UART Interfacing on eYFi-Mega Board

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Indian Institute of Technology, Bombay

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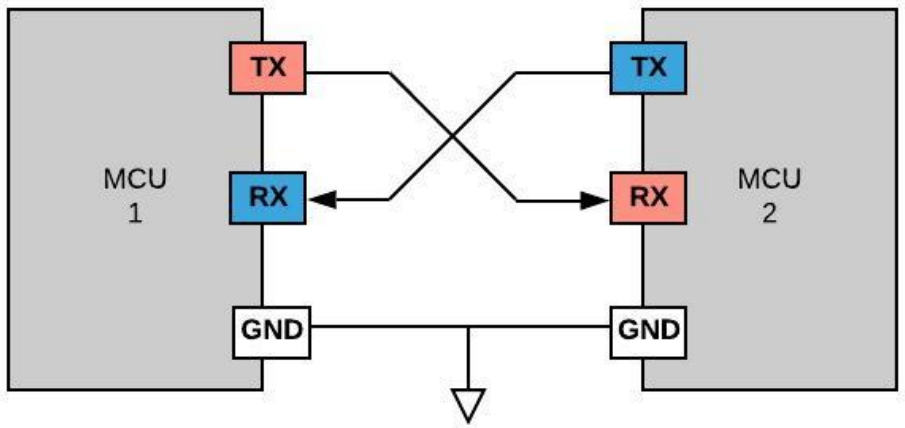

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  1. Data Packet
     - Synchronization Bits
     - Data Bits
     - Parity Bits
  2. Baud Rate

Data Packet

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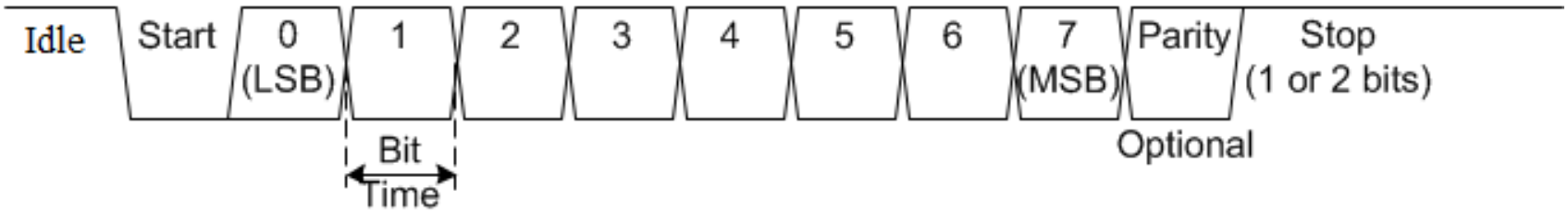
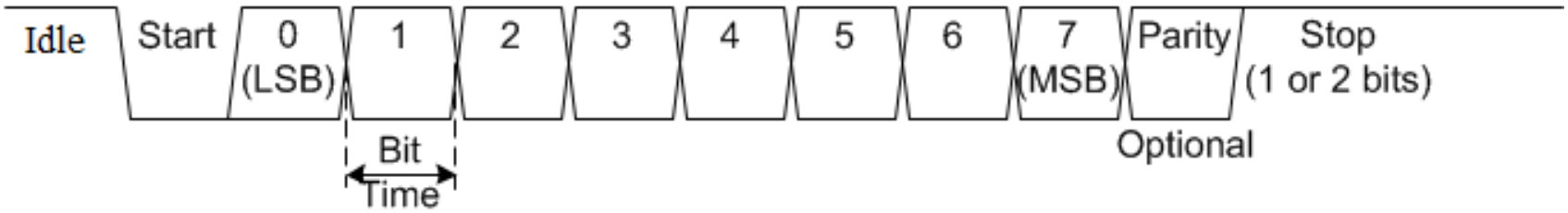

Idle
Start
0
(LSB)
1
2
3
4
5
6
7
(MSB)
Parity
Stop
(1 or 2 bits)
Bit
Time
Optional

Data Packet



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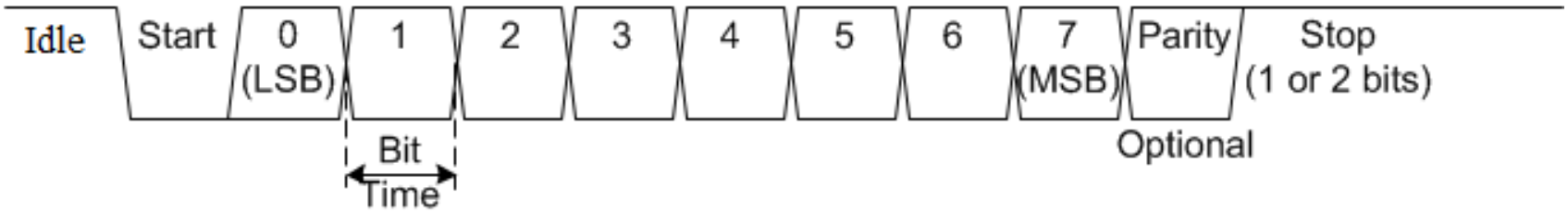

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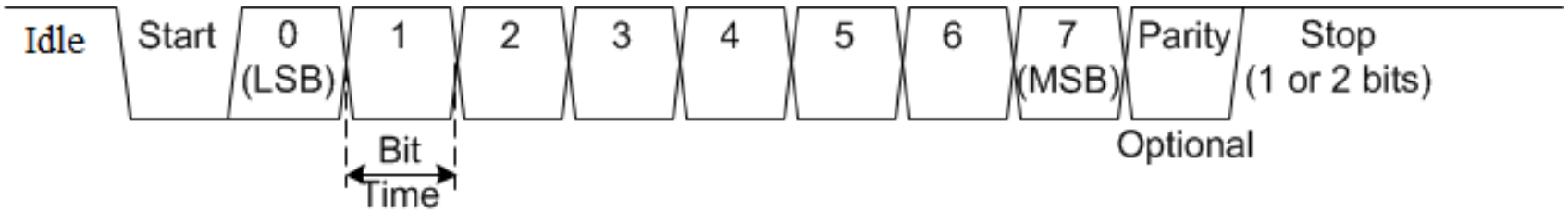

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3. Parity Bits
   - Low-level and simple form of error checking.
   - It can be odd or even.

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- These baud rates are achieved in micro-controller by dividing the clock frequency.

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  1. **9600** ⇒ Baud Rate
  2. **8** ⇒ Number of data bits in a frame
  3. **N** ⇒ No Parity bits
  4. **1** ⇒ 1 Stop bit
  5. "**H**" ⇒ ASCII value = **0b01001000**
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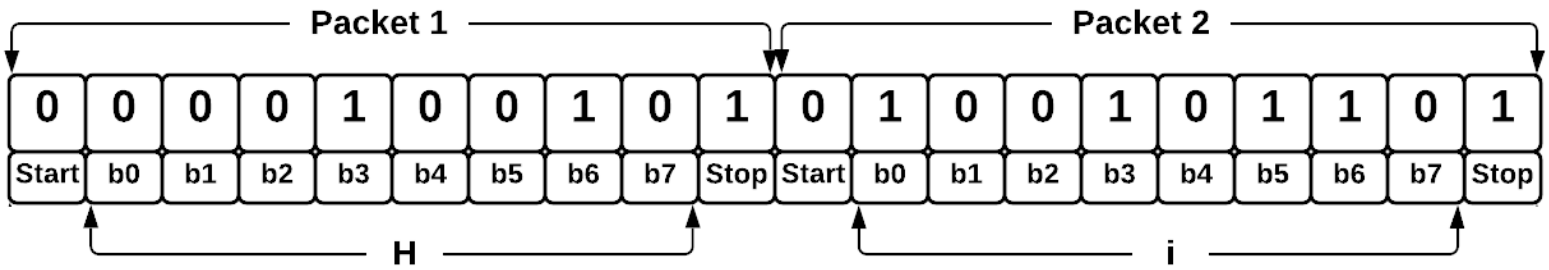

Connection Diagram

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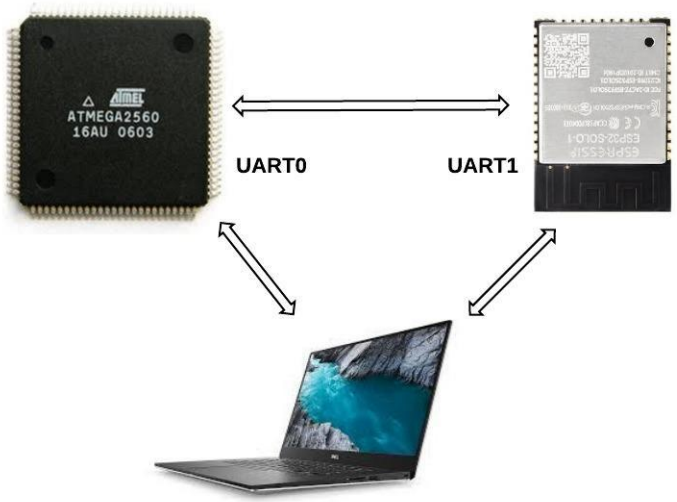

- Connection between ATmega2560 and PC
  1. TX0 → USB
  2. RX0 → USB
- Connection between ATmega2560 and ESP32
  1. ATmega2560:TX0 → ESP32:RX1
  2. ATmega2560:RX0 → ESP32:TX1

UART Header on eYFi-Mega Board

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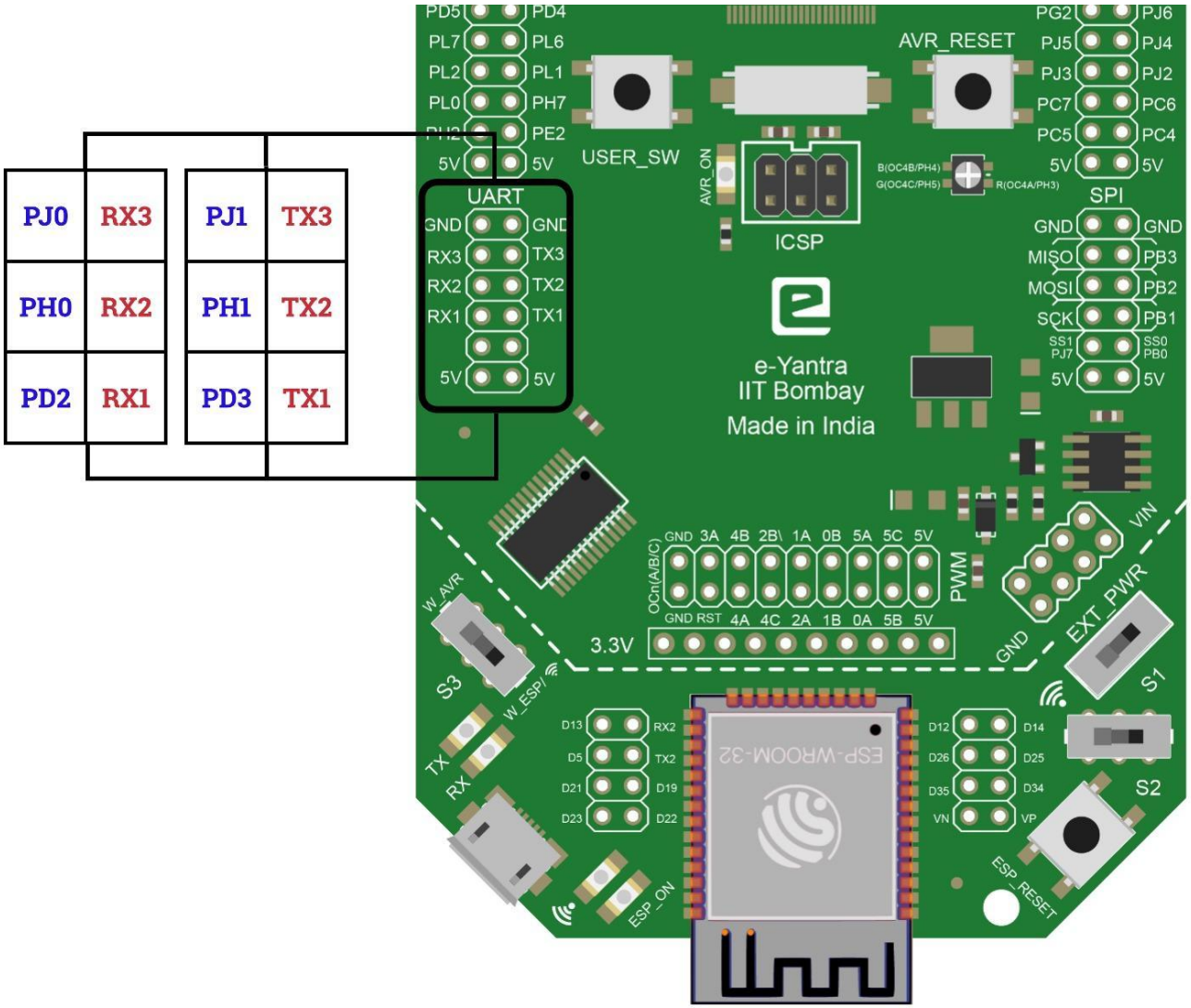

Thank You!

Post your queries on: helpdesk@e-yantra.org