USER MANUAL OF

ATMEGA 2560
WITH UNIVERSAL BOARD

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UNIVERSIAL EMBEDDED TRAINER WITH AVR ATMEGA2560

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ATMEGA 2560

1. INTRODUCTION:

ATMEGA 2560 PROJECT BOARD

The Arduino Mega 2560 is a microcontroller board based on the ATmega2560. It has 54 digital input/output pins (of which 14 can be used as PWM outputs), 16 analog inputs, 4 UARTs (hardware serial ports), a 16 MHz crystal oscillator, a USB connection, a power jack, an ICSP header, and a reset button. It contains everything needed to support the microcontroller; simply connect it to a computer with a USB cable or power it with a AC-to-DC adapter or battery to get started. The Mega is compatible with most shields designed for the Arduino Duemilanove or Diecimila.

2. FEATURES:

- Microcontroller ATmega2560
- Operating Voltage 5V
- Input Voltage (recommended) 7-12V
- Input Voltage (limits) 6-20V
- Digital I/O Pins 54 (of which 14 provide PWM output)
- Analog Input Pins 16
- DC Current per I/O Pin 40 mA
- DC Current for 3.3V Pin 50 mA
- Flash Memory 256 KB of which 8 KB used by bootloader
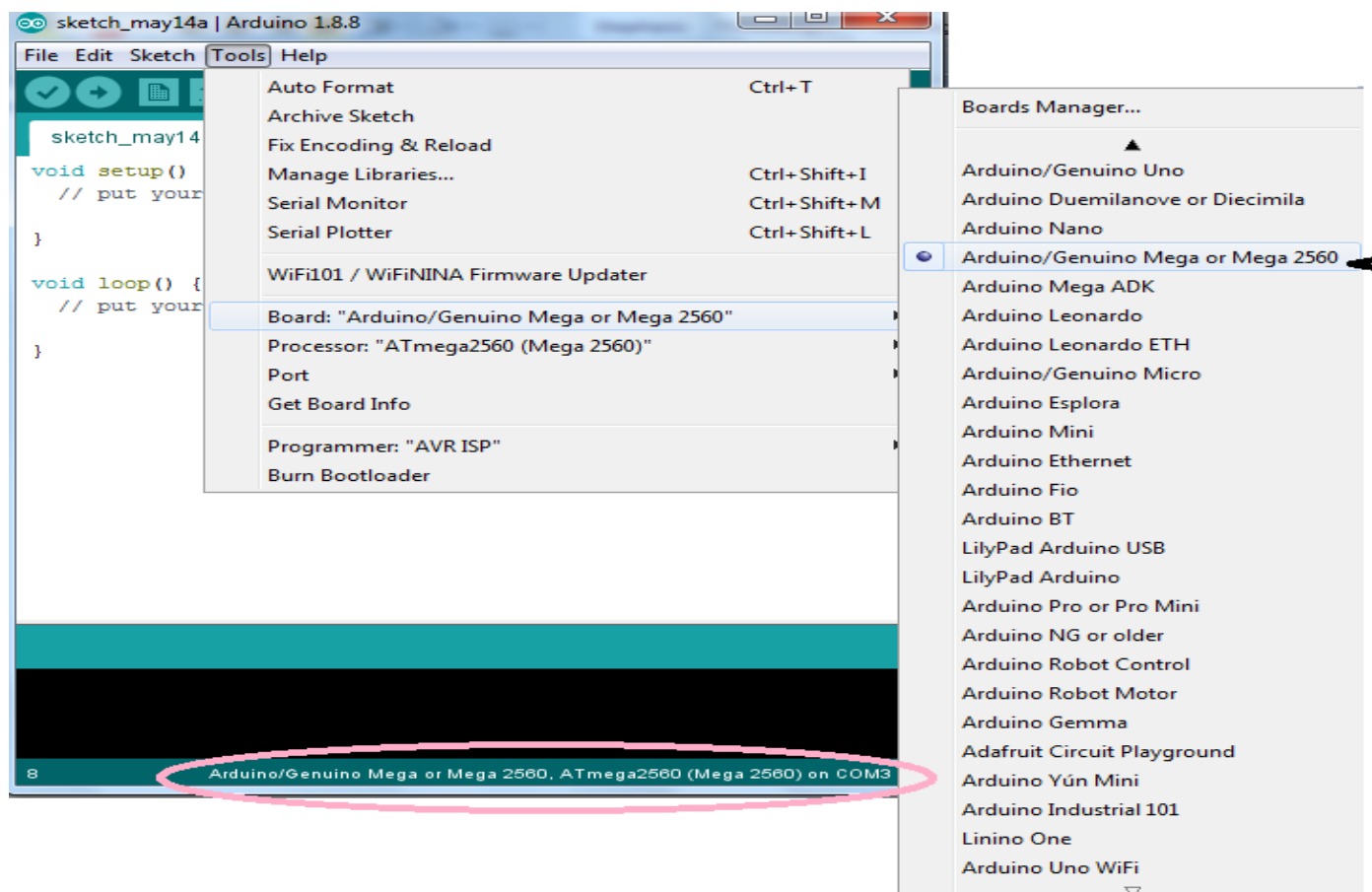- SRAM 8 KB
- EEPROM 4 KB
- Clock Speed 16 MHz

