SOFTWARE

FIELD SURVEYING SOFTWARE

○ Compatible with most brands of NMEA devices

○ Available Datums of most countries and regions

○ Full work modes – PDA CORS, internal/external radio, GSM and etc.

○ Various survey methods – topo survey, road stake, surface stake, CAD stake and etc.

○ Support tilt initialization and measurement

○ Abundant formats supported – TXT, DXF, CSV, HTML, KML, SHP and etc.

○ SingularPad can be used with both GNSS receiver and total station.

Professional Version
SingularPad

GNSS POST-PROCESSING SOFTWARE

○ Support both static and kinematic post-processing

○ Support GPS/GLONASS/BeiDou/Galileo GNSS raw data processing

○ Support raw data formats like binary, RINEX, and etc.

○ Support multiple baseline processing and adjustment methods

○ Support various output formats, including HTML, TXT, KML and etc.

X1 GNSS RECEIVER

SATELLITES TRACKING

Channels	1408
BDS	B1I, B2I, B3I, B1C, B2a, B2b
GPS	L1C/A, L1C, L2C, L2P(Y), L5
GLONASS	G1, G2, G3
Galileo	E1, E5a, E5b, E6
QZSS	L1C/A, L1C, L2C, L5
NavIC	L5
SBAS	WAAS, EGNOS, SDCM, BDSBAS, GAGAN
L-Band	Support
Cold start	<30s
RTK Initialization Time	<5s(typical)
RTK initialization reliability	>99.9%
Re-acquisition	<1s

ACCURACY

Standalone	1.5m Horizontally 2.5m Vertically
DGPS	0.4m Horizontally 0.8m Vertically
Static post-processing	2.5mm+0.5ppm Horizontally 5mm+0.5ppm Vertically
RTK	8mm+1ppm Horizontally 15mm+1ppm Vertically
PPP	5cm Horizontally 10cm Vertically
SBAS	< 1.0 m 3D RMS
Time Accuracy	20ns
Tilt surveying	<±2.5cm, within 60° tilt

COMMUNICATION

4G modem (For X1 & X1 Pro only)	FDD-LTE B1/B3/B5/B7/B8 TDD-LTE B38/B39/B40/B41 TDSCDMA B34/B39 WCDMA B1/B2/B5/B8 GSM B2/B3/B5/B8 CDMA1x/CDMA2000 BC0/BC1

UHF modem[1]	- Working range: Up to 15km with
	  optimal conditions
	- Frequency range: 410-470MHz
	- Protocol (TX & RX): LoRa
	- Protocol(RX): TRIMATLK, TRANSEOT,
	  SATEL, TRIMMARK3, etc.
	- Channel spacing: 25KHz
	- Transmit power: 0.5W~2W selectable

Bluetooth	BT4.0 dual mode
NFC	Support NFC connection
WiFi	802.11 a/b/g/n/ac
Interface	- 1 7-pin lemo port for RS232 transmission and power supply - 1 SIM card slot for 4G(For X1 & X1 Pro only) - 1 TNC connector for UHF antenna - 1 Type-C USB port for static data

DATA FORMAT

Data output format	- NMEA-0183 - RINEX 3.02/3.04 - Binary format *.xyz
Data update rate	1～50Hz selectable
Correction data format	- RTCM v3.3/3.2/3.1/3.0 - CMR
Supported protocols	Ntrip client, Ntrip Server, Ntrip Caster, TCP

USER INTERACTION

Indicators	4 LEDs indicating battery/charging, satellite tracking, correction data transmission, and 4G status/static recording
Display(For X1 Pro only)	1.1" OLED display
Button	2 buttons for power and function

WebUI	- Accessible via Wi-Fi
	- Support configuration, status checking,
	  data transfer, data storage and
	  system upgrade

ELECTRICAL

Power consumption	2.0 W[2]
Input voltage	DC 9~28V
Battery	- 6700 mAh, over 20 hours working time - Fast charge of 3 hours charging time

