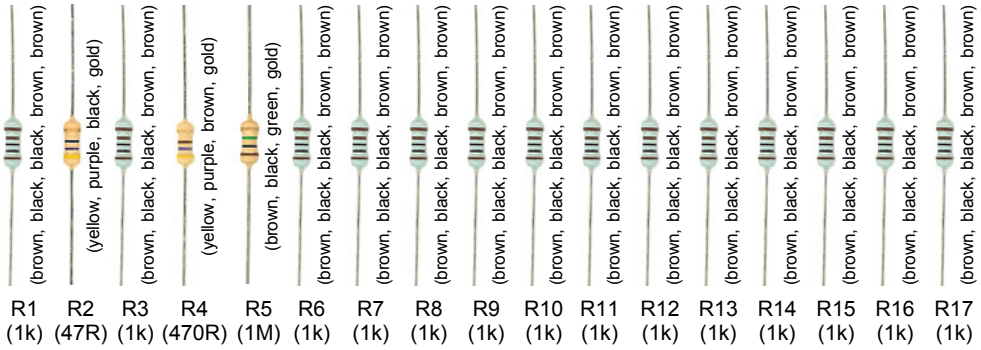
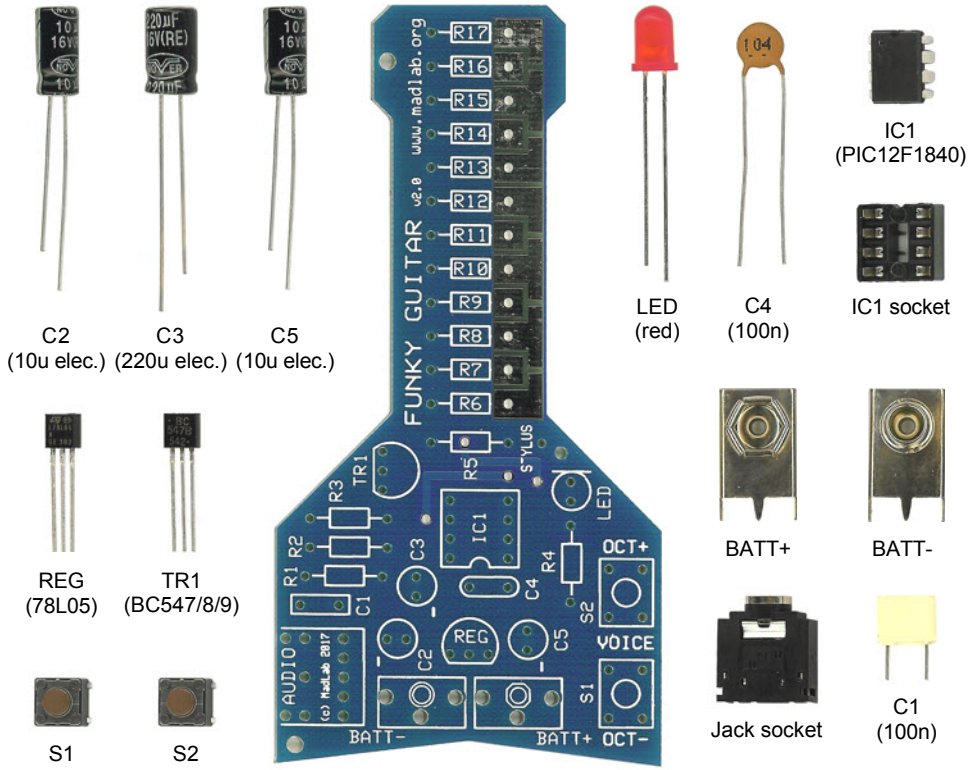
Funky Guitar

a synthesiser in the shape of a guitar





1. Identify the different components using the spotter chart.
2. Fit and solder the resistors (R1 to R17) to the circuit board telling them apart by the coloured bands around their bodies. They can be fitted either way around. Try not to use too much solder when soldering the resistor legs that connect to the touch pads on the other side of the board.
3. Solder the chip socket (IC1) matching the notch in the socket to the notch on the board. **Do not solder the chip directly to the board.**
4. Solder the electrolytic capacitors (C2, C3 and C5) to the board putting the shorter leg into the hole with the – sign. The shorter leg also has a stripe on the side of the body. Solder the other capacitors (C1 and C4) either way around.
5. Solder the light (LED) putting the shorter leg into the hole with the line. The shorter leg also has a flattened edge on the rim.
6. Solder the regulator (REG) matching the half-circle shape of the regulator to the half-circle shape on the board. Be careful not to mistake the transistor for the regulator.
7. Solder the transistor (TR1) matching the half-circle shape of the transistor to the half-circle shape on the board.
8. Solder the pushbuttons (S1 and S2) either way around.
9. Solder the jack socket (AUDIO) to the board.
10. Solder one end of the piece of flexible wire to the hole marked STYLUS on the board then feed it back down the support hole. Crimp the metal ferrule to the free end with pliers.
11. Fit the battery connectors (BATT+ and BATT-) to the board matching the shape to the symbol on the board (the hexagonal connector is positive, the circular negative). Ensure the connectors are pushed fully into the board and are at right angles to it. Solder the connectors to the board making sure all the holes are well filled with solder.
12. Carefully bend the legs of the chip inwards a little with your fingers. Fit the chip into its socket matching the small notch in the chip to the notch in the socket.
13. Connect a battery **(9V PP3)** to the battery connectors. If *Funky Guitar* is working properly the light should flash twice.
14. Finally connect powered speakers or headphones to the jack socket. Check that all 12 notes of the keyboard work when touched with the stylus.

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HOW TO USE FUNKY GUITAR

Funky Guitar is a guitar synthesiser that plays notes over 5 octaves, a single octave at a time, in two voices.

The full twelve notes in an octave including sharps and flats are available.

Touch the free end of the stylus against the metal pads of the keyboard to play the notes.

The pushbuttons change the octave. The left button shifts the notes down by one octave and the right button shifts them up by one octave.

Both pushbuttons pressed together and released changes the voice. Two voices are available - acoustic guitar and electric guitar.

Both pushbuttons pressed together and held down for two seconds plays the demo tune. The demo tune is played in the current voice.

To save your battery *Funky Guitar* will go to sleep if it is left unused (but it is a good idea to disconnect the battery anyway when you will not be using it for any length of time). Press either pushbutton to re-awaken it.