

Wireless GPS Logger

RCV-3000



User Manual

Version: 1.0

HOLUX Technology, Inc.

No.1-1, Innovation Road1, Science-based Industrial Park, Hsinchu 300, Taiwan

TEL: 886-3-6687000 FAX: 886-3-6687111

Website: www.holux.com

All Rights Reserved

Table of Contents

Overview.....	4
Packing List.....	5
Main features	6
Technical Specification	7
Getting Started	9
Hardware Description.....	11
RCV-3000 Logger Track Logging and Mode Setting.....	13
Troubleshooting	18
Federal Communications Commission (FCC) Statement.....	19
EU Declaration of Conformity (DoC).....	21

Safety Precautions

- About the power adapter:
 1. Do not use the power adapter in a wet environment. When hands and feet are wet, do not touch the power adapter.
 2. While using the power adaptor, ensure that the area is well ventilated. Do not let paper or other material cover the power adaptor, as this will interfere with cooling. Do not use the power adaptor whilst it is in a bag.
 3. Do not attempt to repair the device. If device is damaged or is in a wet environment, replace the device immediately.

- About the battery:

Caution: Risk of explosion if battery is replaced by an incorrect type.

Dispose of used batteries according to the instructions.

Warranty Statement

- This warranty applies to parts and services that are manufactured and sold through HOLUX. The warranty length is one year from date of purchase (starting from the date on the sales receipt). Under normal user operation, HOLUX provides free repair services.
- HOLUX is not responsible for providing repairs or replacements of any software; HOLUX does not provide any warranty service for third party software/hardware.
- Important instructions
 1. Note: This warranty does not cover damage or malfunction from the below causes: unauthorized disassembly/modification of unit, abuse or incorrect usage, accidental and other unpreventable causes, operation under variables mentioned that are different from those in this product user manual, using parts not made or sold by HOLUX, or repairs done by anyone other than HOLUX and authorized retail/service providers.
 2. Expendable parts are not covered in the warranty.
 3. HOLUX is not responsible for any program, data, or portable storage media damages or loss. Please contact your local HOLUX authorized service provider to learn more about geographical limitations, proof of purchase requests, response time agreements, and other specific maintenance service requests.

Copyright Information

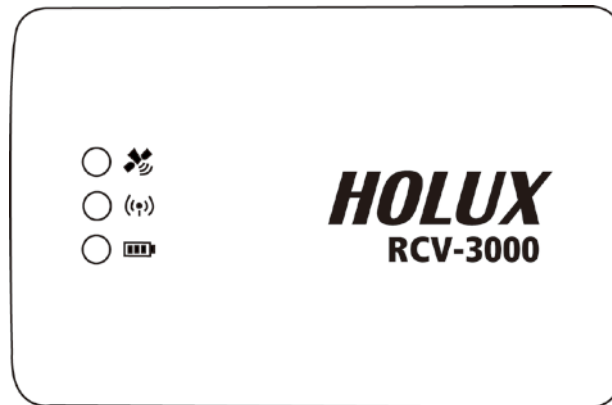
No part of this manual, including the products and software described in it, may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language in any form or by any mean, without the express written permission of HOLUX Technology, Inc.

Copyright, All Rights Reserved.

Technical Support

- If there are any questions regarding the use of this product, please log on to the website www.holux.com and see the FAQ.

Overview



The HOLUX **RCV-3000 Wireless GPS Logger** allows users to store of up to 250,000 GPS coordinates of latitude, longitude, time, and elevation. The data can be analyzed by uploading to a computer through its USB/ Bluetooth connection. Once the coordinates and the digital images are integrated, the tracking history and the location the images were taken can be shared through ezTour or Google Earth.

The HOLUX **RCV-3000 Wireless GPS Logger** is a total solution GPS Logger with Bluetooth, USB interface and built-in rechargeable battery for high sensitivity to tracking signal. **RCV-3000** design is based on MediaTek Inc. (MTK) GPS solution-MT3333 low power Architecture. With the advanced technology, **RCV-3000** can search up to 66 satellites simultaneously, re-acquires satellite signals in 0.1 microseconds and updates position data per second.

RCV-3000 is a dual-function GPS Logger. Not only transmit satellite information through the PC or Notebook by Bluetooth interfaces but also is a G-Mouse GPS Logger through a HOLUX designed data cable to deliver satellite signal to the device without Bluetooth interface.

