



Don't Compromise Your Position

The Case for Cellular RTK

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John Deere and precision guidance are synonymous to those who embrace Deere green. But what happens if you start experiencing signal loss from your dealer's radio-based RTK network?

For Bobby Boggess, owner/operator of Bobby Boggess Farms, a 1,500 acre corn and soy bean operation in Hardin, Kentucky, this was more than a little concerning.

"I rely on RTK for everything," states Boggess. "I have it on all my equipment: my tillage equipment, my spray equipment, even my most recent acquisition, our tile plow. Yet, with the RTK from my dealer, it wasn't unusual for me to lose RTK signal strength two- or three-times during the day."

The anxiety that Boggess experienced when he saw that he was losing RTK signal is something that many precision farmers can relate to.

"Farmers who rely on radio transmission for their RTK corrections typically have to contend with line-of-sight issues," says Haley Harms, CEO/president of Pro Till, a firm dedicated to educating farmers how to use their GPS and guidance platforms to their highest potential and maximum productivity.

"I recall a farmer saying to me that, 'Behind this hill over here, and for this 128 acres of corn I plant every year, I'm on a network I pay a thousand dollars to be on and I can't get a signal.' That's a common complaint I hear from farmers about their current RTK network."

Common or not, it doesn't make it any easier to accept when you have grown to rely on precision guidance on a daily basis.

"When you lose your RTK signal, you lose your accuracy," Boggess emphasizes. "When you're plowing, the last thing you want to have happen is to be running a 1,300 foot lateral and lose signal, or fear that you are going to lose signal, and have to stop, regroup, and start all over again."

Today, many farmers introduction to precision agriculture came through their equipment dealer. When someone purchases a Case tractor, it comes with a Trimble GPS system. If you buy a John Deere tractor, it comes with a John Deere guidance system. Regardless, you are told that each requires a separate network to access the necessary RTK corrections. At a time when technology vendors in other areas are talking openness and

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interoperability, there are those in the agricultural industry that want to protect their proprietary ways. Progressive dealers are looking to

challenge that strategy with technology that helps break the chains farmers have been operating under.

Vendor-neutral Approach

“We’re a solution-based company, not a color-based company,” states Heath Conklin, of Integrity Ag Group located in Murray, Kentucky. “We don’t care what color you have on your farm. If you’ve got a mixed fleet, you’re our kind of guy.”

Heath further elaborates, “We can provide customers a solution that supports all the different colors that they run on their farm. Now they can be on one network with one cost and get all the RTK corrections they need. That’s big!”

Yet, when someone talks about solutions, the old adage that one size doesn’t fit all certainly rings true in today’s competitive and complex market.

“Mr. Conklin, the gentleman I bought my tile plow from, said that I had a number of options available to me to address the signal drop-out that I had been experiencing,” recalls Boggess. “Heath showed me a base station on a tripod as one option, but he quickly suggested a less expensive alternative that he said would deliver the same results and would be easier to use.”

Wi-Fi in the Cab

In both situations, the product fundamental to the solution that Heath was referring to was Intuicom’s RTK



Bobby Boggess and his tile plow, which is guided by a John Deere StarFire 3000 Receiver, receiving its RTK corrections wirelessly via Intuicom’s RTK Bridge-X Bluetooth Receiver.

Bridge®-X, an advanced communications device providing a full array of connectivity including Wi-Fi, Internet, Bluetooth, Ethernet, and Cellular RTK.

“Cellular RTK can be a hard concept for some people to grasp, but Bobby’s a very intelligent man,” comments Heath. “He is not afraid to buy quality. Of course, he was price conscious, as is everyone else, and I told him we handle less expensive modems, but in my opinion, with Intuicom you are getting a product that will outlast anything on the market and you are going to have a better cell signal to rely on. I told

him, ‘Quite honestly, that’s what they [Intuicom] do. They make modems, and they’re really dog-gone good at it.’”

It Just Works

Longevity and reliability are something that Heath has personally experienced with Intuicom’s modems.

“My dad farms in Ohio. In 2008, he bought an Intuicom Bridge-C,” Heath states. “To this day, my dad’s still running on that same Bridge-C in his tractor. I’m fairly sure he could tell us where it is in his tractor, but that’s about all he knows. It just works, and always has!”

With its array of communication capabilities, the RTK Bridge®-X represents a field-hardened device capable of providing unequalled access to user's data and network RTK corrections. Able to secure cellular connections where other devices cannot, the RTK Bridge®-X also acts as a WiFi hotspot delivering Internet access to your wireless devices, including smart phones, tablets and laptops, all in the convenience and comfort of your cab.

