

BHCnav⁺

User Manual

NAVA Handheld GPS

200/300/400/600



Introduction

Thank you for purchasing NAVA handheld GPS. NAVA is lightweight, compact, rugged, reliable positioning and navigation assistant to your outdoor activities. This manual provides you the instructions to use NAVA 200, 300, 400, and 600.

If you have further questions, please refer to our website: [Http://www.BHCnav.com](http://www.BHCnav.com) or contact us at Email: NAVASales@BHCnav.com and NAVASupport@BHCnav.com

Features of NAVA Series

- **Excellent GPS performance:** With its high-sensitivity, SBAS-enabled GPS receiver, NAVA locates your position quickly and precisely and maintains its GPS location even in heavy cover and deep canyons.
- **Long battery life:** Powered by two AA batteries, NAVA can work for up to 15 hours. Powered by special Li-ion battery, NAVA can work for up to 25 hours.
- **User data compatibility:** Export and import user data from gpx, shp, kml, dxf, csv to NAVA proprietary format.
- **Built-in Sensors (NAVA600):** The built-in 3-axis E-compass provides you the bearing even when you stand still, and its barometer pinpoints air pressure. Also, you can use the

thermometer to know temperature conditions.

- **User POI icons:** You can design your own POI icons and load it to NAVA unit.
- **Multi-power source:** NAVA GPS can be powered by 2xAA, Lithium, USB, vehicle power adapter, AC adapter.
- **Micro SD expandable:** Uses a Micro SD card to enlarge the storage memory up to 4G. The card slot is located inside the waterproof battery compartment, so you don't have to worry about getting it wet.
- **Lightweight and compact:** NAVA is lightweight and compact — the perfect size for all your travels.
- **Basemap, city detail map, topo map support:** NAVA supports built-in

basemap and city detail/topo map on the Micro SD card

- **Waterproof:** IPX7.
- **Readable under sunlight:** 65k colors Transflective TFT LCD
- **Fast data transfer:** USB 2.0
- **Drop resistance:** 1.5m drop from all 6 edges.

Optional Accessories

For a complete list of available accessories and maps for use with the NAVA GPS, please refer to the BHCnav website:

[Http://www.BHCnav.com](http://www.BHCnav.com)

Manual Conventions

In this manual, small arrows (→) indicate that you should highlight a series of items on the screen using the ROCKER key, and press in to ENTER after each item.

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Getting Started

Key Functions

ZOOM IN/OUT
Change map zoom range

MENU
Get more functions from submenu of the current page

NEXT/EXIT
Cycle through the main pages, or exit the current page

ROCKER/ENTER
Move up, down, left, right to highlight fields, icons, on-screen buttons, move the map panning arrow.
Press in to confirm selection, or enter data



POWER
Press and hold to turn unit on/off
Press to adjust backlight

MARK
Mark your current location as a waypoint.

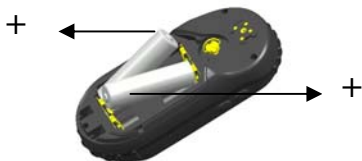
FIND
Search waypoints and point of interests

Installing the Batteries

The NAVA operates on two AA batteries or special Li-ion batteries (NAVA300/400/600).

To install AA batteries:

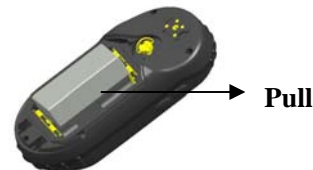
1. Remove the battery cover by turning the D-ring counter-clockwise and pulling the cover.



2. Insert the AA batteries, observing the proper polarity.

To install special Li-ion batteries:

1. Remove the battery cover from the back of the unit. Turn the D-ring counter-clockwise and pull the cover.
2. Insert the Li-ion batteries.



Warning: Remove the batteries when you do not plan to use the unit for long period. Stored waypoint, trail, route data is not lost when batteries are removed.

Turning the NAVA On and Off

To turn the NAVA on, press and hold the POWER key for more than 2 seconds. To turn the NAVA off, press and hold the POWER key for more than 2 seconds, when the unit is on.

Acquiring GPS Satellite Signals

Before the NAVA can find your current location and start navigation, you must acquire GPS signals.

