



Speedtrac Getting Started

By Hyper Terminal

Version : 6.07.01
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1. Introduction

I. Package contents:

1. Speedtrac x 1
2. M12-V cable x 1 (with waterproof connector, 8-pin cable and surge protector) – For vehicle installation






3. M12-R cable x 1 (with waterproof connector, RS-232 connector) – For configuration
4. AC adapter x 1 (Only available in the testing sample package)
5. Vehicle power adapter x 1 (Only available in the testing sample package)

II. M12-V Cable pin assignment:

PIN	Color	Name	Description	Range
1	Red	PWR	Power supply input	DC, 12V~24V +- 5% Imax <= 2A
2	Black	GND	Ground	0V
3	Brown	Digital Input 1	Reserved for Ignition Input (ACC Input)	High : 12V~24V Low : 0V
4	Purple	Digital Output 1	General purpose Digital Output	500 mA max @ 12V~24V
5	Blue	Digital Output 2	General purpose digital Output	500 mA max @ 12V~24V
6	Green	Digital Input 2	General purpose digital input (Positive trigger)	High : 12V~24V Low : 0V
7	Yellow	NC	Reserved	
8	Orange	NC	Reserved	

III. Speedtrac LED indicators:

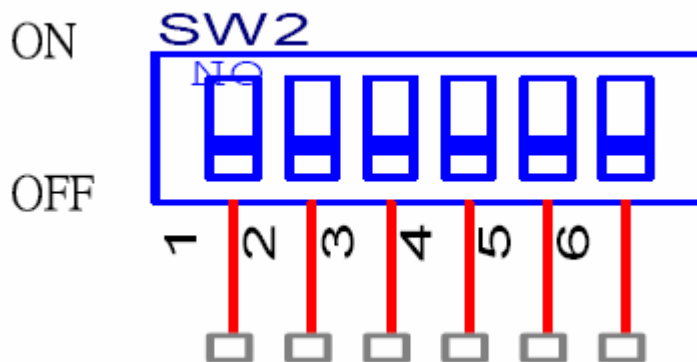
PWR		ON: System Error OFF: System Error Flash: System running(1sec ON 1sec OFF)
GSM		OFF: GSM module OFF or Error, No SIM Card, Searching networks) Flash: GSM registered (0.5sec ON 0.5sec OFF) Flash: GPRS connecting (0.25sec ON 0.25sec OFF) ON: Socket session online (connect to tcpserver running on the Gateway Server which is the Primary Server of a tracker)
GPS		OFF: GPS module OFF or Error Flash: Searching GPS signal ON: GPS fixed

FCC warning statement

This model complies with part 15/22H/24E of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference. 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.

Speedtrac mode-selection switch:

1. There is a switch when opening the battery cover of Speedtrac. It is designed to select different modes of Speedtrac. There are 3 modes of Speedtrac.
 - A. **Installation mode:** Use M12-V cable to install Speedtrac in the vehicle. 2 Digital Inputs (Including 1 x ignition input) and 2 Digital outputs are available in Installation mode.
 - B. **Debug mode:** Use M12-R cable to connect to PC COM port for configuration.
 - C. **Download mode:** Use M12-R cable to connect to PC COM port to download the new firmware of Speedtrac.
2. The three-mode selections are listed below:



A. Installation mode (with 2xDI and 2xDO):

	1	2	3	4	5	6
ON		V		V		V
OFF	V		V		V	

B. Debug mode (Configuration):

	1	2	3	4	5	6
ON	V		V			V
OFF		V		V	V	

C. Download mode (Update firmware):

	1	2	3	4	5	6
ON	V		V		V	
OFF		V		V		V

2. Configuration by Hyper Terminal

I. Hardware and Software preparation


1. Remove the battery cover of Speedtrac and insert a SIM card with GPRS service enabled. Lock the SIM card.
2. Adjust the mode-selection switch to 'Debug mode' (1-3-6 ON, 2-4-5 OFF).
3. Use a M12-R cable (with a RS-232 connector) to connect Speedtrac to a PC COM port.
4. Open Hyper Terminal (or other terminal program) at Windows Start Menu:
All Programs\Accessories\Communications\Hyper Terminal.
5. Add a new connection, enter Name as 'Speedtrac'. Click "OK" and select the COM Port for the Speedtrac connection.





