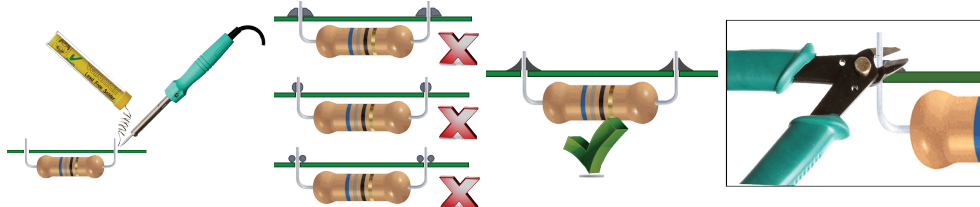


Soldering - Solderen - Soudage - Löten - Soldadura - Lötning - Juottaminen - Saldatura - Solda



**MK193B** Component side - Componentenzijde - Côte composants - Bauteileseite - Lado de los componentes

**START** **1** Resistor - Weerstand - Résistance - Widerstand - Resistencia - Motstand - Vastus - Resistenze

- ◇ R1 : 10K (Brown, Black, Orange) - (Bruin, Zwart, Oranje) - (Brun, noir, Orange) - (Braun, Schwarz, Orange) - (Brun, Svart, Orange) - (Ruskea, Musta, Oranssi) - (Marrón, Negro, Naranjado) - (Castanho, Preto, Laranja) - (Marrone, Nero, Aranciato)
- ◇ R2 : 10 ohm (Brown, Black, Black) - (Bruin, zwart, zwart) - (Brun, Noir, Noir) - (Braun, Schwarz, Schwarz) - (Brun, Svart, Svart) - (Ruskea, Musta, Musta) - (Marrón, Negro, Negro) - (Castanho, Preto, Preto) - (Marrone, Nero, Nero)
- ◇ R3...R5: 2K2 (Red, Red, Red) - (Rood, Rood, Rood) - (Rouge, Rouge, Rouge) - (Rot, Rot, Rot) - (Röd, Röd, Röd) - (Punainen, Punainen, Punainen) - (Rojo, Rojo, Rojo) - (Encarnado, Encarnado, Encarnado) - (Rosso, Rosso, Rosso)
- ◇ R6...R14: 270 (Red, Purple, Brown) - (Rood, Paars, Bruin) - (Rouge, Violet, Brun) - (Rot, Violet, Braun) - (Röd, Lila, Brun) - (Punainen, Purppura, Ruskea) - (Rojo, Morado, Marrón) - (Encarnado, Violeta, Castanho) - (Rosso, Rosso, Marrone)

**2** Ceramic capacitors

◇ C1, C2, C8, C9: 100nF (104)

**3** Quartz Crystal

◇ X1: 12MHz

**4** Diode

Watch the polarity !  
Att. la polarité !

CATHODE → D2

◇ D1...D3 : 1N4007

**5** IC-Socket

Watch the notch !  
Attention à l'encoche !

◇ IC1 : 20p

**6** Female header

◇ SK1

**7** Ceramic capacitors

◇ C4, C5: 22pF (22)  
◇ C6: 470nF (474)

**8** Push button

◇ SW1: Next/speed

**9** Transistor

◇ T1...T3: BC557B

**10** USB connector

◇ SK2: USB

**11** Electrolytic capacitors

Watch the polarity !  
Att. la polarité !

◇ C10: 4,7µF  
◇ C11: 470µF

**12** Voltage regulator

◇ VR1 : UA7805

**13** IC

Watch the notch !  
Attention à l'encoche !

PIN 1

◇ IC1: VMK193 (programmed PIC18F14K50-I/P)

**14** Battery snap

9V

Red - Rood - Rouge - Rot - Rojo

Black - Zwart - Noir - Schwarz - negro

**15** Male Header

**MK193T**

On final assembly the wire trace should preferably be on the case

12x

◇ SK4: 12pins

**MK193**