Software used for Atmega 2560: *ARDUINO*

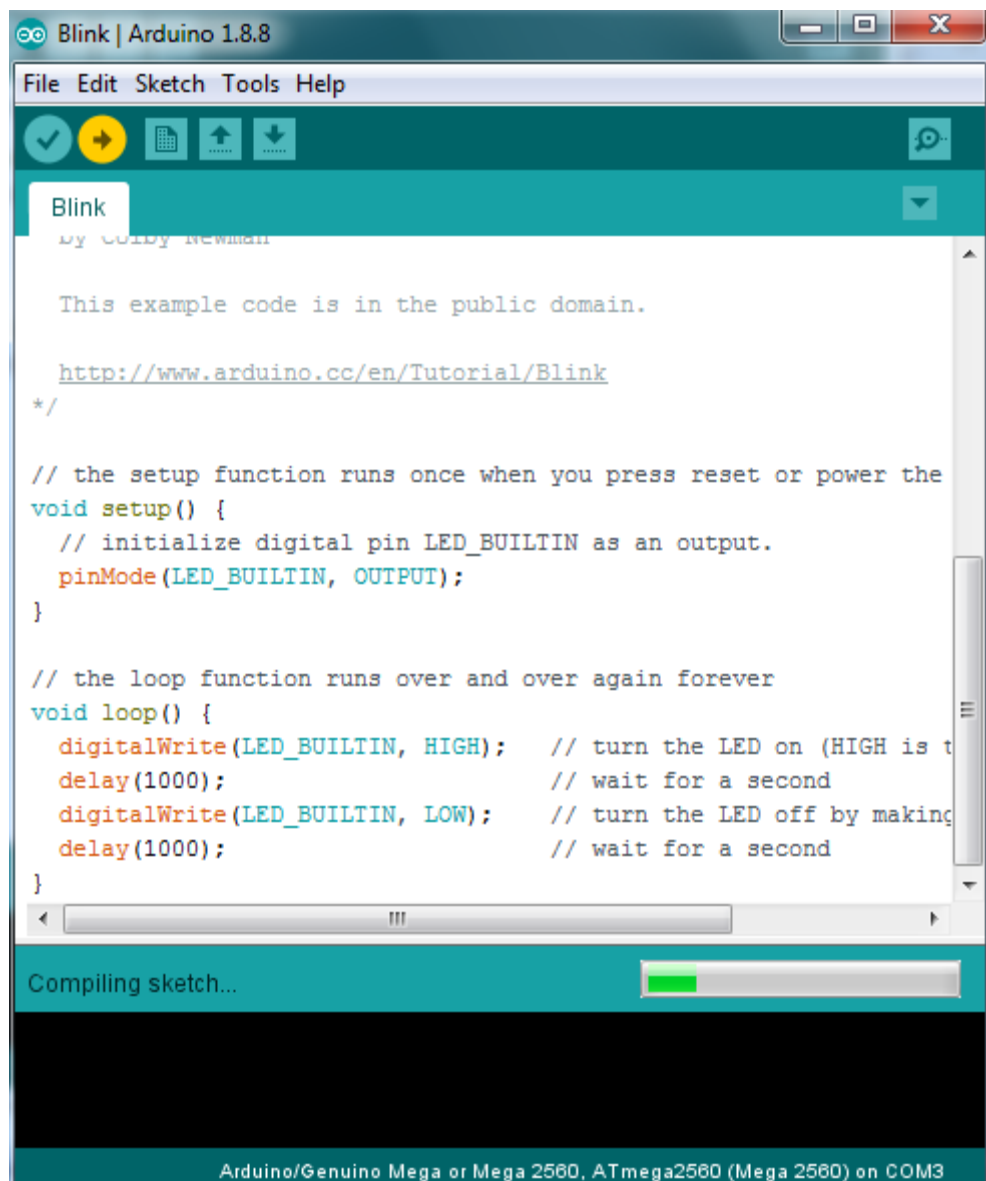## 3. HOW TO CREATE AND UPLOAD THE PROGRAM INTO PROJECT BOARD

