

SKU:DFR0734 (<https://www.dfrobot.com/product-2192.html>)

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Introduction

This industrial-grade RS232 shield from DFRobot is specially designed to expand 1-way RS232 interface(D-Sub, 9Pin, male) for LattePanda V1.0. Adopting MORNSUN RS232 module, the product comes with power isolation and signal isolation, and the onboard DB9 connector (male) allows easy connection with other RS232 devices. Besides that, there is an adapter contained in the package for your convenience. The product employs a stackable connection, which makes it able to be easily fixed onto LattePanda mainboard by copper columns without blocking the heat dissipation area of mainboard. This RS232 Connector Expansion Shield can be safely applied in industrial scenarios.

Specification

- Operating Voltage: +5V
- EIA/TIA-232-F Standard Compliant
- Data Transceiving Indicator
- DB9 Port(male)
- Up to 115200bps Baud Rate
- Isolated Voltage 2500VDC
- Built-in Isolated Power
- Operating Temperature: -40°C to +85°C
- ⚠ Not Support for Hot Pluggable

Application

RS232 communication scenarios

Board Overview

DB9 PinOut

DB9 Pin Number(Male)	Description
1	NC
2	RXD
3	TXD
4	NC
5	GND
6~9	NC

For LattePanda V1 Pin Defintion, refer to official Wiki (http://docs.lattepanda.com/content/1st_edition/hardware_introduction/).

Tutorial

This tutorial will demonstrate how to make LattePanda V1 communicate with Arduino via the shield.

- Plug RS232 Shield into LattePanda V1

Use the copper columns in the package to fix the shield onto the LattePanda mainboard.

Requirements

- **Hardware**
 - DFRduino UNO R3 (<https://www.dfrobot.com/product-838.html>) (or similar) x 1
 - RS232 Shield for Arduino (<https://www.dfrobot.com/product-1030.html>) x1
 - LattePanda V1 (<https://www.lattepanda.com/>) x1
 - RS232 Connector Expansion Shield for LattePanda V1 (<https://www.dfrobot.com/product-2192.html>) x1
 - RS232 Data Cable (Male to male) x1
- **Software**
 - Arduino IDE (<https://www.arduino.cc/en/Main/Software>)

Connection Diagram

- Plug the Arduino RS232 shield onto the Arduino Maincontroller
- Plug the LattePanda RS232 shield onto the LattePanda Board
- Connect the two boards with the RS232 data cable, as shown beblow:

Sample Code

```
void setup() {
  // put your setup code here, to run once:
  Serial.begin(115200);
  while(!Serial);
}

void loop() {
  // put your main code here, to run repeatedly:
  if(Serial.available()>0){
    char a;
    a = Serial.read()+1;
    Serial.print(a); //return all the data that received from LP
  }
}
```

Burn the codes into your Arduino Board.

Expected Results

Open the LattePanda serial Monitor, select COM1, and set baud rate to 115200. Send data to Arduino, then it will return after plus 1.

FAQ

For any questions, advice or cool ideas to share, please visit the **DFRobot Forum** (<https://www.dfrobot.com/forum/>).

More Documents

- DFR0734-Schematics.pdf
(<https://dfimg.dfrobot.com/nobody/wiki/078c336146b9737d94d91270485923cb.pdf>)
- Chip(TDx31S232H).pdf
(<https://dfimg.dfrobot.com/nobody/wiki/298b239a4532f6814f696f7e00a56aa0.pdf>)

- Dimensions.pdf
(<https://dfimg.dfrobot.com/nobody/wiki/92e52c76311296c7b4da6a89f53d16c1.pdf>)

- DFR0734_svg.zip
(<https://dfimg.dfrobot.com/nobody/wiki/82b65873b66b1c1b0b44674e2888f8af.zip>)



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(<https://www.dfrobot.com/product-2192.html>) from DFRobot Store or **DFRobot Distributor**.

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