RCV-3000 meets the requirement of field application, such as car navigation, mapping, agriculture surveying and security use under clear view of sky. **RCV-3000** contacts to other device through Bluetooth interface, and built-in rechargeable Li-ion battery to save satellite information such as the status of satellite signal, the previous available location, date and time.

Packing List

Thank you for purchasing the Wireless GPS Logger- RCV-3000. Before you start, make sure that the following items are included in your package. If any of these items are missing, please contact your original local HOLUX dealer or distributor.

- **RCV-3000** Wireless GPS Logger 1 Set
- Battery 1 Set
- Mini USB Cable 1 Set
- **RCV-3000** Quick Guide 1 Pcs

Main features

- 1). Built in MTK MT3333 Low power consumption GPS chipset.
- 2). 66 parallel satellite-search channels for fast acquisition and reacquisition.
- 3). Superior sensitivity up to -165dBm (in tracking mode).
- 4). Built-in WAAS/EGNOS/MSAS Demodulator without any additional hardware.
- 5). Compatible with Bluetooth Serial Port Profile (SPP) completely.
- 6). Low power consumption. Built-in rechargeable and changeable Lithium-ion battery, the working time can last 12 hours maximum.
- 7). Provide expand terminal contact to other system without Bluetooth device.
- 8). Support NMEA0183 V 3.01 data protocol
- 9). 3 color-LEDs indicate to show the status of device.
- 10). FLASH based program memory. New software revisions upgradeable through serial interface.
- 11). Small, sleek, and lightweight design easily fits in your hand.
- 12). Over-Temperature protection
- 13). Enhanced algorithms -SnapLock and SnapStart provide superior navigation, performance in urban, canyon and foliage environments.
- 14). For Car navigation, Marine navigation, Fleet management, AVL, Personal navigation, Tracking System, and Mapping device application.

Technical Specification

Basic Specification	<ul style="list-style-type: none"> • Chipset: MTK MT3333 chipset. • Channels: 66 parallel satellite-search channels • Frequency: L1, 1575.42 MHz (GPS), L1, 1602Mhz(GLONASS) • Receiver: L1, C/A code. • Built-in 4MB flash memory capable of recording 250,000 points of GPS data
Acquisition Time	<ul style="list-style-type: none"> • Reacquisition < 1 second • Cold start < 35 seconds • Warm start < 33 seconds • Hot start < 1 second <p>* The above data are based on specifications of the MTK GPS chip</p>
Receiver Accuracy	<ul style="list-style-type: none"> • Normal: < 3 meters CEP without SA • Enable EGNOS or WAAS: Position: < 2.2 meters, horizontal 95% of time < 5 meters, Vertical 95% of time • Velocity: within 0.1 meters / second • Time: 0.1 microsecond synchronized GPS time
Use Limitation	<ul style="list-style-type: none"> • Altitude: < 18,000 meters (60,000 feet) • Velocity: < 515 meters/ second (1000Knots) • Acceleration: 4 G • Jerk: 20 meters / second³, max
Power Supply	<ul style="list-style-type: none"> • External Voltage: 5V DC +/-5% • Batteries: Main Power: Built-in rechargeable Lithium-ion for system power. • Power Consumption: 50~60mA (Normal mode)/ 25mA (Power Saving). • Auto Power saving mode. • Circuit protection on RCV-3000 when over-temperature condition 50°C occurs.
Output and Interface	<ul style="list-style-type: none"> • Output <ol style="list-style-type: none"> I. Output protocol Baud Rate: 38400 bps Data bit: 8 Parity: No Stop bit: 1 II. Format. NMEA0183 V3.01: GPGGA (1time/1 sec), GPGSA (1 time/5 sec.), GPGSV (1time /5 sec.), GPRMC (1time /1 sec.), GPVTG (1 time/1 sec), (GLL, or MTK NMEA Command for optional). III. Datum: WGS84.

