Arduino Robot [US Plug]
Code A001078

The Arduino Robot is the first official Arduino on wheels. The robot has two processors, one on each of its two boards. The *Motor Board* controls the motors, and the *Control Board* reads sensors and decides how to operate. Each of the boards is a full Arduino board programmable using the Arduino IDE.

Both Motor and Control boards are microcontroller boards based on the ATmega32u4 (datasheet). The Robot has many of its pins mapped to on-board sensors and actuators.

Programming the robot is similar to the process with the Arduino Leonardo. Both processors have built-in USB communication, eliminating the need for a secondary processor. This allows the Robot to appear to a connected computer as a virtual (CDC) serial / COM port.

As always with Arduino, every element of the platform – hardware, software and documentation – is freely available and open-source. This means you can learn exactly how it's made and use its design as the starting point for your own robots. The Arduino Robot is the result of the collective effort from an international team looking at how science can be made fun to learn. Arduino is now on wheels, come ride with us!

This product is also available with UK Plug or EU Plug

Control Board Summary

Microcontroller	ATmega32u4
Operating Voltage	5V
Input Voltage	5V through flat cable
Digital I/O Pins	5
PWM Channels	6
Analog Input Channels	4 (of the Digital I/O pins)
Analog Input Channels (multiplexed)	8
DC Current per I/O Pin	40 mA

Flash Memory	32 KB (ATmega32u4) of which 4 KB used by bootloader
SRAM	2.5 KB (ATmega32u4)
EEPROM (internal)	1 KB (ATmega32u4)
EEPROM (external)	512 Kbit (I2C)
Clock Speed	16 MHz
Keypad	5 keys
Knob	potentiomenter attached to analog pin
Full color LCD	over SPI communication
SD card reader	for FAT16 formatted cards
Speaker	8 Ohm
Digital Compass	provides deviation from the geographical north in degrees
I2C soldering ports	3
Prototyping areas	4

Motor Board Summary

Microcontroller	ATmega32u4
Operating Voltage	5V
Input Voltage	9V to battery charger
AA battery slot	4 alkaline or NiMh rechargeable batteries
Digital I/O Pins	4
PWM Channels	1
Analog Input Channles	4 (same as the Digital I/O pins)
DC Current per I/O Pin	40 mA
DC-DC converter	generates 5V to power up the whole robot
Flash Memory	32 KB (ATmega32u4) of which 4 KB used by bootloader
SRAM	2.5 KB (ATmega32u4)
EEPROM	1 KB (ATmega32u4)
Clock Speed	16 MHz
Trimmer	for movement calibration
IR line following sensors	5
I2C soldering ports	1
Prototyping areas	2