

YSZ-4 Four electronic clock instruction

YSZ-4 four electronic clock, it takes AT89C2051 as its core, a total of 16 electronic components to come true the two channels of the alarm clock, (8 :00-20 :00) on time alarm ,accurate adjustment , and other functions.

1> Rationale

The whole system by MCU minimum system, key input circuit, display circuit, buzzer circuit and power supply parts.

1. MCU minimum system: including the U1 (AT89C2051), C1, R1 for power on reset circuit . Clock circuit is composed of C2 ' C3 and Y1.

2. The pressed key input circuit 'composed of S1, S2, short press the button once a loud buzzer rang, long press the button once two loud buzzer rang.

3. The display circuit '4bits commom cathode and on PR1 Resisters Packs .

4. Buzzer circuit 'composed of Q1, R2 and LS1, short press the button once a loud buzzer rang, long press the button once two loud buzzer rang.

5. J1 is 5v power supply input terminal, C4 filtering.

2>Operation instruction

It will display 12:59 when Power-on 'while is normal interface("hours:minutes"). The both channels of alarm clock are opened.At the same time,the first alarm clock has been set at 13:01.the second alarm clock has been set at 13:02.

After power on ,short press S2.The display of digital tube will switch between "hours:minutes" and "minutes:seconds";Long press S1 to enter the system Settings menu. there are A, B, C, D, E, F, G, H, I submenu. Short press S1 submenu plus increase by degrees °finally back to the normal interface

A Sub menu : Correction for hours

Display data will add 1 after press S2.after adjusted the A Submenu,then short press S2 to save adjuston and quit A submenu,enter B sbumenu

B Sub menu : Correction for minutes

Display data will add 1 after press S2.after adjusted the B Submenu,then short press S2 to save adjuston and quit B submenu,enter C sbumenu

C Sub menu:on time alarm switch

The default state is ON (on-time-alarm is open from 8:00 to 20:00)

It will switch between ON and OFF(on-time-alarm is closed) when press S2. Short press S2 to save adjuston and quit C submenu,enterD sbumenu

D Submenu:The first alarm-clock switch

The default state is ON (the first alarm-clock is opened)

It will switch between ON and OFF(first-alarm-clock is closed) when press S2 °

If set to ON, short press S1 to save and quit 'then enter E submenu;

If set to OFF, short press S1 to save and quit 'then enter G submenu;

E Sub menu:The first alarm clock set for hours

Display data will add 1 after press S2.after adjusted the E Submenu,then short press S2 to save adjuston and quit E submenu,enter F sbumenu

F Sub menu:The first alarm clock set for minutes

Display data will add 1 after press S2.after adjusted the F Submenu,then short press S2 to save adjuston and quit F submenu,enter G sbumenu

G Submenu:The Second alarm-clock switch

The default state is ON (the second alarm-clock is opened)

It will switch between ON and OFF(second-alarm-clock is closed) when press S2 °

If set to ON, short press S1 to save and quit 'then enter H submenu;

If set to OFF, short press S1 to save and quit 'then enter normal interface;

H Sub menu:The second alarm clock set for hours

Display data will add 1 after press S2.after adjusted the F Submenu,then short press S2 to save adjuston and quit H submenu,enter I sbumenu