	<ul style="list-style-type: none">• Input/ Output Interface:<ul style="list-style-type: none">I. Compatible Bluetooth Serial Port Profile (SPP), Version1.2 and class 2 (up to 10 meter range).II. In/Out Port. GPS signal (Out)/ Command (In) with USB Level Mini USB Type B Connector.
Physical	<ul style="list-style-type: none">• Size: 62.5 × 41 × 17.1 mm• Weight: < 53 g• Operating Temperature: -10°C to + 60°C (under the un-charging condition); Charging Temperature: 0°C to + 45°C• Storage Temperature: -20°C to + 60°C• Operating humidity: 5% to 95% No condensing
Other Functions	<ul style="list-style-type: none">• Bluetooth frequency: 2.4 ~2.48GHz• Bluetooth Input Sensitivity: -85dBm• Low sensitivity of receiving satellite signal: -165 dBm• LED Functions: Indicate Bluetooth status, GPS status, Battery Status and Battery charging status• RF Frequency range: 2402~0480Mhz Max output power: -30dBm

Getting Started

STEP 1. Charge Battery

Please charge battery till LED off for the first time.

Power cable plug in Power cable connect to power socket



Charge Battery

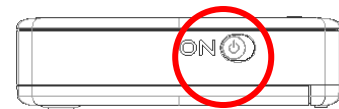
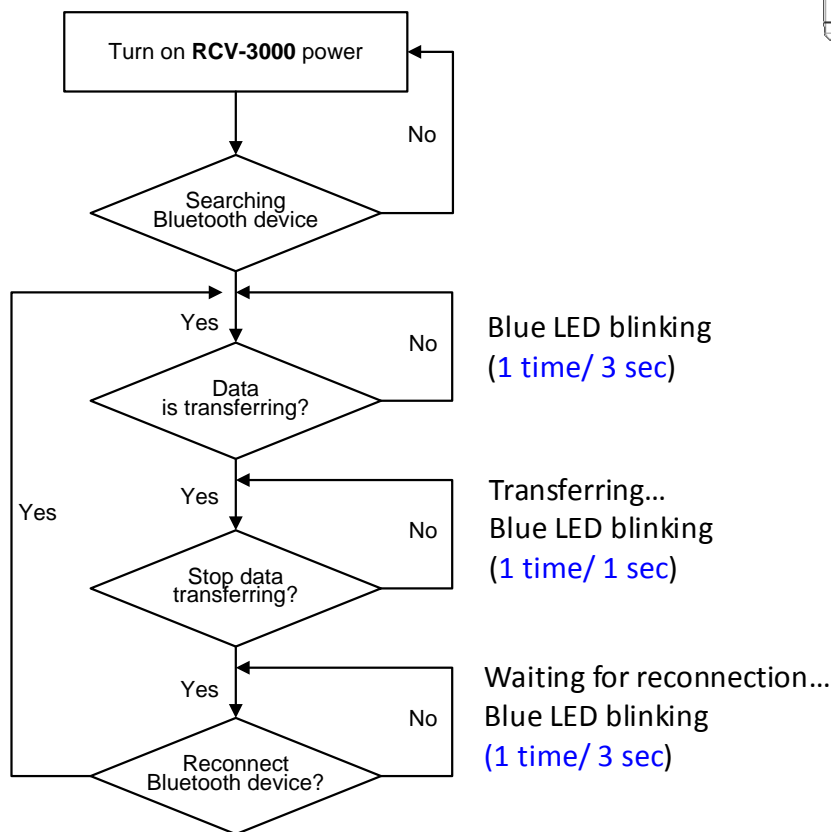
Battery indicator light:	Power too low -----	Red LED on
	Charging -----	Green LED on
	Full or Not in charging ----	LED off



Mini USB socket

STEP 2. Turn on the power

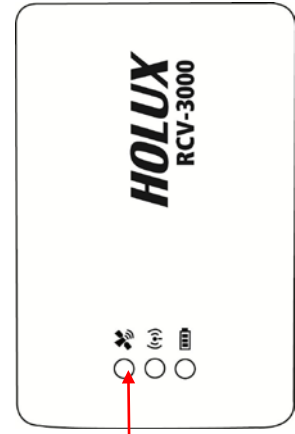
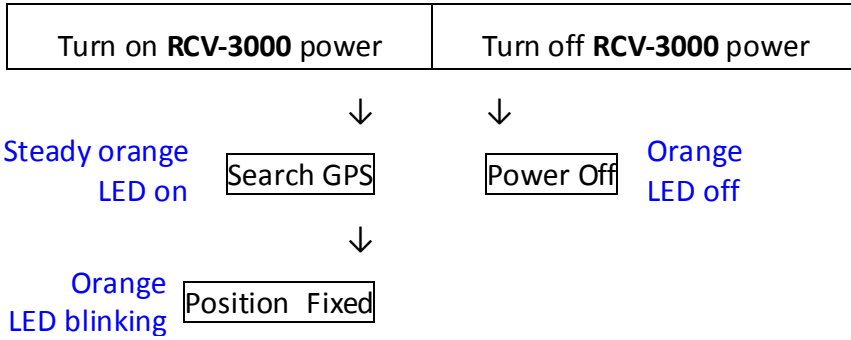
Bluetooth Status —