To quickly acquire GPS satellite signals:

1. Go outdoors to an open area, away from tall buildings and trees.
2. Turn the NAVA on. Acquiring satellite signals is automatic.

Please refer GPS Status Page (p.19) to check the status of GPS satellite.

Adjusting the Backlight

1. When the NAVA is on, Press and quickly release POWER key to open the Backlight page.
2. Press right on the ROCKER key to increase the brightness, press left to decrease the brightness.
3. Press NEXT/EXIT key to close the Backlight page.



Basic Operation

This section explains basic operations you can perform with your NAVA, including creating and using waypoints, tracks, routes, and using the Find Menu.

Waypoints

Waypoints are locations or landmarks you record and store in your GPS. You can mark a waypoint at your current location on the map, or enter coordinates to create a waypoint. You can add waypoints to routes and navigate to a saved waypoint.

Marking Your Current Location


1. Press and release the MARK key.
2. To accept the waypoint with the default information, select **Save**, and press the ENTER key.

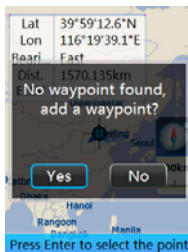
OR

To change waypoint name and note on the Mark page, select the appropriate field and press the ENTER key to open the on-screen keypad. After entering and confirming your changes, select **OK**, and press ENTER key.



Marking a Waypoint on the Map Page

1. On the Mark page, select **Map**.
2. On the Map Page, use the **ROCKER** key to move the pointer () to the location where you want to mark a waypoint.



3. Press and quickly release **ENTER** to capture the pointer location. If the location captured contains no information, a “No waypoint found, add a waypoint?” message appears. Select **Yes** to save the new waypoint.

Editing a Waypoint Attribution

You can edit a waypoint to change its icon, name, coordinates, elevation and note.

1. Press and release the **FIND** key.
2. Select **Waypoint**.
3. Select the waypoint you want to edit, and press **ENTER** key.
4. Make changes by highlighting each field. Use the waypoint icon chart, on-screen keypad and the **ROCKER** key to enter new data.

Deleting a Waypoint

1. Press and release the FIND key.
2. Select **Waypoint**.
3. Select the waypoint you want to delete, and press ENTER key.
4. Press the MENU key, select **Delete Waypoint** from submenu.

Warning: When you delete a waypoint, you cannot recover it from the unit.

Moving a Waypoint on the Map Page

1. Press FIND key → **Waypoint**.
2. Select the waypoint you want to move, and press ENTER key.
3. Select **Map** to show the waypoint on the map.
4. Press ENTER key to select the Waypoint that you want to move.
5. Use ROCKER key to move the pointer to a new location, and press

ENTER key.

6. Select **OK** to save the new waypoint.

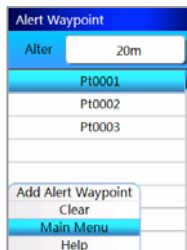
Calculating Current Location By Averaging

1. When NAVA acquires good GPS fix, press MARK key → **AVG**.
2. NAVA will average the location's longitude, latitude, altitude automatically.
3. Press ENTER key, and Save the waypoint.

Note: If NAVA doesn't acquire GPS fix, AVG button is disabled.

Alerting Waypoints

1. Access **Alert** from the Main Menu page, press ENTER key.
2. To define the alert range by highlighting the Alert field, use the **ROCKER** key to enter new data.
3. Press the **MENU** key, select **Add Alert Waypoint**.
4. Select a waypoint from the waypoint list. Select **OK**.
5. Close the Alert Waypoint page by pressing the **NEXT/EXIT** key.



To clear one or all alert waypoints from the list:

1. Access **Alert** from the Main Menu page, press ENTER key.
2. With one waypoint to be selected on the Alert Waypoint page, press the ENTER key, select **Delete** to clear the current waypoint.
3. Press **MENU** key, select **Clear** to clear all the alert waypoints.

Finding

Press the FIND key to open the Find page and search for waypoints, POI, cities and the addresses in the NAVA map.

Finding a Waypoint

1. Press the FIND key.
2. Access [Waypoint](#) and select a waypoint from a list of waypoints.
3. On the Waypoint Details page, select [Map](#) to view or edit the information of the waypoint, or select [Goto](#) to guide you to the destination on the Map page.

