SoC Robot Cartógrafo: Mapa de memoria

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Grupo 02

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[8]

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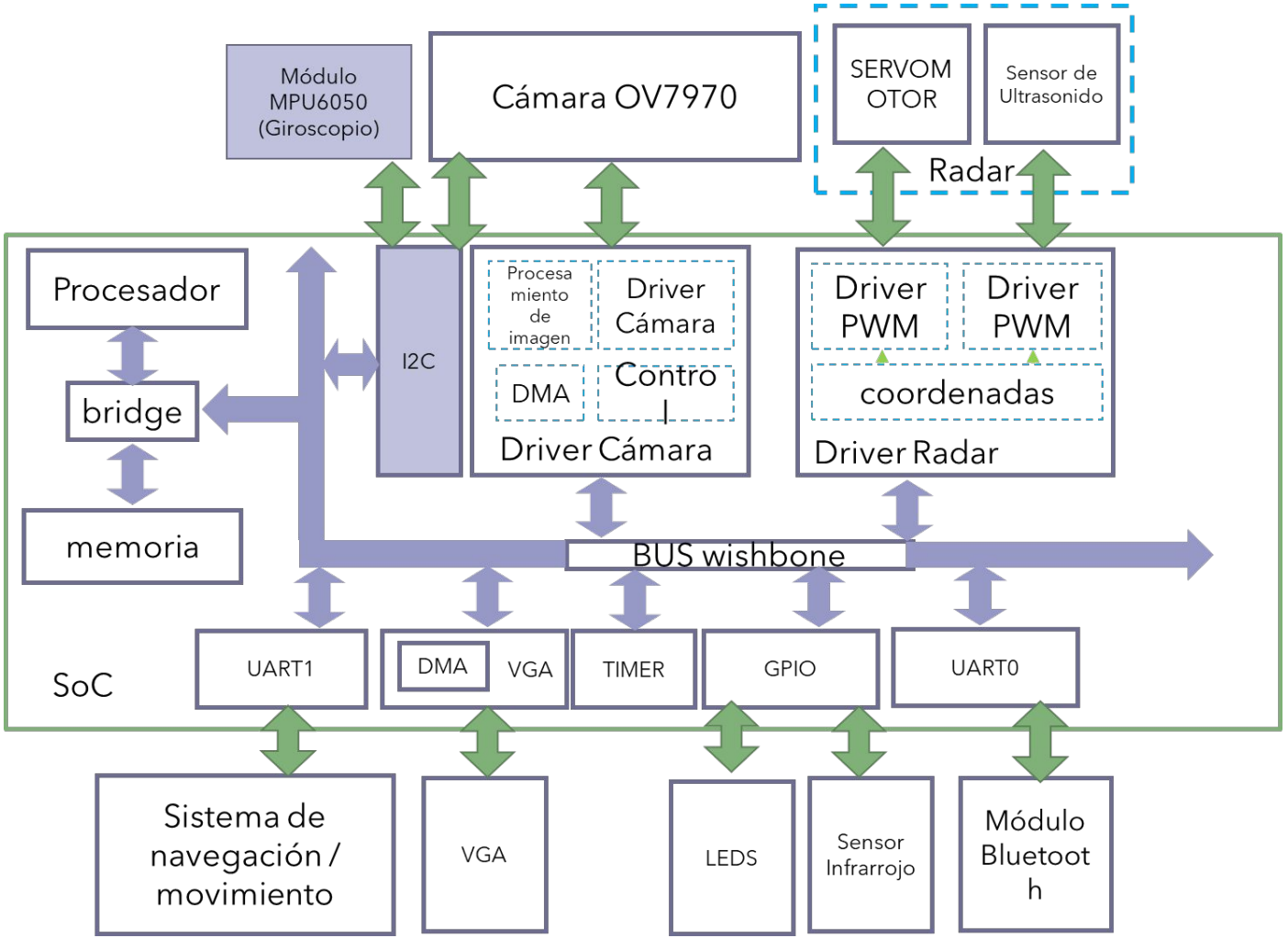
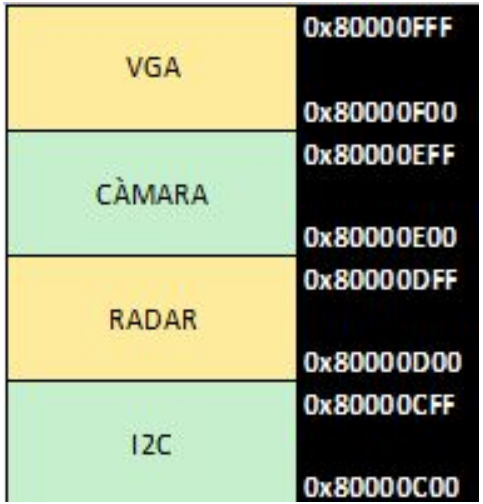
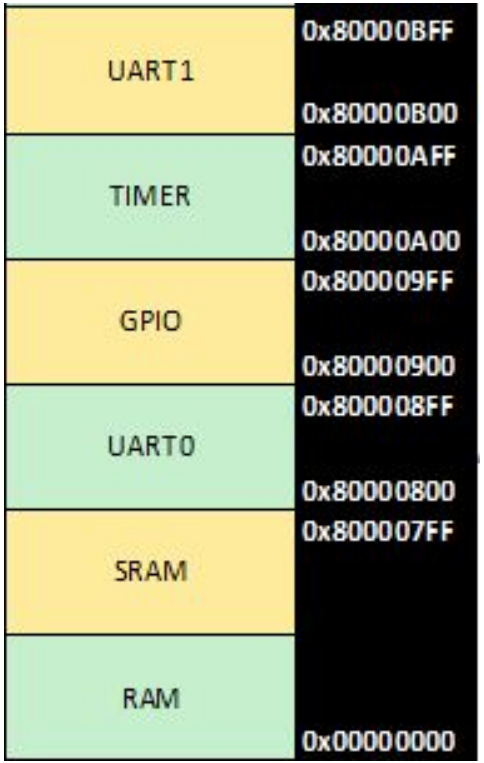

Módulo MPU6050 (Giroscopio)
Cámara OV7970
SERVOMOTOR
Sensor de Ultrasonido
Radar
Procesador
bridge
memoria
I2C
Procesamiento de imagen
Driver Cámara
DMA
Control
Driver Cámara
Driver PWM
Driver PWM
coordenadas
Driver Radar
BUS wishbone
SoC
UART1
DMA
VGA
TIMER
GPIO
UART0
Sistema de navegación / movimiento
VGA
LEDS
Sensor Infrarrojo
Módulo Bluetooth

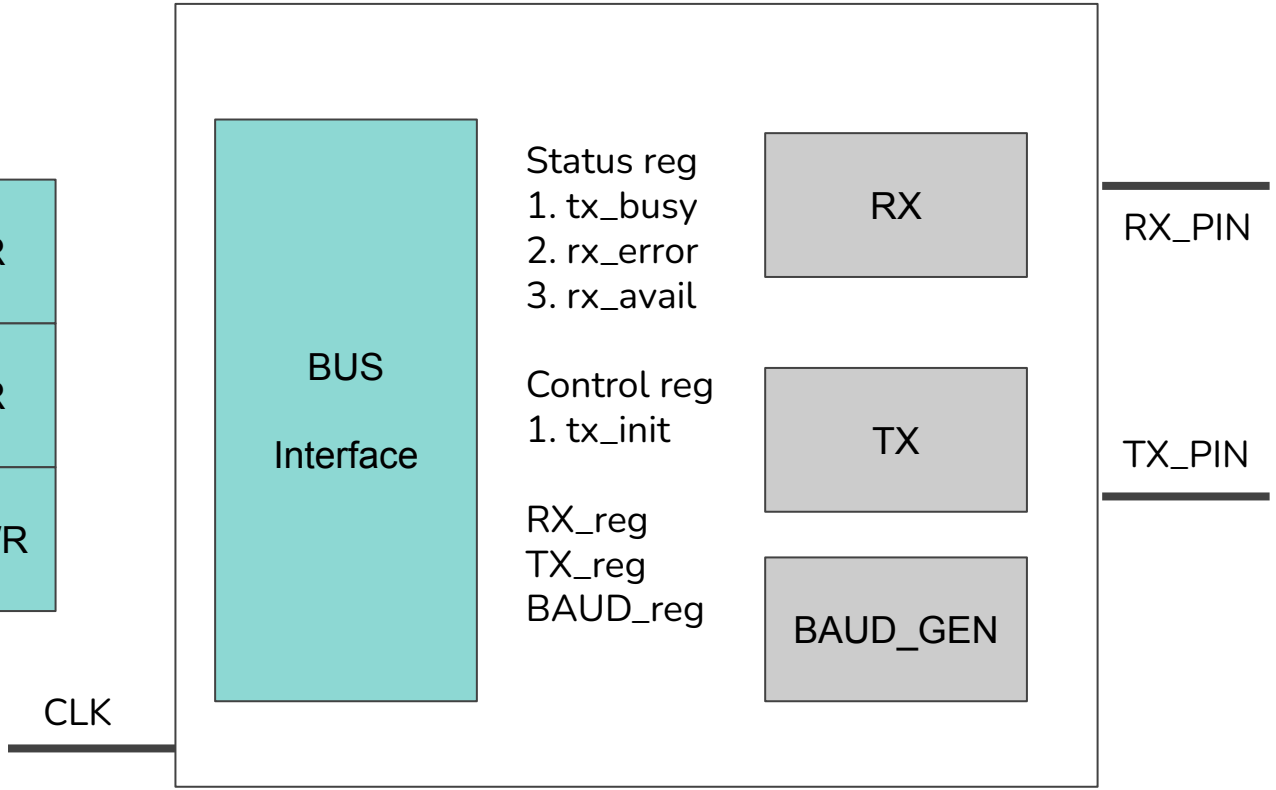
Mapa de memoria





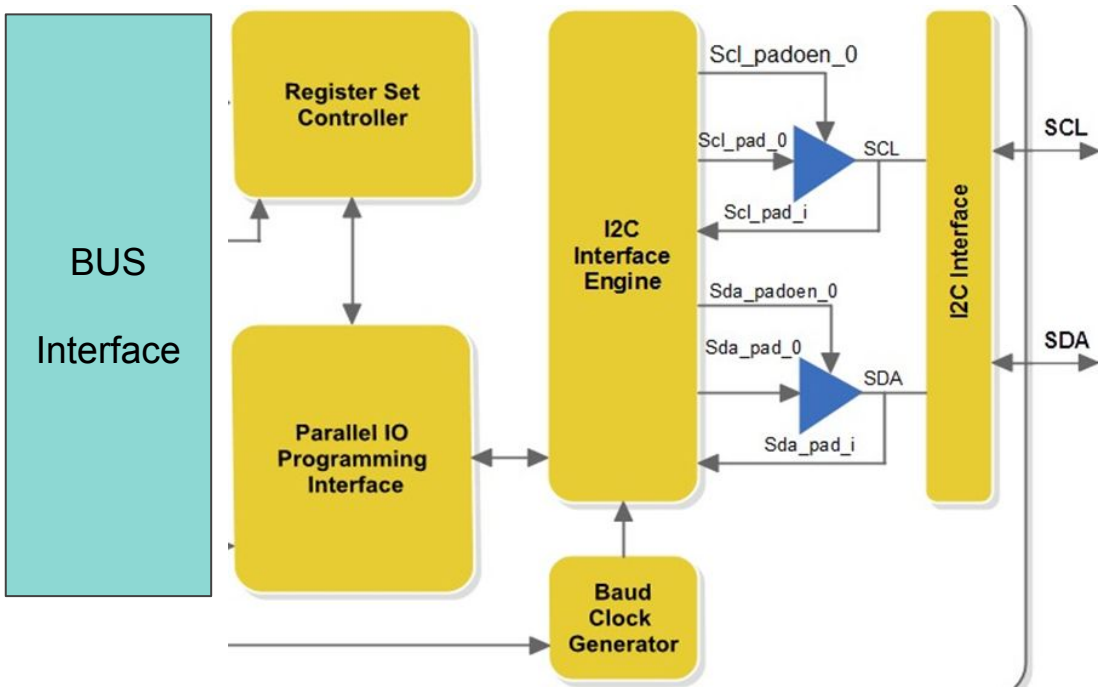
UART

BAUD	base+08	R
UCR	base+04	R
RXTX	base+00	W/R



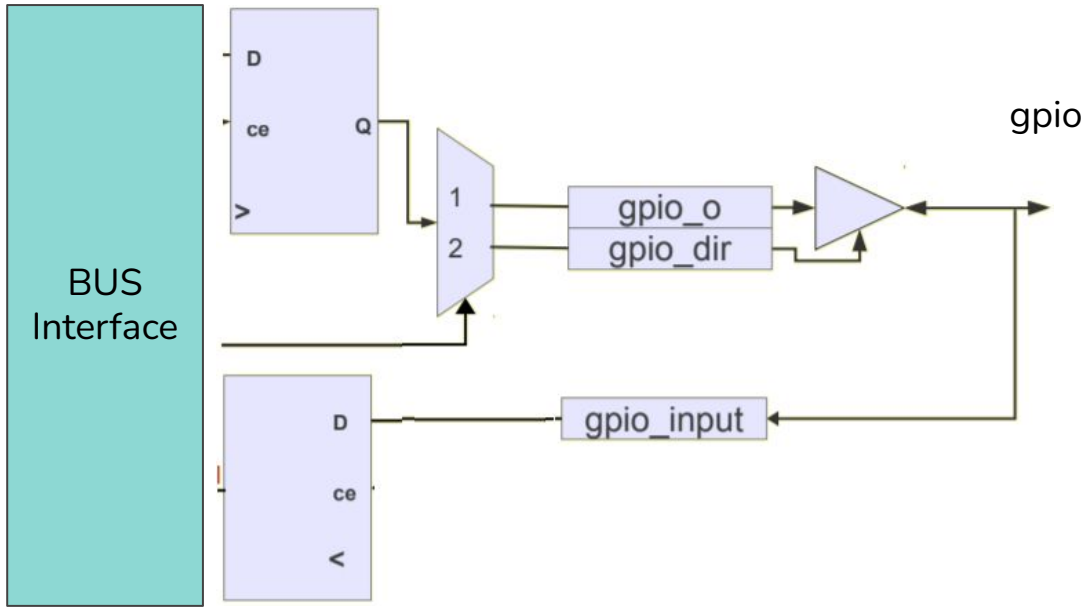
I2C

CPOL	base+0C	W/R
CPHA	base+0A	W/R
CTRL	base+08	W/R
SDA	base+04	W/R
SCL	base+00	W/R