Power switch

GPS Status—

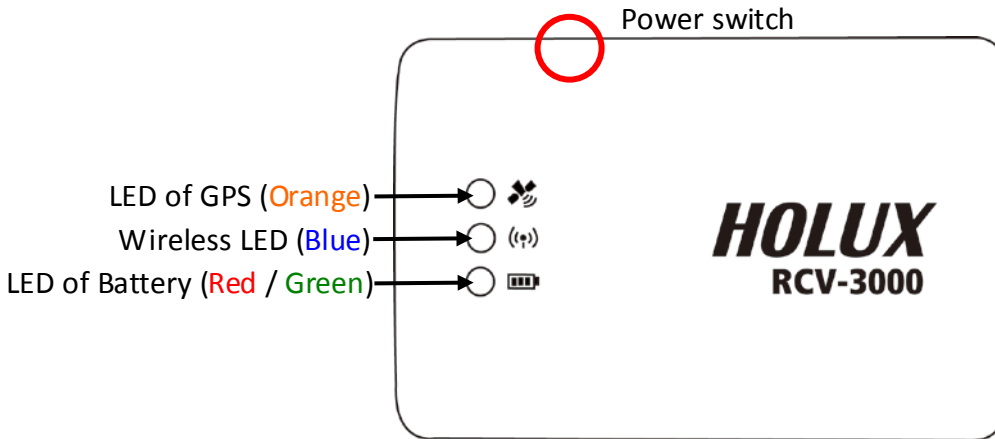
Put **RCV-3000** in clear view of the sky without any obstruction for better satellite acquiring.






Orange LED

Hardware Description

RCV-3000 Body description



LED status

SYMBOL	COLOR	STATUS		DESCRIPTION
 Bluetooth	Blue	Blinking	1 time / 1 sec	Transferring Data
			1 time / 3 sec	Standby Mode
			1 time / 3 sec	Search Bluetooth Device
 Battery	Red	Light on		Power too low
	Green	Light on		In charging
	N/A	Light off		Battery full or Not in charging
 GPS	Orange	Light on		Acquiring Satellites
		Blinking	1 time / 1 sec	Position Fixed

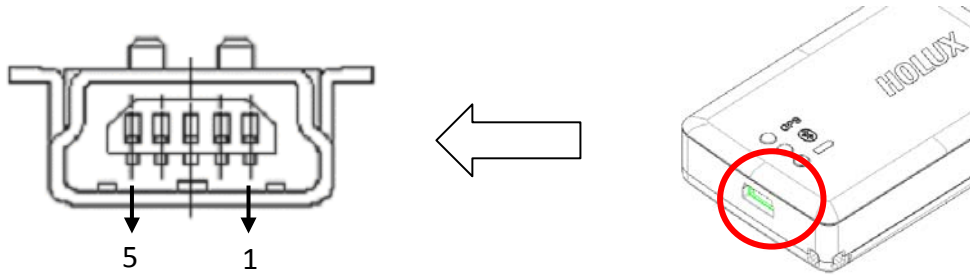
Power Switch

Power on	Orange light is on.
Power off	Orange light is off.