Finding a Waypoint By Name

1. Press the FIND key to open the Find page.
2. Select [Waypoint](#).
3. Press MENU → [Search By Name](#).
4. Use the ROCKER to operate the on-screen keypad and enter the name you want to find.
5. If the Find list contains a match, select the item from the Find list.

Finding a Point of Interest

If your unit is loading a detail map, you can open POI on the Find page to locate a nearby place, government, education, hospital, public service, traffic, etc.

To find a point of interest:

1. Press the FIND key
2. Select **All POI** to show a list of all

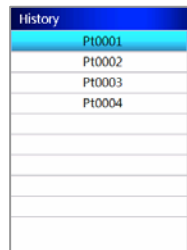


3. Select an item from the list, and press ENTER key.

Finding a History

The History page shows a list of the last items you have searched for or gone to recently.

1. Press the FIND key.
2. Select **History**.



3. Use the ROCKER key to select the item you want to go to, and press ENTER key.
4. Select **Goto** to begin navigation.

Finding an Item From Another Location on the Map

1. Press the FIND key.
2. Select an icon on Find page. Press ENTER key to the Result page.
3. Press MENU key, select **Alter Reference Point**. The Map page appears.
4. Use the ROCKER key to move the panning pointer to the map location where you want to search around. Press the ROCKER key, select **Yes**. The Find list shows a list of items near the new map location.

Finding an Address

If your unit is loading a detail map, you can open the Address page from the Find page to find the address where you want to go.

To find an address:

1. Press the FIND key → **Address**
2. Select the Province field. In the Result list, select the name.
3. Select City field, input the city name.
4. Press down on the ROCKER key, select the City name, Road name and the Crossroad name.
5. Select **Goto** to navigate to the destination on the Map page.

Address Search		
Goto	Map	OK
Province	<input type="text"/>	
City	<input type="text"/>	
Road	<input type="text"/>	
Crossroad	<input type="text"/>	

Tracks

As you travel, NAVA records “track log” automatically. The log contains information about points along its path.

Saving the Entire Track Log

After acquiring the GPS fix, travel with the NAVA.

1. On the Track page, select **Save**. A message appears asking you if you want to save the entire track.
2. Select **Yes** to save the track.

Saving a Portion of the Track Log

1. After acquiring the GPS satellite signals, travel with the NAVA.
2. On the Track page, select **Save**. A message appears asking you if you want to save the entire track.

3. When the message appears, select **No** to save only a portion of the track log.
4. Use the **ROCKER** to move the pointer to the point on the track that you want to set as the beginning point, and press **ENTER**.
5. Use the **ROCKER** to move to the point on the track that you want to set as the ending point. Select **OK**.

Viewing a Track on the Map

On the Track Details page, select **Map**. A map showing the entire track appears. Begin and End markers and waypoints are added to the track.

Navigating a Saved Track

1. Access the Track page from the Main Menu. The saved tracks are listed.
2. Select any saved track and press ENTER key.
3. On the Track Details page, select **Goto**.
4. Select **Yes** to start the back track.
5. To exit the Back Track page, press the NEXT/EXIT key.

Clearing the Track Log

1. Press MENU key to open the Main Menu.
2. Select Track.
3. Press the MENU key. Select **Delete All Tracks** or **Clear Current Track**. A confirmation message appears. Select **Yes**.

Setting up a Track

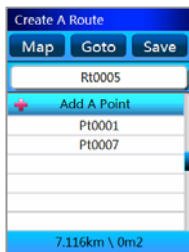
1. Press MENU key → Main Menu → Track.
2. Press MENU key, select **Track Setting** to set the Record Mode, Record interval, Track color and Display the Current Track or not.
3. Press NEXT/EXIT key to close the page.

Routes

A route consists of a sequence of waypoints or POIs. The NAVA stores 60 routes with up to 100 points each.

Creating a Route

1. Access the Route page from the Main Menu.
2. Use ROCKER key to select **Create**, and then press ENTER key to open the Create A Route page.
3. Move down to the **Add A Point** field, and press ENTER key to open Find page.



4. Search and add a via point from Waypoint, History, POI, etc.
5. To add more via points to your route, repeat the process 3 and 4, and select **Save**. A route includes at least two waypoints.