PHYSICAL

Size	Φ133.5 mm × 67 mm
Weight	870 g
Storage	8 GB[3]
Housing material	Magnesium-aluminum alloy
Speaker (optional)	For voice broadcast of real-time status

ENVIRONMENTAL

Working temperature	–40 ℃ to + 65 ℃
Storage temperature	–55 ℃ to + 85 ℃
Humidity	100% non-condensing
Waterproof & dustproof	IP68
Drop	Designed to survive a 2m drop onto concrete

1. The enhanced UHF base is not compatible with normal UHF rovers on the market. For different user needs, SingularXYZ also provides normal UHF as an option compatible with UHF of other brands. Please clarify your requirements when placing the order.
2. The power consumption of X1-series varies with the different work modes.
3. Storage can be expanded to 32GB according to user demands.

All specifications are subject to change without notice.

X1-SERIES GNSS RECEIVERS

PROFESSIONAL SURVEYING SOLUTIONS

Meet your needs at different levels

X1 Pro
GNSS Receivers

X1 Lite
GNSS Receivers

X1
GNSS Receivers

Singular XYZ ®

Today, as more and more "full-featured" GNSS receivers appear on the market, how to make receivers smaller and more durable while maintaining their functionality has become a focus.

On the one hand, the X1 series has greatly optimized RTK performance and main functions in all aspects, while also making it smaller in size, reducing your burden and providing the smallest size at the same performance level.

On the other hand, in response to different levels of user needs, the SingularXYZ team launched multiple models of the X1 series to provide more choices for users.

Full-constellation

IP68 Protection

1.1" OLED Display (X1 Pro)

Indicate LEDs

NFC Fast Connection

60° Tilt IMU

6700mAh Battery For 20hrs Operation

RS232 Serial Port

15km Enhanced UHF

X1 Lite
GNSS Receivers

X1
GNSS Receivers

X1 Pro
GNSS Receivers

FULL-CONSTELLATION
1408 channels for synchronously track GPS, GLONASS, BeiDou, Galileo, QZSS, Navic and SBAS, delivering centimeter accuracy.

ENHANCED UHF
The enhanced UHF can achieve up to 15km working range with 2W power, reducing your burden without the need of external radio.

60° TILT IMU
The built-in IMU module supports up to 60° tilt surveying while keeping the accuracy within ±2.5cm

NFC CONNECTION
Equipped with an NFC chip, users can easily connect the X1 Lite and the data collector with just one touch, without searching for pairing

PDA CORS
Connected via Bluetooth, X1 Lite can obtain CORS data through the PDA network to get a stable RTK fixed solution.

PORTABLE SIZE
Compared with most GNSS receivers, X1 Lite shows small size and light weight for your convenience in the field.

IP68
RUGGED HOUSING
IP68 waterproof and dustproof protection and 1.5m anti-drop design of X1-series, coping with harsh working environments.

6700MAH BATTERIES
Built-in battery with 6700mAh large capacity support more than 20hrs working time and less than 3 hrs charging time.

WEB UI
Accessed via WiFi, users can easily configure work modes, download data, upgrade firmware and check device status via web UI.

8GB STORAGE
8GB large internal memory guarantees your long-time GNSS raw data recording for static surveying.

4G
INTERNAL 4G
With a plug-in SIM card, you can set up the X1 as an internal GSM base station or connect to CORS without a PDA network.

1.1" COLOR SCREEN
Clear & detailed device status checking and easy configuration via the HD color screen.

Strong Performance in Different Environments

SC300 DATA COLLECTOR

Android
Powered by
Android 12 OS

6 inch
6" sunlight-readable touch screen

IP67
IP67 & 1.5m
anti-drop

12h
7700mAh battery
for 16h operating

4G
4G/WiFi/Bluetooth
communication

TF
4GB RAM + 64GB
ROM + Extend TF