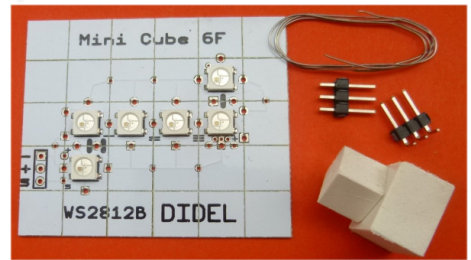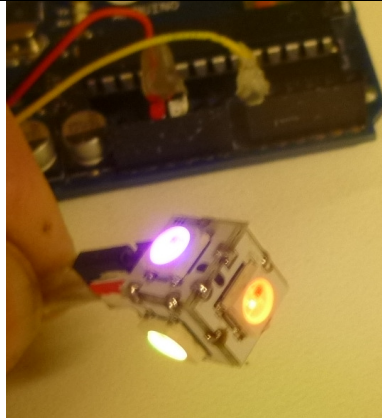**DiDEL SA**

http://www.didel.com/Cube6.pdf

A 6 Leds RGB Minicube

Assemble an RGB strip shaped as a cube 12mm outside size. A smart design makes it easy to test, assemble and solder.
It is controlled by a single line of you Arduino, Raspy, Lolin, etc. card. It works from 3 to 5V.
There are 5 WS2812B Leds and you can use Neopixel software or our much more compact software

The kit before your assembly WS2812B LEDs are soldered and tested. Check our and your software before breaking the cute PCB. With our jig, soldering is easy.

Initial test

If you have a Diduino with its Kidule connector, just insert the connector you have soldered. Signals are: Gnd (square pad) Vcc (3 to 5V) and RGB signal.

Test programs are under www.didel.com/Cube6.zip
Documentation on www.didel.com/Cube6Soft.pdf

If you have an Arduino, You may prefer to solder a female connector and use jumper wires toward Gnd, +5V et A0/pin13. Easy to use another pin, just change the definitions in WSA28.h software.
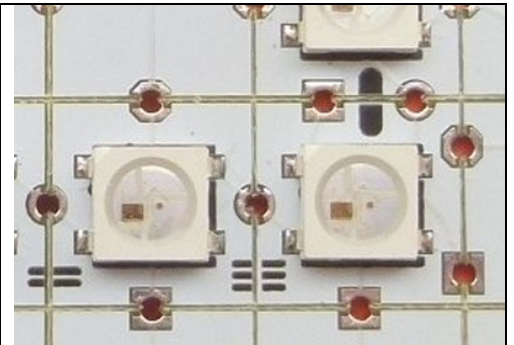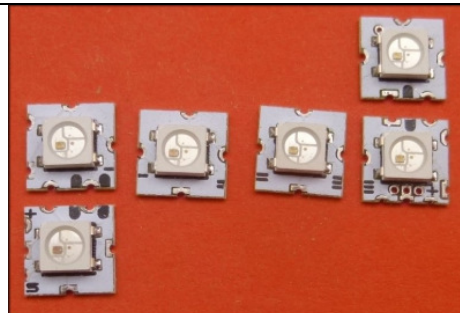


```
// WS28.h
.  .  .
#define bP 0 //pin 0  PORTC - do not use pinMode, too slow
#define POn   bitSet   (PORTC,bP)
#define POff  bitClear (PORTC,bP)
void SetupWS28() { bitSet (DDRC,bP); cli();}
```

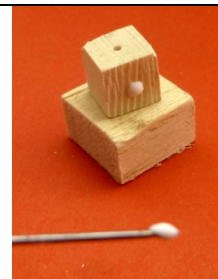Notice that we redirect Arduino delay() toward our own non interrupting function: `#define delay DelMs`