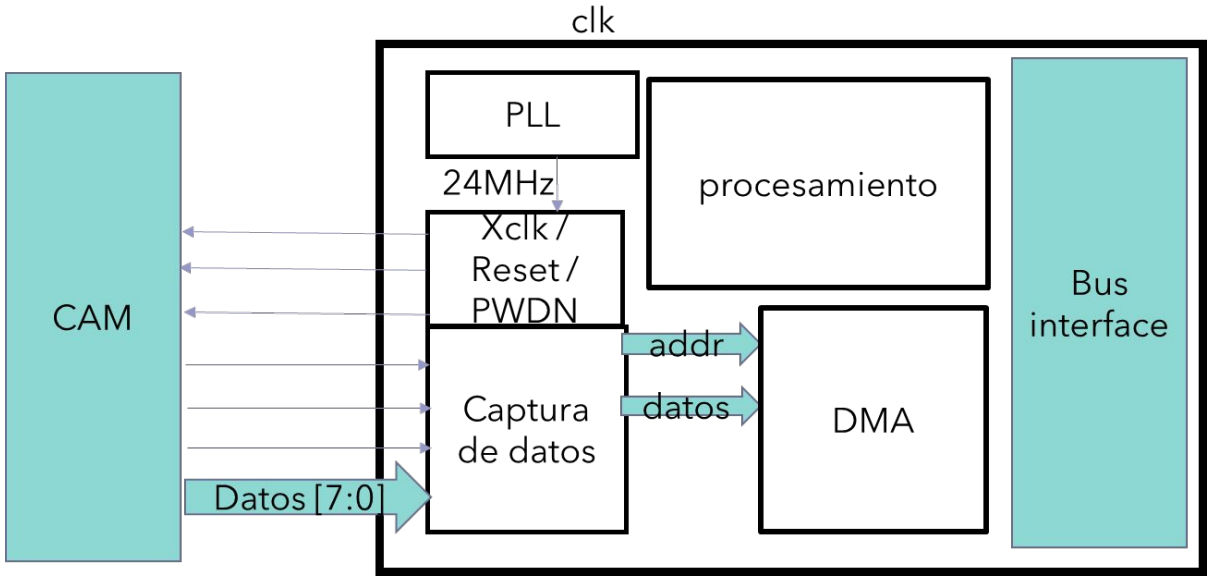
GPIO

WRITE	base+08	W
READ	base+04	R
DIR	base+00	W



Cámara

COLOR	base+10	R
FORM	base+0C	R
PHOTO	base+08	W
DONE	base+04	R
CTRL	base+00	R

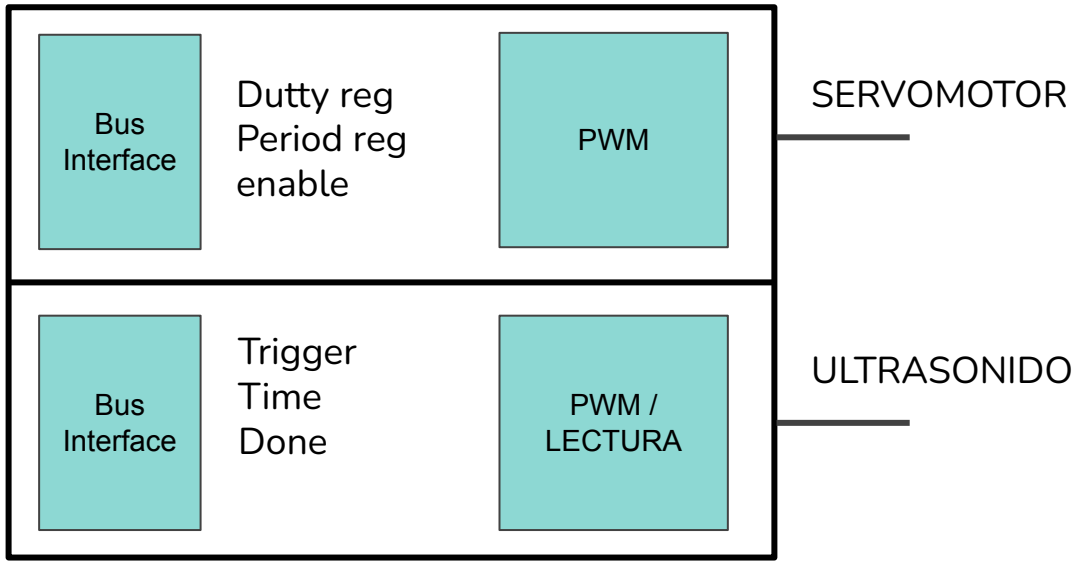


Control reg
