

Matsutec GP-280

User Manual

Foreword

Thank you for your choice of GP-280.

We would appreciate feedback from you to go further where we are achieving.

Please carefully read and follow the procedures and operation for best use of your unit.

The unit is used as an auxiliary navigation device. For safety reason, it is not recommended to use it as

the only navigation device.

The unit has built-in battery. Please don't put it in a fire or in a high temperature. It should be disposed of properly when discarded to avoid environmental pollution

Information in this manual is subject to change without notice. Please feel free to contact our support whenever you need.

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Features

- 2.8" 240X320 color LCD
- Multi-display screen
Plotter, Highway,
Steering, Satellite, SOG
meter, COG meter, and
User data screen
- Visual and audio alarm
Arrival, Anchor, XTE,
SBAS, etc.
- Storage of 10,000
waypoints, 100 routes
and 3,000 track points
- MOB mark


1. Quick Start

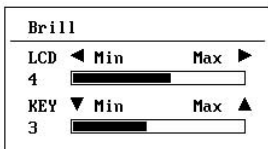
Power on/off




Press and hold  key to power on the unit. The unit beeps and starts up.



Press and hold  key for three seconds to power off. The time remaining is counted down until power off.

Adjust LCD and key panel brilliance

Press  key to show the brilliance window.



For LCD, press  key to loop over the brilliance or press  or  key to increase or decrease the brilliance.

For key panel, press  or  key.

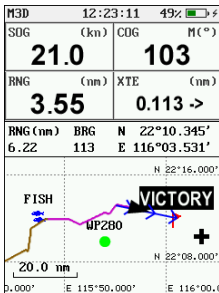
Press **ENT** key or **ESC** key to exit.

2. Multi-display screens

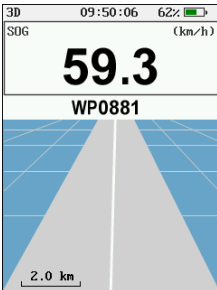
Main screens are shown as below.

Press **DISP** key to step through sequentially.

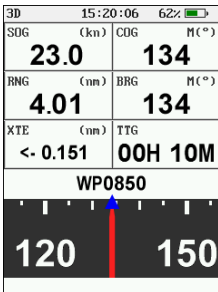
Press **ESC** key to invert the sequence.



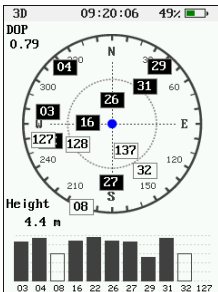
Plotter



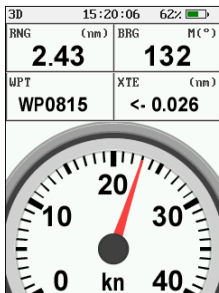
Highway



Steering



Satellite



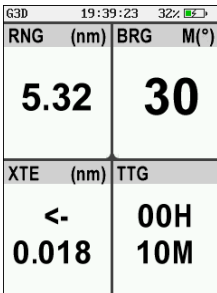
SOG Meter



COG Meter



User Data 1



User Data 2

Receiver status

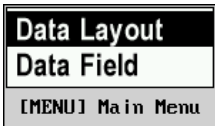
Mark	Meaning
2D	2D position fixed
3D	3D position fixed
W2D/ W3D	2D/3D WAAS
E2D/ E3D	2D/3D EGNOS
M2D/ M3D	2D/3D MSAS
G2D/ G3D	2D/3D GAGAN
DOP	DOP larger
SIM	Simulation Mode
---	Not fixed

Receiver status is showed in the upper screen as 2D or 3D, with SBAS or not.

Data Layout

In most screens except Satellite screen, data layout and data field could be changed as you like.

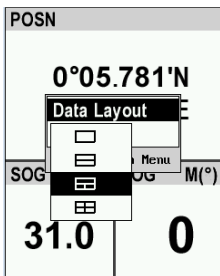
Press **MENU** key to pop up the menu.



Press **ENT** key to open the layout menu.