Power Jack & Data Port

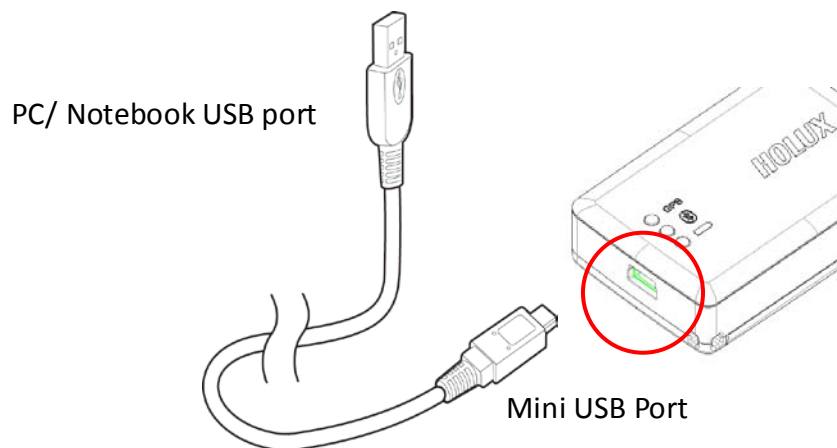
Jack type: Mating face of 5 pin Mini USB Type B female.

Pin definitions see following table.



Pin	Pin Name	Signal and description
1	VCHARG	Positive terminal of DC adaptor that powers the internal charging circuit of Li-Ion battery. The approved power supply is 5.0V +/- 5%@850mA.
2	D_Minus	Receive Data. Form peripheral to organizer. (Voltage level is 3.3V ~ 5.0V).
3	D_Plus	Transmit Data. From organizer to peripheral. (Voltage Level is 3.3V ~ 5.0V).
4	NC	
5	GND	Signal ground, Battery charging ground.

Optional accessories and connector description



RCV-3000 Logger Track Logging and Mode Setting

Data Logging

When the power is turned on, the device will automatically search for satellite positioning (orange LED on), and then logging will begin. When the power is switched off, the logging will stop. When the power is turned on again, it will once again conduct satellite positioning and start logging.

To download the recorded track log and view it on your computer, firstly you will need to install the bundled **ezTour**.

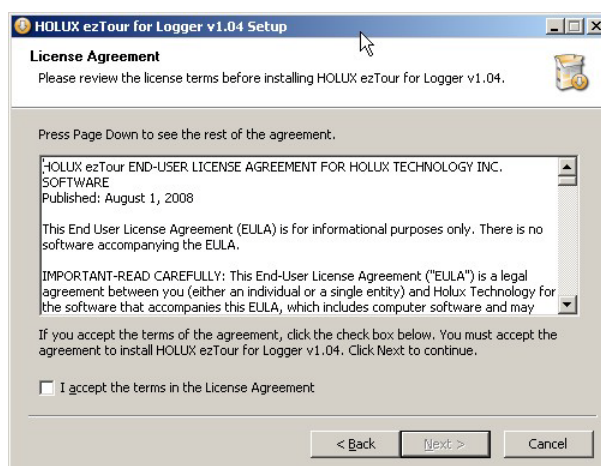
Installing ezTour

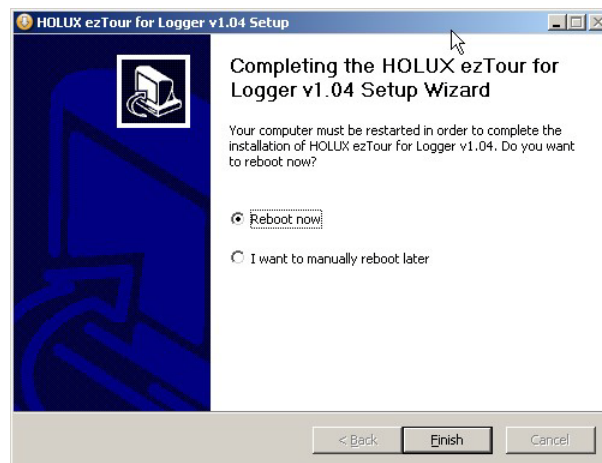
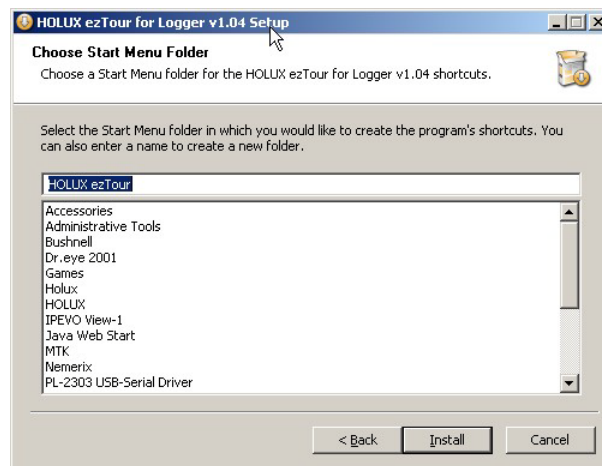
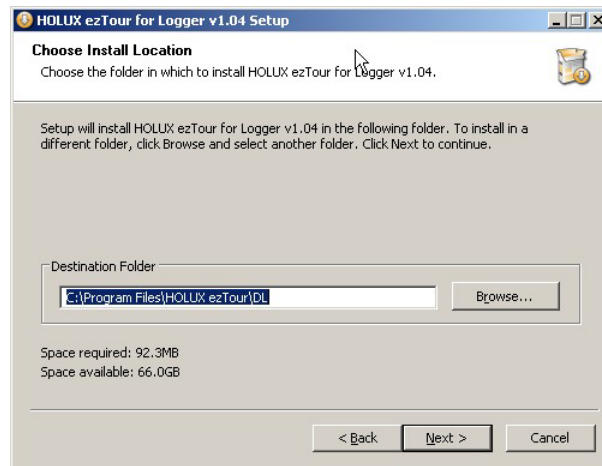
1. From HOLUX website to download and install ezTour software.

