

# **ATmega Evaluation KIT User Manual V3.0**

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## **APPENDIX: Default Fuse bits settings.**

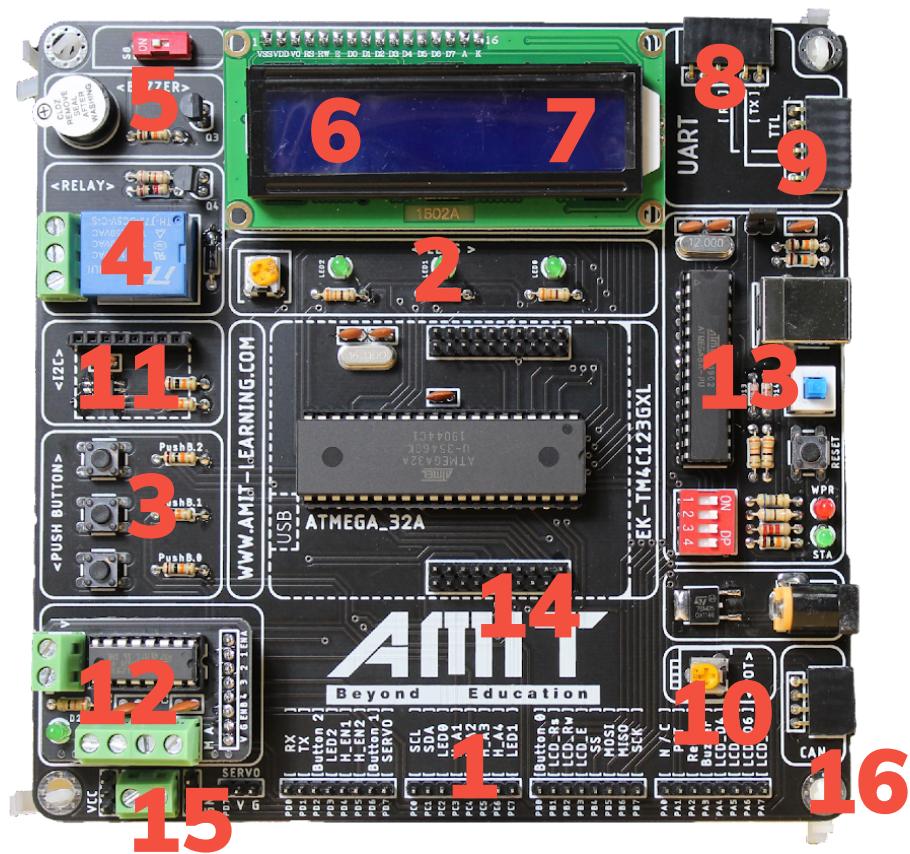
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## **1.1 Product Overview**

Atmega Evaluation KIT is a multifunctional MEGA32/16 microcontroller development platform which has been carefully designed and developed by AMIT Learning Research and Development Team.

- With this product, beginners in the embedded systems track will have all the necessary resources that would enable them to fully master AVR Family microcontroller programming technology in the shortest time possible.
- It is particularly suitable for self-learning for students and/or hobbyists. The following points may illustrate how your choice was wise.
  - Optimized modular design
  - Superior production technology
  - Low selling prices
  - Comprehensive technical guidance
  - Perfect after service

## 1.2 Board Resource Introduction



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## **1.2 Board Resource Introduction**

- 1)General Input / Output Module.
- 2)3 LEDs.
- 3)3 Switches.
- 4)Relay Module.
- 5)Buzzer.
- 6) LCD
- 7) can place LCD with 7-Segments.
- 8)UART to be connected to Bluetooth Module.
- 9)UART to be connected to USB to TTL.
- 10)ADC1 connected with Potentiometer
- 11)I2C connected with External EEPROM and also to be connected with Compass Sensor.
- 12)H-Bridge to be connected with Motors
- 13)SPI Programmer Module
- 14)Headers for TivaC (TM4C123GH6PM)
- 15)Servo Motor
- 16)CAN Transceiver

