

# Dominoduino Uni

## Overview

Dominoduino Uni is an DIY kit for a display module that uses two 0.8 inch square 8x8 dot matrix LEDs.

Sample programs are already written, so you can enjoy various patterns just by soldering.

You can also rewrite the program using the Arduino IDE. Please note that you will need a separate USB serial conversion adapter to rewrite the program.



## Specification

Microcontroller: AVR64DD28

Operating clock: Built-in 24MHz

Battery: 3.7V 180mAh Li-Polymer Battery

LED driving method: Charlieplexing dynamic lighting

## Arduino IDE

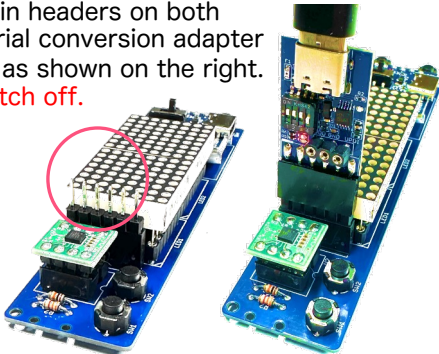
Board: AVR DD-series (Optiboot)

Chip: AVR64DD28

Part Number	Item	Quantity
	Printed circuit board	1
LED1,LED2	8 x 8 dot matrix LED	2
U1	AVR64DD28	1
R1	10KΩ Brown Black Orange Gold	1
R2	3.3KΩ Orange Orange Red Gold	1
R3	6.8KΩ Blue Gray Red Gold	1
R4	22KΩ Red Red Orange Gold	1
C1,C2,C3,C4	Capacitor 0.1uF	4
SW1,SW2,SW3,SW4	Round tactile switches	4
CN1	6P Pin socket	1
LED1,LED2	16P Round pin socket	2
	6P Low profile pin socket	2
U1	28P IC socket	1
USB serial	6P Long pin header on both ends	1
Power supply	Battery Unit	1
acceleration sensor	8P IC socket	1
acceleration sensor	4P Thin pin header	2
acceleration sensor	KXCT9	1

Insert the 6P long pin headers on both ends of the USB serial conversion adapter and then connect it as shown on the right.

Keep the power switch off.



Please download

circuit diagrams, sample sketches, etc. from the following site.

[http://ikkei.akiba.coocan.jp/ikkei\\_Electronics/Dominoduino\\_e.html](http://ikkei.akiba.coocan.jp/ikkei_Electronics/Dominoduino_e.html)

ikkei Electronics

[http://ikkei.akiba.coocan.jp/ikkei\\_Electronics/WeiCome\\_e.html](http://ikkei.akiba.coocan.jp/ikkei_Electronics/WeiCome_e.html)

ikkei blog

<http://blog.goo.ne.jp/jh3kxm>

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# Dominoduino Uni

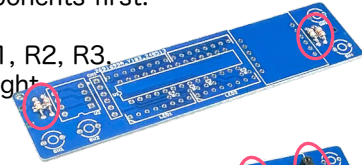
## DIY kit instructions

### Assembly Instructions

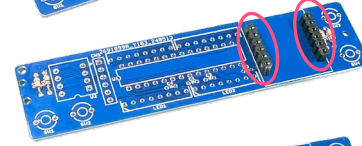
Solder the shortest components first.

1. First, solder resistors R1, R2, R3, and R4 as shown on the right.

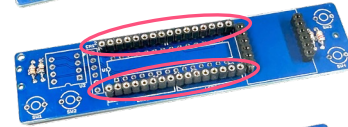
Check the color codes carefully to avoid making any mistakes.



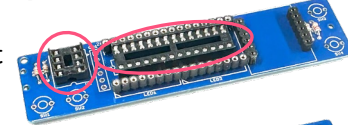
2. Solder two 6P low profile sockets.



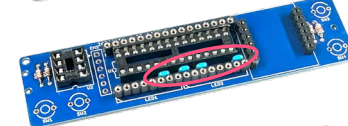
3. Solder two 16P round pin sockets.



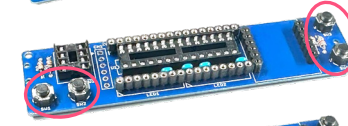
4. Solder the 28P IC socket and the 8P IC socket.



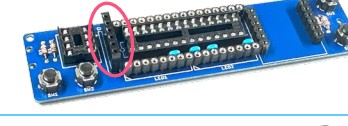
5. Solder capacitors C1, C2, C3, and C4.



6. Solder switches SW1, SW2, SW3, and SW4.



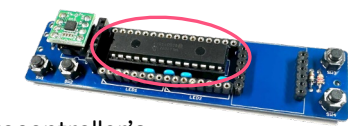
7. Solder the 6P pin socket.



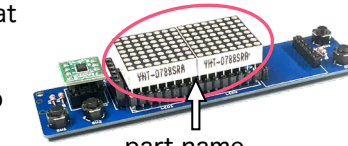
8. Insert the two 4P thin pin headers into the 8P IC socket, then place the acceleration sensor board on top and solder it.



9. Insert the AVR64DD28 microcontroller into the socket. At this time, it is a good idea to press the microcontroller's legs against the desk so that they are at a right angle.



10. Insert the two LEDs into the socket so that the part name is at the front. Adjust the surfaces of the two LEDs so that they are straight.



11. Finally, insert the battery unit.

SW1



12. Operation Check

- Power switch is turned on, the LED will light up.
- The pattern changes each time SW1 is pressed.
- In pattern 8, the light falls and bounces when it is tilted.
- Turn the off once, and then turn the on while holding down SW1 to play the game.
- Turn on while holding down SW2 as a kitchen timer.
- You can charge the battery unit by connecting the USB cable to it. It will turn red while charging and green when charging is complete.

If you have any questions please contact me by email.  
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