An example of a numeric field appears in the *Satellite Freq* screen. See Figure 6. You can manually enter the broadcast frequency of a satellite service provider in this field.

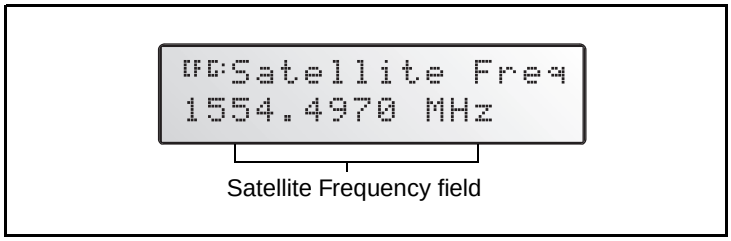


Figure 6 Example of a numeric field

Positioning Mode

Trimble *Ag*GPS receivers can operate in the following positioning modes:

- Real-Time Kinematic (RTK) GPS positioning
- Satellite Differential GPS (DGPS) positioning, which includes OmniSTAR VBS, OmniSTAR HP, WAAS, and EGNOS
- Beacon Differential GPS (DGPS) positioning
- Autonomous GPS positioning

The type of positioning mode used depends on the type of receiver, how the receiver is configured, and what correction type is being used.

General GPS position information

The first line of the *Home* screen displays general GPS positioning information for the type of signal that is being used.

Figure 7 shows the GPS status indicators that can appear on the first line of the *Home* screen display.

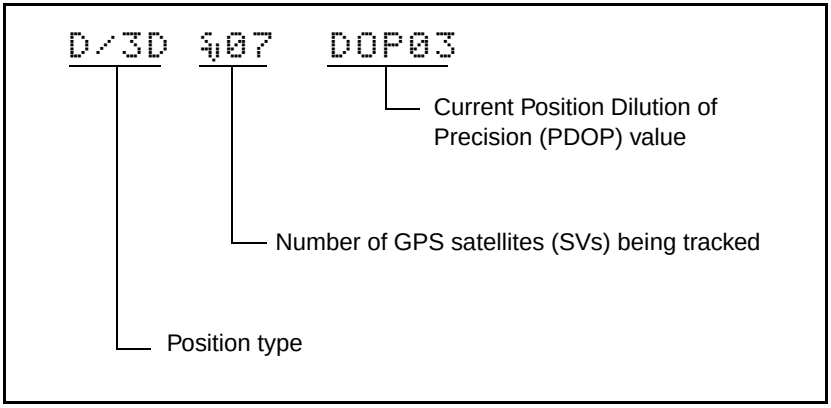


Figure 7 GPS status

Table 2 explains the indicators that can appear in the *Position Type* field.

Table 2 Position types

Display	Description
SRCH	Searching for satellites
TRCK	Tracking satellites
G/2D	Outputting 2-dimensional autonomous positions
G/3D	Outputting 3-dimensional autonomous positions
h/3D	Outputting 3-dimensional unconverged OmniSTAR HP positions
H/3D	Outputting 3-dimensional converged OmniSTAR HP positions
D/2D	Outputting 2-dimensional differential positions

Table 2 Position types (continued)

Display	Description
D/3D	Outputting 3-dimensional differential positions
r/3D	Outputting 3-dimensional float (uninitialized) RTK positions
R/3D	Outputting 3-dimensional fixed (initialized) RTK positions

Note – *RTK and HP modes are not supported by all receivers. If you are unsure, refer to your receiver documentation.*

The "/" symbol in the position type spins when the receiver is operating correctly.

RTK mode status indicators

When the receiver is in RTK mode, the second line of the *Home* screen displays the status indicators shown in Figure 8.