6. Set the Baud rate as 38,400 bps and Flow control as none. Press "OK".



7. Connect the M12-R cable power-plug to the AC adapter and press the 'ESC' key of the PC keyboard within 3 second after the tracker is POWER ON until the text messages show on the Hyper Terminal screen. In doing so, Speedtrac boots on 'Debug Mode' (Configuration Mode).
8. Normally, the first LED  is flashing constantly which means the Speedtrac is POWER ON and running. It shows the following messages on the Hyper Terminal.

Speedtrac Version : EZ960903

- Build Date : Spe 03 2007
- Build Time : 18:11:39
- Serial Number : EZ2000000139
- Unit ID : 2000000139
- IMEI : 352021002964245

Type "H" for the Debug Mode Commands Menu.

\$> **<Press Enter>**

Invalid Command

\$>H

9. If you don't see the above messages on the Hyper Terminal or if there is no response when you press 'Enter' of the Keyboard, please check the settings of Hyper Terminal and reconnect the power adapter. Otherwise, please send an email to support@oriontech.com.tw for technical support.

II. Basic Configuration

1. Type 'H' to show the **Command Menu**. All commands should be **UPPER CASE**.
2. Use 'HW' command to show the hardware information.

\$>H

Speedtrac Debug Mode Command Menu:

- | | |
|-----------|---|
| CVCFG | - Clear Variable Configuration. |
| DCFG | - Restore Firmware Default Configuration. |
| HW | - Show Hardware Information. |
| LOG | - Display all Logs. |
| LOG_RESET | - Reset all Logs. |

FLASH_RESET	- Reset Whole FLASH Chip to 0x00.
SCFG	- Set Configuration.
T	- Test Mode.
\$...&	- Protocol Commands Test.

\$> **HW** <Press Enter>

Hardware Information

1. ModelName : Speedtrac SP3510
2. Speedtrac Hardware Version: V6
3. Manufacturing Date : 20070705
4. Manufacturing Place : Taiwan
5. Manufacturing Firmware Version : 0705MP
6. Speedtrac Serial Number : EZ2000000139
7. Speedtrac UnitID : 2000000139
8. Speedtrac GSM/GPRS Module Info : SIEMEMS MC55 04.00
9. Speedtrac GPS Module Info : RoyalTek REB-3310 1.3.5.56
0. Speedtrac Configuration Mode : FLASH

\$>

3. Use 'SCFG' command to enter 'Main Setting Menu'. Then type '1' to enter 'Basic Setting Menu'. For initialization or regular application, no basic setting needs to be changed.

\$> **SCFG** <Press Enter>

Main Setting Menu :

1. Basic Setting
2. GSM/GPRS Connection Setting
3. Gateway Server Setting
4. Function Variables Setting
E. Exit

Selection [1-3]? **1** <Press Enter>

Basic Setting Menu :

0. Configuration Version : 0A0
1. Speedtrac Firmware : 0705MP
2. Speedtrac UnitID : 2000000139 : [0000000000-4294967296]
3. Speedtrac User Password : 0000
4. Speedtrac Enable COM1 for DEBUG : YES : [NO|YES]
5. Speedtrac COM1 Baudrate: 38400 : [38400|19200|9600|4800]
E. Exit

Selection [1-9]?

Basic Setting Menu :

Field	Mandatory	Description
UnitID	<input checked="" type="checkbox"/>	Device Unit ID. Default value is the same as the serial number. Range from '0000000000' to '4294967296'. Other characters are not allowed. Maximum: 10 digits
Password	<input checked="" type="checkbox"/>	Default value : "0000". Range from "0000" to "9999".
Enable DEBUG	<input checked="" type="checkbox"/>	YES: Debug messages output to COM1 NO: No debug messages output to COM1
COM1 Baud rate	<input checked="" type="checkbox"/>	Default value: "38400" [38400 19200 9600 4800]

- When you finish the 'Basic Settings', type 'E' to return to 'Main Setting Menu'.

III. GPRS Connection Configuration

- Type '2' to enter 'GSM/GPRS Connection Setting Menu'. For initialization or regular application, no setting of this menu needs to be changed.

Main Setting Menu :

- Basic Setting
- GSM/GPRS Connection Setting
- Gateway Server Setting
- Function Variables Setting
- Exit

Selection [1-3]? **2** <Press Enter>

GSM/GPRS Connection Setting Menu :

- Speedtrac Switch Mode : GPRS : [AUTO|GPRS|SMS]
- Speedtrac GPRS Reconnect : 8 : [8-65535]
- Speedtrac SMS Duration : 180 : [180-65535]
- SIM PIN1&2 Setting
 - SIM PIN1 :
 - SIM PIN2 :
- GPRS Connection Setting
- SMS Connection Setting
- Exit

Selection [1-6]?