OR

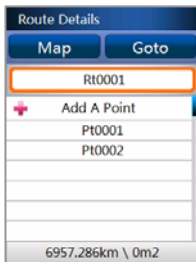
When you have completed the route creation, select **Goto** to begin navigation on the Map page while the route is saved automatically.

Navigating a Saved Route

1. Press MENU key → Main Menu → Route
2. Select a saved route → **Goto**.
3. Follow the instructions on the Map page.
4. To stop navigation at any time, press MENU key, select **Stop Navigation** from submenu of Map page.

Change the Name of the Route

1. Press MENU key → Main Menu → Route.
2. Select a saved route → select the route name field on the Route Details page.
3. Use on-screen keypad to rename the route.



Reviewing Individual Route Points

1. Press MENU key → Main Menu → Route.
2. Select a saved route → select a point on the Route details page → ENTER → View
3. Select OK or Map.

Delete a Route

From the page for that route, press MENU key → Delete Route.

Main Pages

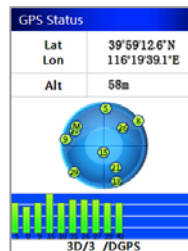
NAVA200, NAVA300 and NAVA400 have five recurring default main pages : GPS Status, Map page, Compass page, Main Menu, Trip computer. NAVA600 has an extra default Weather page. Press and release NEXT/EXIT to cycle through the pages. You can add more pages and edit page sequence from the Page Setting page.

GPS Status Page


The GPS status page shows your current location, the accuracy, your current elevation, satellite location, and satellite signal strength.

The satellite signal bars on the GPS status page indicate satellite strength. When bars are green, the NAVA has acquired valid

satellite signals that are used to calculate your position.



Map Page

On the Map page, your current position is indicated by a position marker .



Changing Map Zoom Range

Press the Zoom IN/OUT key on the side of the unit.

Reviewing a Location on the Map

1. Use the ROCKER key to move the panning pointer to the location you want to review,

2. The information box shows the Lat & Lon, Bearing and distance.

Showing or Hide Data Fields

1. On the Map page, press the MENU key,
2. On the submenu of the map page, select [Hide Data Field](#), [2 Data Fields](#), or [4 Data fields](#).
3. Press ENTER key, to show or hide the data fields.

Changing a Data Field Display

1. Press MENU → [Change Data Fields](#). The first data field is highlighted.
2. Press ENTER to open Data Field page
3. Select an option from the list of data fields.

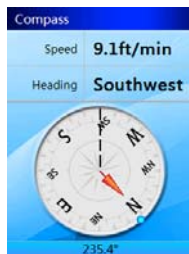
Changing Map Orientation

1. On the Setting page, select [Map](#).
2. There are two map orientations:
North Up --orients the map like a paper map.
Track Up --orients the map in the direction of travel.

Compass Page

The Compass page guides you with a compass ring and a bearing or course pointer.

The rotating compass ring indicates the direction you are heading. The bearing and course pointer indicates the direction to your destination. The compass is driven by GPS data or electronic compass (NAVA600 only).



Electronic Compass (NAVA 600 only)

When you are moving and reach a pre-set speed, it uses GPS data to maintain your heading. When you are not moving, it operates like a magnetic compass.

Calibrating the Electronic Compass (NAVA 600 only)

Calibrate the Electronic compass outdoors when you first use the NAVA, or move so far, or experience a greater temperature change from the last calibration.

Note: The accuracy of the Electronic compass is also affected if you are near objects that affect magnetic fields.

To calibrate the electronic compass:

1. Press MENU → **Calibrate**.
2. With **Start Calibration** selected, press ENTER, and follow on-screen

directions for rotating the device horizontally for two rounds.

3. Press ENTER key to end the calibration.
4. Press NEXT/EXIT key to return to the Compass page.

Electronic Compass Navigation (NAVA600 only)

1. Press MENU key → **Compass Navigation**.
2. Hold the unit and point to the distant object. Press ENTER key to lock the Route.
3. Select **Deviation measure**. Input the estimated distance from your current location.
4. Select **Goto** to open the Map page and start navigation to the destination.

Weather Page (NAVA600 only)

The Weather page shows you the current air pressure, altitude and the temperature. You can calibrate the barometer, altimeter, thermometer, change the data field and restore default.

