diyleyuan
51 MCU Digital LED Clock and Temperature Display

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Contents

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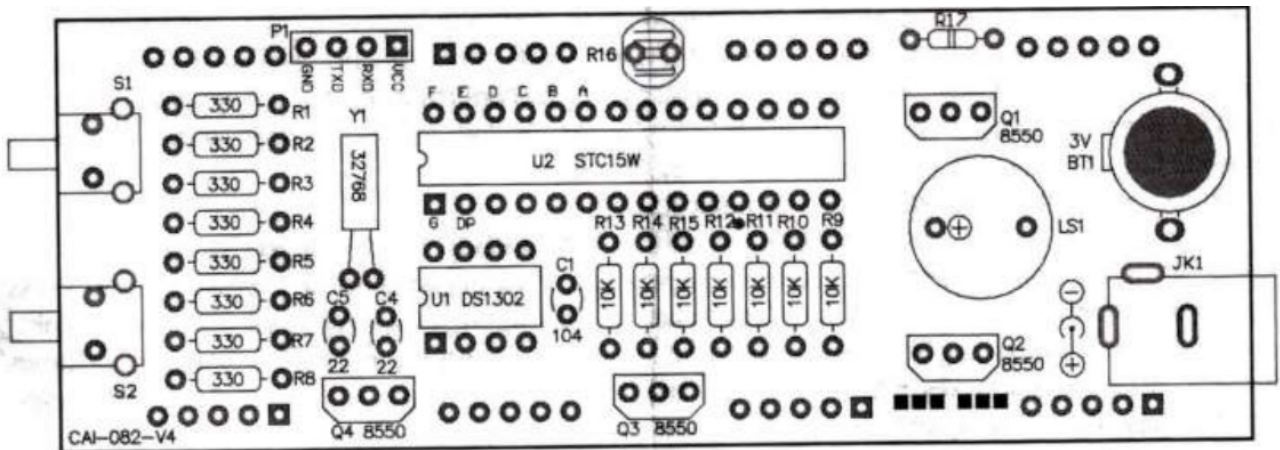**diyleyuan 51 MCU Digital LED Clock and Temperature Display**

INSTALLATION INSTRUCTIONS

Precautions: Install all components first and confirm there is no error before you install the nixie tubee!

1. Please install the short components first and then install the long components. After all components are
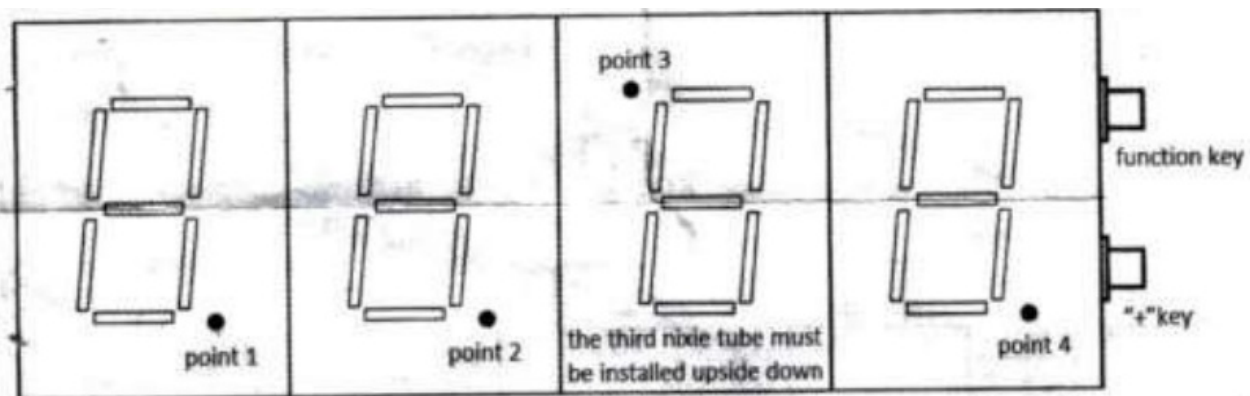
installed, please confirm there is no mistake in the installation. Check whether the soldering is fine and whether there is short circuit or solder skips;

2. Photoresistor (R16), thermistor (R17), ceramic capacitor 22p (C4,C5), monolithic ceramic capacitor 0.1uF (C 1) and crystal oscillator(Y 1). Non-polar
   - **Integrated circuit:** Install IC socket first, and then insert the IC to the socket. The chipped side should face toward to the sign with notch on the circuit board.
3. **Install nixie tube:** the third nixie tube must be installed upside down.

