

FEATURES

- Android USB 2.0 Full-Speed Host to industry standard RS-232 DB9M Serial Port
- Supports UART interface with RX, TX, RTS and CTS
- RX buffer size 5512 bytes; TX buffer size 256 bytes
- Supports baud rates up to 460.8kbps, 921.6kbps optional
- Use with any Android platform supporting Android Open Accessory Mode (typically 3.1 or above)
- Status and fault LEDs including external power, charging status, and USB status
- Supports USB charging for Android devices
- $\pm 15\text{kV}$ ESD protection on USB data lines and all RS-232 signals
- Type A USB connector features industrial strength high-retention design
- Latching +5V external power input connector
- Includes 115VAC to +5V regulated external power supply adaptor
- Industrial operating temperature (-40° to $+85^{\circ}\text{C}$) standard
- RoHS Compliant



FACTORY OPTIONS

- RJ45 connector with Cisco pinout
- RJ12 connector
- Baud rates up to 921.6kbps

FUNCTIONAL DESCRIPTION

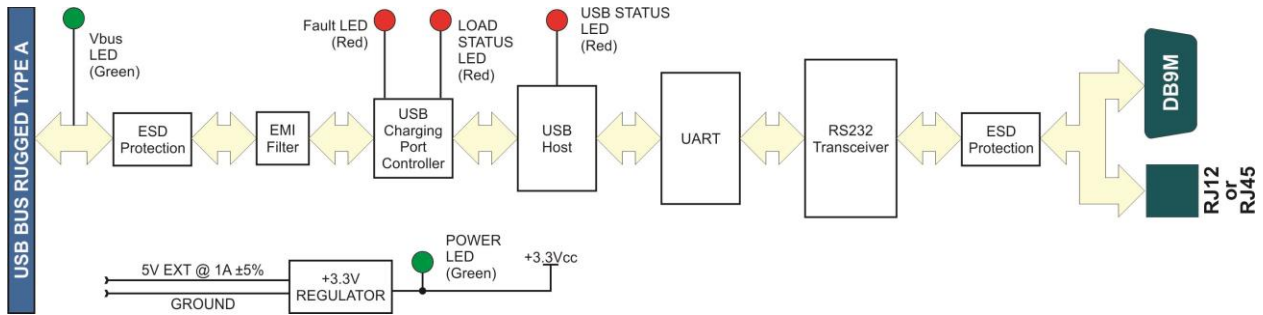
The ANDROID-232 leverages the power of Android to provide a flexible interface to legacy RS-232 devices. The ANDROID-232 uses the Android Open Accessory protocol to convince your Android device (running Android versions above 3.1) that its onboard USB port (normally limited to USB "slave" or "OTG" modes) is actually an RS-232 port. Onboard data buffers minimize streaming jitter, and full hardware flow controlled data I/O at up to 921.6kbps is supported (a max of 115.2kbps without flow control). Onboard circuitry will provide power to charge your Android device while connected. Multiple status and fault LEDs complete the package, and allow simple and convenient confirmation of operational state.

ACCESSORIES

The ANDROID-232 is available with optional cable assemblies and screw terminal boards such as the ADAP9. The ADAP9 provides a screw terminal connection to break out the RS-232 signals on the DB9M connector.

SOFTWARE

The ANDROID-232 product includes an Android sample program, with source, which operates within the Android Open Accessory protocol, available on all devices running Android 3.1 or higher (some 2.3.4 ROMs are supported). This program will allow you to verify proper operation of the ANDROID-232 device, including sending and receiving RS-232 data. A Python test program that can cooperate with the Android sample program to verify proper receipt of data as transmitted is also provided. In any operating system you can communicate through the ANDROID-232 using the standard communication terminal program of your choice; in Windows we provide, and highly recommend, a very powerful terminal program called "WinRISC". Windows samples in a variety of programming languages can be used to jumpstart your Serial COM programming (with full source code).



BLOCK DIAGRAM

SPECIFICATIONS

Communications Interface

I/O Connection: DB9M (optional RJ45 or RJ12)
 Serial Port: RS-232 signals RX, TX, RTS, CTS, GND
 Serial Data Rates: 460.8kbps (921.6kbps available), 115.2kbps without RTS/CTS flow control
 ESD Protection: ±15kV on all signal pins
 Character Length: 7 or 8 bits
 Parity: Even, Odd, None, Space, Mark
 Stop Interval: 1 or 2 bits
 Flow Control: RTS, CTS

Bus Type USB 2.0 Full-Speed
 USB 3.0 Compatible
 USB 1.1 Compatible

A type A USB connector with a high retention design that complies with the class 1, Div II minimum withdrawal requirement of over 3 pounds of force (15 Newtons) is used.

Environmental

Operating Temp: -40° to +85°C
 Storage Temp: -40° to +85°C
 Humidity: 5%-95%, non-condensing
 Board Dim.: 1.900 x 3.750 inches

Power

External Power:
 USB Charging Power:

External AC/DC 5V regulated adaptor is included
 +5VDC <100mA typical plus any charging current
 Up to 500mA provided to Android device

Ordering Guide
 ANDROID-232

Board installed on ½" standoffs with a DB9 male RS-232 interface

Options
 -S01

-F
 -RJ12
 -RJ45

RJ12 female for RS-232, including GPS signals on RJ12 and J5 connector
 921.6kbps with flow control
 RJ12 female for RS-232 interface
 RJ45 female (CISCO RS232 pinout) for RS-232 interface

Accessories
 ADAP9

Call

Screw terminal breakout board with DB9F connector DB9, RJ45, and RJ12 cables are available, please contact us with your exact requirement.

RS-232 CONNECTOR PIN ASSIGNMENTS

| PIN | DB9M | RJ12 | RJ45 |
|-----|------|------|------|
| | 1 | N/C | N/C |
| 2 | RX | GND | N/C |
| 3 | TX | RX | N/C |
| 4 | N/C | TX | GND |
| 5 | GND | N/C | RX |
| 6 | N/C | N/C | TX |
| 7 | RTS | | CTS |
| 8 | CTS | | RTS |
| 9 | N/C | | |

