GV-GPS Receiver

The GV-GPS Receiver can work with GV-System, GV-Video Server and GV-Compact DVR to perform GPS vehicle tracking.

Packing List

1. GV-GPS Receiver x 1
2. Suction Cup x 1
3. Installation Guide x 1

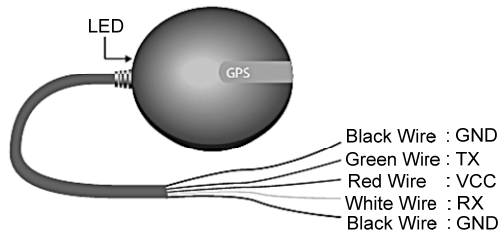
Model

The GV-GPS receiver has three types of models: UART, RS-232 and USB. Each model can only work with appropriate Hardware and Firmware version as described below.

<table>
<tr><th>Model</th><th>Interface</th><th>Baud Rate</th><th colspan="3">Compatible IP Device</th></tr>
<tr><td rowspan="4">GV-GPS UART</td><td rowspan="4">UART</td><td rowspan="4">9600</td><td colspan="2">GV-Video Server (GV-VS02A)</td><td rowspan="3">Firmware Version 1.00 or later</td></tr>
<tr><td colspan="2">GV-Video Server (GV-VS04A)</td></tr>
<tr><td colspan="2">GV-Video Server (GV-VS14)</td></tr>
<tr><td colspan="2">GV-Video Server (GV-VS04H)</td><td>Firmware Version 1.04 or later</td></tr>
<tr><td rowspan="6">GV-GPS 232</td><td rowspan="4">RS-232 Wires</td><td rowspan="4">9600</td><td colspan="2">GV-Video Server (GV-VS12)</td><td>Firmware Version 1.00 or later</td></tr>
<tr><td colspan="2">GV-Compact DVR V1</td><td>Firmware Version 1.52 or later</td></tr>
<tr><td rowspan="3">GV-Compact DVR V2</td><td>Standard Model (GV-LX4C2)</td><td rowspan="2">Firmware Version 1.00 or later</td></tr>
<tr><td>Anti-Vibration Model (GV-LX4C2V)</td></tr>
<tr><td rowspan="2">PS/2 Connector</td><td rowspan="2">9600</td><td>Anti-Vibration ACC Model (GV-LX4C2V)</td><td>Firmware Version 1.05 or later</td></tr>
<tr><td>GV-Compact DVR V3</td><td>Anti-Vibration ACC Model (GV-LX4C3V, GV-LX8CV1, GV-LX8CV2)</td><td>Firmware Version 1.00 or later</td></tr>
<tr><td>GV-GPS USB</td><td>USB Connector</td><td>4800</td><td colspan="2">GV-System</td><td>Firmware Version 8.3.2 or later</td></tr>
</table>

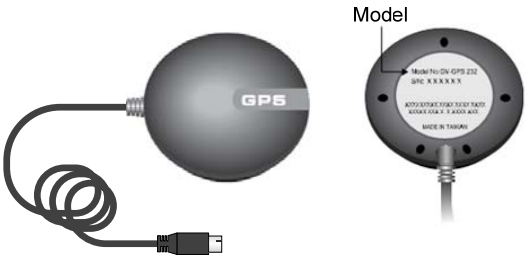
Overview

- UART / RS-232 Wires



- USB Connector

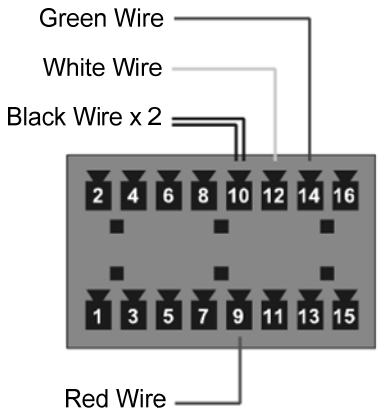
- PS/2 Connector



LED Off	Receiver switched off
LED On	Signal searching
LED Flashing	GPS position fixed

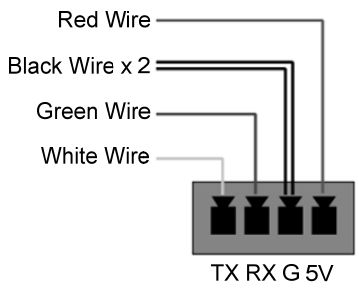
Connecting to GV-Video Server GV-VS02 / GV-VS02A / GV-VS04A / GV-VS04H / GV-VS14

GV-GPS UART	GV-Video Server (GV-VS02 / GV-VS02A / GV-VS04A / GV-VS04H / GV-VS14)
1 x Red Wire	Pin 9 (DC 5V Out)
2 x Black Wire	Pin 10 (Ground)
1 x White Wire	Pin 12 (GPS RX)
1 x Green Wire	Pin 14 (GPS TX)



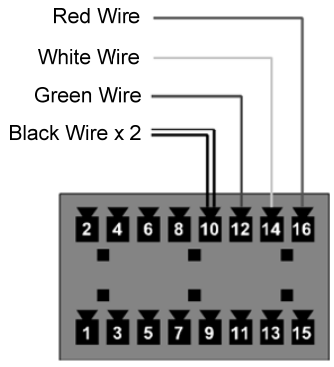
Connecting to GV-Video Server GV-VS12

GV-GPS 232 RS-232 Wires	GV-Video Server (GV-VS12)
1 x White Wire	TX (GPS RX)
1 x Green Wire	RX (GPS TX)
2 x Black Wire	G (Ground)
1 x Red Wire	5V (DC 5V Out)



Connecting to GV-Compact DVR V1 / V2 / V3

GV-GPS 232 RS-232 Wires	GV-Compact DVR V1	GV-Compact DVR V2	
		Standard Model	Anti-Vibration Model
2 x Black Wire	Pin 10 (Ground)		
1 x Green Wire	Pin 12 (GPS TX)		
1 x White Wire	Pin 14 (GPS RX)		
1 x Red Wire	Pin 16 (DC 5V Out)		



GV-GPS 232 PS/2 Connector	GV-Compact DVR V2 / V3
	Anti-Vibration ACC Model

Connecting to GV-System

Directly connect the GV-GPS USB receiver to the USB port of the computer installed with the GV-System.

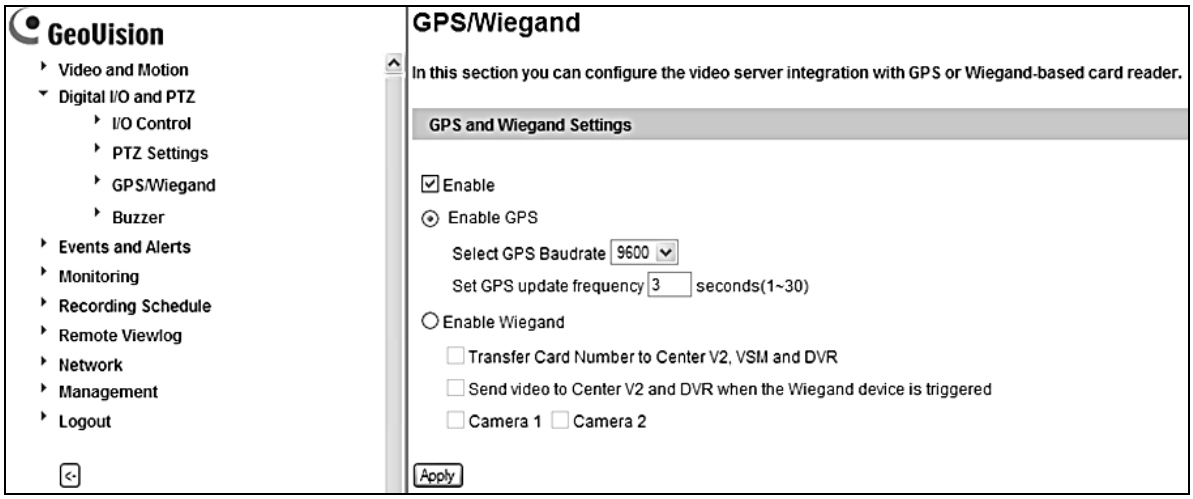
Activating the GPS Function

Follow the instructions below to activate the GPS function. For details on GPS tracking, see GPS Tracking in GV-Video Server, GV-Compact DVR or DVR User's Manual.

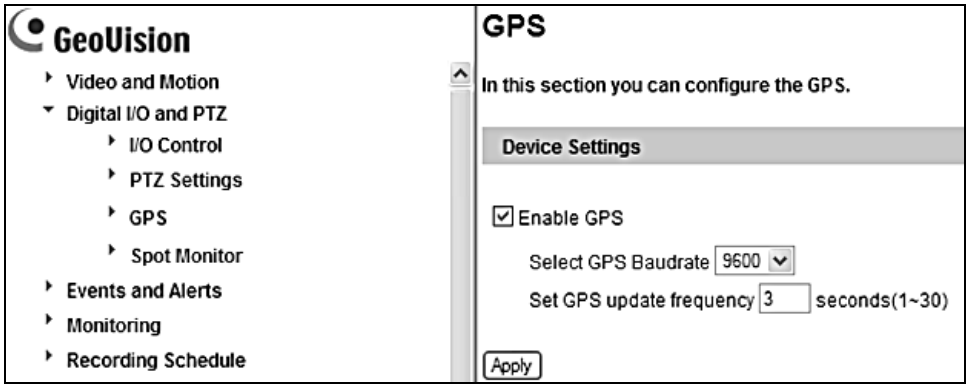
For GV-Video Server and GV-Compact DVR users:

Go to the Web interface of GV-Video Server or GV-Compact DVR, and select **Enable GPS**.

