

GETTING STARTED GUIDE

EZ-Guide® 500 Lightbar Guidance System

Version 4.00

Revision B

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Introduction

Legal Notices

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For Limited Warranty information, refer to the *EZ–Guide 500 Lightbar Guidance System Release Notes*.

About the EZ–Guide 500 System

The EZ–Guide 500 system is a GPS guidance system for agricultural vehicles. It helps you drive the vehicle more efficiently by reducing skips and overlaps in the field.



The system includes the following features:

- a color LCD screen
- a lightbar with 31 LEDs
- an internal GPS receiver
- multiple field patterns for different field layouts

Related Information

Sources of related information include the following:

- Help – the lightbar has built–in, context–sensitive help that lets you quickly find the information you need.
- Quick reference card – the quick reference card describes the most common features of the lightbar.

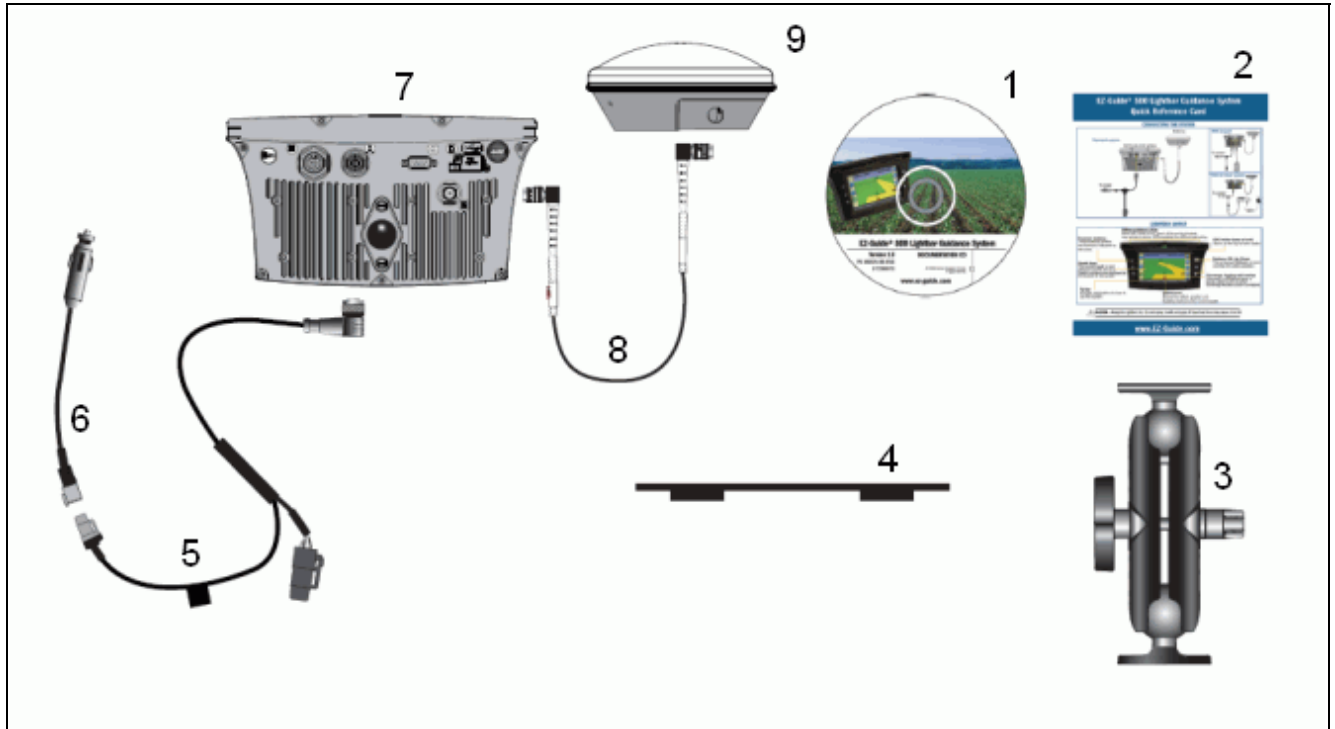
Technical Support

If you have a problem and cannot find the information you need in the product documentation, contact your local reseller. Alternatively, go to the EZ-Guide website at <http://www.ez-guide.com/>.

About the Lightbar

What's in the EZ-Guide 500 Box

The standard components of the EZ-Guide 500 system are shown below.



ITEM	DESCRIPTION
1	EZ-Guide 500 documentation CD
2	Quick Reference Card
3	RAM mount
4	Antenna mount plate
5	Power cable (P/N 62817)
6	Power connector cable (P/N 62818)
7	EZ-Guide 500 lightbar
8	Antenna cable (P/N 50449)
9	Antenna

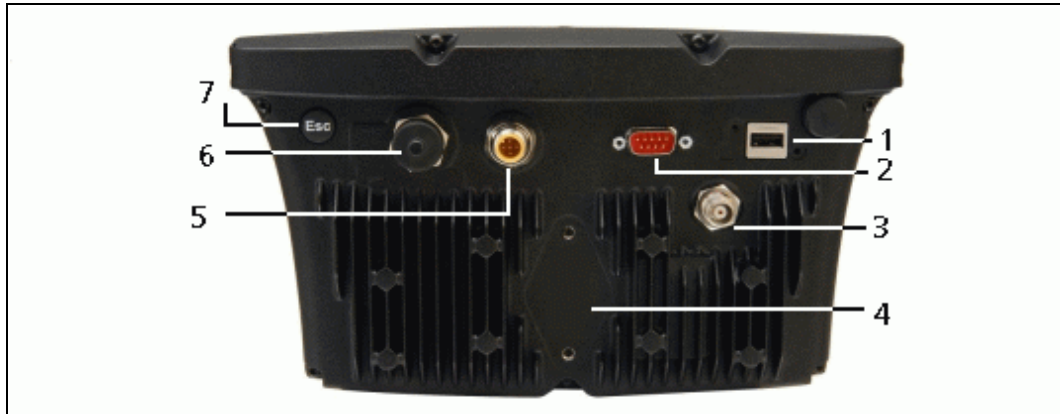
When you unpack the box, inspect all contents for visible damage, such as scratches or dents. If any components appear damaged, notify the shipping carrier. Keep the shipping and packaging material for the carrier's inspection.

Parts of the Lightbar

The following figures show the front and back of the lightbar.



ITEM	DESCRIPTION	ITEM	DESCRIPTION
1	Action icons	4	Down button
2	OK button	5	Function buttons
3	Up button	6	LEDs






ITEM	DESCRIPTION
1	USB port
2	Serial (COM) port
3	Antenna port
4	RAM mount fixture
5	Power socket
6	Extension (AUX) port
7	Escape button

How the Buttons Work





















On the front of the lightbar, there are six buttons. The buttons on the left and right sides of the lightbar work in different ways.

Action buttons (on the right of the screen)

On the main guidance screen:





- Press  or  to scroll through the action icons.
- Press  to select the highlighted icon.

The following icons may appear to the right of the guidance screen:

ICON	DESCRIPTION		ICON	DESCRIPTION
	Reset guidance			Nudge left
	Set Point A			Nudge right
	Set Point B			Pause guidance
	Start headland			Resume guidance
	Complete headland			Change zoom scale
	Pause swath recording			Go to main Configuration menu
	Resume swath recording			Change view mode
	Currently recording FreeForm curve (press to stop)			Next FreeForm segment
	Not currently recording FreeForm curve (press to start)			Shift AB Line
	Display point, line and area mapping icons			Display panning icons

Note: Action icons appear only when they are appropriate. They are not all visible at all times.

The following action icons may appear on the right of a configuration screen:

ICON	DESCRIPTION	ICON	DESCRIPTION
	Increase value / up to next option		Proceed to next screen
	Decrease value / down to next option		Accept settings

In setup screens, the icons match the buttons beside them.

Function buttons (on the left)

Beside each function button, there is an icon. When you press the function button, you select the feature that is shown on the icon.



ITEM	DESCRIPTION
1	Coverage logging icon
2	Middle function button


The following function icons may appear beside the buttons on the left of the screen:

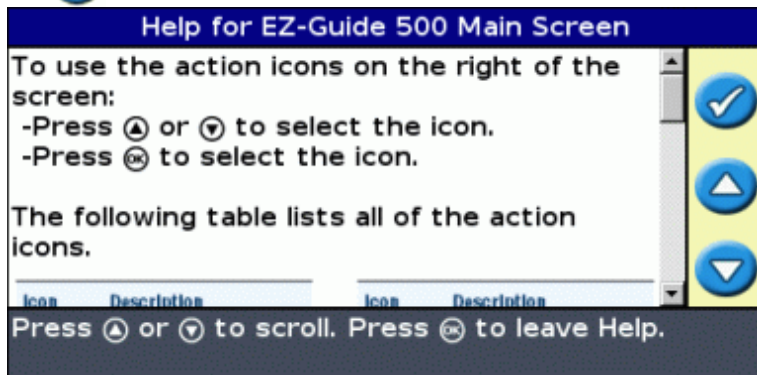
ICON	DESCRIPTION	ICON	DESCRIPTION
	Display information tab window		Cancel changes
	Turn on coverage logging		Go up one menu level
	Turn off coverage logging		Return to guidance screen
	Zoom in		Move back one screen
	Zoom out		Display Help

Escape (ESC) button

Press the Escape button on the back of the lightbar to cancel out of screens and to move up menu levels. See [Back of the Lightbar](#).

Getting help

The EZ-Guide 500 lightbar has built-in help that explains how to use the current screen. To access the help, press the  function button:



Optional Accessories

ITEM	DESCRIPTION
Antenna	<p>There are two antenna options for the EZ-Guide 500 lightbar:</p> <ul style="list-style-type: none"> - Ag15 antenna for autonomous positions and free WAAS and EGNOS DGPS corrections - Z+ high-accuracy antenna for OmniSTAR XP/HP or RTK corrections <p>Caution: Do not use the patch antenna from the EZ-Guide 250 lightbar with the EZ-Guide 500 lightbar. The patch antenna uses a different voltage to other EZ-Guide antennas and the EZ-Guide 500 lightbar will damage it.</p>
Remote keypad	<p>With the optional remote keypad installed, you can control the lightbar without having to reach to it. The six buttons on the keypad mirror the six buttons on the front of the lightbar.</p>

Upgrades

The EZ-Guide 500 lightbar guidance system can be connected to:

- the EZ-Steer® assisted steering system
- the AgGPS® Autopilot(TM) automated steering system
- the EZ-Boom(TM) 2010 automated application control system (when the lightbar has firmware version 2.00 or higher)
- a serial variable rate controller

Fuse Information

The EZ-Guide 500 lightbar has two fuses:

FUSE LOCATION	DESCRIPTION
In cigarette lighter connector of power connector cable (P/N 62818)	30 A glass cartridge fuse.
In fuse holder on power cable (P/N 62817)	10 A spade fuse.

Note: Both fuses can be replaced by the user.

Replacing the 30 A fuse

1. Locate the cigarette lighter plug holder on the end of the cable.
2. Unscrew the end cap where the spring-loaded pin protrudes. Be careful not to lose the pin after removing the end cap.
3. Remove the old fuse.
4. Insert the new fuse and then screw the end cap back onto the plug.

Replacing the 10 A fuse

1. Open the cap on the fuse holder.
2. Pull out the old fuse.
3. Insert the new fuse.
4. Close the cap on the fuse holder.

Pinout Information

The DE-9M (serial port) on the EZ-Guide 500 lightbar has the following pinout information:

ITEM	DESCRIPTION
1	Event out to keypad (to signal audio alarm)
2	RS-232 Rx
3	RS-232 TX
4	External switch input
5	Data ground
6	Keypad data input
7	Keypad clock
8	External output (radar pulse)
9	Keypad power

Installation

Step 1: Installing the Lightbar Mount

1. Select a place in the cab for the lightbar. There must be a mounting bar available for attaching the RAM mount.
2. Sit in the driver's seat and hold the lightbar in the place that you selected, make sure that you can access it comfortably from there.

Step 2: Installing the Antenna

Note: To minimize any interference to the GPS signal, make sure that the GPS antenna is at least 1 m (3 ft) from any other antenna (including a radio antenna). You may experience interference if you operate the vehicle within 100 m (300 ft) of any power line, radar dish, or cell phone tower.

Installing the Z+ high accuracy antenna

Find the mounting location for the antenna at the front of the vehicle roof.

1. Screw the antenna mag mount onto the antenna.
2. On the mounting plate, remove the protective covers from the adhesive strips.
3. Attach the mounting plate to the vehicle roof with the adhesive strips. Ensure that the mounting plate is centered along the vehicle roof.
4. Connect the antenna cable to the antenna.
5. Place the mag mount (with antenna) directly onto the mounting plate of the vehicle.
6. Route the other end of the antenna cable into the cab.

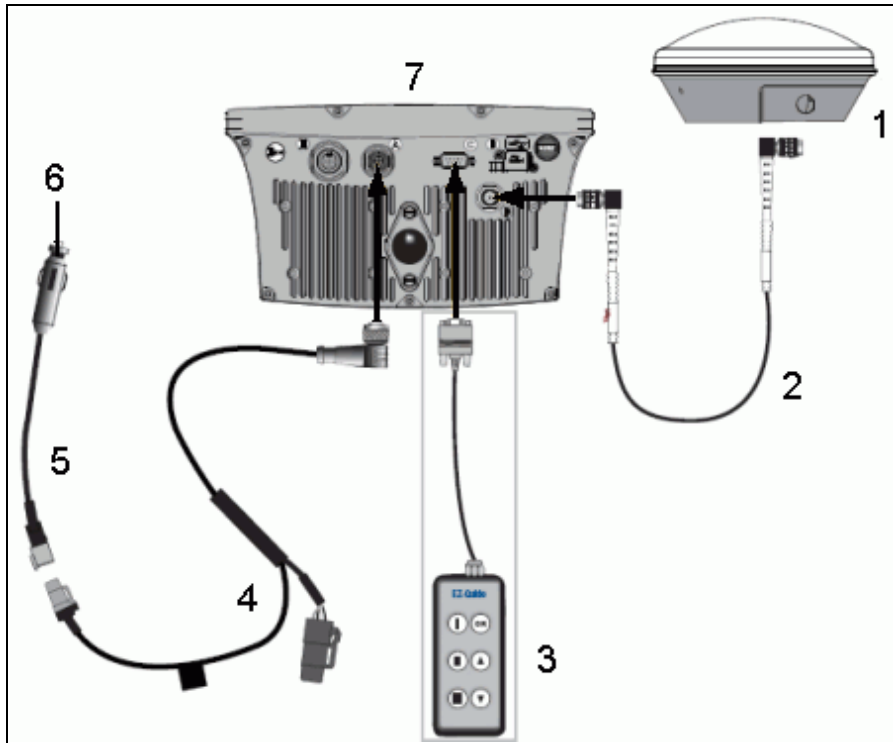
Installing the Ag 15 antenna

Find the mounting location for the antenna at the front of the vehicle roof, centered from left to right.

1. On the mounting plate, remove the protective covers from the adhesive strips.
2. Attach the mounting plate to the vehicle roof with the adhesive strips. Ensure that the mounting plate is centered along the vehicle roof.
3. Connect the antenna cable to the antenna.
4. Place the antenna directly on the mounting plate. The three magnets embedded in the bottom of the antenna will hold it in place.
5. Route the other end of the antenna cable into the cab.

Step 3. Attaching the Lightbar Cables

The lightbar with the basic antenna and power configuration:



ITEM	DESCRIPTION
1	Antenna (P/N 60600-01 for DGPS or P/N 57200-00 for OmniSTAR/RTK)
2	Antenna cable (P/N 50449)
3	Remote keypad (optional – P/N 66030-00)
4	Power cable (P/N 60198 or P/N 62817)
5	Power connector cable (P/N 62818)
6	To power (cigarette lighter)
7	EZ-Guide 500 lightbar (reverse)

1. Connect the power cable to the power port on the back of the lightbar.

*Note: Ensure that the power cable points **straight** into the back of the lightbar – not at an angle.*

2. Connect the antenna cable to the antenna port.

3. Tighten the cable connector until it is fully secure.

4. Connect the other end of the power cable to the vehicle cigarette lighter. The lightbar turns on.

Caution: Do not disconnect or connect any cables or connect the EZ-Steer 500 system while the lightbar is running. To connect or disconnect cables, first turn off the system.

Step 4: Turning on the Lightbar

To turn on the lightbar, plug the power cable into the cigarette lighter:

- If the cigarette lighter is wired through the vehicle ignition, insert the key and turn on the vehicle ignition. The lightbar receives power and turns on.
- If the cigarette lighter is not wired through the vehicle ignition, the lightbar receives power whenever the cable is plugged in. The lightbar draws some power even when it is turned off, so disconnect the lightbar from the power source if the vehicle will be unused for an extended time to avoid draining the vehicle battery.

Turning off the lightbar

To turn off the lightbar, unplug the power cable from the cigarette lighter.

Connecting a Coverage Switch

1. Connect an interface cable to the lightbar.
2. Attach the female WeatherPack connector (supplied) to the wires of a switch (not supplied).
3. Configure the switch on the lightbar.

Caution: Ensure that you do not supply either wire with power. If necessary, use a relay to isolate the lightbar from the power source.

Connecting an interface cable to the lightbar

The coverage switch requires one of the following external interface cables with a 3-pin WeatherPack connector:

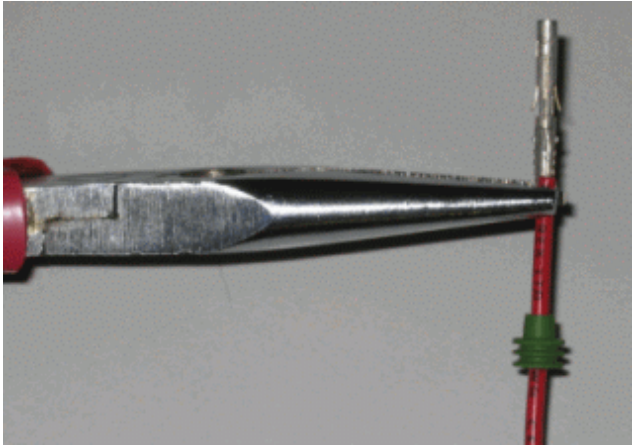
- External interface cable (P/N 52033)
- External interface cable (right angle connector) (P/N 62749)

Attaching a female WeatherPack connector to the switch wires

1. Strip about 1 cm (0.4 inches) of insulation off the switch wires.
2. Thread each switch wire through a cable seal:



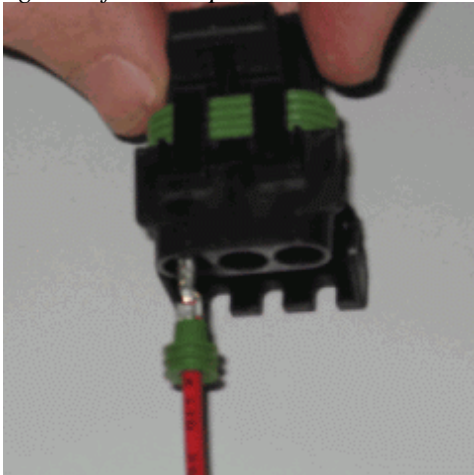
3. Crimp terminal connectors to the ends of the wires with an appropriately-sized crimp tool or pliers and then solder the terminal connectors to the wire to ensure a secure connection:



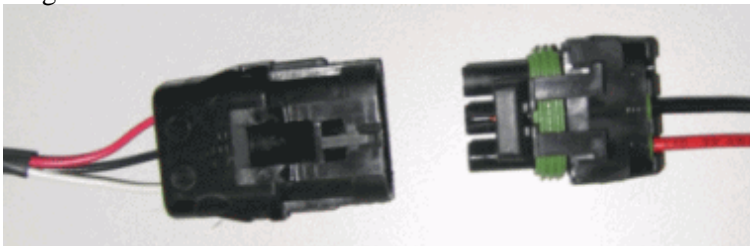
4. Insert the wires with terminal connectors and the cable seals into the appropriate holes on the female WeatherPack connector:

- ◆ Ground wire – Connector hole B
- ◆ Switch wire – Connector hole C

Caution: Ensure that you do not supply either wire with power. If necessary, use a relay to isolate the lightbar from the power source.






5. Plug the female connector into the male connector on the interface cable:

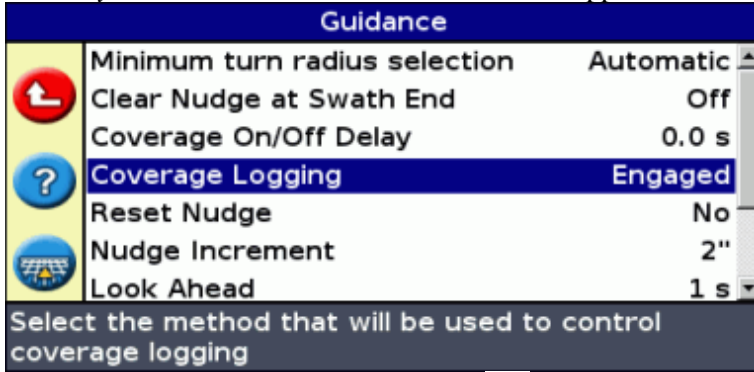


Enabling the switch on the lightbar

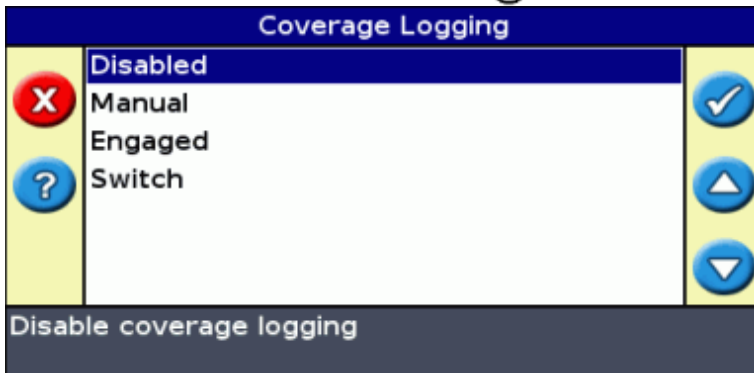
From the main guidance screen:

1. Press  until you have selected the  icon.
2. Press . The *Configuration* screen appears.
3. Make sure that the *User Mode* field is set to *Advanced*.

4. Select *System / Guidance*. The *Guidance* screen appears:



5. Select *Coverage Logging* and then press **OK**. The *Coverage Logging* screen appears:



6. Press **▼** until you have selected *Switch* and then press **OK**.

7. In the *Coverage Logging Input* screen, select one of the two options:

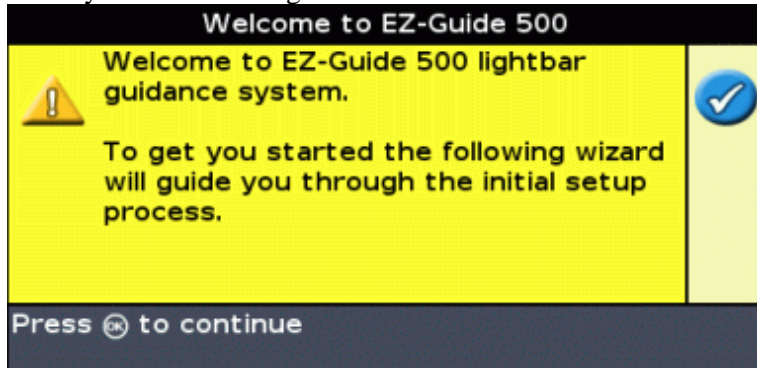
ITEM	DESCRIPTION
Active Low	When the switch is closed , the two pins should be crossed and the coverage will be recorded. When the switch is open , the two pins will not be in contact and the coverage will not be recorded.
Active High	When the switch is open , the two pins will not be in contact and the coverage will be recorded. When the switch is closed , the two pins should be crossed and the coverage will not be recorded.


Note: If necessary, set the user mode back to Easy.

Getting Started

Quick Start Wizard

When you turn on the lightbar the *Welcome to EZ-Guide 500* screen appears automatically:

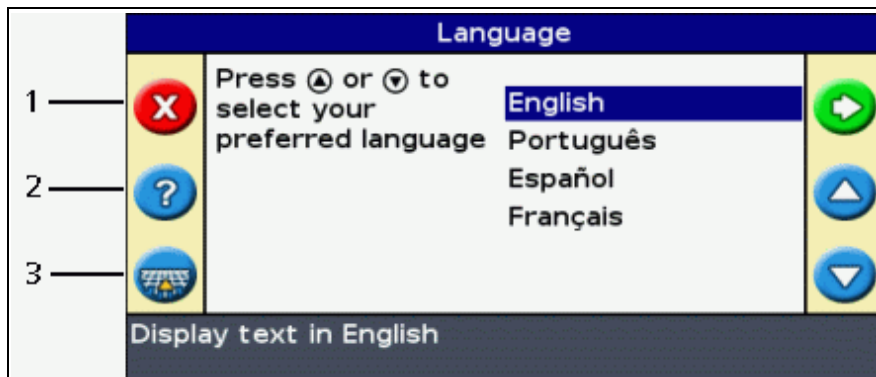


Press  . The Quick Start Wizard appears.

The wizard has several setup screens that enable you to configure important settings before you begin driving.

During the Quick Start Wizard, you can press the function button to exit at any point. The system uses any settings you have entered; for any settings that you have not yet entered, the system uses the settings from last time.

The first time that you run the lightbar, complete the whole wizard.



ITEM	DESCRIPTION
1	Quit the wizard
2	Built-in help
3	Skip the wizard and begin driving

To adjust a setting:

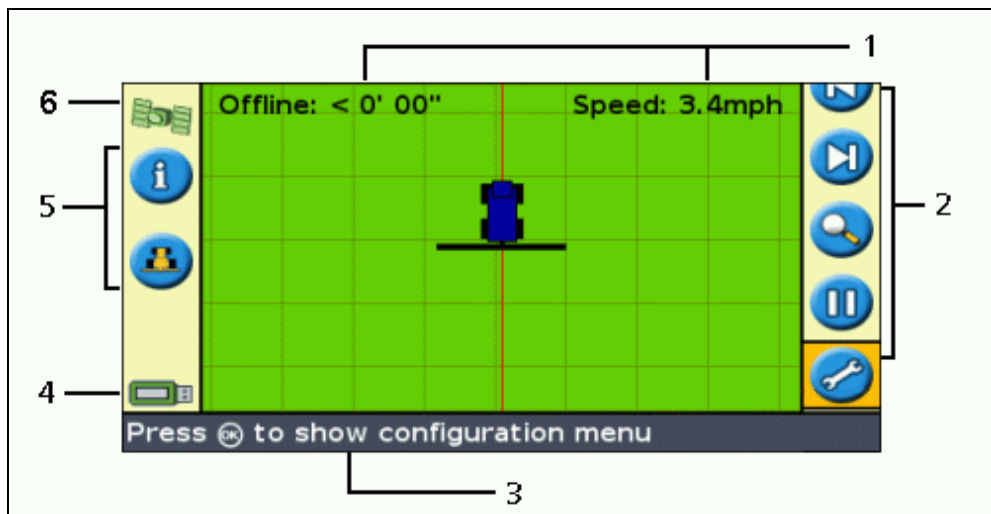
1. Press or to select the correct value.
2. Press to enter the selection and proceed.