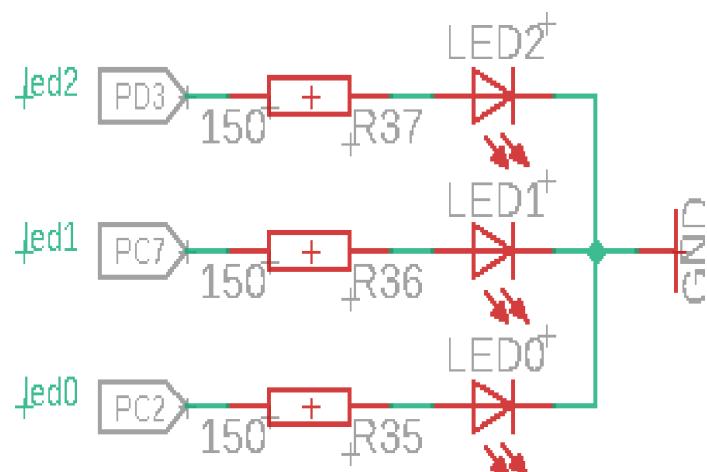
## Chapter 2: Modules Details “ LED & Buzzer ”

Three-LED

LEDO→PORTC .2

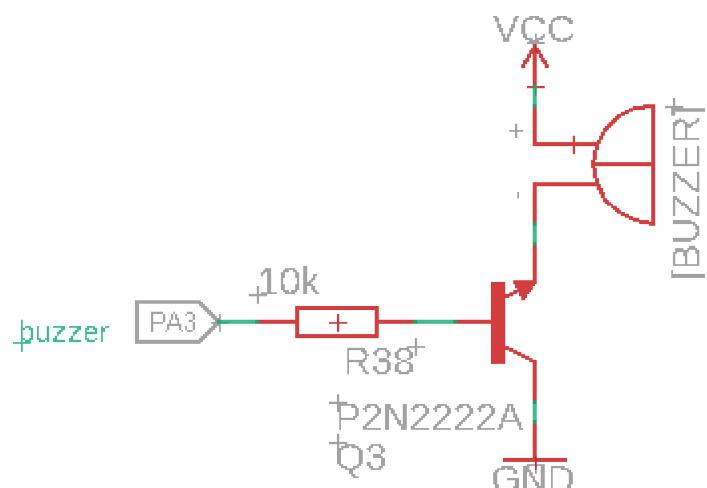
LED1→PORTC .7

LED2→PORTD .3



Buzzer

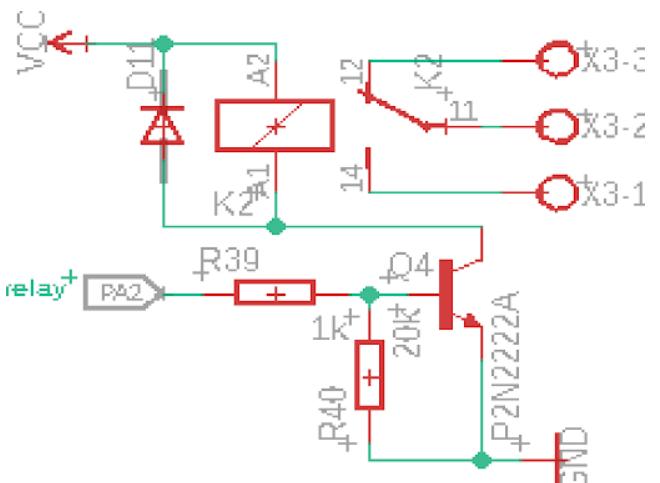
Buzzer→PORTA.3



## Chapter 2: Modules Details “ Relay & Push Button”

### RELAY

Relay → PORTA.2

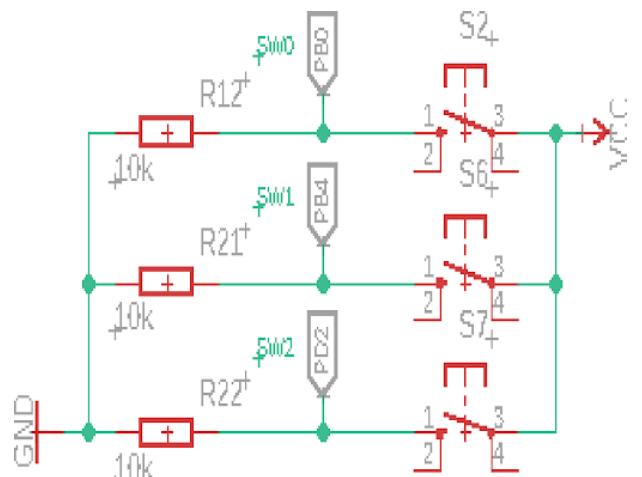


### Push button

Button0 → PORTB .0

Button1 → PORTD.6

Button2 → PORTD.2



## Chapter 2: Modules Details “ 7 Segment ”

### 7 segment Display

#### DATA LINES:

7SEG\_A→PORTA .4

7SEG\_B→PORTA .5

7SEG\_C→PORTA .6

7SEG\_D→PORTA .7

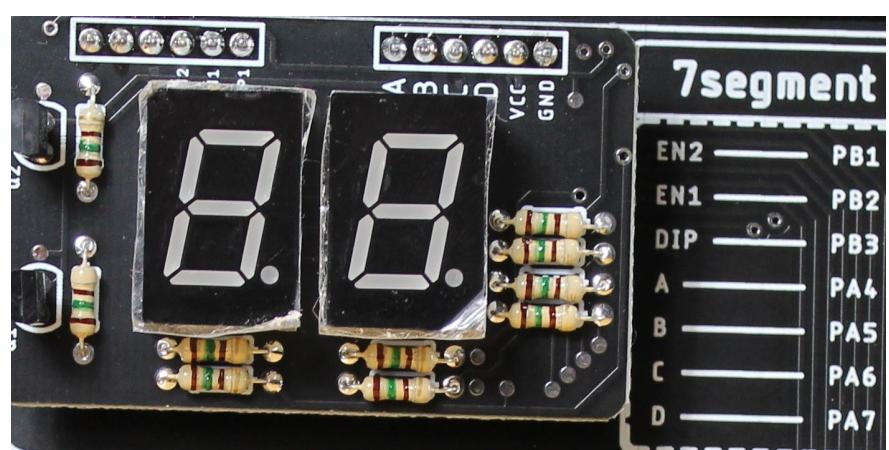
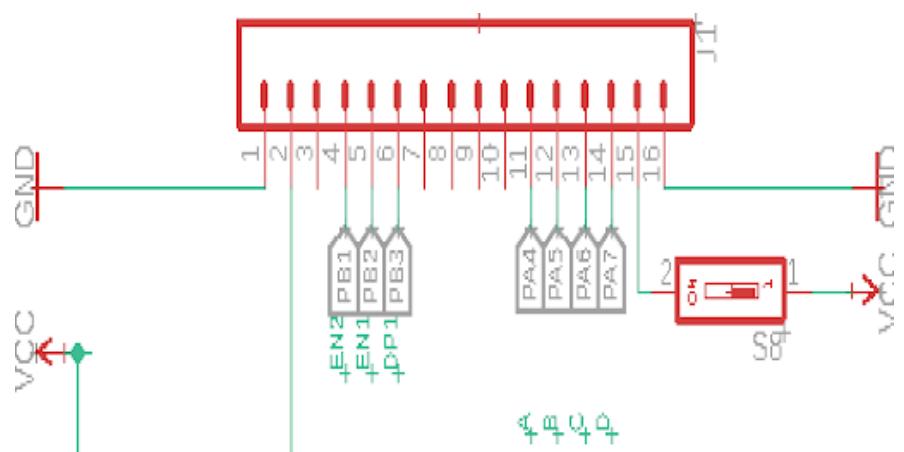
#### DECIMAL POINT:

7SEG\_DP→PORTB .3

#### ENABLE LINES

7SEG\_EN1→PORTB .1

7SEG\_EN2→PORTB .2



## Chapter 2: Modules Details “ 16\*2 CHARACTER LCD

### DATA LINES

LCD\_D4→PORTA .4

LCD\_D5→PORTA .5

LCD\_D6→PORTA .6

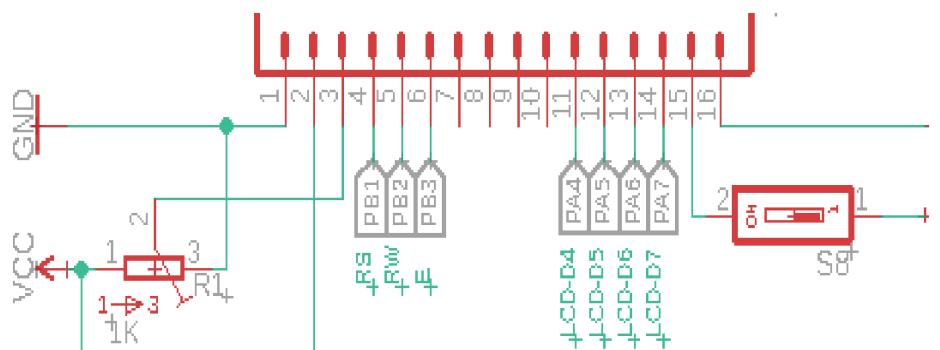
LCD\_D7→PORTA .7

### CONTROL LINES

LCD\_RS →PORTB .1

LCD\_RW→PORTB .2

LCD\_E →PORTB .3

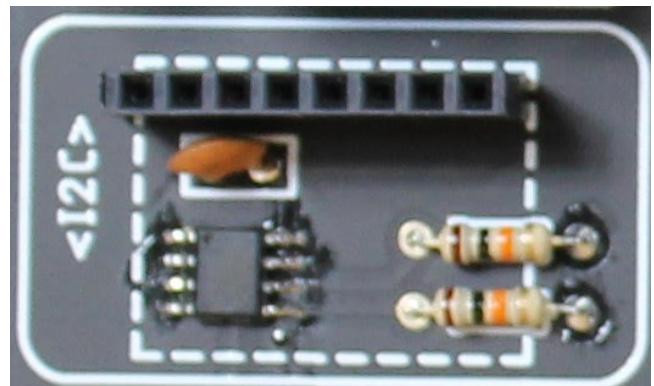
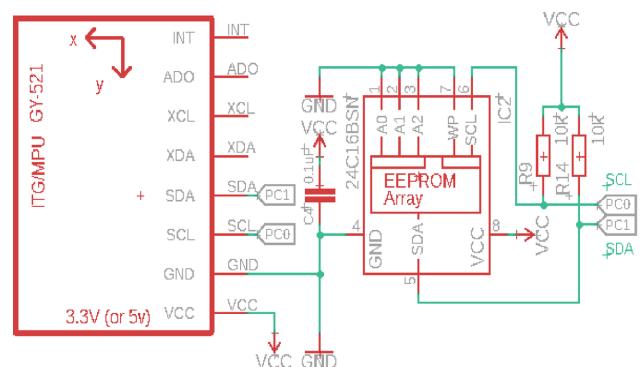


## Chapter 2: Modules Details “I2C EEPROM Module & Temperature”

### I2C EEPROM Module

SCL → PORTC.0

SDA → PORTC.



### ADC -Potentiometer

ADC 1 → PORTA.1



## Chapter 2: Modules Details “Bluetooth and TTL“

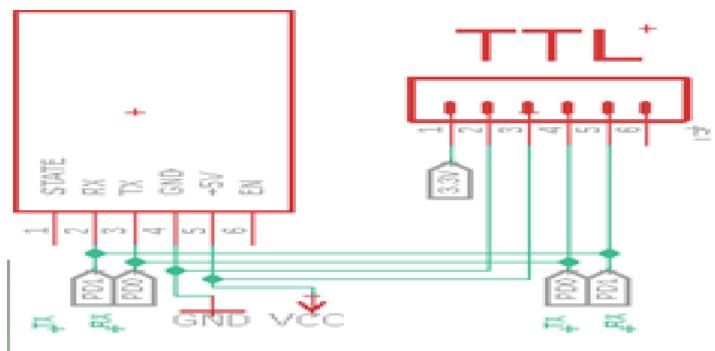
## UART –Bluetooth and TTL

Rx → PORTD.O

Tx → PORTD.1

C.O

SDA → PORTC.



