

# AgGPS Autopilot Systems

## Steering options for precise, automated agricultural vehicle guidance

Now, more than ever speed and accuracy are key to increasing the output from your farm. With this in mind Trimble has developed several AgGPS® Autopilot™ guidance systems that automatically steer your tractor, combine, or sprayer so you'll work faster and more efficiently than ever before. Crop beds go in straight the first time, and every time. No more guess rows and no more overlap.

### Simple to use

The Autopilot systems are steered by Trimble's high performance GPS-based Navigation Controller that connects to your vehicle's power steering mechanism. Using the in-cab display you can select from straight, curve, pivot, and headland field patterns and view the operating parameters. Once the Autopilot system lines up the vehicle at the beginning of a row, the automated steering guides the vehicle smoothly down the row. The display or lightbar provides visual feedback on your course—it's that simple.

### Works on all terrain

Uniquely the AgGPS Autopilot systems work on slopes as well as level ground. Inertial measurement technology corrects for roll and pitch of the vehicle to insure you are where you want to be, even in rolling or sloping terrain.

### Productivity and profitability

Autopilot systems free you to concentrate on in-field applications such as bed preparation, planting, spraying, spreading, cultivating, and even harvesting! From strip till, no till, irrigation, or dry farm, the Autopilot systems will reduce driver stress and save time and money.

### Accuracy options

The Autopilot systems give you the choice of precise GPS receivers, either Differential GPS (DGPS) or Real-time Kinematic (RTK) depending on your accuracy and budget requirements\*.



**AgGPS Autopilot DGPS system:** This option gives you a choice of DGPS signals. Omnistar HP (High Performance) service with +/- 2-4 inch pass to pass accuracy, or free SBAS (WAAS/EGNOS or US Coastguard beacons) which give +/-10 inches pass to pass accuracy

**AgGPS Autopilot RTK system:** This option gives you sub-inch pass to pass accuracy. This system requires a GPS base station that is set up within six miles, or line-of-sight of your farm that broadcasts highly accurate GPS positions to the system on the tractor via a robust radio-link.

### Display options

The AgGPS 170 Field Computer running AgGPS FieldManager software is a top-of-the-line field information management solution. The simple to use interface offers you record-keeping, field mapping, variable rate management, land leveling, and soil sampling.

The AgGPS EZ-Guide® Plus lightbar guidance system is the first system to combine crystal-clear guidance LEDs, a sunlight-readable LCD screen and integrated GPS, all within a slim profile lightbar. The EZ-Guide Plus lightbar will also store three vehicle configurations allowing farmers to quickly swap their Autopilot system components from vehicle to vehicle.



## Key Features

- Automatically and consistently steers a selection of field patterns
- Automatically compensates for rolling terrain
- Extends operational hours
- Minimizes driver fatigue
- Improves field efficiency: eliminates guess rows, minimizes skips and overlap

### Expandability

And, best of all you can start simple, with a Trimble® EZ-Guide Plus lightbar system then, when you are ready for more precision—upgrade to one of the AgGPS Autopilot systems. The choice of products, and accuracy will match any operational or accuracy requirement you have.

\*See the accuracy comparison table on the reverse to easily compare the accuracy options.

*Trimble Agriculture. The line everyone follows.*



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### Standard features

- Steers consistently straight rows
- Usable on hilly or flat land; inertial unit compensates for roll and pitch
- Ultra-simple operation: push button to engage, turn wheel to disengage
- Lightbar guidance to help you through each turn
- Allows operation up to 24/7 in any condition—dark, fog, dust
- Rugged components proven in harsh environments
- Expandable functionality
- Built to Trimble's high standards for quality and reliability
- Competitive pricing

### Performance characteristics<sup>1</sup>

Selection of receiver determines DGPS correction source applicability.

