ANDROID-232
USB Android Host to RS-232

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
- ±15kV 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˚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).
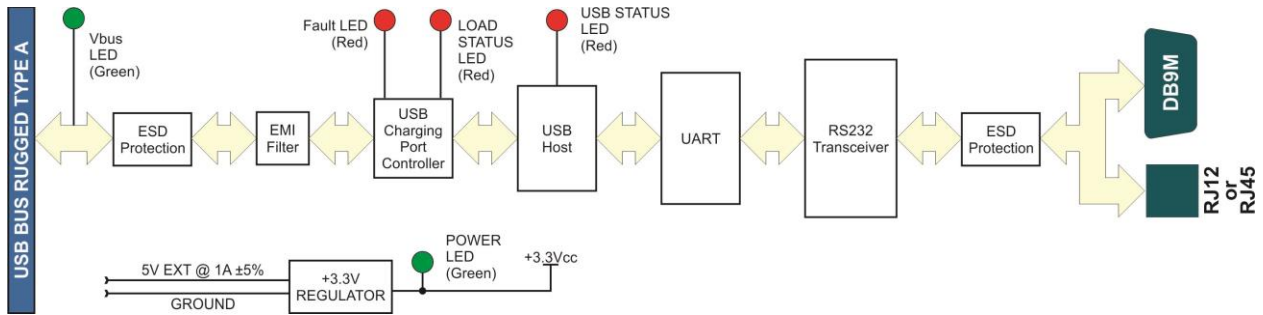
BLOCK DIAGRAM

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

Ordering Guide

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

Options

-F	921.6kbps with flow control
-RJ12	RJ12 female for RS-232 interface
-RJ45	RJ45 female (CISCO RS232 pinout) for RS-232 interface

Accessories

ADAP9	Screw terminal breakout board with DB9F connector
Call	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	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		

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