Interfacing RFID Module with FireBird V

Embedded Real-Time Systems Lab
Indian Institute of Technology-Bombay

IIT Bombay
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Agenda for Discussion

1. Introduction to RFID Module
2. EM-18 RFID Reader Module
   - EM-18 RFID Reader Module
   - Continued...
3. Interfacing RFID Module On FireBird V
   - Application circuit of RFID Module
   - Interfacing RFID Module on FireBird V
4. RFID Module Testing
   - Connecting RFID Module to USB to Serial Converter
   - Sample output as seen on serial terminal
   - Sample output on LCD screen
5. C Code

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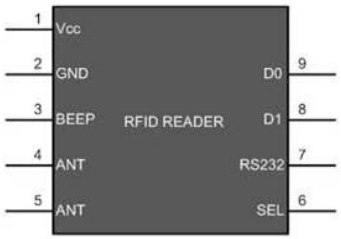
- ✓ The main purpose of using RFID is to automatically identify and track the active and passive tags attached to various objects in our daily life.
- ✓ RFID tags are an improvement over bar codes because the tags have read and write capabilities. Data stored on RFID tags can be changed, updated and locked.

EM 18 RFID Reader



EM 18 RFID Reader

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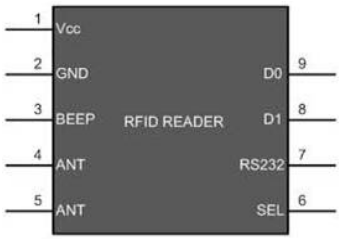

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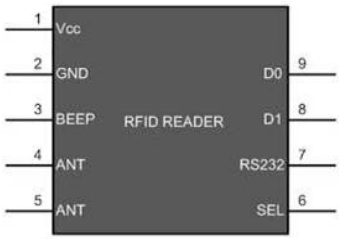

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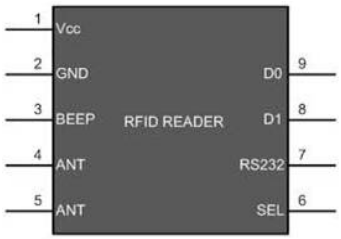

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4. The serial transmission rate is 9600bps, TTL and RS232 output

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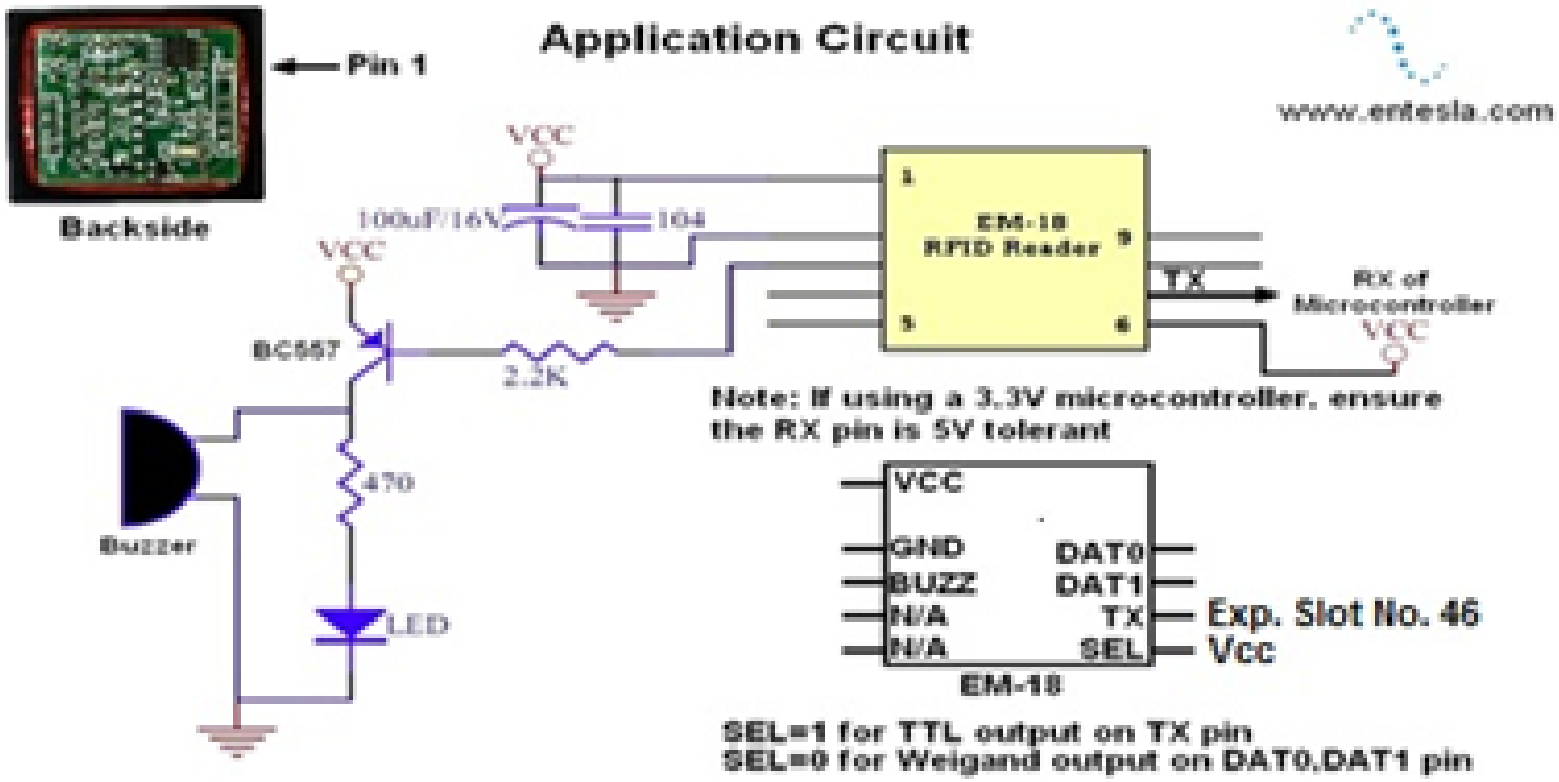
6. Pin 8 and 9: These Data signal Pins used to output the data in 26 bit Wiegand format

