

[Back to home page](#)Listed in category: [eBay Motors](#) > [Other Vehicles](#) > [Race Cars \(Not Street Legal\)](#) > [Off-Road](#)**🔔** **ROBOT Car - Autonomous Vehicle- A Very Unique Car**

Item number: 4557085472

Bidder or seller of this item? [Sign in](#) for your status[Email to a friend](#)**Bidding has ended for this item**If you are a winner, [Sign In](#) for your status.[List an item like this](#) or buy a similar item below.

The seller ended this listing early because the item is no longer available for sale.

[Larger Picture](#)Current bid: **US \$500.00** ([Reserve not met](#))

Ended: Jun-21-05 19:30:29 PDT

Start time: Jun-17-05 08:21:23 PDT

History: [11 bids](#) (US \$1.00 starting bid)High bidder: [kgoodone](#) ( [227](#) ★ )Item location: Mary Esther, FL  
United States

Sells to: Worldwide

Shipping: Buyer responsible for vehicle pick-up or shipping.  
[Vehicle shipping quote is available.](#)[Shipping and payment details](#)**Seller information**[tomspurrier](#) ( [0](#) ) 🌟Feedback Score: 0 feedback reviews  
Member since Jun-07-05 in United States[Read feedback comments](#)[Add to Favorite Sellers](#)[View seller's other items](#)[Buy with Confidence](#)**Description** ([revised](#))*Item Specifics - Other Vehicles***ROBOT Car - Autonomous Vehicle- A Very Unique Car****Vehicle Description**

This is a Robot Car, a truly Autonomous Vehicle. This is a 1997 Geo Tracker, 4x4 AC OBD2 Auto, that has been converted to an autonomous ROBOT that drives itself.

The vehicle will follow a track of GPS waypoints that have been previously recorded. The vehicle includes a NovAtel plus HP GPS that is sensitive to 15 cm and the vehicle can follow any off-road path. If a digital compass is added, the software can switch from the GPS to the compass for bearings over short distances when going through tunnels.

Actuators and stepping motors control the steering, brakes and gears based on sensor information. The actuator positions are updated every 50 milliseconds.

Software that uses a 2 dimension laser range finder on the front of the autonomous car provides distance and range information for objects up to 54 feet in front of the vehicle and can be recalibrated to several hundred if desired.

However, the high power laser is not included in the price of the vehicle and it must be purchased from Acuity Research for about \$5k. The extension cables will be included so that if the laser is purchased, it can be easily reconnected.

It can avoid objects as small as 1/4 inch. Laser software selects a path offset that is nearest the track between the two waypoints. Current bearing to the next waypoint is always aligned with waypoint to waypoint bearing such that the steering wheel is constantly turning toward the center bearing, especially after an object has been passed and its offset cleared. Laser software updates constantly to allow for moving objects such as someone walking. It will pass a vehicle constantly adjusting its offset from a moving vehicle as it has 110 degree vision.

Also includes 2 remotes that generate RUN, PAUSE and DISABLE signals. The siren and light are turned on during RUN. Only the light is on during PAUSE. DISABLE turns the ignition off and applies full brake directly; not through the computer. An E-Stop switch is on each side of the vehicle that latches DISABLE when depressed.

The vehicle can be manually driven off-road if necessary as there is a small steering wheel attached to the stepping motor, the gas is controlled by the heater slide and there is a hand brake. Gears must be detached from the actuator.

Actuators with 90lb force control the brakes, gas and gears while a 23/12 band gear is attached to a powerful stepping motor that the software in the microcontroller continuously pulses in order to prevent any slippage. A backup alternative stepping motor is attached to the gas and has a separate connection and cable to the throttle control. 1 additional backup microcontroller board (spare) is included but probably won't be needed as heat sinks and fuses provide enough current overload protection.

Also includes software to record a track of waypoints and software that displays the track on an aerial map. The map is a 1 meter per pixel aerial photograph of the continental USA which provided by Microsoft.

All global variables are logged 20 times a second as all variables such as latitude, longitude and speed are updated every 50 milliseconds. When the vehicle reaches the last waypoint, the log is written to disk with the time as part of the log file name.