4. Insert IC at last, and install lithium battery and get power on with 5V power output.
5. **Reset:** press two keys at the same time for five seconds, and then it displays 7:59. Five seconds later, it displays 8:00, reset is done after buzzer responses for a while.
6. Setup time, alarm clock and hourly chime
   - **a.** set up "hour": press the function key(the "hour" nixie tube and the "second point" are blinking), press "+"key to revise "hour";
   - **b.** set up "minute": press the function key(the "minute" nixie tube and "second point" are blinking), press "+"key to revise "minute" (automatically starts from 0 second);
   - **c.** Set up the "hour" of alarm clock: press the function key (the "hour" nixie tube is blinking, but the "second point" is not, press "+"key to revise "hour"of the alarm clock;
   - **d.** Set up the "minute" of alarm clock: press the function key (the "minute" nixie tube revise "minute" of the alarm clock; is blinking, but the "second point" is not, press "+"key to
   - **e.** check whether the alarm clock is turn on or not: press the function key again (all digital display remain unchanged), press "+"key, if the "point 4" lights, it means the alarm clock is turned on, if the "point 4" vanishes, it means the alarm clock is turned off.
   - **f.** set up the time for "hourly chime": press the function key (the "hour" nixie tube is blinking), press the "+"key to revise the starting time of alarm clock (for example, if you adjusted it to 9, then it will start hourly chime from 9AM); and press the function key again (the "minute" nixie tube is blinking), press the "+"key to revise the ending time of alarm clock (if you adjusted it to 23, then it will start hourly chime from 9AM to

23PM, so it won't start hourly chime in the evening and won't disturb your sleeping time)

- **g.** check whether the function of hourly chime is turned on or not: press the function key again (all digital display remain unchanged), press "+"key, if "point 3" lights, it means the hourly chime is turned on, if "point 3" diminishes, it means the hourly chime is turned off.
- **h.** press function key to exit, then setup is done!

7. Temperature correction, date and week setup

- Press the "+"key, it shows the temperature. Press function key to correct temperature and press "+"key to confirm and correct the temperature. And adjust date at the same time. Press function key ("month" blinks), press "+"key to adjust month; press function key again ("day" blinks), press "+"key to adjust day, and then press function key to confirm it. Press "+"key again (it shows week"), press function key (week blinks), and press "+"key again to adjust week, and press function key to confirm it, and then press "+"key to exit.

8. Temperature correction, date and week setup

- Press the "+"key, it shows the temperature. Press function key to correct temperature and press "+"key to confirm and correct the temperature. And adjust date at the same time. Press function key ("month" blinks), press "+"key to adjust month; press function key again ("day" blinks), press "+"key to adjust day, and then press function key to confirm it. Press "+"key again (it shows week"), press function key (week blinks), and press "+"key again to adjust week, and press function key to confirm it, and then press "+"key to exit.