Calibrating the Altimeter

1. On the Weather page, press the MENU key.
2. Select [Calibrate Altimeter](#).
3. With the data field to be selected, change the data by the on-screen Numeric keypad.
4. Press NEXT/EXIT key to finish the calibration.

Trip Computer Page

The Trip Computer page shows seven types of navigation data in small font size, or show three large data fields in big font size.

Each data field is selectable and can contain one of many navigation data. When the data field is selected, press ENTER key to make a new choice.

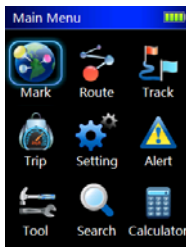
The submenu allows you to reset the Trip Computer data when you are ready to start a new trip, choose between Big or Small font size, and Restore Default.

Trip Computer	
Trip ODO.	21.3km
Moving Time	0D 00:28:45
Trip Offtime	0D 02:07:05

Trip Computer	
Lat & Lon	35°30'35.6"N 114°45'59.7"E
WGS84	35°30'35.6"N 114°45'59.7"E
Trip Offtime	0D 02:07:49
Alt	9.5km
Heading	South
Max Speed	864km/h
Speed	834.6km/h

Main Menu Page

The Main Menu contains settings and features not found on the main pages and sub-menus. The Main Menu is accessible from any page by pressing MENU key. To select an item on the Main Menu, highlight the menu item, and press ENTER key.



Setting Page

Access Setting page from Main Menu, you can set up system, page sequence, map, unit, heading, USB, Display, Time and other features

System Setting Page

On this page, you could turn on or off the GPS and the Close Alert. Use the submenu to restore defaults, or view the version of the unit software, the unit serial number and other copyright information.

Page Setting Page

1. From the Setting page, select **Page**, and to start the Page Setting.
2. To rearrange a page in the page sequence, select the page → ENTER. Select **Move**.
3. To insert a new page, select the page you want it inserted before, press ENTER → **Insert**.

Map Setting Page

Use the Map Setting page to adjust the bearing and change the maps.

Unit Setting Page

- Position Format—sets the format in which the coordinate is shown.
- Map Datum – sets the coordinate system in which a location is shown.
- Barometer – sets the unit of measurement (Pa, KPa, mmHg, mb, inHg)
- Temperature – sets the unit of measurement(°C, °F)
- Distance/Speed—sets the unit of measurement to show your speed and distance.
- Area—select the unit of measurement(km², ha., Are, mu, ft², mi², m²)
- Angle—sets the unit of

measurement (degrees, rad) to show the angle.

Heading Setting

- Display—choose from Angle or Characters.
- North Reference—choose from True North or Mag. North.

USB Setting Page

Activating USB MASS Storage

1. Connect the unit to a computer.
2. Select **USB MASS Storage**, and press ENTER key.
3. A removable disk will appear on the computer(NAVA200 and NAVA300). If the micro SD card is on(NAVA400 And NAVA600), two removable disks will appear on the computer.

Display Setting Page

You can choose a display mode, adjust the amount of time that the backlight stays on, and set the level of brightness.

To access the Display Setting page:
From the Setting page, select Other → Display.

- Display Mode—choose Day or Night.
- Backlight Time—choose 30 seconds, 1 minute, 3 minute or 5 minute.
- Backlight Brightness—set the level of brightness: OFF, Low, Mid or High.

Time Setting Page

To access the Time Setting page:
From the Setting page, select **Other** Time.

- Format—choose from 12-hour or 24-hour time format.
- TimeZone—set to one of 24 International Time zones.

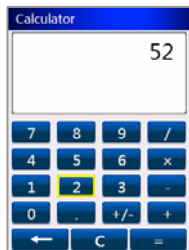
Tools Page

From tools page, you can access Calendar, Calculator, Sun&Moon, Stopwatch, Hunt&Fish.

Calendar



Calculator

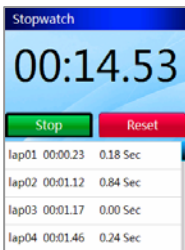


Sun & Moon

The Sun and Moon page shows sunrise time, sunset time, moonrise time, moonset time, and moon phase for a specified date.