The Convenience Factor

The RTK Bridge®-X Bluetooth Receiver enables precision agriculture users to avoid the time-consuming process of running cumbersome cables to their various implements and guidance systems.

"People underestimate the convenience factor that Bluetooth delivers," says Heath. "Especially on a tile plow, we don't have to run the cable back to the plow and leave extra cabling and

connections exposed to potential damage.. We just put the Bluetooth on and we're rocking and rolling."

Some might think that a product as sophisticated as the RTK Bridge®-X would be equally complex to set up and operate. According to Heath, it is just the opposite.

"The RTK Bridge®-X is so easy to set up, I can even walk a farmer through it remotely," says Heath. "If they have a smart phone or an iPad, I ask them to connect to their RTK Bridge®-X, and we can immediately look at their settings versus my settings, all over the Internet. There's virtually no programming. The RTK Bridge®-X itself is so simple. It's literally plug-and-play and the easiest part of setting up their network. Our customers know that we've got their back, no matter where they're at. That results in a lot of peace of mind and reassurance, which makes a big difference to our customers."

Here again, Boggess' experience with the Intuicom device reinforces what Heath says.

"At my age (60) and with my limited technical expertise, the easier and less complicated a product is, the better I like it," Boggess says. "So far, the RTK Bridge®-X has met all those criteria. As a matter of fact, it seems like my signal capture is faster in the morning using the RTK Bridge®-X than it was as a subscriber with my Deere system. Now, when I crank my Intuicom system up, my feed is instantaneous. I go to a green satellite instantly and I keep that solid green satellite on the screen all day. That's something I couldn't say with my previous RTK system."

The Future is Connectivity

"With the Bridge-X, all those connection problems that farmers describe—all that line-of-sight, all those radio communication issues—are gone," Heath emphasizes. "While radio RTK has been around a long time, it's not the future. Today you need to be focused on connectivity. The future takes advantage of the RTK Bridge®-X as the hub where operators go right through the cellular network, just like a text message does, to deliver the RTK correction signal to their tractor cab, or to send off telematics, file transfer data, vehicle CAN data, or whatever it is that users are wanting from different sources. Now we can turn data into information and really make an impact on a farmer's operation."

Dollars and Cents

While ease of use is one of the biggest benefits mentioned when they describe their experience with the RTK Bridge®-X, extended exposure to the product brings a renewed awareness to the economic benefits that the RTK Bridge®-X and precision guidance delivers. For many, the effectiveness starts anecdotally. They incorporate



Connected along side of Bobby Boggess' Intellislope Guidance System, the RTK Bridge-X front panel displays real-time cellular signal strength, as well as status lights for Power, Wi-Fi Signal, Bluetooth Connectivity, Ethernet, GPS, NTRIP Server, and Data/Corrections.

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*Bobby Boggess
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RTK precision with their liquid and section control applicators and find that they have 100 gallons remaining after spraying 80 acres. After 3,000 acres, those gallons really add up and farmers can see the savings this technology brought them.

So, with all the benefits of precision guidance and RTK including no overlap, row shut off, and auto steer—saving you time, fuel and input costs with every pass—why aren’t more farmers embracing this technology?

“I still believe that a lot of growers, especially if they’re older growers in their 50s to 60s, still like to have a little hands-on exposure to a product before they buy,” states Boggess. “If they could just go and see the Intuicom system working on the piece of equipment—whether it’s just a tractor or a combine—and be able to touch and see it, and see how easy it is to operate; that will help them to make that financial commitment quicker than necessarily reading about the Bridge-X in a magazine or seeing it on the Internet. I really think Intuicom can allow growers to go from the SF1 or SF2 signal all the way up to an RTK system. I think just the fear, or cost, have been a factor in not making that leap to RTK. I think this is where the Intuicom system really begins to open the door for them, to give them freedom and economic incentive, with which to make the move. In this area here, I don’t think there is a large percentage of the growers on RTK, but Intuicom can make it very easy for them to be able to make that move to RTK.”

“When I reflect on my experience with Intuicom and their RTK Bridge®-X, it saved us close to \$8,000 over a base station alternative,” Boggess proudly says. “And now it appears that going with the Intuicom system is going to save me about \$300 a year over my other plan. I don’t necessarily mean to sell people products, but I think that the RTK Bridge®-X is a product that could really benefit a lot of growers.” ♦

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