<http://market.holux.com/Software/SU/>




2. Click Next to begin the installation. The License Agreement screen opens.
3. Read the agreement, click I accept the terms of the license agreement, then click Next.
4. Follow the on-screen instruction to proceed. The installation wizard will guide you through the steps.



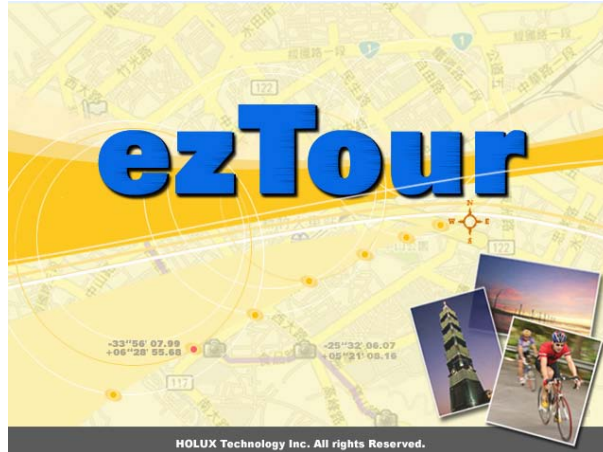


Click Finish to exit the wizard.

Starting ezTour

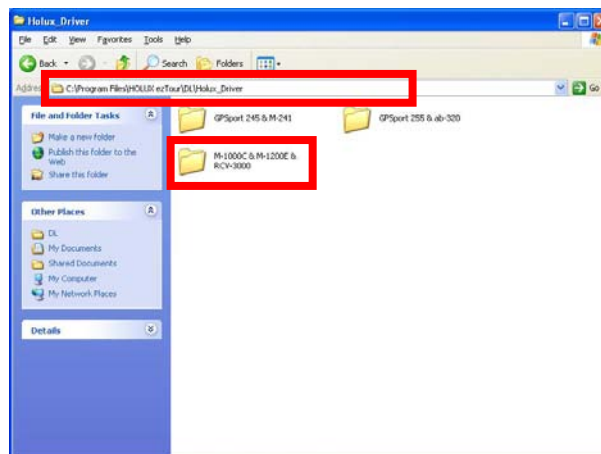
Once the **ezTour** is well installed in your computer, the ezTour icon  will appear on your desktop as a shortcut. Double-click the icon to start ezTour.

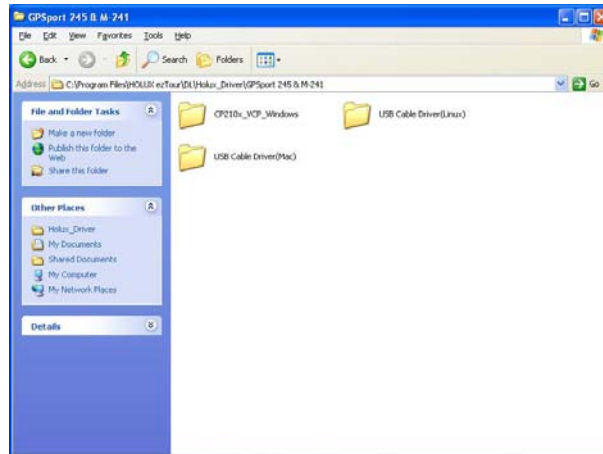
The following opening screen appears and you are ready to use the software.



Installing Driver

1. After the ezTour is installed, you can open the "Holux_Driver" folder and install driver.
For 32bit OS: the path is "C:\Program Files\HOLUX ezTour\DL\Holux_Driver".
For 64bit OS: the path is "C:\Program Files(x86)\HOLUX ezTour\DL\Holux_Driver".

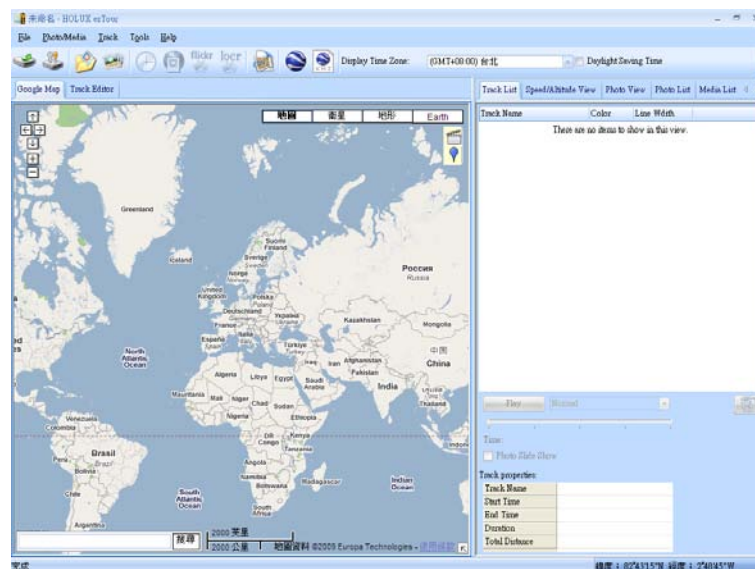




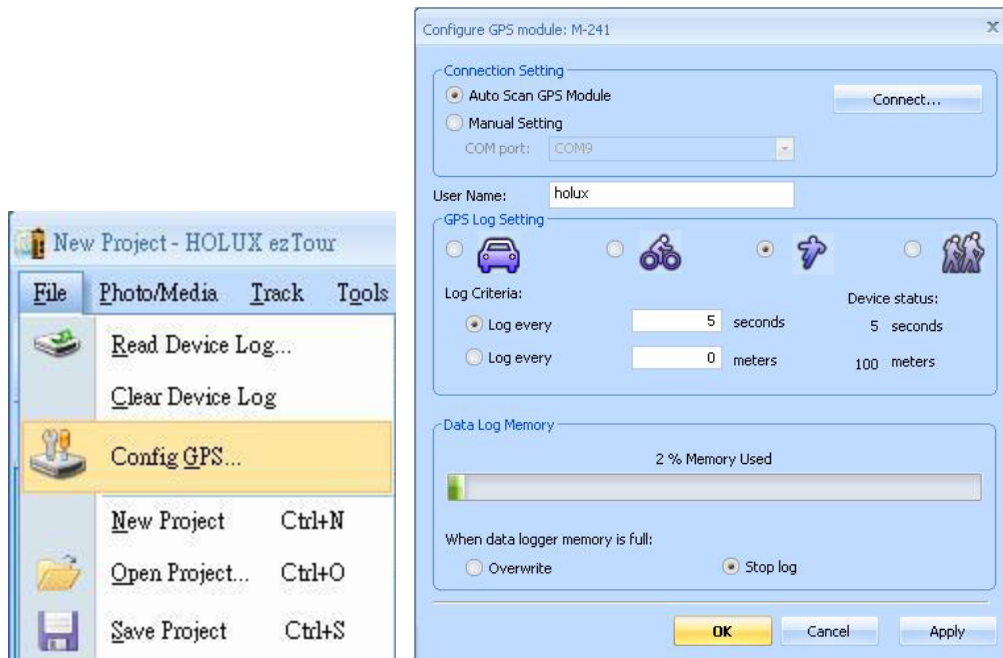
2. Select "RCV-3000" folder, and click the driver program that you need to install.
3. Follow the on-screen instruction to proceed. The installation wizard will guide you through the steps. Click Finish to exit the wizard.

