

USE OUR TS100 RTK BASE STATION WITH UHF RADIO FOR A MAXIMUM 20KM COVERAGE IN IDEAL CONDITION

TS100 Series RTK BASE

Multi-frequency GPS, GLONASS, BeiDou, Galileo, QZSS
432 channels
10Hz data rates
Horizontal single point 1.5m RMS
Build-in radio 410-470MHz and Bluetooth provide multiple correction data link options



FIND A UHF RADIO FOR FAST DATA TRANSMISSION FOR THE BASE TO YOUR ROVER

	HX-DU8616D Series	HX-DU1603D Series	HX-DU1601D Series
			
	Advanced & Smart UHF Radio	Easy-to-Use UHF Radio	Simple & Low-Cost UHF Radio
Frequency Range	410~470MHz	410~470MHz	410~470MHz
Operating Mode	Half-Duplex	Half-Duplex	Half-Duplex
Chanel Bandwidth	12.5KHz/25KHz	12.5KHz/25KHz	12.5KHz/25KHz
High Output Power	35W@DC 12V	2W@DC 7.26V 2W@DC 12V	1W@DC 12V
Low Output Power	5W@DC 12V	0.5W@DC 12V	0.5W@DC 12V
Operating Voltage Range	9-16V	9V-36V	9V-20V
Sensitivity	<-114dBm@BER 10 ⁻⁵ , 9600bps	-115dBm@BER 10 ⁻⁵ , 9600bps	-115dBm@BER 10 ⁻⁵ , 9600bps
Data Rate	4800bps/9600bps/19200bps	4800bps/9600bps/19200bps	4800bps/9600bps/19200bps
Serial Baud Rate	9600bps/19200bps/38400bps /57600bps/115200bps	9600bps/19200bps/38400bps/115200bps	9600bps/19200bps/38400bps/115200bps
Interface	RS-232	RS-232	RS-232
Dimension (mm)	175*130*86.5	147.6*83*31.5	143.6*76*44
Weight	2kg	560g 410g (SE)	340g
Protocols	TRIMTALK™/ TRIMMARK™3/Transparent-EOT/ SATEL®		

EMPOWERING AGRICULTURE WITH GNSS PRECISION

Founded in 2008, Harxon Corporation is a subsidiary of BDStar, the first listed company in China 's satellite navigation industry. Harxon focuses on the R&D, production and sales of GNSS antennas, vehicle antennas, wireless data radios and smart antennas. Harxon is able to provide customized products and positioning solutions for global customers in various industries.

HARXON CORPORATION

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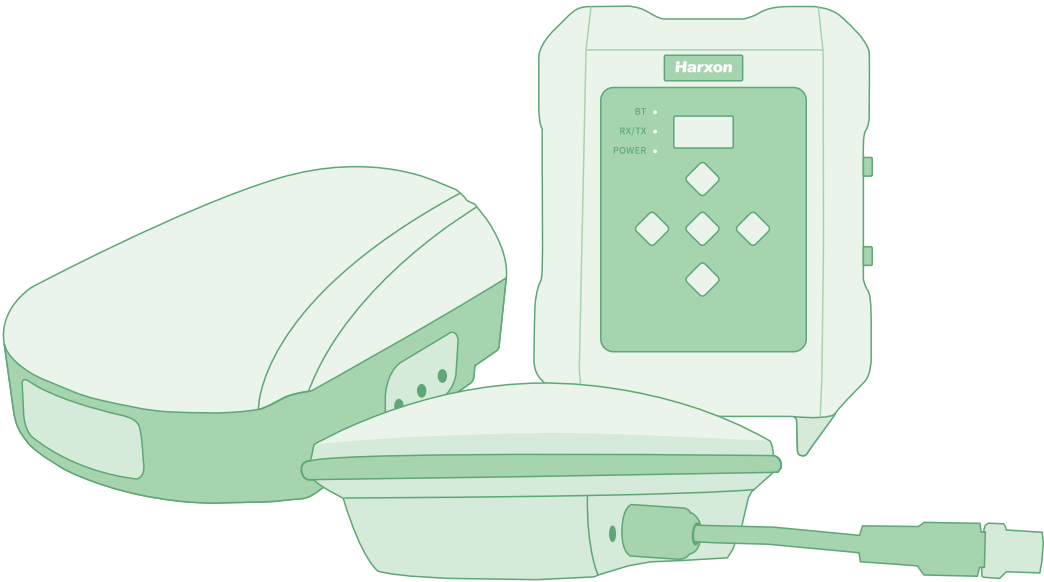
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2024
Revised in July



HIGH-PRECISION GNSS SOLUTION FOR PRECISION AGRICULTURE



A Leading Brand of GNSS Positioning Antenna Solution Provider

SOLUTION FOR AGRICULTURAL MACHINERY

GNSS plays a crucial role in the development and operation of autonomous vehicles and machinery in agriculture. For tractors, drones, and other agricultural machinery, having GNSS antennas/receivers that provide uninterrupted, high-accuracy GNSS-based positioning is essential to keep machines operating, so that they can navigate fields with high precision, following predefined paths.

As a leader in the GNSS market, Harxon works with the world’s leading agricultural machinery manufacturers providing farmers with impeccable pass-to-pass accuracy. Harxon’s GNSS solutions include smart antenna and wireless data radio, which are responsible for the data collection, control, guidance, and steering systems of agricultural machinery. Original equipment manufacturers (OEM) and system integrators that develop precision ag solutions, and autonomous solution providers can integrate Harxon’s positioning solution into the precision agriculture system in many applications, including semi-autonomous or autonomous applications.

KEY FEATURES



Comprehensive GNSS Support



Sub-centimeter Level Accuracy



Reliable Positioning and Heading



Robust against Shocks and Vibrations



Ease of Use and Excellent Support



Customizable in Precision/ Cable/ Connector/ Installation

KEY TECHNOLOGY



STANDALONE

Reliable pass-to-pass accuracy
Easy to use, only one receiver required
Low cost, no correction data required



SLIDE™ SMOOTHING ALGORITHMS

Smooth positioning solution
Steady and consistent positioning output



PRECISE POINT POSITIONING (PPP)

Receive accuracy levels of 15cm or better
Removing local, expensive base stations
Added convenience and cost savings

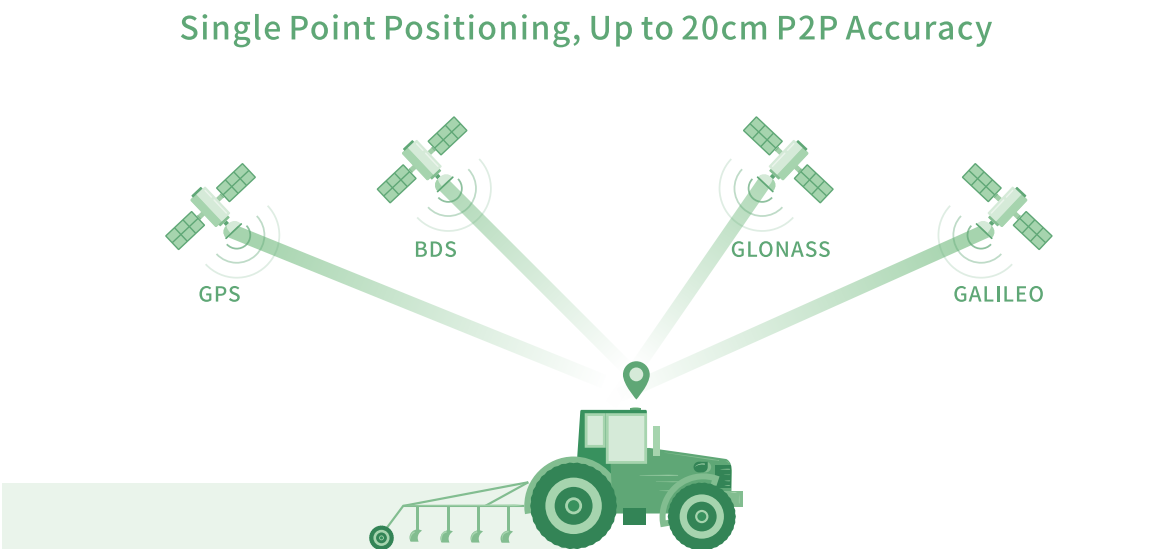


TERRAIN COMPENSATION

Maintain GNSS accuracy when operating on uneven/sloped terrain
Correct deviations or errors
Increase operation efficiency

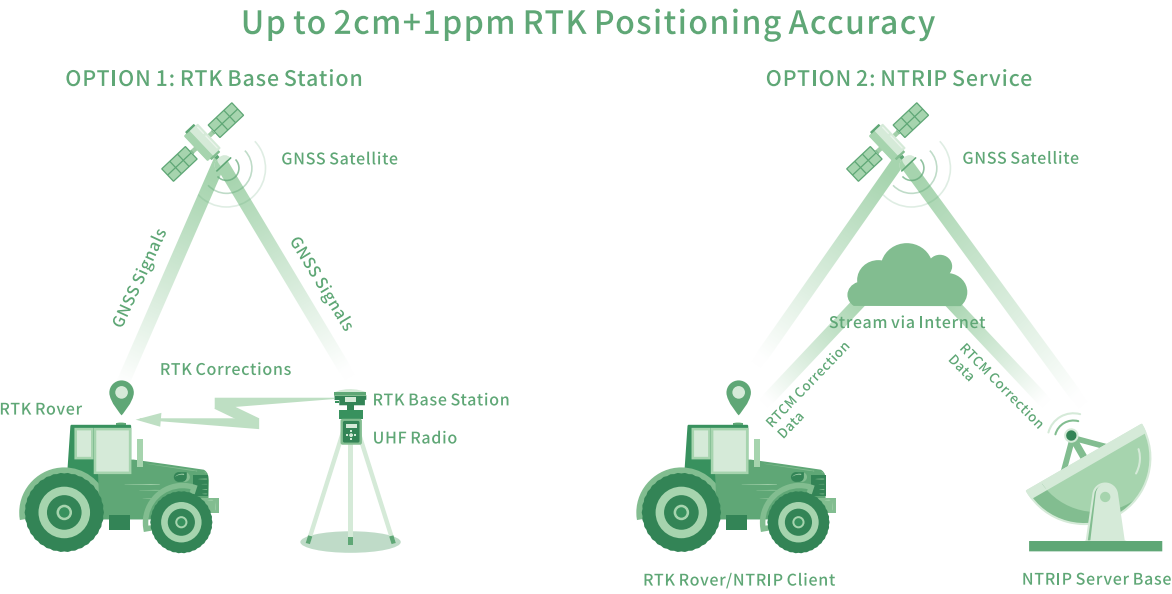
APPLICATION SCENARIOS WITH NO ACCESS TO DIFFERENTIAL LINKS

Precise Point Positioning (PPP) can obtain centimeter-level positioning accuracy by using a single GNSS receiver, which is the better way for some environments when differential links or base stations are unavailable. Harxon’s innovative STANDALONE can maintain 5~20cm positioning accuracy for up to half an hour in horizontal orientation, and maintain 30cm positioning accuracy for up to an hour without the support of any external precision data. For this situations, TS122 EUUB/TS112 SE EUAA/TS112 SE EUAB are recommended as cost-effective options.



APPLICATION SCENARIOS WITH ACCESS TO DIFFERENTIAL LINKS

Two popular RTK technologies that offer centimeter-level accuracy for tractor auto-steer systems are NTRIP service and RTK base station. NTRIP is a protocol for streaming corrections from a base station to a rover over the Internet to achieve centimeter-level accuracy. Users don’t own/operate an RTK base station. Instead, they request access (paid or free) to an NTRIP service. In contrast, a RTK base station is typically set up in a known location. It provides corrections to the rover on the tractor via UHF radio, which is suitable for farms with poor network coverage, no NTRIP service available, or high subscription fees. TS112 EUAA/TS112 EUAB are recommended for extreme positioning accuracy in these cases.



For PPP Application						For RTK Application	
		TS122 EUUB	TS112 SE EUAA	TS112 SE EUAB		TS112 EUAA	TS112 EUAB
							
GNSS Module		u-blox M9N	UM4B0	UM980		UM4B0	UM980
		L1 C/A	L1, L2, L5	L1C/A, L1C, L2C, L2P(Y), L5		L1, L2, L5	L1C/A, L1C, L2C, L2P(Y), L5
SIGNAL TRACKING	GPS	L1 C/A	L1, L2, L5	L1C/A, L1C, L2C, L2P(Y), L5		L1, L2, L5	L1C/A, L1C, L2C, L2P(Y), L5
	GLONASS	L10F	L1,L2	G1, G2, G3		L1,L2	G1, G2, G3
	Galileo	E1 B/C	E1, E5a, E5b	E1, E5a, E5b, E6		E1, E5a, E5b	E1, E5a, E5b, E6
	BeiDou	B1I	B1I, B2I, B3I, B1C, B2A	B1I, B2I, B3I, B1C, B2a, B2b		B1I, B2I, B3I, B1C, B2A	B1I, B2I, B3I, B1C, B2a, B2b
	QZSS	L1 C/A	L1, L2, L5	L1C/A, L1C, L2C, L5		L1, L2, L5	L1C/A, L1C, L2C, L5
POSITIONING ACCURACY	SBAS	L1 C/A/S	EGNOS	L1C/A		EGNOS	L1C/A
	Horizontal Position Accuracy(RMS)	Single Point: 1.5m	Single Point: 1.5m SBAS: 1m DGPS: 0.4m	Single Point: 1.5m SBAS: 0.7m DGPS: 0.4m PPP(E6-HAS): 15cm		Single Point: 1.5m SBAS: 1m DGPS: 0.4m RTK: 2cm+1ppm	Single Point: 1.5m SBAS: 0.7m DGPS: 0.4m PPP(E6-HAS): 15cm RTK: 2cm+1ppm
	Pass to Pass Accuracy(95%)	PASS TO PASS: 30cm RMS	L1/L2 STANDALONE Single Point: 20cm	L1/L2 STANDALONE Single Point: 20cm		L1/L2 STANDALONE Single Point: 20cm	L1/L2 STANDALONE Single Point: 20cm
	Solutions	Terrain Compensation SLIDE	Terrain Compensation SLIDE STANDALONE	Terrain Compensation SLIDE STANDALONE		Terrain Compensation SLIDE STANDALONE	Terrain Compensation SLIDE STANDALONE
COM Ports		2(RS232), 1(BT)	2(RS232), 1(PPS), 1(Ground Speed Out), 1(Event Mark Input), 1(BT)	2(RS232), 1(PPS), 1(Ground Speed Out), 1(Event Mark Input), 1(BT)		2(RS-232), 1(CAN Bus), 1(PPS), 1(Ground Speed Out), 1(Event Mark Input), 1(BT), 1(LTE), 1(Radio)	2(RS-232), 1(CAN Bus), 1(PPS), 1(Ground Speed Out), 1(Event Mark Input), 1(BT), 1(LTE), 1(Radio)