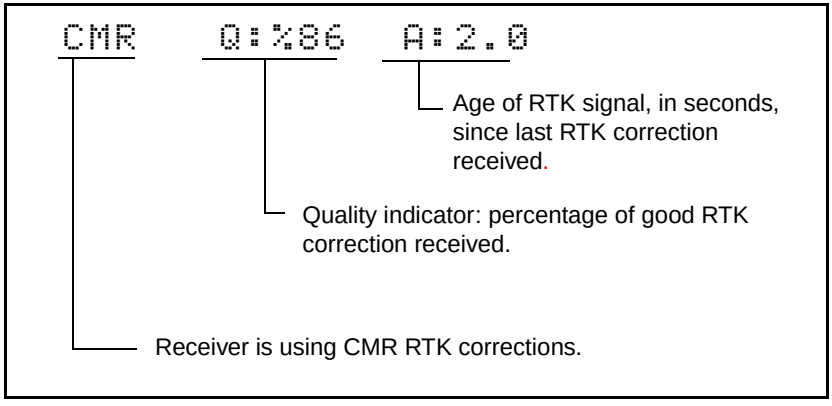


Figure 8 RTK mode status indicators

Satellite DGPS mode status indicators

When the receiver is in Satellite DGPS mode, the second line of the *Home* screen displays the status indicators shown in Figure 9.

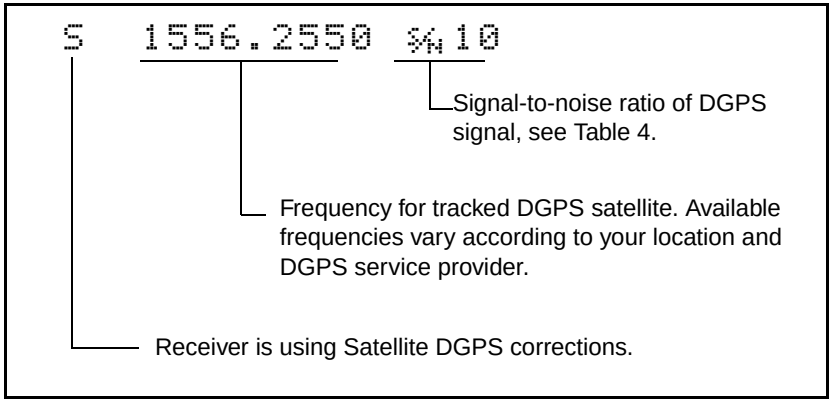


Figure 9 Satellite DGPS mode status indicators

Table 3 shows the possible satellite differential mode indicators.

Table 3 Satellite differential mode status indicators

Indicator	Description
S ####.### S/N ##	Operating in Satellite Differential mode
S SRCH ###.##	Searching for Satellite Differential signal
S TRCK ####.##	Tracking satellite without acquiring signal lock

Table 4 explains the signal-to-noise ratio values for both Satellite and WAAS/EGNOS DGPS modes.

Table 4 Signal-to-noise values

Value	Description
Below 4	Unusable
4–8	Fair
>8	Excellent

WAAS/EGNOS DGPS mode status indicators

When the receiver is in WAAS/EGNOS DGPS mode, the second line of the *Home* screen displays the status indicators shown in Figure 10.

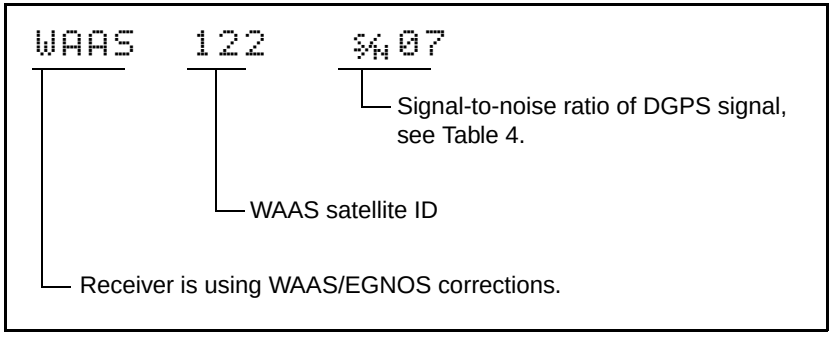


Figure 10 WAAS DGPS mode status indicators

Beacon DGPS mode

When the receiver is in Beacon DGPS mode, the *Home* screen displays “B” (Beacon DGPS) in the lower left corner. The second line of the *Home* screen displays the status indicators shown in Figure 11.