9. Automatically display function: 45-second time display, 5-second temperature display, 5-second date display and 5-second week display. When the light is dark in the night, the nixie tube will automatically become dark; the nixie tube turns light when the light is strong.
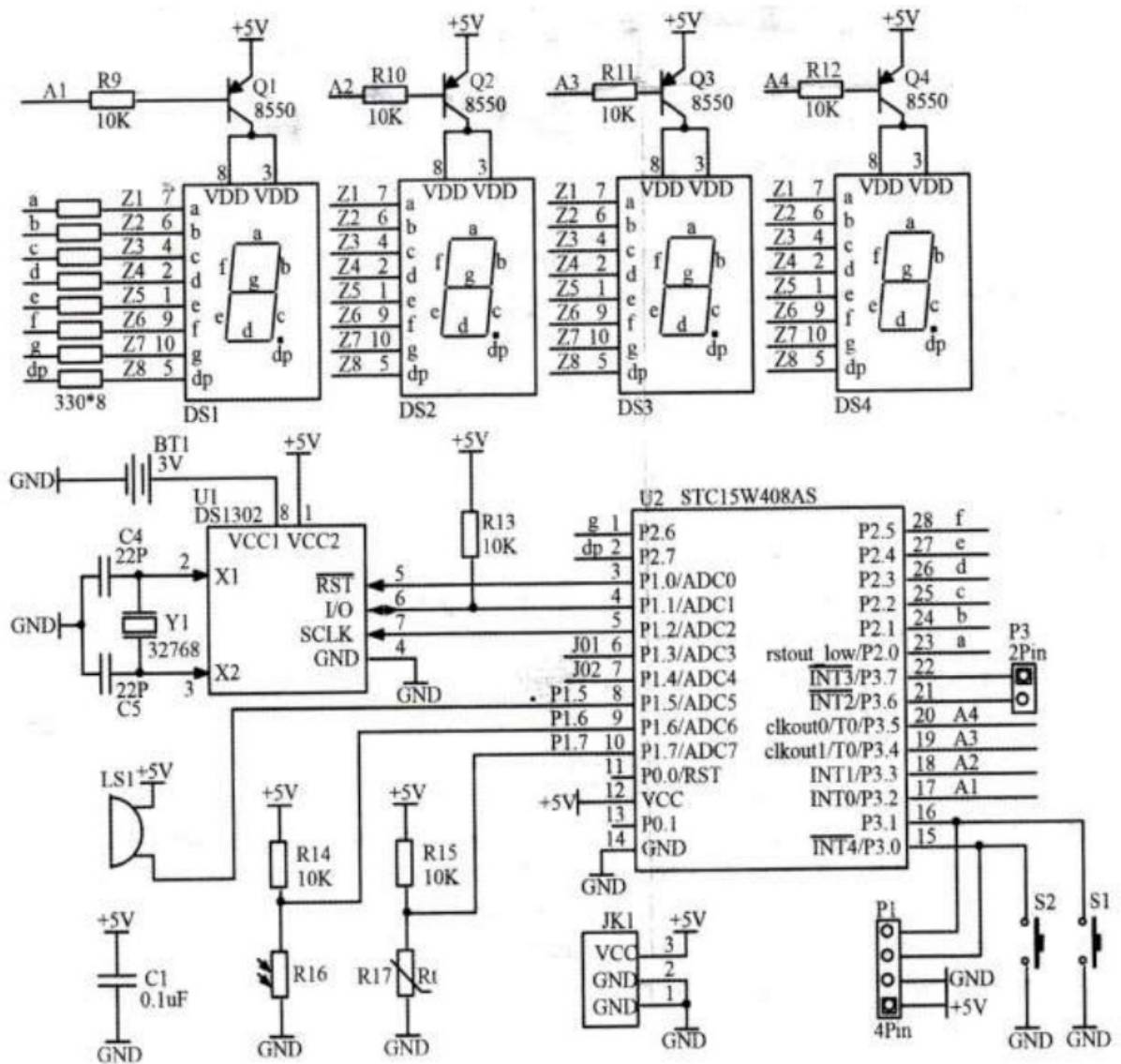
10. Digital soft membrane, soft membrane sticky tear. Attached to the four digital tube, cut off the excess edge display Foil better.
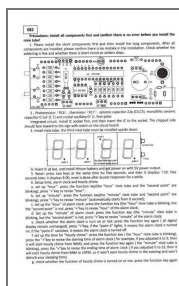
11. Install shell: fix the shell with screws.

12. Circuit schematics

- **Detailed diagram instructions http://www.diyleyuan.com/jc/082V4.html**.

Documents / Resources

diyleyuan 51 MCU Digital LED Clock and Temperature Display [pdf] User Guide
51 MCU Digital LED Clock and Temperature Display, 51 MCU, Digital LED Clock and Temperature Display, LED Clock and Temperature Display, Temperature Display, Display

References

- **User Manual**