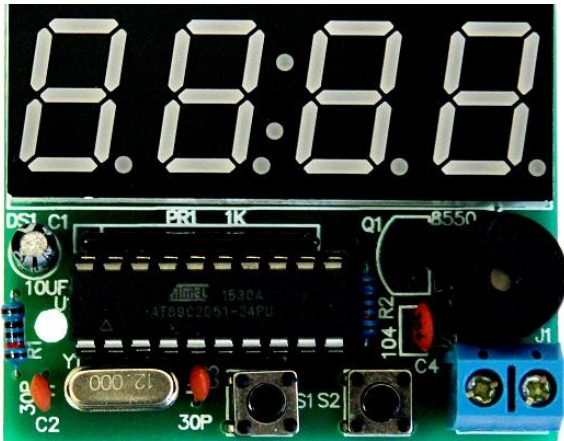


D.I.Y 4 Bit Digital Clock

Level: Beginner AK-95



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Soldering Guide

- 1) Turn on the iron to 608°F (310°C) if you are using 60 Tin / 40 Lead solder.
- 2) Place in the Resistors first and flip the board, bend the leads outwards to keep the resistor from falling.
- 3) Solder the leads to the pad and then cut of the leads.
- 4) Solder the black resistor array, orientation does not matter.
- 5) Solder the capacitors following the same rule from the resistor.
- 6) Solder the crystal
- 7) Place the transistor according to the stencil. Solder the transistor. The flat side must touch the speaker.
- 8) Solder the IC holder then using a table bent the pins Of the IC inwards and then place over the holder. Make sure the notch is matching the white layout For both the IC and holder.
- 9) Solder the speaker make sure the + is towards the SGD.
- 10) Solder the S.G.D and Terminal block.
Solder the polarized cap paying attention to + and -.

How it works

When you press S1:

- First click – clock hour setting
- Second click – clock minute setting
- Third click – ON/OFF alarm
- Fourth click – hour of alarm (if on)
- Fifth click – alarm minute (if on)
- Sixth click – alarm 2 ON/OFF
- Seventh click – Hour of alarm 2 (if on)
- Eighth click – minute of alarm 2 (if on)
- Ninth click – Return to main time

When you press S2:

Increases the value only in Click 2 – 8, it will re-loop when it reaches max value.

Note: The timing module will reset all settings and time when powered down, it does not have a RTC module integrated.

Parts List

QTY	Description	Remarks PCB Reference #
2	10KΩ ¼ Watt Resistor	Brown, Red, Black, Brown R1, R2
2	30pF Ceramic Capacitor	Brown ceramic capacitor has 30 written on them C2, C3
1	.1uF Ceramic Capacitor	Brown ceramic capacitor has 104 written on them C4
1	10uF Polarized Cap.	The radial one with a white – strip C1
2	Push buttons	Tactile black buttons four pin S1, S2
1	12MHz Crystal	Polarity is not an issue Y1
1	1KΩ Resistors	In a Common bus 9 pin format (black resistor array) PR1
1	PNP Transistor	88550 Q1
1	Piezo Speaker	Pay attention to polarity LS1
1	2 pin terminal block	Flip board to see which is + and - J1
1	4 display S.G.D.	See front cover for orientation of the display DS1
1	Custom PCB	Please read soldering guide first before soldering!
1	20 Pin IC holder	Please pay attention to the notch.
1	Atmel Microprocessor	AT89C2051-24PU Program is preloaded.

