

# Dagu - Mini Biped

Designed as an introduction to robotics. This robot has some autonomous behavior but is also controlled via the supplied universal TV remote making it ideal for younger students.



Using the remote you can make the robot walk forward, backward, turn left or right or stop and kick with either the left or right foot. As the center position of servos can change with temperature, the servos can be calibrated using the remote. New positions are automatically saved in EEPROM.

If the robot detects a nearby object while walking forward it will stop automatically. When stopped, the robot can track the movement of nearby objects and will kick at an object on the ground if it gets too close. The speaker on his back will emit a warbling sound that changes pitch as the object gets closer or further away.

Using an ATmega8A MCU this robot is Arduino / AVR compatible and comes pre-loaded with the Arduino bootloader and demonstration software. An IR receiver and IR LED connected to the RX and TX pins make IR communications possible.

Spare digital and analog pins are available on the back pack PCB with Vcc and Gnd pins allowing for additional servos and / or sensors to be added.

The robot can be re-programmed using either the TTL serial socket or the ISP socket.

There are some interesting projects with this robots. One of our favorites is a Live Soccer match between 6 Mini Biped robots. Check it here

## Documents:

- Mini Biped Main PCB Schematic
- Mini Biped Backpack Schematic
- Eye Schematic