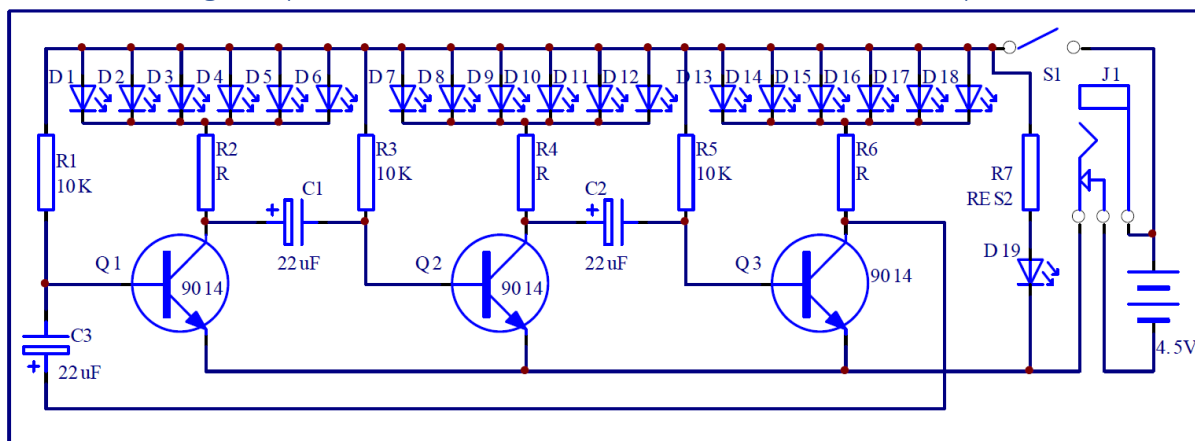# LED Christmas Tree Kit

Assembly Manual
