

CHCN^{AV}

CPS

GNSS NETWORK
SOFTWARE



NAVIGATION &
INFRASTRUCTURE

ADVANCED GNSS CORS AND RTK NETWORKS SOLUTION

CPS is an advanced server-based software solution package to control and manage regional and nationwide GNSS CORS and RTK networks. CPS is the result of years of scientific development and technical qualification. With optimized analysis of GNSS positioning errors such as ionospheric, tropospheric, orbit and multipath errors, CPS computes and outputs high quality RTK corrections from single base up to virtual network base solution. Supporting direct TCP/IP and NTRIP protocols as well as embedded user's management, CPS is the solution to deliver local to large-scale reliable CORS and RTK network services.

RTK CORRECTIONS SERVICES AT REACH

Integrate data stream, core computation and user management modules.

CPS modular framework provides extreme stability and scalability of your RTK correction services. The CHCStream module streams the GNSS raw data from the GNSS reference stations to the CPS Software Core which computes RTK corrections, ensures real-time quality control and manages user's subscription. The CPSCaster module provides unified users access to the available RTK Networks. CPSWEB ensures comprehensive users management platform including data plan, online subscription, rover status and front-end management of the GNSS networks.

ADVANCED NETWORK RTK ALGORITHMS

Combining a series of real-time modules.

CPS quality control module monitors the GNSS data quality in real time for each reference station. The data storage module converts the GNSS raw data to RINEX or Binary data. The advanced GNSS corrections modules computes optimized RTCM corrections.

HIGH ACCURACY FULL-GNSS POSITIONING SERVICES

Industry standard RTCM corrections ensure multi-brand compatibility.

CPS integrates full GNSS constellations - GPS, GLONASS, Galileo and BeiDou- to provide ultimate full-GNSS RTK positioning services to users. CPS is compatible with industry standard GNSS receiver models to enable the integration of existing reference stations in addition to CHCNAV's GNSS reference stations.

TURNKEY WEB MANAGEMENT FOR RTK CORRECTION SERVICES

Ready-to-use RTK Network and subscription management.

Setting up your Network RTK is simplified with our CPS web-based management console. CPS Web is built around below modules: system management, user management, business management, reference station monitoring, data services, real-time rover management and other system logs.

CPS Features

RTK/RTD Correction

According to coordinates of rovers, CPS generates correction messages for rover devices, based on the single base station or the simulated reference stations (VRS concept).

Quality Check

CPS analyzes the data from the reference stations at real time to check the completeness of the data, the multi-path values, and also the cycle slip ratios.

Data Storage

CPS captures the GPS, GLONASS, Galileo and Beidou observations from the raw data and stores them into RINEX or HCN data. Several storage modules can work at different sample intervals in parallel.

Online Status

When the rover uses the CPS correction service, the rover's detailed information will be recorded in the database for later viewing or secondary development, such as the mount point used, master reference station, current coordinates, user status and online time, etc.

Online Map View

The location of the reference station and the user of the rover is displayed in Google Maps or OSM.

Ephemeris download

Support downloading precise ephemeris files from IGS or designated sources.

Email alarm

Supports warning of abnormal events via email or SMS under given conditions, including receiver offline and re-online, receiver temperature and power supply abnormalities, etc.

Others

Support pushing the stored static data to the designated FTP server; the RINEX data of the virtual reference station can also be stored in the local server disk.

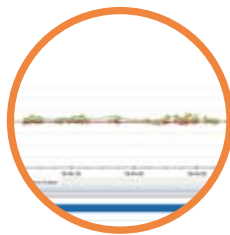
CPS Web Features

CHC Precision Positioning Service Software (CPS) Web is a web application designed for the NTRIP administrator's and end user's daily operations. Various roles can be defined for different divisions.

- Online service subscription for RTK/RTD corrections and static data.
- Different service packages are also available: annual/quarterly/monthly/daily and by data volume.
- Online and offline payment for service subscription.
- Querying and/or downloading of user trajectory records.
- Accurate online billing system, each company knows its current use and balance.
- Download of static data from the web service. Possibility to select the desired date and time.
- Online data post-processing.
- Customization by the NTRIP administrators of the login page background image, website name and approval process workflow.
- NTRIP system inspection logs for system maintenance.
- Support up to 1000 users.



**RTK
Corrections**



**Advanced
Algorithms**



**Full-GNSS
Positioning Services**



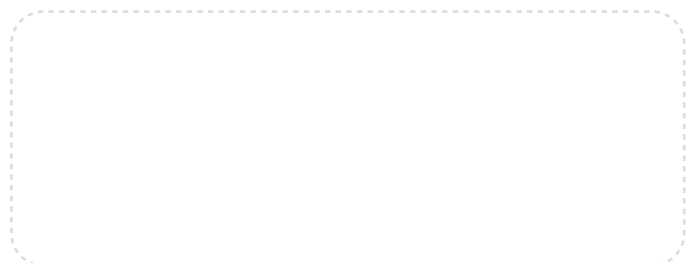
**Turnkey
Web Management**

SPECIFICATIONS

System Recommendations	
Operating system	Microsoft Windows ⁽¹⁾ 7, 8, 8.1, 10 (32-bit and 64-bit) Microsoft Windows ⁽¹⁾ server 2008, 2012 (32-bit and 64-bit)
Runtime library	.Net Framework 4.0 runtime
Database	SQL server 2008 or higher version (32-bit and 64-bit)
Hardware	
Processor	Dual-core for less than 20 stations Quad-core for less than 40 stations 2.5 GHz or higher (Minimum) Eight-cores for more than 50 stations (Recommended)
RAM	8 GB for less than 20 stations, 16 GB for less than 40 stations, 32 GB for more stations
Hard disk	200 MB for CPS software package approx. 100 MB storage space per day per station (depending on number of tracked satellites)
Capacity	
Reference Station	Based on the distributed structure design, multiple CPSs can run in parallel, meaning that as long as the license covers, the total number of reference stations is not limited.
User Account	Support for more than 1000 simultaneous users (depending on the server's hardware specifications). Based on the distributed structure design, multiple CPSs can run in parallel, meaning that as long as the license covers, the total number of user accounts is not limited.
RTK Correction Type	CMR, CMR+, RTCM2.3, RTCM3.0, RTCM3.2
DGPS/ DGNSS Correction Type	RTCM 2.x
Constellation System	GPS - L1,L2,L5 GLONASS - L1,L2, L3 Galileo - E1,E5A,E5B,E5AltBOC,E6 BDS - B1,B2, B3
Compatibility	Trimble, NovAtel, Leica, Topcon, Ashtech, Hemisphere, etc., or other brands based on OEM boards from these manufacturers. Compatible with reference and rover receivers of those brands.
Communication	TCP server,TCP Client,UDP server, NTRIP Client, Telnet

Recommend Browser
Microsoft Internet Explorer 10 or higher
Google Chrome
Software License
USB dongle driver
Software registration code
Supported Language
French
English
Traditional Chinese
Simplified Chinese
Russian
Spanish

*All specifications are subject to change without notice.
(1) Under Microsoft Windows, requires Administrator Privileges.



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