

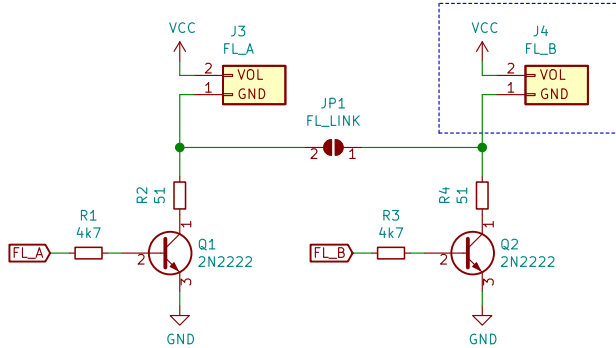
VCC when calculating LED loading resistors have been assumed to be at 8V, but you're really supposed to do the actual calculations using real information about how you're wiring it up and the components you're using.

<https://ledcalculator.net/>

Assuming 2 WHITE LEDs in series, 3.5V voltage drop and 20mA current.

When linked, double R2/R4 value as starting point. Unlinked, 2x LEDs for FL\_A and FL\_B if needed.

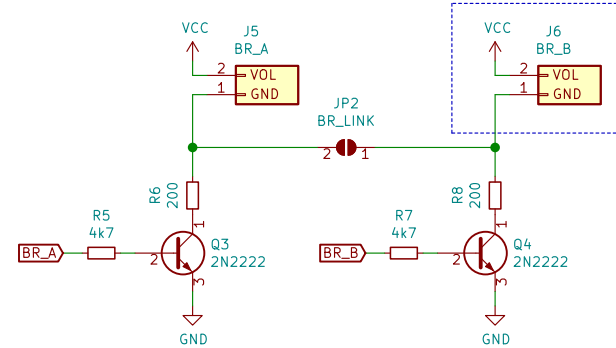
When linking the ports, you would generally not install these parts.



Assuming 2 RED LEDs in series, 2.1V voltage drop and 20mA current.

When linked, double R6/R8 value as starting point. Unlinked, 2x LEDs for BR\_A and BR\_B if needed.

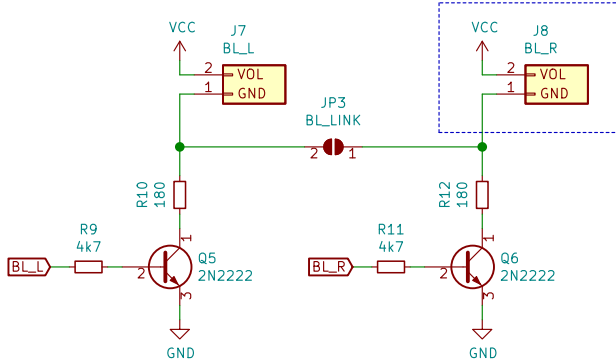
When linking the ports, you would generally not install these parts.



Assuming 2 ORANGE LEDs in series, 2.2V voltage drop and 20mA current.

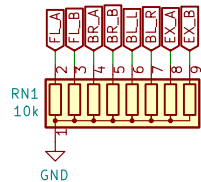
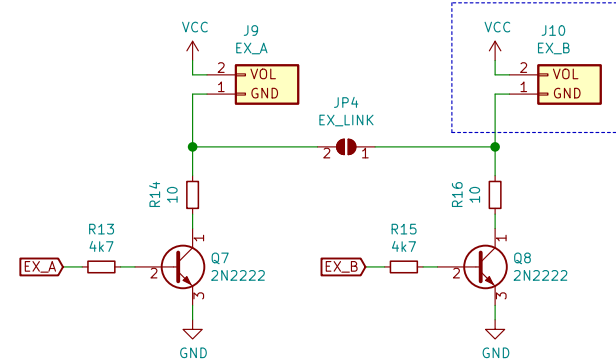
When linked, double R10/R12 value as starting point. Unlinked, 2x LEDs for BL\_L and BL\_R if needed.

When linking the ports, you would generally not install these parts.



Assuming LEDs with resistors already in the lead, resistor as failsafe.

When linking the ports, you would generally not install these parts.



Each port is paired, and can be linked to essentially halve the resistance for that port (if you used equal loading resistors).

Sheet: /Ports/  
File: Ports.sch

**Title: RC Light System Output Ports**

Size: A4  
KiCad E.D.A. kicad (5.1.8)-1

Date:  
Rev:  
Id: 2/2