



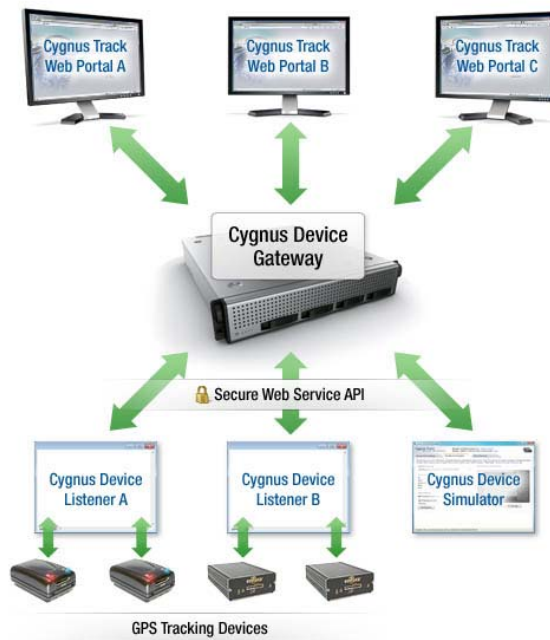
# GPS Tracking Hardware Integration

## CAN I USE MY DEVICE WITH CYGNUS TRACK?

Cygnus Track is capable of supporting many different types of GPS tracking hardware. Right out of the box it supports a number of popular devices of different form factors (see our website's Support section for a complete list). But what if you have custom hardware or a device that's not on Cygnus Track's compatibility list?

Chances are, Cygnus Track can be made to work with your device with minimal effort. This is due to the Cygnus Track Device Gateway, a concept that allows for easy integration of custom GPS tracking hardware and functionality. The Gateway is a centralized database that allows Cygnus Track to interact with a number of different GPS tracking devices in a common and robust way.

Each type of GPS tracking device supported by Cygnus Track has what's called a device listener. Each listener is a custom program built to communicate directly with a specific set of devices. If there isn't already a listener that is compatible your device, you can easily build one yourself using the free tools we provide for you. Or, our Professional Services team can develop a listener for you.



For a complete list of GPS devices that currently work with Cygnus Track, visit this address:  
<http://gpstracking.thinkgeo.com/Support/GPSTrackingDevices/tabid/91/Default.aspx>

## HOW DO CYGNUS TRACK'S DEVICE LISTENERS WORK?

Listeners work by adding an abstraction layer between the physical GPS tracking device and the Cygnus Track development API. There are three main goals of the listener, the first of which is to physically get the data from the GPS tracking device. The second goal is to parse and decode the data received, based on the rules specified by the hardware vendor, and map them over to our APIs. The third goal is to communicate back to the GPS tracking device based on events that happen within the system. An example of this would be to allow a Cygnus Track monitor to unlock the vehicle's doors remotely. Please refer to the Device Matrix below for more information:

## DEVICE MATRIX

Types of devices:	Ways a device may communicate:
<ul style="list-style-type: none"><li>• Smart Cell Phones</li><li>• Executive Pagers</li><li>• GPS enabled PDAs</li><li>• Vehicle Mounted GSM/GPRS</li><li>• Satellite Tracked Marine Units</li></ul>	<ul style="list-style-type: none"><li>• TCP/UDP Always On Connection</li><li>• HTTP Post to a Predetermined URL</li><li>• XML Gateway Polling</li><li>• Direct SMS Messages</li><li>• E-mail Relay</li></ul>

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Messages a device might send:	Messages a device might respond to:
<ul style="list-style-type: none"> <li>• Current Speed and Location</li> <li>• Panic Button Pressed</li> <li>• Battery Low</li> <li>• Fuel Low</li> <li>• Excessive Breaking</li> <li>• Erratic Movement</li> </ul>	<ul style="list-style-type: none"> <li>• Disable the Starter</li> <li>• Unlock Doors</li> <li>• Lower Windows</li> <li>• Send Message to Driver</li> <li>• Sound Alarm</li> <li>• Voice Connect Driver with Monitor</li> </ul>