1. Busy
2. Error

Radar

ENABLE	base+14	W
PERIOD	base+10	W
DUTTY	base+0C	W

ENABLE	base+08	W
TIME	base+04	R
DONE	base+00	R



TIMER (Hardware)

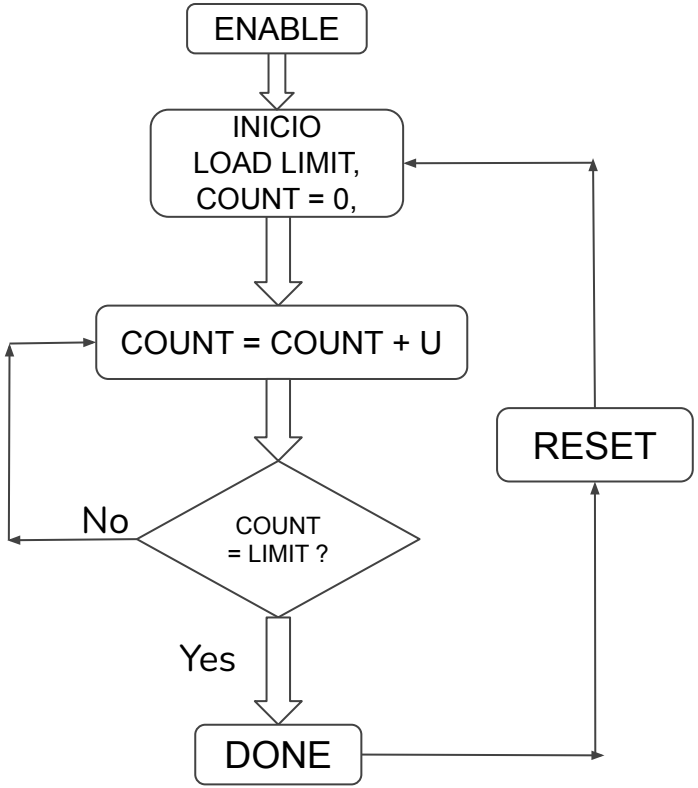
CTRL	base+08	R
COUNT	base+04	R
LIMIT	base+00	W