## Chapter 2: Modules Details “H.Bridge“

### H-Bridge pins

H\_EN1 → PORTD.4

H\_EN2 → PORTD.5

H\_A1 → PORTC.3

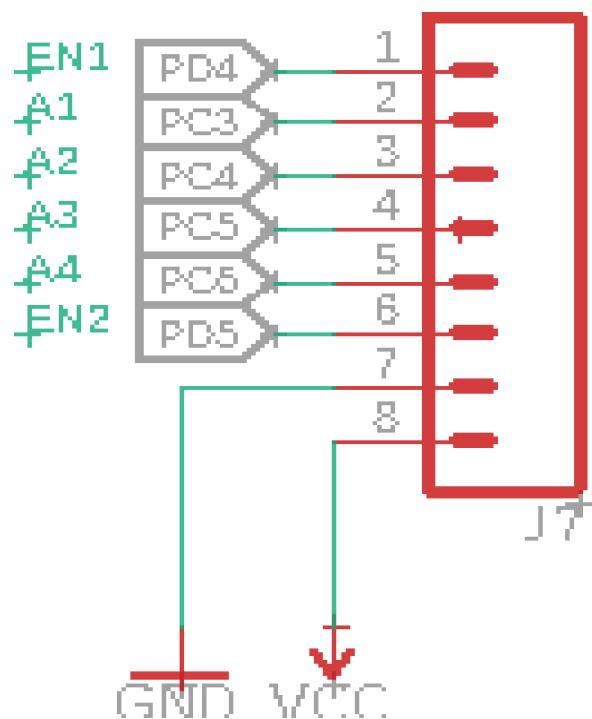
H\_A2 → PORTC.4

H\_A3 → PORTC.5

H\_A4 → PORTC.6

C.O

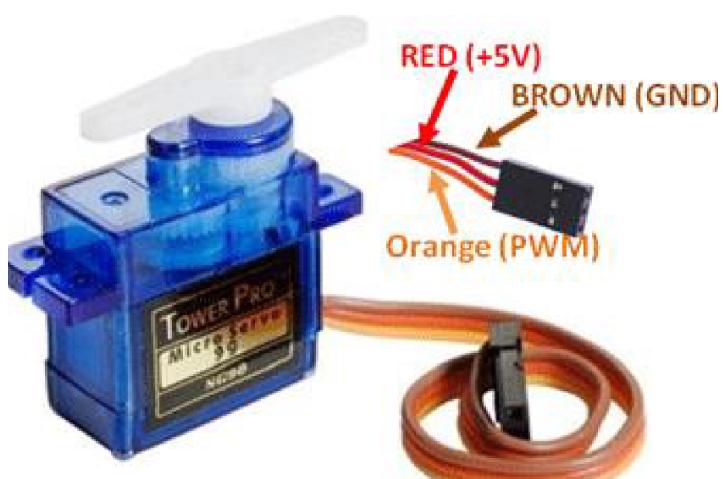
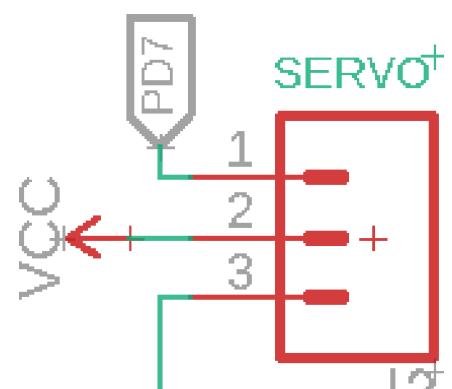
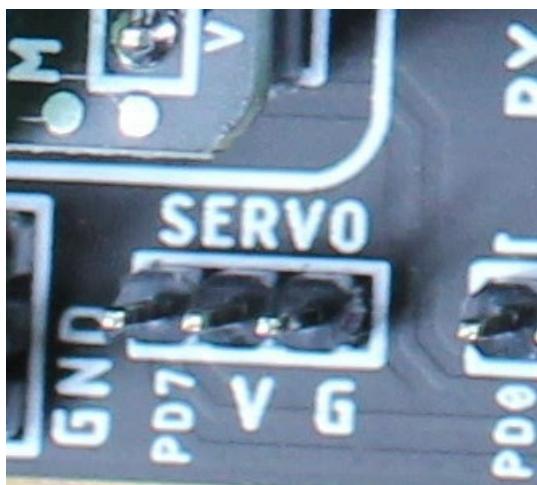
SDA → PORTC.



## Chapter 2: Modules Details “Servo Motor“

### Servo pins

Signal → PORTD.7



GND

GND

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## CAN Transceiver Pin Header



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## **Caution !**

**1) Please plug-in the External Module in the correct way as the previous images.**

**2) Make sure when you plug-in the external modules no pins is shifted right or left.**

**3) You can work only with the 7-Segment or the LCD so when you want to replace turn-off your power first.**

**4) Don't remove the microcontroller ATmega32 From it's place.**

**5) Don't use the kit direct with a metal or wet surface for any short circuit**