## MY GPS DEVICE ISN'T ON CYGNUS TRACK'S COMPATIBILITY LIST. WHAT CAN I DO?

If you have software development experience, even at a fairly rudimentary level, you can most likely write your own custom listener to add support for your device yourself. If you are familiar with the Microsoft .NET Framework and are a user of Visual Studio 2008 or higher, our Gateway SDK for .NET will provide you with everything you need to get started. If not, our Device Gateway Overview article provides detailed information about how to post device data to the Gateway via XML using our web methods.

Take a look at the following resources on our website for further information:

- Cygnus Track Device Gateway Overview  
<http://gpstracking.thinkgeo.com/Developers/CT6GatewayOverview/tabid/876/Default.aspx>
- Download the Gateway SDK for .NET  
<http://gpstracking.thinkgeo.com/Developers/GatewaySDKforNET/tabid/881/Default.aspx>
- Download Sample Listener Templates  
<http://gpstracking.thinkgeo.com/Developers/SampleListeners/tabid/882/Default.aspx>
- Download the Device Simulator  
<http://gpstracking.thinkgeo.com/Developers/DeviceSimulator/tabid/877/Default.aspx>

In addition to the resources on our website, you will need to know some details about your device and how it communicates. If you don't have documentation for your device, check with the device manufacturer.

**Important Note:** If you are using Cygnus Track Starter Edition, you will need ThinkGeo's authorization to set up a new listener for your account. Please get in touch with us at [support@thinkgeo.com](mailto:support@thinkgeo.com) or by calling 1-866-847-7510 (outside North America, dial 1-785-727-4133) and we'll be happy to assist you.

## I'M DEVELOPING A CUSTOM LISTENER. HOW DO I TEST IT?

We've provided two robust, free tools to help you test your custom listeners.

### The Cygnus Track Device Simulator

This is a downloadable Windows application that lets you simulate actual tracking conditions and create mock tracking sessions. It ties into your actual Cygnus Track web portal account, so you can set up your device and test your custom listener without ever leaving the comfort of your home or office. The Cygnus Track Device Simulator can also test two-way communication, sensor data, alert triggering and much more, so you can test the full range of capabilities for your listener.

To download the Device Simulator and watch some how-to videos about using it, visit this address:

<http://gpstracking.thinkgeo.com/Developers/DeviceSimulator/tabid/877/Default.aspx>

### **The Gateway Message Log**

This is a webpage that displays a log of all successful communications with the Cygnus Track Gateway, as well as communication errors so that you can see if something has gone wrong with your listener. To view messages for the custom listener that you're developing, choose "Your Custom Listener" from the Device Listener dropdown. Then enter your Cygnus Track account's API key, the Device ID, and click the Show Log button.

Visit the Gateway Message Log at:

<http://deviceerrorlog.cygnustrack.com/>

### **I'M UNABLE TO DEVELOP MY OWN CUSTOM LISTENER. CAN YOU WRITE ONE FOR ME?**

Yes, at additional cost. Simply get in touch with a ThinkGeo account representative or fill out our Professional Services inquiry form here:

<http://gpstracking.thinkgeo.com/Services/tabid/216/Default.aspx>

Our professional development staff is experienced with writing custom listeners for Cygnus Track and can usually complete the task in a short time and at affordable rates. Get in touch with us for details.

Please note that development time and cost will be minimized if we can have access to the device you wish to add support for as well as its documentation. A device that is undocumented or no longer supported by its manufacturer may pose additional complications. We'll discuss your needs with you on a case-by-case basis and let you know the fastest path towards adding support for your device in Cygnus Track.

### **CONTACT US TODAY**

If you would like more information about development of a custom Cygnus Track listener, give us a call at one of the numbers below or simply send us an email. Our professional sales team is ready to assist you!

**Toll-Free:** 1.866.847.7510

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