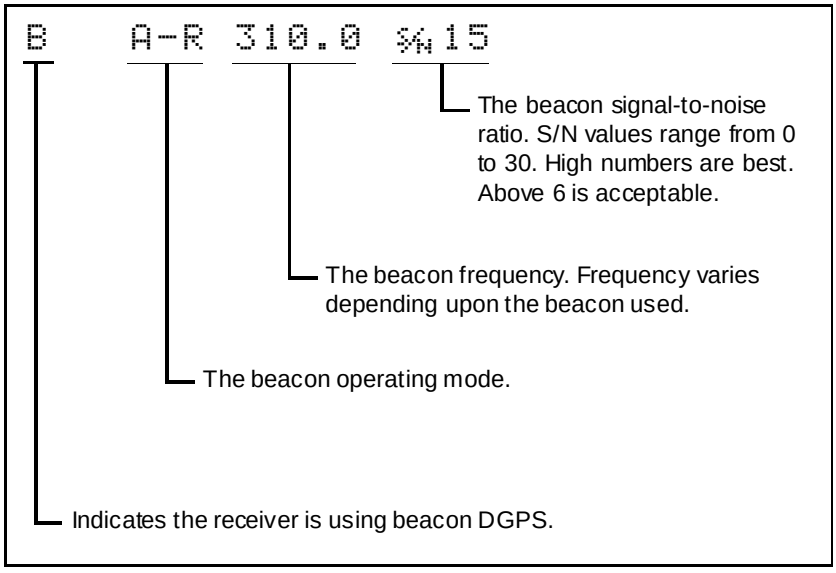


Figure 11 Beacon DGPS status

Note – *Beacon DGPS mode is not supported by all receivers. If you are unsure, refer to your receiver documentation.*

Table 5 describes messages that can appear when the receiver is in Beacon DGPS mode.

Table 5 Beacon DGPS operating mode messages

Message	Description
B	The receiver is operating in Beacon mode.
Beacon Searching	The receiver is searching for beacon signals.
Beacon Tracking	The receiver is tracking beacon signals and is attempting to gain lock.
Beacon Idle	Beacon DGPS is not active.
Beacon FFT	The receiver is looking for a beacon across the signal spectrum.
Beacon Disabled	Beacon DGPS is disabled in the receiver. You need to change configuration settings to enable Beacon DGPS.
External RTCM	Differential corrections are being provided by an external source, through port A or port B.

Configuring the Receiver

This section describes how to configure the receiver using the menu system.

Note – *Not all screens are displayed by AgRemote. The screens that are displayed depend on the type of receiver you are using and what options are enabled for your receiver.*

Display Options

Use the *Display Options* sub-menu to control how information is displayed in the screens that you can access from the AgRemote menus.

To view the *Display Options* sub-menu:

- From the *Home* screen, press v.

Setting the language

To change the language displayed:

1. Navigate to the *Language* screen:

2. Press > to select the *Language* field.
3. Press v or ^ until the required language is displayed.
4. Press ↵ to select the language and save the changes.
5. Press Esc to return to the *Display Options* menu.

   The screen automatically displays the selected language.

Setting the units

What you select in the *Units* screen determines whether US, Metric, or Nautical units are displayed in the screens that you access from the AgRemote menus.

Note – *This setting does not affect GPS position data output.*

1. Navigate to the *Units* screen:

2. Press > to select the *Units* field.

3. Press ⌄ or ⌃ until the required unit is displayed.
4. Press ↵ to select it and save the changes.
5. Press Esc to return to the *Display Options* sub-menu.
6. Press Esc again to return to the *Home* screen.