You can select whether or not the Quick Start Wizard appears next time you turn on the lightbar. If you choose to hide the wizard at startup, the lightbar skips the wizard and starts on the main guidance screen.

To alter these settings after startup, run the Quick Start Wizard from *Configuration / Quick Start Wizard*.

Once you complete the Quick Start Wizard, the main guidance screen appears.



Items on the Main Guidance Screen



ITEM	NAME	DESCRIPTION
1	Status text	There are two status text items on the main guidance screen. The item on the left shows the distance that the vehicle is from the guidance line. The item on the right shows the current vehicle speed.
2	Action icons	How the Buttons Work
3	Tips / Message panel	The Tip / message panel explains the icon functions and shows driving tips.
4	USB status icon	Show the status of the USB drive: Green – the drive is installed and ready Orange – the drive is installed, but still loading Red – the drive has been disabled due to an error
5	Function icons	How the Buttons Work
6	GPS quality icon	Shows the quality of the GPS signal: Green – the signal is within the appropriate bounds Yellow – there is a signal, but it is outside the lightbar's quality tolerance settings Red – there is no signal

View Modes

There are two views when you are driving in the field:



PERSPECTIVE MAP VIEW	PLAN MAP VIEW
 <p>A 3D view of the field showing a green field with a red line and a red triangle. The top status bar shows "Offline: < 0' 03\"" and "Speed: 4.5mph". A yellow box labeled "1R" is on the right, and a yellow box labeled "ABO" is at the bottom.</p>	 <p>A bird's eye view of the field showing a green field with a grid. A blue vehicle icon is in the center. The top status bar shows "Offline: > 0' 00\"" and "Speed: 4.5mph".</p>
A 3D view of the field	A bird's eye view of the field

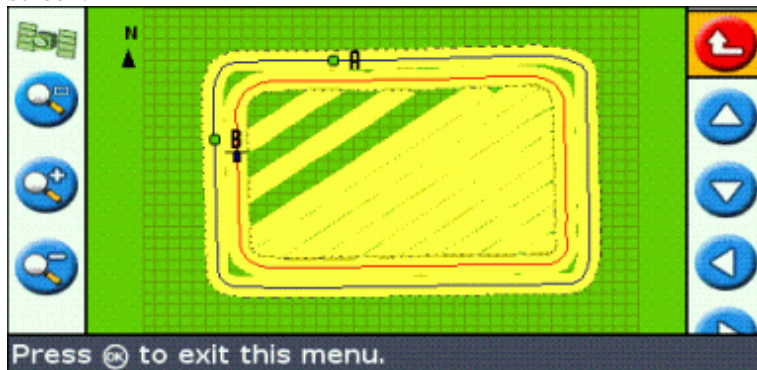
By default, the view switches from plan view to perspective view when you enter the field. You can change the view mode in Advanced mode.

Panning


On the EZ-Guide 500 lightbar, you can pan (move) the screen around to better see parts of the field, for example to check for skips in application coverage or the location of point, line and area features.

Note: The vehicle must be stationary when entering panning mode.




To enter panning mode, select the  icon and press . A new set of panning icons appears on the right of the screen.



Note: The map is always displayed North-Up in panning mode.

To move the screen, select one of the arrow icons on the right of the screen and press . The screen moves in the direction of the arrow. Repeat with the same arrow or change arrows as many times as necessary.

To zoom in or out on the screen, use the buttons on the left of the screen.

ITEM	DESCRIPTION
	Zooms to the extents of the field. This includes the field boundary (if present), coverage logging and any mapped features.
	Zooms in
	Zooms out

Note: To ensure all coverage logging is shown, turn off coverage logging before entering panning mode. Otherwise, the coverage polygon currently being recorded will not be shown in panning mode.

User Modes

The EZ-Guide 500 lightbar guidance system has two user modes:

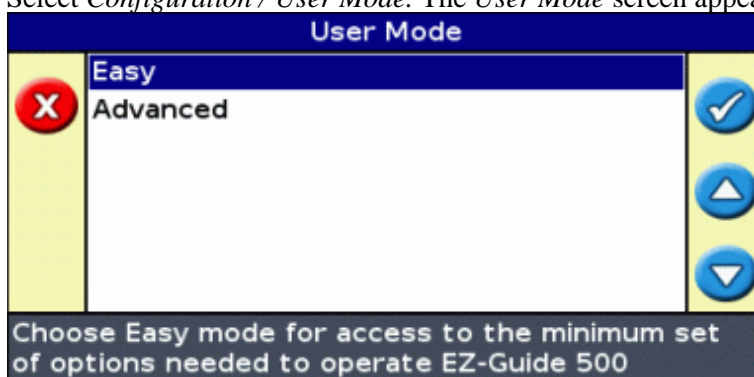
MODE	DESCRIPTION
Easy	Limited to accessing the most simple features Fewer action icons are available Simplified driver options (for example, creating a guidance line is easier)
Advanced	The user can access all of the settings.

Use Easy mode if you want to select a swath pattern and quickly begin driving.

Changing the User Mode

To change between Easy mode and Advanced mode:

1. Select *Configuration / User Mode*. The *User Mode* screen appears:



2. Select Advanced or Easy and then press **OK**. The main guidance screen reappears, with the lightbar in the selected mode.

Changing the Backlight Brightness

To change the strength of the screen backlight, select *Configuration / Backlight*.

Changing the LED Brightness

To adjust the brightness of the LEDs on the lightbar, select *Configuration / LED Brightness*.

- In bright sunlight, increase the brightness to make the LEDs more obvious.
- In darker conditions, for example driving at dusk, you can lower the brightness settings so the LEDs are less intense.

Getting GPS Corrections

By default, the EZ–Guide 500 lightbar is configured to receive the following free corrections:

REGION	CORRECTION
North America	WAAS
Europe	EGNOS

These corrections provide 15 cm–20 cm (6 in–8 in) pass–to–pass accuracy.

To change the GPS corrections (for example, to configure RTK or OmniSTAR VBS/HP/XP), select *Configuration / GPS Setup / GPS Correction Source*.

External Receiver Support


The EZ–Guide 500 lightbar can receive GPS positions from TSIP–compatible receivers. This enables you to use any of the correction types available on your receiver, including OmniSTAR, Beacon, and RTK.

The following TSIP–compatible receivers are supported by the EZ–Guide 500 lightbar:

Trimble	Case IH	Ag Leader	New Holland
AgGPS 252	AFS 252	GPS 5100	NH 252
AgGPS 332	–	–	–

To enable TSIP messages as the correction source:

1. Connect the receiver to the lightbar and then turn them on.
2. Select *Configuration / GPS Setup*.
3. Change the *GPS Correction Source* option to *Ext. TSIP*.
4. Select Continue and press **OK**. The *Connecting to External Receiver* screen appears. The lightbar connects to the TSIP receiver. The message *Connection Established* appears.
5. Press **OK**. The *External DGPS Source* screen appears, showing the available corrections on the receiver.

6. Select the appropriate correction source and then press  . The wizard for that correction type appears.

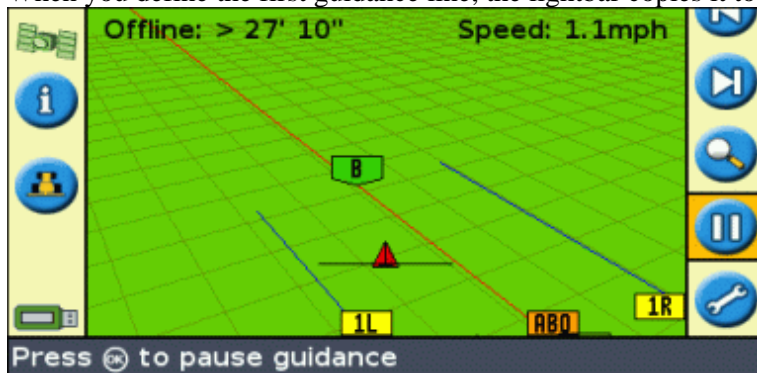
***Note:** When the lightbar is receiving GPS positions from the TSIP-compatible receiver, additional entries appear on the Info tab.*

Easy Mode Guidance

Introduction to Guidance

The EZ-Guide 500 lightbar uses onscreen lines, either straight or curved, to guide you. These are called the *guidance lines*. The most simple form of guidance line is a *straight AB Line*. To create an AB Line, you define a start point (the A point) and an end point (the B point). Once you define the A and B points, a straight line is drawn between them. This is your *master line*.

When you define the first guidance line, the lightbar copies it to create additional guidance lines.



Distance between guidance lines

When you begin to define the line, you specify the width of the implement attached to the vehicle. This width is used to calculate the distance between the guidance lines. If you do not want the guidance lines to be exactly one implement width apart, you can set an overlap or skip.

Headlands





You can record a headland boundary and get guidance to it, or you can work without a headland.

Onscreen appearance

When the main guidance screen shows the perspective view, the lines are tagged with flags that describe them.



ITEM	DESCRIPTION
------	-------------

	The master line that you created, and that the swaths are based on.
	The A (start) and B (end) point on the master line.
	The first swath to the left of the master line. (The direction "left" is relative to the direction the master line was drawn, not the vehicle's current position). The current swath and tag are orange. <i>Note: On a Pivot pattern, the swaths are numbered out from the center, not from the initial swath.</i>
	The second line to the left of the master line.





Following Guidance

The lightbar displays guidance in two places:

- On the LEDs
- On the screen

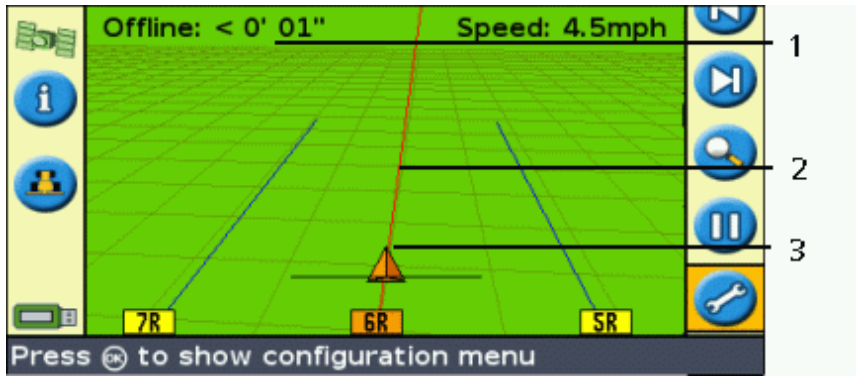
Guidance on the LEDs

The term **LED** refers to the row of 31 Light Emitting Diodes (LEDs) that are located above the screen. The LEDs that are lit up show the position of your vehicle relative to your intended guidance line. As your vehicle position changes in relation to the guidance line, the lit LEDs move left or right. Use the lightbar to obtain accurate guidance, if an implement offset or implement draft is set, or for fine guidance on straight swaths.

VEHICLE POSITION	LIGHTBAR APPEARANCE
Vehicle is directly on the guidance line 	The three center LEDs (green) show that the vehicle is online. 
Vehicle is off the guidance line 	The lit LEDs have moved right. This shows that the vehicle is offline to the left.  <i>Note: This assumes that the LED Mode is set to Chase (the default). If the LED Mode is set to Pull, the LEDs move left when the vehicle is offline to the left.</i>

Guidance on the screen

The lightbar screen shows the position of your vehicle in the field, the guidance line, and the offline distance, so you can tell how much you need to correct your position.



ITEM	DESCRIPTION
1	Offline distance
2	Guidance line
3	Vehicle position

Guidance Patterns

The EZ-Guide 500 lightbar has seven guidance patterns so you can create guidance to suit your field layout.

Straight AB

A Straight AB is the most simple form of line. Use a straight AB Line when you do not need to define headlands and you want to drive the field in parallel straight lines.

To create a straight AB Line, define a start point (A) and an end point (B). The Straight AB Line then appears as a straight line between the two points.

PATTERN	EXAMPLE

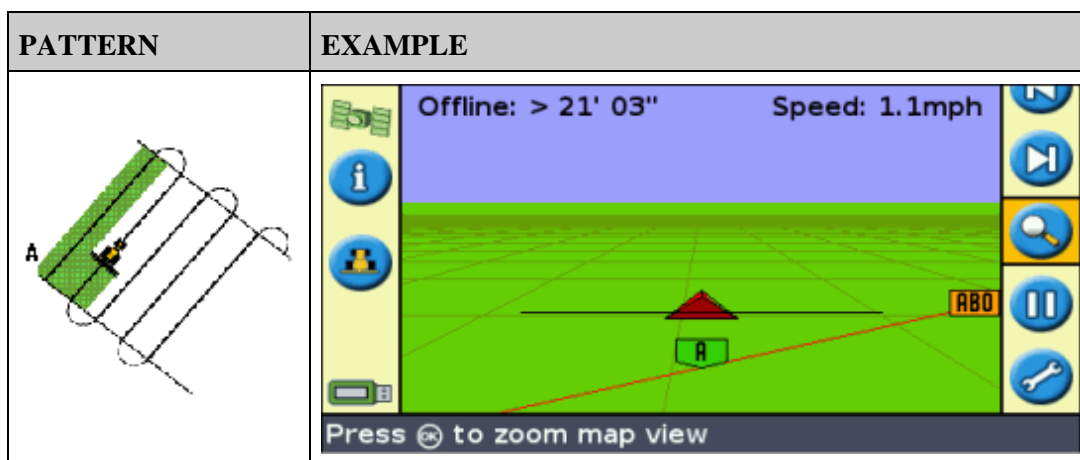
Note: When the vehicle is on a guidance line, the line extends 1 km (0.6 miles) before Point A and 1 km beyond Point B. This makes it easier to see where the next swath is, and to get online after the turn.

Mapping an AB Line

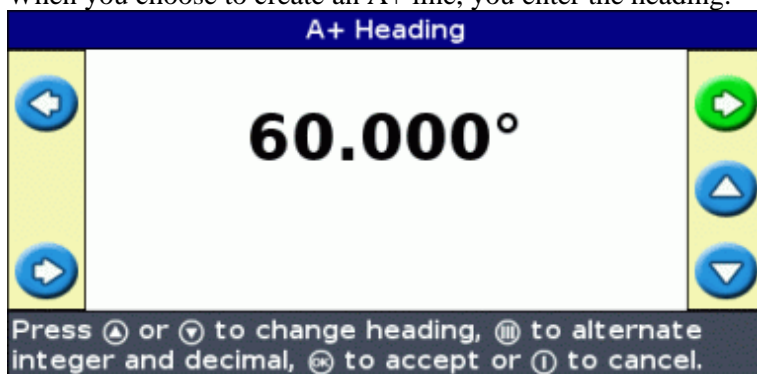
1. Drive to the start point of the master line.
2. Set the A point:
 - a. Press or until you have selected the icon.
 - b. Press . The A point is set.
3. Drive to the other end of the line.
4. Ensure that the icon is selected and then press . The master AB Line appears.
5. Turn left or right for the next swath. As you move toward the next swath, it appears on the screen and turns orange to show that it is selected.

A+ Line

An A+ line is also a straight line. It is defined by a single point on the line (the A point) and the heading of the line.



When you choose to create an A+ line, you enter the heading.



The default heading is the same as the previous AB Line. This pattern is useful for when you need guidance exactly parallel to the last AB Line, for example when:

- driving adjacent fields
- mapping the AB Line on a road down the side of the field
- skipping an access road in a field

The A+ line extends 1 km (0.6 miles) before and after the A point.

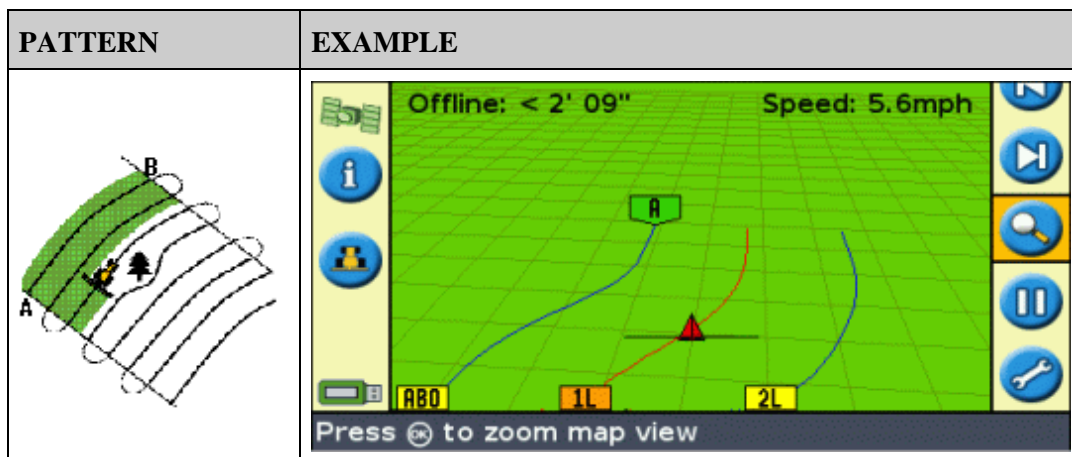
Mapping an A+ line

1. Drive to the start point of the master line.
2. Set the A point:
 - a. Press or until you have selected the icon.
 - b. Press . The A point is set. Because you have already set the line heading, your master AB Line appears on the screen.
3. Follow the AB Line for guidance down the first swath.
4. Turn left or right for the next swath. As you move toward the next swath, it appears on the screen and turns orange to show that it is selected.

Identical Curve

The identical curve pattern records your exact route between the A and B points, instead of a straight line.

All of the guidance lines will match the master curve, regardless of where the vehicle has driven. Use the curve pattern when you want to work the field with gentle curves.



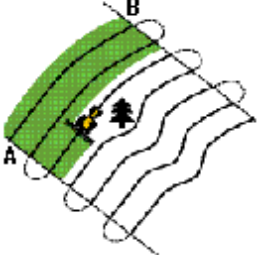
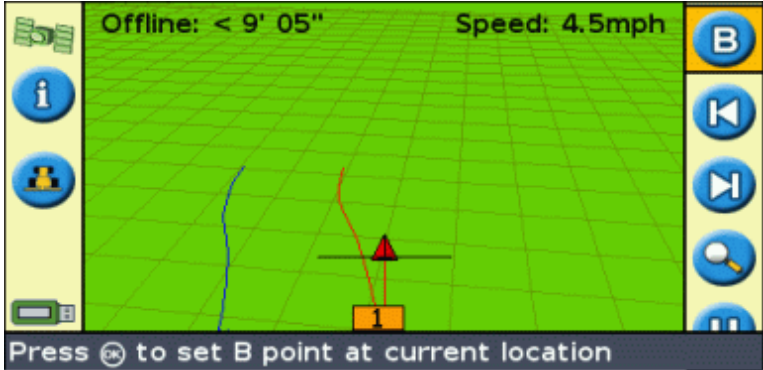
Mapping an identical curve

1. Drive to the start point of the curve.
2. Set the A point:
 - a. Press or until you have selected the icon.
 - b. Press . The A point is set.
3. Drive the initial curve.
4. Ensure that the icon is selected and then press . The master line appears on the screen.
5. Turn left or right for the next swath. As you move toward the next swath, it appears on the screen and turns orange to show that it is selected.

Adaptive Curve

The adaptive curve pattern is similar to the identical curve pattern. It provides guidance along a curve. However, the adaptive curve pattern updates guidance after each swath to take into account any deviations you made.

It continually records your path and provides guidance that matches the last path you drove.

PATTERN	EXAMPLE
	

There are two ways to define adaptive curves:

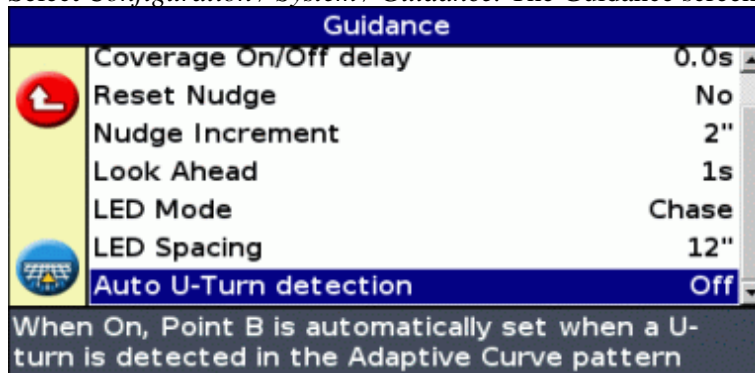
- Set the A and B points
- Set the A point and perform a U–turn onto the next swath (which is automatically detected)

The method that you use depends on the Auto U–Turn detection setting.

Changing the Auto U–Turn detection setting

Note: To change the Auto U–turn detection, the lightbar must be in Advanced mode.

1. Select *Configuration / System / Guidance*. The Guidance screen appears.



2. Adjust the Auto U–Turn detection setting.





Mapping an adaptive curve

There are two ways to use the adaptive curve pattern:






- Automatically: Set the *Auto U–turn detection* option to On and then perform a U–turn to generate each new swath.
- Manually: Set the Auto U–turn detection option to Off and then set the B point at the end of each swath to generate the next swath.

Adaptive curves with automatic turn detection

1. Drive to the start point of the curve.

2. Set the A point:
 - a. Press  or  until you have selected the  icon.
 - b. Press . The A point is set.
3. Drive the initial curve.
4. At the end of the first curve, perform a U–turn. The system detects the turn and generates the next swath.

Adaptive curves with manually defined swaths

1. Drive to the start point of the curve.
2. Set the A point:
 - a. Press  or  until you have selected the  icon.
 - b. Press . The A point is set.
3. Drive the initial curve.
4. At the end of the first curve, select the  icon to set the B point. The system generates the next swath.
5. Continue to drive the swaths, setting the B point at the end of each one.

Using the adaptive curve pattern to do rowfinding

1. In Advanced mode, select *Configuration / System / Guidance* and then set the *Auto U–Turn detection* option to Off.
2. Reset guidance:
 - a. Enter the width of the implement.
 - b. Create a guidance line based on the adaptive curve pattern.
3. Set the B point at the end of each row.
4. Turn the vehicle toward the next swath. When the vehicle is halfway through the turn, guidance along the next swath appears.

Curve smoothing

By default, curves are smoothed by the EZ–Guide 500 for improved guidance and autosteering. You can disable curve smoothing on tight turns (curves that have a radius of less than 3m (10ft)).

CAUTION: If you disable curve smoothing, the EZ–Steer 500 system or the AgGPS Autopilot system may not be able to autosteer around the tighter turns. Be careful when you disable curve smoothing.

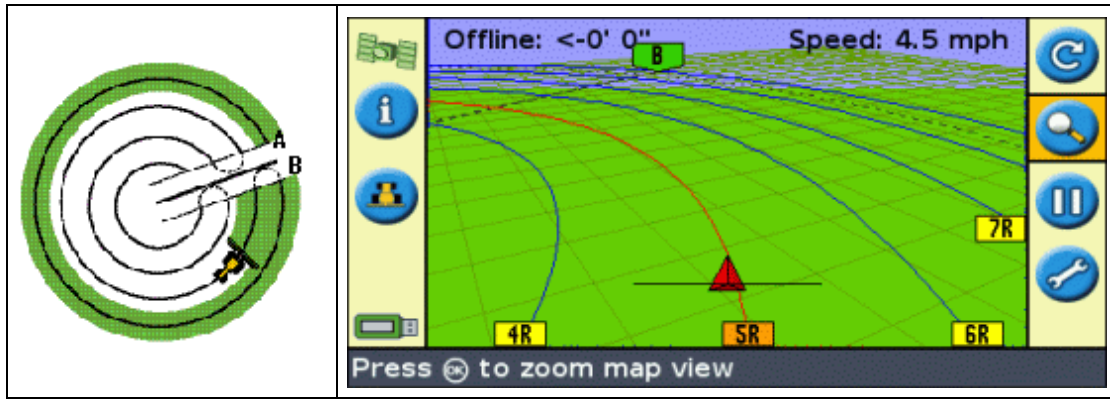
To disable curve smoothing:

1. Set the lightbar to Advanced mode.
2. Select *Configuration / System / Guidance / Minimum Turn Radius Mode*.
3. Select *Disabled*.

Pivot

Use the Pivot pattern on fields that are irrigated using a center–pivot. With this pattern, you can drive concentric circles around the center–pivot.

PATTERN	EXAMPLE
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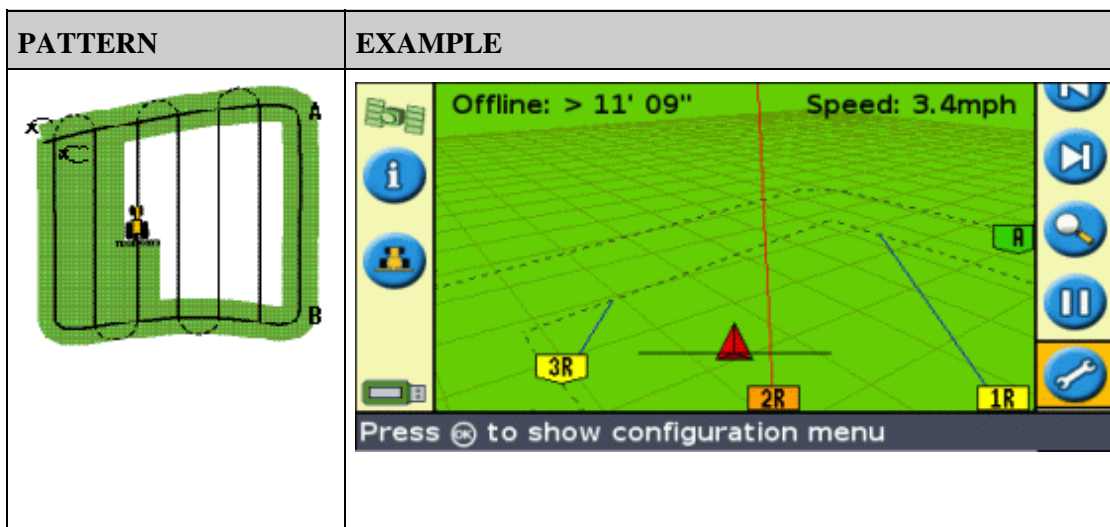
Mapping a pivot

Note: Always set the master line near the outer edge of the field.