GSM/GPRS Connection Setting Menu :

Field	Mandatory	Description
Switch Mode	<input checked="" type="checkbox"/>	AUTO: The tracker sends reports by GPRS as first priority. When the GPRS service is not available, the tracker sends reports by SMS instead. GPRS: The tracker sends reports by GPRS only. SMS: The tracker sends reports by SMS only.
GPRS Reconnect	<input checked="" type="checkbox"/>	Default value : "8". Unit = 'time' Range from "8" to "65535". When Switch Mode=AUTO: The tracker will try to open GPRS connection M times. After retry M times, the tracker will send reports by SMS. When Switch Mode=GPRS: The tracker will try to open GPRS connection M times. After retry M times, the tracker will reboot itself and do it over.
SMS Duration	<input type="checkbox"/>	Default value : "180". Unit = 'second' Range from "180" to "65535". When Switch Mode=AUTO: The tracker will try to open GPRS connection M times. After retry M times, the tracker will send reports by SMS for N seconds. After N seconds, the tracker will try to open GPRS connection again.
SIM PIN1	<input type="checkbox"/>	PIN1 of the SIM card to be used in the tracker Default Value = "".
SIM PIN2	<input type="checkbox"/>	PIN2 of the SIM card to be used in the tracker Default Value = "".

2. Type '5' to enter 'GPRS Connection Setting Menu'. The GPRS connection parameters are provided by the Telecom operator.

Note: All GPRS connection parameters have to be correct, otherwise the tracker can not open GPRS connection successfully.

Selection [1-6]? **5** <Press Enter>

GPRS Connection Setting Menu :

1. GPRS Dial Number :
2. GPRS User Name :
3. GPRS Password :
4. GPRS APN : internet
5. GPRS Enable : START : [STOP|START|ACCON]
6. GPRS Report Interval : 30 : [15-65535]
7. GPRS SYNC Interval : 300 : [15-65535]
8. GPRS Filter : NO : [YES|NO]
9. GPRS DNS : 0.0.0.0
- E. Exit

Selection [1-9]?

GPRS Connection Setting Menu :

Field	Mandatory	Description
Dial Number	<input type="checkbox"/>	GPRS dialup phone number.
User Name	<input type="checkbox"/>	GPRS Login User Name
Password	<input type="checkbox"/>	GPRS Login Password
APN	<input checked="" type="checkbox"/>	Access Point Name
Enable	<input checked="" type="checkbox"/>	STOP : Stop the GPRS tracking action. The tracker sends SYNC packet by SYNC interval to the Gateway server to keep alive. START : The tracker sends GPS data over GPRS as long as it is powered ON. No matter the ACC (Ignition) is ON or OFF. ACCON : The tracker sends GPS data over GPRS only when the ACC is ON. When the ACC is OFF, the tracker sends SYNC packet by SYNC interval to the Gateway server to keep alive.
Report Interval	<input checked="" type="checkbox"/>	GPS data Report Interval. The unit is 'second'. Default Value = "30". Range from "15" to 65535".
SYNC Interval	<input checked="" type="checkbox"/>	SYNC packet Interval: The unit is 'second' Range from "150" to "65535".

		Default = 300 Seconds. Set longer Sync Interval to save GPRS cost.
Filter	<input checked="" type="checkbox"/>	YES : Filter the invalid GPS data. Only send the valid GPS data NO : Not Filter GPS data. Send all GPS data, no matter the GPS data is valid or invalid.
DNS	<input type="checkbox"/>	DNS Server IP address

- When you finish the 'GPRS Connection Settings', type 'E' to return to 'GSM/GPRS Connection Setting Menu'. Then type 'E' to return to 'Main Setting Menu'.

IV. Gateway Server Configuration

- Type '3' to enter 'Gateway Server Setting Menu'. **Note: The Gateway Server settings have to be correct, otherwise the tracker can not open GPRS connection and build a socket session with the Gateway Server correctly.**

Main Setting Menu :

- Basic Setting
- GSM/GPRS Connection Setting
- Gateway Server Setting
- Function Variables Setting
- Exit

Selection [1-3]? **3** <Press Enter>

Gateway Server Setting Menu :

- Server Resync Setting
 - Server Resync Enable : YES : [NO|YES]
 - Server Resync Time (min): 60 : [0-65535]
- Primary Gateway Server
 - Server IP : 220.128.135.215
 - Server Port : 9998 : [0-65535]
- Exit

Selection [1-2]?

Gateway Server Setting Menu :

Field	Mandatory	Description
Resync Enable	<input checked="" type="checkbox"/>	YES: the tracker will send a SYNC packet to the Gateway Server and request an ACK to verify the communication between the tracker and the Gateway Server is OK. If the tracker can not get the correct ACK from the Gateway Server, it will store the GPS data in the Flash Memory and try to reconnect to the Gateway Server. Note: Some internet disconnection problem can not be detected by the GSM module, the Resync mechanism can prevent long time disconnect problem.
Resync Time	<input checked="" type="checkbox"/>	Time interval of the tracker to send SYNC packet to the Gateway Server and request an ACK.
Server IP	<input checked="" type="checkbox"/>	Primary Gateway Server IP address or Domain Name, if using Domain Name. DNS Server IP address of GPRS connection settings is needed.
Server Port	<input checked="" type="checkbox"/>	The port number of the Primary Gateway Server to receive GPS data

2. When you finish the 'Gateway Server Settings', type 'E' to return to 'Main Setting Menu'.. All Gateway Server Settings have to be correct, otherwise the tracker can not connect to the Gateway Server successfully.

V. Function Variables Configuration – Mileage Report

1. Type '4' to enter 'Function Variables Setting Menu'. Then type '1' to enter 'Mileage Report Setting Menu'. The settings are to activate the 'Track by Distance' function.

Main Setting Menu :

1. Basic Setting
2. GSM/GPRS Connection Setting
3. Gateway Server Setting
4. Function Variables Setting
- E. Exit

Selection [1-3]? **4** <Press Enter>

Function Variables Setting Menu :

1. Mileage Report Setting Menu
2. ParkFence Setting Menu
3. GeoFence Setting Menu
- E. Exit

Selection ? **1** <Press Enter>

Mileage Report Setting Menu :

1. Total Mileage : 0.000000
2. Mileage Limitation : 0.000000
3. Distance Interval Track : 0.000000
- E. Exit

Selection ?

Mileage Report Setting Menu :

Field	Mandatory	Description
Total Mileage	<input type="checkbox"/>	The accumulated mileages of the tracker.
Mileage Limitation	<input type="checkbox"/>	A mileage limitation to send a 'logOverMile' Event Report when Total Mileage reaches this limitation. Then it will be reset to 0.
Distance Interval Track	<input type="checkbox"/>	A distance interval to send a 'logDistance' event report. The unit is 'mile'.

2. When you finish the 'Mileage Report Settings', type 'E' to return to 'Main Setting Menu'. Then type 'YES' to apply all settings to the Flash Memory.

Main Setting Menu :

1. Basic Setting
2. GSM/GPRS Connection Setting
3. Gateway Server Setting
4. Function Variables Setting
- E. Exit

Selection [1-3]? **E** <Press Enter>

Write to the External FLASH [YES|NO]? **YES <Press Enter>**

FLASH Sector Erase Start

Sector Number : 0x01 - Sector Address : 0x00010000

FLASH Sector Erase Done

Writing 0x0000053C Bytes

FLASH Reset Done

Done.

FLASH Sector Erase Start

Sector Number : 0x01 - Sector Address : 0x00020000

FLASH Sector Erase Done

Writing 0x0000069C Bytes

FLASH Reset Done

Done.

\$>

VI. Function Variables Configuration – ParkFence Setting

1. Use 'SCFG' command to enter 'Main Setting Menu'. Then type '4' to enter 'Function Variables Setting Menu'. Then type '2' to enter 'ParkFence Setting Menu'. The settings are to activate the 'ParkFence' function.

Main Setting Menu :

1. Basic Setting
2. GSM/GPRS Connection Setting
3. Gateway Server Setting
4. Function Variables Setting
- E. Exit

Selection [1-3]? **4 <Press Enter>**

Function Variables Setting Menu :

1. Mileage Report Setting Menu
2. ParkFence Setting Menu
3. GeoFence Setting Menu
- E. Exit

Selection ? **2 <Press Enter>**

ParkFence Setting Menu:

1. ParkFence Enable : NO
2. ParkFence Radius (mile) : 0.0000
3. Alarm Time Interval : 0
4. Moved Distance : 0.0000
5. Current ParkFence Status : 0
- E. Exit

Selection ?

