

## Starfire brings high repeatability to precision ag

The John Deere StarFire GPS system provides a reliable, accurate, satellite network to create guidance, mapping, and agronomic documentation systems.

For those producers who need high-accuracy with high-repeatability, John Deere has introduced a new system — StarFire RTK (Real Time Kinematic) — that may be the solution to their operational needs. StarFire RTK takes GreenStar guidance products to the next level of accuracy and repeatability by building on the existing StarFire receiver.

“StarFire RTK consists of a radio link between two StarFire receivers,” says Kevin Platz, Product Development Manager for John Deere. “One of the receivers acts as a ground-based reference station, and the other receiver is mounted on the tractor, combine, sprayer, or other 12 volt agricultural vehicle. Since GPS drift from satellite signals is nearly eliminated with this ground-based system, the result is high accuracy that can be repeated over and over again.”

StarFire RTK eliminates nearly all GPS drift, delivering the repeatability that a satellite-based differential correction signal cannot achieve. This repeatability is especially useful in those applications where GPS drift is not tolerable, such as drip tape, controlled traffic and bedded crop applications.

Furthermore StarFire RTK includes RTK EXTEND that sustains RTK accuracy for up to 15 minutes when the base station signal is interrupted and does not reach the vehicle receiver. This means that temporary obstruc-



The Starfire RTK system has a ground-based reference station as well as a receiver on the vehicle.

tions such as trees, hills, sheds or other structures may not cause downtime as with other RTK systems.

“The new RTK system builds upon a common component strategy,” says Kevin. “If a producer buys or has bought a guidance system from John Deere, such as GreenStar AutoTrac, they will be able to upgrade to StarFire RTK by adding additional components to the system. Everything will be compatible.”

StarFire RTK requires that the operator sets up and maintains a local reference station in or near the field in which the system is being used and which can be configured to operate in three different modes:

- Quick Survey Base;
- Absolute Base; and,
- Vehicle.

### Quick Survey Base

In Quick Survey Base mode, the base station will begin sending RTK corrections as soon as a GPS position is calculated. If the user desires to follow the same tracks each time he returns to the field, the tractor must be manually aligned and Shift Track must be used when operating in a Quick Survey mode. After the initial shift, no additional shifts should be needed. If a farmer wants to follow previously established tracks using Quick Survey mode, a visual reference in the field must be apparent so the vehicle can be aligned. If a visual reference is not available, Absolute Base mode is recommended.



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**Absolute Base**

Absolute Base mode requires a 24-hour survey be completed for each base station location, or the coordinates can be manually entered if they are known. Up to 20 base station locations can be stored.

If the base station is moved from one absolute base location to another, the base station will automatically use the previously surveyed coordinates. Absolute Base mode is recommended for permanently mounted base stations, and for applications requiring repeatability without having to depend on an initial use of the Shift Track feature. This includes drip tape and controlled traffic applications.

**Vehicle mode**

Configure the RTK operating mode to Vehicle when the RTK-activated receiver is installed on the vehicle. The RTK radio will then receive corrections from any base station within range and with a matching RTK Network ID.

The optional repeater bundle includes an RTK radio, mounting bracket with magnets, and wiring harness. A repeater can be used to extend the line-of-sight from point of the base station. A repeater can receive a signal only from a base station, not from another repeater. Therefore, a repeater cannot be used in a 'daisy chain,'

repeating the signal from one repeater to another. In order to operate, a repeater must be connected to a 12 volt power source.

The introduction of StarFire RTK will ensure that growers who need high-accuracy with high-repeatability remain on course in order to get the most out of their field production.

For more information about StarFire RTK or any other John Deere equipment, FREECALL 1800 800 981, log onto [www.deere.com.au](http://www.deere.com.au), or call into your John Deere Dealer.



The Starfire cab mounting.