Available services are:

#### Receiver

#### DGPS source

|                     |                                                 |
|---------------------|-------------------------------------------------|
| AgGPS EZ-Guide Plus | WAAS                                            |
| AgGPS 114           | OmniSTAR                                        |
| AgGPS 124           | Beacon                                          |
| AgGPS 132           | OmniSTAR, Beacon                                |
| AgGPS 252           | OmniSTAR, OmniSTAR HP, RTK (Local Base Station) |

### Accuracy comparison table

| CORRECTION SYSTEM                              | COST OF SIGNAL                                                                                                                                                                                | BENEFITS                                                                                                                                                         | TYPICAL CROP TYPES                       |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
| Free DGPS (WAAS/EGNOS, Coast Guard Beacon)     | Free                                                                                                                                                                                          | • +/- 10 inches pass-to-pass accuracy; ideal for many tillage and spraying operations.                                                                           | Broadacre, row crop tillage              |
| OmniSTAR HP (High Performance)                 | Annual subscription—partial year and other discounts are available                                                                                                                            | • Available everywhere<br>• Pass-to-pass accuracy of +/- 2-4 inches; suitable for many field operations; good replacement for row markers.                       | Broadacre and row crop                   |
| Real Time Kinematic (RTK) on-farm base station | One time cost for base station<br>Free to use on all roving vehicles one system is installed<br>In some areas, commercially-owned RTK base station relay networks offer subscription services | • No ongoing subscription fees, set up costs only<br>• Excellent for operations requiring accuracy and repeatability of +/- 1 inch<br>• Rapid signal acquisition | Broadacre, row crop, and specialty crops |

Specifications subject to change without notice.

### Configuration capabilities

(Configurable by user with lightbar menu items and remote keypad)

#### Parameter set to

##### Field operations

|                         |                                      |
|-------------------------|--------------------------------------|
| Swath width             | Current implement                    |
| Implement offset        | Current implement                    |
| Steering aggressiveness | Current field and/or soil conditions |

##### System

|                       |                                                         |
|-----------------------|---------------------------------------------------------|
| Language <sup>2</sup> | English or Spanish                                      |
| Units                 | Inches, feet, centimeters or meters                     |
| LED brightness        | Current lighting conditions                             |
| LED spacing mode      | Linear or scaled                                        |
| LED spacing Interval  | Desired interval in current units                       |
| LED end distance      | 1/4 or 1/2 implement width                              |
| End of row alarm      | Desired distance from 50 to 300 feet (10 to 100 meters) |

|              |                                                                      |
|--------------|----------------------------------------------------------------------|
| Text message | None (A-B Good/Crosstrack Error, Swath # (Swath 1R/Crosstrack Error) |
|--------------|----------------------------------------------------------------------|

|                      |                                                    |
|----------------------|----------------------------------------------------|
| Lightbar orientation | Dash or Ceiling                                    |
| Driver alert timeout | 3, 5, 10, or 15 minute duration (Deadman's switch) |

### Display options

|                        |                 | EZ-GUIDE PLUS | AgGPS 170 |
|------------------------|-----------------|---------------|-----------|
| HARDWARE               | Color           | -             | ✓         |
|                        | File storage    | -             | ✓         |
| FUNCTIONS              | Manual Guidance | ✓             | ✓         |
|                        | Auto Guidance   | ✓             | ✓         |
|                        | Rate Control    | -             | ✓         |
|                        | FieldLevel      | -             | ✓         |
| AUTO GUIDANCE PATTERNS | Straight A-B    | ✓             | ✓         |
|                        | Pivot           | ✓             | ✓         |
|                        | Identical Curve | ✓             | ✓         |
|                        | Adaptive Curve  | ✓             | ✓         |
|                        | Headlands       | ✓             | ✓         |

1 Refer to the datasheet for AgGPS 114, 124, 132, or 252 receivers, as applicable, for full performance information.

2 French, German, Italian, and Portuguese languages are also available when using the AgGPS EZ-Guide Plus display option.

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