Gnd
3-5V
Signal
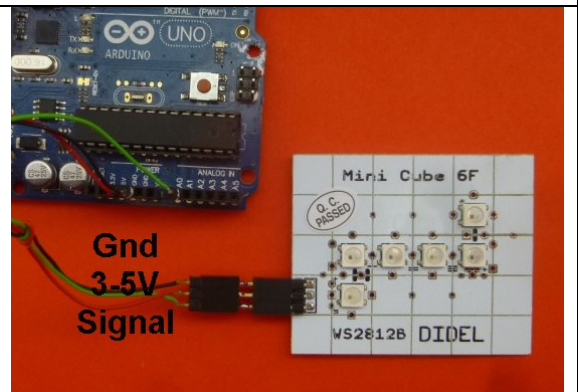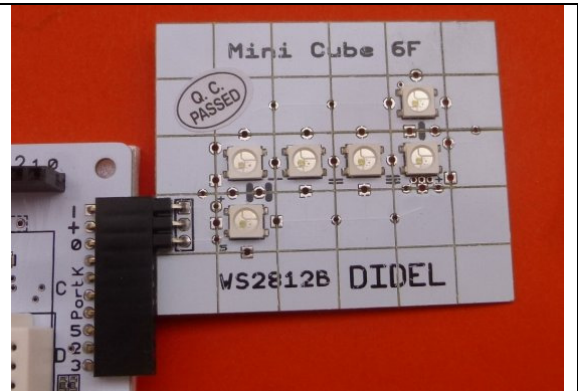
Soldering the kit

Break the squares and notice the aligment marks.
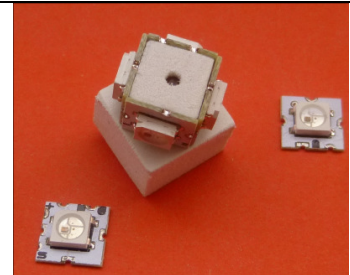
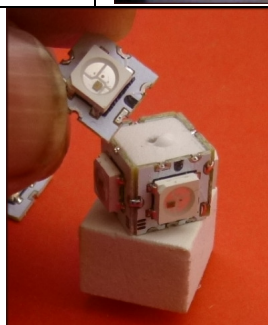|			
First step, stick the faces on the jig. Use rather thick white glue. Put with the tip of a pin a very small drop on the 4 side faces.		**Drop too big**	

|		
Before the glue hardens, position the faces. Look from above to center the faces. Check that each square is well seated on the base. Check the alignment marks. Wait until the glue dries.		
With a soldering iron not too hot, put a drop solder to join the half-holes. Touch with the tip of the iron the bottom of the hole before pushing about 10mm of thin solder, 0.35mm in diameter. The block is lying on its side, as you see.		
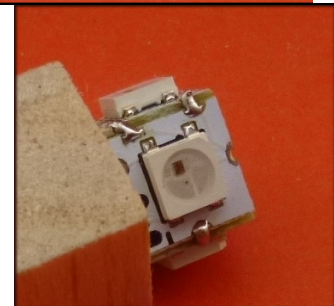
Glue, wait and weld the top (check the mark).		With a razor blade, separate the cube.	
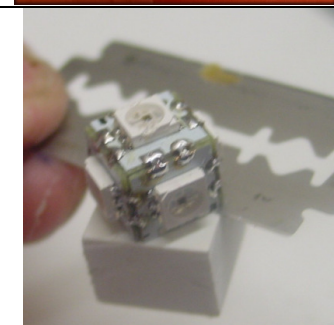
Weld the underside by holding the cube in a bucket or clothespin. Provisionally solder 3 "jumper wires" of the right color. Gnd at the center, + towards the mark.		
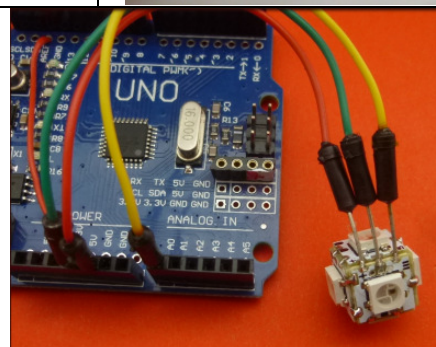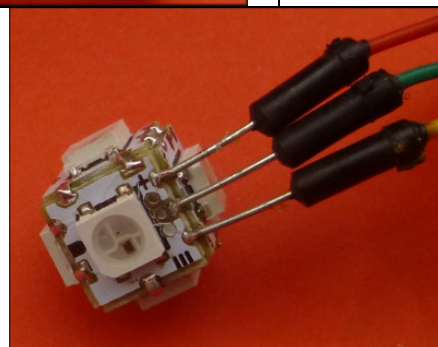
Run a test programs. If not good, check the welds with a magnifying glass by lighting at different angles with a flashlight..

Decide on the final wiring. A connector is supplied with the pitch of 1.25mm (if the tip of your iron must be very fine). Thin magnet wires are less visible, but be careful with the wiring. See again www.didel.com/Cube6Soft.pdf			

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