PROCESSADOR

U1

+5V

Pin	Label	Pin	Label
2	PD0/RXD/PCINT16	14	PB0/ICP1/CLKO/PCINT0
3	PD1/TXD/PCINT17	15	PB1/OC1A/PCINT1
4	PD2/INT0/PCINT18	16	PB2/SS/OC1B/PCINT2
5	PD3/INT1/OC2B/PCINT19	17	PB3/MOSI/OC2A/PCINT3
6	PD4/T0/XCK/PCINT20	18	PB4/MISO/PCINT4
11	PD5/T1/OC0B/PCINT21	19	PB5/SCK/PCINT5
12	PD6/AIN0/OC0A/PCINT22	9	PB6/TOSC1/XTAL1/PCINT6
13	PD7/AIN1/PCINT23	10	PB7/TOSC2/XTAL2/PCINT7

d0 d1 d2 d3 d4 d5 d6 d7

21 AREF
20 AVCC

Pin	Label	
23	PC0/ADC0/PCINT8	a0
24	PC1/ADC1/PCINT9	a1
25	PC2/ADC2/PCINT10	a2
26	PC3/ADC3/PCINT11	a3
27	PC4/ADC4/SDA/PCINT12	a4
28	PC5/ADC5/SCL/PCINT13	a5
1	PC6/RESET/PCINT14	

d8 d9 d10 d11 d12 d13

ATMEGA328P
16MHz

Sistema Embarcado: Arduino UNO

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d13 — dir_latch
d12 — pwm2a
d11 — pwm1b
d10 — pwm1a
d9 — dir_ser
d8 —

d7 — dir_en
d6 — pwm0a
d5 — pwm0b
d4 — dir_clk
d3 — pwm2b
d2 —
d1 —
d0 —

Power Supply

ON/OFF

Vin (Arduino)

VS

V1
9V
Bateria de 9V
Alcalina

V2
7.5V
5 Pilhas AA
Alcalinas

U2

VS

16 VSS
8 VS

Pin			
2	IN1	OUT1	3
7	IN2	OUT2	6
1	EN1		
9	EN2	OUT3	11
10	IN3	OUT4	14
15	IN4		

m1a —
m1b —
pwm2a —
pwm2b —
m2b —
m2a —

OUT1 → motor1a
OUT2 → motor1b
OUT3 → motor2b
OUT4 → motor2a

GND GND

L293D
Double
H-Bridge

C7 47uF 50V
C3 100uF 16V
C4 100nF 63V

VS

U3

VS

16 VSS
8 VS

Pin			
2	IN1	OUT1	3
7	IN2	OUT2	6
1	EN1		
9	EN2	OUT3	11
10	IN3	OUT4	14
15	IN4		

m3a —
m3b —
pwm0b —
pwm0a —
m4b —
m4a —

OUT1 → motor3a
OUT2 → motor3b
OUT3 → motor4b
OUT4 → motor4a

GND GND

L293D
Double
H-Bridge

C8 47uF 50V
C5 100uF 16V
C6 100nF 63V

VS

Motor Shield L293D

U4
74HC595
Shift Register

Pin	Label		Pin	Label
11	SH_CP		15	Q0
14	DS		1	Q1
			2	Q2
12	ST_CP		3	Q3
			4	Q4
			5	Q5
10	MR		6	Q6
13	OE		7	Q7
			9	Q7'

dir_clk
dir_ser
dir_latch
dir_en

R2 10k

RP1
RESPACK-8
8 x 10k

9	m4a
8	m2a
7	m1a
6	m1b
5	m2b
4	m3a
3	m4b
2	m3b
1	

C2 100nF

Sensors & Actuators

+5V

VCC Trig Echo GND

a4
a5

+5V

SERVO
pwm1b
+88.8

motor1a
M1 6V
motor1b

motor2b
M2 6V
motor2a

motor3a
M3 6V
motor3b

motor4b
M4 6V
motor4a

TITLE:
Robô 4x4 Arduino
Curso de Arduino e AVR

BY: Eng. Wagner Rambo   REV: -

DATE: 21/06/16

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