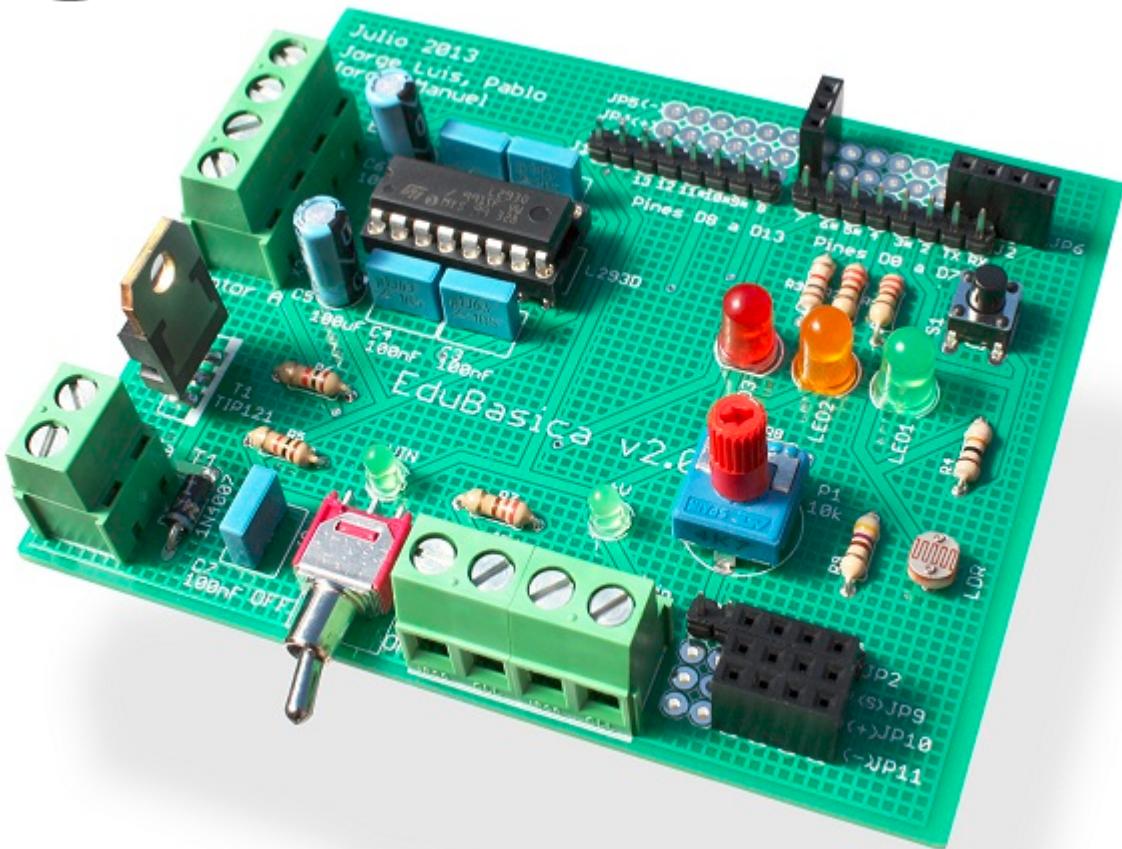


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Granada, marzo 2017

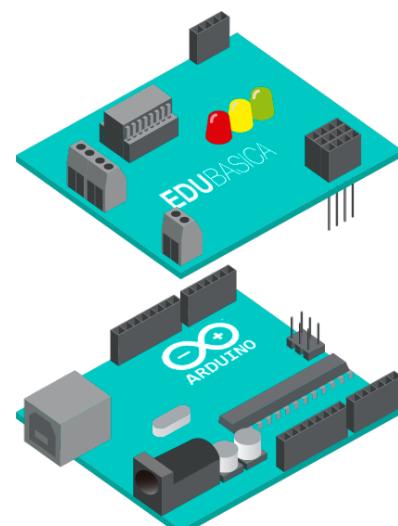
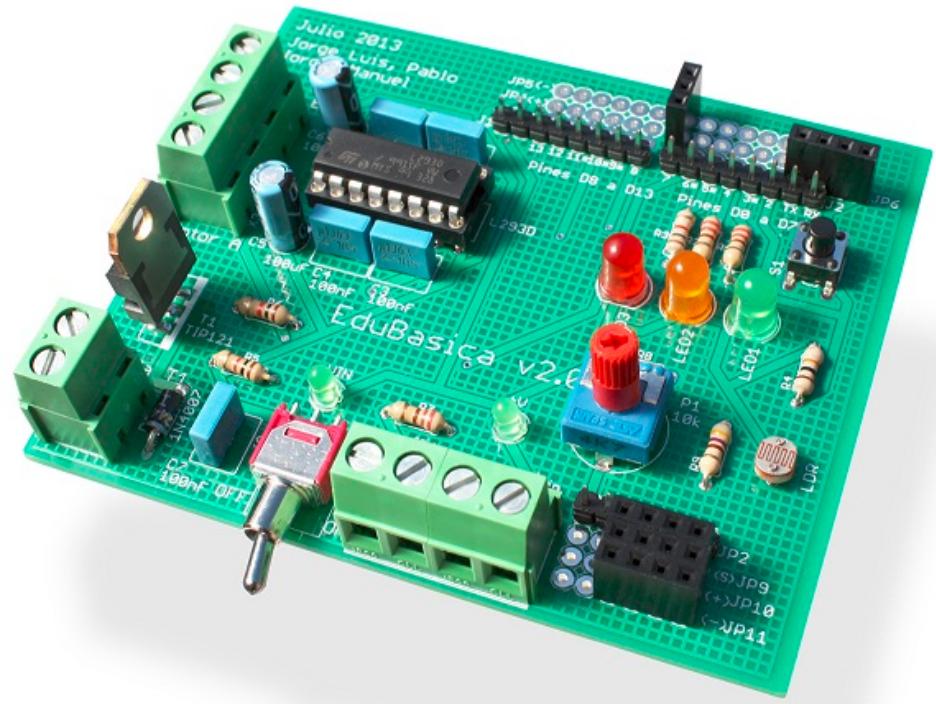
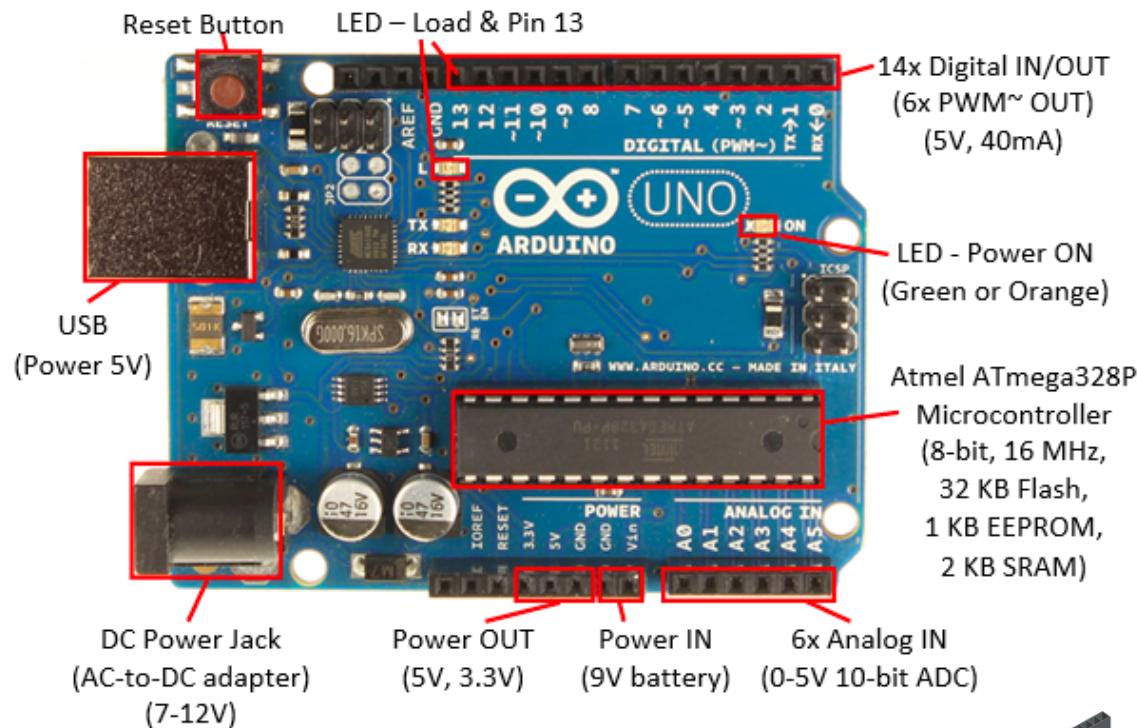
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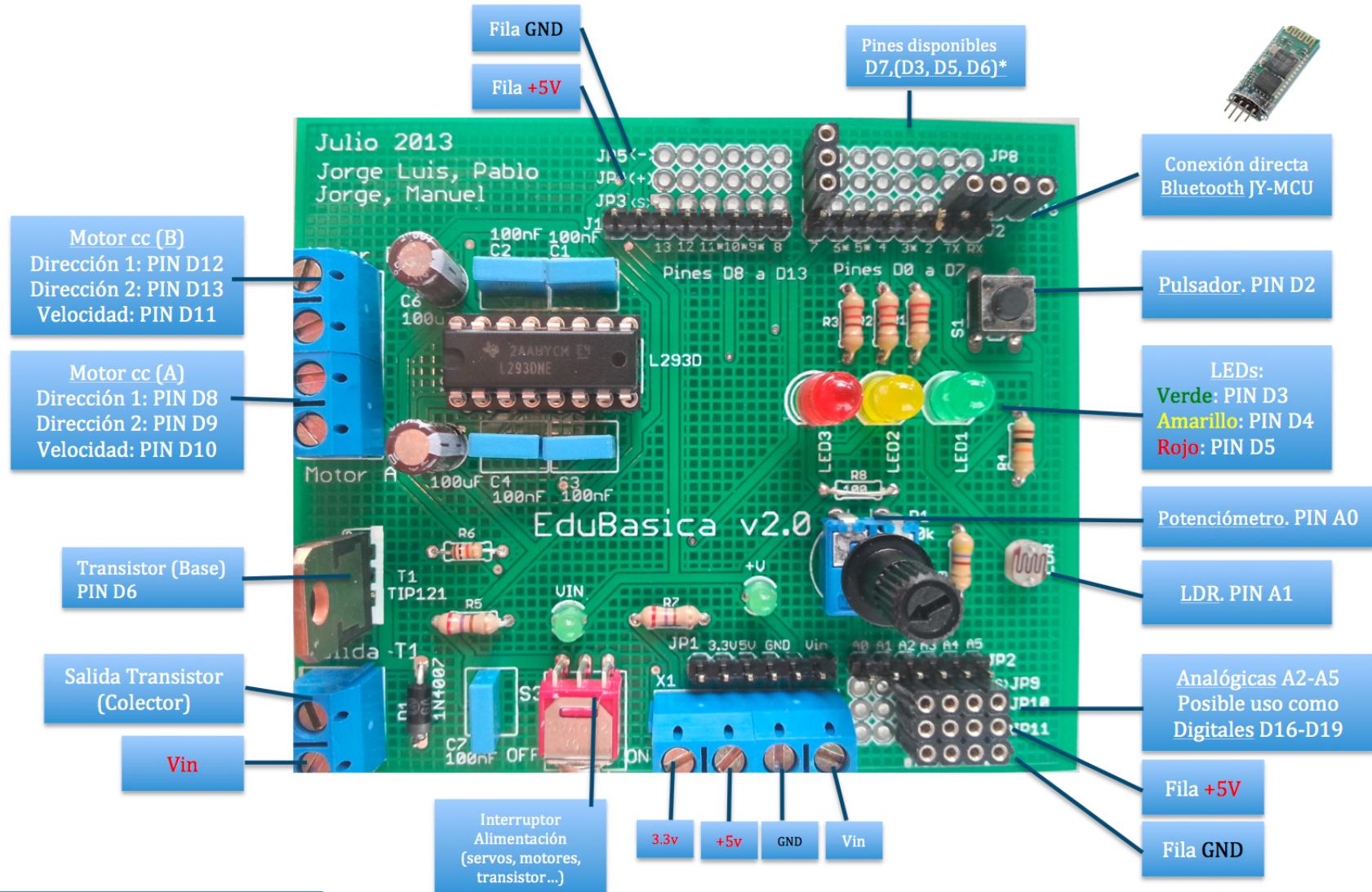
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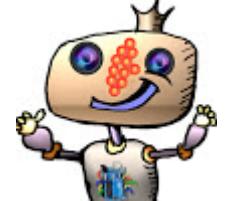


EduBasica v2.0 (rev. Nov/2013)



*Usar esos pines anulan el transistor, y los LEDs

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www.practicasconarduino.com/

