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AgGPS Autopilot DGPS System

What is the AgGPS Autopilot DGPS system?

The Trimble® AgGPS® Autopilot™ DGPS system is an introductory auto-steer guidance system designed for farmers and growers who need a simple, affordable solution for a variety of auto-steer operations.

AgGPS Autopilot DGPS system has the following components:

- The AgGPS DGPS receiver
- A display (AgGPS 21A lightbar, AgGPS 50 lightbar, or AgGPS 170 Field Computer)
- The AgGPS Autopilot Navigation Controller
- A remote keypad
- A tractor platform electrical and hydraulic installation kit

Why would I use the AgGPS Autopilot DGPS system?

The Autopilot DGPS system will eliminate excessive overlap and skips when doing operations such as tillage, broad acre seeding or applying fertilizer and insecticide using a tractor mounted sprayer. The Autopilot DGPS system will give you confidence that the entire field has been worked, without wasting time and fuel. An AgGPS Autopilot DGPS system also gives you the ability to work during limited visibility, thus reducing driver fatigue.

Automated steering provided by the AgGPS Autopilot DGPS system frees the operator to monitor other operations within the cab and when the tractor is within a defined distance from the end of the row, an alarm is sounded and visually displayed on the lightbar. At the end of the row, the operator simply turns the steering wheel in the direction of the next swath and the automated steering is disengaged. When nearing the next swath the operator presses the *Engage* button on the keypad and the Autopilot system steers the tractor onto the next swath.

How does the AgGPS Autopilot DGPS system work?

The Autopilot DGPS system uses differentially corrected GPS positions from a DGPS receiver to automatically steer your tractor along a pre-defined path of parallel swaths. An AB Line defines the path and you define the swath width depending on the implement or tractor. Using the lightbar LED display and remote keypad, the operator marks the AB Line then, after the push of a button the auto-steer operations begin.

Trimble Navigation Limited, Agriculture Division, 7401 Church Ranch Blvd, Westminster, CO 80021, USA.

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Is the Autopilot system available for my vehicle platform?

Currently, the vehicles below are supported;

Supported Vehicles - Make	Model & Series
Tractors – 2WD	
Case	MXM 120-195 (except suspended front axles)
Case IH	MX 180-270 (210-285)
Case IH	Maxxum MX 110-170
Caterpillar	Challenger 35-55
Caterpillar	Challenger 65-95C, D, E
Caterpillar	MT 700/800
John Deere	JD 8x00, 8x10, 8x20 Wheeled (Non-ILS)
John Deere	JD8x20 ILS Wheeled
Massey-Ferguson	MF 82x0
New Holland	TM 120-195 (except SuperSteer front axles)
Tractors – 4WD	
Agco	Challenger MT6xx
Case	STX Steiger
Case IH	Steiger 9250, 9350 4WD Small Frame (may also work with 9210, 9230, 9310, 9330)
Case IH	Steiger 9270, 9280, 9370, 9380 4WD Large Frame (may also work w/ 9370, 9380 Quad)
John Deere	JD 6x00, 6x10 Wheeled
John Deere	JD7x00, 7x10 without PowrQuad Wheeled
John Deere	JD8x00T, 8x10T, 8x20T Track
John Deere	JD9x00T, 9x10T, 9x20T Track
John Deere	JD9x00 4WD
New Holland	8x70 without SuperSteer Wheeled
New Holland	TJ
Sprayers	
AgChem	Terra-Gator 8103 Sprayer
AgChem	Ro-Gator 854 Sprayer
Case IH	SPX 4260 with Surveyor Cab, SPX 4410 Sprayer
Case IH	SPX 4260 with Surveyor Cab, SPX 4410 Sprayer
John Deere	JD47x0 Sprayer
Combines	
John Deere	JD9x50/9x60 STS Combine
Case IH	2388 Combine

As more are being tested each day please visit your local Trimble reseller to see if your vehicle is now supported.

Can the Autopilot DGPS system work on a slope?

Yes. An Inertial Measurement Unit (IMU) is used by the system to correct the GPS positions when operating on any slope. The AgGPS Autopilot DGPS system precisely determines whether the tractor is rolling and/or pitching then uses the measured roll and/or pitch to calculate the position.

What skills are required to operate the Autopilot DGPS system?

The simple design of the Autopilot DGPS system allows any agricultural vehicle operator to use the system. The Autopilot system eliminates the need for highly skilled operators, because it is so easy to use.

What AgGPS DGPS receivers work with the Autopilot DGPS system?

You can select a DGPS receiver based on the accuracy and price point you require. The options are the Trimble AgGPS 150, 132, 124, and 114 receivers.

What differential GPS (DGPS) sources does Autopilot DGPS use?

Depending on which AgGPS receiver you select, the Autopilot system supports the Beacon and WAAS or EGNOS and OmniSTAR satellite subscription service DGPS services.

What is the difference between the AgGPS Autopilot DGPS system and the AgGPS Autopilot RTK system?

Accuracy, price, and ease-of-use are the 3 major differences;

Accuracy – The Autopilot DGPS system has row to row accuracy of 6-10 inches (15-25 cm) compared to the AgGPS Autopilot RTK system which has a row to row accuracy of 1 inch (2.5 cm).

Price –The DGPS system has a lower price point because it uses less complex and expensive DGPS receivers (see below). Also you don't need an RTK base station, which lowers the cost of extra equipment.

Simplicity – The AgGPS Autopilot DGPS system is simpler to use than the AgGPS Autopilot RTK system because you do not need to set up a base station for DGPS. All you need is access to a third party differential correction source and you are ready to begin. To use the system all you need to do is watch the lightbar and use remote keypad. The operator simply creates a job by marking an AB Line, and then to begin auto-steer operations, presses one button on the keypad.

Can I convert a lightbar guidance system to an Autopilot DGPS system?

Yes. Simply purchase a Lightbar to Autopilot DGPS upgrade kit (see your local re-seller for pricing). The kit includes the Autopilot electrical and hydraulic install kit for the desired platform and the Autopilot Navigation Controller.

How is the Autopilot DGPS system installed?

A qualified Autopilot installer and service provider must install the Autopilot DGPS system. The Autopilot system installation involves intricate electrical and hydraulic connections, and includes meticulous calibration procedures and return to service checks prior to first use.