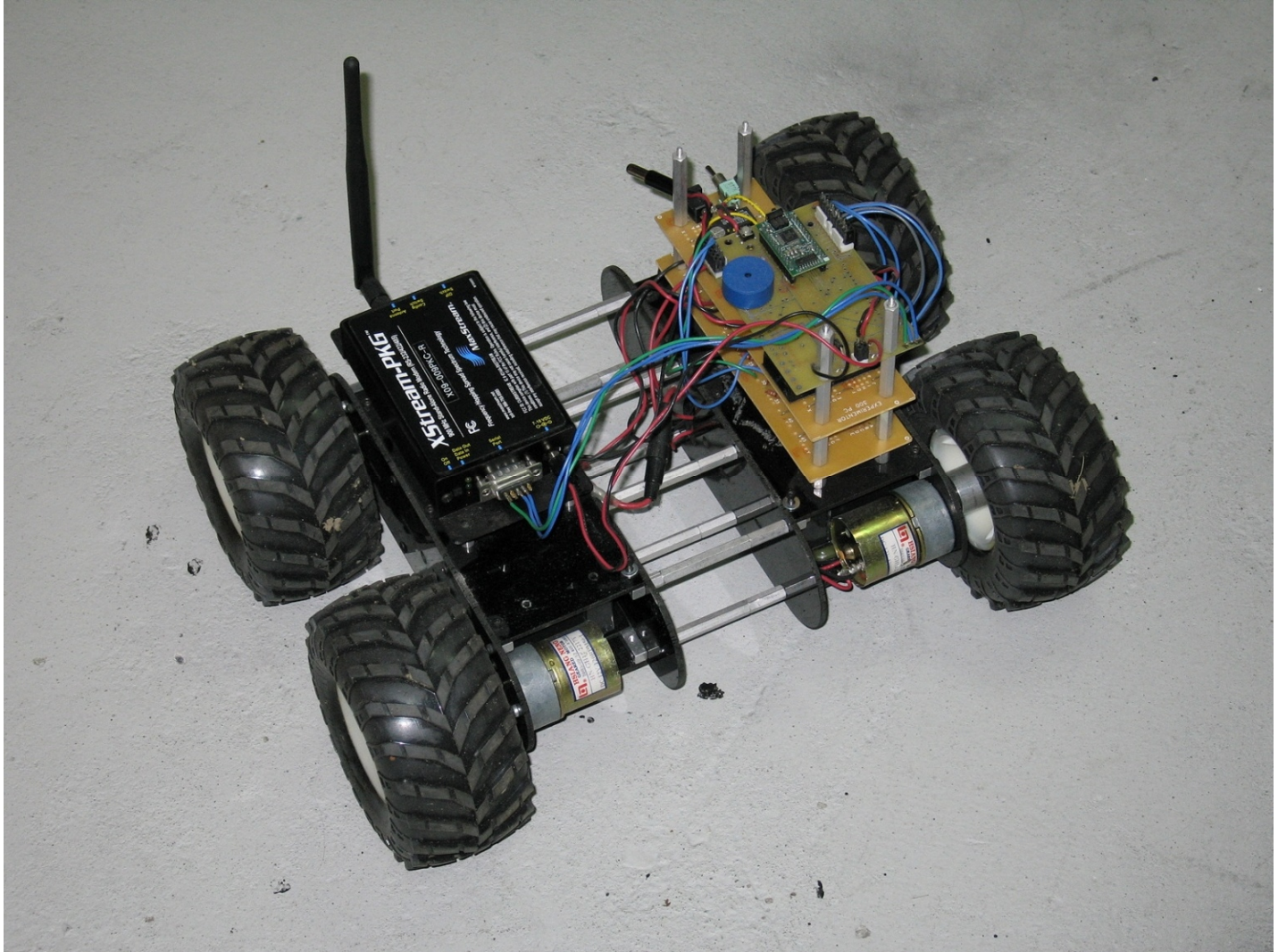


Wheeled Rover with Extended Track Width



- ❖ General purpose, remote-controlled, four wheel drive rover base, built in 2005
- ❖ Commercial mobile platform kit modified to increase the track width to reduce skid-steering forces
- ❖ Four 12 Vdc gear-head motors, one per wheel; each pair on each side wired in parallel
- ❖ 12 Vdc lead-acid battery, consisting of two 6 V batteries in series; one inside each (left/right) bogie

- ❖ Two-channel H-Bridge electric motor drive design (model L298 drive chips, lower circuit board)
- ❖ 12V/5V power distribution and battery charging circuitry (middle circuit board)
- ❖ Microcontroller board (HCS12-family) on general multipurpose interface board (upper PCB)
- ❖ uC code executes PWM motor drive, power monitoring, data communications, and user interface

- ❖ Wireless data communications radio (shown in photo), for relatively long-range tele-operation
- ❖ WiFi network-enabled colour camera (not shown in photo), for (not so long-range) forward viewing

- ❖ Laptop computer with application that allows keyboard & joystick control of motion and general system
 - ◆ wireless serial data communications radio (similar to one on bot) connected to laptop
- ❖ Video viewer application on laptop to see real-time forward imagery from rover camera
 - ◆ WiFi infrastructure interface (wireless router) for network connection between laptop and camera

- ❖ Optional smooth tires for greatly reduced skid friction, essentially required to reduce skid-steering forces (motor torque) to practical levels when turning on carpet or in grass