

AD AI 20

A Brighter Display with Unbeatable Price



1408 channels



Up to 120° IMU



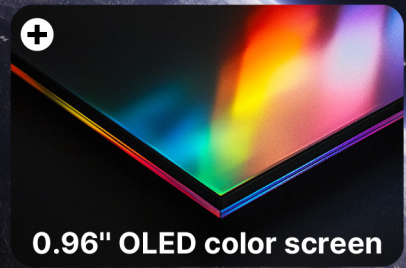
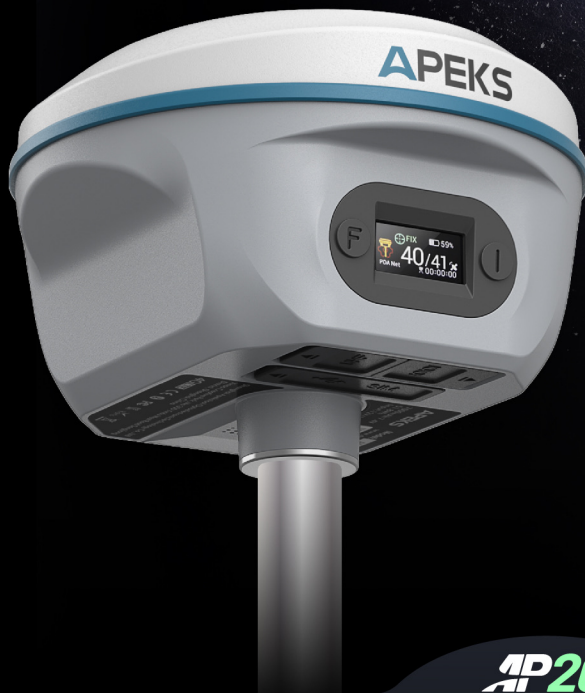
Rugged Design



OLED color screen



Physical buttons



0.96" OLED color screen



Dual LED 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 



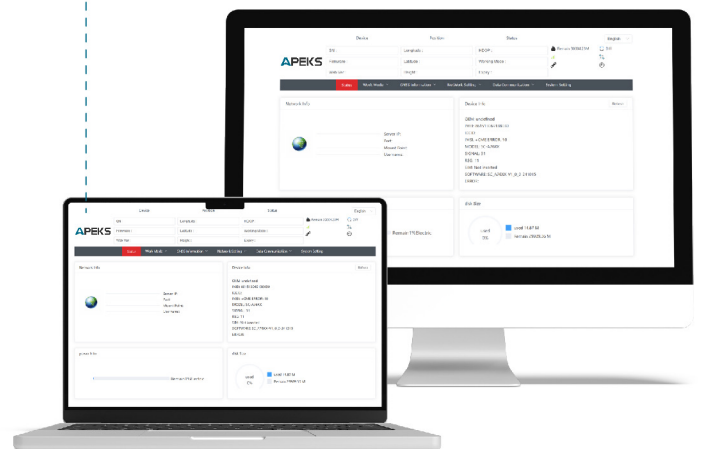
ApekSurv Field Software

- 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 | B11, B21, B3I, B1C, B2a, B2b* |
| QZSS | L1C/A, L1C, L2C, L5 |
| NavIC/IRNSS | L5 |
| SABAS | 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 |
| 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, 410-470 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 | <800g(1.76lb) |
| 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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