Stopwatch



Hunt & Fish

1. Access Tool from the Main Menu, select Hunt&Fish to view the hunting and fishing predictions for a different date. To view the predictions for a location, select the Lat & Lon field to input the data.
2. Select Date field to open the Calendar page, and input the time. Press ENTER key to see the best and good time.

Area Calculation

1. Access Area Calculation page from The sub-menu of GPS Status page, Map page, or Area Calculation option of Tool page..
2. Press Enter to start area calculation while you start to move. Area is updated at the top of the map page while you are moving.
3. Press Enter to stop calculation while you arrive at the destination, and save the track for area calculation.

Calculating the Area of a Saved Route

The area of a saved route is calculated automatically when you select a saved route and view the route detail.

Calculating the Area of a Saved Track

The area of a saved track is calculated automatically when you select a saved track and view the route detail.

Coordinate System Setting

NAVA allows you to set Position Format and Map Datum.

1. Access the Unit Setting page from Setting page.
2. Access Position Format page from Unit setting page.
3. Use the ROCKER key to select Position Format. You can set degree format, UTM or user format.
4. Or Press down the ROCKER key, select Map Datum. You can set WGS84, BJ54, XA80 or user datum.

Appendix

Specifications

Physical	NAVA200	NAVA300	NAVA400	NAVA600
				
Unit Dimension, WxHxD	56x119x32mm			
Display	2.2" QVGA, 240x320 pixels, Transflective TFT, 65536 colors			
Weight	108g (without battery)			

Performance	NAVA200	NAVA300	NAVA400	NAVA600
Battery (not included)	2xAA	2xAA or Special Li-ion Battery		
Battery life	15 hours	2xAA(15hours), Special Li-ion Battery(25hours)		
GPS Receiver	20 Channels,L1, CA code, High Sensitive GPS Module			
Acquisition Time	Cold Start: < 35s, Hot Start: <1s			
GPS Accuracy	3-7m (GPS only), 1-3m (SBAS)			
SBAS	WASS, EGNOS, MSAS			
Update Rate	1/second, continuous			
Interface	USB 2.0 and NMEA 0183 compatible			
Waterproof	IPX7			

Features	NAVA200	NAVA300	NAVA400	NAVA600
Basemap	No	Yes	Yes	Yes
Built-in memory	128M			
Micro SD card slot	No	No	Yes	Yes
Waypoints	3000			
Routes	60			
Tracks	50 tracks, 5000 points			
Electronic Compass	No	No	No	Yes
Barometric Altimeter	No	No	No	Yes
Temperature	No	No	No	Yes
Hunt/Fish	Yes			
Sun/Moon	Yes			
Calculator	Yes			
Area Calculation	Yes			
Coordinate System	WGS84, UTM, User Grid...			

Connecting NAVA to Your Computer

Connect NAVA to your computer using the USB connector cable provided.

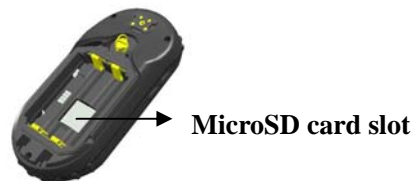


To connect NAVA to the computer:

1. On the back of NAVA, insert the smaller connector on the USB cable into the matching port, turn the screw clockwise.
2. Connect the remaining cable end to your computer's USB port.

Installing a Micro SD Card

The NANA Micro SD card tray is located beneath the batteries.



To install or remove a Micro SD card:

1. Lift the cover on the back of NAVA and remove the batteries.
2. Lift the metal cover.
3. Push the card into the Micro SD card tray and close the metal cover.
4. To remove the micro SD card, lift the metal cover and remove the card from the micro SD card tray.
5. Replace the batteries and the battery cover.

In addition to map and data storage, the micro SD card can be used to store files such as routes, waypoints and custom POIs.

Declaration of Conformity

Hereby, BHC Navigation Co., Ltd declares that this product is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

NAVA Handheld GPS

BHC Navigation Co., Ltd (BHCnav)

18 Zhongguancun East Road, Suite C-7, Intelli-Center Haidian,
Beijing, 100083, China

Tel: 86-10-51266697

Fax: 86-10-82600298

Email: NAVASales@BHCnav.com NAVASupport@BHCnav.com

Website: www.BHCnav.com