Locking the Configuration menus

To prevent unauthorized changes to the configuration, you can lock the Configuration menus:

1. Navigate to the *Lock Display Cfg* screen.
2. Press ↵ to display the *Enter Password* screen. The cursor is active on the first digit:

3. Use the last five numbers of the receiver serial number as the password (or “passcode”).

   Press ⌄ or ⌃ until the first digit of the serial number appears.
4. Press > to select the next digit.
5. Repeat Step 3 and Step 4 until all five digits are entered.
6. Press ↵ to save the changes.

   The Valid Password message appears, and the Configuration menus are no longer displayed when you navigate the menus.

   If the message Invalid Password appears, enter the password again.

Tip – When the Configuration menus are locked, you can view most Configuration menu settings from the Status menus.

To unlock the Configuration menus, repeat the above procedure.

Clearing battery-backed RAM

Warning – When you select the *Clear BB Ram* option, any changes that you have made in the Configuration menus are deleted and cannot be restored.

Use the *Clear BB RAM* screen to remove all configuration settings in the receiver memory (RAM) and return the receiver to its factory default configuration settings.

To delete battery-backed memory:

1. Navigate to the *Clear BB RAM* screen.
2. Press >. This activates the cursor.
3. To select **Yes**, press v or ^.
4. Press ↵. This clears the configuration settings.

Configuring the Communication Ports

Some *Ag*GPS receivers have two serial ports. Through these ports (RS-232 and CANBUS), the receiver can communicate with two devices simultaneously. To do this, it uses the standard power/data cable provided with the receiver.

Configure the communication ports to ensure that the receiver outputs the correct GPS position data type for the hardware device or software program that is connected to the receiver.

Note – *As both ports are configured in the same way, this section describes only Port A.*

To access the configuration sub-menu for Port A:

1. From the *Home* screen, press > until the *Configuration* menu screen appears.
2. Press v. The first *Config* sub-menu appears.
3. Press > until the *Port A Config* sub-menu appears:

4. Press v to move through the screens.

The following section describes how to configure the appropriate *Port A Config* screens. The menu for Port B is identical.

Note – *Not all configuration sub-menus appear in all cases. The configuration sub-menus that appear depend on the receiver and the firmware that you are using.*

Figure 12 shows the menus that you use to access the configuration screens.

