NEW ENGLAND INSTRUMENT CO.

GPS Trip Meter – Elite

HMGT8000B

AUSTRALIAN DESIGNED

AUSTRALIAN BUILT

GPS TRIP METER - ELITE

THE HUMMINGBIRD GPS TRIP METER - ELITE IS USED TO MEASURE DISTANCE ACCURATELY WITH GPS AND GLONASS. IT IS EASY TO OPERATE WITH A FULL-COLOUR TOUCHSCREEN AND CAN ALSO DISPLAY 8 TRIPS SIMULTANEOUSLY

IDEAL FOR COUNCILS

WARNING & SAFETY INSTRUCTIONS THIS MANUAL CONTAINS IMPORTANT INSTRUCTIONS FOR THE GPS TRIP METER- ELITE

DO NOT OPERATE THE TRIP METER UNLESS YOU HAVE READ AND UNDERSTOOD THIS MANUAL AND THE DEVICE IS INSTALLED AS PER THE INSTALLATION INSTRUCTIONS.

2 SPECIFICATIONS

TECHNICAL SPECIFICATIONS & ORDERING INFORMATION

PART NUMBER	HMGT8000B
MOUNTING SYSTEM	RAM MOUNT SUCTION SYSTEM
INPUT VOLTAGE	4.4VDC - 32VDC
USB COMPLIANT	
POWER CONSUMPTION	1.4W; 120MA AT 12V
DIMENSIONS (DISPLAY UNIT) MAGNETIC MOUNT GPS ANTENNA ANTENNA CABLE LENGTH POWER & RESET SWITCH CABLE LENGTH	130MM(WIDTH) X 94MM(HEIGHT) X 25MM(DEPTH) 40MM(WIDTH) X 15MM(HEIGHT) X 49MM(LENGTH) 5M 1.5M
GPS RECEIVER	GPS/GLONASS/GALLILEO/BEIDOU, 72 CHANNEL
POSITION ACCURACY	2.5M CEP
DISTANCE RESOLUTION	1M
DISTANCE UPDATE RATE	10HZ
MINIMUM SPEED	2KM/H
SATELLITE AQUISITION TIME	30 SECONDS
BALLBANK(HORIZONTAL INCLINOMETER) RANGE	+/- 20 DEGREES
OPERATING TEMPERATURE	-40 TO 85 DEGREES CELSIUS

THE KIT CONTAINS

1. 4.3” DISPLAY SCREEN 2. POWER AND EXTERNAL SWITCH CABLE 3. MAGNETIC MOUNT GPS ANTENNA 4. RAM MOUNT SUCTION SYSTEM

OPTIONAL ACCESSORIES - WWW.HMBE.COM.AU /ANTENNAS
BULKHEAD MOUNT GPS ANTENNA STUBBY GPS ANTENNA
3 INSTALLATION INSTRUCTIONS

1. Mount the GPS antenna on the dashboard or the sun visor as shown in the below image. For best results the antenna must have an unobstructed view of the sky. In vehicles where the windscreen is vertical the antenna can be placed on the roof using the magnetic mount. Placing the antenna under a metal roof will not work.
2. Screw the GPS antenna into the back of the unit.
3. Plug the supplied power cable into the back of the unit.
4. Plug the USB cable into the vehicle’s USB power supply. If the vehicle does not have a USB power supply use a USB/cigarette lighter adaptor (12/24V).
5. Using the supplied suction mount, mount the unit in an easy to view position on the dashboard or windscreen. The unit must not obstruct the driver’s view of the road. If permanent mounting is required, please enquire about the optional RAM mounting system that allows for permanent mounting on a surface or handlebars.
6. Power the unit, wait for the satellite indicator to go green and you are ready to measure distance.

Typical antenna placement on the dashboard

4 OPERATION

NAVIGATING THE MENU

To access the main menu, press the menu key on the bottom left of the unit. The user can navigate using the keypad or the touchscreen.

Keypad

Up and down buttons are used to scroll through menu items, enter button is used to confirm or select an option, and the menu button is used to go back one level or cancel.