GV-Video Server's Web Interface

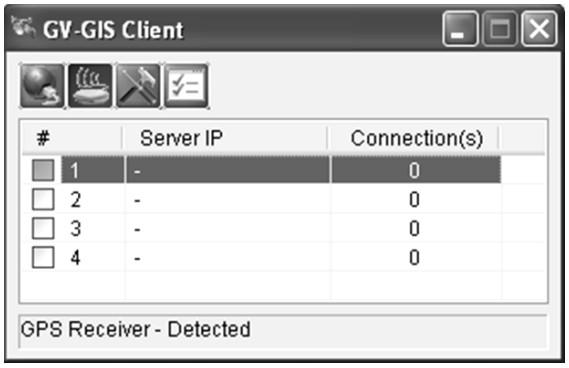


GV-Compact DVR's Web Interface

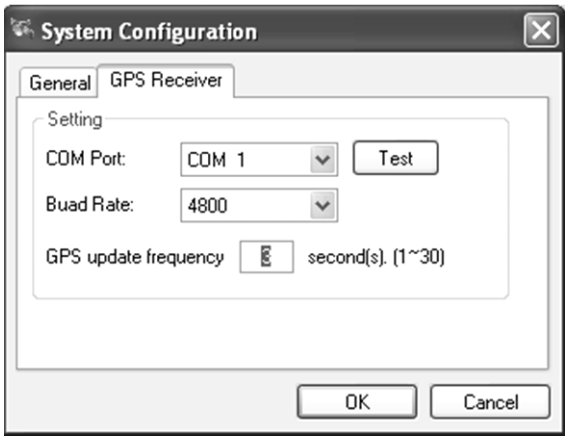


For GV-System users:

1. Run **GeoGISClient.exe** from the GV folder. This dialog box appears.



2. To add the GPS receiver to the GV-System, click the  button and click the **GPS Receiver** tab. This dialog box appears.



3. Select the **COM Port** the GPS receiver is connected to and click **Test** to detect the device. Select **Baud Rate** of the GPS receiver. Specify the time in seconds for the frequency to update the GPS data. Then click **OK**.

4. Click the  button to start receiving GPS data from the GPS receiver.

Specifications

Chipset

Chipset	SiRF Start III

Electrical Characteristics

Frequency	L1, 1575.42 MHz
C/A Code	1.023 MHz chip rate
Channels	20 channel all-in-view tracking
Sensitivity	-159 dBm

Accuracy

Position Horizontal	10m 2D RMS (SA off)
Velocity	0.1m/sec 95% (SA off)
Time	1 micro-second synchronized to GPS time
WAAS enabled	5m 2D RMS

Datum

Datum	WGS-84

Acquisition Rate

Hot Start	1 sec. average (with ephemeris and almanac valid)
Warm Start	38 sec. average (with almanac but not ephemeris)
Cold Start	42 sec. average (neither almanac nor ephemeris)
Reacquisition	0.1 sec. average (interruption recovery time)

Protocol

GPS Protocol	Default: NMEA 0183 (Secondary: SiRF binary)
GPS Output Data	SiRF binary >> position, velocity, altitude, status and control ; NMEA 0183 protocol supports command: GGA, GSA, GSV, RMC, VTG, GLL (VTG and GLL are optional)
GPS Transfer Rate	Default : 9600,n,8,1 for NMEA Default : 4800,n,8,1 for NMEA (for GV-GPS USB only)

Dynamic Condition

Acceleration Limit	Less than 4g
Altitude Limit	18,000 meters (60,000 feet) max.
Velocity Limit	515 meters/sec. (1,000 knots) max.
Jerk Limit	20 m/sec x 3

Temperature

Operating	-40°C ~ 85°C / -40°F ~ 185°F
Storage	-40°C ~ 85°C / -40°F ~ 185°F
Humidity	Up to 95% (non-condensing)

Power

Voltage	4.5V ~ 6.5V
Current	80mA typical (continuous mode)

Physical Characteristics

Dimensions (D x H)	53 x 19.2 mm / 2.09 x 0.76 in
Cable Length	2.7 m / 8.86 ft