None
Small (1 Row)
Small (2 Rows)
Small (3 Rows)
Large (1 Row)
Large (2 Rows)

Data Layout in most screens




Data Layout in User Data

Data Field

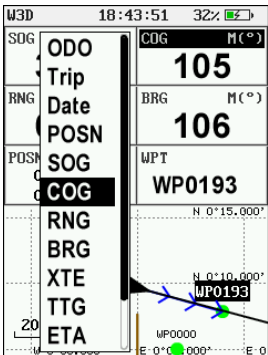
Select menu item **Data Field** and then press **ENT** key. Then a data field is focused.

Use  arrow key

, , , ,

 to move the focus to a data field, and press **ENT** key to open the data list.

Select from the data list what you would like to show in the data field or press **ESC** key to exit.



Data	Meaning
POSN	Latitude and Longitude
SOG	Speed over Ground
COG	Course over Ground
RNG	Range

BRG	Bearing
XTE	Cross-track error
ETA	Estimated time to arrival
TTG	Time to Go
WPT	Waypoint to Go
Date	Date
ODO	Odometer
Trip	Trip distance
None	Blank

Zoom In/Out

Press **IN** or **OUT** Key to zoom in or zoom out.

Zoom scale is available among **0.02 nm ~ 320 nm** in **Plotter** screen and among **0.2 nm ~ 16 nm** in **Highway** screen.

Plotter Screen

In Plotter screen, waypoint mark, route line, and track trails are displayed under default settings. It can be set to your preference.

Map Settings

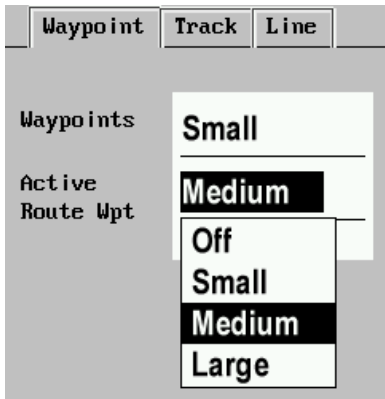
Press MENU key to pop up the menu and select item

Setup Map.



The name text of Goto or un-Goto waypoint could be set to show or not respectively, and also the text size.

Track log could be set to show or not too.



Center Position

Normally when travels off the plotter screen, it will automatically return back to the center of the screen.

When cursor is shown, it won't center automatically.

Press and hold **ENT** key to return back to the center.

3. Waypoint

Waypoint could be accessed by 4 conditions: at cursor position, at current position, through the waypoints list and at the MOB position.

At cursor position

In **Plotter** screen, use arrow key ▲, ▼, ◀, ▶

to

move the cursor to a place that you want to lay a waypoint, and press **ENT** key to add a new waypoint at the cursor position.

A waypoint is created with default properties.

The properties of name, icon, color, position and comment could be modified by **Edit** operation.

Waypoint Info.	
Name	
WP0194	
Icon	Color
	
Latitude	
0°10.009'N	
Longitude	
0°00.769'E	
Comment	
06:07 JAN2521	
RNG (nm)	BRG (°)
0.06	39

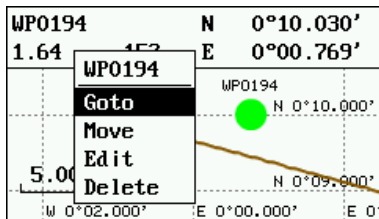
Waypoint Info. Screen

When you move cursor to an existed waypoint in **Plotter** screen, and press **ENT** key, then a menu will

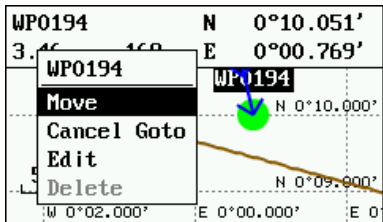
for further access to the waypoint, such as, set as **Goto** or **Cancel Goto**, **Edit**, **Move**, **Delete**.

In **Plotter** screen, **Delete** is disabled when a waypoint is set as a destination.

1. When a waypoint is not set as a destination



2. When a waypoint is set as a destination



At current position

When location is fixed, press **WPT** key in any screen to enter a waypoint at current position and the **Waypoint Info. Screen**

will be opened.

Waypoint list

Press **MENU** key to show the main menu, and select item **Waypoints** to list the waypoints **by Name** or **by Range** from current position.





