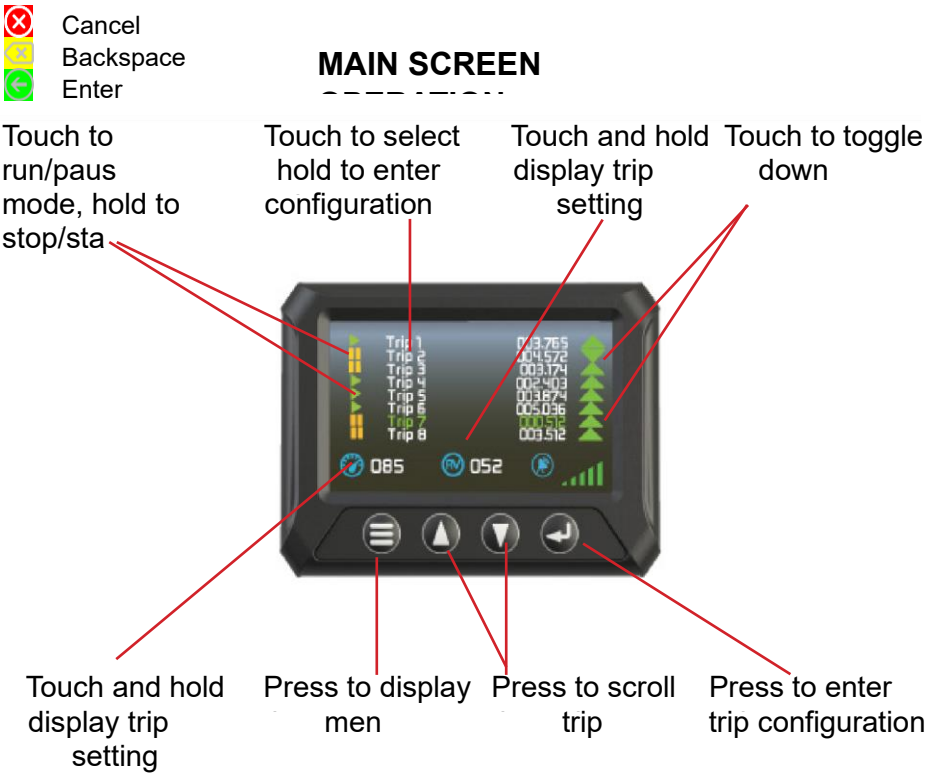
Touchscreen

Swipe top to bottom to scroll down, swipe bottom to top to scroll up, and touch to confirm or select an option.

Entering Values

When entering values, such as distances or the password, the keypad or touchscreen may be used. To enter a value using the keypad, you press Up or Down to change the current character/ digit, Enter to progress to the next character/digit or Menu to go back one space.

Pressing the screen enables an on-screen keypad/keyboard, which has the following three function keys:



4 OPERATION

MENU ITEM DESCRIPTION

TRIP CONFIGURATION

Reset to 000.000
This option will reset the value of the selected trip to 0, or to the value set with the Set Reset Value option, below.

Load Value into Trip
This option allows the user to enter a value for the selected trip.

Set Reset Value
This option allows the user to change the reset value. When the selected trip is reset, either through this menu or through another function, it will be set to this value.

Trip Enabled
This option sets whether or not a trip is enabled and counting.

Trip Paused
This option sets whether or not a trip is paused. Exactly what happens when a trip is paused is configured in the Pause Settings menu.

Trip Runs
This option allows the user to choose whether the selected trip runs forwards or backwards.

Trip Visible
This option allows the user to choose whether the selected trip is displayed on the main screen.

Rename Trip
This option allows the user to specify the name of the selected trip.
4 OPERATION

EXTERNAL SWITCH

External Switch Enabled
Selecting “No” in this option prevents the external switch from triggering anything, regardless of what Trip Functions are selected below.

Trip Function
This setting allows the user to select the external button function for the specific trip. Options are Reset (resets trip value), Pause (pauses trip) and Disable (do nothing).

