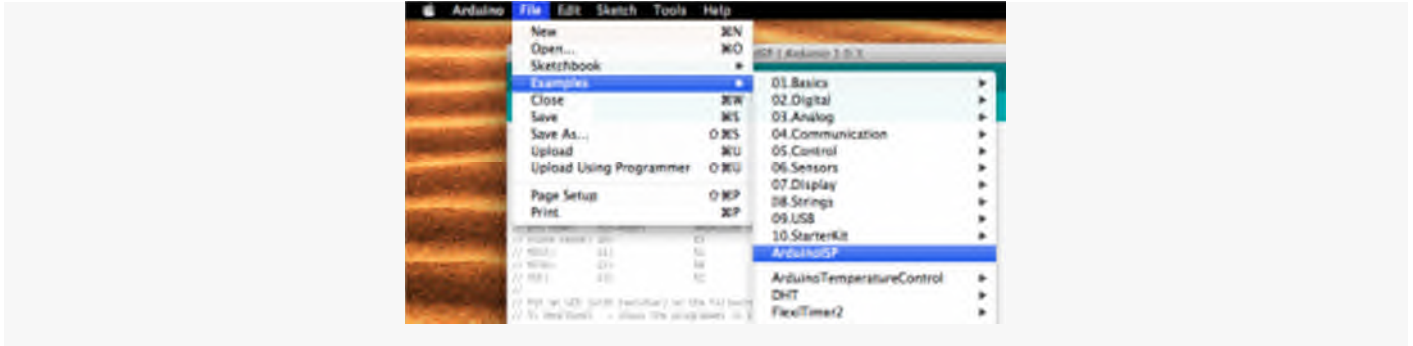


AVR Programmer Arduino Shield

Instruction

Uploading Arduino bootloader

- Upload the ArduinoISP sketch into your Arduino board



The setting of the LEDs from left to right are:

LEDs	Description	Status
D7	Programming	when IC is programming properly
D8	Error	when target IC is not connecting properly
D9	Status: heartbeat	keep beating when power up

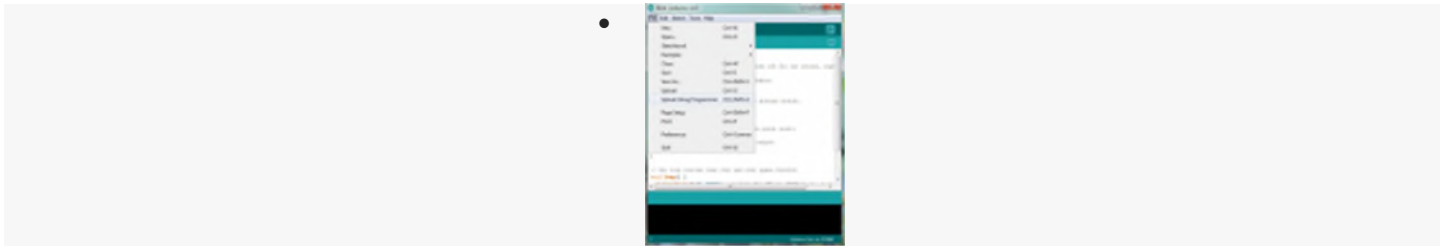
Setup the shield

Flash Bootloader Programming Guide and Note

- Support three attiny series
- Some version of ArduinoIDE is not working well, for example, 1.61, 1.00, etc, better version approved 1.05, 1.56-r2
- Burn bootloader twice, sometimes it seems the arduinoIDE bug: the IC will fail on uploading sketch when moved to arduino board
- If you see the problem "programmer of out sync", get the easy solution here. See pdf "ArduinoISP"

Series	DIP setup group	Auto-rest	ATtiny2313 jumper	Core file supported 1.5 IDE
ATtiny13/25/45/85/2313/4313	1st group	up-off	Down-off and On-up for attiny*313	Link Source

Series	DIP setup group	Auto-rest	ATtiny2313 jumper	Core file supported 1.5 IDE
ATtiny24/44/84	2nd group	up-off	Down-off	Link
ATmega168/328	3rd group	up-off	Down-off	default in IDE



upload arduino sketch using "programmer" options in the menu, DO NOT use "upload" button



Program hex file into target IC with AVRDUDESS

- Done!

Board setup

- Set the auto-reset to off, now you will only program the target IC
- Set the right jumpers for ICs, see the examples below, ONLY turn on one group of toggle switch every time.



For attiny13a, Turn on the 1st group on the left



For attiny 2313, turn on the 1st group in the left and put the four jumpers on the right top position



For atmega 328p, turn on the 3rd group on the right



For new board version attiny13

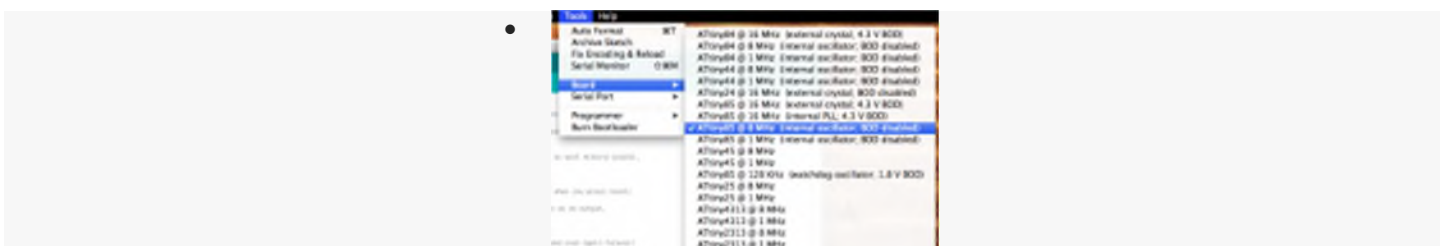


For new board version attiny2313



For new board version atmega328

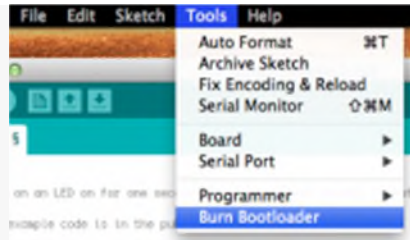
Programming from PC



Select the correct board and serial port



Select arduino as ISP in programmer menu (Your Arduino on the bottom should be already programmed within Arduino as ISP sketch, and heartbeat LED is beating)



Click burn bootloader, do it twice for a bug reason (some arduinoIDE versions have problem)

Upload blink sketch for testing

- To check the bootloader, you can try upload sketch
- To upload sketch to the IC on the shield, choose "upload using programmer" in the menu, otherwise it will upload into arduino main board
- or using avrdudess to upload AVR hex file
- Do not program the LED pin 13, then LED on the shield will not work, use following settings instead

```
// Pin 13 has an LED connected on most Arduino boards.
// give it a name:
int led = 13;

// the setup routine runs once when you press reset:
void setup() {
  // initialize the digital pin as an output.
  pinMode(led, OUTPUT);
}
```

Series	Blink sketch for testing LED on shield
ATtiny13/25/45/85/2313/4313	int led = 4; (attiny13, etc), int led = 1;(attiny2313, etc)
ATtiny24/44/84	?
ATmega168/328	int led = 1;