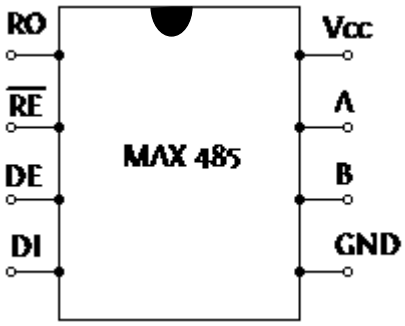
RS485:
(https://bitbucket.org/dineshravilla/sht15_pic18f4520/src/7b7d85575607bb0c7ec6262ea130bfaa8a9106f3/lib/uart_and_sw_uart/?at=master**)**

No Changes are made to the main program of SHT15, to work with RS485.



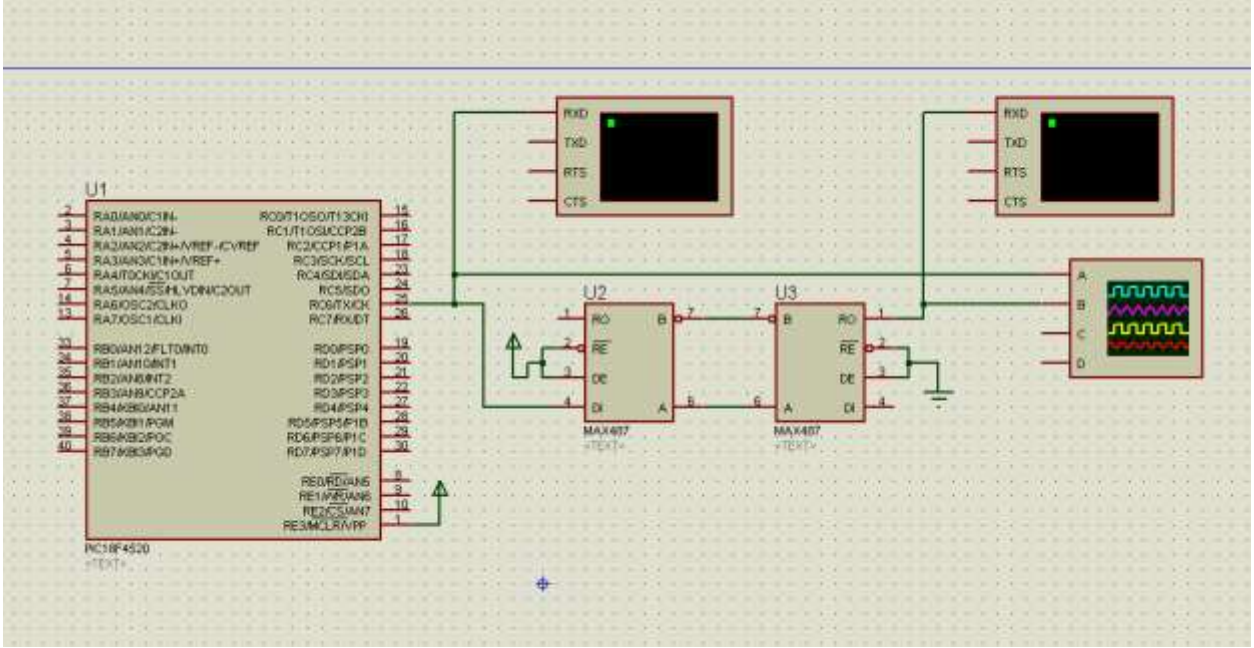
Changes are done in the hardware part of MAX485 ICs.

Connections:

A 220 Ohm resistor should be connected between A and B.
A 0.1 uF capacitor to be connected between Vcc and GND.
Tx pin of Micro Controller to DI.
Rx pin of Micro Controller to RO.

DE (Drive Enable) should be enabled while transmitting from a micro controller and **NOT RE (Receive Enable)** should be enabled while receiving. A popular method for enabling these pins is, connecting both the pins together and giving a supply of +5V while transmitting and a ground while receiving.