BUS Interface

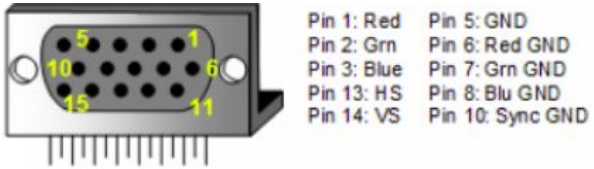
CTRL
1. Done
2. Reset
3. Enable

COUNT
(Suma una unidad de tiempo)

LIMIT



VGA

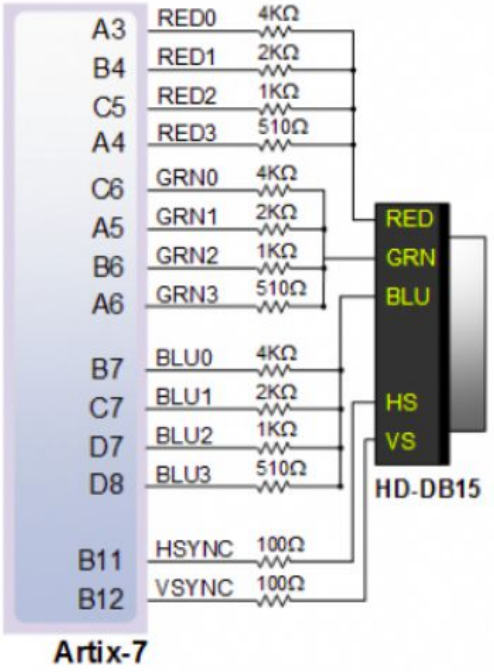


DATOS	Base + 00	W

4 bits cada color

SYNC	Base + 04	W

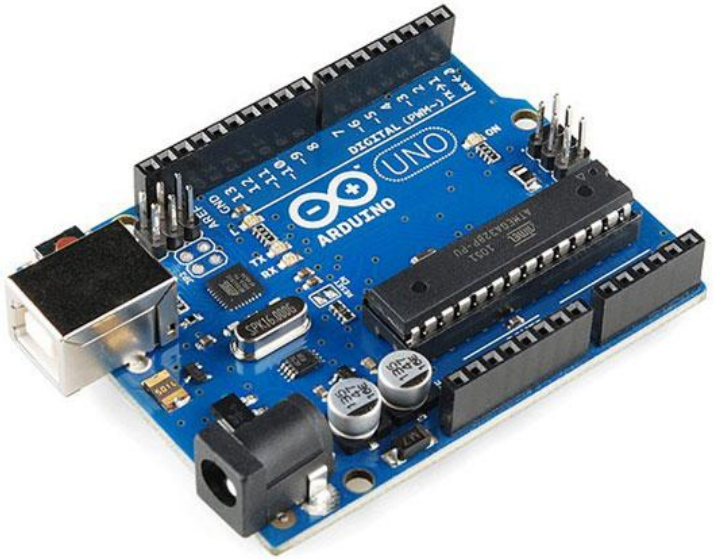
RES	Base + 08	W



[1]