ParkFence Setting Menu :

Field	Mandatory	Description
ParkFence Enable	<input checked="" type="checkbox"/>	YES : Enable ParkFence feature when the driver parks the vehicle. NO : Disable ParkFence feature.
ParkFence Radius	<input checked="" type="checkbox"/>	A Radius distance of the ParkFence to trigger a 'logGeoOut' event report. The unit is 'mile'.
Alarm Time Interval	<input type="checkbox"/>	A Time Interval to continuous trigger a 'logGeoOut' event report when the vehicle keeps staying outside of the ParkFence.
Moved Distance	<input type="checkbox"/>	Reserved. For debugging only.
ParkFence Status	<input type="checkbox"/>	Reserved. For debugging only.

1. When you finish the 'ParkFence Settings', type 'E' to return to 'Main Setting Menu'. Then type 'YES' to apply all settings to the Flash Memory.

Main Setting Menu :

1. Basic Setting
2. GSM/GPRS Connection Setting
3. Gateway Server Setting
4. Function Variables Setting
- E. Exit

Selection [1-3]? **E <Press Enter>**

Write to the External FLASH [YES|NO]? **YES <Press Enter>**

FLASH Sector Erase Start

Sector Number : 0x01 - Sector Address : 0x00010000

FLASH Sector Erase Done

Writing 0x0000053C Bytes

FLASH Reset Done

Done.

FLASH Sector Erase Start

Sector Number : 0x01 - Sector Address : 0x00020000

FLASH Sector Erase Done

Writing 0x0000069C Bytes

FLASH Reset Done

Done.

\$>

VII.Function Variables Configuration – GeoFence Setting

1. Use 'SCFG' command to enter 'Main Setting Menu'. Then type '4' to enter 'Function Variables Setting Menu'. Then type '3' to enter 'GeoFence Setting Menu'. The settings are to activate the 'GeoFence' function. We strongly recommend to use protocol command 'ActSetGeoFence' to finish the GeoFence configurations. But you can still use this menu for settings confirmation.

Main Setting Menu :

1. Basic Setting
2. GSM/GPRS Connection Setting
3. Gateway Server Setting
4. Function Variables Setting
- E. Exit

Selection [1-3]? **4** <Press Enter>

Function Variables Setting Menu :

1. Mileage Report Setting Menu
2. ParkFence Setting Menu
3. GeoFence Setting Menu
- E. Exit

Selection ? **3** <Press Enter>

Please Input GeoFence Group Number : [1-24] or E for Exit ==> 1
<Press Enter>

GeoFence Setting Menu Group Number 1:

1. GeoFence Enable : YES
2. Central Longitude :
E 121.000000 deg 31.0000 min 24.0000 sec = 121.523333 degree
3. Central Latitude :
N 25.000000 deg 2.0000 min 57.0000 sec = 25.049167 degree
4. GeoFence Radius (mile) : 0.5000
5. Inside Time Interval : 0
6. Outside Time Interval : 0
7. Moved Distance : 0.0000
- E. Exit

Selection [1-7]?

GeoFence Setting Menu :

Field	Mandatory	Description
Enable	<input checked="" type="checkbox"/>	YES : Enable the GeoFence Group. NO : Disable the GeoFence Group.
E W	<input checked="" type="checkbox"/>	E: East, W: West
Longitude degree	<input checked="" type="checkbox"/>	Central Longitude degree of the GeoFence
Longitude minute	<input checked="" type="checkbox"/>	Central Longitude minute of the GeoFence
Longitude second	<input checked="" type="checkbox"/>	Central Longitude second of the GeoFence
N S	<input checked="" type="checkbox"/>	N: North, S: South
Latitude degree	<input checked="" type="checkbox"/>	Central Latitude degree of the GeoFence
Latitude minute	<input checked="" type="checkbox"/>	Central Latitude minute of the GeoFence
Latitude second	<input checked="" type="checkbox"/>	Central Latitude second of the GeoFence
GeoFence	<input checked="" type="checkbox"/>	A Radius distance of the GeoFence to trigger a

Radius		'logGeoOut' or a 'logGeoOut' event report. The unit is 'mile'.
Inside Time Interval	<input type="checkbox"/>	A Time Interval to continuously trigger a 'logGeoIn' event report when the vehicle keeps staying inside of the GeoFence.
Outside Time Interval	<input type="checkbox"/>	A Time Interval to continuously trigger a 'logGeoOut' event report when the vehicle keeps staying outside of the GeoFence.
Moved Distance	<input type="checkbox"/>	Reserved. For debugging only.

2. When you finish the '[GeoFence Settings](#)', type '[E](#)' to return to '[Main Setting Menu](#)'. Then type '[YES](#)' to apply all settings to the Flash Memory.