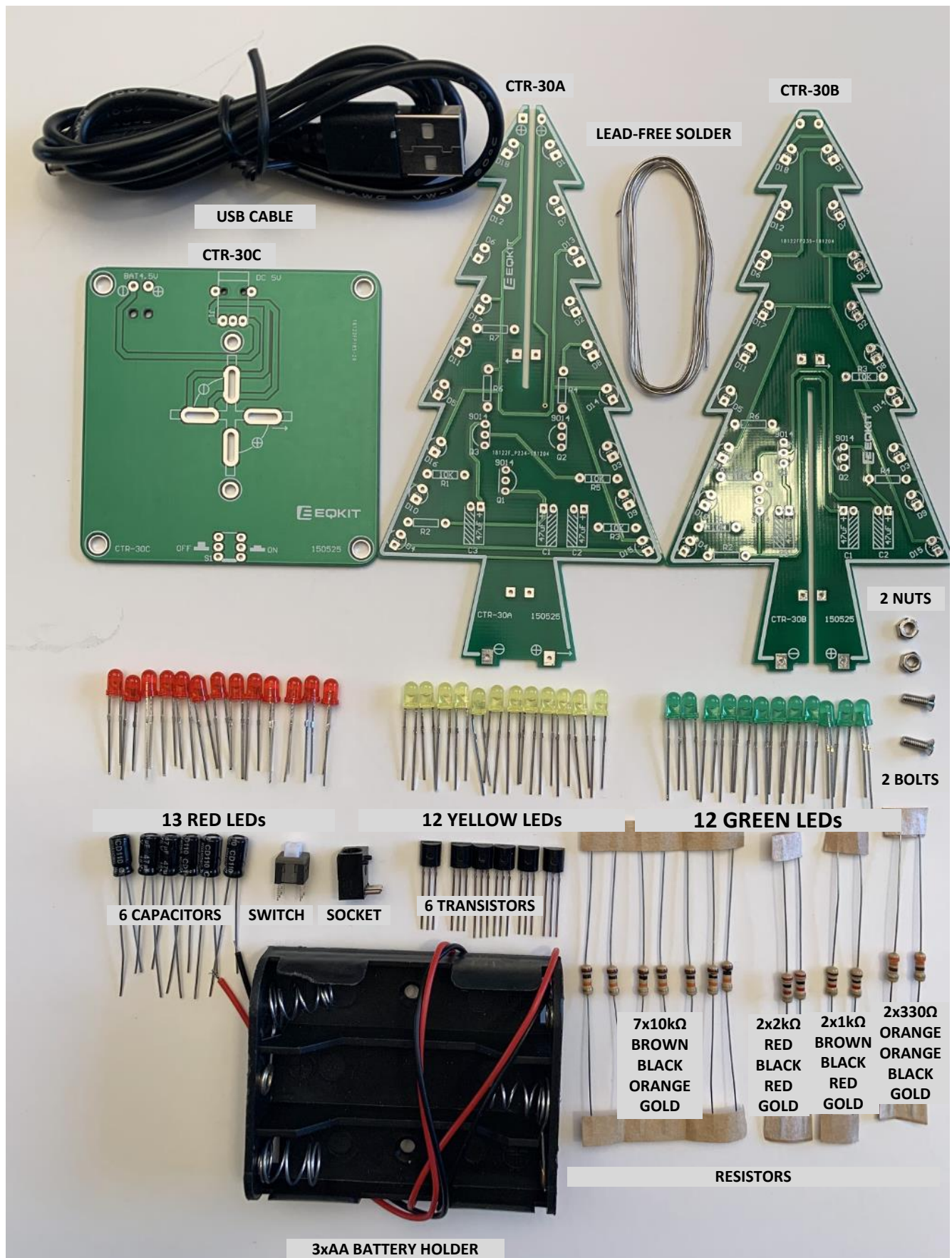
Circuit Schematic Diagram (CTR-30A and CTR-30C Shown. CTR30-B is similar)