GPS Data Logging Mode Setting

1. Install ezTour onto a PC or notebook. (see ezTour instructions manual for installation)
2. When the application runs, the following main screen can be seen:



3. From the Menu bar select [Setup GPS Logger] to bring up the settings window



4. Make sure that the RCV-3000 is connected to a PC or notebook, and select [reconnect] or [manual settings]
5. The logger can be set to record by a set time or set distance. The conditions for recording can be set the following ways:
 - (1) Select car, bicycle, exercising, or walking mode.
 - (2) Manually set the time or distance.
6. When the logger's data storage is full, there are two modes to choose from:
 - (1) Rewrite: When the data is full, data will begin to be rewritten, overwriting the data from the beginning.
 - (2) Terminate: When the data is full, the logger will cease to record any further data.
7. Press [Confirm] to start logging according to the new setting.

Data Read

When the logger RCV-3000 is connected to a PC or notebook through USB or Bluetooth, the data can be extracted through ezTour. Please see ezTour instruction manual for details.

Troubleshooting

Problems	Possible Reasons	Methods
No GPS output but GPS timer is counting	Weak or no GPS signal at the place of RCV-3000	Test under open sky at a fix location and re-start the device.
	The ephemeris and almanac data in GPS memory is no longer valid after no use for a long time.	Remove the Battery for 3 seconds and re-insert, then power on to test again.
Execute fail	Bluetooth function unstable	Power On/Off RCV-3000. Re-start PC or NB and re-connect the device.
Can not open the COM port	Bluetooth connection interrupted or COM port is conflicted/ occupied by other programs.	Check the Bluetooth connection again, Check and close other programs that might conflict with.
Can not find RCV-3000	Poor Bluetooth connection	Re-start PC or NB and re-connect the device.

Federal Communications Commission (FCC) Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution:

Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

For product available in the USA/Canada market, only channel 1~11 can be operated. Selection of other channels is not possible.

RF Exposure Warning

This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to End-users and installers must be provided with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance

FCC Exposure Statement

This equipment complies with RFCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum 20cm between the radiator and your body.

RF Exposure information- CE

This device meets the EU requirements (2014/53/EU) on the limitation of exposure of the general

public to electromagnetic fields by way of health protection.

This equipment should be installed and operated with minimum distance 20 cm between the radiator and your body.

EU Declaration of Conformity (DoC)

Hereby we,

Name of manufacturer:	Holux Technology, Inc.
Address:	No. 1-1, Innovation Road 1, Science-Based Industrial Park, Hsinchu 30076, Taiwan, R.O.C.
Zip code & City:	Hsinchu 30076
Country:	Taiwan
Telephone number:	+886 3 6687000

declare that this DoC is issued under our sole responsibility and that this product:

Product description:	Wireless GPS Logger RCV-3000
Type designation(s):	RCV-3000
Trademark:	Holux
Batch / Serial number:	-

Object of the declaration (further identification of the radio equipment allowing traceability; it may include a color image for the identification of the radio equipment):

RCV-3000 have BT 2.0, MediaTek High sensitivity GPS chipset is in conformity with the relevant Union harmonization legislation: Radio Equipment directive: **2014 / 53 / EU** and other Union harmonization legislation where applicable:

with reference to the following standards applied:

EN 300328 V2.1.1(2016-11); EN 303413 V1.1.1(2017-06)

EN 301489-19 V2.1.0(2017-03); EN301489-17:V3.1.1(2017-02) ;

EN 301489-1: V2.1.1(2017-02)

EN 61000-3-2:2014; EN 61000-3-3:2013

EN 62479:2010

EN60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013

The Notified Body Telefication B.V., with Notified Body number 0560 performed:

Modules B+C

Where applicable:

The issued EU-type examination certificate:

Description of accessories and components, including software, which allow the radio equipment to operate as intended and covered by the DoC:

.....

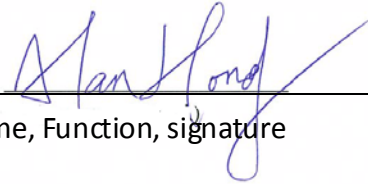
HW version:V01.....

SW version:V1.00.....

Signed for and on behalf of:

Hsinchu 2017/ 11/ 01

Place and date of issue



Name, Function, signature