Press ▲ or ▼ key to focus a line in the list, and press **ENT** key, then

1. When **[New]** line is selected, a waypoint of current position is added to the list and **Waypoint Info. Screen** is opened.

Waypoints >List by Range

Name	Icon	RNG (nm)	BRG (°)
------	------	----------	---------























[New]

WP0194			6.23	188
WP0189			8.11	192
WP0193			9.60	150
WP0000			11.2	173
WP0170			13.3	187
WP0191			14.3	187
WP0192			15.1	186
WP0177			16.0	186
WP0175			16.0	185
WP0164			16.1	183

Total: 195

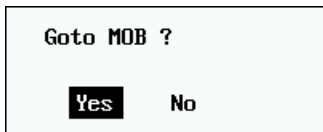
2. When a waypoint line is selected, a menu is pop up for further operation.

Waypoints >List by Name

Name	Icon	RNG(nm)	BRG(°)
G WP0184			24.5 193
WP0185			
WP0186			
WP0187			
WP0188			24.3 191
WP0189			16.1 168
WP0190			26.4 348
WP0191			22.7 194
WP0192			22.8 176
WP0193			16.1 177
WP0194			14.8 199
			Total: 195

MOB mark

Press and hold **WPT** key to enter a MOB mark.



MOB position will be set as a Goto destination automatically when a MOB mark is entered.

Only one **MOB** mark is available. Each time the **MOB** mark is entered, the previous **MOB** mark and its position data are overwritten.

4. Route

Press **MENU** key to show the main menu, and select item **Routes** to list the route **by Name** or **by Range**.

Create New Route

Press **▲** or **▼** key to focus **[New]** line in the list, and press **ENT** key, then a new route will be created and **Route Info. Screen** is opened for waypoints management in this route.

Routes >List by Name

Name	Comment
[New]	
RT0000	SMGC07 ->ZHYYEY0
RT0001	W180N9 ->W180S9
RT0002	WP0009 ->WP0010
RT0003	ZNMY08 ->WYNJD
RT0004	WP0844 ->WP9986
RT0005	ZHYYEY0 ->ZHYYEY0
RT0006	AP260 ->ZNMY08
RT0007	ZNMY08 ->YSSZ08
RT0008	WP7045 ->WP9996
RT0009	ZNMY08 ->WP6992

Total: 100

Route Operation

Press ▲ or ▼ key in the

route list Screen to focus a

route line in the list, and press **ENT** key, a menu is opened for further operation, such as set the route as a **Goto** destination **Forward** or **Reverse**, **Edit**, **Delete**, or **Cancel Route**.

A destination route could not be deleted until **Cancel Route**.

When **Edit** is selected, **Route Info. Screen** is opened for route management.

Routes >List by Name

Name	Comment
------	---------

[New]

RT0000	SMGC07	->ZHYYEY0
--------	--------	-----------

RT0001	W180N9	->	Goto
--------	--------	----	-------------

RT0002	WP0009	->	Edit
--------	--------	----	------

RT0003	ZNMY08	->	Delete
--------	--------	----	--------

RT0004	WP0844	->WP9986
--------	--------	----------

RT0005	ZHYYEY0	->ZHYYEY0
--------	---------	-----------

RT0006	APZ60	->ZNMY08
--------	-------	----------

RT0007	ZNMY08	->YSSZ08
--------	--------	----------

RT0008	WP7045	->WP9996
--------	--------	----------

RT0009	ZNMY08	->WP6992
--------	--------	----------

Total: 100

Cancel Route

Edit

Delete

Forward

Reverse

Manage waypoints in a Route

Route Info.			
Name:	RT0041	Points:	21
Cmnt:	SMGC07	->	BTYY08
TLEG:	42.4nm	LEG(nm)	BRG(°)
21	MLG000	2.11	328
22	YSSZ08	0.90	0
X 23	SJHC08	_____	_____
24	SMGC07	4.78	160
25	WYNJD	0.93	
26	ZNMY08	2.33	
27	WP9999	3.84	
28	ZYJSXX	5.02	
X 29	ZHYEYO	_____	_____
30	WP9998	5.19	347

Change
Add
Skip
Delete

Route Info. Screen

In the **Route Info. Screen**, press ▲ or ▼ key to move the focus to the waypoint that you want to manage and then press **ENT** key to pop up a menu for further operation, such as **Add**, **Change**, **Skip**, **Skip Off** or **Delete**.

