



PRECISE X9 LITE

2025-09-13 13:17:07
80%
BASE 37/47
Lon: 113.370774
Height: 1.93m
HRMS: 0.7
VRMS: 0.7
Lat: 22.9580716
PDOP: 1.6
HDOP: 1.7
VDOP: 1.8



PRECISE X9 Lite

Visual Stakeout RTK Receiver
Stake Out Visually. Work Flexibly.



TECHNICAL SPECIFICATIONS

GNSS PERFORMANCE

Channels	1408
GPS	L1 C/A, L1C, L2P(Y), L2C, L5
GLONASS	L1, L2, L3
BeiDou	B1I, B2I, B3I, B1C, B2a, B2b
Galileo	E1, E5a, E5b, E6
QZSS	L1 C/A, L1C, L2C, L5, L6
SBAS	L1, L5
IRNSS / NavIC	L5
ppp	BDS B2b PPP (Asia-Pacific) & Galileo HAS
Positioning Output Rate	Up to 20 Hz
Signal Re-acquisition	<1 s
Cold Start	<40 s

CAMERA / AR STAKEOUT

AR Stakeout	Supported
Camera Configuration	Single Bottom Camera
Camera Resolution	5 MP
Camera Role	Visual AR Stakeout
Live View Stakeout	Supported
Visual Guidance	Bottom-Camera Real-Scene Guidance
Field Software	X Field Pro

COMMUNICATION / DATA

Internal UHF	2 W Max, Tx/Rx
UHF Frequency	410-470 MHz
Channel Spacing	12.5 kHz
Protocols	TrimTalk / TRIMMARK III / SOUTH / SATEL / LoRa / Transparent
UHF Range	Typical 8-12km
4G	Supported
Wi-Fi	2.4 GHz, IEEE 802.11 b/g/n
Bluetooth	Bluetooth 5.2 Dual Mode
NFC	Supported
USB / I/O	USB Type-C; TNC UHF Antenna Port; SIM Card Slot; 5-pin LEMO
Internal Storage	32 GB
Differential Formats	RTCM 3.X
Data Output	NMEA-0183, RINEX, TXT
RINEX	RINEX 2.X - 3.04
Operating System	Linux

POSITIONING PERFORMANCE

RTK Horizontal	±(8 mm + 1 ppm)
RTK Vertical	±(15 mm + 1 ppm)
Static Horizontal	±(2.5 mm + 0.5 ppm)
Static Vertical	±(5 mm + 0.5 ppm)
PPK Accuracy	H: ±(3 mm + 1 ppm); V: ±(5 mm + 1 ppm)
PPP Accuracy	H: ≤0.20 m; V: ≤0.40 m
Initialization Reliability	99.9%
MATRIX Fix Rate	99.9%
Positioning Engine	MATRIX
Base / Rover Operation	Supported

IMU / TILT SURVEY

IMU Tilt Survey	Supported
Maximum Tilt Range	Up to 120°
Tilt Accuracy	≤2 cm within 60° tilt
Calibration	Calibration-Free

DISPLAY / INTERACTION

Display	1.39-inch Display
On-Receiver Operation	Supported
Base / Rover Mode Operation	Supported
Receiver Status Display	Supported
Voice Guidance	Supported
WebUI	Supported

POWER SUPPLY

Battery	7.4V, 7000 mAh
Rover / CORS Runtime	20h
Base Runtime	7.5h

PHYSICAL / RELIABILITY

Dimensions	123*102mm
Weight	800g
Operating Temperature	-45°C to +75°C
Storage Temperature	-55°C to +85°C
IP Rating	IP68
Drop Resistance	1.8 m Pole Drop

VISUAL STAKEOUT

See the Point, Not Just the Numbers.

Traditional stakeout requires the operator to repeatedly interpret direction and distance values, move toward the target, and check again. X9 Lite brings real-scene visual guidance into the stakeout workflow, helping you understand where the target point is and move toward it more intuitively.

Bottom-Camera Visual Stakeout
Find the Final Point in the Real Scene

The integrated bottom camera provides visual guidance as you approach the stakeout target, helping translate coordinate-based instructions into a point you can identify directly in the working area. Instead of relying only on numerical direction and distance, the operator can use the live field view to complete the final approach to the point.



Less Back-and-Forth

**Spend Less Time Interpreting.
More Time Moving to the Point.**

Visual stakeout reduces the repeated cycle of reading values, judging direction, moving and checking again. For construction layout and routine stakeout work, this makes the final approach to the target more direct and easier to follow.

Up to 30% Higher Stakeout Efficiency



Camera
5 MP Bottom Camera



AR Stakeout
Supported



Visual Guidance
Bottom-Camera
Real-Scene Guidance

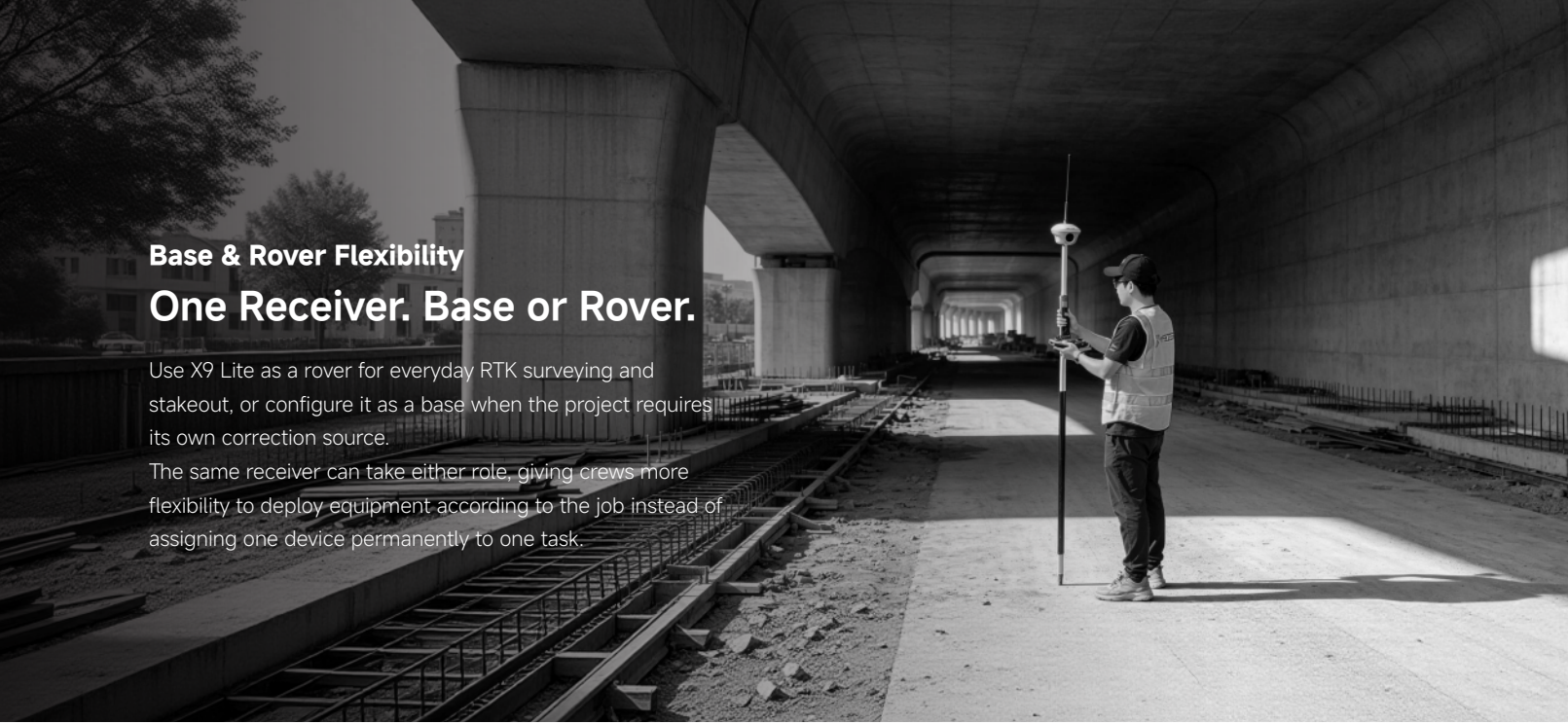


Field Software
X Field Pro

Base & Rover Flexibility
One Receiver. Base or Rover.

Use X9 Lite as a rover for everyday RTK surveying and stakeout, or configure it as a base when the project requires its own correction source.

The same receiver can take either role, giving crews more flexibility to deploy equipment according to the job instead of assigning one device permanently to one task.



On-Receiver Control

Handle Routine Receiver Operations Directly on X9 Lite

The built-in display allows supported receiver status and basic operating settings to be handled directly on the unit, reducing the need to reconnect a field controller for every routine setup or role change. For base setup and multi-receiver workflows, this makes basic receiver operation more direct.

On-Receiver Control — Supported Functions — Base/Rover Mode Switching, UHF Settings, Datalink Configuration, Fix & Battery Status, Static Survey Control

MATRIX Positioning

Fix Faster. Stay Fixed More Consistently.

Powered by PRECISE MATRIX, X9 Lite combines multi-frequency GNSS processing with adaptive satellite selection, ambiguity validation and GNSS+IMU fusion to support fast and reliable positioning as field conditions change. The result is less time waiting for a usable fixed solution and more consistent positioning throughout everyday survey and stakeout work. **99.9% Average Fix Rate**

Tilt Survey

**Measure Without Re-Leveling
the Pole at Every Point**

X9 Lite compensates for pole tilt, so you can continue collecting points when the pole cannot conveniently remain vertical. Around walls, corners, slopes and obstacles, this means fewer interruptions and less time spent carefully re-leveling the pole before every observation.

Up to 30% Higher Point Collection Efficiency

