

MEXATRONICS UP-CINVESTAV One-Page specifications

RoboCup 2012 Mexico City, Humanoid League Kid Size

1.- Robot picture.



2.- Robot Name.

The team consists of three robots with the same structure and components: **KUBO**, **ZERO** and **AXIS**.

3.- Number of degrees of freedom: 20 DOF

4.- Height, weight and walking speed: 60 cm, 5.4 kg,

5.- Type of motors and controller.

Dynamixel – 8 RX28 (arms and head) and 12 RX64 (legs). The controller is CM700 with a module LN101 for USB 2.0 communication between the main computing unit and servomotors.

6.- Computing unit.

Fit-PC2 single board computer with Intel Atom Z530 CPU @ 1.6 GHz, 1GB DDR2, 30 GB SSD, and using WIN XP as OS.

<http://www.fit-pc.com/web/fit-pc2/fit-pc2-specifications/>

7.- Camera.

WebCam Logitech E3500, via USB 2.0 port, or Firefly MV 1.3 MP Color Rolling Shutter USB 2.0

<http://www.ptgreystore.com/products/93-firefly-mv-13-mp-color-rolling-shutter-usb-20.aspx>

8.- Sensors

CHR-UM6 Orientation sensor, Gyros (3x), Accels (3x), Mag (3x). Estimation in Roll, Pitch, Yaw, Quaternion.

<http://www.pololu.com/catalog/product/1255>

9.- Batteries

Two packages of rechargeable LiPo batteries of 18.5 volts at 25C 750mAh.