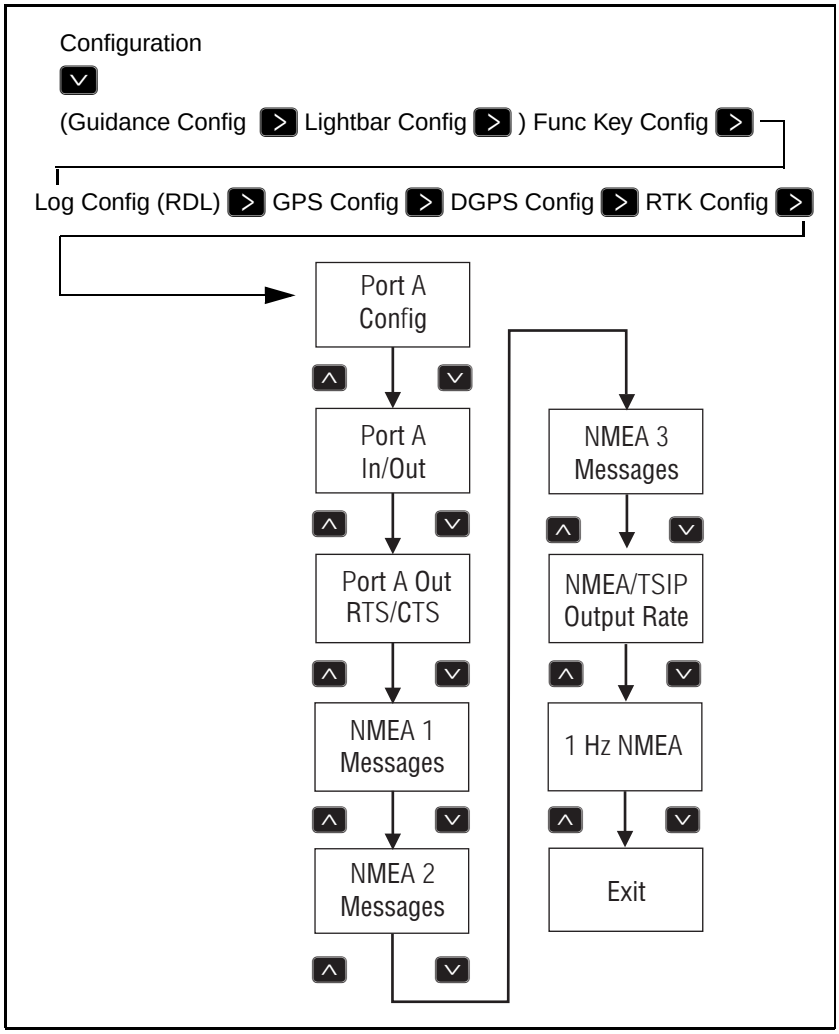


Figure 12 Port A Config sub-menu

Configuring input / output communication

Configure the Port Input/Output communication settings for communicating with the *Ag*GPS Lightbar, other external hardware devices, and software programs. Table 6 describes the input settings.

Table 6 Port input settings

Setting	Description
None	Inputs nothing to the receiver.
TEXTB	The receiver can accept ASCII data from an external device, such as a chlorophyll meter, on Port A, merge it with NMEA GPS data, and output the combined data on Port B. The incoming data must be limited to 66 ASCII characters and must be terminated by a carriage return and line feed (hex characters 0x0D 0x0A). The NMEA string outputs as $PTNLAG001,<up to 66 ASCII characters>*<2 digit checksum><CR><LF>. For the receiver to output the combined NMEA string, NMEA must be selected as the output protocol on Port B.
TEXTA	See the description for the TEXTB setting. TEXTA outputs on Port A, not Port B.
RTCM	The receiver can accept RTCM data from an external DGPS device, such as an FM pager.
TSIP	The receiver can accept or output TSIP data packets from the port when using the AgRemote program.
LBAR	The receiver can accept or output data from the *Ag*GPS Lightbar. You must select this setting when you use the *Ag*GPS Parallel Swathing Option. ***Note –*** *The AgGPS Lightbar is not supported by all receivers.*
CMR	The receiver can accept real-time corrections (CMR data) from an external source, such as a Trimble radio.
RTKLNK	The receiver can accept real-time corrections (CMR data) from an external source, such as a Trimble radio.

When setting the baud rate, note the following:

- If you are using 19200 or 38400, the input rate must match the output rate.
- If Port A is operating at 19200, Port B can operate at 1200, 2400, 9600, or 19200 (not 38400).
- If Port B is operating at 38400, Port A can operate at 1200, 2400, 9600 and 38400 (not 19200).

Note – *These limits do not apply to the AgGPS 252 receiver.*

To change the input or output settings:

1. From the *Port A Config* sub-menu, press ⌄ until the *Port-A Input/Output* screen appears:

2. Press >. This activates the cursor.
3. Press ⌄ or ⌃ to change the value.
4. Press >.

   Note – *If the baud rate and input/output protocol settings are changed, AgRemote loses connection with the receiver.*

5. Repeat Steps 3 and 4 until you have set all the required values.
6. Press ↵ to save all the changes.
7. Press ⌄ to move to the next screen.

Selecting NMEA messages for output

When the port output setting has been changed to NMEA, use this screen to select the National Marine Electronics Association (NMEA) messages output from the current port. Only upper-case NMEA message types are output. The default messages are GGA, GSA, VTG, and RMC.