PAUSE SETTINGS

Auto Unpause after 3s
When this option is set to yes, a paused trip will automatically unpause after a 3 second delay.

Reset on Hold
When this option is set to yes, holding the external switch for 3 seconds will set the selected trip to the reset value.

Paused Trips Count in Background
When this option is set, a paused trip will continue to count in the background, while freezing the value shown on the main display.

SYSTEM SETTINGS

Measurement Unit
This option allows the user to select how distances are shown on the trip meter: kilometres, miles or nautical miles.

Number of trips to show
This option allows the user select how many trips are shown on the main display (2, 4 or 8)

OVERSPEED WARNING SUBMENU

Overspeed Warning
Enabling the overspeed warning causes the internal buzzer to sound when the trip meter detects speed in excess of the limit set below.

Speed Limit
Allows the unit to set the over-speed threshold.

Average Speed Based on Trip
This selects which trip is used to calculate the Average Speed, shown on the main display.

Brightness
This option allows the user to set the brightness of the display (1-10).

Auto Dim
Setting this option allows the device to automatically detect when to dim the display for night driving.

Night Display
This option enables a high-contrast colour scheme. It can be set to Auto, in which case it will automatically change to the high-contrast scheme at night time.

Calibrate
This option allows the trip meter to be calibrated to match (inaccurate) track notes.

4 OPERATION

Backward-counting Trip Warning
Setting the option causes the internal buzzer to sound when any of the trips are set to count backwards.

PASSWORD SUBMENU

Password
Enabling the password prompts the user to enter a new password.

Change Password
Allows the user to enter a different password, once it has been enabled.

Number of trips to show
This option allows the user select how many trips are shown on the main display (2, 4 or 8)

TIME SETTINGS SUBMENU

Daylight Saving Time
When set to on, this option will advance the time forward by one hour.

Time zone
Allows the user to select the time zone.

Device Name
This option allows the user to enter the device name for use in data export.

Cone Deployment
This option allows the user to deploy objects at equal spacing. It is typically used for cones in road maintenance.

Reset to Defaults
Selecting this option will reset all settings to default values.

GPS INFORMATION
Displays GPS data: Latitude and longitude, speed and position accuracy, and satellite information.

SHOW STATISTICS
Displays data for selected trip (distance, average speed, max. speed and time measured). Pressing up and down buttons switches the selected trip displayed.

BALL BANK

Opens the Ballbank display and options screen. Either the up/down and enter buttons or touchscreen can be used to activate settings.

Calibrate
Sets the current reading as the level zero point.

Clear Calibrate
Resets the level zero point to the factory calibration point.

Reset Maximum
Resets the maximum readings to zero for the current trip.

Sensitivity
Allows the user to enter the measurement sensitivity (0-9). 0 being the lowest sensitivity and 9 being the highest sensitivity.

LOG EVENTS

Log Events

Opens a screen with nine event buttons. Touching an event button records the time, date, position, speed, trip distance and event name to the datalogger and buzzer will sound to confirm. Holding an event button for 3 seconds allows the user to enter the name of the event on the screen.

Show Events

Displays data for each recorded event. Pressing the up/down buttons scrolls through all recorded events.

Clear Events

Clears all recorded events. The buzzer will sound to confirm all events have been cleared.

4 OPERATION

BALLBANK FUNCTION (HORIZONTAL INCLINOMETER)

The digital ballbank provides a horizontal inclinometer reading to +/- 20 degrees from level. This function is generally used to provide information on perceived tilt when travelling around corners.

Current and maximum values are displayed in text on the screen shown below. The white marker indicates the current perceived tilt, and the red markers indicate the maximum values on either side.

The user can recalibrate the zero point or set to factory default, reset maximum values, or change the sensitivity of the unit using the touch screen or the navigation keypad.

LOGGING DATA

Automatic Datalogging

The unit logs position, speed and trip distance data automatically as listed below. Data is stored in csv format. Refer to viewing data section.