1. Open Arduino software ➜ Go to ➜ File menu ➜ create New
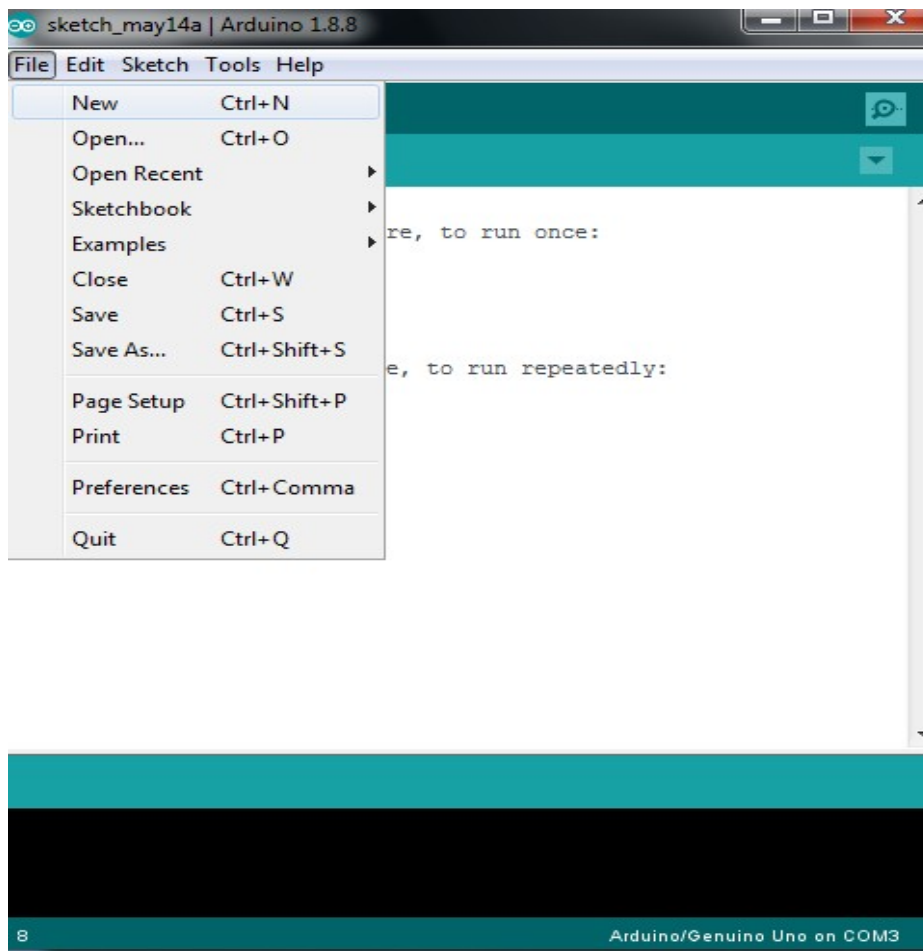
2. Connect programmer debugger to project board ➜Now go to ➜ tool menu➜ select 'Arduino/Genuine Mega or Mega 2560' ➜ okay ➜ also select COM port as per detection

3. Write your program ➔ after that compile program ➔ and upload program into Atmega 2560 board

4. PIN CONFIGURATION

J1:

VCC	GND
PA0	PA1
PA2	PA3
PA4	PA5
PA6	PA7

J2:

VCC	GND
PB0	PB1
PB2	PB3
PB4	PB5
PB6	PB7

J3:

VCC	GND
PC0	PC1
PC2	PC3
PC4	PC5
PC6	PC7

J4:

VCC	GND
PF0	PF1
PF2	PF3
PF4	PF5
PF6	PF7

J5

VCC	GND

PK0	PK1
PK2	PK3
PK4	PK5
PK6	PK7

J6:

VCC	GND
PL0	PL1
PL2	PL3
PL4	PL5
PL6	PL7

J7/UEXT:

VCC	GND
PE1	PE1
PD0	PD1
PB3	PB2
PB1	PB0

40 PIN FRC :

GND	5V
PD0	PD1
PD2	PD3
PD4	PD5
PD6	PD7
PE0	PE1
PE2	PE3
PE4	PE5
PE6	PE7
PG0	PG1
PG2	PG3
PG4	PG5
PH0	PH1
PH2	PH3
PH4	PH5
PH6	PH7

PJ0	PJ1
PJ2	PJ3
PJ4	PJ5
PJ6	PJ7