1. Drive to the start point of the pivot.
2. Position one wheel of the vehicle in a pivot wheel rut, with the rear of the vehicle to the pivot arm. If the field is not a full circle pivot, face the rear of the vehicle to the edge of the field.
3. Set the A point:
 - a. Press or until you have selected the icon.
 - b. Press . The A point is set.
4. Drive around the field. Keep the vehicle wheel in the rut. The lightbar does not yet provide guidance.
5. When you have driven at least 1/4 of the pivot circumference, map Point B. The lightbar generates guidance swaths.
6. Turn left or right for the next swath. As you move toward the next swath, it appears on the screen and turns orange to show that it is selected.
7. Steer the vehicle so that the lit LEDs are centered on the lightbar as you drive forward along the swath.

Headland

The Headland pattern enables you to define the boundary ("Headland") of the pattern, as well as the guidance lines contained within it. Use the Headland pattern to give you room to turn. You start to define the headland, *you define the internal guidance line as you drive around the headland*, and then you complete the headland.



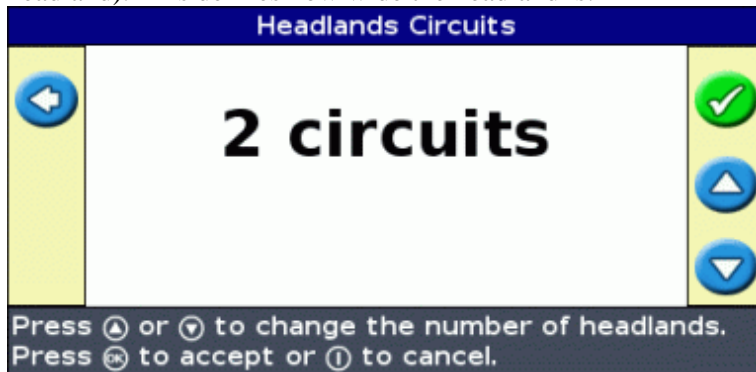


You can change two settings for the Headland pattern:

- The number of circuits
- The internal pattern (in Advanced mode only)

Number of circuits

When you create a headland, you need to specify the total number of circuits (including the master headland). This defines how wide the headland is.



Note: No matter how many circuits you are creating, you only define the outside headland. The inner headlands circuits are copied from that original circuit.

Internal pattern


The internal pattern is the pattern of the guidance lines inside the headland. In Easy mode, the internal pattern is automatically an AB Line. In Advanced mode, there is a choice of two internal pattern types:

ITEM	DESCRIPTION
Straight AB	Creates standard parallel swaths inside a headland
A+	Creates parallel swaths at a pre-defined heading

Ending the headland

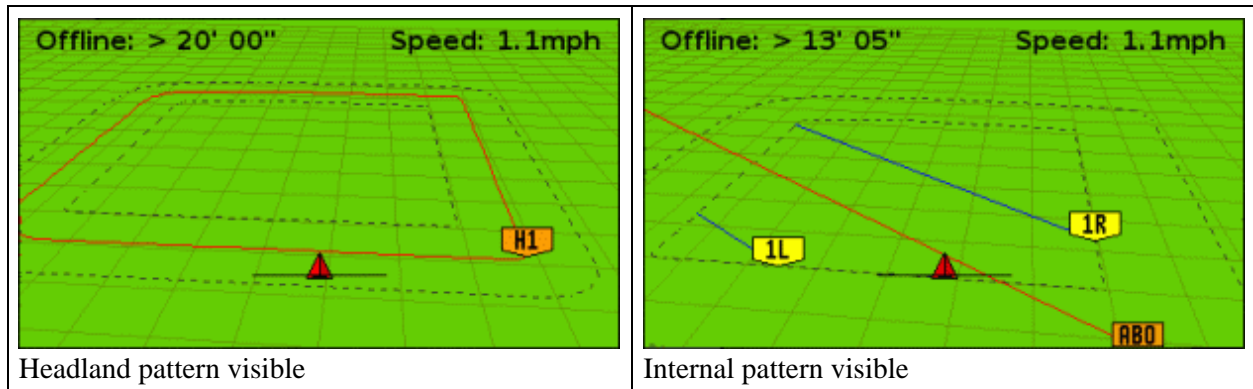
Note: You need to define the master line for the internal pattern before you complete the headland.

To finish defining the headland, do one of the following:

- Drive the headland until you return to the start point. When you enter the circle around the start point, the headland completes automatically.
- Drive part of the headland and then select . The headland completes with a straight line from the vehicle position back to the start point.

Reselecting the headland

When you use the headland pattern, you can see either the headland or the internal pattern, not both at once.





When you are driving the internal pattern and want to see the headland guidance again, do one of the following:



- Drive into the headland before the first internal swath or after the final internal swath. The headland appears automatically.
- (Advanced mode only) Drive into the headland and then use the *Select AB Line* option to reload the headland.

Mapping a headland

- If the internal pattern is an A+ line, the line appears.



1. Drive to the start point of the headland.
2. Select the  icon and then press  to set the start point of the headland.
3. Begin to drive the circuit of the headland.

Note: To ensure straight sides on the headland, you can use the pause feature. See [Straight sections on curves](#).

4. While you are driving the circuit, select the  icon to set the A point of your guidance line.
 - ◆ If the internal pattern is an A+ line, the line is set.
 - ◆ If the internal pattern is an AB Line, continue to drive around the headland. When you reach the other end of the internal guidance line, select the  icon to set the B point.

When you have defined the internal pattern guidance line, the start–point circle appears around the start point of the headland.

Note: If you return to the start of the headland before you define a guidance line, the headland will not complete.

5. To complete the headland, do one of the following:
- ◆ Drive around the rest of the headland and then drive back into the start–point circle. When you drive into the start–point circle, the headland is defined.
 - ◆ Select the  icon and then press  . The headland completes with a straight line from the vehicle position to the start point.
- The headland guidance line appears.

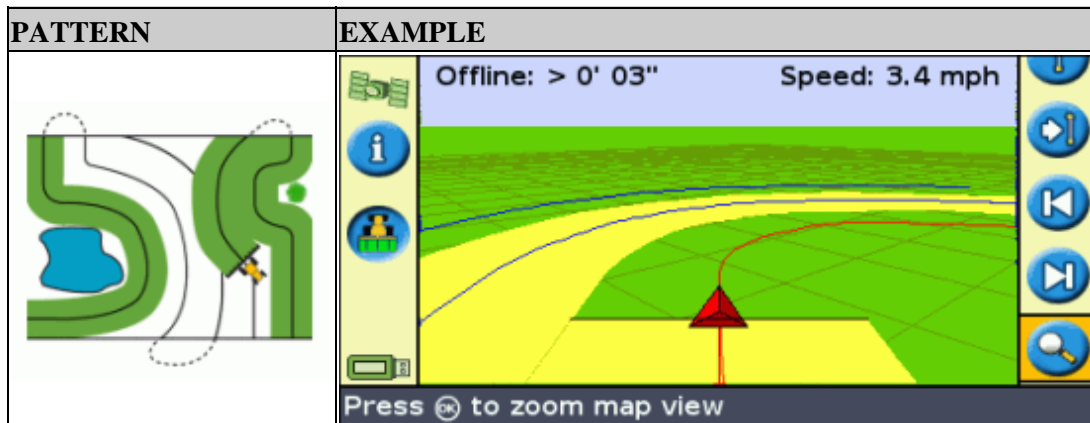
When the vehicle moves out of the headland and into the interior of the pattern, the interior is populated with guidance lines (straight AB or A+, depending on which internal pattern you selected).

FreeForm

The FreeForm(TM) guidance pattern is an advanced pattern that enables you to create multiple lines of different types in a single field to obtain guidance in fields of any shape. You need to record each line that you drive, to generate the next guidance line. You can create:



- Curved line segments
- Straight line segments in the form of straight AB Lines

With this combination, the FreeForm pattern can be useful for creating non–circular spirals or multiple curved guidance lines for irregular–shaped fields.



The FreeForm Recording option

When you are driving a curve, you need to record your path so the lightbar can create your next guidance line. There are several different options that control when the lightbar records your path:








ITEM	DESCRIPTION
Manual	The  icon enables you to manually start recording a FreeForm curve and the  icon enables you to manually end recording.
Coverage	A FreeForm curve is recorded whenever coverage logging is enabled. If the EZ–Boom 2010 system is connected, a FreeForm curve is recorded whenever the EZ–Boom master switch is on.



To adjust the FreeForm Recording option:

1. Set the lightbar to Advanced mode.
2. Select *Configuration / System / Guidance / FreeForm Recording*.
3. Select the appropriate setting.

Recording a FreeForm curve



It is necessary to record each curved pass, so the lightbar can create the next guidance line.

1. Set the *FreeForm Recording* option.
2. Drive to the start point of the FreeForm curve.
3. Begin logging your path:
 - ◆ Select the  icon and then press .
 - ◆ If the *FreeForm Recording* mode is set to Coverage, select the  icon.
When your current path is being recorded, the FreeForm recording icon  appears. To get guidance on your next pass, the icon must be green.
4. Drive the curve. To record straight sections in the FreeForm curves, you can use the pause feature. See [Straight sections on curves](#).
5. To complete the FreeForm curve, do one of the following:
 - ◆ Perform a tight U–turn.
 - ◆ Select the  icon and then press .
 - ◆ If the *FreeForm Recording* mode is set to Coverage, select the  icon.

Note: When the FreeForm Recording mode is set to Coverage, you can use either the  icon or the  icon method for recording.



Note: If the Auto U–Turn Detection option is set to Off, you must manually stop recording at the end of each pass and then start recording again at the beginning of the next pass.

Defining a straight AB line with the FreeForm pattern

1. Select the  icon to set the A point.
2. Drive to the other end of the line.
3. Select the  icon to end the line.

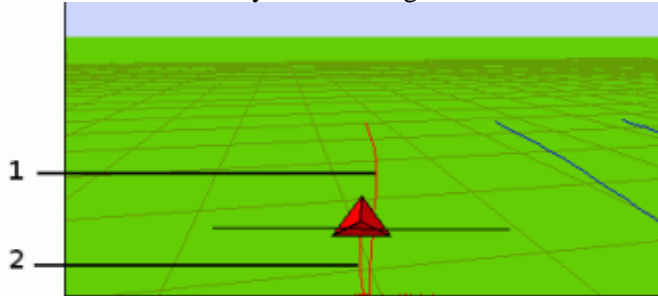
Getting guidance on curved segments

After you have defined a guidance line, there are two ways to get guidance:

- Drive the vehicle through a tight U–turn. The next guidance line appears.
- If you are manually logging a FreeForm curve, select the  action icon (to stop defining the current line) and then press .

The FreeForm curve is similar to an adaptive curve. You must record your line on each pass to receive guidance on the next. If the vehicle is not drawing a line behind it, you are not logging your path and therefore your next guidance line will not appear. Do not confuse the existing guidance line with the guidance trail appearing behind

the vehicle that shows your current guidance. You need to be creating a new guidance line:




ITEM	DESCRIPTION
1	Existing guidance line
2	New guidance line

Getting guidance on straight segments

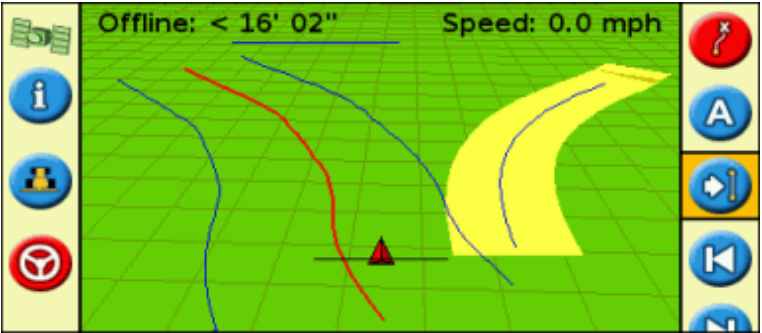
When driving on straight AB Lines, you do not have to record your path as the guidance lines are generated automatically.

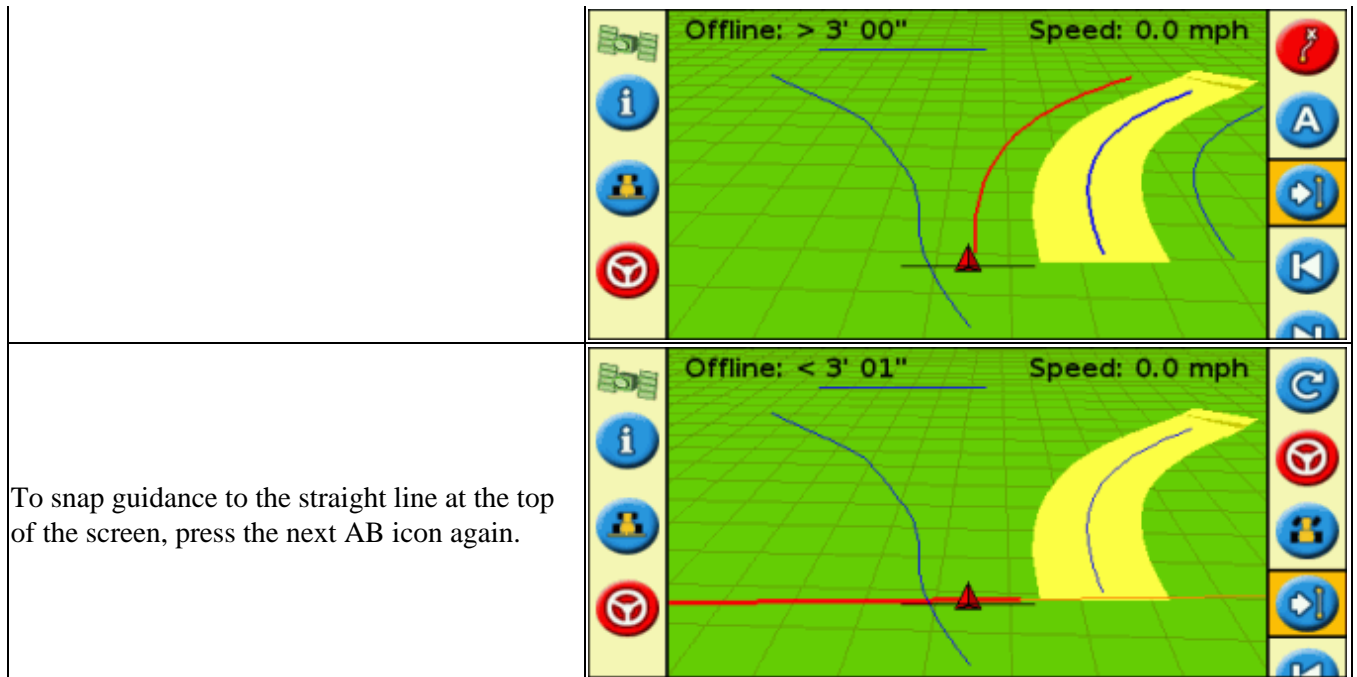
The Next AB icon

To switch from the current FreeForm guidance line to another, select the Next AB  icon. The first time that you select the icon, guidance snaps to the next nearest curve. Keep selecting the icon to cycle through any other guidance lines.

To use the Next AB icon, the vehicle must be within 1.5 swath widths of a FreeForm curve.

The following example shows how the Next AB icon works:

ITEM	EXAMPLE
<p>There are three guidance lines available. The system is currently showing guidance on the closest FreeForm curve, but you want guidance on the line that curves to the right.</p> <p>To snap guidance to the next nearest FreeForm curve, press the Next AB icon.</p>	
<p>Guidance snaps to the line that curves to the right.</p>	




Using FreeForm curves in spiral fields (round and round)


If you are creating a spiral into the center of the field, drive the full circuit and then back onto the start of the FreeForm curve. Continue to record your guidance path as you spiral toward the center of the field.

If you encounter an obstacle in the field, continue to record your path as you drive around it and on the next pass the guidance line will adjust to reflect this.


Note: When you create a spiral with the FreeForm guidance pattern, there may be a space at the center of the spiral.

Using FreeForm curves in fields with variable terrain

Start and stop recording guidance at the ends of each pass. If there are 2 guidance lines in close proximity, use the Next AB icon  to snap to the correct line.

At any point, you can add a straight AB Line for repeated straight line guidance. Use the  icon to switch between straight AB and FreeForm curve guidance lines.

Getting Guidance

The  icon enables you to create a guidance line and begin driving in the field.

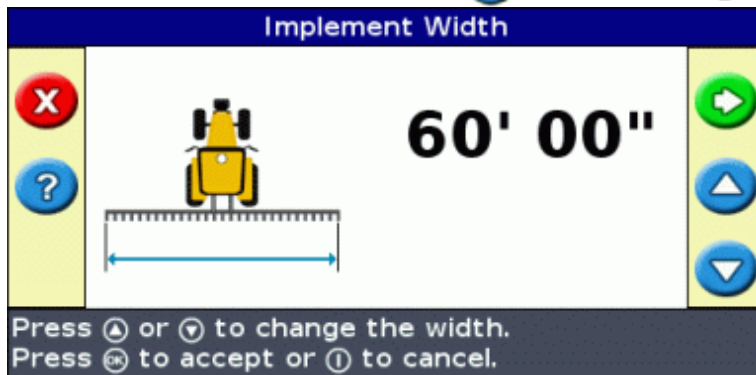
Depending on which pattern you select, follow these steps:

1. Enter the vehicle information.
2. Select a pattern.

3. Enter any additional pattern information (if necessary):
 - a. Set the A+ heading (for A+ patterns only)
 - b. Define the number of headland circuits (for headlands only)
4. Define the pattern on the field.

Step 1. Entering the vehicle information

1. From the main guidance screen, select and then press :



2. Enter the implement width and then press . The *Overlap/Skip* screen appears.
3. Do one of the following:
 - ◆ If you want your passes to overlap, press to enter an overlap distance.
 - ◆ If you want a space between your passes, press to enter a skip distance.
4. Press . The *Forward/Back Offset* screen appears.
5. Enter the distance that the implement is offset back from the antenna and then press . The *Left/Right Offset* screen appears.
6. Enter the distance that the implement is offset from the antenna and then press .

Step 2. Selecting a pattern

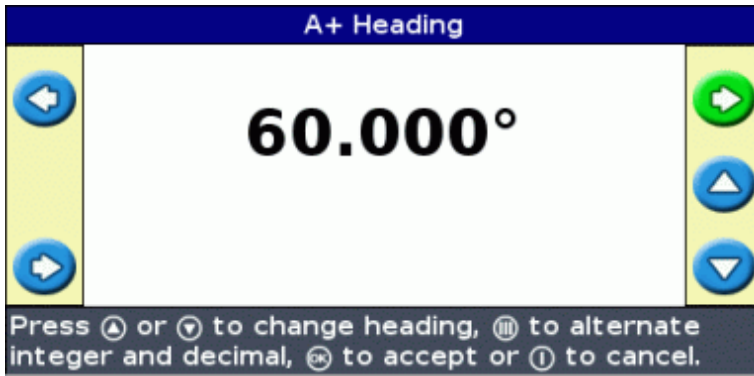
Note: You automatically create a new field when you select a pattern.

1. On the *Pattern Type* screen, press or until you have selected the type of pattern that you want to create. For a detailed description of each guidance pattern, see [Guidance Patterns](#).
2. Press .
 - ◆ If you selected A+, the A+ Heading screen appears. See Step 3.
 - ◆ If you selected Headland, the Headlands Circuits screen appears. See Step 3.
 - ◆ If you selected Straight AB, Identical Curve, Adaptive Curve, FreeForm, or Pivot, the main guidance screen appears. To begin driving, see Step 4.

Step 3. Setting any additional line information (if necessary)

Setting the A+ line heading

When you create an A+ line, you need to specify the heading of the line:



1. On the *A+ Heading* screen, press ▲ or ▼ until the screen displays the required heading.

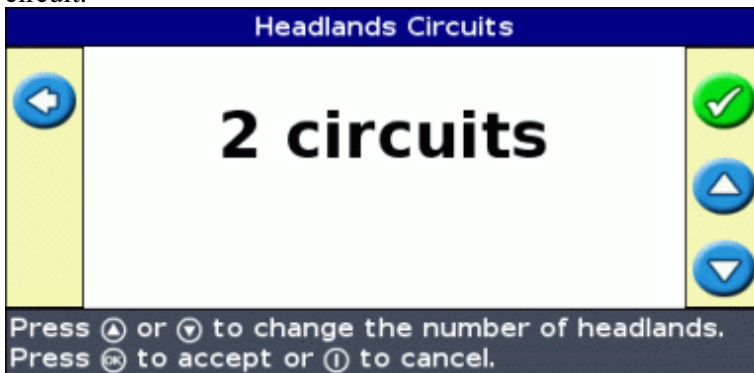
Note: The default heading is the heading of the previous AB Line.

2. Press ⏹ . The main guidance screen appears.

Defining the number of headland circuits

When you create a headland, you need to specify the number of circuits.

This is the number of headland circuits that will be generated after you have driven the first headland circuit.



1. On the *Headlands Circuits* screen, press ▲ or ▼ until the screen displays the required number of circuits.
2. Press ⏹ . The main guidance screen appears.

Step 4. Defining the pattern on the field


1. Drive to the start point.

Note: For a headland, set the start point and begin to drive.

2. Set the A point.
3. Drive the guidance line.

Note: To accurately define a pivot, put the vehicle wheel in a center pivot near the outside edge of the field.

4. Map the B point (if necessary).

Note: For a headland, select the  icon or drive back into the circle around the start point.


5. Turn and follow the guidance.

Coverage Logging

Coverage logging draws a solid block of color behind the vehicle to show the area that you have applied. When you pass over an area for the second time, the color of the covered area changes. This is useful for viewing any overlap.

To begin coverage logging, press the  function button while you are driving:

- The coverage logging icon changes to show that logging is enabled.
- On the lightbar screen, the logging trail is drawn behind the vehicle.



Press the  function button to turn off coverage logging.

Note: There can be a delay between the time when you start or stop applying coverage onscreen, and the time when the implement actually starts or stops coverage. To compensate for this, you can add a time delay to the drawing of coverage logging so the lightbar more accurately shows what is actually occurring. This requires the lightbar to be in Advanced mode. See [Coverage Logging Delay](#).

Note: Field coverage is limited to 1000 acres for each event.

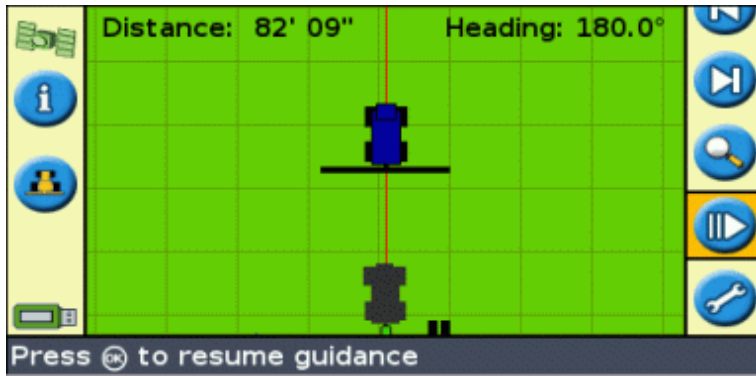
Creating straight sections on Headland or Curve swaths

You can create straight sections when recording headland or curve swaths:

1. Select the  action icon to start recording the straight section.
2. Drive the section.
3. Select the  action icon to finish recording the straight section and to start recording a curve again.

Pause / Resume Icon

When you select the pause icon, an icon appears on the screen to show your exact location when guidance was paused. This enables you to drive somewhere and then return to your current position in the field, for example to refuel the vehicle or to stop driving for the night.



The two status text items at the top of the screen show your current position relative to the pause position:



ITEM	DESCRIPTION
Distance	The vehicle's current distance from the pause position.
Heading	The vehicle's current direction relative to the pause position. For example: 0° = pointing directly toward the pause position 180° = pointing directly away from the pause position

To pause guidance, select the  icon and then press .

When you pause guidance:


- The current guidance line that you were on is displayed, even if you drive onto another swath.
- The pause function remembers your position even if the lightbar is turned off.
- A straight, dotted line is drawn from the pause position to the position of the vehicle.

Returning to the pause position

1. Turn the vehicle until the *Heading* status text item is 0.0° (so you are heading directly toward the pause position).
2. Drive forward until the *Distance* status text item is close to 0.00 m (0' 0"). This means you are nearly back at the pause position. The paused vehicle outline should be visible on the lightbar screen.
3. Position the vehicle directly over the paused vehicle outline.
4. Select the  icon and then press  to resume guidance.

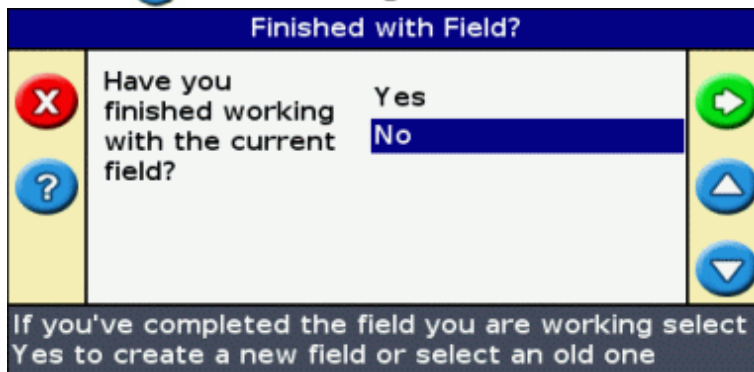
Advanced Mode Guidance


Resetting Guidance

Use the  icon to create or load a field or line.

To reset guidance:

1. Select the  icon and press . The *Finished With Field?* screen appears.



2. Select one of the two options and then press :
 - ◆ Yes – To map a new field (see [Creating a New Field or Line](#)) or select an existing field (see [Selecting a Field](#)).
 - ◆ No – To map a new AB Line (see [Adding an AB Line](#)) or select an existing AB Line in the current field (see [Selecting an AB Line](#)).

Note: If you select 'Yes', the field is immediately closed. This means that you cannot cancel out of the New Field wizard and go back to your current field.

