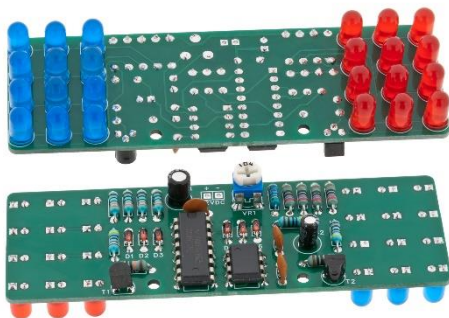


# EK030 – LED blinker 24 LEDs

## Description:

LED blinker with red and blue LEDs that flash in a pattern resembling the light signals of American police cars. The blinking pattern is controlled by a decade counter whose outputs are activated sequentially and connected with diodes to form an OR gate. The result is three quick flashes of blue and three quick flashes of red. The clock input of the decade counter is driven by a simple 555 timer with adjustable frequency. To increase the driving capability of the decade counter, the LEDs are connected via individual NPN transistors, each capable of sinking up to 200mA of current per color..



- \* Supply voltage: 9 - 15VDC
- \* Current draw: 80mA max
- \* Dimensions: 96 x 32mm
- \* Mounting holes: c-c 32mm,  $\varnothing$ 2.5mm

## Assembly





## guide:

Before you begin mounting components, make sure the board is free from damage and scratches. Make sure all the components are included and are of correct value. Compare with the component list!

Begin mounting the lowest components and work your way up to the largest. IC sockets, resistors, ceramic capacitors and diodes go first. Electrolytic capacitors, connectors and potentiometers go last. Some components are polarized and must be mounted in the right way. Please observe the markings on the board!

The LEDs can be mounted on either side of the board even though the silkscreen is only marked on the backside!

Component list:

RefDes	Value	Qty	Part.no.	
C1	47uF 50V	1	40520024	
C2	1uF 50V	1	41017674	
C3, C4, C5	100nF 50V	3	41015538	
D1 – D6	1N4148	6	40310010	
D7 – D18	LED 5mm red	12	40307020	
D19 – D30	LED 5mm blue	12	40307024	
R1, R2, R3, R4	330 ohm	4	40811233	
R5, R7, R12, R13	4.7 kohm	4	40811347	
R6, R14	100 kohm	2	40811510	
R8, R9, R10, R11	270 ohm	4	40811227	
T1, T2	BC547C NPN	2	40320001	
U1	4017B	1	40360038	+1x 40410016
U2	NE555	1	40350001	+1x 40410008
VR1	100 kohm	1	41018882	

Schematic:

