

C12P9 User Guide



Shanghai HowayGIS InfoTech Co., Ltd.

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Thank you very much for purchasing and using the C12 CORS Network Receiver.

These instructions will help you quickly setup the equipment for common work scenarios.

If you encounter any questions not covered in these instructions or if you have problems using this device, you can either contact your dealer or HowayGIS directly:

support@howaygis.com

Overview

1.1 Device Description

The C12P9 Continuous Operation Base Reference System uses a Trimble BD990 OEM GNSS board. It can be used in a variety of applications and is compatible with various platforms as a Base or as a Rover.

Advanced self-locking connectors are employed; the C12 outer casing is heavy duty aluminum alloy and serves to cushion and cool the receiver and power supply without a fan.

1.2 Product Features

- Multiple connections provide compatibility with various mobile smart terminals and conventional RTK devices.
- Flexible configuration for use as a Rover or Base.
- Field ready case provides resistance to shock, water and dust.
- Supports standard data formats for input and output corrections and NMEA outputs.
- External antenna connector provides isolation from noise..
- Built-in RJ45 network connection, provides GNSS server functions (DIP and NTRIP).

1.3 Specification

- 336 satellite channels:
Support GPS, BD, Glonass, Galileo, IRNSS, SBAS, QZSS, MSS L-BAND;
GPS: L1 C/A, L2E, L2C, L5
BD: B1, B2
Glonass: L1 and L2 C/A, L3 CDMA13
Galileo: E1, E5A, E5B, E5AltBOC
IRNSS L5
QZSS: L1 C/A, L1 SAIF, L2C, L5, LEX
SBAS: L1 C/A, L5
MSS L-Band: OmniSTAR, Trimble RTX
- Cold start: <35S
- Warm start: <30S

1.4 Communication

- One Ethernet port
 - ◆ HTTP (web interface)
 - ◆ NTP Server

- ◆ NMEA, GSOE, CMR over TCP/IP or UDP
- ◆ NTripCaster, NTripServer, NTripClient
- ◆ mDNS/uPnP Service discovery
- ◆ Dynamic DNS
- ◆ eMail alerts
- ◆ Network link to Google Earth
- ◆ Support for external modems through PPP
- ◆ RDNIS support
- One USB host port;

1.5 Locating Precision

Mode	Precision
Single Baseline RTK (<30 km)	0.008m+ 1ppm horizontal 0.15m+ 1ppm vertical
DGPS	0.25m+1ppm horizontal 0.5m+1ppm vertical
SBAS	0.5m horizontal 0.85m vertical
Single	1.00 m horizontal 1.5 m vertical

1.6 Physical Data

Size: 210mm*160mm*58mm

Weight: 1500 g

Material: aluminum alloy






Working temperature: -40~ +75℃

Storage temperature: -55 ~ +85 ℃

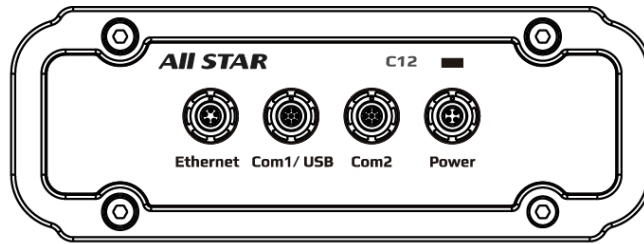
1.7 Electrical Data

Charging Voltage: 12V /1A

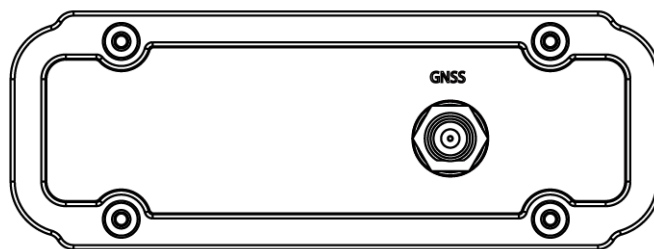
2. Device and Part List

<p>C12 Mobile Base Station</p>	
<p>Adaptor (Input 110-220V AC; output 12V DC)</p>	
<p>4-pin Fisher to DC charging cable(Should be connect to the adaptor above)</p>	
<p>7-pin Fisher to DB9 data cable</p>	
<p>5-pin adapter cable for network port</p>	

3. Schematics of Ports



Front View



Rear View

4 Inspection before Use

Connecting C12P9 to the power supply, when the power indicator is on, it means C12P9 power on.

5. Connection using C12P9 Serial Port

Step 1: Connect the device with computer using cable with serial port supplied.

Step 2: As shown below, select corresponding serial port number, set baud rate such as “38400”.