Creating a New Field or Line





To create a new field, the New Field wizards takes you through the following steps:

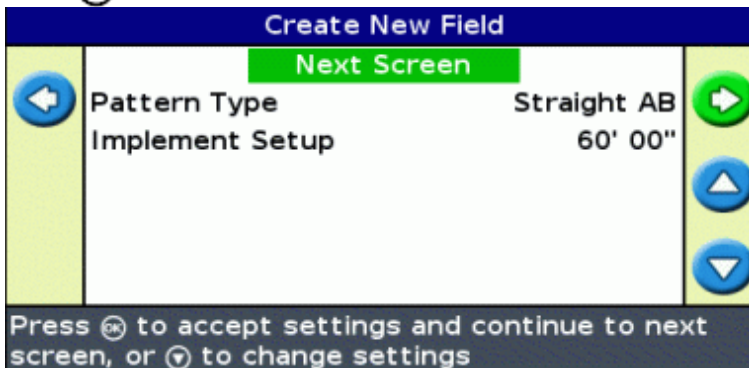
1. [Select the pattern type.](#)
2. [Set up the implement.](#)
3. [Set up any additional pattern requirements \(if necessary\).](#)

4. Name the field (if you are creating a field).
5. Enter record keeping information.
6. Drive and define the guidance line.

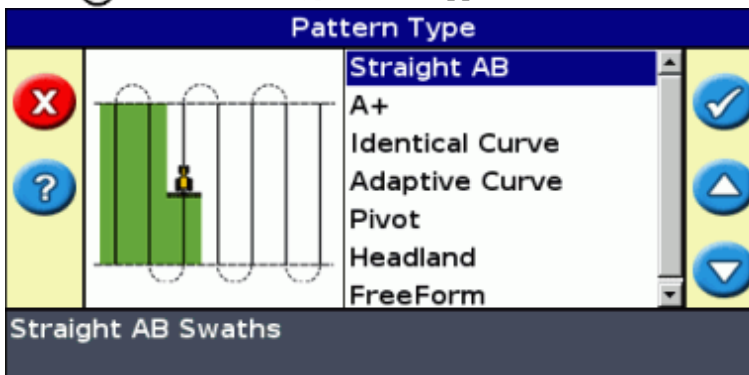
Step 1: Selecting the pattern type

Note: If the pattern type and implement setup are already correct, just press .

1. Press  to select Pattern Type.



2. Press . The *Pattern Type* screen appears.



3. Select which of the seven guidance patterns you want to base guidance on. For a description of the different field patterns, see [Guidance Patterns](#).

Step 2: Setting up the implement (if necessary)

To make optimal use of the EZ-Guide 500 system, correctly configure the implement that is attached to the vehicle. If the implement is offset and you do not configure it, there will be gaps and overlaps in your coverage.

See [Implement Setup](#).

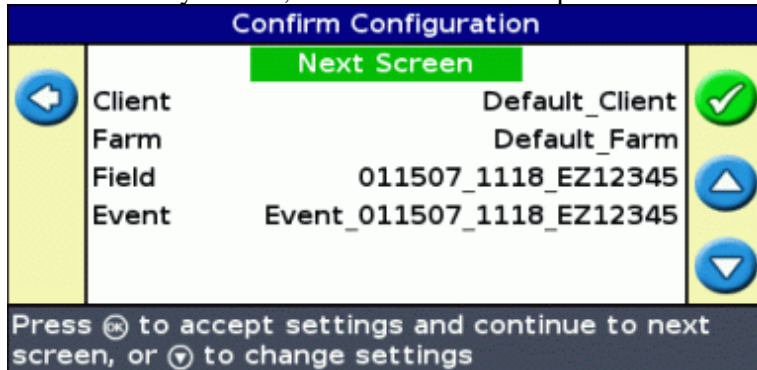
Step 3: Setting up any additional pattern requirements (if necessary)

Some guidance patterns require additional information:

If you selected ...	You need to ...
A+	define the heading.
Headlands	define the number of circuits.

Step 4: Naming the field

When you create a new field in Advanced mode, the first *Confirm Configuration* screen displays the field name information. By default, the *Client* and *Farm* options show whatever you entered last time:



To rename the field:

1. Press to select the Client option and then press . The *Client* screen appears.



2. Select one of the following:
 - ◆ Create New – to enter a new name
 - ◆ Any other entry – to use an existing name
3. Repeat Steps 1 and 2 for the Farm, Field, and Event.
4. Select Next Screen and then press .

Note: If the Client, Farm, and Field names already exist, the system displays the message: You must rename the field with a new name.

Step 5: Entering record keeping information


Note: This feature is available in the firmware version 3.00 and later.

The *Record Keeping* screen appears:

On this screen, you can add additional information to aid your record keeping:

ITEM	DESCRIPTION
Operator	The name of the vehicle operator.
EPA License Number	(USA) Your EPA license number for spreading restricted–use or state–restricted pesticides or herbicides.
Harvest Year	The year that the crop is going to be harvested.
Farm Location	The county or region where the farm is located.
Vehicle	The vehicle used in the operation.
Implement	The implement connected to the vehicle.
Application Method	The application method used (for example, spraying, seeding, or harvesting).
Soil Conditions	A description of the state of the soil.
Soil Type	A description of the soil type in the field.
Temperature	The current temperature (selected with a slider bar).
Humidity	The humidity percentage (selected with a slider bar).
Wind Speed	The average wind speed (selected with a slider bar).
Wind Direction	The average wind direction.
Wind Gust Speed	The maximum speed of any wind gusts (selected with a slider bar).
Sky Conditions	The amount of cloud cover.
Crop	The crop grown in this field.
Target Pests	If you are spraying the field, you can record the pest that the spray targets.
Applied Material	The material applied to the field.
Custom1	Additional information of your choosing.
Custom2	Additional information of your choosing.
Custom3	Additional information of your choosing.
Custom4	Additional information of your choosing.




For more information on entering names with the virtual keyboard, see [Naming a Field](#).

The record keeping entries are optional. When you have entered any record keeping information that you want, select Next Screen and then press .

Note: These entries are also saved in the summary report.

Step 6: Driving and defining the guidance line

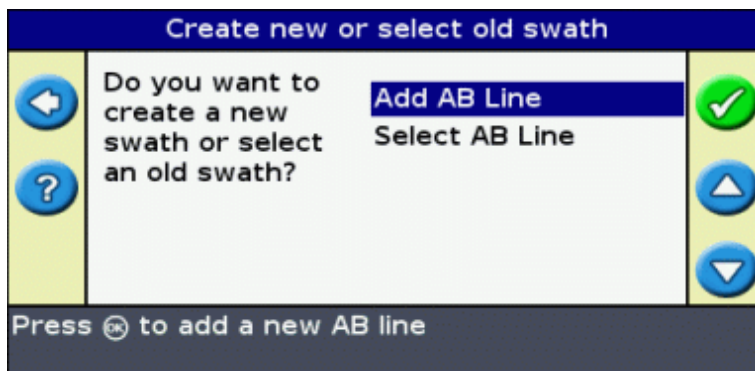
Depending on the pattern type that you selected, one of the following icons is now available:

-  (start AB Line, A+, Identical Curve, Adaptive Curve, or Pivot)
-  (start Headland)
-  (not currently recording FreeForm curve)

Drive to the start point and then select one of these icons to begin defining guidance.

For more information about the various field patterns, see [Guidance Patterns](#).


Adding an AB Line




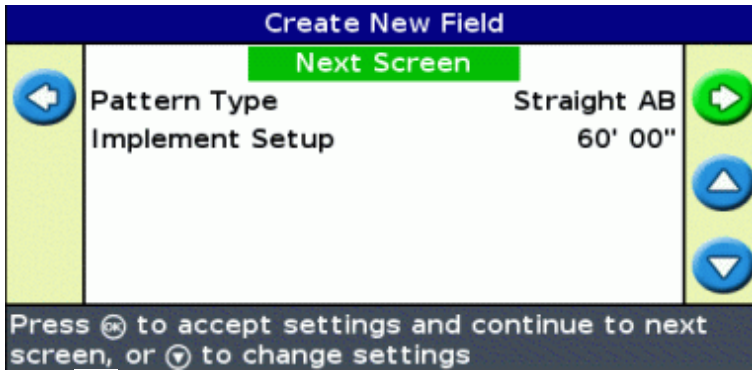
To create a new AB Line, the New AB Line wizard takes you through the following steps:


1. [Select the pattern type](#).
2. [Set up the implement](#).
3. [Set up any additional pattern requirements \(if necessary\)](#).
4. [Drive and define the guidance line](#).

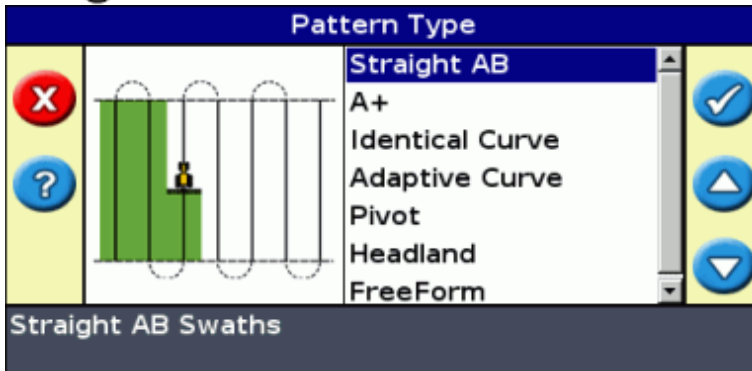
Step 1: Selecting the pattern type

Note: If the pattern type and implement setup are already correct, just press .

1. Press  to select Pattern Type.



2. Press  . The *Pattern Type* screen appears.



3. Select which of the seven guidance patterns you want to base guidance on. For a description of the different field patterns, see [Guidance Patterns](#).

Step 2: Setting up the implement (if necessary)

To make optimal use of the EZ-Guide 500 system, correctly configure the implement that is attached to the vehicle. If the implement is offset and you do not configure it, there will be gaps and overlaps in your coverage.

See [Implement Setup](#).




Step 3: Setting up any additional pattern requirements (if necessary)

Some guidance patterns require additional information:

If you selected ...	You need to ...
A+	define the heading.
Headlands	define the number of circuits.

Step 4: Driving and defining the guidance line

Depending on the pattern type that you selected, one of the following icons is now available:

-  (start AB Line, A+, Identical Curve, Adaptive Curve, or Pivot)
-  (start Headland)
-  (not currently recording FreeForm curve)

Drive to the start point and then select one of these icons to begin defining guidance.

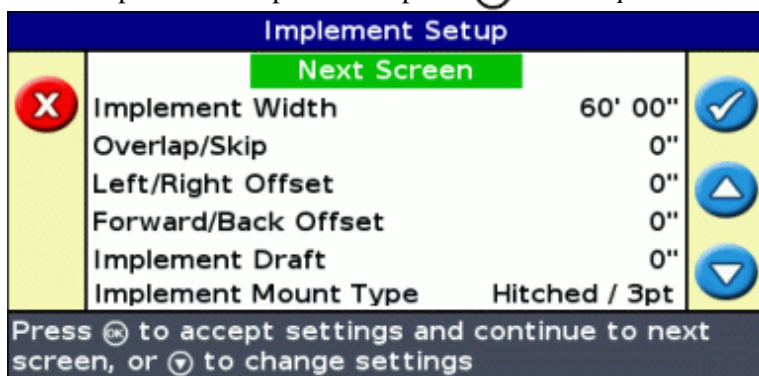
For more information about the various field patterns, see [Guidance Patterns](#).

Implement Setup

To make optimal use of the EZ-Guide 500 system, correctly configure the implement that is attached to the vehicle. If the implement is offset and you do not configure it, there will be gaps and overlaps in your coverage.

From the *Create New Field* or *Add AB Line* screens:

1. Select Implement Setup and then press . The *Implement Setup* screen appears:



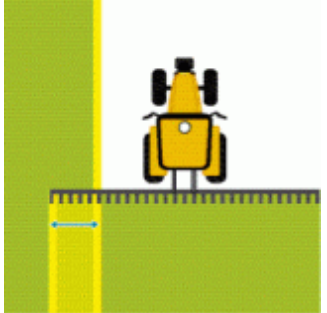
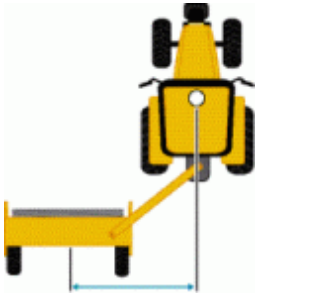
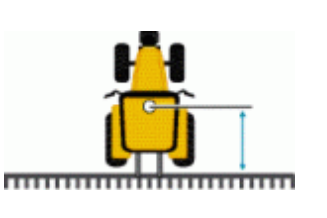
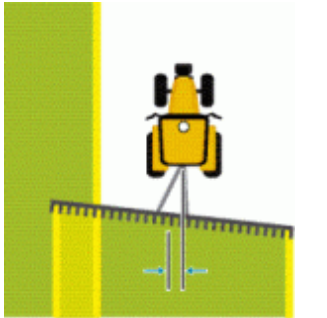
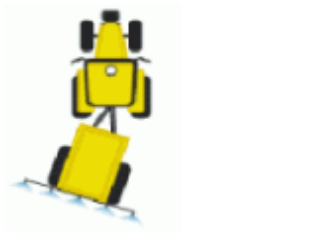
2. Select a setting you want to change and then press . The adjustment screen for that setting appears.
3. Press or to adjust the setting and then press . The *Implement Setup* screen reappears with the changed setting.

Note: When you need to adjust a value by a larger margin, hold down or to change the value. After a few seconds the digits will change more quickly.

4. When you have set all the required implement options, select *Next Screen* and then press .

The implement settings are:

ITEM	DESCRIPTION	EXAMPLE
Implement Width	The side-to-side width of the implement.	

Overlap	Set an overlap only if you want the implement to overlap the previous swath.	
Left/Right Offset	If the implement is offset to either the left or the right, set an offset. <i>Note: If you configure an implement offset, the guidance line will be centered on the middle of the implement and the vehicle will appear to be offline. Use the lightbar LEDs for guidance.</i> If the implement protrudes to the left, set a left offset. If the implement protrudes to the right, set a right offset.	
Forward/Back Offset	If the implement is offset either forward of or back from the rear of the vehicle, set a forward/back offset. If the implement is behind the antenna position, set a rear offset. If the implement is forward of the antenna position, set a forward offset. The vehicle and implement will show this offset on the screen.	
Implement Draft	This compensates for the implement pulling to one side, which may be caused by variable ground. The effect is similar to that of left/right offset. Set it when the implement constantly pulls the vehicle to one side. The example shows a left draft. <i>Note: If you configure an implement draft, the guidance line will be centered on the middle of the implement and the vehicle will appear to be offline. Use the lightbar LEDs for guidance.</i>	
Implement Mount Type	Use this setting to choose between a hitched (3-point) or trailing (drawbar) implement. Whichever mode you select, the implement remains fixed until the vehicle reaches a speed of at least 3.2 kph (2 mph).	

Selecting (Loading) an AB Line

Note: You do not have to actively save an AB Line for it to be stored. AB Lines are stored automatically.

To load an AB Line, do the following:

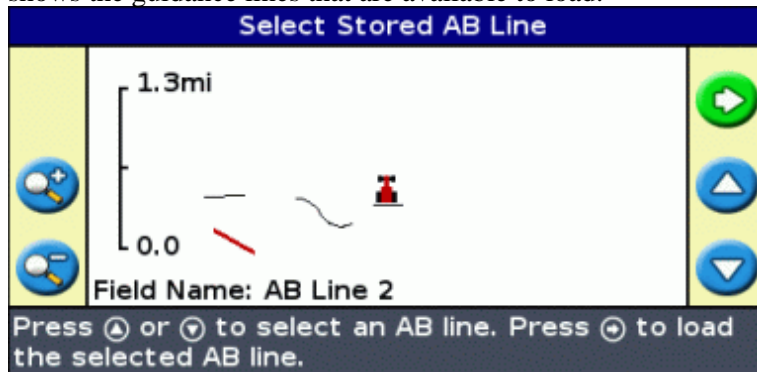
1. [Select the AB Line](#)
2. [Set up the implement](#)
3. [Select the number of headland circuits \(if necessary\)](#)

Step 1. Selecting the AB Line

1. On the *Create new or select old swath* screen, choose *Select AB Line*.

If there is only one guidance line in the current field, the main guidance line appears with the guidance line loaded. See [Implement Setup](#).

If there is more than one guidance line in the current field, the *Select Stored AB Line* screen appears and shows the guidance lines that are available to load.



2. To choose an AB Line to load:
 - a. Press ▲ or ▼ to cycle through the available lines.

Note: You can select only from those lines that were created within the range shown on the left of the screen. To increase or decrease the range, press the ▲ or ▼ function buttons.

- b. Selected the appropriate line and then press OK . The *Select Stored AB Line* screen appears.
- c. If necessary, change the implement settings.

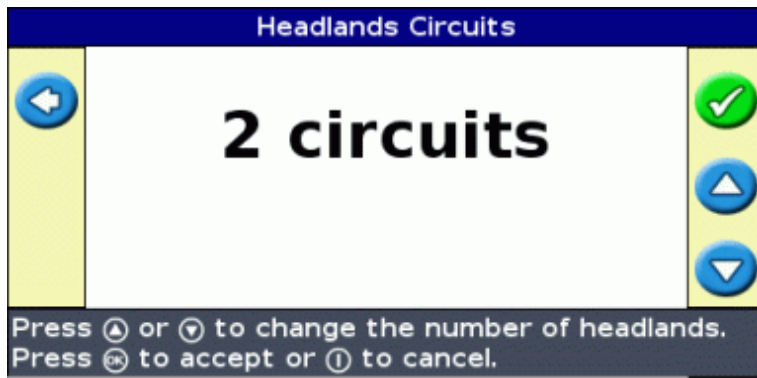
Step 2: Setting up the implement (if necessary)

To make optimal use of the EZ-Guide 500 system, correctly configure the implement that is attached to the vehicle. If the implement is offset and you do not configure it, there will be gaps and overlaps in your coverage.

See [Implement Setup](#).

Step 3: Selecting the number of headland circuits (if necessary)

If you are loading a Headland, the *Headlands Circuits* screen appears:



1. Press ▲ or ▼ until you set the appropriate number of circuits.
2. Press OK . The main guidance screen appears with the headland loaded.

Selecting (Loading) a Field

Note: You do not have to actively save a field. Fields are stored automatically.

To load a field, do the following:

1. Select the field to load.
2. Select or create the event.
3. Select the line to load.
4. Set up the implement (if necessary).

These steps are described below.

Step 1. Selecting the field to load

There are two ways you can select a field to load:

- Using FieldFinder
- Selecting the Field name from a list

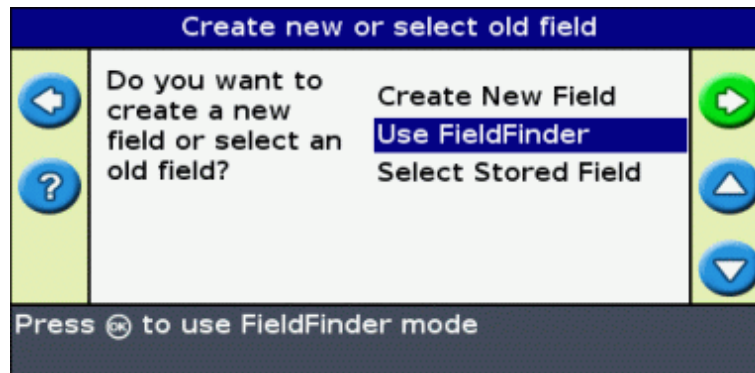
Using FieldFinder

The FieldFinder option allows you to choose a field from a map view.

Note: The vehicle must be within 200 m of the field for it to appear on screen.

To use FieldFinder:

1. From the *Create new field or select old field* screen, select *Use FieldFinder* .

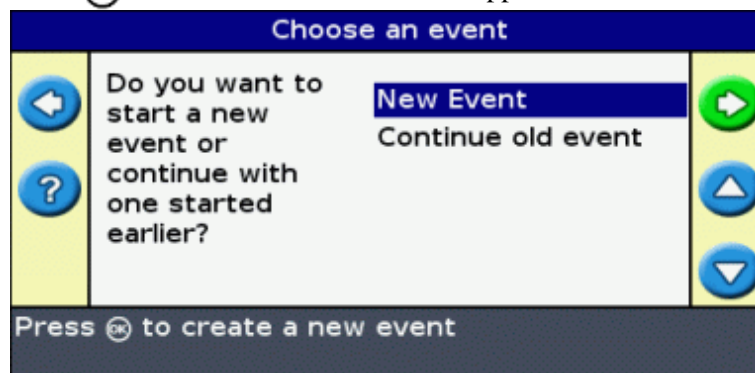


2. Press [OK]. The FieldFinder map view appears.



3. Use the arrow keys on the left of the screen to select the field you want to load.

4. Press [OK]. The *Choose an event* screen appears.



Selecting the Field name from a list

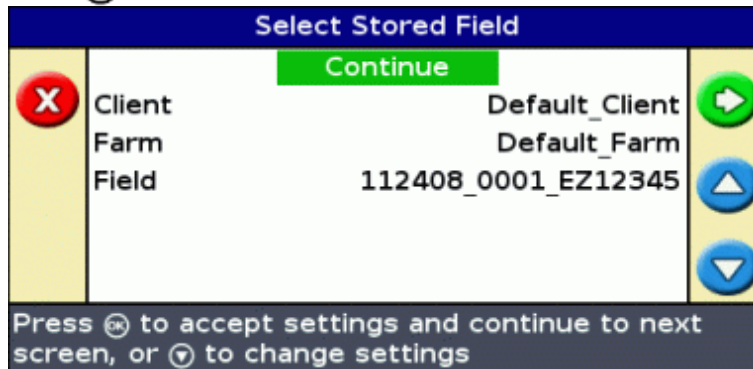
You can select the field from a list of names, instead of a map. This can be useful if the lightbar is not receiving a GPS signal.

To select a field from a list of names:

1. From the *Create new field or select old field* screen, select *Select Stored Field*.

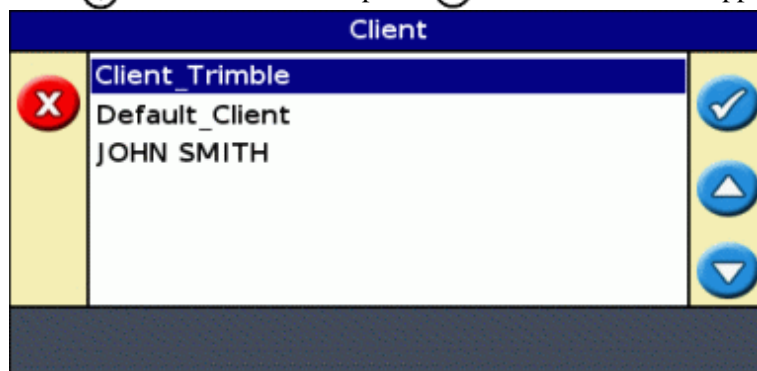


2. Press [OK]. The *Select Stored Field* screen appears.



3. Select the client.

a. Press [Down Arrow] to select Client and press [OK]. The *Client* screen appears.



b. Press [Up Arrow] or [Down Arrow] until you select the desired Client name.

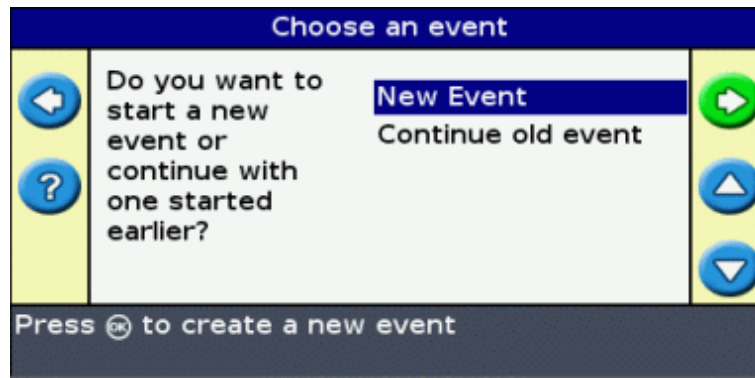
c. Press [OK]. The *Select Stored Field* screen reappears.

4. Select the farm, using the same process as for client.

5. Select the field, using the same process as for client and farm.

6. Press [Up Arrow] to select *Continue*.

7. Press [OK]. The *Choose an event* screen appears.



Step 2: Selecting or creating the event

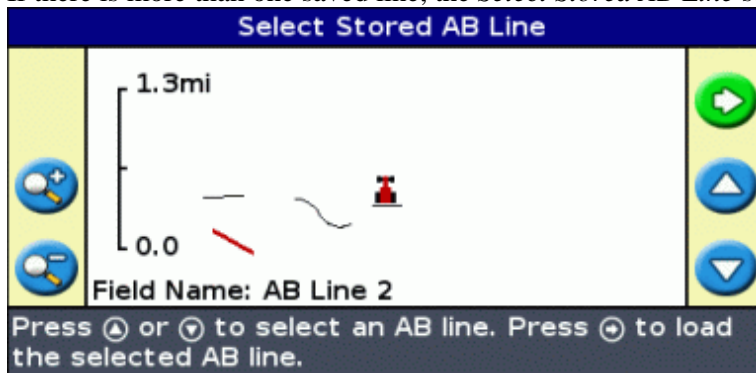
1. Press or until you select either New Event or Continue old event.
2. Press .

If you selected *New Event*, you must enter a name for the new event.

Note: If you want to create a new line in this field, load an existing line, select the icon and then create a new line.

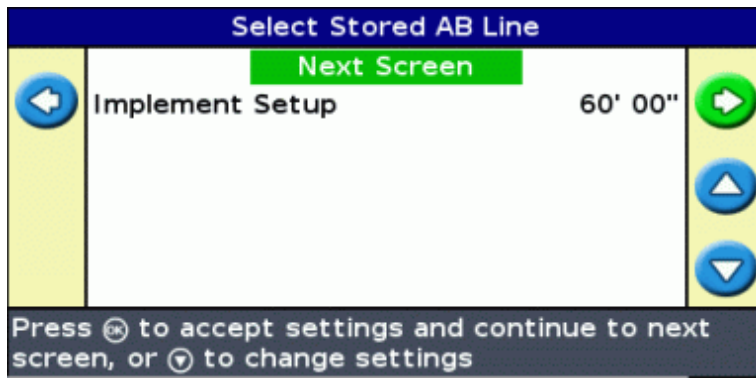
One of the following occurs:

- If there is only one saved line, it is automatically selected. See [Implement Setup](#).
- If there is more than one saved line, the *Select Stored AB Line* screen appears.



