

# Product Description

Advanced test instrument PJK brand M86U [GNSS RTK receiver](#)  
base and recover



|                    |        |
|--------------------|--------|
| item               | value  |
| Warranty           | 1 YEAR |
| Customized support | OEM    |
| Place of Origin    | China  |
| Brand Name         | PJK    |

|                            |                                      |
|----------------------------|--------------------------------------|
| Material                   | Magnesium alloy                      |
| Dimensions (W*H)           | 130mm*110mm                          |
| Vibration                  | MIL-STD-810G                         |
| RTK start-up time          | 2 to 8 seconds                       |
| Initialization reliability | >99.99%                              |
| Initialization time        | < 10s                                |
| Weight                     | 1.0kg with internal battery          |
| Operating temperature      | -40°C to +60°C                       |
| Storage temperature        | -55°C to +85°C                       |
| Shock                      | Survive a 2m pole drop onto concrete |

## Key Features:

- 1.OLED display
  - 2.Full constellation
  - 3.Ultra long range radio
  - 4.Internal GSM antenna
- 5.Radio/CORS repeater
  - 6.Large capacity battery
  - 7.Magnesium alloy housing atented
  - 8.Physical offset technology



## COMMUNICATIONS & DATA STORAGE/O Interface

- ♦ 1 LEMO port (5pin): Supports power input, serial port control, and external radio communication
- ♦ 1 micro USB port: Data download, OTG
- ♦ 1 sim card slot: Supports micro sim card
- ♦ 1 antenna port: UHF antenna interface

### Radio modem

- ♦ Transmit power: 1w/2w/5w switchable, the work range is greater than 6km
- ♦ Frequency band: 410MHz-470MHz; supports to freely set the frequency
- ♦ Supports to retransmit correction from CORS; Compatible with other brands

### Cellular

- ♦ Integrated full frequency band 4G modem, supports WCDMA/CDMA2000/TDD-LTE /FDD-LTE

### WiFi

- ♦ 802.11 b/g standard, access point and client mode, supports to access to hotspot to transfer corrections

**Bluetooth** ♦ Fully integrated Bluetooth V4.0, range = 50m

**Data format** ♦ sCMRx, RTCM3.2, CMR, RTCM 3.x input and output ♦ Dat, Rinex, NMEA outputs

**Storage** ♦ 8GB, 16GB, 32GB internal memory optional, supports cyclic storage; over one-year raw observations based on 5 seconds interval

## POSITIONING

### Code differential GNSS positioning

- ♦ Horizontal: 0.25 m + 1 ppm RMS
- ♦ Vertical: 0.50 m + 1 ppm RMS
- ♦ SBAS differential positioning accuracy: typically <5m 3DRMS

### Static GNSS surveying

- ♦ Horizontal: 3 mm + 0.1 ppm RMS
- ♦ Vertical: 3.5m m + 0.4 ppm RMS

### Real time kinematic surveying

- ♦ Single baseline < 30km
- ♦ Horizontal: 8 mm + 1 ppm RMS
- ♦ Vertical: 15m m + 1 ppm RMS

### Network RTK

- ♦ Horizontal: 8 mm + 0.5 ppm RMS
- ♦ Vertical: 15m m + 0.5 ppm RMS
- ♦ RTK start-up time: 2 to 8 seconds

### RTX service

- ♦ Horizontal: 2-4cm RMS
- ♦ Vertical: 5cm RMS
- ♦ Convergence time: < 15min

## MEASUREMENTS

### Satellite signals tracked simultaneously

- ♦ GPS: L1C/A, L1C, L2C, L2E, L5
- ♦ GLONASS: L1C/A, L1F, L2C/A, L2 □ L3
- ♦ SBAS: L1C/A, L5 (just for the satellites supporting L5)
- ♦ Galileo: E1, E5A, E5B, E5 AltBOC, E6
- ♦ BDS: B1, B2, B3
- ♦ RTX, QZSS, WAAS, MSAS, EGNOS, GAGAN, SBAS
- 432 Tracking Channels

### Positioning rates

- ♦ 1Hz, 2Hz, 5Hz, 10Hz, 20Hz ,and 50Hz

Initialization time < 10s

Initialization reliability >99.99%

## DESIGN

Display: 1.54" high brightness OLED screen

Button: 1 power key, 2 function keys

Indicator: 1 power indicator, 1 data link indicator, 1 satellite indicator

Voice: Intelligent voice prompts

## PRACTICAL

- ♦ OS system: Intelligent LINUX operating system
- ♦ Tilt survey: Calibration free; accuracy, <2.5cm in 30 degree
- ♦ Relay station: CORS relay, radio relay
- ♦ Supported controllers: All Android devices with supported software