Printed Circuit Board Reference Designators

Designator	Type/Value
R1, R3, R5, R7	RESISTOR 10kΩ
R2	RESISTOR 2kΩ
R4	RESISTOR 1kΩ
R6	RESISTOR 330Ω
D1-D6, D19	LED RED
D7-D12	LED YELLOW
D13-D18	LED GREEN
Q1-Q3	TRANSISTOR S9014
C1-C3	CAPACITOR 47uF, 16V
CTR-30A	PRINTED CIRCUIT BOARD
CTR-30B	PRINTED CIRCUIT BOARD
CTR-30C	PRINTED CIRCUIT BOARD
S1	SWITCH
J1	SOCKET
BATT 4.5V	BATTERY HOLDER

Illustrated Parts List

USB CABLE

CTR-30A

LEAD-FREE SOLDER

CTR-30B

CTR-30C

BAT 4.5V

DC 5V

EQKIT

CTR-30C

OFF

S1

ON

150525

CTR-30A

150525

CTR-30B

150525

2 NUTS

2 BOLTS

13 RED LEDs

12 YELLOW LEDs

12 GREEN LEDs

6 CAPACITORS

SWITCH

SOCKET

6 TRANSISTORS

7x10kΩ
BROWN
BLACK
ORANGE
GOLD

2x2kΩ
RED
BLACK
RED
GOLD

2x1kΩ
BROWN
BLACK
RED
GOLD

2x330Ω
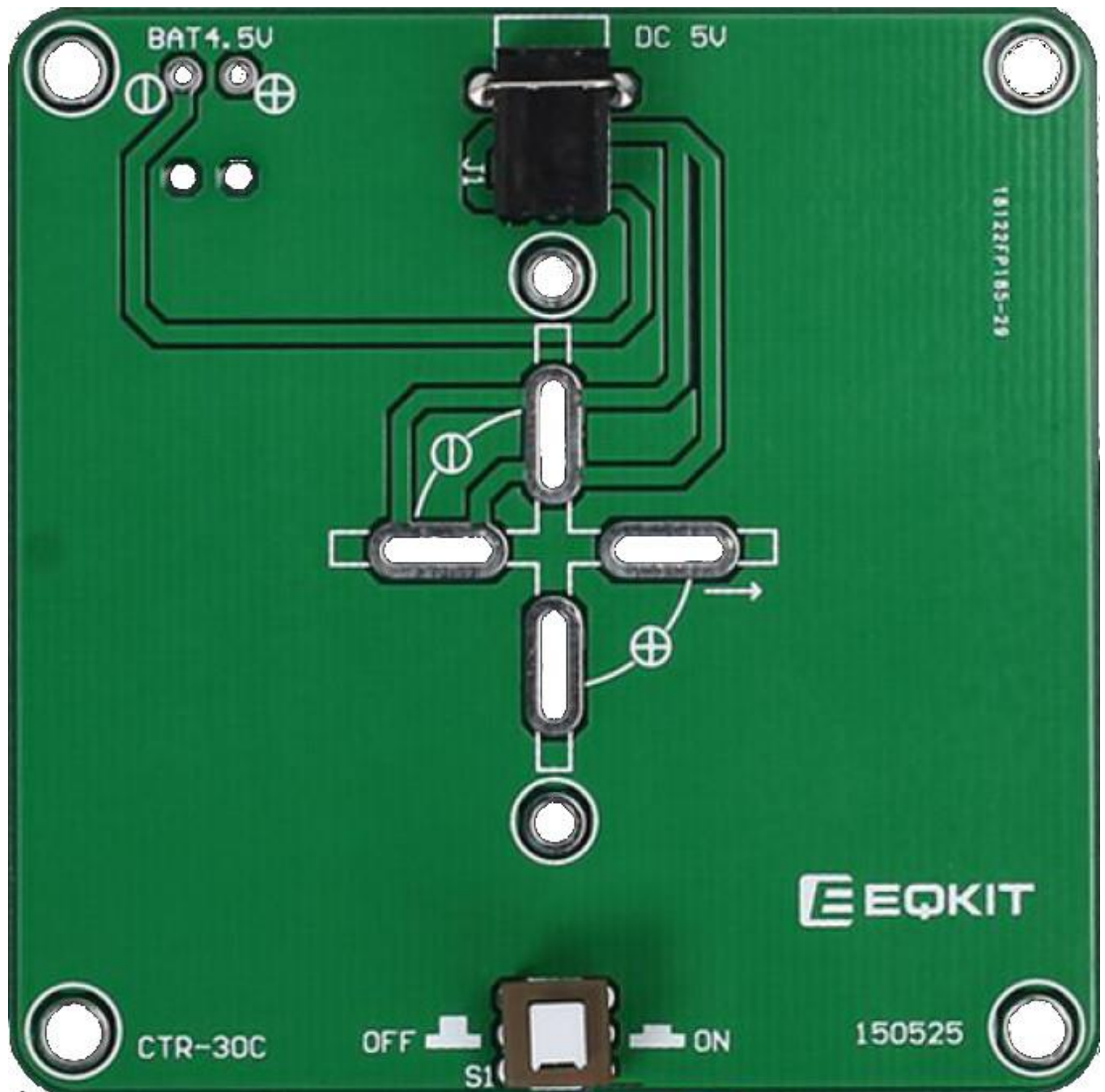ORANGE
ORANGE
BLACK
GOLD

RESISTORS

3xAA BATTERY HOLDER

Solder components to CTR-30A and CTR-30B

Solder Switch and Socket to CTR-30C

Important Note: The notch in the switch must face outwards.

