

# COMMUNICATIONS EDUCATIONAL BOARD

## REQUIREMENTS OF THE BOARD:

### 1. Board:

- Ø Physical dimensions: Not exceeding 4x4 inches
- Ø Number of Layers: 4
  - 1 Ground layer.
  - 1 Power layer.
  - 2 Signal layers
- Ø One sided (components only on one side).

### 2. Microcontroller:

ATmega128L

- 128K programmable flash memory.
- 4K internal SRAM.
- 51 programmable I/O lines.
- Two programmable UARTs
- 4.5 to 5.5 V

### 3. Communication Module:

- Ø **Fiber Optic data communication.**
  - HFBR 5103
  - 4.75- 5.25V
  - 100 Mbps
  
- Ø **Infrared data communication.**
  - TFDU4100
  - 2.7 – 5.5V
  - 115.2 Kbps
  
- Ø **Serial RS232 data communication.**
  - MAX202 Driver IC
  - 120 Kbps
  - Connected through the UART0 via selection jumpers
  
- Ø **Data communication through USB.**
  - FT232BM Driver IC
  - 480 Mbps
  - Connected through the UART0 via selection jumpers