To select the NMEA messages for output:

1. From the *Port A Config* sub-menu screen, press ⌄ until the *NMEA1* screen appears:

2. Press > to activate the cursor on the first NMEA message type.
3. Press ⌄ or ⌃ until the NMEA message type appears in uppercase.
4. Press > to select the next message type.
5. Repeat Steps 4 and 5 until all the message types that you want to output appear in uppercase.
6. Press ↵ to save the changes.
7. Repeat this procedure in the other NMEA screens, as required.

For detailed information about the content and structure of NMEA messages, see the NMEA-0183 Messages guide on the Trimble website at www.trimble.com.

Port output rate

Use the *Message Rate* screen to vary the NMEA and TSIP output rate. For example, if the *Ag*GPS Parallel Swathing Option is connected, *Ag*GPS Lightbar data is output 5 times per second (5 Hz). At the same time, on the other port, NMEA or Trimble Standard Interface Protocol

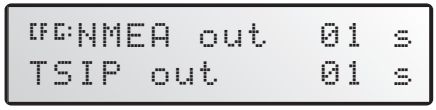
(TSIP) data can be output to a computer software package, yield monitor, variable rate controller, or other equipment. That data can be output at the same rate, or at a slower rate than the lightbar data.

If you require an output rate of 2, 5, or 10 positions per second, you must have the Fast Rate Option installed in the receiver or a receiver that outputs at these rates as standard. All new *Ag*GPS receivers come with the Fast Rate Option as standard.

Note – *Select ASAP if you want the output rate to be the same as the output rate selected on the Position Rate screen under the GPS Config sub-menu.*

To set the NMEA / TSIP message output rate:

1. From the *Port A Config* sub-menu screen, press ⌄ until the *Message Rate* screen appears:



2. Press > twice to set the NMEA output rate. This places the active cursor on the second digit of the NMEA line.
3. Press:
   – ⌄ to set the output rate to *ASAP*
   – ^ to increase the output rate by one second. Press this key as often as necessary, to a maximum of 99 seconds.
4. Press > twice to set the TSIP output rate. This moves the cursor to the second digit of the TSIP line. Repeat Step 3.
5. Press ↵ to save the changes.

Configuring Differential GPS

For the receiver to output GPS position coordinates of submeter accuracy, select a differential signal from one of the following sources:

- WAAS/EGNOS – free service, limited availability

  The Wide Area Augmentation System (WAAS) augments GPS with additional signals for increasing the reliability, integrity, accuracy, and availability of GPS in the United States. EGNOS (European Geostationary Navigation Overlay System) is the European equivalent of WAAS.

- OmniSTAR – paid subscription, available worldwide

  You can use the OmniSTAR paid service as an alternative to WAAS/EGNOS. OmniSTAR provides over-the-air DGPS activation.

To use the differential signal from the selected provider:

1. Configure the receiver.
2. Activate the receiver.
3. Enable the receiver.

For details, see the following sections.

To configure the receiver to receive signals from any provider:

1. Navigate to the *DGPS Config* sub-menu:

2. Press  .
3. Follow the steps in the appropriate section below. Each section describes how to configure, activate, and enable the receiver for a particular provider.

OmniSTAR

To use an OmniSTAR subscription service:

1. Identify the OmniSTAR coverage beam for your location.
2. Configure the DGPS source on the receiver.
3. Configure the provider name and coverage beam on the receiver.
4. Activate the subscription.

For more information about each of these steps, see the following instructions.

Note – *OmniSTAR can be activated over the air only. The AgGPS 252 does* ***not*** *support manual activation (where OmniSTAR provides you with a usercode).*

Contact the service provider for the correct satellite coverage beam for your geographic location.

In the US and Canada, contact OmniSTAR at 1- 888-883-8476 (www.omnistar.com).