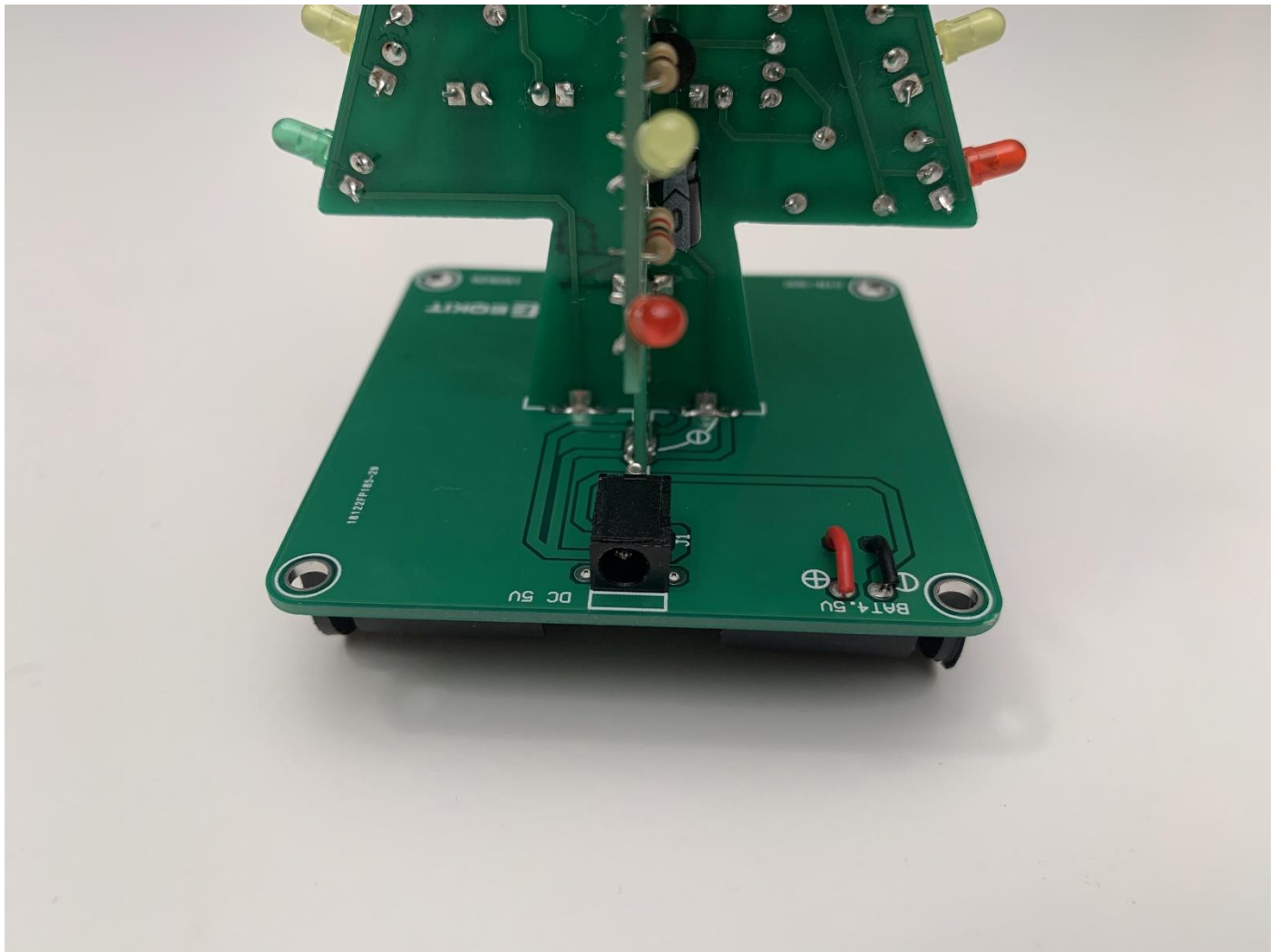## Solder CTR-30A and CTR-30B Together and Then to CTR-30C

Important Note: Solder bridge the pads close to the trunk on all sides. Install the last RED LED on the top, but do not solder bridge both pads (you can bridge one on either side).

Feed the Battery Holder red and black wires through CTR-30C

Mount the Battery Holder with the nuts and bolts

Solder the Battery Holder red and black wires to the top of CTR-30C

Install 3 x AA cells, or connect to a USB port via the USB cable. Press the switch on