

Operating Notes and Cautions For Use of TTL-1000

- **Recommended installation** for reception is the dash of a vehicle in full view through the windshield. See detailed user manual about receiving and "fixes".
- **Install the SD Memory** card with label facing up as you look at the top cover of the TTL-1000. The card cannot be installed wrong without forcing and resulting in damage.
- **SD Memory can be replaced** with Toshiba® or SanDisk® memory cards. Other memory cards may cause TTL-1000 to perform below expectation.
- **TTL-1000 may require additional warm up** time before acquiring a fix in the lower extreme of it's operating temperature range. This is normal.
- **These are some areas where temporary loss of signal** may occur:
 - Tunnels and parking garages
 - Areas with tall buildings, heavily wooded forests
 - Underneath bridges or overpasses.
- **Operating software is copyrighted** by manufacturer and may not be duplicated.
- **No user serviceable parts** are available in the unit. Do not disassemble. You may void manufacturer's warranty.
- **Manufacturer is not responsible** for operation resulting in damage to vehicles or injury to persons from improper installations or use.



11535 West 83rd Terrace
Lenexa, KS 66214

Tele:
FAX:
Toll Free U.S.

913-859-9515
913-859-9550
800-456-2071

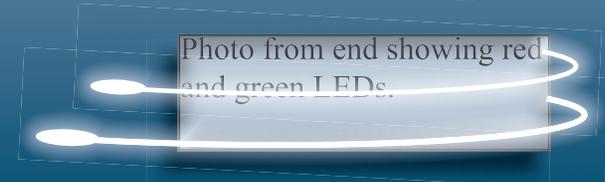
TTL-1000 User/Install Guide

"The Trace" GPS Tracking Logger

The "Black Box" for Any Vehicle

Easy Installation
Interface to e-Mapping
Track Vehicle Mileage/Costs
Simplify IRS Record Keeping
Pull Maintenance Reminders
Validate Mileage/Locations
Store 3650 Hours of Data (5 months)

SiRF III GPS Receiver Technology



Detailed User Manual Included on SD Memory Card

TTL-1000 Instructions and Status Indicators

Getting Started The SD Memory in the TTL-1000 is already formatted to begin recording driving data. Follow the instructions in this guide for installing the unit. Start driving and recording data. When you are at your PC and prepared to install the software for reporting the data, you will already have driving data to copy and use in a report. The unit will record as much as 5 months worth of data. So you will have adequate time to install the PC software and start using the reporting features.

After you have installed the unit and "plugged" in the power cord, the unit's green LED will flash on/off until it initializes and gets a "fix" from the satellites. When the Green LED is on solid the unit is ready to record driving data. Read the following descriptions for indicators so you will know what is happening with the unit if the status indicators change. Start driving.

Red and Green LED On Solid TTL-1000 will show solid Red and solid Green LEDs when powered on and operating correctly. Red LED is always on when "plugged in" to 12 VDC power. If Red LED is not on, check connection to TTL-1000 and Cigarette Lighter Plug (12 VDC).

Beeping On/Off TTL-1000 will beep on/off in one second (1sec) intervals when turned on for the first time, or when turned on after a long period of "down" time. Wait for initializing to finish. No data is recorded during this time. If immediate records are required don't drive until initializing is done.

Beeping 2 Short, One Long The unit will beep two short (1/10 sec) beeps and one longer (1/2 sec) beep indicating that the SD Card is not formatted by the software. This warning will also sound if the SD Memory card is inserted improperly. However, it is not possible to insert the card wrong without damage to the card or TTL-1000 or both.

Beeping 4 Short Every 30sec The unit will sound four short (1/10 sec) beeps (green light will flash) in 30 second intervals when the SD Memory card has 10 hours of space remaining. The unit will stop recording when full to avoid losing recorded data. After full, the memory card must be downloaded (copied) to the PC hard drive and data deleted from the card in order to continue recording. Or, a new card must be formatted and inserted in the TTL-1000.

Green LED Flashing On/Off Repeating The green LED will flash on/off in one sec. intervals when the satellite "fix" has been lost. Wait to regain the fix or move if vehicle is under an obstruction. The unit will retain the last good "fix" and maintain a record of distance to the next "fix".

Green LED Flashing 4 Times Quickly Green LED will flash four times quickly in 1/10 sec. intervals repeating every 30 secs. when the current date/time is outside the preset designated recording times. Example... if the unit is set to record data between 8:00 AM and 5:00 PM weekdays, it will not record data after 5:00 PM or before 8:00 AM. Use the PC software to change the recording settings if other recording times are required. The "default" setting when the unit was shipped is all 24 hours and every day. See the manual for the PC software for detailed information about setting recording parameters.

TTL-1000 Specifications

SiRF III	Latest GPS receiver technology
Satellite Support	Up to 20 satellites
Power	12 VDC (Cig Lighter Plug)
Current Draw	Min 50 mA, Max 80 mA
Memory	1 G SD Memory Card
Size	67 X 67 X 17 mm (2.6 X 2.6 X .7in)
Weight	65g (2.3 oz)

TTL-1000 Installation

Locate TTL-1000 The optimum location for the unit is on the dashboard of the vehicle in full (satellite) view through the windshield. However, the TTL-1000 has excellent receiving strength. So the unit may be mounted anywhere that the unit can still get signal uninterrupted by metal or other signal blocking material. The unit can be mounted in a composite storage compartment that is exposed to view from the vehicle windows without significant signal loss. Decide a location that is within reach and will allow for routing of the power cable from the cigarette lighter receptacle to the unit.

Install the mag mount Clean the area where the unit is to be mounted removing dust or oil. Remove the adhesive back from the round magnetic mounting pad. Press the magnetic pad onto the mounting position. Let the TTL-1000 become attached to the magnet by holding the unit with metal plate down above the magnetic mount. Rotate the unit to desired position.

Route the power cable Plan the power cable route to avoid interfering with any vehicle controls and potential damage to the cable. Use the supplied cable routing clips to position the cable neatly from the cigarette lighter (cig lighter plug) to the TTL-1000 power connection (TTL power connector). Secure the cable in the clips.

Insert the SD Memory Card If the memory card is not inserted in the TTL-1000, find the slot between the red and green LEDs and insert the SD Memory (Brand label up) in the slot with the beveled corner going in first. Insert the card until a click is noticed and the card is being held in the unit. Pushing again on the card until a click is noticed will release the card.

Connect the TTL-1000 Connect the power connector at the unit. When you are ready to drive and record, connect the cigarette lighter plug into the cigarette lighter receptacle.

TTL-1000 Package Contents

TTL-1000	SD Memory Card
Magnetic Mount	SD Memory Card Reader
Power Cord	Cable Routing Clips
PC Software (Loaded on SD Card)	