Step 3: Selecting the line to load


1. Press or one or more times until you select the appropriate line.
2. Press . The *Select Stored AB Line* screen appears.



Step 4: Setting up the implement

To make optimal use of the EZ-Guide 500 system, correctly configure the implement that is attached to the vehicle. If the implement is offset and you do not configure it, there will be gaps and overlaps in your coverage.

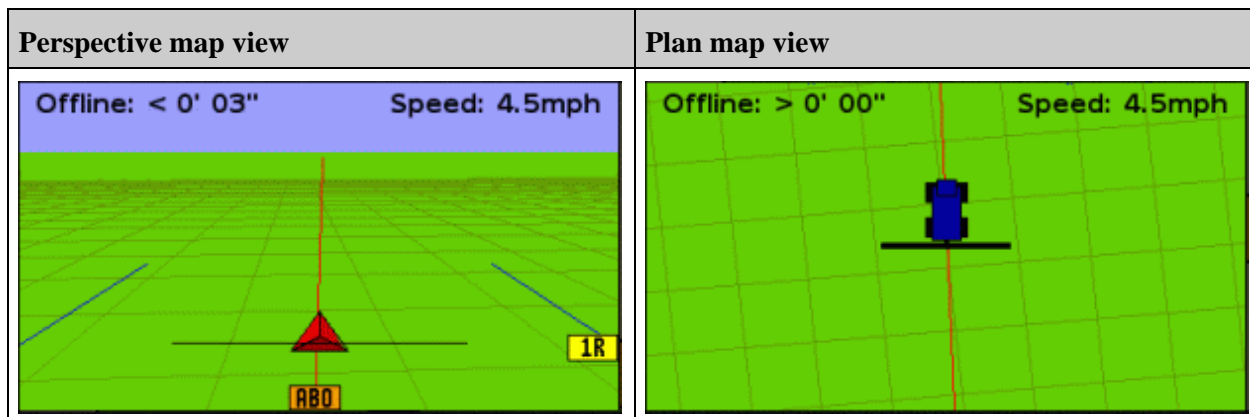
See [Implement Setup](#).

If you do not need to change the implement configuration, select Next Screen and then press .

Advanced Mode Additional Information

Views

There are two possible views when you are driving in the field in Advanced mode:



The view that is shown is controlled by the view mode:

ITEM	DESCRIPTION
Auto Headlands (default)	Shows the perspective map view on swaths and the plan map view in headlands.
Auto Engage	Shows the perspective map view when the EZ–Steer system is engaged and the plan map view when the system is disengaged.
Manual	You can manually change between the perspective map view and the plan map view using the action icon.

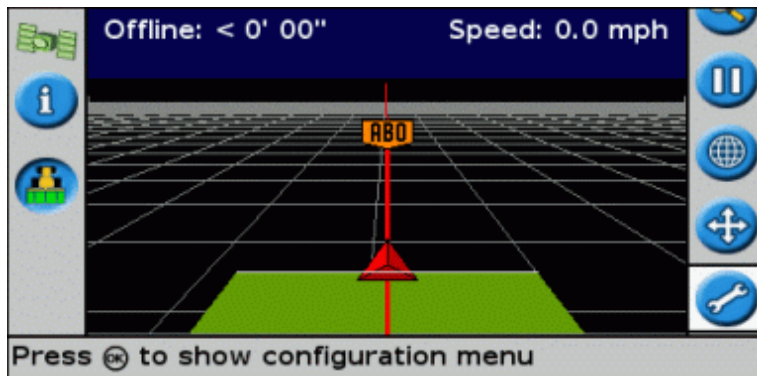
The Auto Headlands and Auto Engage view modes control which view you see. Manual mode enables you to change the view yourself.

Changing the view mode

To change the view mode, select *Configuration / System / Display / View*.

Night Mode

To improve the visibility of the screen during night–time operations, you can change the color scheme.




To change to night mode, select *Configuration / System / Display / Color Scheme* and select *Night Mode* .

Nudge






Nudge a guidance line if you need to correct for:

- GPS position drift when returning to the field for guidance, for example, after pausing or turning the unit off and on
- GPS satellite constellation changes while driving in the field

Each nudge moves the guidance line by the Nudge Increment value. For example, if the Nudge Increment is set to 3" and you press  twice, the total nudge distance is 6" to the right.

The nudge left and nudge right icons

The Nudge function moves the guidance line slightly to the left or right, relative to your vehicle. Use it if you can see that the vehicle is exactly on-line, but the lightbar is showing that you are slightly offline:

Nudge is always applied to the guidance line relative to the vehicle heading. To nudge, press  or  one or more times until you select the nudge left  or nudge right  icon and then press the  button.

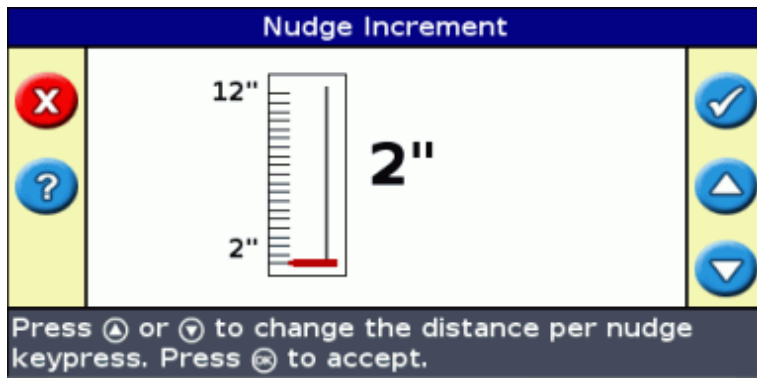
In Easy mode, you cannot adjust the amount of each nudge. The default value is 3 cm (1").

You can change other Nudge features in Advanced mode.

Changing the nudge increment value

The default nudge increment value is 3 cm (2").

To change the amount by which nudge increases, select *Configuration / System / Guidance / Nudge Increment*.




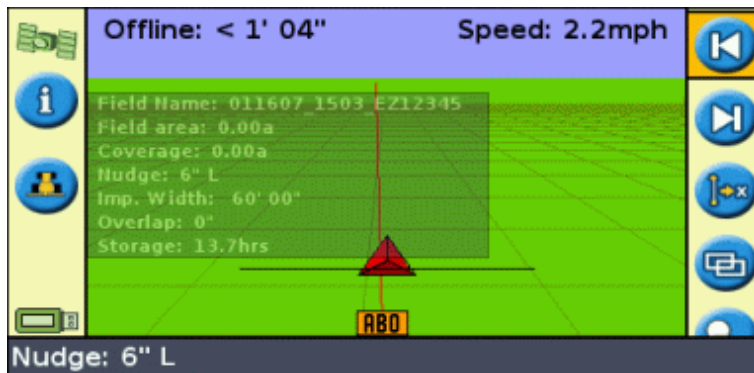
Note: The maximum Nudge Increment value is 30 cm (12").

To reset the nudge distance to 0, select *Configuration / System / Guidance / Reset Nudge*.

Viewing the current amount of nudge


There are two ways to view the current amount of nudge that has been applied:

- The nudge value is displayed on the Tip/Message bar at the bottom of the screen while a nudge icon is highlighted
- The first information tab shows the current nudge value. Press the  function button.



Resetting nudge after each row

You can configure the lightbar to reset the nudged position each time you change rows:

1. Select *Configuration / System / Guidance / Clear Nudge at Swath End*.
2. Select *On* and then press .

Each time you move from one swath to the next, the nudge value will reset to 0, and the swaths will return to their original position.

The shift icon

Shift moves the guidance line directly to the vehicle position.


Shift enables you to permanently update the position of the line. With the shift and save mode, you can move the

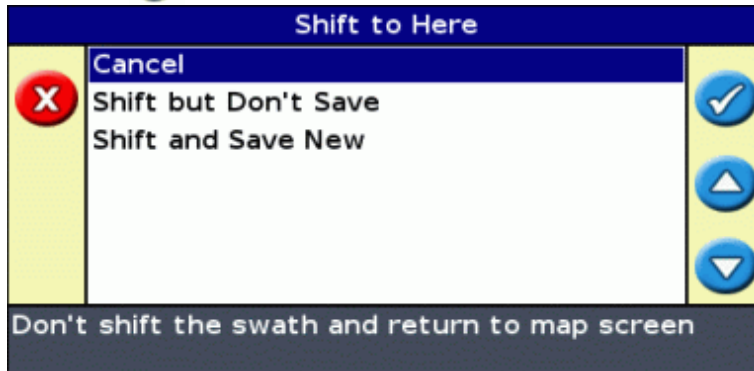
line and save it. This can be useful for higher accuracy work, for example, to offset planting by half a swath width from one season to the next.

To shift the lines:

1. Drive the vehicle along the line that you want to map the guidance to.

Note: If you are driving at an angle of more than 10 degrees from the current swath, an error message appears. You must drive at almost the same angle as the guidance line.

2. Select the  action icon. The *Shift to Here* screen appears:



3. Select one of the following:

Item	Description
Cancel	Exit without moving the guidance line
Shift but Don't Save	The line moves to your current location, but when you exit the field the previous line position is retained
Shift and Save New	The line moves to your current position and is permanently saved in the new location

Configuring the Lightbar

Setting the LED brightness

You can adjust the brightness of the LEDs on the lightbar. In bright sunlight, increase the brightness to make the LEDs more obvious. In darker conditions, for example, driving at dusk, you can lower the brightness settings to make the LEDs less intense.

To change the LED brightness, select *Configuration / System / Display / LED Brightness*.

Setting the backlight brightness

The backlight brightness controls the brightness of the lightbar screen.

To adjust the setting, select *Configuration / System / Display / Backlight*.

Setting the information tab transparency

For a description of the information tabs, see [Information tabs](#).

The information tabs are transparent. To change the level of transparency, select *Configuration / System / Display / Status Popup Transparency*.

10 represents a solid black tab; 1 is barely visible.

Setting the LED mode

There are two LED modes:

Mode	Description
Chase (default)	Chase the LEDs to stay online. The LEDs represent the swath location relative to the vehicle. For example, if the vehicle moves offline to the left, the lit LEDs move right.
Pull	Center the LEDs to stay online. The LEDs represent the vehicle position relative to the swath. For example, if the vehicle moves offline to the left, the lit LEDs also move left.

To change the LED mode, select *Configuration / System / Guidance / LED Mode*.

LED spacing

The LED spacing is the distance that each LED represents. The default LED spacing is 15 cm (6").

To adjust the LED spacing, select *Configuration / System / Guidance / LED Spacing*.

Setting the units

The units that you selected during the *Quick Start Wizard* are set as the units for the lightbar. The default units are US/imperial.

To change the units, select *Configuration / System / Display / Units*.

Setting the time zone

The lightbar receives the time from the GPS signal, which transmits UTC (Coordinated Universal Time, formerly known as Greenwich Mean Time).

To enter your time offset from UTC so that the lightbar can calculate your local time, select *Configuration / System / Display / Time Zone*.

Common time zones are listed below.

Location	Standard time offset	Daylight savings time offset
US Eastern Time	-5:00	-4:00

US Central	-6:00	-5:00
US Mountain	-7:00	-6:00
US Pacific Time	-8:00	-7:00
Australia East	+10:00	+11:00 (except Queensland)
Australia Central	+9:30	+10:30 (except Northern Territory)
Australia West	+8:00	+9:00

A positive timezone indicates a zone that is ahead of Greenwich, England. A negative timezone is behind.

Driving on Large Fields

At distances greater than 10 km (6.2 miles) from the original AB Line, the curvature of the Earth's surface can cause a reduction in GPS position accuracy. Consequently, the lightbar does not support more than 1024 swaths to the left and 1024 swaths to the right of the original AB Line.

If you need to create more than 1024 swaths either to the left or the right of the AB Line, do one of the following:

- Create a second AB Line
- Use the A+ pattern

This will ensure that you maintain the highest level of steering accuracy.

Driving Tight Turns

By default, the EZ-Guide 500 system smooths out tight turns. This makes it easier for the driver (or the EZ-Steer or AgGPS Autopilot system) to follow the curve without overshooting the turn. Because the guidance line is being gradually smoothed out, this can result in minor skips in coverage between the swaths.

To configure curve smoothing, select *Configuration / System / Guidance / Minimum Turn Radius Mode*. There are three options:

ITEM	DESCRIPTION
Automatic	The minimum turn radius is the larger of 80% swath width or 10 meters. Curves that are tighter than the minimum turn radius are smoothed.
Manual	User-configured minimum turn radius. Curves that are tighter than the minimum turn radius are smoothed.
Disabled	Curve smoothing on tight turns is disabled. (Tight turns are curves with a radius of less than 3 m (10 ft)). CAUTION: If you disable curve smoothing, the EZ-Steer 500 system or the AgGPS Autopilot system may not be able to autosteer around the tighter turns. Be careful when you disable curve smoothing.

The lightbar displays a warning when you approach a tight turn. You may want to disengage the autosteer system and slow down to ensure that you turn smoothly and do not tangle the implement.

To adjust the angle of turn that triggers that warning:

1. Select *Configuration / System / Guidance / Tight turn alert threshold*.
2. Select a value from 1 to 10.

A low value triggers the warning even on gentle curves while a high value triggers the warning only on tight curves.

The default value is 7.

Adding a Time Delay to Coverage Logging

There may be a delay between the time when you start or stop drawing coverage onscreen and the time when the implement actually starts or stops coverage. For example, some spray valves can take 1.5 seconds to open or close.

To compensate for this, you can add a time delay to the drawing of coverage logging, so that the lightbar more accurately reflects what is actually occurring.


To add a time delay to the drawing of coverage logging, select *Configuration / System / Guidance / Coverage On/Off Delay*.

When you engage coverage logging, the system waits this delay time before beginning to draw the coverage onscreen.


When you disengage coverage logging, the system waits this delay time before stopping drawing coverage logging.

Configuring Coverage Logging

You can select when coverage logging engages:

ITEM	DESCRIPTION
Disabled	Coverage logging is disabled.
Manual	Coverage logging is manually engaged or disengaged with the  icon.
Engaged	Coverage logging is on when an automated steering system is engaged.
Switch	Coverage logging is enabled with an external switch.

To change when coverage logging is enabled:

1. In Advanced mode, select *Configuration / System / Guidance / Coverage Logging*. The *Coverage Logging* screen appears.
2. Select the appropriate setting and then press .

Setting the Look Ahead Value

The Look Ahead time predicts your future vehicle path to allow for reaction time and vehicle turn speed.

For larger vehicles that take longer to turn, increase the time.

Note: For 4WD articulated tractors, always set the Look Ahead time to 0 seconds.

To adjust the Look Ahead value, select *Configuration / System / Guidance / Look Ahead*.

Enabling Speed Pulse Output (Radar)

The EZ-Guide 500 lightbar guidance system can output simulated radar pulses at a pre-defined speed pulse output rate. This can be useful to:

- replace the radar / true ground speed sensor for speed on the vehicle.
- send speed to any other agricultural device requiring speed pulses, for example, yield monitor or variable rate controller.

To use speed pulse output, you need a radar sensor cable kit. To purchase one, contact your local reseller.

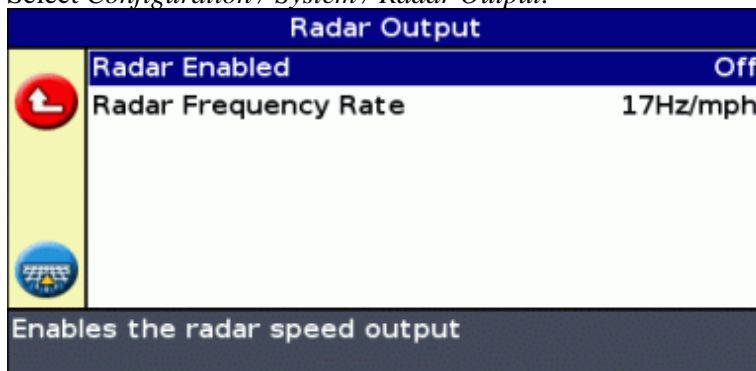
Connecting a device to receive speed pulses

To connect the lightbar to a spray controller:

1. Attach the external interface cable (P/N 62749) to the COM port of the lightbar.
2. Attach the radar sensor cable to the external interface cable.
3. If required, connect a spray switch into the WeatherPack connector on the radar sensor cable using a fly-lead.

Configuring the lightbar

1. Select *Configuration / System / Radar Output*:



2. Configure the radar settings:

- ◆ *Radar Enabled* must be On.
- ◆ *Radar Frequency Rate* is the output rate expected by your device. Most Raven and Midtech controllers use 58.94 Hz/mph (34.80 Hz/kph).

Setting up a controller

On a Raven controller:

1. Make sure that the speed input is set to Speed Radar SP2.

You usually choose the speed input setting when you first calibrate the unit; the choices given in most Raven controllers are SP1 or SP2. SP2 is the correct setting for Speed Radar inputs. For more information on how to check this setting, refer to your variable rate controller instruction manual.

2. Make sure that the speed calibration value is set correctly. For the most accurate results, recalibrate the unit to match the lightbar output.

For information on how to calibrate the unit, refer to the controller instruction manual.

***Note:** To check the accuracy of your current settings, compare the speed value indicated on the lightbar guidance system with that on the spray controller.*

On a Midtech controller:

1. Make sure that the speed calibration value is set correctly. For the most accurate results, recalibrate the unit to match the lightbar guidance system output.

For information on how to calibrate the unit, refer to the controller instruction manual.

***Note:** To check the accuracy of your current settings, compare the speed value indicated on the lightbar guidance system with that on the spray controller.*

Recording events

The EZ-Guide 500 lightbar can record events for playback. Only use this feature if directed to by your support provider.

Restoring the Default Lightbar Settings

You can restore all of the lightbar settings back to the factory defaults.

Select *Configuration / System / Restore Defaults*. The *Restore Defaults* screen appears.

***Note:** Your field information remains unchanged.*

Advanced Mode GPS Corrections

Configuring the GPS Corrections


The term GPS corrections refers to the type of GPS signal that you receive. There are a number of different corrections, each of which has a different level of accuracy and different requirements.

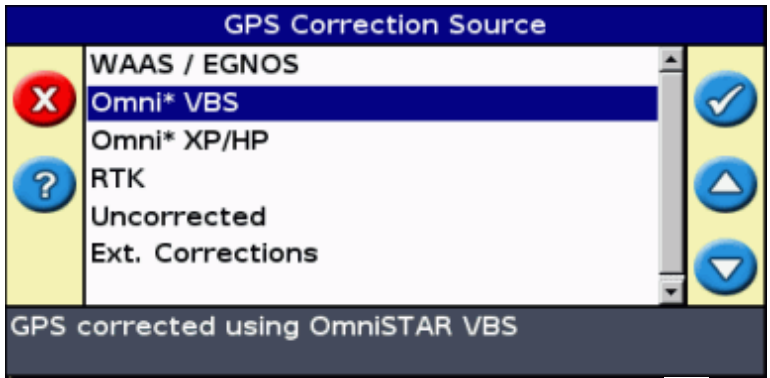
ITEM	DESCRIPTION
External Corrections	Enables the lightbar to accept external RTCM corrections for DGPS positions.
WAAS (Wide Area Augmentation System)	WAAS corrections are an overlay to the normal GPS signal to improve accuracy. WAAS is available only in the United States of America and can be used free. When using WAAS corrections, the EZ-Guide 500 system downloads the WAAS ionosphere model within the first 10 minutes of operation, which improves accuracy significantly. If you turn off the lightbar for less than 20 minutes and restart it, the position drift is limited. If you turn of the lightbar for more than 20 minutes and then restart it, the WAAS ionosphere model needs to be downloaded again. This can result in absolute position errors of up to 3 m (10 ft) within the first 10 minutes.
EGNOS (European Geostationary Navigation Overlay Service)	EGNOS corrections are an overlay for normal GPS signals. They are available only in Europe and can be used free.
OmniSTAR VBS	Accurate to within 100 cm (12"). To receive the OmniSTAR corrections you must pay for a subscription.
OmniSTAR XP	Accurate to within 20 cm (8"). To receive the OmniSTAR corrections you must pay for a subscription. This requires the Z+ antenna.
OmniSTAR HP (High Performance)	Accurate to within 10 cm (4"). To receive the OmniSTAR corrections you must pay for a subscription. This requires the Z+ antenna.
RTK (Real Time Kinematic)	RTK is the highest accuracy correction. It requires a local base station. This requires the Z+ antenna.

Note: At mid latitudes, the GPS cross-track errors that occur when you drive East–West are typically double the cross-track errors that occur when you drive North–South. This is a characteristic of all GPS receivers and guidance systems, and occurs because the GPS satellite orbits do not go over the poles. For GPS system status details, go to <http://www.navcen.uscg.gov/ado/GpsActiveNanu.asp>.

The lightbar is initially configured to use the internal GPS receiver with WAAS/EGNOS. It will automatically detect the appropriate satellites.

To change the GPS corrections:

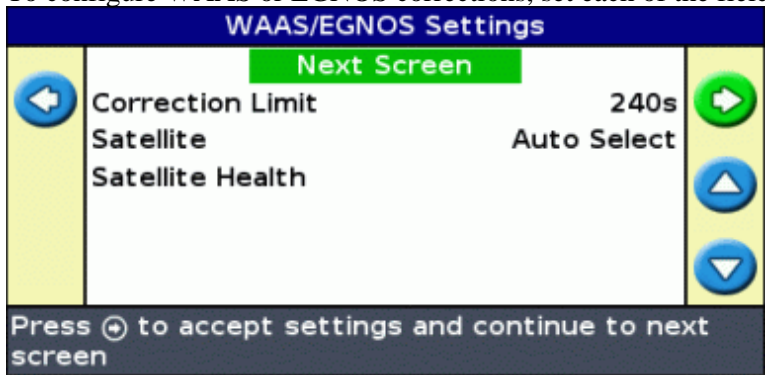
1. Select *Configuration / System / GPS / GPS Setup / GPS Correction Source* and then press . The *GPS Correction Source* screen appears:



2. Select the appropriate correction method and then press **OK**. The *GPS Source* screen reappears. The correction appears as the Source.
3. Press **▲** to select Next Screen and then press **OK**.

Configuring WAAS/EGNOS

To configure WAAS or EGNOS corrections, set each of the fields on the *WAAS/EGNOS Settings* screen:

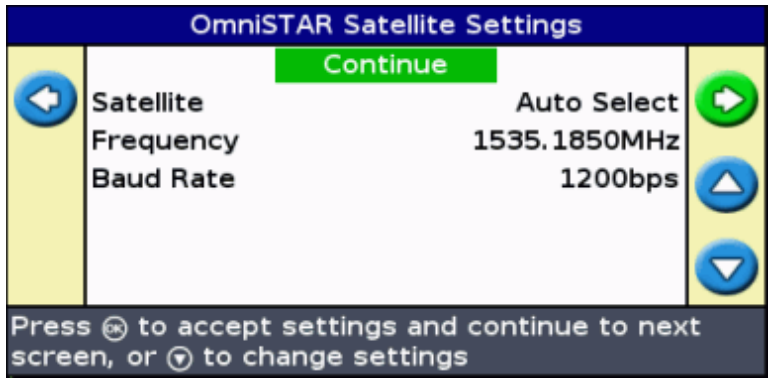


ITEM	DESCRIPTION
Correction Limit	The time that the lightbar can run without receiving an updated GPS position, before it drops guidance.
Satellite	The correction satellite that the lightbar will use. To automatically select the satellite, select Auto Select. Otherwise, you can select a specific satellite.
Satellite Health	How the lightbar searches for the satellite: <i>On</i> – The system searches for the satellite, regardless of the region or the satellite health. <i>Off</i> – The system does not search for the satellite. <i>Heed Health</i> – The system searches for the satellite if the satellite is within the appropriate region and is healthy. <i>Ignore Health</i> – The system searches for the satellite if the satellite is within the appropriate region, regardless of satellite health.

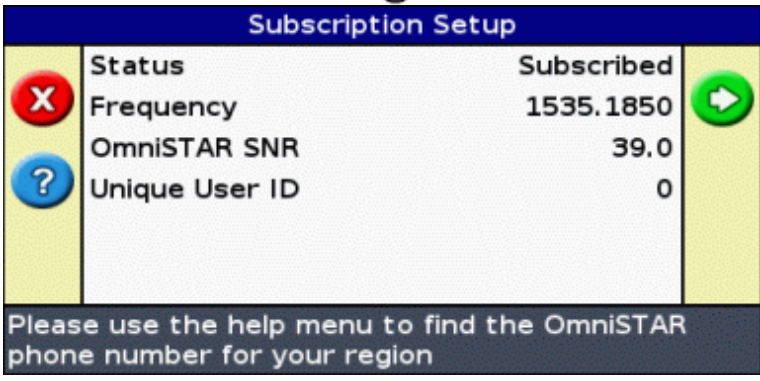
Configuring OmniSTAR corrections

The OmniSTAR XP/HP or VBS corrections require a paid subscription. For more information, go to www.omnistar.com.

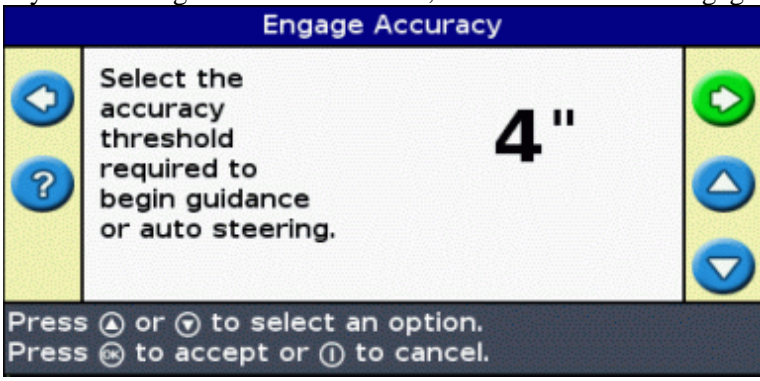
To configure OmniSTAR XP/HP corrections:



1. Adjust the OmniSTAR satellite information, if necessary.
2. Select Continue and then press [OK]. The *OmniSTAR Satellite Settings* screen appears:

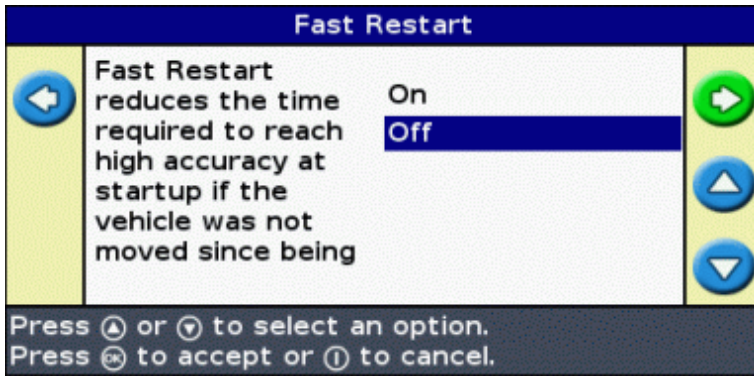


3. Press the [Question Mark] function button. The list of OmniSTAR contact telephone numbers appears.
4. Telephone OmniSTAR in your region and tell them your Unique User ID. This is displayed on the *Subscription Setup* screen. OmniSTAR will guide you through the process of activating your subscription.
5. If you are using OmniSTAR XP/HP, set the OmniSTAR engage accuracy.