Periodic:	Every 1 Hour;
Go:	Increase speed from stationary position;
Stop:	Reduce speed to zero;
Distance:	Position change > 1km;
Speed:	Speed change > 10km/hr;
Direction:	Heading change > 45 Degrees;

User defined event logging

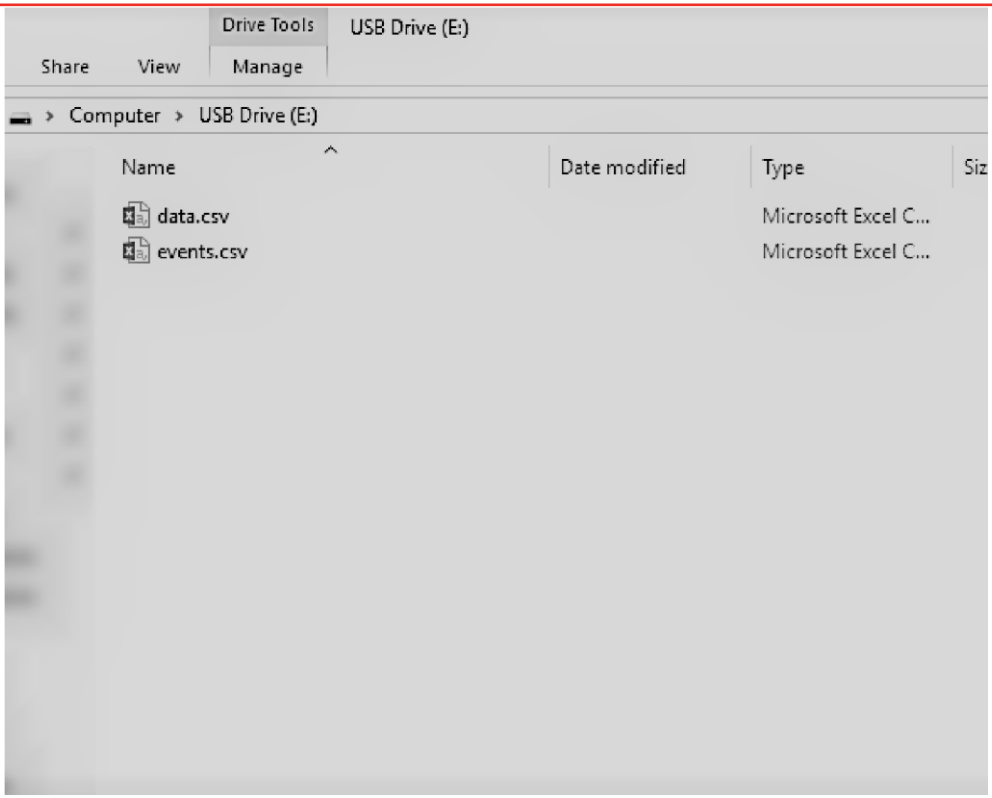
Custom events log the same GPS data as automatic logging but are only recorded by pressing the touch screen shown below, found in main menu > log events > log events. Up to nine custom events can be defined. To redefine an event name, touch and hold the selected event for 3 seconds. Event data can also be viewed in the main menu > log events > show events page.

