

Appendix A. AVR Optimization Toolkit

Below is the list of parts ordered from ABRA.

#	Line	Part	Project	Supplier	Code/Note
1	1	ABRA-48 Breadboard-3220 Tie Points	CHUMP	ABRA	ABRA-48
1	2	5V DC Adapter 2A	CHUMP	ABRA/Adafruit	276-ADA (5V 2A)
1	3	HOOK-UP WIRE SPOOL SET	CHUMP	ABRA/Adafruit	22HW-25-KIT
1	4	Adafruit Wire Strippers/Cutters	CHUMP	ABRA/Adafruit	147-ADA
1	5	12 VDC 1000mA regulated switching power adapter	DC Fan	ABRA/Adafruit	798-ADA
1	6	Arduino Nano Compatible v3 ATMEGA328P	*	ABRA	ARD-NANO
1	7	ALU:74LS181	CHUMP	ABRA	74LS181
2	8	EEPROM:AT28C16	CHUMP	ABRA	28C16A-15
2	9	(Logic) NAND:74LS00	CHUMP	ABRA	74LS00
2	10	(Logic) NOT:74LS04 (Inverter for RAM)	CHUMP	ABRA	74LS04
2	11	(Logic) AND:74LS08 (Branch Control)	CHUMP	ABRA	74LS08
2	12	(Logic) OR: 74LS32 (Clock)	CHUMP	ABRA	74LS32
1	13	MUX/SEL: 74LS157	CHUMP	ABRA	74LS157
1	14	PC: 74LS161	CHUMP	ABRA	74LS161
1	15	ADDRESS: 74LS174	CHUMP	ABRA	74LS174
1	16	ACCUM: 74LS377	CHUMP	ABRA	74LS377
1	17	RAM: 74189	CHUMP	ABRA	74189
4	18	Clock: LM555	CHUMP	ABRA	LM555
6	19	Clock: Momentary Tactile Button (12mm)	CHUMP	ABRA	PBS-190
3	20	Clock: 0.1uF Capacitor	CHUMP	ABRA	753-ADA
4	21	Clock: 1uF Capacitor	CHUMP	ABRA	1R50
4	22	Clock: SPDT Slide Switch	CHUMP	ABRA	SSW-120-BB
20	23	LED 3mm: Red	CHUMP	ABRA	LED-3R
20	24	LED 3mm: Amber	CHUMP	ABRA	LED-3A
20	25	LED 3mm: Green	CHUMP	ABRA	LED-3G