

Please refer to these notes as applicable for the parts list below:

- *A The LEDs and resistors shown are personal preference for color and with resistance values chosen to give equal brightness from all colors for these particular LEDs. Disregard the silkscreen value of 470 ohms when using these values and refer to reference number instead for location.
- *B Rev A and Rev B boards and schematics specified 47K ohms for all of R1-7 and R16-19. Recommended values are shown as below, use location reference for placement.
- *C The header pins for configuration jumpers are cut down from longer strips.
- *D The Samtec 39 pin connector, when ordering from Digikey, will always show zero stock because they are made-to-order. They will ship same or next day though.
- *E Virtually any of the many 555 timer clones can be substituted, with CMOS parts preferred. The part numbers shown are not the only possible substitutes.

PROCESSOR CARD

| Qty | Description | | Manufacturer | Manufacturer # | Vendor | Vendor # | Price | Qty | Total |
|----------------------------|---------------------------------------|---------------|--------------|-------------------|-----------|--------------------------|-------|-------|-------|
| <u>Integrated Circuits</u> | | | | | | | | | |
| 1 | CDP1802 | U2 | Harris | CDP1802AEX | Rochester | CDP1802AEX | 5.46 | 1.00 | 5.46 |
| 1 | 32K x 8 CMOS SRAM | U5 | Sharp | LM62256L-70 | Jameco | 82472 | 3.95 | 1.00 | 3.95 |
| 1 | 32K x 8 CMOS EEPROM | U6 | Atmel | 28C256-25 | Jameco | 74878 | 4.95 | 1.00 | 4.95 |
| 1 | CD40244 (or 74C244 or 74HC244) | U3 | TI | SN74HC244N | Digikey | 296-1582-5-ND | 0.61 | 1.00 | 0.61 |
| 1 | CD40373 (or 74C373 or 74HC373) | U4 | TI | SN74HC373N | Digikey | 296-1591-5-ND | 0.66 | 1.00 | 0.66 |
| 1 | CD4049 | U9 | TI | CD4049UBE | Digikey | 296-2055-5-ND | 0.66 | 1.00 | 0.66 |
| 1 | CD4071 | U7 | TI | CD4071BE | Digikey | 296-2062-ND | 0.66 | 1.00 | 0.66 |
| 1 | CD4011 | U8 | TI | CD4011BE | Digikey | 296-2031-ND | 0.66 | 1.00 | 0.66 |
| 1 | LMC555 (or ICP7555) (*E) | U1 | Renesas | ICM7555IPAZ | Digikey | ICM7555IPAZ-ND | 0.87 | 1.00 | 0.87 |
| 1 | Oscillator module full size | X1 | Epson | MXO45-3C-4M000000 | Digikey | 110-MXO45-3C-4M000000-ND | 2.18 | 1.00 | 2.18 |
| <u>Discrete Components</u> | | | | | | | | | |
| 1 | LED T1-3/4 Red (*A) | D1 | Valuepro | UT1871-81-M1-R | Jameco | 333973 | 0.12 | 1.00 | 0.12 |
| 2 | LED T1-3/4 Orange (*A) | D2-3 | Valuepro | LE3330 | Jameco | 107393 | 0.12 | 2.00 | 0.24 |
| 2 | LED T1-3/4 Yellow (*A) | D4-5 | Valuepro | LY3330 | Jameco | 34825 | 0.15 | 2.00 | 0.30 |
| 3 | LED T1-3/4 Green (*A) | D6-8 | Valuepro | LG3330 | Jameco | 34761 | 0.15 | 3.00 | 0.45 |
| 3 | Resistor 1/4 watt 10 (*A) | R13-15 | Stackpole | CF14JT10R0 | Digikey | CF14JT10R0CT-ND | 0.10 | 3.00 | 0.30 |
| 2 | Resistor 1/4 watt 270 (*A) | R11-12 | Stackpole | CF14JT270R | Digikey | CF14JT270RCT-ND | 0.10 | 2.00 | 0.20 |
