

AI 20

A Brighter Display with Unbeatable Price



1408 channels



Up to 120°IMU



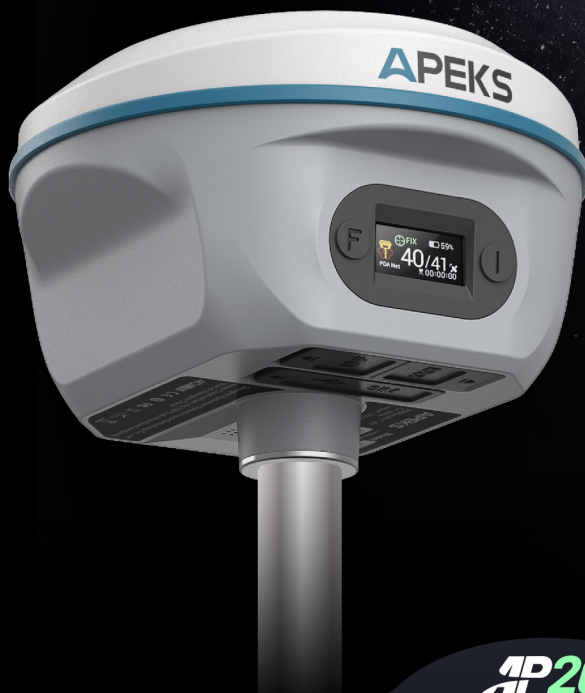
Rugged Design



OLED color screen



Physical buttons



AP20

AP20 GNSS Receiver combines a user-friendly interface with robust field performance. Its built-in UHF modem offers an 8–15 km range for base or rover use, while the integrated 120° tilt IMU increases surveying efficiency by up to 50%. Ideal for mapping and construction, it delivers reliability and productivity in demanding environments.

1408 CHANNELS GNSS

Featuring 1408-channel GNSS technology, AP20 seamlessly connects to GPS, GLONASS, Galileo, BeiDou, QZSS, and SBAS constellations, PPP and HAS services delivering precise centimeter-level positioning even in challenging terrains.



RUGGED AND DURABLE DESIGN

IP68 and IK08 ratings provide dust, water, shock, and vibration resistance. The alloy body ensures durability and reliable performance in tough field conditions, allowing you to survey with confidence even in harsh environments.



UP TO 120° IMU

AP20's calibration-free IMU 4.0 ensures precise, interference-free orientation with 120° tilt capability, boosting efficiency by 50% in complex environments.



2W UHF RX/TX RADIO

AP20's built-in UHF radio supports LoRa with an 8–15 km range, matching external stations. It serves as both base and rover, and works efficiently as an NTRIP rover in GNSS networks.



DATA CONTROLLER

CS3i



SUPPORT

Google System, Google Maps



5.45" inch
large screen
sunlight
readable



9000mAh

9000mAh battery for
all day operating



IP68



Android 11 OS



SIM CARD

4G WiFi Bluetooth

Communication

4GB RAM + 64GB ROM + Extend TF



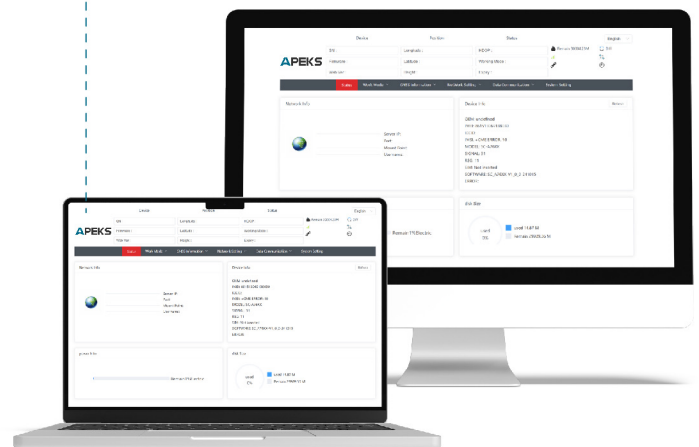
ApekSurv Field Software

- Compatible Android controller, phone and tablet.
- Support all kinds of language from the world.
- Support multiple base map, Googlemap, WMS map.
- Support all survey modes, including Static, PPK and RTK.
- Support CAD import and directly use for stake out.
- Support TXT, CSV, AutoCAD DXF DWG SHP data formats.
- Support GNSS, GIS and Total Station



Web UI Management

By connection through WiFi, APEKS gnss can be managed on your PC browser or smartphone easily. You can monitor check the status, configure, register, upgrade firmware, download data, etc.



SATELLITES TRACKING

Channels	1408
GPS	L1C/A, L2C, L2P(Y), L5
GLONASS	L1, L2, L3*
Galileo	E1, E5a, E5b, E6
BDS	B1I, B2I, B3I, B1C, B2a, B2b*
QZSS	L1C/A, L1C, L2C, L5
NavIC/IRNSS	L5
SBAS	L1, L5*
L-Band	B2B-PPP&E6-HAS

ACCURACY

Real time kinematics (RTK)	H: 8mm ± 1 ppm RMS V: 15mm ± 1 ppm RMS Initialization time: <5s (typical) Initialization reliability: >99.9%
Post-processing kinematics (PPK)	H: 2.5mm ± 0.5ppm RMS V: 5mm ± 0.5ppm RMS
Static	H: 2.5 mm ± 0.5 ppm RMS V: 5mm ± 0.5 ppm RMS
PPP	H: 10cm RMS V: 20cm RMS
DGPS	H: 0.4m RMS V: 0.8m RMS
Single Point	H: 1.5m RMS V: 2.5m RMS
Position Frequency	1Hz 2Hz 5Hz 10Hz 20Hz 50Hz
Time to first fix	Cold start <45s Hot start <10s Signal re-acquisition <1s
IMU tilt angle	0-120°
IMU tilt survey accuracy	≤2cm within 60° tilt angle

ENVIRONMENTS

Working temperature	-45°C to +75°C
Storage temperature	-55°C to +85°C
Humidity	100% Non-condensing
Waterproof & Dustproof	IP67
Drop	Survive a 2-meter pole-drop
Vibration	IK08

COMMUNICATION

UHF radio	2W Tx/Rx, 450-470 MHz Working range is 8-15km in ideal environments
Protocol	TT450, TRIMMARK3, SOUTH, LORA Link rate : 9600bps to 19200bps
Wifi	802.11b/g/n/ac Hotspot/Data Link
Bluetooth	Bluetooth 5.2 classical/ BLE proprietary dual-mode
NFC	NFC touch pairing
WebUI	Accessible via Wi-Fi
4G Cellular	• Integrated full frequency multi band 4G modem • Supports LTE-TDD/LTEFDD/WCDMA/CDMA2000/UMTS/HSPA+/GSM/GPRS/EDGE
I/O port	• 1xUSB Type-C port (Data download / Charging) • 1xAntenna port (UHF antenna interface) • 1xSim card slot (Supports Nano-sim) • 1x5-pin Lemo port (RS-232)
Data formats	RTCM 2.X, RTCM 3.X, RINEX, NMEA 0183 output, VRS, NTRIP
Data storage	32GB high speed memory

HARDWARE

Size	125mm(W) 88mm (H) 4.92inch(W) 3.46inch(H)
Weight	750g(1.65lb)
Front panel	0.96" OLED color screen display 2LED physical buttons (switchable mode, data link)

ELECTRICAL

Battery	Internal Li-ion Battery 7.4V 7000mAh
Charging specs	USB Type-C fast charging
Operation time	Rover mode: 18 hours Base mode: 7 hours Static mode: 20 hours



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