



Alpha Surveying

# Alpha 4i

## Alpha 4i Ultra RTK

98×53mm | 380g | 90° IMU | 1W Rx/Tx Radio | 18h



# Alpha 4i

With the latest system framework, and the latest generation positioning engine SoC, Alpha 4i goes beyond the design limitation, and it unloads 50% of the burden for global surveyors successfully. It comes with excellent performance and ultra small size.



## Ideally made, lightly weight



### Material of the Shell:

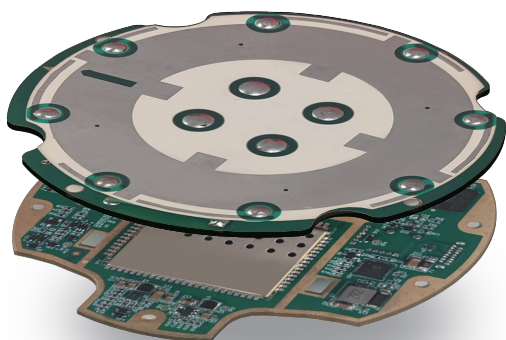
Made with nano material and wave-transparent top cover, Alpha4i is with aluminum alloy enforced housing. It's with 316 molybdenum steel threaded connector and 5/8 pin interface.



# 380g

Comes with protective rubber band

### 3 Outstanding Technologies



#### All-satellites full-frequency 8cm positioning antenna

Carries all-satellites full-frequency positioning antenna, shortens the traditional 11cm antenna diameter to 8cm, without losing any signal. With High frequency microwave radiation carrier and electromagnetic band gap Technology, combined four feed points phase center design and high-gain wide beam, Alpha 4i can get instant fixed solution in low elevation and complicated situations.

#### The latest generation of global positioning SoC chip

Integrated with the latest generation NebulasIV radio frequency baseband and high-precision algorithm, the latest SoC chip supports all-satellites full-frequency computation algorithms. Independent frequency point tracking and 60 dB narrow band anti-interference, continue to positioning even lose satellite signal.

#### Embedded real-time operating system RTOS

Embedded military class real-time operating system RTOS, Alpha 4i can fully satisfy RTK development requirement and is more compatible with IoT application scenario. RTOS system is widely used in spacecrafts, missiles, robots, and other IoT devices for its lower power consumption, smaller volume and real-time instant response.

### Remarkable performance and experience



Anti-block



Instant fix



high precision

### Long battery life

18h



Ntrip

15h



Radio Receiving

8h



Radio Transmitting

### Globally supports 7 satellites 24 frequencies of the 7 major satellites

Satellite System	Frequency point/signal
GPS	L1C/A, L1C, L2C, L2P, L5
BDS	B1I, B2I, B3I, B1C, B2a, B2b
GLONASS	G1, G2, G3
Galileo	E1, E5a, E5b, E6
QZSS	L1C/A, L1C, L2C, L5
SBAS	L1
NAVIC	L5

### Fully Compatible Transceiver Internal UHF Radio

Supports various working modes in global regions

Support 410-470MHz full frequency band

Compatible with various RTK protocols

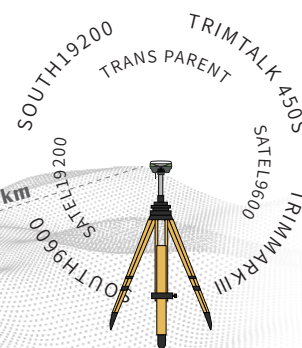
Output stable solution to 3km base station surveying area