<https://github.com/leobotmanuel/EduBasica>

Prácticas en el aula

<http://www.practicasconarduino.com/manualrapido/>

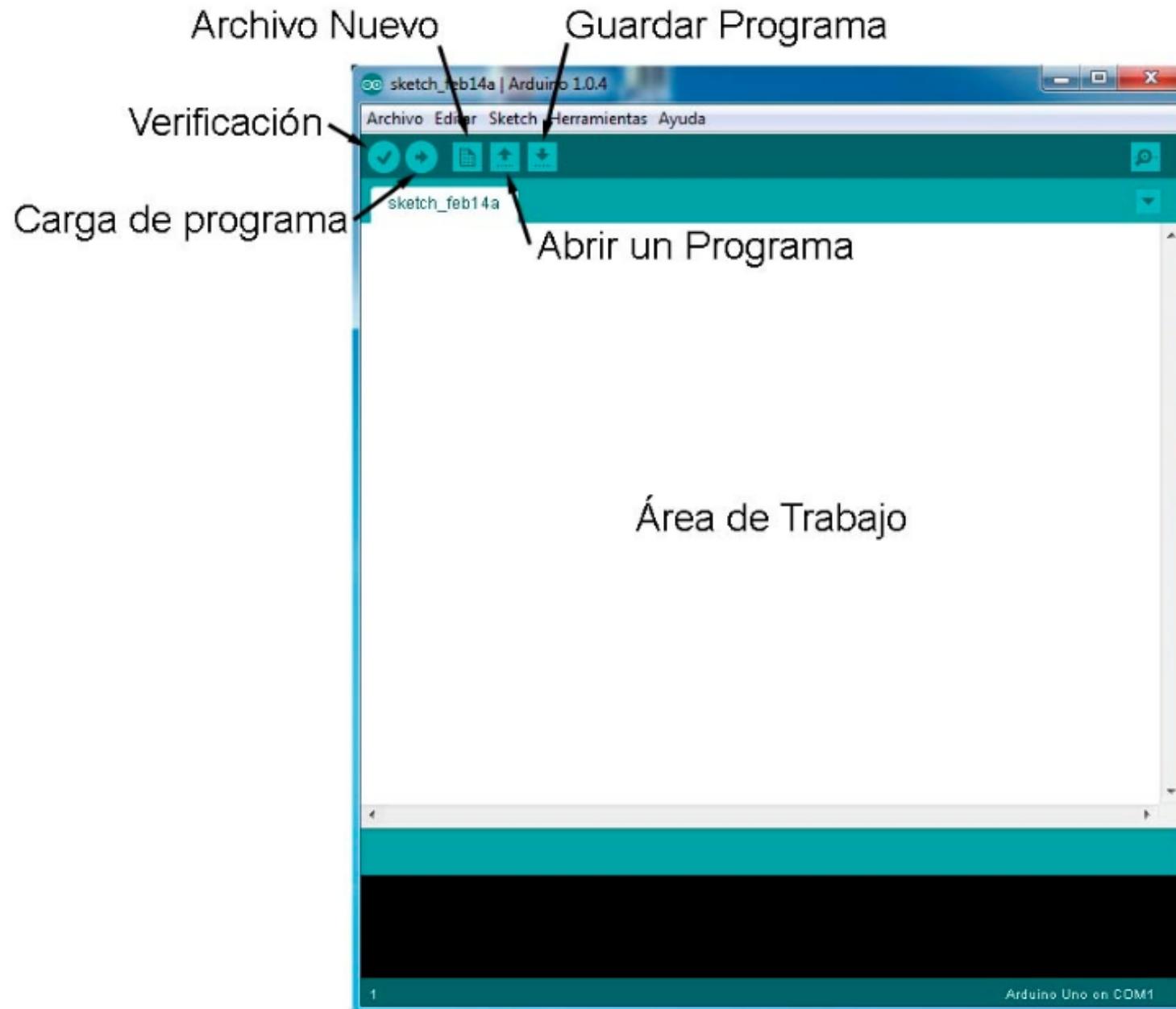
Video montaje EduBasica

<https://www.youtube.com/watch?v=OG5RQnMbqs8>

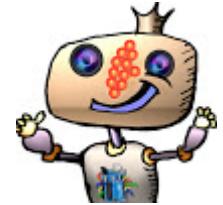
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Entorno de programación (IDE)



Taller EduBasica (II)



Estructura de programa

Knob

```
// Controlling a servo position using a potentiometer (variable resistor)
// by Michal Rinott <http://people.interaction-ivrea.it/m.rinott>
```

Descripción del programa

```
#include <Servo.h>

Servo myservo; // create servo object to control a servo

int potpin = 0; // analog pin used to connect the potentiometer
int val; // variable to read the value from the analog pin
```

Módulos y declaración de variables

```
void setup()
{
    myservo.attach(9); // attaches the servo on pin 9 to the servo object
}
```

Bloque de configuración

```
void loop()
{
    val = analogRead(potpin);
    val = map(val, 0, 1023, 0, 179);
    myservo.write(val);
    delay(15);
}
```

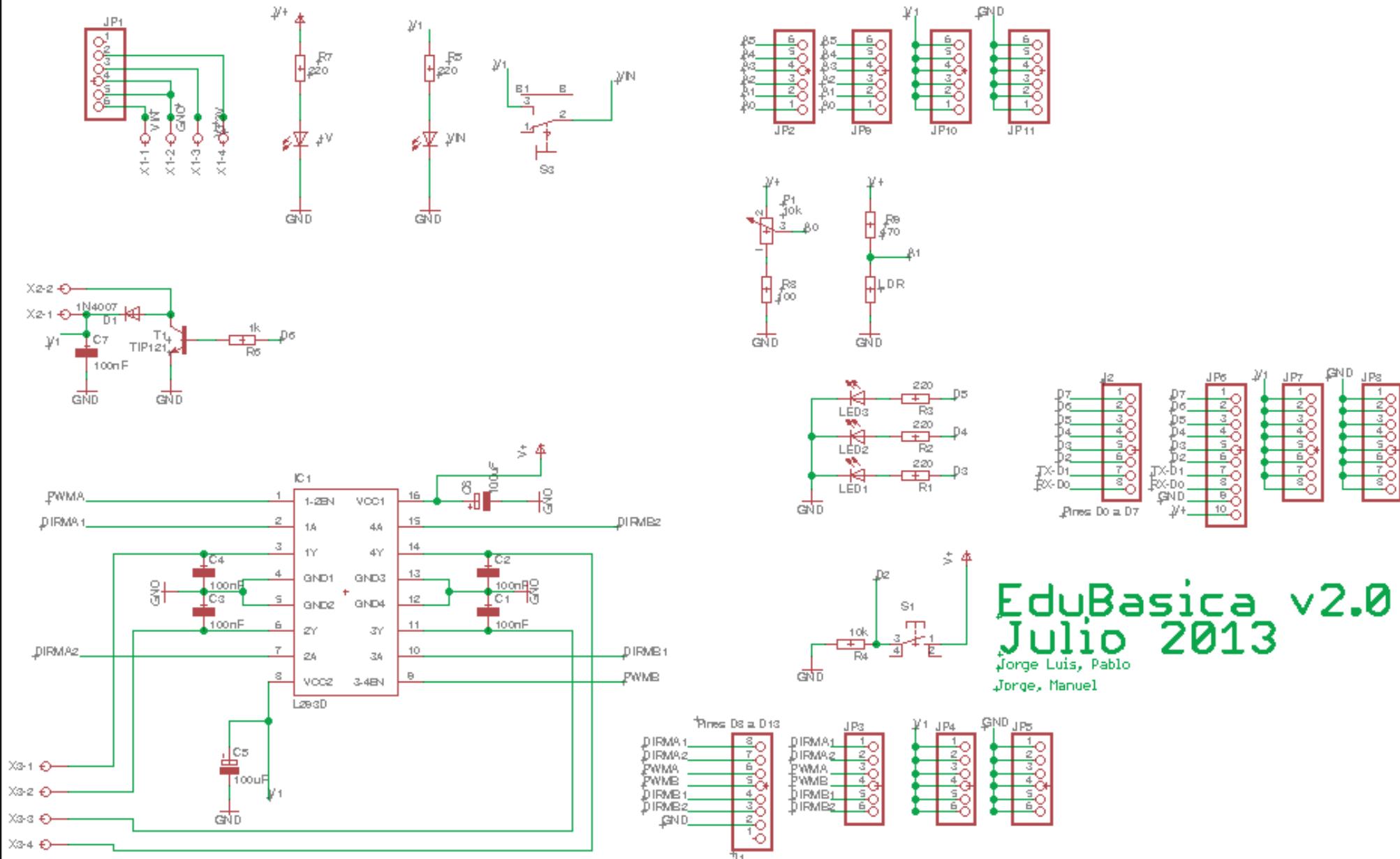
Bloque de ejecución continua

```
        // reads the value of the potentiometer (value between 0 and 1023)
        // scale it to use it with the servo (value between 0 and 180)
        // sets the servo position according to the scaled value
        // waits for the servo to get there
```