Main Setting Menu :

1. Basic Setting
2. GSM/GPRS Connection Setting
3. Gateway Server Setting
4. Function Variables Setting
- E. Exit

Selection [1-3]? **E <Press Enter>**

Write to the External FLASH [YES|NO]? **YES <Press Enter>**

FLASH Sector Erase Start

Sector Number : 0x01 - Sector Address : 0x00010000

FLASH Sector Erase Done

Writing 0x0000053C Bytes

FLASH Reset Done

Done.

FLASH Sector Erase Start

Sector Number : 0x01 - Sector Address : 0x00020000

FLASH Sector Erase Done

Writing 0x0000069C Bytes




FLASH Reset Done

Done.

\$> **RUN <Press Enter>**

-
3. Type 'RUN' to let the tracker running on Normal Mode.

3. Running on Normal Mode

1. When Speedtrac runs on normal mode. Normally, the first LED  is flashing constantly which means Speedtrac is in POWER ON status and is running. About 30 seconds later, the second LED  and the third LED  starts flashing then stays ON which means GPRS session is online and the GPS signal is fixed.

Note: The default Primary Gateway Server IP in the tracker is [220.128.135.215](#) that is one of ORION Testing Servers with a tcpserver.exe running on it. By connecting to ORION Testing Sever allows you to verify the tracker and the SIM card very quickly.

Note: Before running Speedtrac to connect to your server. A Gateway Server which runs the tcpserver.exe with a public IP address must be ready. The tcpserver.exe is basically a TCP socket listener that builds the socket sessions with multiple trackers via TCP/IP over GPRS and the Internet. Please refer to the [About TcpServer.txt](#), [About Demo.txt](#) and [ORION gateway server API.pdf](#) for more information. To verify your Gateway Server is working well, you may use the “AVL Simulator” program to send simulated SYNC packets and GPS data to the Gateway Server. Please refer to [AVL Simulator Manual.pdf](#) for more information.

2. After a few minutes, if the GPRS settings are correct and the SIM card with GPRS service enabled is working well, Speedtrac will build a communication session with the Gateway Server over GPRS and start to send the GPS position to the Gateway Server.

Note: If the Gateway Server is not ready, the GSM  LED will keep flashing.

3. If the Speedtrac and the Gateway Server are working well. It shows the following messages on the Hyper Terminal window.

```
Speedtrac Version : 0705MP
- Build Date : Jul 05 2007
- Build Time : 16:04:48
- Serial Number : EZ2000000139
- Unit ID : 2000000139
- IMEI : 352021002964245
```

Init. Profiles...

Write - 0009 - AT

Waiting...

Waiting...

Response -
Waiting...

Waiting...

Write - 0008 - AT

Response - OK

Write - 0009 - AT+IPR=38400

Response - OK

Write - 0009 - ATE0

Response - OK

Write - 0009 - AT+CREG=2

Response - OK

Write - 0009 - AT+COPS=0,2

Response - OK

Write - 0009 - AT&W

Response - OK

Write - 0009 - AT+GSN

Response - 352021002964245

Response - OK

IMEI : 352021002964245

Write - 0009 - AT^SICS=0,conType,GPRS0

Response - OK

Write - 0009 - AT^SICS=0,user,""

Waiting...

Waiting...

Waiting...

Waiting...

Write - 0008 - AT^SICS=0,user,""

Response - OK

Write - 0009 - AT^SICS=0,passwd,""

Response - OK

Write - 0009 - AT^SICS=0,apn,"internet"

Response - OK

Write - 0009 - AT^SISS=0,svrType,socket

Response - OK

Write - 0009 - AT^SISS=0,conId,0

Response - OK

Write - 0009 - AT^SISS=0,address,"socket://220.128.135.215:9998"

Response - OK

Write - 0009 - AT+CSMS=0

Response - +CSMS: 1,1,1

Response - OK

Write - 0009 - AT+CMGF=0

Response - OK

Init. Profiles Done...

Waiting GSM Network Ready...

Waiting GSM Network Ready...

Waiting GSM Network Ready...

Waiting GSM Network Ready...

Waiting GSM Network Ready...

GSM Network is Ready Now...

<the SIM card register to the network>

Write - 0011 - AT^SISC=0

Response - OK

GPRS Connection is Opened.