| 2 | Resistor 1/4 watt 1K (*A) | R9,R10 | Stackpole | CF14JT1K00 | Digikey | CF14JT1K00CT-ND | 0.10 | 2.00 | 0.20 |
| 2 | Resistor 1/4 watt 1.5K (*A) | R8 | Stackpole | CF14JT1K50 | Digikey | CF14JT1K50CT-ND | 0.10 | 2.00 | 0.20 |
| 10 | Resistor 1/4 watt 4.7K (*B) | R1-7,16-17,19 | Stackpole | CF14JT4K70 | Digikey | CF14JT4K70CT-ND | 0.10 | 10.00 | 1.00 |
| 1 | Resistor 1/4 watt 47K (*B) | R20 | Stackpole | CF14JT47K0 | Digikey | CF14JT47K0CT-ND | 0.10 | 1.00 | 0.10 |
| 1 | Resistor 1/4 watt 470K | R18 | Stackpole | CF14JT470K | Digikey | CF14JT470KCT-ND | 0.10 | 1.00 | 0.10 |
| 1 | Diode 1N4148 | D9 | ON Semi | 1N4148 | Digikey | 1N4148FS-ND | 0.10 | 1.00 | 0.10 |
| 5 | Ceramic capacitor 0.1uF radial 0.2" | C1-2,5-7 | Valuepro | SR215C104KAA | Jameco | 544921 | 0.19 | 5.00 | 0.95 |
| 1 | Tantalum capacitor 10uF radial 0.1" | C3 | AVX | TAP106K010SCS | Digikey | 478-1838-ND * | 0.8 | 1.00 | 0.80 |
| <u>Interconnects</u> | | | | | | | | | |
| 1 | Straight header 2 pins 0.1" (*C) | | Sullins | PREC040SAAN-RC | Digikey | S1012EC-40-ND | 0.51 | 0.05 | 0.03 |
| 8 | Straight header 3 pins 0.1" (*C) | | Sullins | PREC040SAAN-RC | Digikey | S1012EC-40-ND | 0.51 | 0.60 | 0.31 |
| 2 | Straight header 9 pins 0.1" (*C) | | Sullins | PREC040SAAN-RC | Digikey | S1012EC-40-ND | 0.51 | 0.45 | 0.23 |
| 2 | Right-angle header 5 pins 0.1" (*C) | | Sullins | PREC040SBAN-M71RC | Digikey | S1112EC-40-ND | 0.66 | 0.25 | 0.17 |
| 16 | Jumper shunts 0.1" | | Sullins | STC02SYAN | Digikey | S9000-ND | 0.10 | 16.00 | 1.60 |
| 1 | Socket 39 pin 0.1" long tail (*D) | | Samtec | SSQ-139-03-T-S | Digikey | SAM1206-39-ND | 4.52 | 1.00 | 4.52 |
| 1 | Mini-USB receptable AB | | Molex | 565790519 | Digikey | WM17121-ND | 2.54 | 1.00 | 2.54 |
| <u>Sockets</u> | | | | | | | | | |
| 1 | DIP socket 40 pin 0.6" | | On Shore | ED40DT | Digikey | ED3048-5-ND | 0.48 | 1.00 | 0.48 |
| 2 | DIP socket 28 pin 0.6" | | On Shore | ED28DT | Digikey | ED3052-5-ND | 0.34 | 2.00 | 0.68 |
| 2 | DIP socket 20 pin 0.3" | | On Shore | ED20DT | Digikey | ED3054-5-ND | 0.26 | 2.00 | 0.52 |
| 1 | DIP socket 16 pin 0.3" | | On Shore | ED16DT | Digikey | ED3046-5-ND | 0.19 | 1.00 | 0.19 |
| 2 | DIP socket 14 pin 0.3" | | On Shore | ED14DT | Digikey | ED3045-5-ND | 0.19 | 2.00 | 0.38 |
| 1 | DIP socket 8 pin 0.3" | | On Shore | ED08DT | Digikey | ED3044-5-ND | 0.16 | 1.00 | 0.16 |
| 1 | DIP socket 4 pin in 14 pin frame 0.3" | | On Shore | ED14DT | Digikey | ED3045-5-ND | 0.19 | 1.00 | 0.19 |
| <u>Mechanical</u> | | | | | | | | | |
| 8 | LED stand-off spacer | | VCC | STD_500_BLK | Jameco | 2231371 | 0.15 | 8.00 | 1.20 |
| 4 | 0.5 inch standoff spacer | | RAF | 4505-440-AL-7 | Jameco | 393474 | 0.49 | 4.00 | 1.96 |
| 1 | Circuit Board | | Madole | | JLPCPB | | 1.95 | 1.00 | 1.95 |
| | | | | | | | Total | | 42.82 |