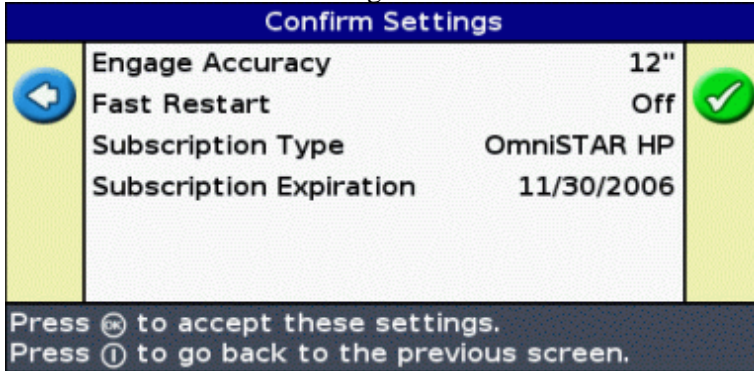


*Note: Engage Accuracy is an absolute repeatable engage accuracy limit. To configure a pass-to-pass accuracy limit, double the Engage Accuracy value.
For example, for 4" pass-to-pass engage accuracy, configure the Engage Accuracy value to 8".*

6. Enable or disable the Autoseed fast restart technology. The fast restart technology converges the corrections more quickly. It is available only if the vehicle has not moved since the lightbar was turned off.



7. Confirm the OmniSTAR settings.



The OmniSTAR XP/HP or VBS corrections are now configured.

Configuring RTK

Note: If you want to use RTK corrections and output NMEA messages at the same time, you must connect the radio to the COM port on the lightbar and the NMEA device to the AUX port. Set the NMEA port to AUX in the NMEA output Port Parameters screen.

Note: You should turn off coverage logging before changing RTK configuration settings. Otherwise, you may get a jump in the coverage logging due to a momentary loss of GPS corrections while changing settings.

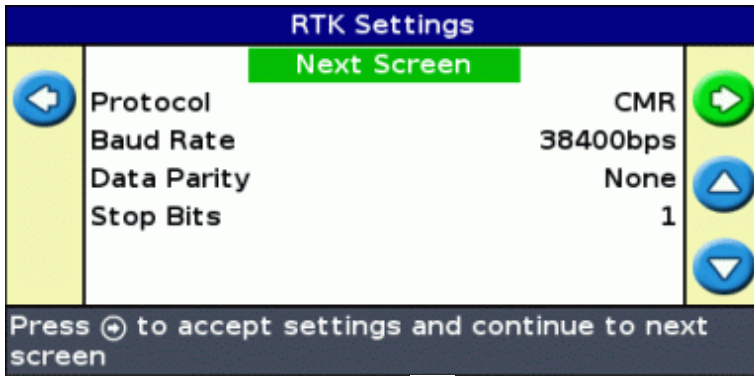
To configure RTK corrections, select the appropriate protocol:

ITEM	DESCRIPTION
CMR	For TSIP, European Pac Crest, or SiteNet 450 radios
TrimbleRadio	For the SiteNet 900 radio

The remaining RTK options change depending on which protocol is selected.

CMR protocol

1. Set the Baud Rate, Data Parity, and Stop Bits for the rover radio.

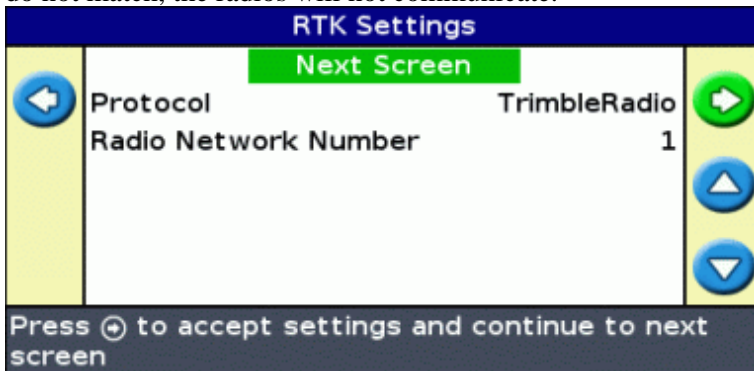


2. Select Next Screen and then press **OK**.

RTK corrections are configured.

TrimbleRadio protocol

1. Set the Radio Network Number to match the network ID number of the base station. If the network IDs do not match, the radios will not communicate.



2. Select Next Screen and then press **OK**.




RTK corrections are configured.


Configuring the GPS Limits

The *GPS Limits* screen enables you to adjust several of the GPS signal strength tolerances. If you are having trouble getting GPS reception, you may be able to receive a signal by lowering the tolerances, but at the cost of lowering signal quality and therefore lowering GPS accuracy.

To adjust the settings, select *Configuration / System / GPS / GPS Limits*.

1. Select the appropriate setting and then press **OK**. The limit adjustment screen appears.

GPS Limits		
	Minimum Elevation	8°
	Minimum SNR	38.0
	Use SBAS satellites in the position fix	No
	Minimum Satellites	5
	Maximum HDOP	3.0
	Minimum Fix Quality	Uncorrected
	OnPath Filter	Off
Set the minimum elevation angle at which GPS satellites will be used		

2. Adjust the value and then press .

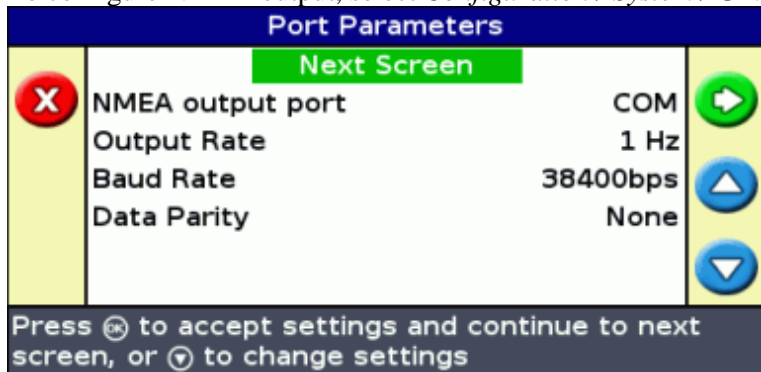
ITEM	DESCRIPTION
Minimum Elevation	Elevation refers to the angle at which a satellite appears in the sky (higher is better). The Minimum Elevation setting is the minimum angle in the sky at which the lightbar will acknowledge satellites.
Minimum SNR	SNR (Signal to Noise Ratio) is a measure of the quality of a GPS signal. It is the ratio of useful information received to noise. A high SNR value is better.
Use SBAS satellites in the position fix	You can use WAAS SBAS satellites to calculate standard GPS positions. This means that if you can see six standard GPS satellites and two WAAS satellites, the lightbar uses all eight satellites to calculate the GPS position. If you are working in fields with obstacles (for example, trees), the additional SBAS satellites will improve the fix quality. <i>Note: This option does not work with EGNOS satellites, or OmniSTAR or RTK corrections.</i>
Minimum Satellites	This is the minimum number of satellites required to provide GPS guidance.
Maximum HDOP	The Maximum HDOP (horizontal dilution of precision) is a measure of accuracy based on the geometry of the satellites in the sky. If the satellites are near each other in the sky, the HDOP is higher (lower is better).
Minimum Fix Quality	This is the minimum correction level required to provide GPS guidance.
Force GPS Iono	Forces the lightbar to use the GPS iono map. Turn this option <i>On</i> at higher latitudes (above 50 North) if the lightbar reports Hybrid Iono for longer than 15 minutes after startup
OnPath Filter	The filter detects and eliminates position jumps that can occur when a satellite is obscured, for example, by trees.

Configuring NMEA message output

NMEA (National Marine Electronics Association) messages are a standard format that enables GPS devices to communicate.

The lightbar can output NMEA messages. This means that the lightbar can communicate with other devices, even those created by other manufacturers, so long as the other device is also compatible with NMEA messages.

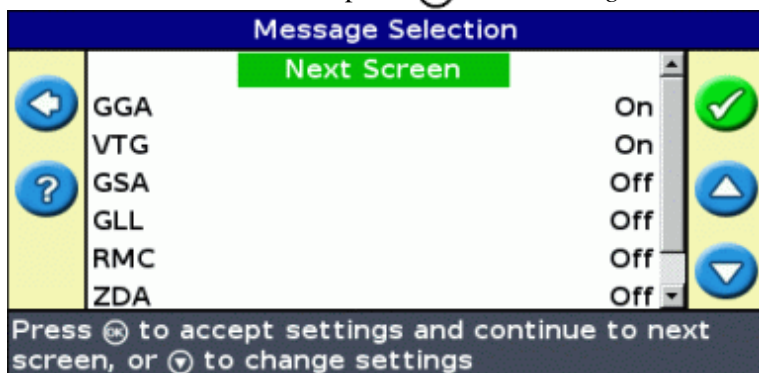
To configure NMEA output, select *Configuration / System / GPS / NMEA Output*.



1. Set the *NMEA output port* option to the lightbar port that the NMEA device is connected to.
2. Set the lightbar port parameters.

Tip – To be able to communicate, the parameters must match those of the device.

3. Select Next Screen and then press [OK]. The *Message Selection* screen appears.

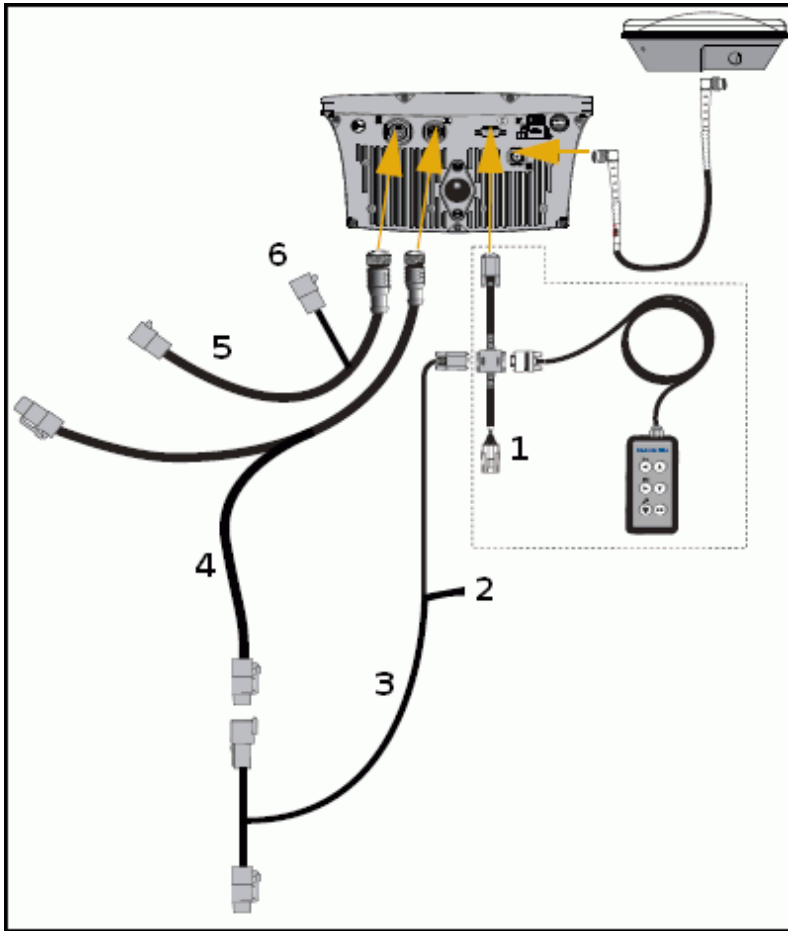


4. Set the various message formats to On or Off, depending on whether they are required.
5. Select Next Screen and then press [OK].
6. If you turned GGA on, then select the number of decimal places in the GGA message.

Note: Some external devices cannot read the GGA message if there are too many decimal places in the string.

Outputting NMEA messages with RTK corrections

If you are using RTK corrections and outputting NMEA, you must connect the NMEA device to the AUX port. Use the port expansion cable (P/N 62609) and the accessory cable (P/N 63076):



ITEM	DESCRIPTION
1	External interface cable (P/N 62749)
2	To RTK radio
3	RTK radio cable
4	EZ-Guide 500 power cable (P/N 62817)
5	Port expansion cable (P/N 62609)
6	Connect COM 2 port connection cable (P/N 63076) and then NMEA device

External Receiver Support

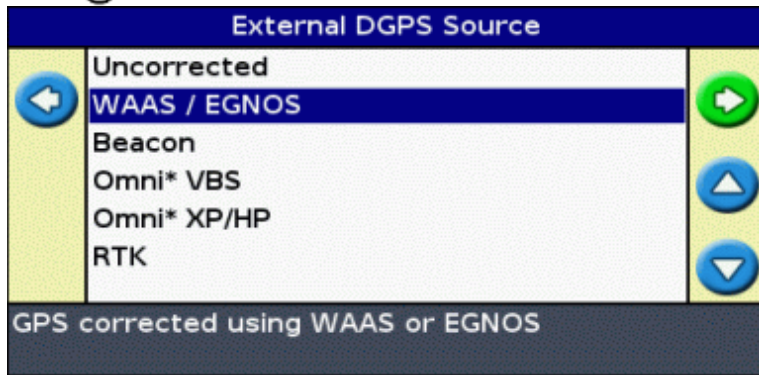
The EZ-Guide 500 lightbar can receive GPS positions from TSIP-compatible receivers. This enables you to use any of the correction types available on your receiver, including OmniSTAR, Beacon, and RTK.

The following TSIP-compatible receivers are supported by the EZ-Guide 500 lightbar:

Trimble	Case IH	Ag Leader	New Holland
AgGPS 252	AFS 252	GPS 5100	NH 252
AgGPS 332	—	—	—

To enable TSIP messages as the correction source:

1. Connect the receiver to the lightbar and then turn them on.
2. Select *Configuration / System / GPS / GPS Setup*.
3. Change the *GPS Correction Source* option to *Ext. TSIP*.
4. Select Continue and press **OK**. The *Connecting to External Receiver* screen appears. The lightbar connects to the TSIP receiver. The message *Connection Established* appears.
5. Press **OK**. The *External DGPS Source* screen appears, showing the available corrections on the receiver.



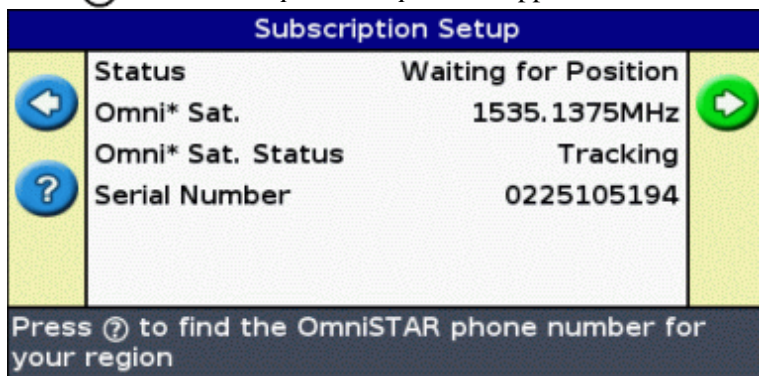
6. Select the appropriate correction source and then press **OK**. The wizard for that correction type appears.

Note: When the lightbar is receiving GPS positions from the TSIP-compatible receiver, additional entries appear on the Info tab.

Using OmniSTAR corrected positions over TSIP

To configure the lightbar to use OmniSTAR corrected positions from a TSIP receiver:

1. When the *OmniSTAR Satellite Settings* screen appears, press **?** to view the Help.; It lists the available satellites and their frequencies and baud rates.
2. Write down the frequency and baud rate for the appropriate satellite and then press **OK**. The *OmniSTAR Satellite Settings* screen re-appears.
3. Enter the satellite frequency and baud rate.
4. Press **OK**. The *Subscription Setup* screen appears:



5. Press **?**. The help displays a list of contact phone numbers for OmniSTAR.
6. Phone OmniSTAR and then press **OK**. The *Subscription Setup* screen re-appears.
7. Tell the OmniSTAR representative the number that is listed in the *Serial Number* field. They will enable your receiver.

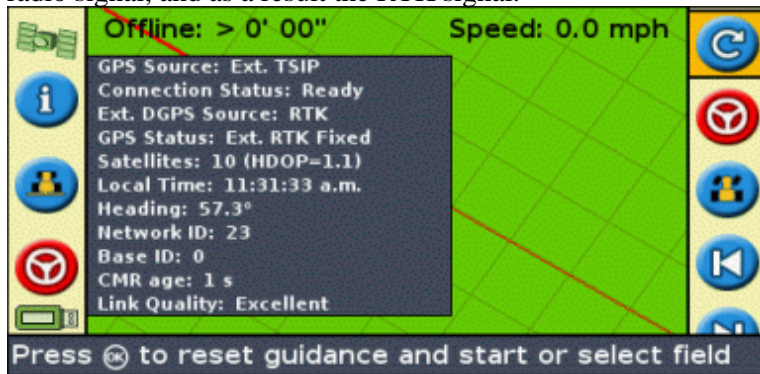
Note : Do not manually disconnect the lightbar from the receiver. The lost signal causes the lightbar to perform an incorrect fast restart.

When the lightbar receives OmniSTAR corrections from a TSIP-compatible receiver, the convergence time is reported differently.

Using RTK corrected positions over TSIP

When you use RTK positions from an external receiver, you can configure the network ID using the Network ID setting.

On the main map screen, the Info tab shows a diagnostic called *Link Quality* . This describes the quality of the radio signal, and as a result the RTK signal.



Depending on the quality of the signal coming in, the *Link Quality* item will show one of the following indicators:

- Excellent
- Good
- Fair
- Poor

Advanced Mode Data Management

USB Drive Compatibility

The EZ–Guide 500 lightbar saves data to and from a USB drive using a FAT file system.

Caution – *Multi–function devices, for example iPods or MP3 players, are not compatible with the lightbar. Do not reformat these devices to use the FAT file system, as this may delete their firmware and prevent them from operating correctly.*

The following drive is compatible with the lightbar:

- Lexar Firefly 1 GB (P/N 64268–1G). For more information, contact your local reseller.

The following drives are not compatible with the lightbar:

- Apple Ipod
- MP3 player
- Kingston flash drive
- PNY Attache flash drive
- USB extension cables
- USB to CompactFlash adaptors

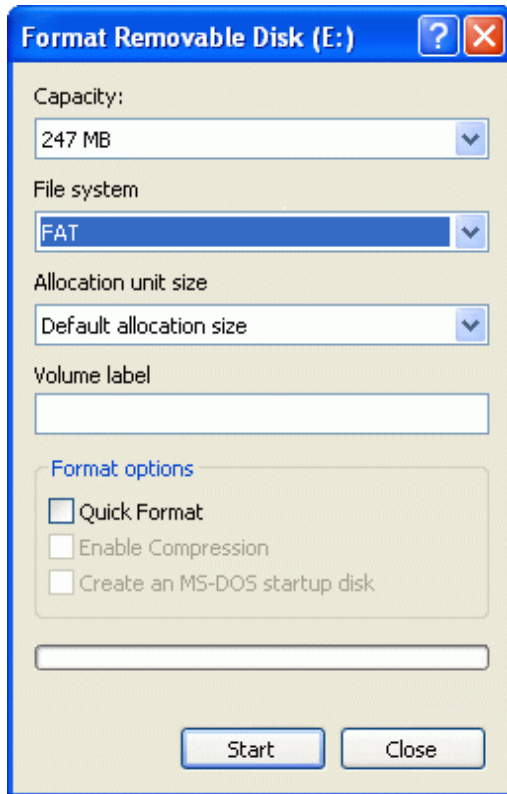
Note: *Newer versions of the SanDisk Micro Cruzer USB drive are not compatible. Versions of the drive that have worked in the past will continue to work.*

Note – *Because USB to CompactFlash card adaptors are not supported, AgGPS Autopilot system users must transfer field data from their CompactFlash cards to the USB drive using a laptop or office computer.*

If you are having trouble importing or exporting data to a USB drive, reformat it with the FAT file system.

Note – *This deletes any data on the drive. Before you complete these steps, copy any data that you want to keep.*

1. Insert the USB drive in the USB port of an office computer. The drive is recognized by the computer.
2. Open the File Manager.
3. Right–click on the USB drive letter and then select Format. The *Format Removable Disk* dialog appears.



4. In the *File system* list, select FAT and then click **Start**.

The USB drive is formatted with the FAT file system.

Inserting a USB drive

You can connect a USB drive to the USB port on the back of the lightbar:

1. Ensure that the lightbar is turned off.
2. Insert the USB drive into the USB port.
3. Turn on the lightbar.

Note: To reduce any delay caused by the lightbar scanning the USB drive, keep the number of fields on the USB drive to a minimum.

Removing a USB drive

Caution – If you remove a USB drive from the lightbar while the lightbar is turned on, you risk corrupting the data. To avoid this, do the following:

1. Turn off the lightbar.
2. Remove the USB drive from the USB port.

Getting Data from the USB Drive

You can get data from a USB drive:

1. Connect the USB drive. See [USB Compatibility](#)
2. Select *Configuration / Data Management / Manage Fields / Get Fields from USB*.
3. Do one of the following:
 - ◆ Select the specific client, farm, and field to import.
 - ◆ Select All to get all of the data in a category to the USB drive.

Note: If you select All, you do not need to select the later options.
4. Select Import Files and then press **OK**. A warning message appears.
5. Press **OK** to continue. A screen with an hourglass appears.

The files are imported from the USB drive.

Importing Data from the AgGPS FieldManager Display

The AgGPS FieldManager display uses a CompactFlash card to record field data. The EZ–Guide 500 system uses a USB drive. Therefore, the storage devices are not interchangeable.

To import data from the AgGPS FieldManager display to the EZ–Guide 500 system:

1. Insert the FieldManager display data card into the card reader of your office computer.
2. Copy the field data to a temporary directory on the computer.
3. Insert the EZ–Guide 500 system USB drive into the office computer.
4. Copy the field data from the temporary directory to the USB drive.
5. Insert the USB drive into the lightbar.
6. On the lightbar, select *Configuration / Data Management / Manage Fields / Get Fields from USB*.

You cannot import old field data into the EZ–Guide 500 system from the AgGPS 170 Field Computer or an RDL.

Sending Data to the USB Drive

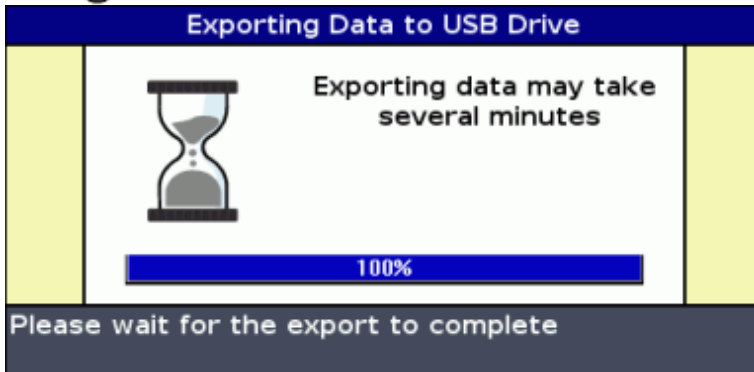
You can export data to a USB drive. This can be useful for backing up your data, or viewing the data in a GIS software application.

Note: The lightbar will not send data to a USB drive that is over 90% full.

1. Connect the USB drive. See [USB Compatibility](#)
2. Select *Configuration / Data Management / Manage Fields / Send Fields to USB*. The *Send Fields to USB* screen appears:



3. Do one of the following for each of the *Client*, *Farm*, and *Field* options:
 - ◆ Select the specific item to export.
 - ◆ Select All to export all of the entries.
4. Select Export Files and then press [OK]. A warning screen appears.
5. Press [OK] to continue. A screen with an hourglass appears:



The data is exported.

Exporting large fields

Tip: To export a large field, create a temporary new A+ field with no logging in it and then export the large field. This will ensure that the large field is correctly closed before it is exported.

Clearing Storage Space



To avoid the lightbar's internal memory from becoming full over time, use one of the following methods available on the *Data Management* screen:

- Occasionally delete old fields.
- Export data to a USB drive and then store it on an office computer.
- Delete the coverage logging. See below.

Deleting Fields

You can delete fields that you no longer require:





1. Select *Configuration / Data Management / Manage Fields / Delete Selected Fields*.

2. Do one of the following:
 - ◆ Select the Client, Farm, and Field to delete.
 - ◆ Select All from one of the categories to delete all the entries under that heading.
3. Select Delete Files and then press . A warning message appears.
4. Press  to continue. A screen with an hourglass appears.

The files are deleted.

Deleting coverage logging

You can delete coverage logging to free up space in the lightbar's internal memory:

1. From the main guidance screen, select the  icon and then press . The *Configuration* screen appears.
2. Select *Configuration / Data Management / Manage Fields / Delete Coverage Logging*.
3. Select the Client, Farm, Field, and Event. If you choose to delete the coverage logging from all of the fields in a farm, the events are deleted automatically.
4. Select Delete Files and then press . A warning message appears.
5. Press  to continue. A screen with an hourglass appears.

The coverage logging files are deleted.

Exporting Diagnostic Logs

The EZ-Guide 500 system records operating information in diagnostic logs. You can export these logs to a USB drive:

1. Connect the USB drive. See [USB Compatibility](#)
2. Select *Configuration / Data Management / Manage Diagnostic Logs / Export Diagnostic Logs to USB*.
A screen with an hourglass appears for a few seconds while the files are exported. A message appears to confirm that the diagnostic logs have been exported.

Field Name Structure

The EZ-Guide 500 system stores data in a directory hierarchy of client, farm, field, and event.