Change	Change	Change
Add	Add	Add
Skip	Skip Off	Skip
Delete	Delete	Delete

Up to 30 waypoints could be added in a route.

Waypoints to **Add** or **Change** could be sorted alphabetically

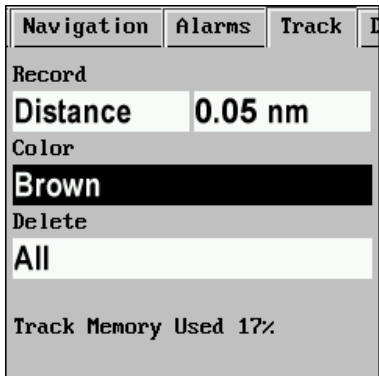


or by distance.

5. Track

Track points are recorded at an interval of distance or according to display range. The record interval and color could be set from the MENU.

Press **MENU** key and select **Settings**. Use arrow key ◀ or ▶ to open the **Track** page.



When the track memory becomes full, the oldest track point is erased to make space for the latest. The tracks can be deleted collectively or by color.

6. Alarms/Messages

Alarm indication

When an alarm setting is violated, the buzzer sounds and the name of the offending alarm and the alarm icon appear on the screen.



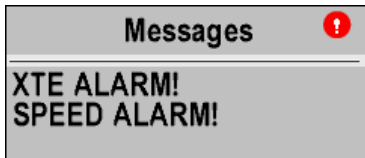
XTE ALARM!
SPEED ALARM!

You can silence the buzzer and remove the alarm name indication by pressing any key. The alarm icon remains on the

screen until the reason for the alarm is cleared.

Message lists

Entering the **Messages** page of the main **MENU**, you can browse all the alarm messages at present.



Alarms settings

Press **MENU** key and select **Settings**. Use arrow key to open the **Alarms**.

General	Navigation	Alarms	1
Buzzer			
Long			
Arrival/Anchor			
Arrival	0.27 nm		
XTE			
On	0.100 nm		
Speed			
On	23.0 kn		
Time			
On	AM	09:00	
SBAS			
Off			

Alarm meaning

Alarm	Meaning
XTE	Off the intended course by the range set
Arrival	Approaching the range set arrival area
Anchor	Move a set range from the rest place
TIME	The time set has come
Speed	Speed is higher than the rang set
SBAS	No SBAS signal

7. Menu Settings

A concise menu is offered to customize a variety of settings.

The following is the **MENU Settings** diagram for your reference.

Menu Settings

General

- Key Beep (On, Off)
- Language (English)
- Units (nm, km, sm)
- Time Offset
(-14:00 ~ +14:00)
- Time Display
(12 Hour, 24 Hour)
- Date Display
(MM/DD/YY or DD/MM/YY)
- Backlight Time Out
(Stays on / 15s / 30s / 1 Minute)

Navigation

- Position Format (xx.xx',
xx'xx.x", xx.xxxx) COG /
- BRG ref.
(Mag., True)
- Magnetic Variation
(Auto, manual)
- TTG/ETA SPD
(Auto, manual)
- Smooth Position
(0 to 999 s, 0 s)
- Smooth SOG/COG
(0 to 9999s, 5 s)

Alarms

- Buzzer
(Long, Short, Continuous)
- Arrival / Anchor
(Off, Arrival, Anchor)
- XTE
(Auto, manual)
- Speed
(Auto, manual)
- Time (On, Off)
- SBAS (On, Off)

Track

- Record
(Off, Distance, Auto)
- Color (Red, Blue, etc.)
- Delete (All, By Color)

Delete

- All Waypoints
(On, Off)
- All Routes
(On, Off)

Reset

- Trip (On, Off)
- GPS (Off, Hot, Cold)
- Menu settings
(On, Off)
- Factory Reset
(On, Off)

Simulate

- Mode (On, Off)
- Speed (Off, Hot, Cold)
- Course (On, Off)
- Latitude
- Longitude

Self Test

- └ LCD Test
- └ Key Test

System

- └ Version