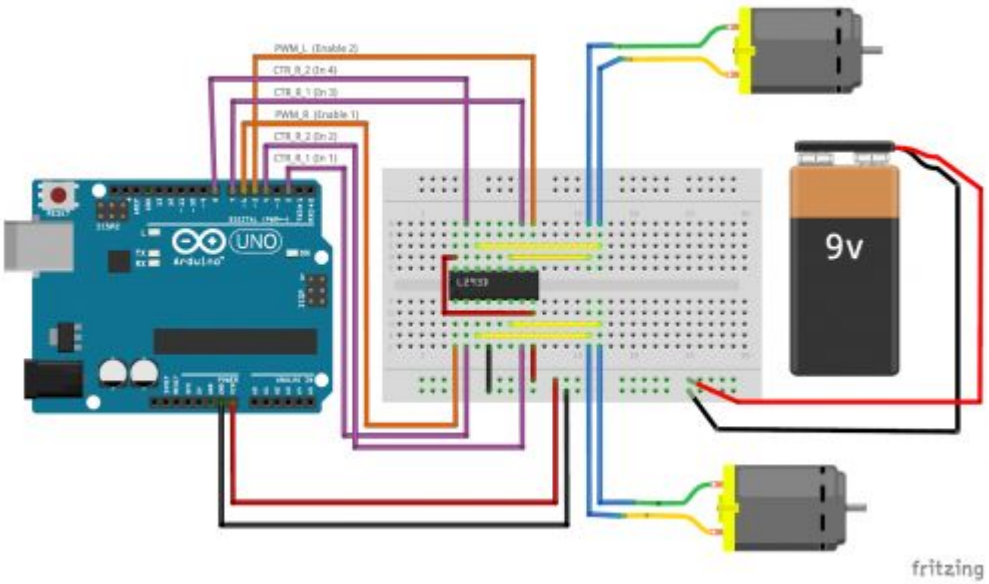
MOVIMIENTO DEL ROBOT CARTÓGRAFO

BAUD	base+08	R
UCR	base+04	R
RXTX	base+00	W/R

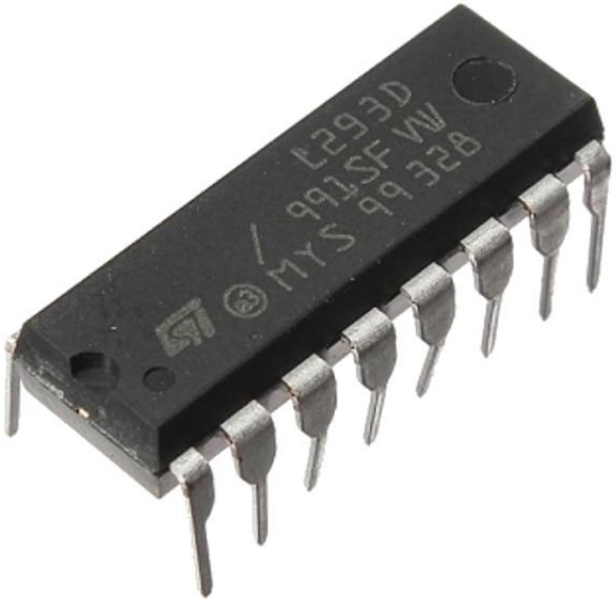


Arduino UNO. Tomado de [2]

Puente H



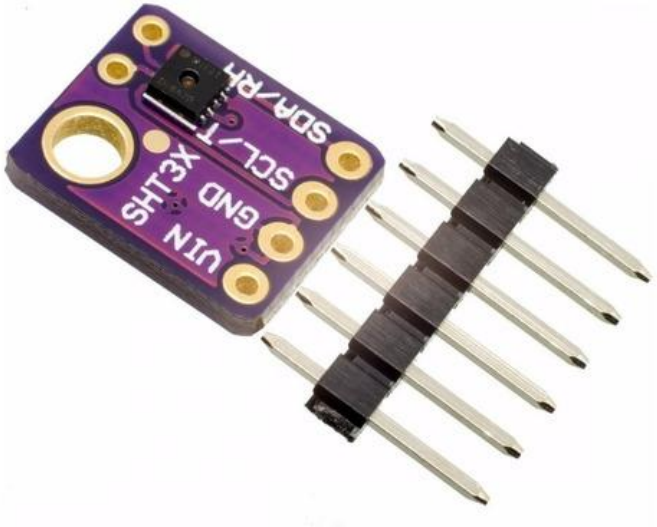
Montaje para el movimiento de los motores. Tomado de [4]



Integrado L293D. Tomado de [3]

Sensor de temperatura y humedad SHT31 [5]

- Rango de humedad: 0 % a 100 %.
- Tolerancia de humedad relativa: -2 % a 2%
- Rango de temperatura: -40 °C a 125 ° C.
- Tolerancia de temperatura: -0.3 °C a +0.3°C
- Dirección I2C por defecto: 0x44.



Sensor SHT31 [6]

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Muchas gracias por su atención