

AD40 Laser+



The 120M Laser In Your Hands



Laser Technology



Up to 120°IMU



AR Stakeout



OLED Color Screen



Physical Buttons



0.96" OLED color screen



Dual LED physical buttons

AP40 Laser+

AP40 Laser+ Dual-Camera RTK integrates advanced GNSS, a high-performance IMU, and a 120m green laser for millimeter precision. Its dual 5MP cameras support AR stakeout, while the front camera assists targeting. Featuring a tilt sensor, UHF radio, and intuitive controls, it delivers fast, precise, and smart surveying.

120M LASER TECHNOLOGY

AP40 Laser+ RTK combines GNSS, IMU, and a 120m green laser for precise measurements. With dual cameras for AR stakeout, tilt sensing, and long-range radio, it enables fast and accurate surveying.



AR STAKEOUT

The AP40 Laser+ uses dual cameras for AR stakeout with real-time visual guidance and on-screen arrows, delivering precise positioning without repeated pole movement—even in tough conditions.



UP TO 120°IMU

AP40 Laser+ fuses satellite navigation, IMU, and vision for magnetic-interference-free precision. Requires no calibration—improves accuracy by 50%. Supports 120° tilt compensation for challenging environments.



2W UHF RX/TX RADIO

AP40 Laser+'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



5.5" inch
large screen
sunlight
readable



9000mAh

9000mAh battery for
all day operating



IP68



Android 12 OS



SIM CARD

4G WiFi Bluetooth

Communication

4GB RAM + 64GB ROM + Extend TF



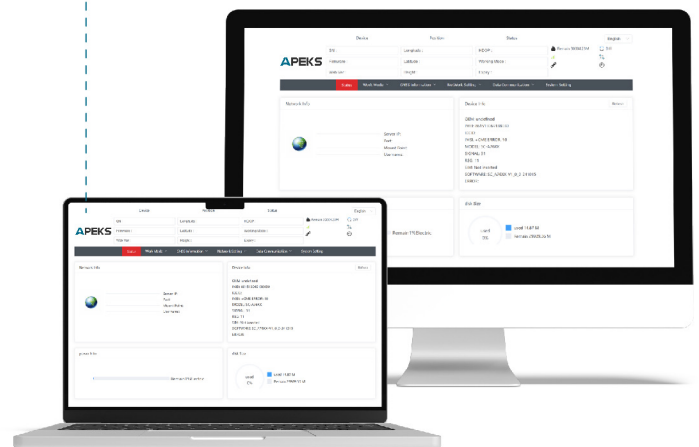
ApekSurv Field Software

- 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, L1C, 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, L6
NavIC/IRNSS	L5
SBAS	L1C/A
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: 3 mm ± 0.5 ppm RMS V: 5 mm ± 0.5 ppm 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
AR stakeout	H: 8 mm ± 1 ppm RMS V: 15 mm ± 1 ppm 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

LASER

Type	Class3.0 Green
Range	120m
Laser survey	±8mm + 5mm/m (Tilt angle within 30°)

CAMERA

Number of cameras	2
Pixel	Global shutter with 5MP
Frame rate	30fps
Field of view	84°
Features	• 5MP bottom camera achieve AR stakeout • 5MP front camera auxiliary laser measure & aiming and AR stakeout

*Note

2.4 GHz Band:

P(e.i.r.p) max: 20 dBm

Nominal channel band width: 20 MHz , Wi-Fi Standard

802.11b/g/n Operating Frequency Range: 2400 MHz – 2483.5 MHz

Number of channels: 13 channels (1 to 13)

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	2.4G* 802.11 b/g/n Hotspot/Data Link
Bluetooth	Bluetooth 5.2 classical/ BLE proprietary dual-mode
NFC	Only receive
WebUI	Accessible via Wi-Fi
4G Cellular	• Integrated full frequency multi band 4G modem • Supports LTE-TDD/LTEFDD/WCDMA/CDMA2000/UMTS/HSPA+
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

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

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)

ENVIRONMENTS

Working temperature	-20°C to +65°C
Storage temperature	-55°C to +85°C
Humidity	100% Non-condensing
Waterproof & Dustproof	IP68
Drop	Survive a 2-meter pole-drop
Vibration	IK08