Compatible with 35W external radio



15km

3km





# 90° Inertial Navigation



Covered Place



Jungle



Underground



Dangerous Point



Buildings



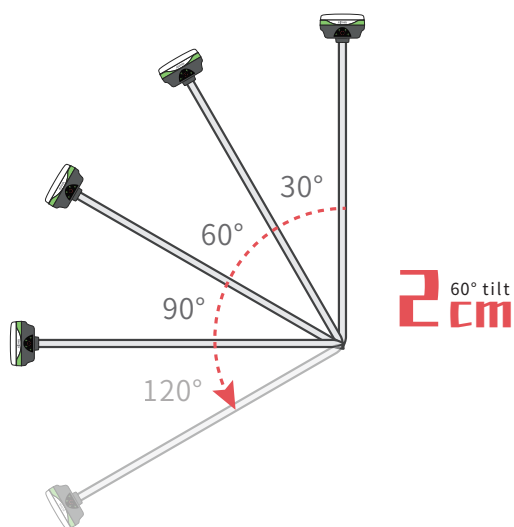
Hidden Point



Level Point



Aerial point



Fast initialization IMU, support tilt measurement with 2CM accuracy when tilt angle 60°. IMU can still work in tilt angle 90° even 120°

## Greater Convenience



### Hard Plastic Box

Industrial-grade small hard plastic box, 27\*23\*11cm.



### Fast Charging

Power delivery, supports operation with external power banks.



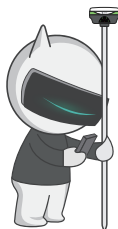
### IP67

IP67 dustproof and waterproof, comes with protective rubber gasket, drop-resistant up to 1.6 meters with the pole.



### New Centering Rod

Upgrade to 1.6m portable rugged centering rod, telescoped to 64cm.



### Colorful Protection Ring (Optional)

Various colorful Protection ring can be selected to make surveying a interesting jobmeters with the pole.



Bluetooth

### Dual-mode Bluetooth

5.2 BR/EDR+LE (Better compatibility, Faster transmission)



### Controller Bracket

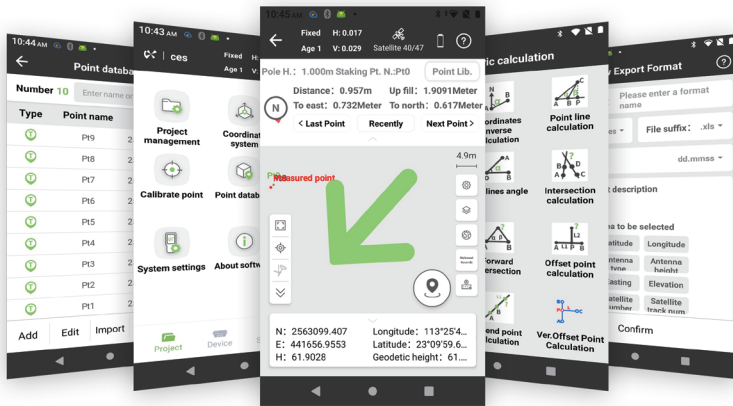
Capable of holding a mobile phone.



### External Radio

Compatible with external radio. With Type-C interface to pin for external radio to access longer transmitting distance.

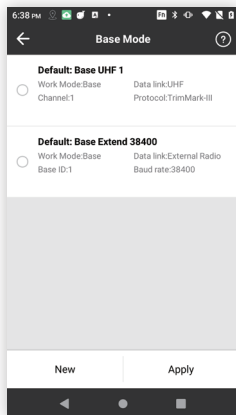
# DiMap (surveying software)



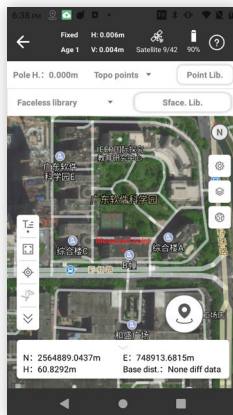
DiMap has gone through deep iterations and gained a deep understanding of user survey habits. With built-in rich surveying modules and cloud integration, DiMap is professional, intelligent and easy-to-use.

# Controller

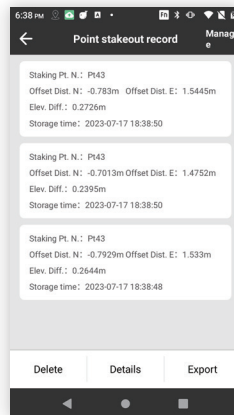
## Professional Kit



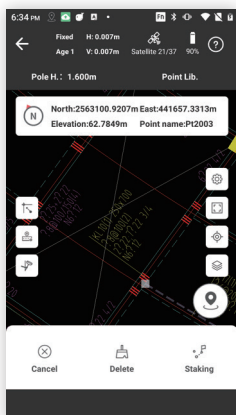
Base station and rover station configuration linkage



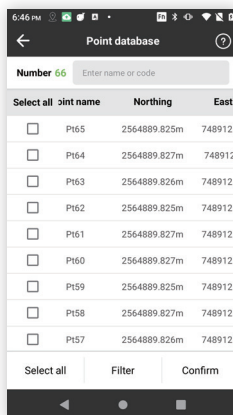
Large scale basemap import and full display for survey and stakeout



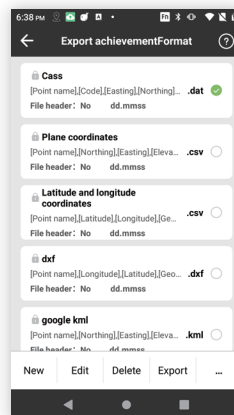
Separate management of stakeout records, one click export of record reports



CAD drawing recognition, high efficiency in editing and stakeout



Various data formats available to export, such as csv, dxf, kml, etc.



## Alpha B55 Specifications

- OS ----- Android 11
- CPU ----- 8 cores 2.0Ghz
- RAM ----- 4G DDR4 +64G
- SIM Card Type ----- NanoSIM 4G
- Screen 5 inch, high-brightness, touchable
- Bluetooth ----- BT5.0/BLE
- Battery----- 3.7V, 7700mAh
- Keyboard -12 buttons,backlight keyboard
- Weight ----- 335g

# Android Phones

Install DiMap,bluetooth access operation



## Professional set



Alpha 4i	× 1
Radio antenna	× 1
Adapter	× 1
Data cable	× 1
Controller	× 1
Controller adapter	× 1
Controller data cable	× 1
Centering rob	× 1
Instructions	× 1
Carrying Case	× 1

## Technical Specification

GNSS	Channels	1408
	Signal Tracking	GPS: L1C/A, L1C, L2C, L2P, L5
		BDS: B1I, B2I, B3I, B1C, B2a, B2b
		GLONASS: G1, G2, G3
		Galileo: E1, E5a, E5b, E6
		QZSS: L1C/A, L1C, L2C, L5
		SBAS: L1
		NAVIC: L5
Tilt Compensation	*1 High Precision Static	H: $\pm (2.5+0.5 \times 10^{-6}D)$ mm V: $\pm (5+0.5 \times 10^{-6}D)$ mm
	RTK	H: $\pm (8+1 \times 10^{-6}D)$ mm V: $\pm (15+1 \times 10^{-6}D)$ mm
	Accuracy	$\pm (8+0.3TILT)$ mm
	*2 Angle	0~90°
	Update Rate	100Hz
System Parameters	Operating System	RTOS
	Data Record	DAT
	Bluetooth	BT5.0 Backward compatibility
Radio	Power	1w
	Frequency	410-470MHz
	Global Communication Protocol	TRIMTALK 450S、TRIMMARKIII、SOUTH9600、SOUTH19200、SATEL9600、SATEL19200、TRANS PARENT
	Operation Mode	Transceiver
Power	Voltage	5-12V Power Delivery
	Working Time	18h (Ntrip)、15h (Radio Receiving)、8h (Radio Transmitting)
Port Indicator	SMA	Connecting the radio antenna
	Type-C	For charging & Transmission
	Indicator Lights	satellite, datalink, bluetooth, battery
Physical	Dimension	98mm*53mm(Excluding 5/8 pin interface)
	Weight	380g
Environmental	Operating Temperature	-30°C ~ +70°C
	Storage Temperature	-40°C ~ +80°C
	Water/Dust Proof	IP67
	Shock	Normal temperature resistance of 1.6m drop (hard ground)
	Humidity	Up to 100%

\*1 Will support by upgrading firmware soon

\*2 The above technical parameters are for your reference. The company reserves the right to change the design and planning of the product based on the actual product.

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