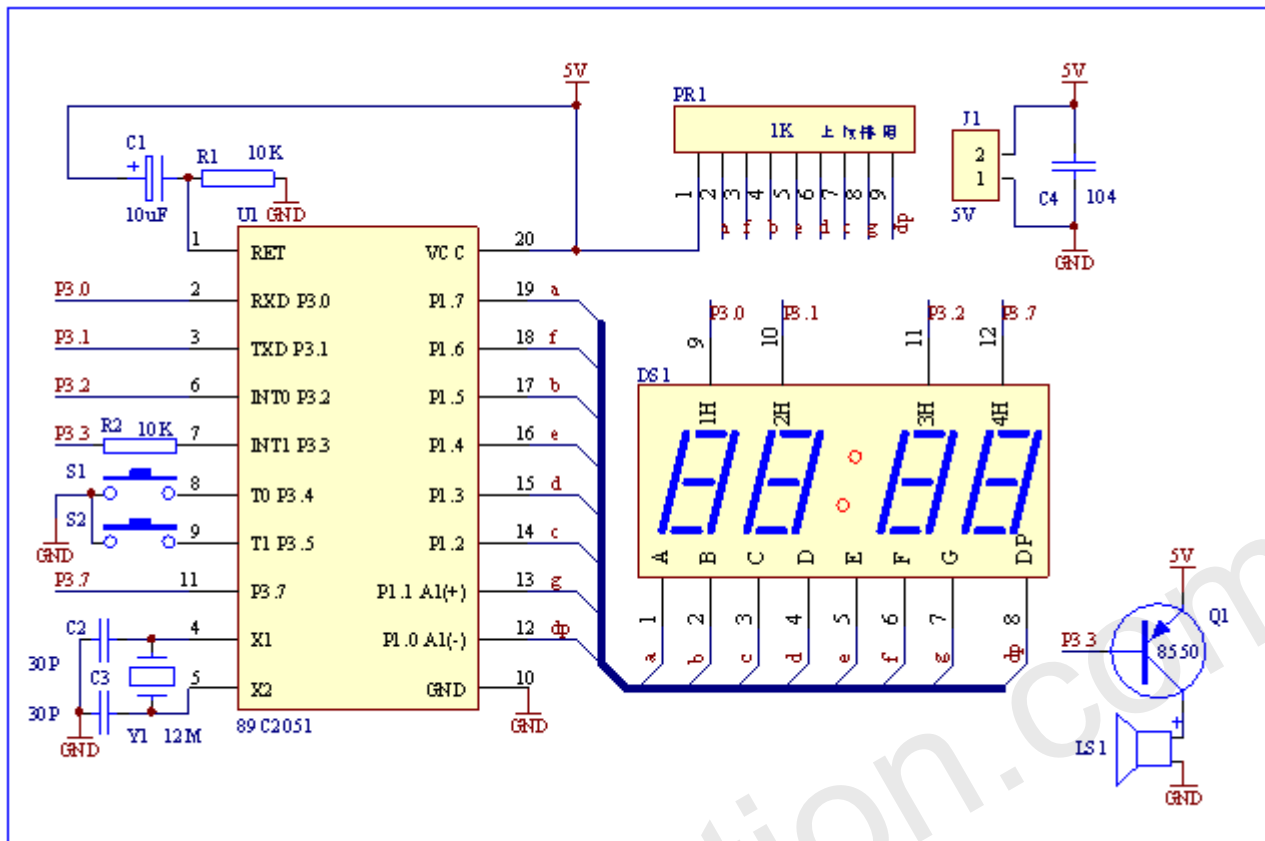
I Sub menu:The second alarm clock set for hours

Display data will add 1 after press S2.after adjusted the I Submenu,then short press S2 to save adjuston and quit H submenu, then enter normal interface.

Second correction:

Short press S2 in the normal interface,then enter "minutes : seconds" interface .Long press S2,make the second zero.Then short press S2 twice enter normal interface

3>Schematic circuit diagram



Note: there is direction for PR1 Resistors Packs , there is one side of the word in the direction of the MUC.Pay an attention!!!

4>Component list

num ber	NEME	Type/Specif ication	Identifier	num ber	NEME	Type/Specificatio n	Identifier
01	Resistanc e	10K	R1	10	Tact switch	6*6*5	S1
02		10K	R2	11		6*6*5	S2
03	Capacita nce	30P	C2	12	IC Socket	20PIN	U1
04		30P	C3	13	MCU	AT89C2051	U1
05		104P	C4	14	Buzzer	5V active	LS1
06		10uF/25V	C1	15	Digital tube	4Bit red	DS1
07	Resistanc e Packs	1K	PR1	16	DC socket	3.5mm	J1
08	Crystal Oscillato r	12MHz	Y1	17	PCB	52*42mm	1
09	Transiste r	8550	Q1	18	Power Line	USB to 3.5mm	1