

Components for Control Board

Dashed outlines mean component orientation is critical

3: R5, R16, R15
330 Ω Resistor
Orange-Orange-Brown

3: R2, R14, R19
1k Ohm Resistor
Brown-Black-Red

5: R4, R6, R9, R12, R13,
10k Ohm Resistor
Brown-Black-Orange

4: R3, R7, R11, R17
100k Ohm Resistor
Brown-Black-Yellow

1: R8
51k Ohm Resistor
Green-Brown-Orange

1: R10
33k Ohm Resistor
Orange-Orange-Orange

1: R18
220K Ohm Resistor
Red-Red-Yellow

20: D0-D3, D5-D20
1N4148 Diode
*Match diode stripe with
stripe on board*

2: Uc_White, Uc_Blue
28-Pin Dip **Socket**
ATMEGA_48
Not the IC

1: R1
1 Ω Resistor
"U" shaped wire. Does
not look like a resistor

1: S1
SPST Switch. Pin spacing
allows only two ways to
place. Either way is OK.

1: J7. 3-Pin Female Fuse
Socket

2: J5. 3-Pin Male
Header
ISP

1: S2. Prgm_Select
SPDT Slide Switch

2: LED_1, LED_2
Bi-Color
*Longer lead is +, Shorter
is flat side*

1: LED_3
Red
*Longer lead is +, Shorter
is flat side*

Q2, Q3: C5019
Match shape with
silkscreen

Q4: MPSA65
Match shape with
silkscreen

Control Board Components (cont)

3: C1, C2, C4
0.1 μ F Capacitor

1: D4
1N5402 Diode
Match diode stripe with stripe on board

2: J1, J4. 4-pin male connector
Left Motor, Right Motor
Plastic lip matches with stripe on board

1: U3. 5V Regulator
Flat side against board

1: C3
200 μ F Capacitor
Long lead is +

1: Audio Transducer
+ on case matches + on board

1: J6. 20-Pin Male Ribbon Cable Connector
Single slot to center of board

1: SPDT Relay
Only fits one way

1: Male Connector
Charger
Red wire is +

1: Female Connector
Battery
Red wire is +

2: U1, U2. H Bridge L298
Warning! Mount on Back Side of Board

1: Q1. TIP-127FP
Place flat side to outside of board. **Warning! Mount on Back Side of Board**

1: Fuse
Place in socket when board is completed.
Do Not Solder

2: μ C_White, : μ C_Blue : ATMEGA 48
Place in socket when board is completed.
Do Not Solder