The proteus simulation model is given below.

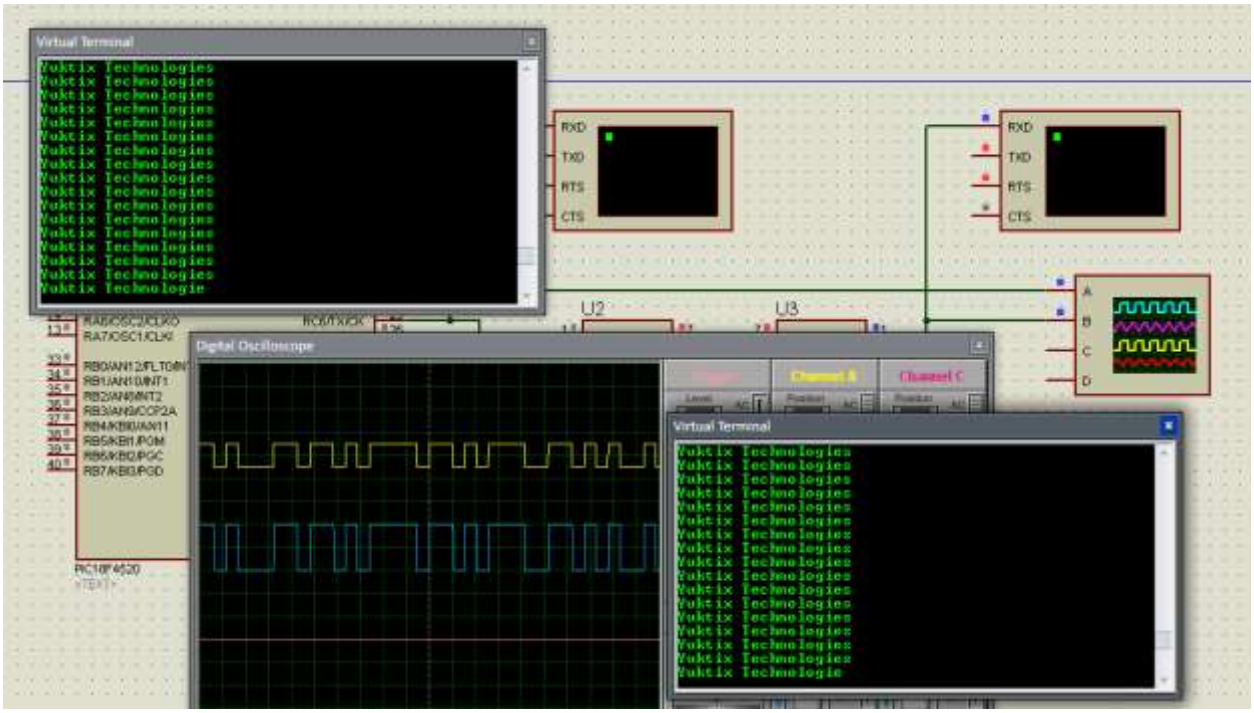


The above prototype transmits “Yuktix Technologies”, from PIC18f4520, through MAX485 ICs. MAX485 in the receiver side receives the data through A and B pins of MAX485 in the transmitter side.

Here, the first MAX485 is acting as a transmitter and the second MAX485 is acting as a receiver. MAX485 can also act as transceiver. When it is acting as a transceiver, Rx pin should also be connected to the corresponding pins of MAX485.

Screenshot of the result is given below.

As the simulation works on ideal conditions, there is no need of a 220 Ohm resistor between A and B. In real case, a 220 ohm resistor should be connected between A and B for good results.


Virtual Terminal
Yuktix Technologies
RXD
TXD
RTS
CTS
U2
U3
A
B
C
D
Digital Oscilloscope
Channel B
Channel C
PIC18F4520