<Speedtrac attaches to GPRS service>

SYNC Command:

Write - 0000 - AT^SISW= 0, 8

Response - ^SISW: 0, 8, 8

Write - 0002 - C8 CA 00 00 8B 94 35 77 0D 0A

<Send SYNC to the Server>

Response - OK

Response - ^SISW: 0, 1

Write - 0009 - AT^SISR=0, 128

Response - ^SISR: 0, 8

Response - OK

Received Command : C8 CA 00 53 49 53 52 3D

<Get SYNC acknowledgement from the Server>

Write - 0009 - AT^SISR=0, 128

Response - ^SISR: 0, 37

Response - \$SetTimeStamp,1116,0000,070706111607&

<Get SetTimeStamp command from the Server>

Response - OK

Received Command : \$SetTimeStamp,1116,0000,070706111607&

Server Request Command

00 : SetTimeStamp

01 : 1116
02 : 0000
03 : 070706111607
Write - 0009 - AT+CCLK="07/07/06,11:16:07"

Response - OK

Current Time Stamp : 070706111607
Time Stamp = 070706111607

<RTCTime synchronizes to the Server Datetime>

Response Command
\$SetTimeStamp,1116,OK&

Write - 0000 - AT^SISW= 0, 24

Response - ^SISW: 0, 24, 24

Write - 0002 - \$SetTimeStamp,1116,OK&

Response - OK

Response - ^SISW: 0, 1

Write - 0009 - AT^SISR=0, 128

Response - ^SISR: 0, 0

Response - OK

Received Command : ^SISR: 0, 0

GPRS Track:

Write - 0000 - AT^SISW= 0, 112

Response - ^SISW: 0, 112, 112

Write - 0002 -
\$evtGPRSTrack,2000000139,060707031838,A,12131.4431,E,2502.9102,N,
8,22,136.2,0.6,0.00,0.0,0.0,0.0,0,070706111631&

<Send evtGPRSTrack event report to the server>

Response - OK

Response - ^SISW: 0, 1

GPRS Track:

Write - 0000 - AT^SISW= 0, 113

Response - ^SISW: 0, 113, 113

Write - 0002 -

\$evtGPRSTrack,2000000139,060707031908,A,12131.4394,E,2502.9087,N,
10,24,136.2,0.0,0.00,0.0,0.0,0,0,070706111701&

Response - OK

GPRS Tracking Report Syntax :

Real time GPS Data Report format:

\$evtGPRSTrack,[UnitID],[UTCTime],[A|V],[Longitude],[E|W],[Latitude],[N|S],[Satellite Numbers],[GSM Signal],[Angle],[Speed],[Mileage],[AI1],[AI2],[DI],[DO],[RTCTime]&

Resent format: (When the GPRS is recovered, the tracker will resend all GPS data logs to the Gateway Server automatically.)

\$logevtGPRSTrack,[UnitID],[UTCTime],[A|V],[Longitude],[E|W],[Latitude],[N|S],[Satellite Numbers],[GSM Signal],[Angle],[Speed],[Mileage],[AI1],[AI2],[DI],[DO],[RTCTime]&

Field	Description
Total Mileage	The accumulated mileages of the tracker.
UnitID	UnitID
UTC Time	GPS Date and Time. The format is DDMMYYHHmmss
A V	GPS Data is Valid or Invalid. "A" = valid, "V" = invalid.
Longitude	GPS Longitude
E/W	"E" = East, "W" = West.
Latitude	GPS Latitude
N/S	"N" = North, "S" = South
Satellite Numbers	Satellite Numbers acquired. The maximum satellite number is 12. Normally the SiRF Star III can receive about 6~8 satellites if the GPS antenna is in the open sky.
GSM Signal	GSM Signal strength, From 0 to 31, Unknown: 99 or other numbers The maximum GSM signal is 31. Normally it should be more than 20. If it is less than 20, it means poor GSM reception of Speedtrac in that particular area. Try to adjust the location of GSM Antenna for a stronger GSM signal
Angle	GPS Angle, unit = degree
Speed	GPS Speed, unit = knot

Mileage	Accumulated Mileage of the tracker. It is calculated by GPS data. Unit = 'mile'. Maximum value: 999999.99
AI1	Analog Input#1 Voltages. Range from 0~12 or 0~24.
AI2	Analog Input#2 Voltages. Range from 0~12 or 0~24.
DI	Summary reading of Digital Input status. Value of DI ON reading: DI1=2, DI2=4, DI3=8, DI4=16, DI5=32, DI6=64 If the DI reading = 6, it means DI1 and DI2 are ON
DO	Summary reading of Digital Output status. Value of DO ON reading: DO1=2, DO2=4, DO3=8, DO4=16 If the DI reading = 10, it means DO1 and DO3 are ON
RTC Time	Device RTC (Real Time Clock) Date and Time. The format is YYMMDDHHmmss

4. If the Demo.exe and Gateway Server are working well, it shows the SYNC packet and GPS data on the Demo window, too. You can compare them to those showing on the Hyper Terminal window.
5. If the Speedtrac can not connect to the Gateway Server and send GPS data, please recheck the settings. Otherwise please copy the whole messages from the Hyper Terminal window and send an email to support@oriontech.com.tw for technical support.