Application circuit



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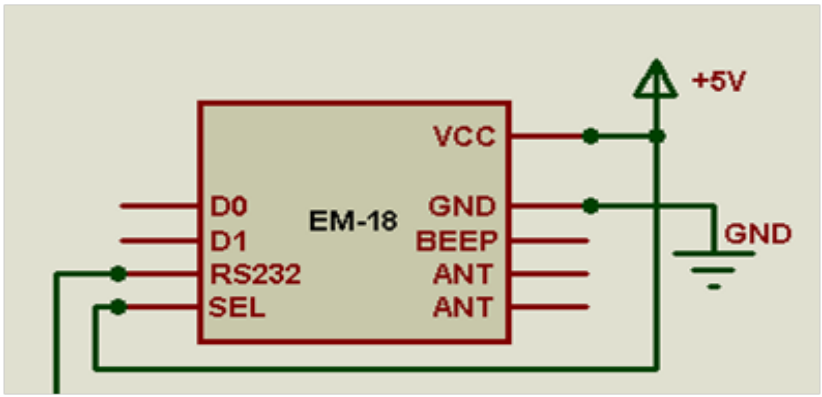

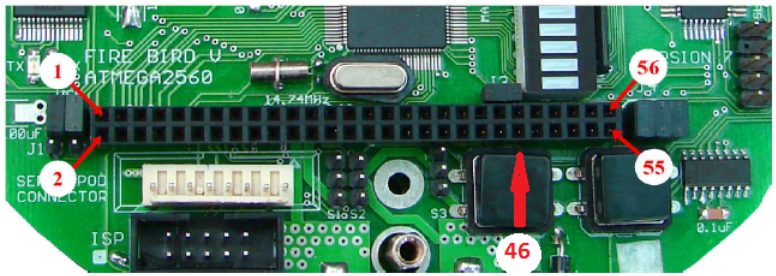

Expansion Header on Microcontroller Board

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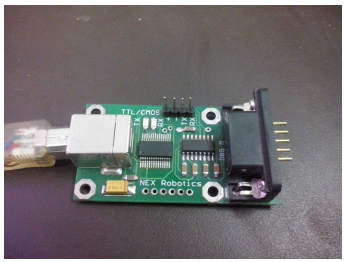
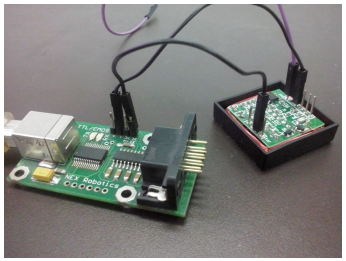
To RX pin of MCU i.e., Pin 46 on expansion slot

USB to Serial Converter





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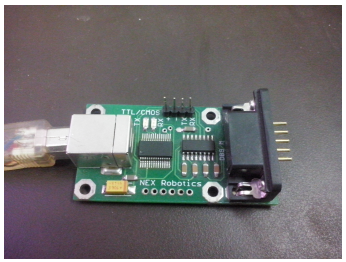
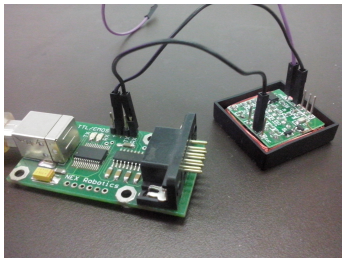
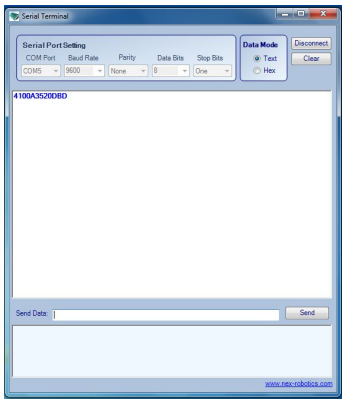




1. The figure shows the USB to Serial converter
2. The figure shows the connections to be made for serial transmission
3. connect the common ground - pin of the converter
4. VCC Pin of the Converter need not be connected
5. The RS232 output pin is connected to RX pin of the Converter

Serial terminal



1. 1. Open the serial terminal software
2. 2. Set the COM port for the device
3. 3. Set the baud rate to 9600
4. 4. Set the number of start bits, stop bits and parity bits
5. 5. Change the Data mode to Text

Sample output on LCD screen of FBV

C Code

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