The software also creates 2 levels of route enhancements which smooth out the turns by adding waypoints to a doubly a linked waypoint list. Currently, any waypoints that require more than a 12 degree turn are split into two turns with half the degree. This allows the tracking software to easily follow the bearing and dampens oscillations.

Includes a software thread that reads the OBD2 speed every 40 milliseconds.

Software that can read the RPM and other functions is included but commented out.

Includes a new ruggedized rack mountable case with a 2GB DDRAM 3.4Ghz P4 HT, 250GB 7200 Disk, 8 USB, DVD/CD, 19"LCD, remote Key/Mouse.

The 8 motor microcontroller includes discrete I/O for actuator limit switches which allows easy transition to and from brake/gas downhill and uphill speed control.

Includes 2 new 750 watt inverters and 2 new deep draw batteries which last over 36 hours before the voltage drops. Eye bolts are placed where necessary tie straps can keep all equipment secure in the roughest conditions.

The vehicle was designed to compete in the GrandChallenge.org off road 200 mile race but was not completed in time to pass a site visit. The vehicle is now complete and will be demonstrated at the selling site if desired.

Complete real-time multi-threaded Microsoft 6.0 C++ software source is included with 2 variations of motor microcontroller download software: relative and absolute. The real-time software uses an average of 13% of the P4 and runs memory resident with no I/O so there is no worry about a disk fault. The software uses the real-time features of XP.

Includes XP, a C++ development environment, drivers, device user manuals, aerial map of 2004 GrandChallenge course (Barstow to Primm), forward and reverse 2004 course waypoints, and GPS/OBD2/Acuity/VC CDs. A tow bar with tail light connections is included.

Included are up to 10 hours of consultation after the sale.

---

On Jun-21-05 at 11:20:12 PDT, seller added the following information:

NOTE: The laser actually reports 5 pixels on a 7/16" stick at 10 feet which is 0.0875 inch object detection, however, now the software currently ignores anything less than 3 pixels because of the tall grass on the site visit course.

---

[Enlarge this picture](#)

Select a picture



01311

[FREE Counters and Services from Andale](#)

### Shipping and payment details

#### Pickup & Shipping

Buyer is responsible for vehicle pickup or shipping. [Vehicle shipping quote is available.](#)

Will sell to Worldwide only.

#### Deposit via PayPal

US \$1,000.00 within 48 hours of auction close.

PayPal



#### Payment methods accepted

- Personal check
- Cashier's Check (certified from US or Canadian bank) or money order
- Cash (in person)
- Other - See Seller's payment instructions for payment methods accepted

### Got Questions?

Let eBay Motors help you make a successful purchase with the:

#### Vehicle Purchase Checklist

- ✓ [Transferring vehicle title](#)
- ✓ [Using a safe payment method](#)
- ✓ [Obtaining vehicle inspection services](#)
- ✓ [Arranging pickup/shipping](#)

Get the Checklist

Did you know? Over 1 Million vehicles

**Full payment**

Required within 10 days of auction close.

**Did you know?** Over 1 million vehicles have been purchased on eBay Motors.

**Seller's payment instructions**

Once payment has been received, Seller will deliver vehicle to a CONUS Buyer site in Buyer rented truck (UHaul/etc) and fly return trip; all expenses Buyer paid. Alternatively, the Seller is willing to tow the vehicle to CONUS Buyer site and Buyer pays gas and motels for round trip.

**eBay recommended services**

Increase the security in the eBay and PayPal community by becoming a verified buyer. [Get Verified](#)

[today.](#) 

[How to buy a vehicle on eBay Motors](#) - tips and services for a successful transaction

[Make low monthly payments](#) on this purchase with the eBay Financing Center.

[Free vehicle shipping quote.](#) Safe and affordable shipping from DAS.

**Where to go next?**

[Back to home page](#)

| [Printer friendly page](#)

| [Safe Trading Tips](#)

Seller assumes all responsibility for listing this item.

[Home](#) [Browse](#) [Sell](#) [Enthusiasts](#) [Search](#) [Services](#) [Help](#)

Copyright © 1995-2005 eBay Inc. All Rights Reserved. Designated trademarks and brands are the property of their respective owners. Use of this Web site constitutes acceptance of the [eBay User Agreement](#) and [Privacy Policy](#).