4. Test protocol commands via RS-232 connection

1. You may test commands of [ORION Protocol.pdf](#) by RS-232 connection instead of GPRS connection. Type 'H' to enter Debug Mode Command Menu. Type the protocol commands after the prompt and check the tracker's response. Please refer to [ORION Protocol.pdf](#) for more command detail.

Speedtrac Version : 0705MP

- Build Date : Jul 05 2007
- Build Time : 16:04:48
- Serial Number : EZ2000000139
- Unit ID : 2000000139
- IMEI : 352021002964245

Type "H" for the Debug Mode Commands Menu.

\$> **<Press Enter>**

Invalid Command

\$>**H** **<Press Enter>**

Speedtrac Debug Mode Command Menu:

- | | |
|-------------------|---|
| CVCFG | - Clear Variable Configuration. |
| DCFG | - Restore Firmware Default Configuration. |
| HW | - Show Hardware Information. |
| LOG | - Display all Logs. |
| LOG_RESET | - Reset all Logs. |
| FLASH_RESET | - Reset Whole FLASH Chip to 0x00. |
| SCFG | - Set Configuration. |
| T | - Test Mode. |
| \$...& | - Protocol Commands Test. |

\$>**\$GetUnitID,1234,0000&** **<Press Enter>**

Server Request Command

00 : GetUnitID

01 : 1234

02 : 0000

Response Command

\$GetUnitID,1234,2000000139&

\$>**\$GetGPRSConfig,1234,0000&** **<Press Enter>**

Server Request Command

00 : GetGPRSConfig

01 : 1234

02 : 0000

Response Command

\$GetGPRSConfig,1234,,internet,,,0.0.0.0,START,30,300&

\$> **\$GetPriServer,1234,0000& <Press Enter>**

Server Request Command

00 : GetPriServer

01 : 1234

02 : 0000

Response Command

\$GetPriServer,1234,YES,220.128.135.215,9998&

\$>

5. Get system logs via RS-232 connection for advanced debugging

1. The GPS tracker behaviors may be various in different areas because of the GSM coverage and GPRS service settings. If the GPRS connection of a tracker is not stable, you may retrieve the system logs from the tracker to verify them and figure out the reason causing the problems.
2. You can check and retrieve the system logs with ORION's engineers. This feature helps us to fine tune the firmware or configuration to improve the tracker's performance in different countries.
3. Type 'LOG' in Debug Mode to retrieve all system logs from Speedtrac for further analysis. If necessary, please copy the system logs to a .txt file and send it to support@oriontech.com.tw for further analysis.

Speedtrac Version : 0705MP

- Build Date : Jul 05 2007
- Build Time : 16:04:48
- Serial Number : EZ2000000139
- Unit ID : 2000000139
- IMEI : 352021002964245

Type "H" for the Debug Mode Commands Menu.

\$> <Press Enter>

Invalid Command

\$>LOG <Press Enter>

FLASH Reset Done

Display - First User Sector Found : 08

Break - Sector : 08

Display - First System Sector Found : 20

Display - System Sector : 20

Time Stamp : 070706111554

Type : S

Resend : N

Data : evtGSMOffline

Time Stamp : 070706111554

Type : S

Resend : N

Data : evtGSMOnline

Time Stamp : 070706111554
Type : S
Resend : N
Data : evtGSMLACChanged

Time Stamp : 070706111559
Type : S
Resend : N
Data : evtGPRSONline

Time Stamp : 070706111605
Type : S
Resend : N
Data : evtGPRSSyncCmdOK

Time Stamp : 070706111605
Type : S
Resend : N
Data : evtSessionOnline

Display - System Sector : 21

Time Stamp : 070706112347
Type : S
Resend : N
Data : evtGSMOffline

Time Stamp : 070706112347
Type : S
Resend : N
Data : evtGSMOnline

Break - Sector : 23

\$>



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Email: support@oriontech.com.tw