

AGRICULTURE SUPPORT NOTE

5 March 2009

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EZ-Guide 500 Lightbar or NavController II: Outputting NMEA data to a John Deere GS2 Display

This document describes how to output NMEA data from the Trimble[®] $AgGPS^{®}$ EZ-Guide[®] 500 lightbar or the AutopilotTM NavController II to the John Deere GS2 display.

Description

The John Deere GS2 display does not accept NMEA data from a Trimble receiver or the NavController II because the GS2 display:

- uses a GPS position with lower precision than is supplied by the lightbar or the NavController II.
- does not accept an XP/HP or RTK position from an external receiver.

The GS2 display does not accept NMEA data from a stand-alone EZ-Guide 500 lightbar that uses OmniSTAR XP/HP or RTK as the correction source.

Solution

Do one of the following:

- Use one of the Trimble receivers listed.
- Use an EZ-Guide 500 lightbar that is configured to output less precise NMEA data that will be accepted by the GS2 display.
- Use a NavController II that is configured to output less precise NMEA data that will be accepted by the GS2 display.

Trimble receivers

Use one of the following receivers, configured as described in Connecting to the John Deere GS2 display.

• AgGPS 110

• AgGPS 132

• AgGPS 106

AgGPS 114

• AgGPS 124

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Trimble Navigation Limited, Agriculture Division, 10355 Westmoor Drive, Suite #100, Westminster, CO 80021, USA

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EZ-Guide 500 lightbar

Note: The GS2 display accepts NMEA data only if the lightbar is in WAAS mode.

To configure the lightbar:

1. Select the Wrench icon and then press **OK**.



2. Select *System* and then press **OK**.

3.	Select	GPS	and	then	press	OK.
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4. Select NMEA Output and then press OK.

	User Mode	Advanced		
	System			
	Data Management			
	Auto Steer			
	Application Control			
2220333	Status			
	About the EZ-Guide		•	
Adjust the system settings				
System				

Configuration

System			
	Display	•	
9	Guidance		
	GPS		
	Radar Output		
	Password Upgrade		
777775	Advanced User Config		
	Restore Defaults No	-	
Confi positi	gure settings relating to the calculation of GPS ions		

GPS				
	GPS Setup			
Ð	GPS Limits			
	NMEA Output			
?				
-				
Change the settings for output of NMEA messages to an external device				

5. Highlight *Continue* and then press **OK**.

6. Turn on the NMEA messages that the GS2 display requires. Use the arrows to select in turn GGA, GSA, and RMC. Press **OK** for each message.

Select Continue and then press OK.

7. Use the down arrow to change the number of decimal places in NMEA GGA Output to 6.

Press **OK** to accept the changes and then return to the home screen.



Message Selection				
		Continue	_	
\bigcirc	GGA		On	\checkmark
	VTG		Off	-
?	GSA		On	
	GLL		Off	
	RMC		On	
	ZDA		Off 🔟	
Choose whether to output NMEA RMC messages				



NavController II

The NavController II must have firmware version 5.0 or later installed.

1. Configure the following:

Parameter	Set to
RawNMEAOutputMaxLLAPrecision	6
RawNMEAOutputMaxQuality	2 (if using OmniSTAR XP/HP)
	or
	RTK
RawNMEAOutputIntervalRMC	500 (5 Hz)
	or
	1000 (1 Hz)

- 2. Use the Autopilot Toolbox II software version 2.85 to configure the following Advanced Configuration options:
 - a. Use the Autopilot display to disable NMEA output in the NavController II. For details on how to do this, refer to the *User Guide* for your display.
 - b. Turn on the NavController II and then connect the software.
 - c. Press Tools / Advanced Configuration.
 - d. In the Name field, enter RawNMEAOutputMaxLLAPrecision.
 - e. Press Get.
 - f. In the *Value* field, enter **6**.
 - g. Press Set.
 - h. Repeat step d through step g as required for other options.
 - i. Close the Toolbox II software.
 - j. Use the Autopilot display to enable NMEA output in the NavController II.

This allows the GS2 display to accept NMEA data well as OmniSTAR XP/HP or RTK accurate positions from the *Ag*GPS 252, *Ag*GPS 332, *Ag*GPS 432 and *Ag*GPS 442 through the NavController II.

Connecting to the John Deere GS2 display

Use the John Deere RS232 Harness kit (John Deere P/N PF90363), which includes the harness, null-modem cable, gender changer, and instructions for correct installation.

Set the following parameters:

- GGA, GSA, and RMC NMEA messages
- Baud rate: 19200
- Data bits: 8

- Parity: none
- Stop bit: 1
- Flow control: none
- Output rate: 1 Hz or 5 Hz (Trimble recommends 5 Hz for guidance)

Configuring the John Deere GS2 display

Configure the serial ports to accept serial GPS data:

1. In the Home screen of the GS2 display, tap the lower right button.

2. Tap GreenStar 2 Pro.

3. Tap Assign Serial Port.



4. For the port that communicates with the GS2 display, select *Serial GPS* from the drop-down list.



Checking the GPS status in the John Deere GS2 display

The GPS status appears on the Home screen.



To view more detailed GPS information:

1. On the Home screen, tap the lower right button and then tap **GreenStar 2 Pro**.



2. Tap the Wrench icon.

GPS information appears.

3. To view more information on the next page, tap the right arrow.