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Esquemático de EduBasica



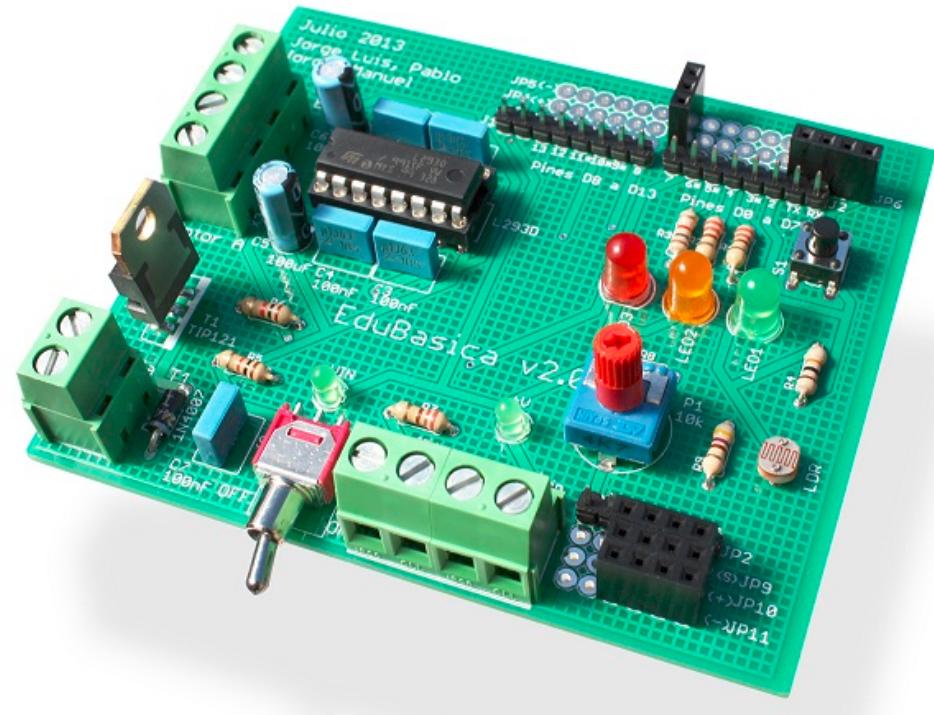
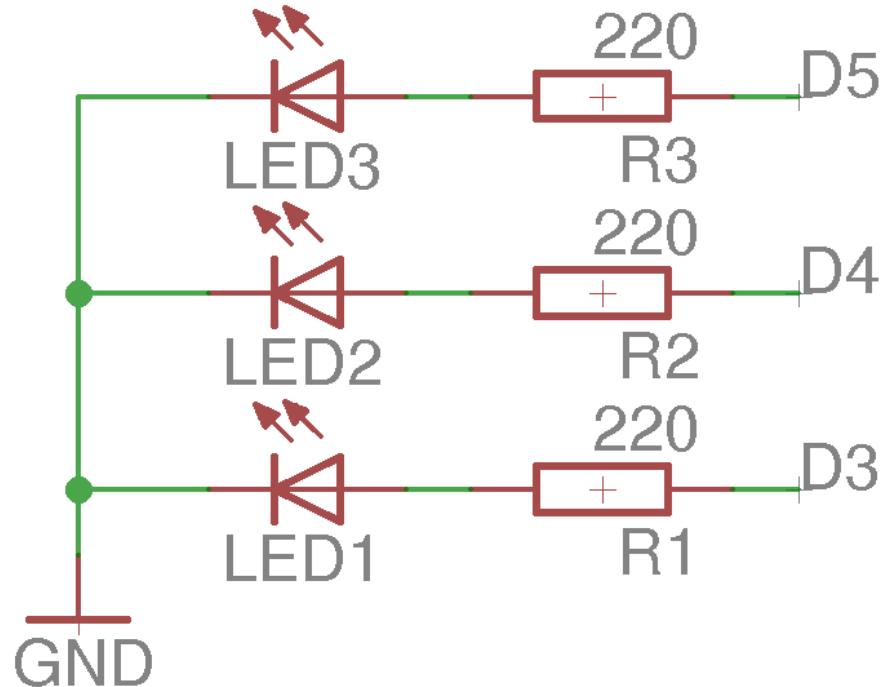
EduBasica v2.0
Julio 2013

Jorge Luis, Pablo
Jorge, Manuel

Taller EduBasica (II)



Salidas Digitales



Programas de test:

- test00_blink.ino
- test01_leds.ino

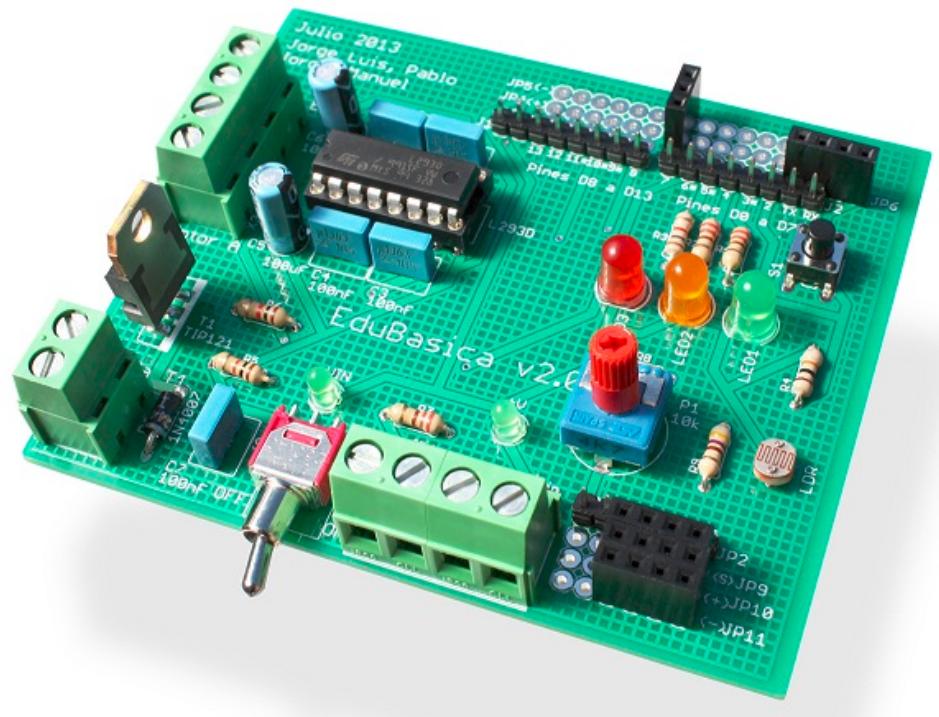
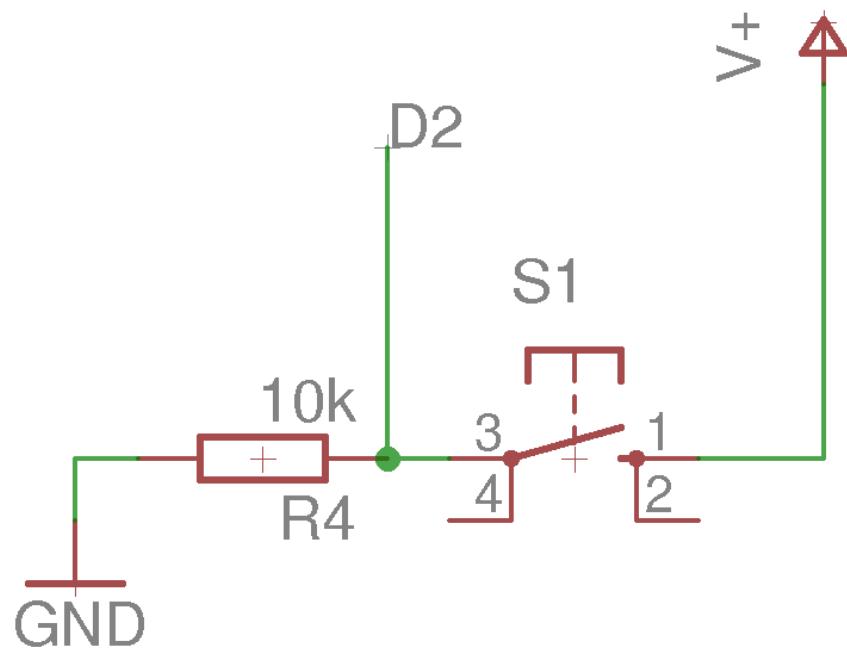
Actividades:

- Programar secuencias con tiempos diferentes.

Taller EduBasica (II)



Entrada Digital



Programas de test:

- test02_pulsador.ino

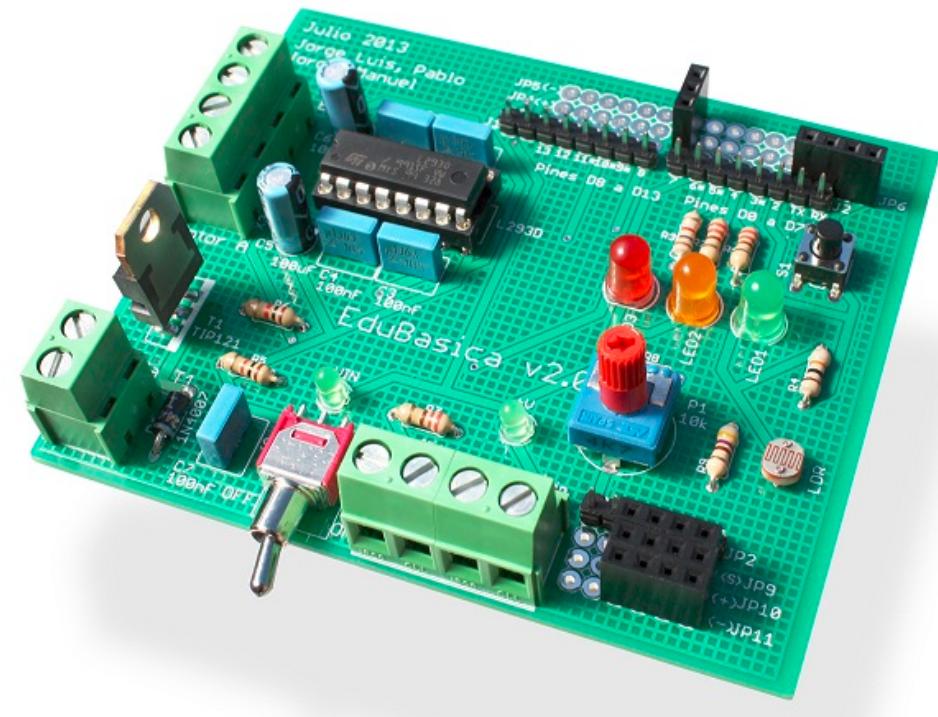
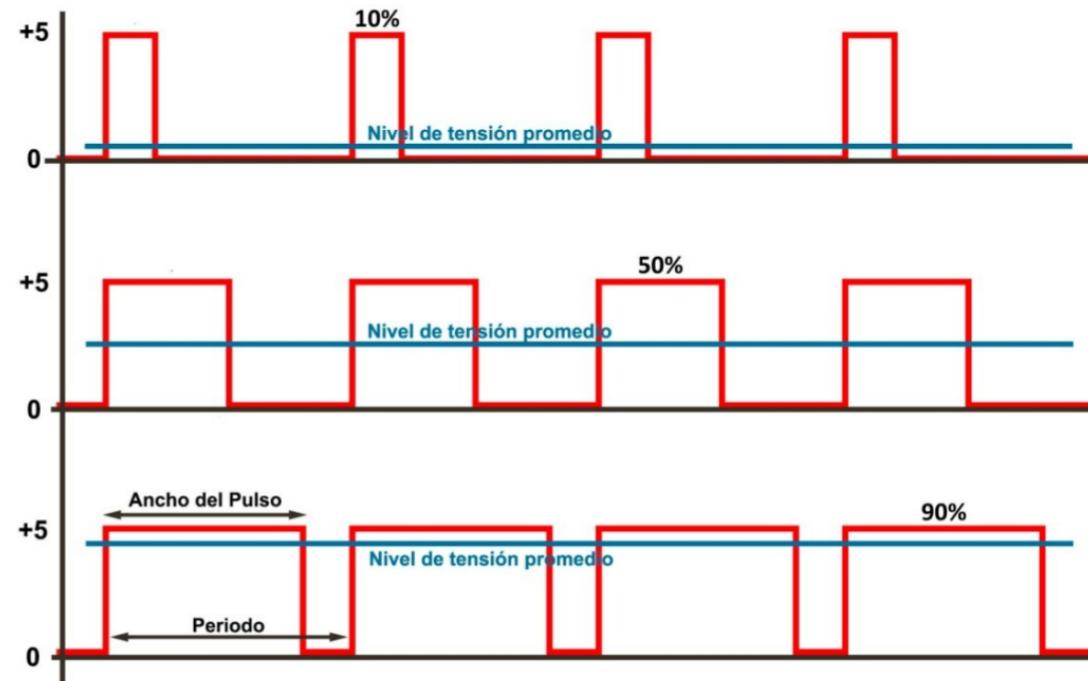
Actividades:

- Programar secuencias cambiantes al pulsar el pulsador.
- Semáforo activado con el pulsador.

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Salidas Analógicas

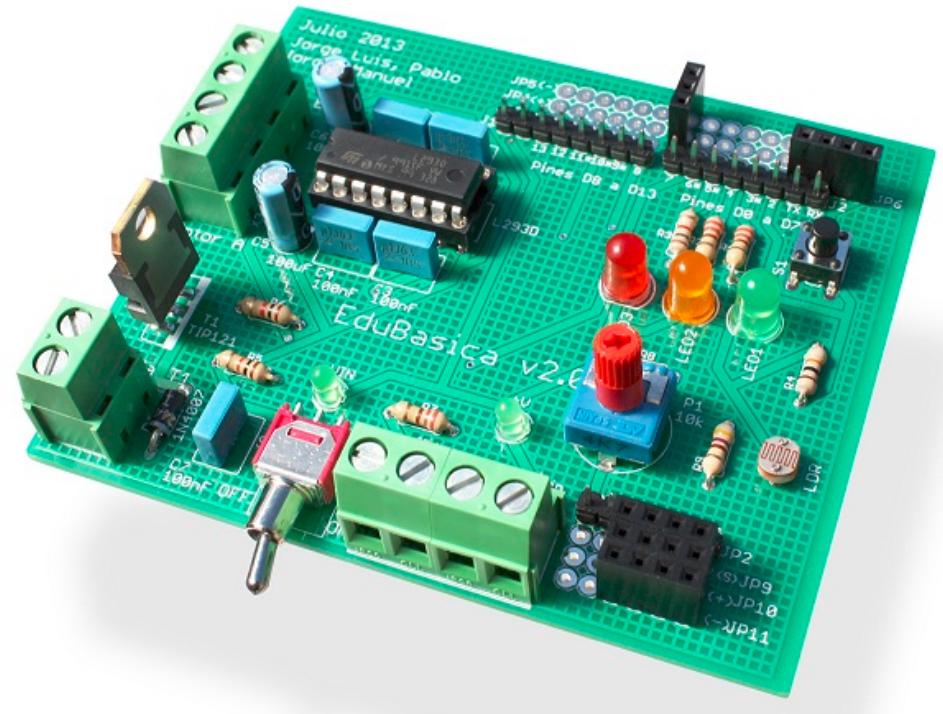
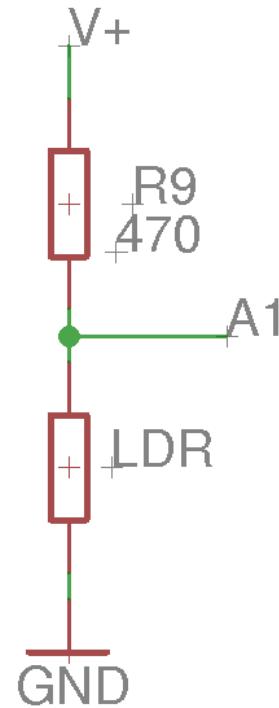
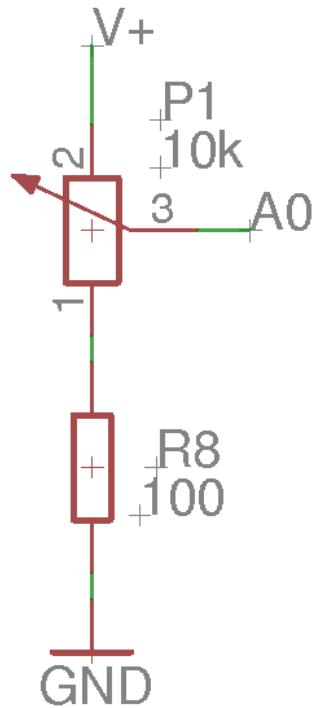


La aplicación de la señal PWM (señal ~ 500Hz) se ve con las entradas analógicas.

Taller EduBasica (II)



Entradas Analógicas



Programas de test:

- test03_potenciómetro.ino
- test04_LDR.ino

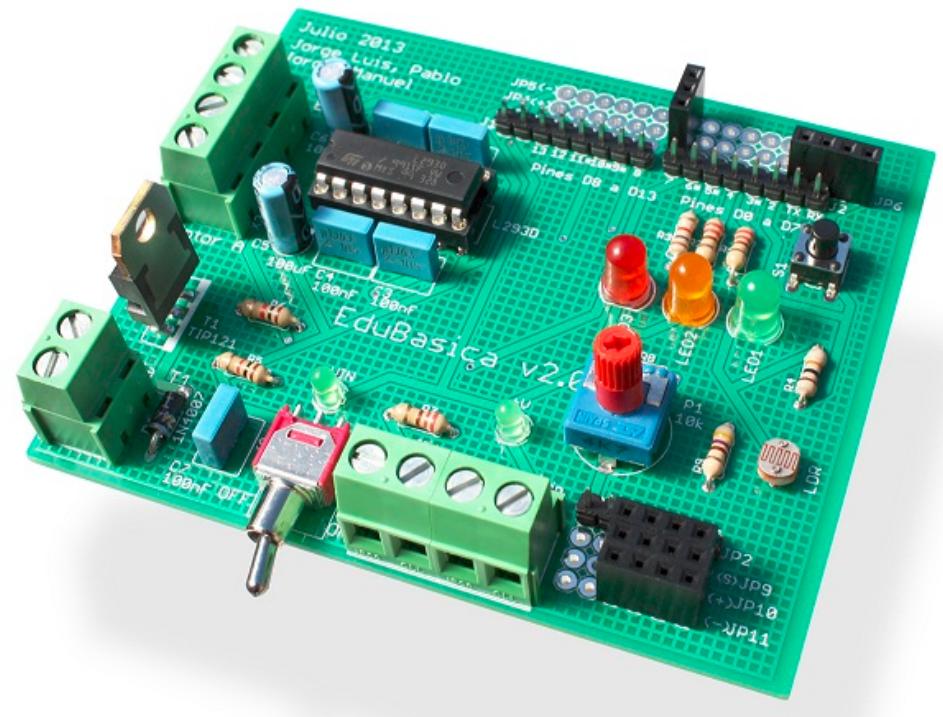
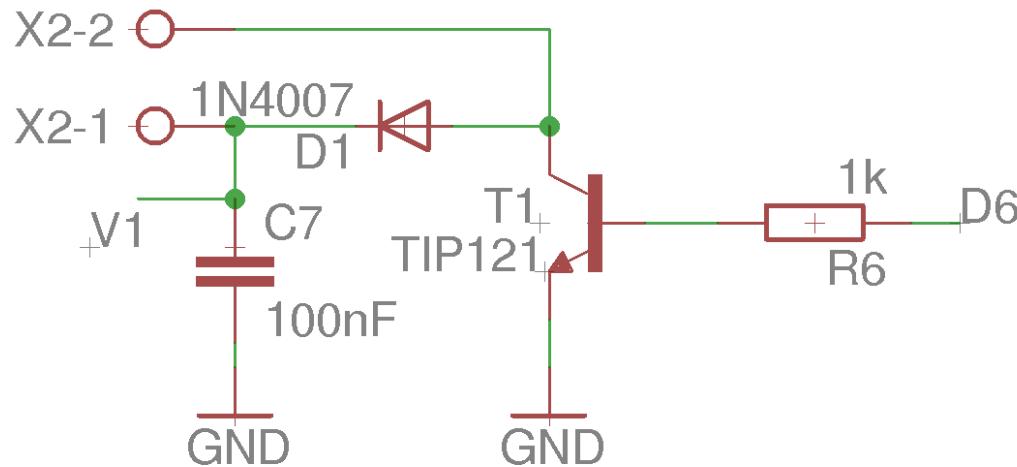
Actividades:

- Programar el encendido de un led con el LDR (día-noche).

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Salida de potencia



Programas de test:

- test05_Transistor.ino

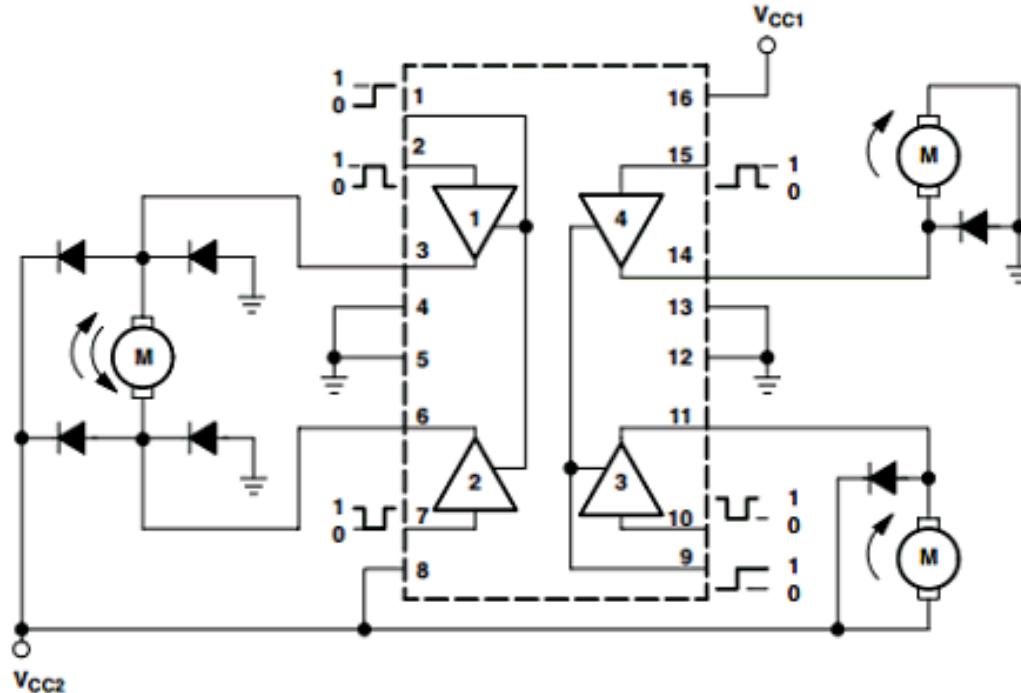
Actividades:

- Programar el control de giro del motor dc con el potenciómetro.

Taller EduBasica (II)



L293. Integrado de control de motores



NOTE: Output diodes are internal in L293D.