4 OPERATION

EXPORTING AND VIEWING TRIP DATA

Files

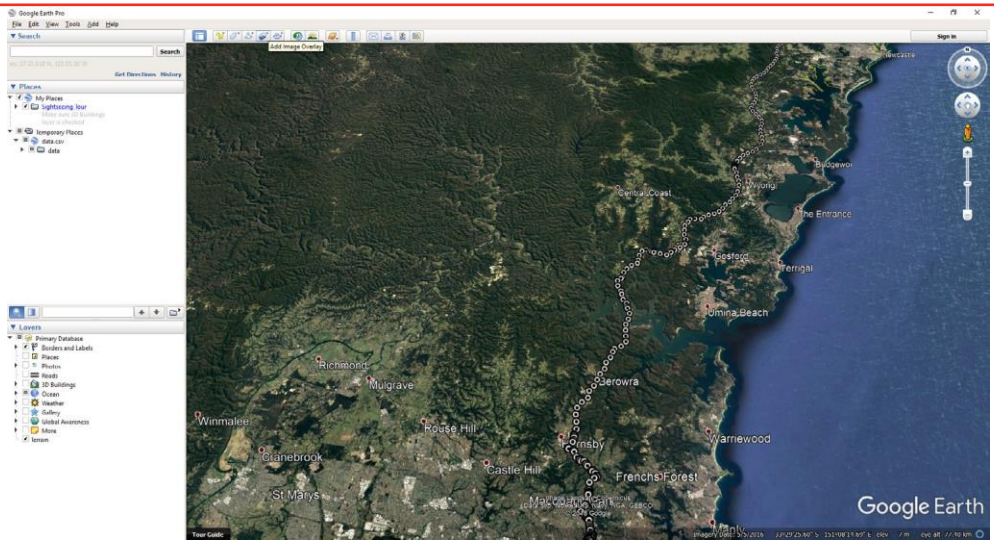
Data from the unit is stored in two separate csv format files – data.csv (automatic logging) and events.csv (user defined event logging). To access the files, simply plug the device into a PC, the unit will behave as an external drive, and files will be accessible from the My Computer menu as shown below.



Viewing Data

The GPS data can be viewed in mapping software such as Google Earth Pro, available to download for free.
To import the data, open Google Earth Pro and go to the file menu > import the select the csv file you wish to view. When importing data the user will be prompted to apply a style template to the data. Selecting no will import all data points in the generic format shown below.
Imported data is displayed in the Temporary places folder on the left hand side of the application screen. Select the check box to display the data points on the map.

