

# EK029 – Heads or Tails

## Kit description:

EK029 is an electronic "heads or tails" game that will answer YES or NO to any question. The circuit is built around two bipolar transistors wired as an astable multivibrator. When the push button is depressed, the two transistors will begin to oscillate. As soon as the button is released, the transistors are disconnected from the supply voltage and will continue to oscillate as the capacitor C3 is discharged through the resistors R4 and R7. As the capacitor voltage drops, the oscillator will slow down and eventually stop with either T1 high and T2 low or vice versa.



- \* Supply voltage: ~5 - 15VDC
- \* Dimensions: 42 x 32mm

## Assembly guide:

Before starting assembly, check that the circuit board is free from damage. Check that all components are included, compare with the component list!.

Start by placing the resistors. This kit contains two different values, 1kohm and 10kohm. When the resistors are soldered, continue by placing the push button. When all the resistors and the button are soldered, continue with the rest of the components in any order. To ensure the capacitors and LEDs are mounted straight, start by soldering just one pin, adjust the component and then solder the other pin when it's seated correctly. Please note that the capacitors and LEDs must be mounted in the correct orientation for the circuit to work. Compare with the markings on the PCB.

Component list:

RefDes	Value	Qty	Part.no.	
C1, C2	2.2uF	2	40520012	
C3	470uF	1	40520019	
D1, D2	LED 5mm	2	40307020	
R1, R2, R5, R6	1kohm	4	40811310	
R3, R4, R7, R8	10kohm	4	40811410	
SW1	6x6mm	1	41001412	
T1, T2	BC547C	2	40320001	

Schematic:

