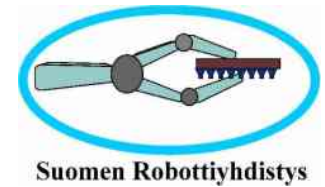


# World championship competition of Off-Road Robots 2007



**The winner of the 2007 robot car, Team Hammer Tampere**

## **1 Location and time:**

Jämi Flying Centre in Finland

<http://www.hotellijami.com>

Saturday 14.7.2007 12:00- 14:00

Jämi Fly in link <http://www.multi.fi/kik/jamiflyin/ohjelma.htm>

**2** Registration with a [registration form](#) to email [robotti@propelli.fi](mailto:robotti@propelli.fi) before 1.5.2007. Registration fee 10 euros after registration for prices before 1.5.2007. Late registration fee 20 euros at competition location before 10:00 14.7.2007 .

**3 The organizer: The Finnish Robotics society** <http://www.robotti.fi>. Email: [robotti@yty.fi](mailto:robotti@yty.fi)

#### **4 The goal:**

The meaning of the competition is inspire the hobbyists, students and professionals to combine high tech skills with fun with other technical people. The combining electronics, programming and automation skills with homemade solutions are different than buying a ready made commercial robot. The task is to build an OFF\_ROAD robotic car, which autonomously solves the task of an unknown circuit OFF-ROAD as fast as possible.

Every Finnish or foreign citizen is welcome to the competition. The competitors have a possibility, but not an obligation, to publish the technical details of these robots in the pages of Finish robotics Society.

#### **5 Classes:**

##### **Open class:**

No size limit. No control signal. The car must go outside of the mark sticks without auxiliary signals.

##### **Basic class:**

The car must fit to the box of 1m\*1m\*1m. The car can use a 32678Hz 1Ap signal. The judge starts the signal, when the car is ready to start .

##### **Hobby class:**

Any of the dimensions must be under 300 mm. The car can use a 32678Hz 1Ap signal. The judge starts the signal, when the car is ready to start .

#### **6 The robot car:**

The must be no remote control during the competition.

One team can have many cars, if they area able to work same time. The changing the parts does not make a new car.

One car can compete only one class.

The car must be able to go around four wooden sticks, which the judge sets to off-road ten minutes before the competition. The sticks must not be overridden. The robot car can be ready made, bought from the shop or self made. The most important is able to start and move at least 1 mm and get the diploma and possibly to win.

## **7 The circuit:**

OFF-Road circuit is easy terrain near the road

The circuit starts from easy sand based path near Jami flying center. It goes to steep. The circuit goes to more difficult at the end and return to original easy path. The maximum length is 200 meters. The end is at the same place as the start. The level of the circuit is 10 degrees at the maximum. There is grass; low plants rocks, trees whatever exists naturally. The judge does not purposely make easy or difficult circuit. The circuit is anyway an Off-road circuit. The judge and the team can follow the car during the competition. The spectators can't come to the circuit.

## **8 The completion:**

Each car drives individually. The starting sequence is same as registering. If the car is not ready at it's sequence, it goes to last of the row. The time starts when the car passed the starting line or the judge has started the signal depending the class. The competition is ended when the car is passed the starting line after circuited the four sticks outside. The competitors can measure the positions of the sticks.

The winners get 12 points as in F1-competitions. Next gets 10, next gets 9 points etc. The points in the each year are counted together. The best teams get team prices.

## **9 The signal transmitter**

The signal transmitter is 32768Hz +/-300Hz current signal. It is put through 0,75 mm diameter insulated wire, length about 200m. The current is adjusted to 1 A peak. The current is not sinus, but chopped square wave. A model of the signal generator is shown in the competition pages. It is possible send a new task with 300-baud carrier, but this not yet. The competitors can practice this for next competitions.

## **10 The prices**

The prices are shown during the competition. There are no big money prices, but products from the sponsors. Each competitor, who moves according the rules, gets a diploma.

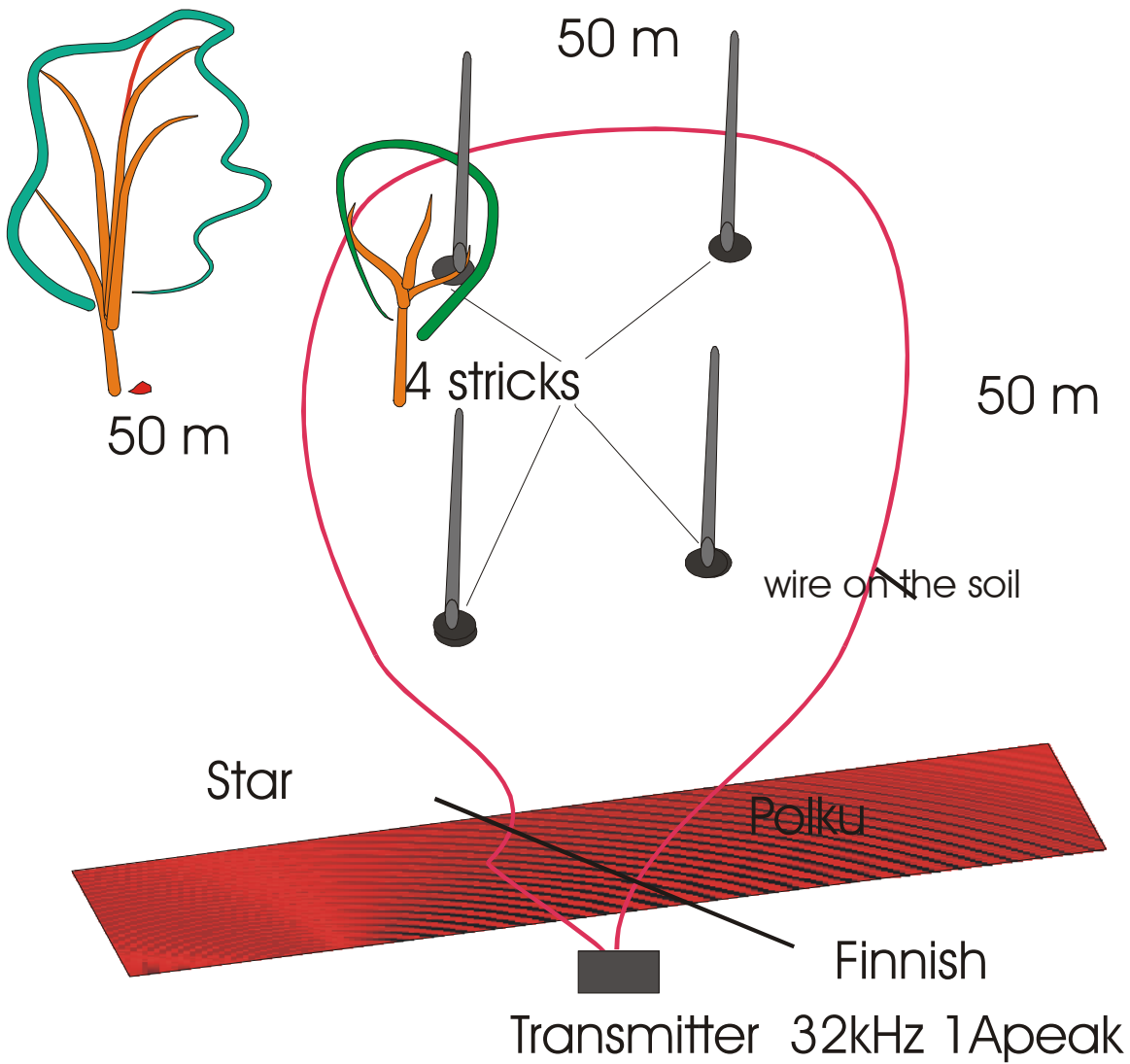
## **11. The judge**

The judge makes circuit, controls the competition, interprets the rules and announces the winners.

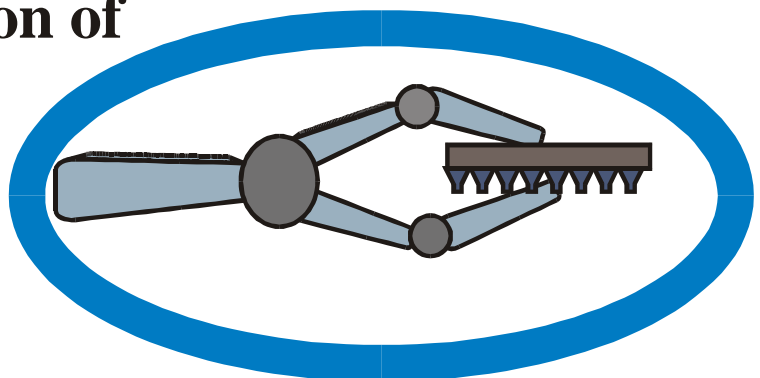
Registration formula:

<http://www.robotti.fi>

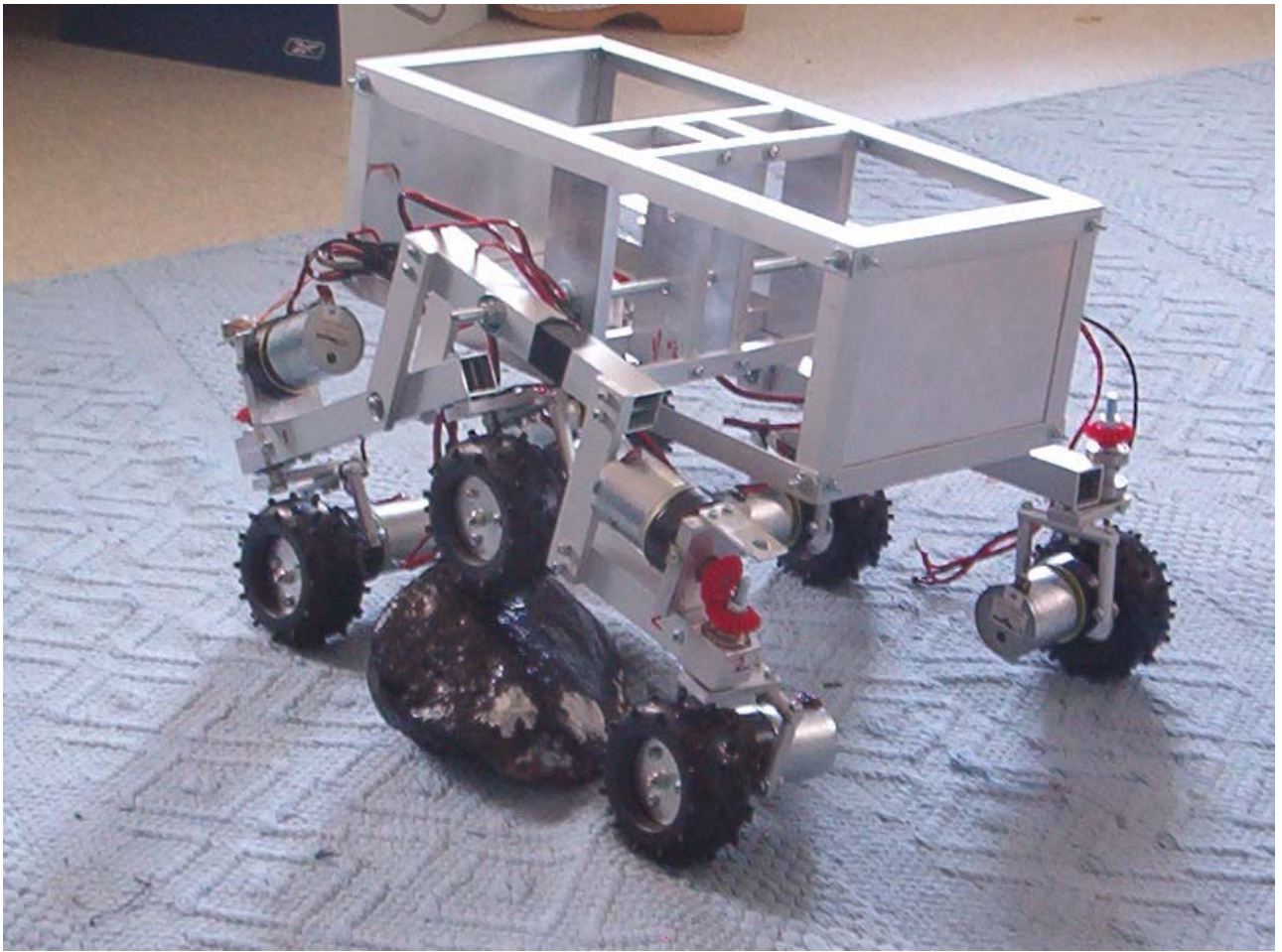
All the questions are published in the pages of the society, so that each competitor gets the same information.



OFF ROAD 2007 robot car competition track  
**Robotics Assosation of Finland**



Picture OH3GDO



OFF-ROAD word championship -2007 11.7.2007 A finish robot society/Pekka Ritamäki