**FUNCTION TABLE
(each driver)**

INPUTS [†]		OUTPUT
A	EN	Y
H	H	H
L	H	L
X	L	Z

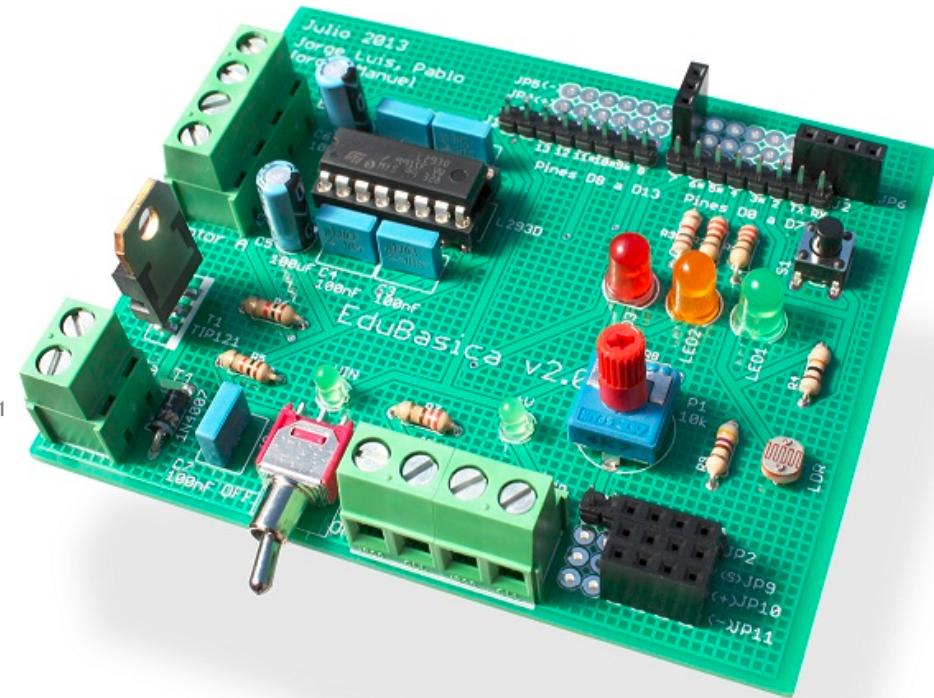
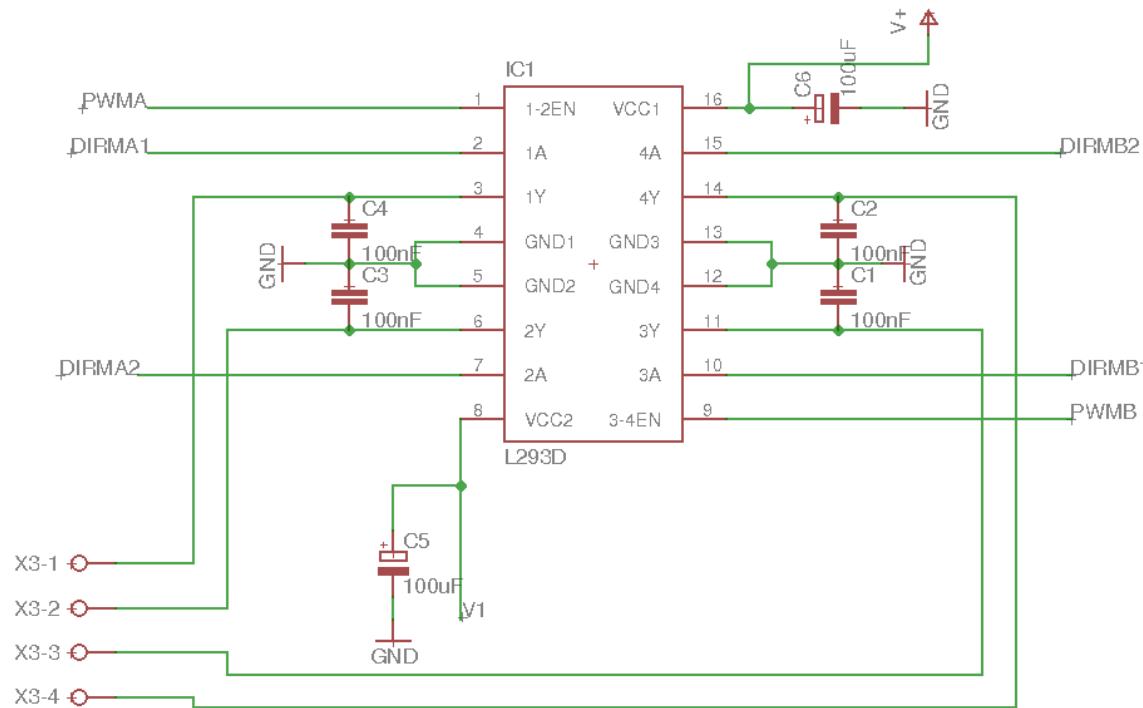
H = high level, L = low level, X = irrelevant,
Z = high impedance (off)

[†] In the thermal shutdown mode, the output is
in the high-impedance state, regardless of
the input levels.

Taller EduBasica (II)



L293. Integrado de control de motores



Programas de test:

- test06_MotorA.ino
- test07_MotorB.ino

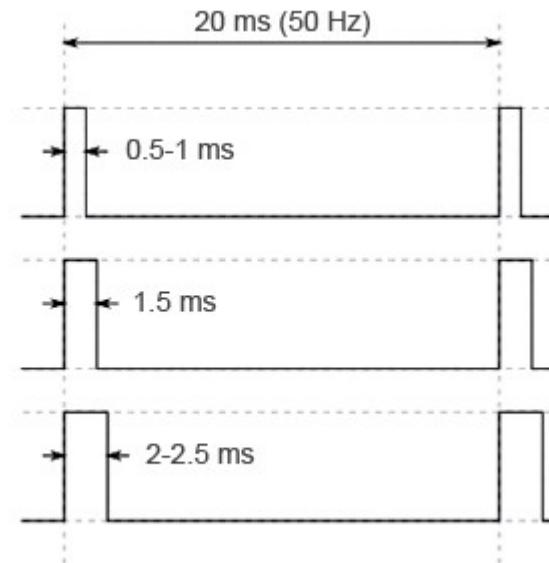
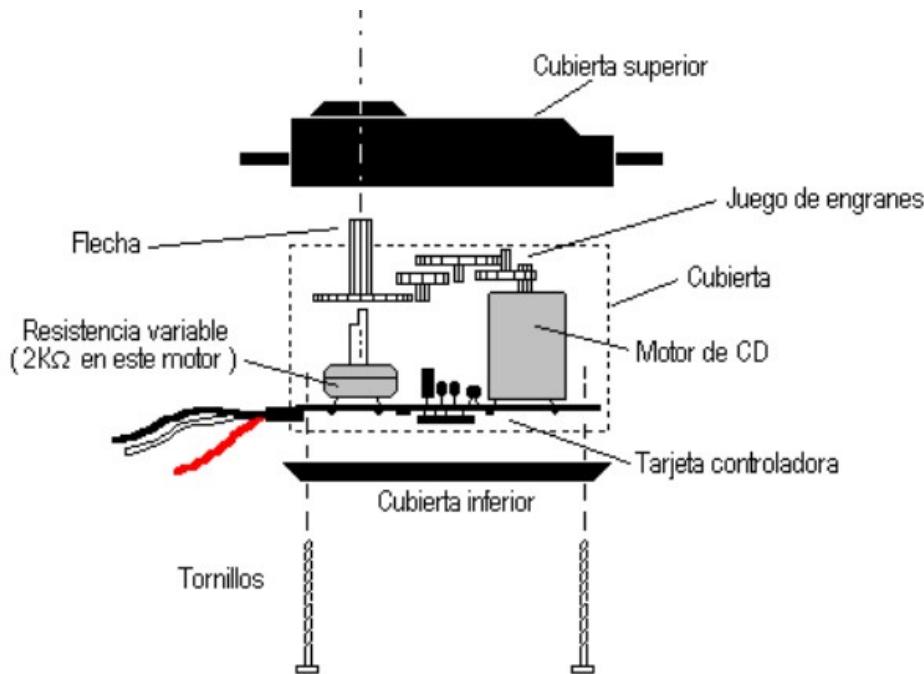
Actividades:

- Programar el control de sentido de giro de los motores con el pulsador.
- Programar el control de velocidad de los motores con el potenciómetro.

Taller EduBasica (II)



Servomotores.



Fuente: - [Servomotor](#)
- [Servomotor de rotación continua](#)

Programas de test:

- test09_ServoPin7.ino
- test10_ServoPin7pot.ino

Actividades:

- Investigar el funcionamiento del servomotor de rotación continua.
- Programar el control del servomotor de rotación continua.

Taller EduBasica (II)



MUCHAS GRACIAS
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