ITEM	DESCRIPTION
Client	The customer for whom the work is being done
Farm	A collection of "fields" (see below)
Field	A specific area of land where events are carried out
Event	The event or application that is being applied on a particular "field" (see above). For example:

- Spraying
- Harvesting

A client may have several farms, each of the farms may consist of several fields, and each field may be broken into a number of events.

Default Field Names

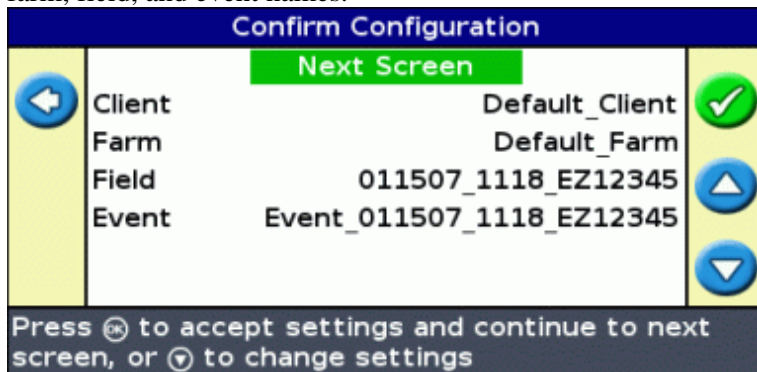
By default, the client, farm, field, and event names are automatically generated. The default names are:

ITEM	DESCRIPTION
Client	Default_Client
Farm	Default_Farm
Field	<i>Date _ Increment _EZ SerialNumber</i>
Event	<i>Event_Date _ Increment _EZ SerialNumber</i>



Note: Date is in the format YYMMDD and Increment is a number that increases for each new field. Only the last five digits of the serial number are used.

Naming a Field

When you create a new field in Advanced mode, the *Confirm Configuration* screen displays the default client, farm, field, and event names.



To name the client:

1. Press  to select the Client option and then press . The *Client* screen appears:



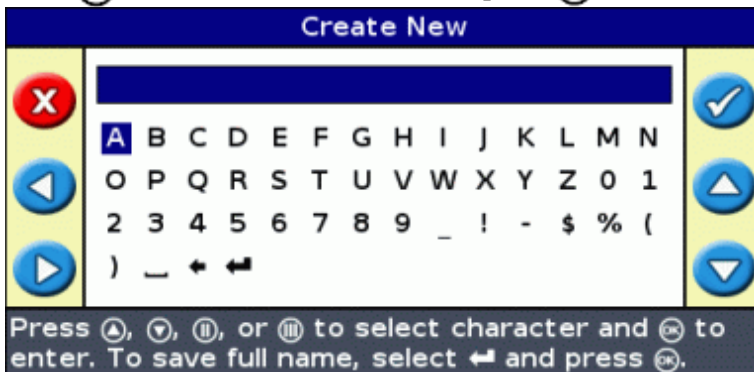
2. Select one of the following:
 - ◆ Create New – Select Create New to enter a new name.
 - ◆ Any other entry – Any other entries on the list are recent fields.
3. Repeat Steps 1 and 2 for the Farm, Field, and Event.
4. Press until you select Next Screen and then press .

If the field does not already exist, it is now named.

If the field already exists, the system displays a warning message. Go back and rename the field.

Entering a new field name

1. Press to select Create New and then press . The *Create New* screen appears:



2. Move the cursor to the appropriate letters and then press .
3. Select and then press to accept the name and return to the previous screen. The new name appears in the option that you selected.

System Configuration Files

Once you configure the system, you can save and load those configuration settings. Saved system configurations can be useful if you want to:

- move the lightbar from one vehicle to another
- drive in the same vehicle but with different settings (for example, with a different implement)
- try adjusting the settings to improve performance

Saving the system configuration

1. Select *Configuration / Data Management / Save/Load Configurations / Save Current Configuration*.
2. Select one of the following:
 - ◆ Save to internal memory – Save the current configuration to the lightbar internal memory.
 - ◆ Save to USB drive – Save the current configuration to a USB flash drive.
 - ◆ An existing configuration – Saves the current configuration over the existing one. A warning message appears. Press **OK** to proceed, or press the **X** function button to exit without saving.

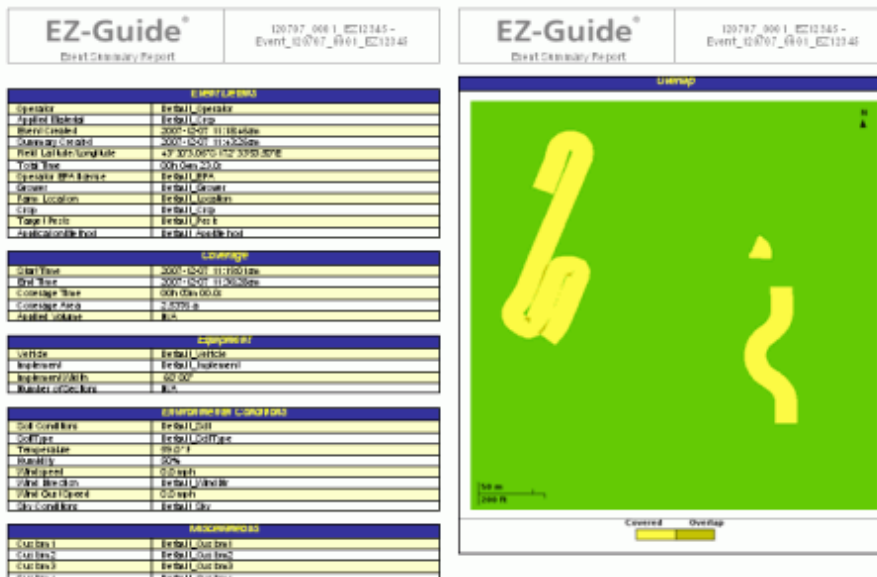
Loading a system configuration

1. Select *Configuration / Data Management / Save/Load Configurations / Load a Configuration*. The *Load a Configuration* screen appears.
2. Select the configuration to load from the list and then press **OK**.

A message appears to warn that you will load the configuration over the current configuration. Press **OK** to proceed, or press the **X** function button to exit without loading.

Summary Report

The lightbar can produce multi–page field summaries that contain a field map and report.



These summaries are in RTF format and can be viewed on an office computer. The summary report is automatically created when you close the field. (A field is closed when you run the New Field Wizard). The summary report has the same name as the field.





Note: To view the graphics in the files, you may need to install the Microsoft® Word viewer utility from the EZ–Guide 500 Documentation CD.

The summary shows the current implement width. If you create a summary of a field that was driven with an implement of a different width, change the current implement width to match that of the field before you






continue.

Note: A field must contain coverage for you to be able to generate a Summary Report.

To manually create a field summary:

1. Open the appropriate field.
2. From the main guidance screen, press  one or more times until you have selected .
3. Press . The *Configuration* screen appears.
4. From the *Configuration* screen, select *Data Management / Summary Reports*. The *Summary Reports* screen appears.
5. Select *Create Summary Report Now* and then press . The summary report is saved to the lightbar's internal memory.

To export the summary reports to the USB drive:

1. From the main guidance screen, press  one or more times until you have selected .
2. Press . The *Configuration* screen appears.
3. From the *Configuration* screen, select *Data Management / Summary Reports*. The *Summary Reports* screen appears.
4. Ensure that a USB drive is inserted into the EZ–Guide 500 USB slot.
5. Select *Send Summary Reports to USB* and then press . The *Send Summary Reports to USB* screen appears.
6. Do one of the following:
 - ◆ Select the name of the summary report to send.
 - ◆ Select *All* to send all summary reports to the USB drive.
8. Select *Send* and then press .

To view the summary report:

1. Insert the USB drive into an office computer.
2. On the USB drive, locate the appropriate RTF file in the `\AgGPS\Summaries\` directory.
3. Double–click on the field that you want to load.

To save the file, copy it to the office computer.

Viewing/Editing Data with Office Software

The EZ–Guide 500 lightbar guidance system saves field information in shapefile format. Each shapefile is made up of three files:

- example.shp – position information
- example.shx – index file that links the position information with its attributes
- example.dbf – feature attributes

Keep these files together when you copy or move the data.

Data collected by the EZ-Guide 500 lightbar can be opened directly into the EZ-Office software that is available on the EZ-Office Software CD or from www.EZ-OfficeSoftware.com.

Upgrading Firmware

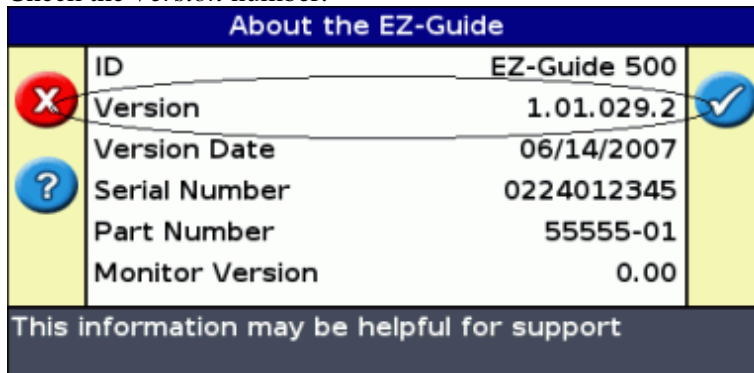
This section describes how to upgrade:

- the [EZ-Guide 500 lightbar firmware](#)
- the [EZ-Boom controller firmware](#)

Upgrading the lightbar firmware

Before you begin to update the firmware in the lightbar, check which firmware version is currently installed:

1. Select *Configuration / About the EZ-Guide*.
2. Check the *Version* number:



The screenshot shows a window titled "About the EZ-Guide" with a table of information. The table has two columns: a left column with icons (a red 'X' and a blue '?') and a right column with a blue checkmark. The table rows are: ID (EZ-Guide 500), Version (1.01.029.2), Version Date (06/14/2007), Serial Number (0224012345), Part Number (55555-01), and Monitor Version (0.00). Below the table is a footer that reads "This information may be helpful for support".

About the EZ-Guide	
ID	EZ-Guide 500
Version	1.01.029.2
Version Date	06/14/2007
Serial Number	0224012345
Part Number	55555-01
Monitor Version	0.00

This information may be helpful for support

This is the firmware version. If the number is 1.00.xxx.x, you have firmware version 1.00. If the number is 1.01.xxx.x, you have firmware version 1.01.

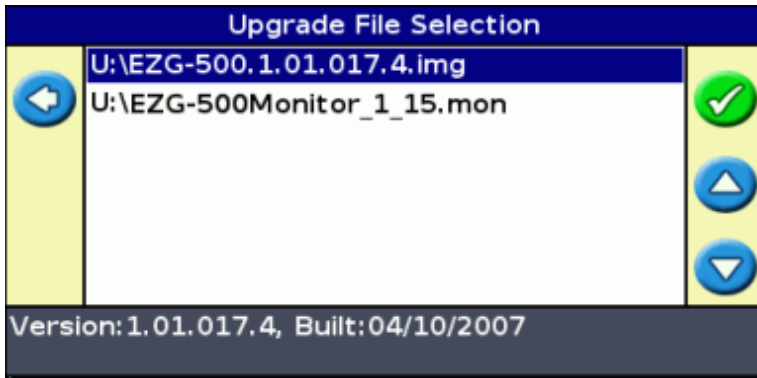
You cannot upgrade the lightbar directly from firmware version 1.00 to firmware version 2.00 (or above): You must first upgrade the lightbar to the firmware version 1.01. If you try to upgrade directly from version 1.00 to version 2.00 (or above), the lightbar will not recognize the new firmware file.

To upgrade the lightbar from firmware version 1.00 to version 1.01 (if necessary):

1. Download the self-extracting firmware version 3.00 upgrade file from www.EZ-Guide.com to your office computer. It contains the firmware upgrades for version 1.01 and 3.00.
2. Run the file and extract the contents to a temporary directory.
3. Copy the files from the temporary directory to the USB drive.
4. Insert the USB drive in the lightbar.
5. Turn on the lightbar.

When the USB drive is detected, the lightbar runs the upgrade wizard.

If you currently have firmware version 1.00, the firmware version 1.01 upgrade files appear:



Caution: Do not turn the lightbar off while the firmware is being updated. This could render the lightbar inoperable.

6. Select the EZ–Guide firmware .img file and then press **OK** . The wizard installs the firmware version 1.01.

When the firmware is installed, the lightbar restarts. The lightbar detects the USB drive and the upgrade wizard runs again. The upgrade wizard now gives you three upgrade options:



Caution: Do not turn the lightbar off while the firmware is being updated. This could render the lightbar inoperable.

7. Select the EZ–Guide 500 firmware version 3.00 file and then press **OK** . The firmware upgrade process runs twice – once to install the firmware and once to install the monitor file. When the firmware is installed, the lightbar restarts.

The lightbar firmware is upgraded to version 3.00.

Upgrading the EZ–Boom controller firmware

If you have an EZ–Boom 2010 system with firmware prior to version 1.1, upgrade the EZ–Boom controller firmware:

Note: You must upgrade the EZ–Guide 500 lighthbar firmware to at least version 2.00 before you can upgrade the EZ–Boom controller firmware. See [Upgrading the lighthbar firmware](#).

1. Download the EZ–Boom firmware upgrade file from www.EZ–Boom.com to the office computer.
2. Insert the USB drive into the office computer.

3. Copy the FW2 firmware upgrade file from the computer to the USB drive.
4. Ensure that the EZ–Boom 2010 system is correctly connected to the lightbar.
5. Insert the USB drive into the lightbar and then turn on the lightbar.



The lightbar automatically detects the new EZ–Boom firmware and asks if you want to install it.

Note: If the EZ–Boom controller is not detected, the lightbar will not show the firmware file.


Upgrading Lightbar Functionality

To upgrade the lightbar functionality, for example to enable RTK functionality, enter an upgrade password.

When you purchase an upgrade from your local reseller, you receive an upgrade password. To enter it:

1. Select *Configuration / System / Password Upgrade*. The *Password Upgrade* screen appears.
2. Press the  button. The *Enter Password* screen appears.
3. Enter the password.
4. Select and then press . A screen with an hourglass appears for a few seconds and then one of the following messages appears:

- *Password upgrade successful. The upgrade was successful. The EZ–Guide 500 will now be restarted to take advantage of the new feature.*

Press . The lightbar restarts with the new functionality enabled.

- *Password upgrade failed. The password entered was not valid.*



Try entering the password again. If it fails again, contact your local reseller.

Mapping

Introduction to Mapping

The EZ–Guide 500 can map point, line and area features.




Note: Mapping is disabled if you do not have good quality GPS.

To enter mapping mode, select the  icon and press .

While in mapping mode:

- you can map point, line and area features, including exclusion zones for EZ–Boom
- you can engage and disengage EZ–Steer
- EZ–Boom still operates, but no boom status indicators are shown



In mapping mode, the following feature mapping icons appear on the right of the screen:

ITEM	DESCRIPTION
	Display point feature mapping icons
	Display line feature mapping icons
	Display area feature mapping icons

Mapped features are saved with the field. To see mapped features when you return to a field, you must reload the field and start a new event or continue with an existing event.

The mapped features are exported with the field and can therefore be imported into the EZ–Guide 250 lightbar and the AgGPS FieldManager display. For more information, see [Sending Data to the USB Drive](#).

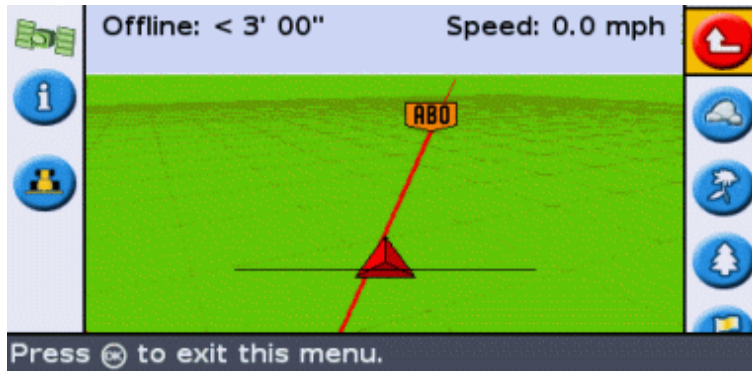
Mapping Features

To map features, you must be in mapping mode. To enter mapping mode, select the  icon and press .





Mapping point features


To map a point feature:

1. From mapping mode, select  and press . The point feature mapping icons appear.



2. Press  to select the appropriate point feature icon.



ICON	DESCRIPTION
	Map a rock point feature
	Map a weed point feature
	Map a tree point feature
	Map another generic point feature

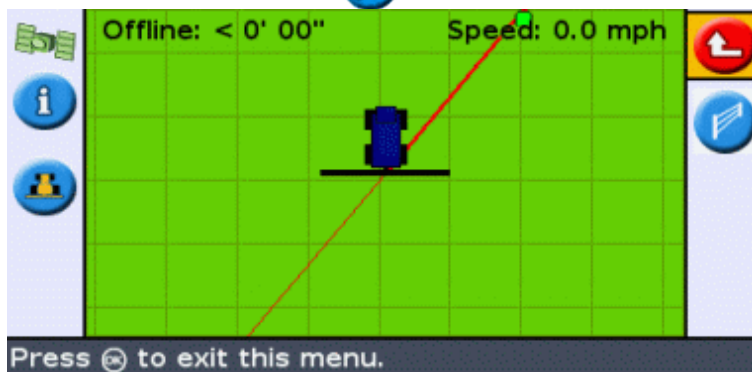
3. Press  . The point feature is mapped.






Note: By default, the point feature is mapped at the antenna location. To change where a feature is mapped, see [Recording Position](#) .

Mapping line features

To map a line feature:

1. From mapping mode, select  and press  . The line feature mapping icon appears.



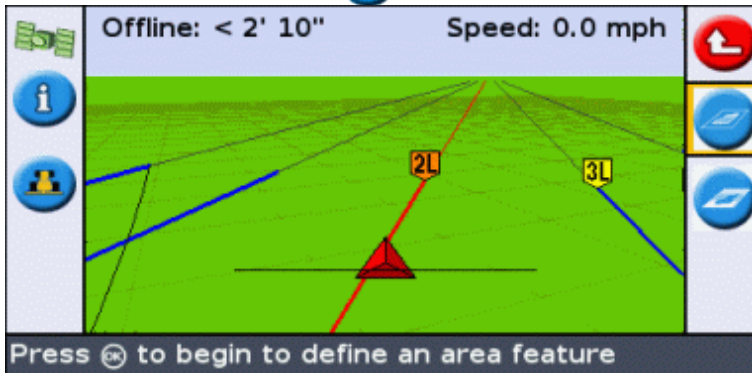
2. Press  to select  .
3. Press  . The lightbar begins recording the line feature.
4. Drive the length of the line feature.
5. At the end of the line feature, check that  is selected then press  . The lightbar completes mapping the line feature.

Note: By default, the line feature is mapped at the antenna location. To change where a feature is mapped, see [Recording Position](#).



Mapping area features




To map an area feature:

1. From mapping mode, select  and press . The area feature mapping icons appear.



2. Press  to select the appropriate area feature icon:

ITEM	DESCRIPTION
	Map a generic area feature.
	Map an exclusion zone. While the vehicle is in an exclusion zone, EZ-Boom stops spraying.


3. Press . The lightbar begins recording the area feature.
4. Drive around the area feature.
5. To complete the area feature, check that  is selected then press .

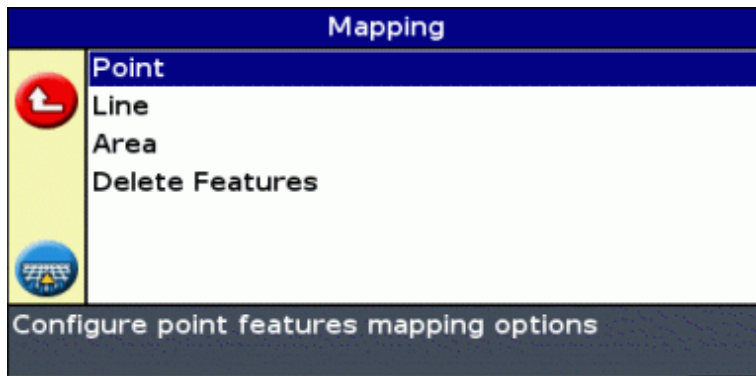
Note: By default, the area feature is mapped at the antenna location. To change where a feature is mapped, see [Recording Position](#).

Recording Position

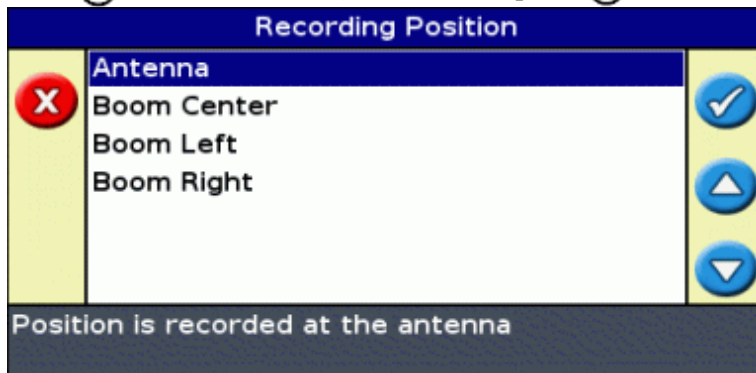
By default, all point, line and area features are recorded at the antenna position. You can independently configure the recording position for point, line and area features.

To change the recording position of features:

1. If the lightbar is not already in Advanced mode, change it to Advanced mode by selecting *Configuration / User Mode*.
2. Select *Configuration / Mapping* and then press . The *Mapping* menu appears.



3. Press to select Point, Line or Area and press to display the configuration screen for the feature type.
4. Press to select *Recording Position* and press . The *Recording Position* screen appears.



5. Select the appropriate recording position and press .

Warning Zones


When a point, line, or area feature is mapped, you can configure a warning zone around the feature.

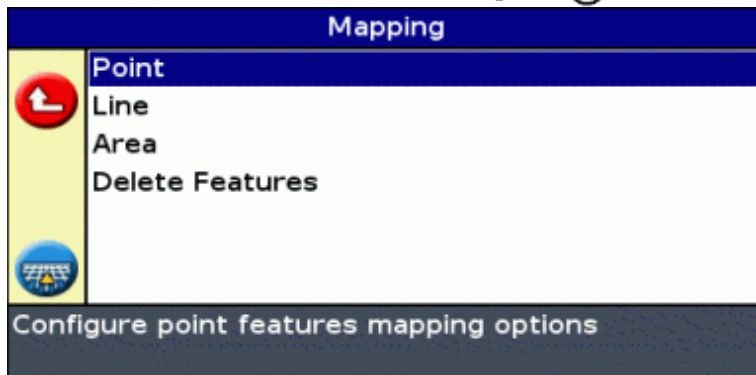
When the vehicle enters the warning zone around a feature, the lightbar provides a visual and audible warning (if Sonalert alarm is connected)




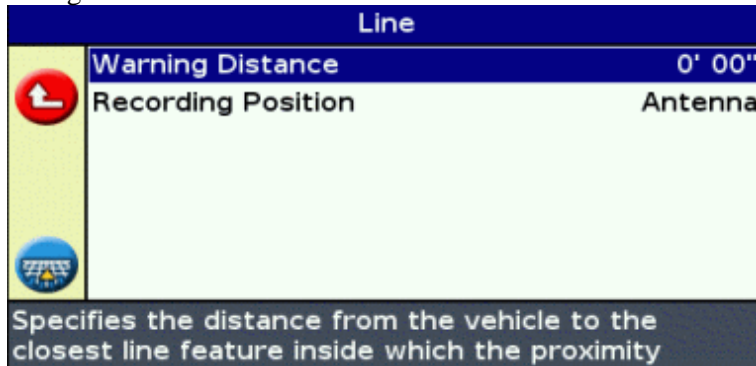
You configure the warning zone as a distance around a point feature, or as a distance around line or area features.





To configure a warning zone for a point, line or area feature:

1. If the lightbar is not already in Advanced mode, change it to Advanced mode by selecting *Configuration / User Mode*.
2. Select *Configuration / Mapping* and then press . The *Mapping* menu appears.



3. Press  to select *Point*, *Line* or *Area* and press  to display the Point, Line or Area feature configuration screen.

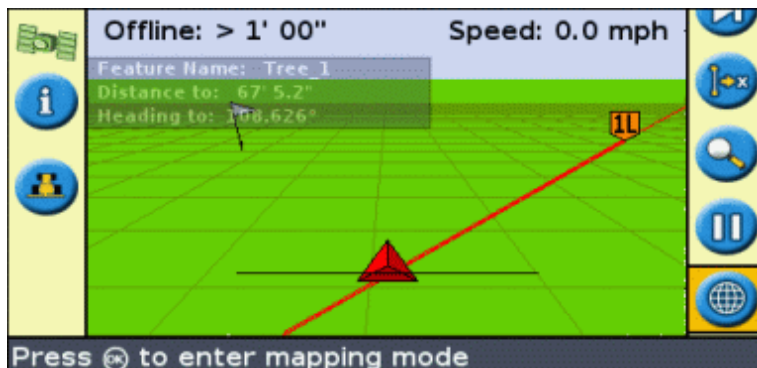


4. Press . The *Warning Distance* screen appears.
5. Press  or  to change the warning distance.
6. Press .

Note: Set the warning distance large enough to be safe for the entire vehicle length. You should consider the implement length as well as the tractor length.

Displaying Feature Information

To display information about the closest feature in the field, press  until the Features information tab appears.





Deleting Features


You can delete mapped features in two ways:

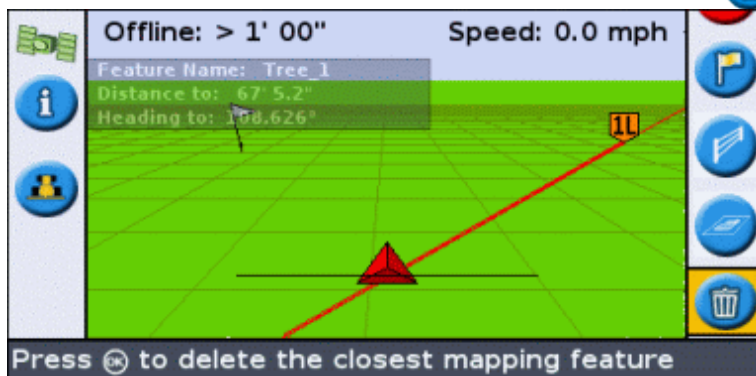
- Manually delete the closest feature in the field
- Delete all the features in a selected field.

Manually deleting the closest feature

To manually delete the closest feature:

1. Enter mapping mode. Select the  icon and press .

While features are mapped in the field, the Delete Features () icon is shown.



2. Drive towards the feature you want to delete, until it is selected as the closest feature. The closest feature is indicated by a flashing white boundary.


Tip: Ensure that the correct feature is selected by checking on the Features Information Tab.

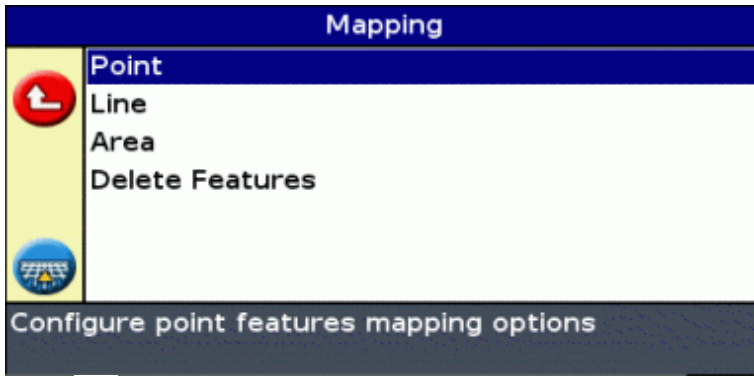
3. Press  to select the  icon and press .



The closest feature is deleted.

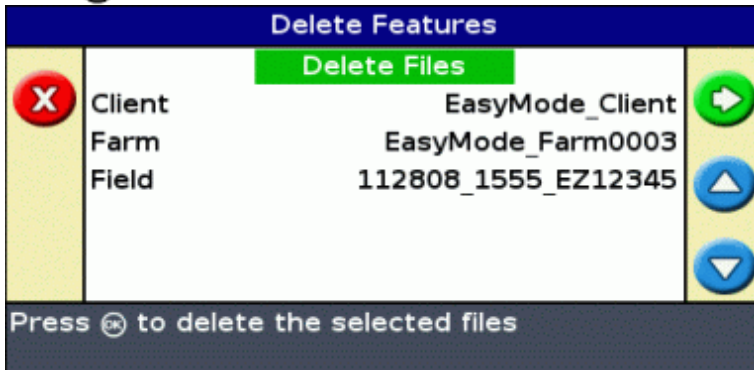
Deleting all features in a field



To delete all mapped features in a field:

1. Select *Configuration / Mapping* and press . The Mapping menu appears.



2. Press  to select Delete Features.
3. Press  . The *Delete Features* screen appears.






4. Select the Client, Farm and Field containing features you want to delete.
5. Select Delete Files and press  . A confirmation screen appears.
6. Press  .

The mapped feature files for the select field are deleted.

Obtaining Information from the Lightbar

The About the EZ-Guide Screen

You can view the *About the EZ-Guide* screen in Easy or Advanced mode.

About the EZ-Guide		
	ID	EZ-Guide 500
	Version	3.00.014.2[3.00] 
	Version Date	11/19/2007
	Serial Number	0224012345
	Part Number	55555-01
	Monitor Version	0.00

This information may be helpful for support

To view the *About the EZ-Guide* screen, select *Configuration / About the EZ-Guide*.


If you need to ask for support, have this information available.

Information Tabs

The lightbar has several information tabs that you can display over the screen. They can be viewed in Easy or Advanced mode.



The tabs are see-through, so you can still see the vehicle underneath.

To view an information tab, press the  function button. To cycle to the next tab, press the function button again.

Status Screens

The Status screens can be viewed in Advanced mode. To display the *Status* menu, select *Configuration / Status*.


You can access seven screens from the *Status* menu:

SCREEN	DESCRIPTION
GPS Status	Displays information about your position and the current GPS signal strength.
Satellite Status	Displays information about the current GPS satellites.
DGPS Status	Displays which DGPS signal is selected. It is set at <i>System / GPS / GPS Setup</i> .
Filter Status	Displays the current GPS position filter being used.
System Status	Displays information about the lightbar.
Upgrade Options	Displays which upgrade options are unlocked.
Languages Pack Status	Displays a list of the installed language packs.
Terrain Compensation Status	Displays the current T2 terrain compensation technology information from an EZ–Steer controller.
EZ–Steer Status	Displays information about the EZ–Steer system, if one is connected.
VR Controller Status	Displays information about the connection status for the VR controller, if one is connected.
EZ–Boom Status	Displays information about the EZ–Boom 2010 system, if one is connected.
Faults History	Displays any faults that have occurred on the lightbar or an attached EZ–Steer system. <i>Listed faults are not currently active.</i>

These screens are non–interactive. They only display information about the system.

Warning Messages

The lightbar has two types of warning message:

ITEM	DESCRIPTION
Full screen	The message covers the full screen. Press  to clear it.
Message bar	The message appears at the bottom of the screen, over the message bar. Some warnings disappear after several seconds. For others, press the top function button.

Troubleshooting

ISSUE	CAUSE	SOLUTION
		Zoom the view further out.

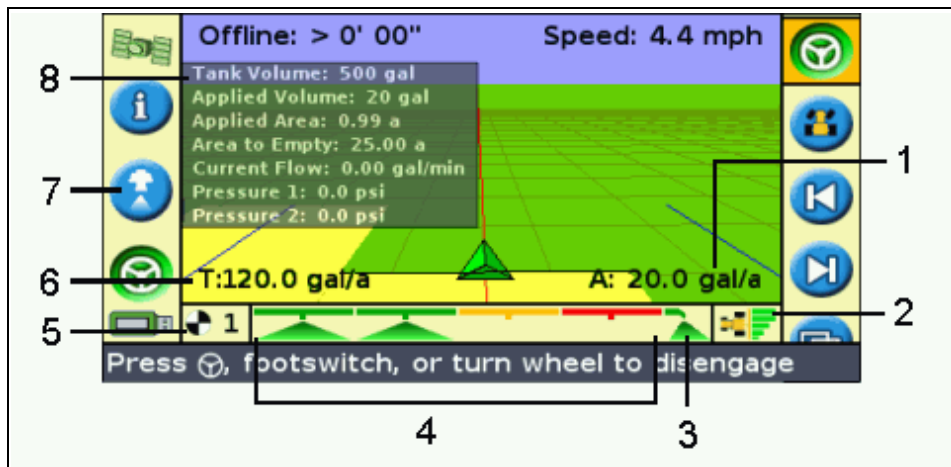
The implement does not appear on the screen.	The implement offset is too big for the current view.	
Point B does not appear.	While you were defining a headland, you set the A point and then paused guidance mapping.	A the point where you want to set the B point, resume the guidance mapping. The B point appears.

EZ-Boom 2010 System


EZ-Boom Features

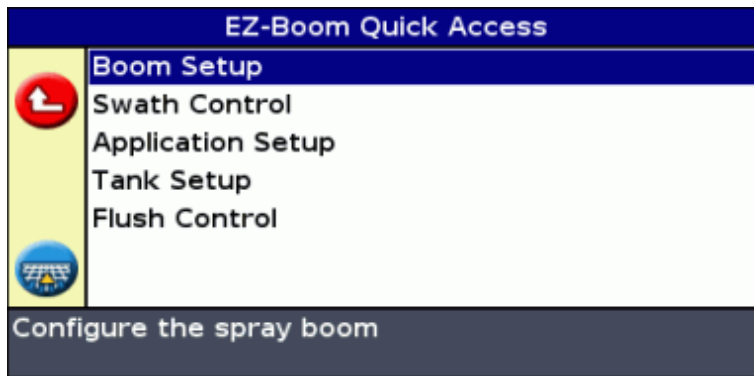
When the EZ-Guide 500 system has firmware version 2.00 (or higher), it can be connected to the EZ-Boom 2010 automated application control system. This chapter describes features of the lightbar when an EZ-Boom 2010 system is connected.

When the EZ-Boom 2010 system is connected to the lightbar, the following features appear or become available:



ITEM	DESCRIPTION
1	The actual current rate
2	Auto/manual switching indicator
3	Fence nozzle indicator
4	Boom section status indicators
5	Rate switch position
6	The intended target rate
7	EZ-Boom quick access icon
8	Information tab

- Information tab – An additional information tab lists sprayer-specific information.
- EZ-Boom quick access icon – The icon  enables you to access the most common EZ-Boom settings more quickly. When you select the icon, the following screen appears:



- Additional status text items –
 - ◆ If the EZ–Boom 2010 system is connected and the Rate switch is in either the Rate 1 or Rate 2 position, the lightbar shows two additional status text items:
 - ◇ The intended target application rate (T:) is located at the bottom left of the main guidance screen.
 - ◇ The actual current application rate (A:) is located at the bottom right of the main guidance screen.
 - ◆ If the Rate switch is in the M (manual) position and the vehicle is moving, the status text items are:
 - ◇ The current flow rate (F:) is located at the bottom left of the main guidance screen.
 - ◇ The actual current application rate (A:) is located at the bottom right of the main guidance screen.
 - ◆ If the Rate switch is in the M position and the vehicle is not moving, the status text displays N/A.
- Rate switch position indicator – The lightbar shows the current position of the Rate switch: Rate 1, Rate 2, or Manual.
- Boom section indicators – Indicators appear at the bottom of the main guidance screen. They change color to show the current state of each boom section:
 - ◆ Green – The boom section is enabled and spraying.
 - ◆ Orange – The boom section is enabled but not currently spraying.
 - ◆ Red – The section is off (the switch is off).
 If a fence nozzle is enabled, an indicator appears to the left or right of the boom section indicators. Fence nozzle status is represented with the same colors as the boom sections.
- Automatic/manual switching indicator – This indicator appears on the bottom right of the main guidance screen and shows which switching mode the controller is in.
 - ◆ When the controller is in manual switching mode, the indicator is gray.
 - ◆ When the controller is in automatic switching mode, the indicator is in color.

To configure the EZ–Boom 2010 system for use with the lightbar, set the *User Mode* to Advanced and then select *Configuration / Application Control*.

For more information, refer to the *EZ–Boom 2010 System for the EZ–Guide 500 Lightbar Quick Reference Card*.

Refilling the Tank

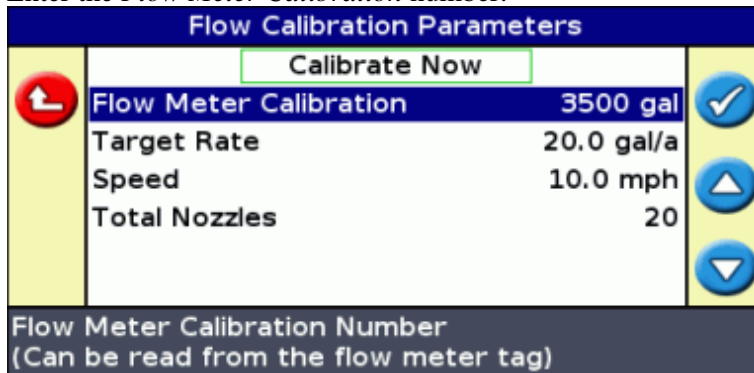
There are two ways to refill the tank:

METHOD	DESCRIPTION
Partial refill	Increases the <i>Current Volume</i> value by the <i>Partial Refill Quantity</i> . This is useful if you add a specific amount of solution to the tank each time you refill it.
Refill	Resets the <i>Current Volume</i> value to the <i>Capacity</i> volume.





EZ-Boom Flow Calibration

When you perform the EZ-Boom 2010 system flow calibration:

1. Enter the *Flow Meter Calibration* number:



2. Do one of the following:

- ◆ If you know that the setting is correct, press the  function button to save the calibration number that you entered and exit the menu. The system is now calibrated.
- ◆ To complete a full calibration:
 - a. Enter the target rate, the speed, and the total number of nozzles.
 - b. Select *Calibrate Now* and then press . The *Flow Calibration* screen appears.
 - c. Read the information and then press . Flow begins.
 - d. Collect times samples from at least 3 nozzles separately for a total of 1 minute.
 - e. Press  to stop the flow.
 - f. Calculate the volume that you collected per minute per value.
 - g. in the *Measured Flow* field, enter the volume that you calculated in the previous step. The system calculates the difference between the measured flow/nozzle and the averaged flow/nozzle. The *Calibration Complete* screen appears. The flow meter calibration is adjusted.

Manual Override

If you switch the Rate switch from Rate 1 or 2 to M (manual), you will get manual rate control but automated boom switching will still be enabled. To obtain complete manual control of the EZ-Boom system (including manual control of the sections) without having to go through the menus:

1. Stop the vehicle.
2. Turn the Master switch to Off.
3. Move the Rate switch to M (manual).

4. Turn the Master switch back on.

The system is now in full manual mode. This can be useful for spraying corners or to continue spraying if you lose GPS signal. To change back to automated mode, move the Rate switch to 1 or 2.

Swath Control Menu

Use the *Swath Control* menu to configure the following settings:

ITEM	DESCRIPTION
Boom Control	Enable or disable automated boom switching control.
Allowable Overlap	Controls the amount of overlap allowed before a boom section is switched off. For example, if Allowable Overlap is set to: * 99% – 99% of the boom section is allowed to overlap before it is switched off. This provides the least amount of skip. Use this setting if you need to ensure complete coverage and using extra material does not matter. * 50% – half of the boom section is allowed to overlap before it is switched off. * 1% – 1% of the section width is allowed to overlap before it is switched off. This allows the least overlap. Use this setting if you need to conserve the maximum amount of material. <i>Note: When going from sprayed to unsprayed areas the reverse is true. For example, with 1% Allowable Overlap, the section width has to be in 99% uncovered area before it switches on.</i>
Boom Valve Latency	Allows you to account for delays in the spray system. For correct operation, you must set this to match the delay in your sprayer. There are two settings, measured in seconds: Valve On Latency – the time that it takes for the system to begin spraying after you turn it on. Valve Off Latency – the time that it takes for the system to stop spraying after you turn it off. <i>Tip: To calculate the latency values, time your system with a stopwatch</i>
Intentional Overlap	Allows you to double-spray (buffer) a set distance to ensure complete coverage and avoid skips. There are two settings, measured in distance: On Overlap Distance – the overlap buffer when travelling into an area to be sprayed from an already sprayed area. Spraying begins this distance before the area to be sprayed. Off Overlap Distance – the overlap buffer when leaving the area just sprayed and entering an already sprayed area. Spraying stops this distance outside the area just sprayed.

Spraying Pivots

If you are using the EZ-Boom 2010 system to spray a pivot, define the outer line of the pivot as your master line and then work inwards. You cannot spray outside the pivot master line.

Spraying in reverse

Spraying in reverse is not supported. If you reverse the vehicle, the onscreen implement remains in place until the vehicle appears to pass over it.

If you need to drive in reverse, set the EZ-Boom controller master switch to Off.

Prescriptions

Introduction to Prescriptions

The EZ–Guide 500 lightbar can import variable rate prescription files in Shapefile format. The application rate information from the prescription attribute file (.dbf) is sent to EZ–Boom to control flow rates.

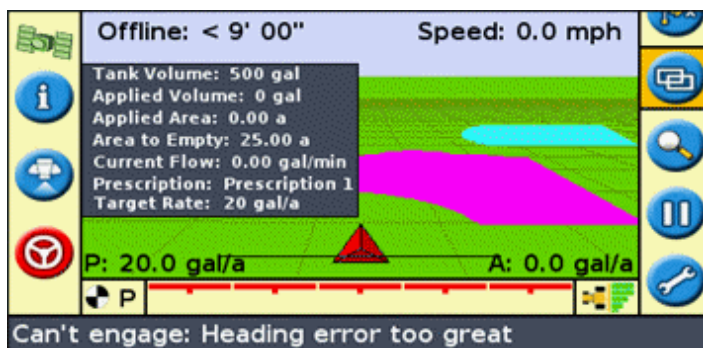
Variable rate prescription functionality is only available after a password upgrade has been purchased. For more information on purchasing the variable rate prescription functionality, contact your local EZ–Guide 500 reseller.

To enable the variable rate prescription functionality, see [Upgrading Lightbar Functionality](#) .

Note: Managing and using prescription files can only be done when the EZ–Guide 500 lightbar is in Advanced mode.

When a prescription is loaded, the following changes appear on the main map screen:

- Prescription polygons are shown as colored areas
- The EZ–Boom information tab contains two new items:
 - ◆ Prescription: Name of the prescription loaded
 - ◆ Target Rate: Target rate from the prescription file
- **P** is displayed in the rate selector box and on the main map to indicate that the prescription rate is being used, rather than the Target 1 rate (**T**)



Importing Prescriptions

The EZ–Guide 500 lightbar can import Shapefile prescription files from a USB drive inserted into the lightbar.

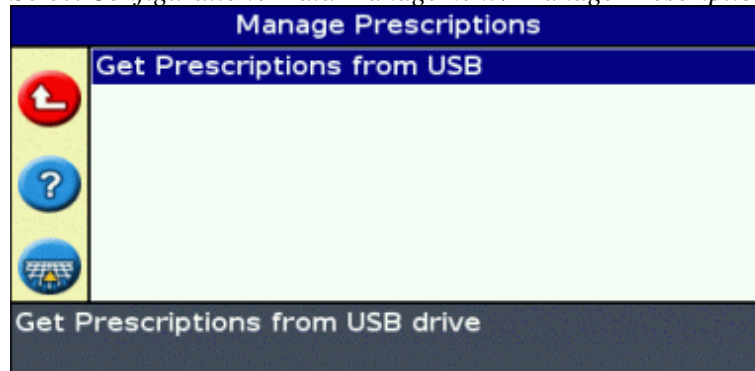
Note: All prescriptions must be imported (copied) from the USB drive to the EZ–Guide 500 lightbar. The lightbar cannot read prescriptions directly from a USB drive.

To import a prescription:

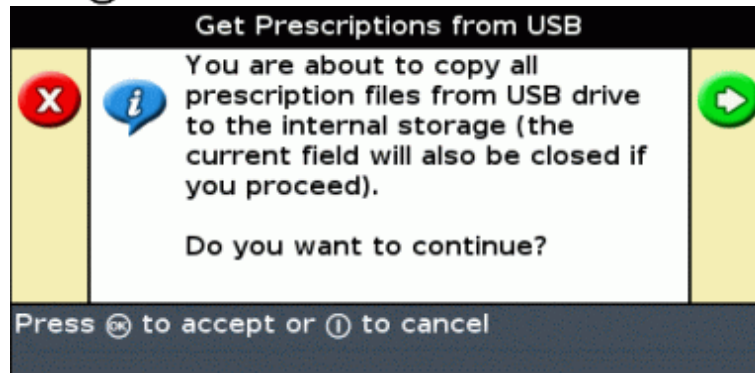
1. Using your office computer, copy the three Shapefile files (.shp, .dbf, .shx) into the \\AgGPS\\Prescriptions\ folder on a USB drive.

Note: The EZ–Guide 500 will only detect prescription files located in the \AgGPS\Prescriptions\ folder on the USB drive.

2. Insert the USB drive into the EZ–Guide 500 lightbar and turn it on. Wait for the green USB icon to appear on the main map screen.
3. If the lightbar is not already in Advanced mode, change it to Advanced mode by selecting *Configuration / User Mode*.
4. To copy the prescriptions from the USB drive to the lightbar:
 - a. Select *Configuration / Data Management / Manage Prescriptions / Get Prescriptions from USB* .



- b. Press **OK** . A warning message appears.



- c. Press **OK** . The prescriptions are copied.

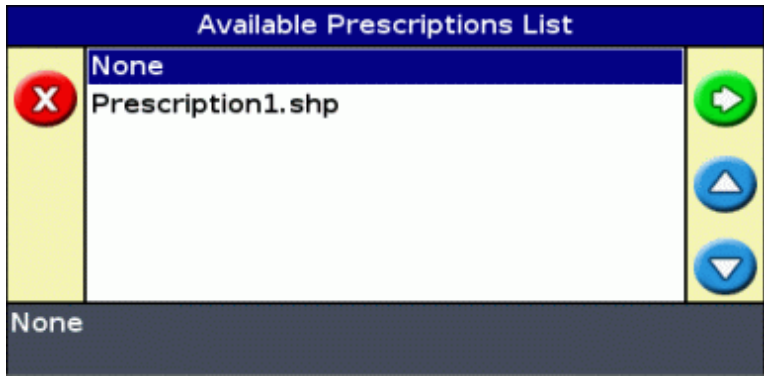
To delete a prescription, select *Configuration / Data Management / Manage Prescriptions / Delete Prescriptions* .

Loading a Prescription

Once a prescription has been imported into the EZ–Guide 500 lightbar, it can be loaded for display.

Prescriptions are loaded as part of the New Field wizard.

After the field is defined (or selected), the *Available Prescriptions List* screen appears.

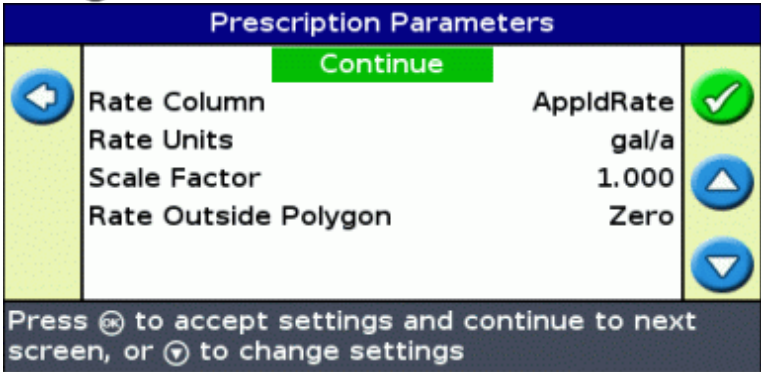


To load a prescription:

1. Press or to select the prescription to load.

Note: To continue without loading a prescription, select None.

2. Press . The *Prescription Parameters* screen appears.



3. Press to configure the prescription setup:

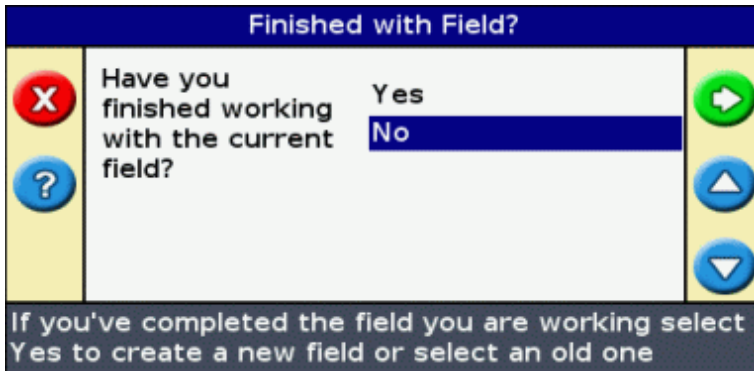
ITEM	DESCRIPTION
Rate Column	Column in the prescription .dbf file containing the rate information.
Rate Units	Units that the application rate information is stored in.
Scale Factor	Applied to the rate information to scale the application. For example, to apply half or double the specified application rate.
Rate Outside Polygon	Rate applied when the vehicle moves to an area not covered by an application rate polygon. There are two options: * Zero – stop spraying * Last rate – keep applying the last rate

4. Select Continue and press .

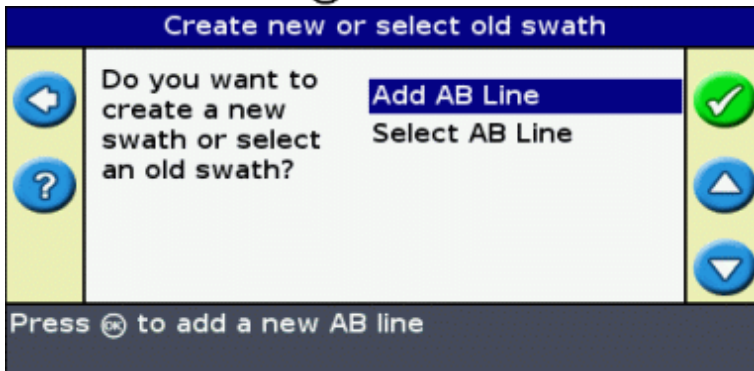
The prescription is loaded.

To change the prescription while in the field, you must reload the current AB line:

1. Select the icon and press . The *Finished With Field?* screen appears.



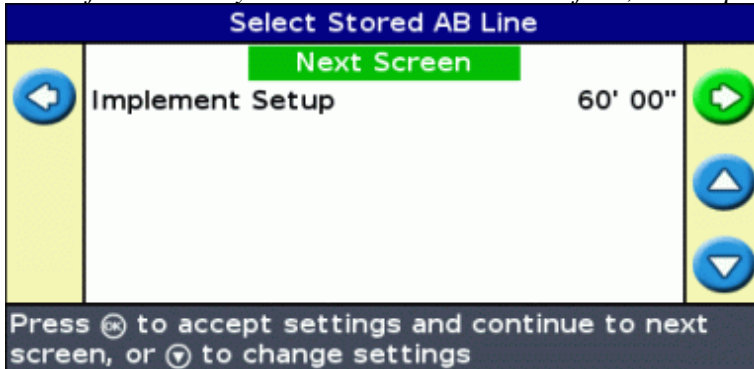
2. Select No and then press **OK**. The *Create New or Select Old Swath* screen appears.



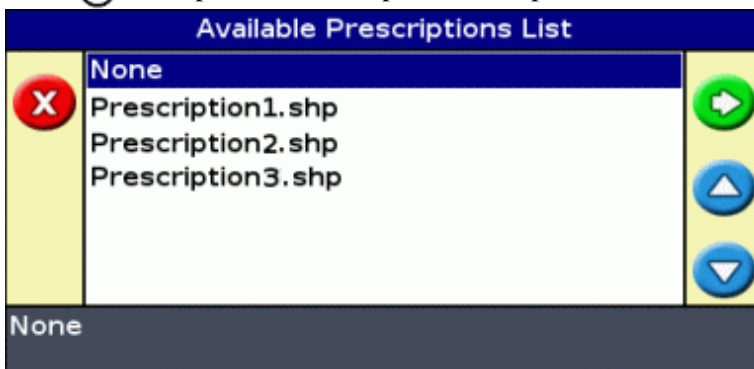
3. Press **Down Arrow** to choose *Select AB Line* and press **OK**.


4. Select the current AB Line and press **OK**. The *Select Stored AB Line* screen appears.

Note: If there is only one AB Line in the current field, this step is done automatically.



5. Press **OK** to keep the current implement setup. The *Available Prescriptions List* screen appears.



6. Select the prescription file you want to load and press  .