E1a: Circuits, PCB, and assembly.

Introduction: You are required to **reverse engineer** a **PCB** that demonstrates the application of a circuit. Here is an example of the simple voltage divider circuit via the futurekit FK912.

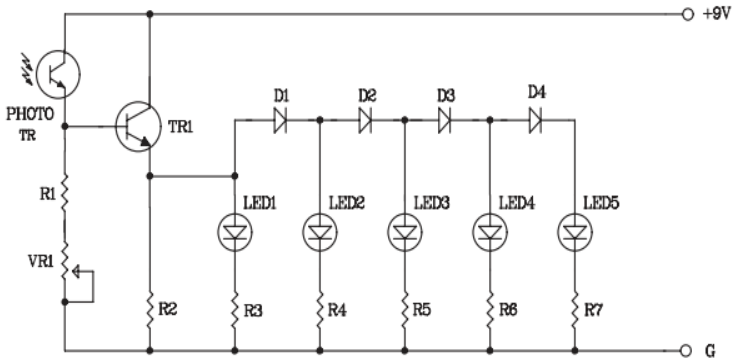


Figure 2. The simple lux meter circuit

Electronic components used

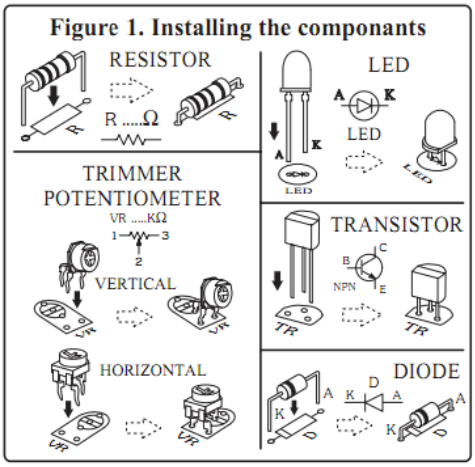
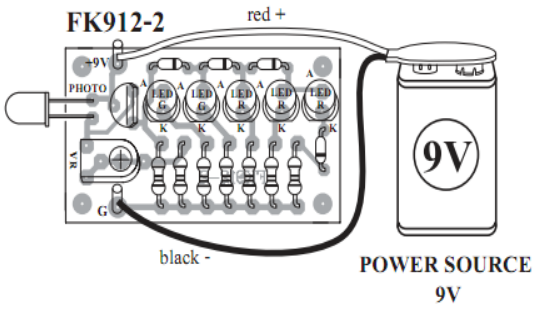


Figure 3. Connections



Deliverables:

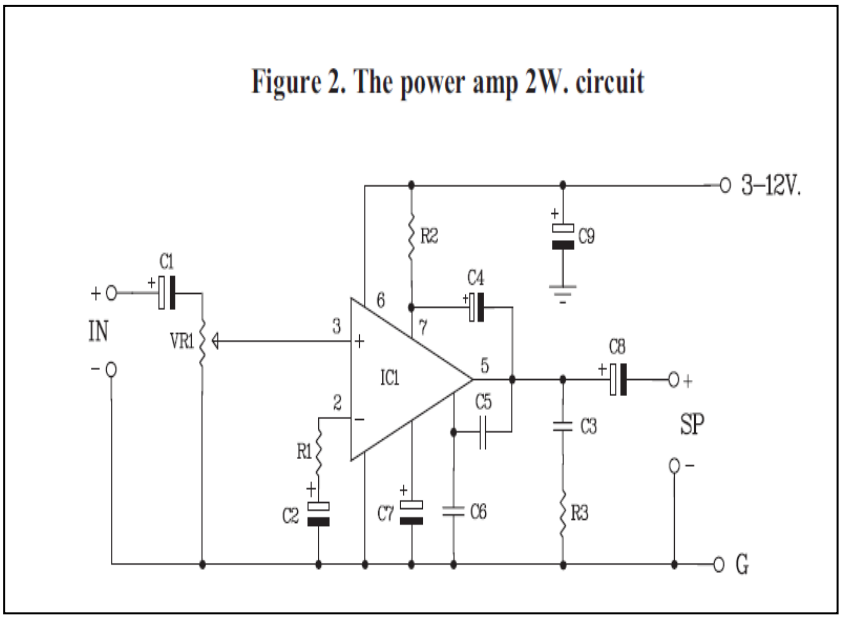
1. Analyse the given schematic that uses standard electronic engineering notations.
2. Describe the purpose of the photo-resistor, potentio-meter, transistor and diode in the circuit.
3. Assemble the futurekit FK912.
4. Evaluate the correctness of the assembled circuit, troubleshoot if necessary.

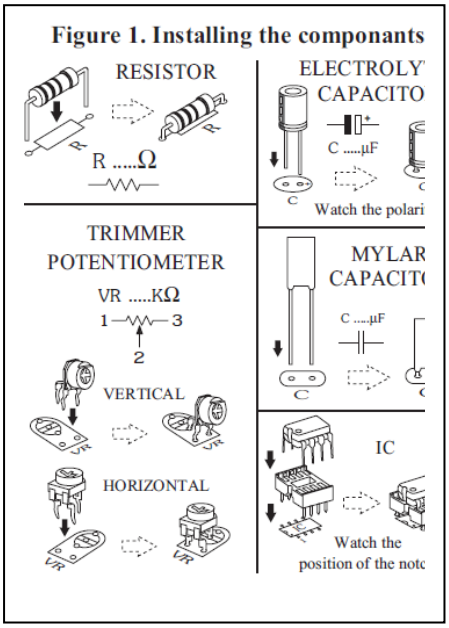
Fun:

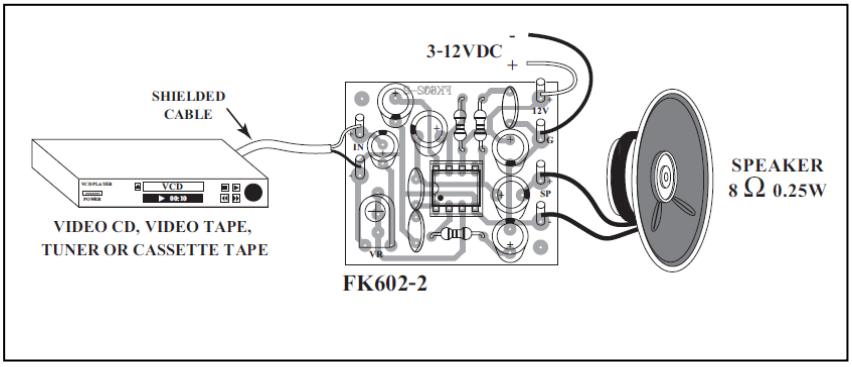
1. Modifications based on FK912? Share your ideas!
2. Identify what are the components required to make it happened.
3. Determine the modifications required to implement your idea.
4. Implement your idea.

E1b**:** Circuits, PCB, and assembly.

Introduction: You are required to **reverse engineer** a **PCB** that demonstrates the application of the simple voltage divider circuit via the futurekit FK602.







Deliverables:

1. Analyse the given schematic that uses standard electronic engineering notations.
2. Describe the purpose of this circuit and the type of IC used.
3. Assemble the futurekit FK602.
4. Modify the input to a 3.5mm stereo jack.
5. Evaluate the correctness of the assembled circuit, troubleshoot if necessary.

Fun:

1. Modifications based on FK602? Share your ideas!
2. Identify what are the components required to make it happened.
3. Determine the modifications required to implement your idea.
4. Implement your idea.