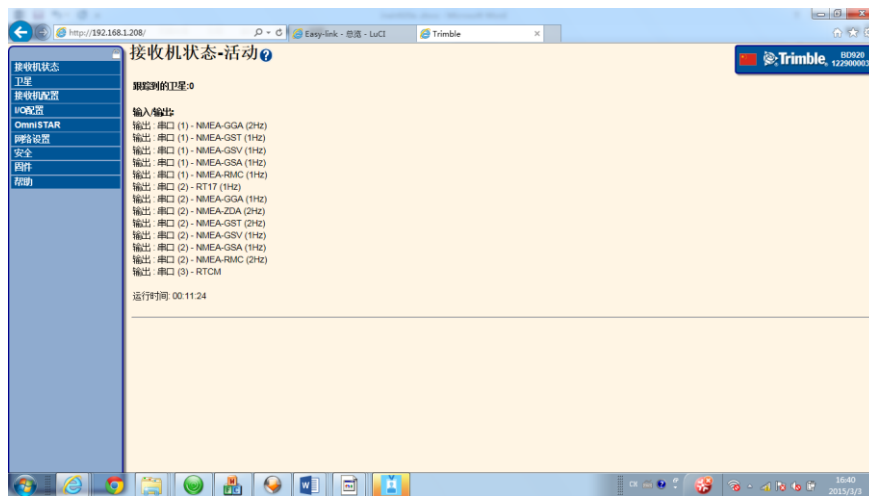


6. Connect C12P9 Using Ethernet Port

Step 1: Open a new WEB browser interface, enter IP address of GNSS module learned in Annex 1 Following prompt on the screen, enter “admin” as user name and “password” as password, and then press “OK” button.



If the user name and password are correct, can see the interface shown below.



Note: See Annex 1 for configuration of IP address of GNSS module and other information.

Annex 1. Configure IP Address of GNSS Module Using Serial Port

Step 1: Connect C12P9 to computer using cable with serial port supplied.

Step 2: Connect C12P9 to network port of computer using network cable supplied.

Step 3: Download the tool “winflsh” via the following link.

<http://trl.trimble.com/docushare/dsweb/Get/Document-710324/WFC-BD9xx-V234V485.exe>

Step 4: Following the prompt on screen, install “winflsh” to computer.

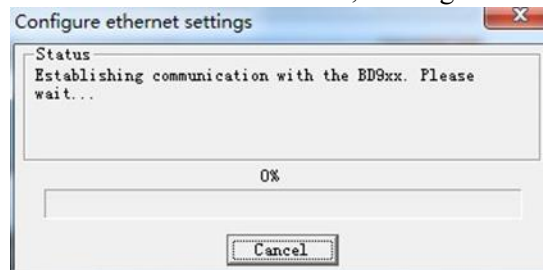


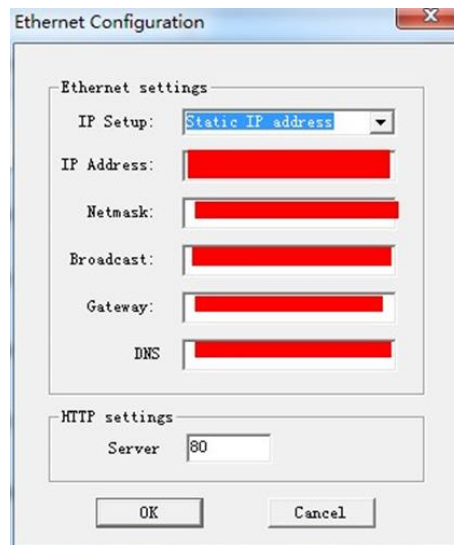
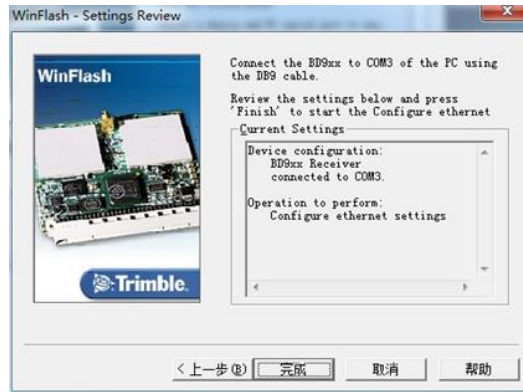
Step 5: After installation is completed, run “winflsh” software. Following prompt on the screen, select serial port number of C12P9, and press “Next” button.

Step 6: Following prompt on the screen, select “configure Ethernet setting”, single click “Next” to configure it.



Step 7: Click “complete”. After successful connection, “configuration” interface appears.



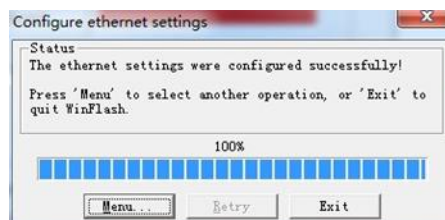


Step 8: Configure IP address of GNSS module.

Select “static IP address”, and set IP address, Netmask, Gateway etc. In case of static IP, the IP address setting should be in same network segment with the computer that controls C12P9.

Select “”, allow C12P9 built-in router to automatically assign IP address to GNSS module. This automatically assigned IP address can be seen in Step 2 in Section 9.2.

Step 9: After configuration is completed, click “OK”. Wait until “configure” configuration ends, and then exit the software.



Step 10: Enter IP address of GNSS module in browser. Following prompt on the screen, enter “admin” as user name and “password” as password, then press “OK” button.