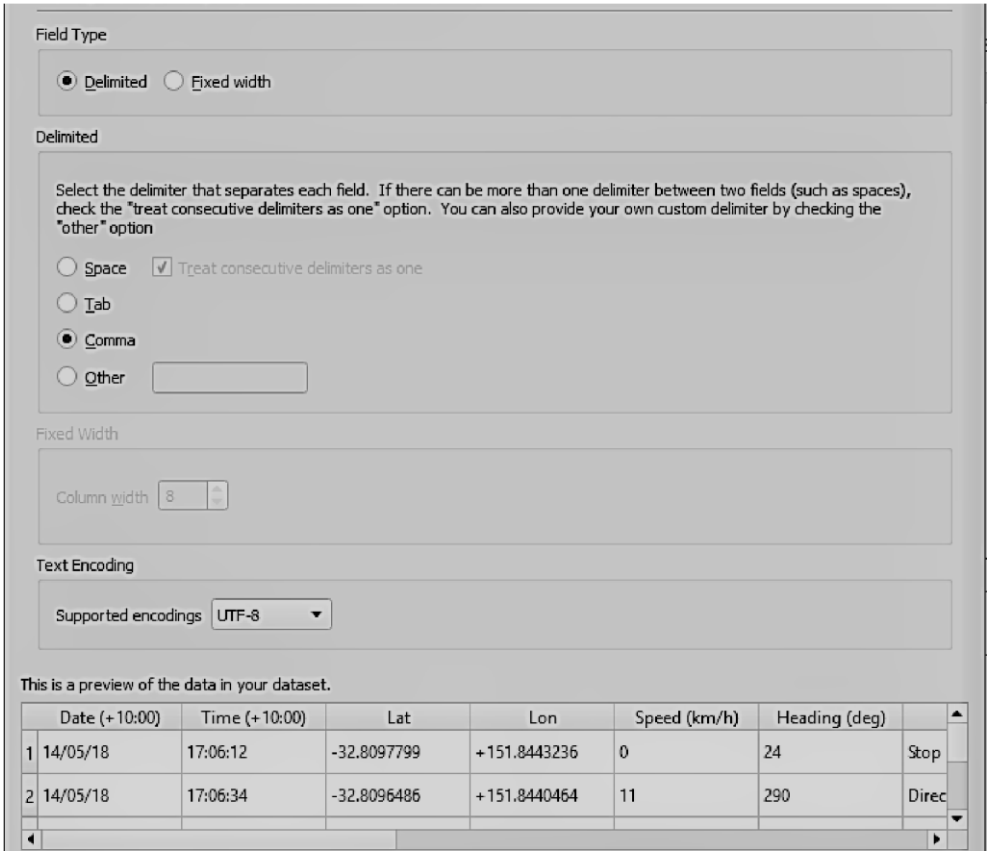
4 OPERATION


Google Earth Pro
File Edit View Tools Add Help
Search
Add Image Overlay
Sign In
Places
My Places
Sightseeing Tour
Temporary Places
data.csv
data
Layers
Primary Database
Borders and Labels
Places
Photos
Roads
3D Buildings
Ocean
Weather
Gallery
Global Awareness
More
Terrain
Tour Guide
Central Coast
The Entrance
Gosford
Terrigal
Umina Beach
Richmond
Mulgrave
Berowra
Winmalee
Rouse Hill
Warriewood
Glenbrook
Castle Hill
Frenchs Forest
St Marys
Google Earth

VIEWING TRIP DATA IN GOOGLE EARTH

Applying Style templates in Google Earth Pro

When selecting the file to import, the user will be prompted to apply a style template to the data.
Selecting yes gives the user the option to use an existing or create a new style template. Style templates allow the user to customise the data points names, colours, icons and height of display, based on the imported data. There are numerous ways to customise the imported data for the specific application.
One simple way is to create different icons for different dates. An example of this is shown below.



4 OPERATION

The software allows the user to define an icon for each date recorded in the data file to easily allow the display of travel for different days. Select the icon tab at the top of the Style template settings screen, check the set icon from field box, and select Date__UTC_ from the drop down menu. From there you can select an icon for each date, in the drop down boxes. Checking the create sub-folders for each bucket allows for easy display on the map, as shown on the following page.

In this case, Data is shown for two of the four selected dates, with different icons to make the trips obvious to the user.

There are many other online resources available that describe how to customise the import data to suit the user application.

5 DISCLAIMER

USE OF PRODUCTS

1. You, (the “Purchaser”), acknowledge that you have the sole responsibility of satisfying yourself that the goods supplied by Redarc Electronics Pty Ltd (ACN 009 971 794) atf the Redarc Trust trading as Hummingbird Electronics (“Hummingbird Electronics”) are suitable for the use of the Purchaser or any contemplated use of the Purchaser and that the Purchaser has conducted its own investigations and has not relied upon any information, statement, advice or representation by Hummingbird Electronics of or in relation to:

1.1 the operating and/or performance parameters of the goods;

1.2 the outcomes that the goods may achieve;

1.3 the suitability of the goods to any particular application, installation or physical environment; and

1.4 the appropriateness of the use of the goods outside Australia.

2 The Purchaser acknowledges and agrees that:

2.1 any representation as to the operating parameters of the goods provided by Hummingbird Electronics are representative of laboratory conditions;

2.2 the actual performance of the goods in situ might be affected by external factors (including without limitation environmental conditions) beyond Hummingbird Electronics’ control; 2.3 incorrect and/or negligent installation, application or use of the goods may cause loss of life, injury and/or damage to property;

2.4 Hummingbird Electronics makes no representation, warranty or assurance as to any of the matters listed in clause 1 and that Hummingbird Electronics shall not be liable for any loss or cost arising from those matters to the maximum extent permitted by law.

3. Hummingbird Electronics gives the warranties specified in the Warranty as being given by Hummingbird Electronics, and subject to and to the maximum extent permitted by law, excludes all other warranties in

relation to the goods, whether express or implied, including without limitation any warranty regarding merchantability or fitness for a particular purpose.

4. To the maximum extent permitted by law, Hummingbird Electronics excludes all liability in respect of the goods. To the extent that Hummingbird Electronics is not able to exclude liability under law, then to the maximum extent permitted by law Hummingbird Electronics' liability under the Warranty or otherwise in respect of the goods is limited as in accordance with the Warranty.

Free technical assistance!

please contact

New England Instrument Co
152 Bridge St Tamworth NSW 2340
Phone: 02 6765 8333
sales@neic.com.au
www.newenglandinstrument.com

HE-DOC043V2-1