You will need to provide a serial number and user code:

1. Navigate to the *Serial number* screen.

   Record the serial number here:

   _____

2. Navigate to the *Omni** screen.

   Record the user code here:

   _____

To configure the *DGPS Source* for the subscription service:

1. In the *DGPS Config* sub-menu, navigate to the *DGPS Source* screen.
2. Press [>]. This activates the cursor.

3. Press ⌄ until *Satellite Only, OmniSTAR VBS*, or *OmniSTAR HP* appears.
4. Press ↵ to save the changes.
5. Press Esc to return to the *DGPS Config* sub-menu.

To configure the provider name and the correct satellite coverage beam:

1. From the *DGPS Config* sub-menu, press ⌄ until the *EZ Sat* screen appears.

   Note – *The EZ Sat screen includes the Coverage Beam field and the Geographic Location field.*

2. Press > to activate the cursor.
3. Press ⌄ until the required provider (Omni*) appears.

4. To move to the next field, press >.
5. Press ⌄ until the coverage beam for your location appears.
6. Press ↵ to save the changes.
7. Press Esc to return to the *DGPS Config* sub-menu.

To activate the OmniSTAR DGPS subscription:

1. Contact OmniSTAR on 1-888-883-8476 (US or Canada). Provide OmniSTAR with:
   - your billing information
   - user code
   - satellite beam name

   OmniSTAR will activate the receiver. Activation can take 5–30 minutes.

Note – *To track the OmniSTAR satellite, the receiver must be outside with a clear view of the sky, turned on, and configured to receive OmniSTAR VBS or HP corrections.*

2. Once the receiver is activated, the *Home* screen displays "D/3D":

WAAS/EGNOS

WAAS is a free satellite-based DGPS service that is available only in North America. EGNOS is a free satellite-based DGPS service that is available only in Europe. To use the WAAS/EGNOS DGPS signal, you must first configure the receiver.

To configure the receiver to use WAAS/EGNOS DGPS:

1. From the *DGPS Config* sub-menu, press ⌄ until the *DGPS Source* screen appears.
2. Press >. This activates the cursor.
3. Press ⌄ until *WAAS/EGNOS ONLY* appears:

4. Press ↵ to save the changes.

To enable the WAAS/EGNOS DGPS signal:

1. Press ⌄ until the *WAAS/EGNOS T2 Remap* screen appears.
2. Press >. This activates the cursor.
3. Press ⌄ until *On* appears:

4. To save the changes, press ↵.

To enable WAAS reception in the field:

1. Take the receiver outside. Make sure that it has a clear southeast and southwest view of the sky.
2. Switch on the receiver.

   WAAS activation can take two or more minutes.
3. Once activation succeeds, the *Home* screen displays “D/3D”:

Configuring the Receiver to Operate in RTK Mode

Use AgRemote software to configure the receiver for operation in RTK mode.

Note – *Your receiver must have the RTK option enabled to operate in this mode. This option is not supported by all receivers.*

To configure the receiver:

1. Connect the receiver to the computer. Turn on the receiver and start the AgRemote software.
2. In AgRemote, select *Configuration* / *DGPS Config*.
3. Set the *Source Select* field to RTK.
4. Press ↵ then Esc to complete this part of the procedure.
5. For RTK operation, connect the radio to a receiver port. Change the port input settings for that port to RtkLnk.

Configuring Beacon DGPS

Follow these instructions to change an *Ag*GPS receiver to Beacon mode.

Note – *Beacon DGPS mode is not supported by all receivers.*

Select the frequency of the channels to be used when receiving RTCM SC-104 broadcasts from radiobeacons:

1. Navigate to the *DGPS Source* screen.
2. If the screen does not display *Beacon Only*, press > to select the *Data Source* field. Then press ⌄ until *Beacon Only* appears.
3. Press ↵ to save the changes.
4. Press ⌄ until the *Beacon Mode* screen appears:

5. Press > to activate the cursor. Press ⌄ until the required beacon mode appears. See Table 7.

Table 7 Beacon modes

Mode name	Description
Auto Range mode	Reads the incoming RTCM SC-104 message stream and selects the two closest radiobeacons within range of the *Ag*GPS receiver. The closest radiobeacon is automatically assigned to Beacon DGPS Channel 0, and the second closest is assigned to Channel 1.
Auto Power mode	Detects the signal strength of the two most powerful radiobeacons within range of the *Ag*GPS receiver. The most powerful radiobeacon is automatically assigned to Beacon DGPS Channel 0, and the second is assigned to Channel 1.

Table 7 Beacon modes (continued)

Mode name	Description
Disabled mode	Disables DGPS and forces the *Ag*GPS receiver to operate in GPS mode only.
Manual Freq mode	Disables the automatic selection of radiobeacons so that you can manually select the frequency of radiobeacons for Channel 0 and 1.

6. If you selected:

   – *Auto Range Mode* or *Auto Power Mode*, configuration is complete. Press Esc several times to return to the *Home* screen.

     The receiver automatically detects the two closest or two most powerful beacons.

   – *Manual Freq Mode*, see EZ Bcn screens, page 37, or Manually selecting frequencies, page 38.

   – *Disabled Mode*, the receiver ignores incoming RTCM SC-104 messages and operates as a GPS-only receiver.

EZ Bcn screens

The *EZ Bcn 0* and *EZ Bcn 1* screens use information in RTCM SC-104 broadcasts to create a list of beacon stations that are within range of the receiver.

To manually select frequencies for Beacon Channels 0 and 1:

1. Navigate to the *EZ Bcn 0* screen.
2. Press > to select the field for Beacon Channel 0.

3. Press ⌄ or ⌃ until the required beacon station appears:

4. Press ↵ to save the changes.
5. Press ⌄. The *EZ Bcn 1* screen appears.
6. To select the station for Beacon Channel 1, repeat Step 2 through Step 4.

Manually selecting frequencies

Note – *Use this method only if you cannot find the required radiobeacon name in the list.*

To manually select Beacon DGPS radiobeacon frequencies using the *EZ Bcn* screens:

1. Navigate to the *Man Bcn Freqs* screen.
2. Press >. This activates the cursor in the *Beacon Channel 0* field:

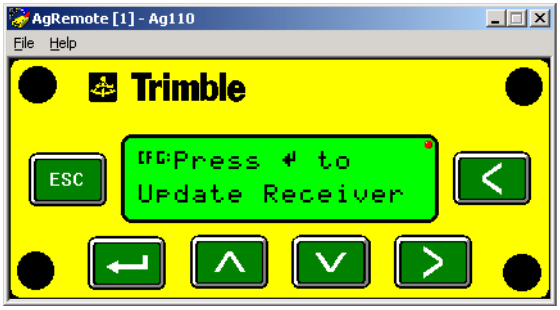
3. To enter the frequency one number at a time, press ⌄ or ⌃. Press > to move to the next digit.
4. Press ↵ to save the changes.
5. Press > to select the *Beacon Channel 1* field.
6. To enter the other required frequency, repeat Step 3.
7. Press ↵ to save the changes.

Installing Passcodes

Passcodes are installed on *Ag*GPS receivers to enable extra options or to enable a firmware upgrade.

To install a passcode using AgRemote software:

1. Start AgRemote. See page 7.
2. From the *Home* screen, press ⌄ until the *Update Receiver* screen appears:



3. Press ↵.
4. Press ⌄ or ⌃ until the first digit of the passcode appears.
5. Press > to enter the digit and select the next digit.
6. Repeat Step 4 and Step 5 until all digits are entered.
7. Press ↵ and then ⌄ to finish entering the passcode and exit the screen.

Navigation Maps

The menus and screens that appear in AgRemote depend on the receiver and firmware that you are using and the options you have installed.

For a diagram (navigation map) of the menus and screens that are available for each receiver, refer to the receiver documentation, or contact your local Trimble reseller.