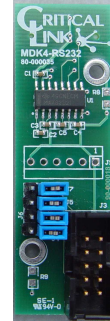


### FEATURES

- MDK-4 Interface Form Factor
- 2 RS-232 Compliant Outputs
- 2 RS-232 Compliant Inputs
- 1 or 2 Port Configuration
  - 2 Ports with no hardware flow control, up to 115200 BAUD
  - 1 Port with hardware flow control, up to 921600 BAUD

### APPLICATIONS

- External Hardware Interfacing
- Embedded Instrumentation



### DESCRIPTION

The MDK4-RS232 provides standard RS-232 compliant interface signals for use by one or two MityDSP embedded UART cores. The card allows addition of standard serial interface ports to a MityDSP hardware development kit platform. The MDK4-RS232 is compatible with the MityDSP hardware and software development kit API. Refer to the User's Manual provided with the libraries for further information.

A block diagram of the MDK8-RS232 is illustrated in Figure 1. Simple level translation is provided on the card, the 2 inputs and 2 outputs are routed directly to the FPGA I/O pins on the MDK-4 form factor interface.

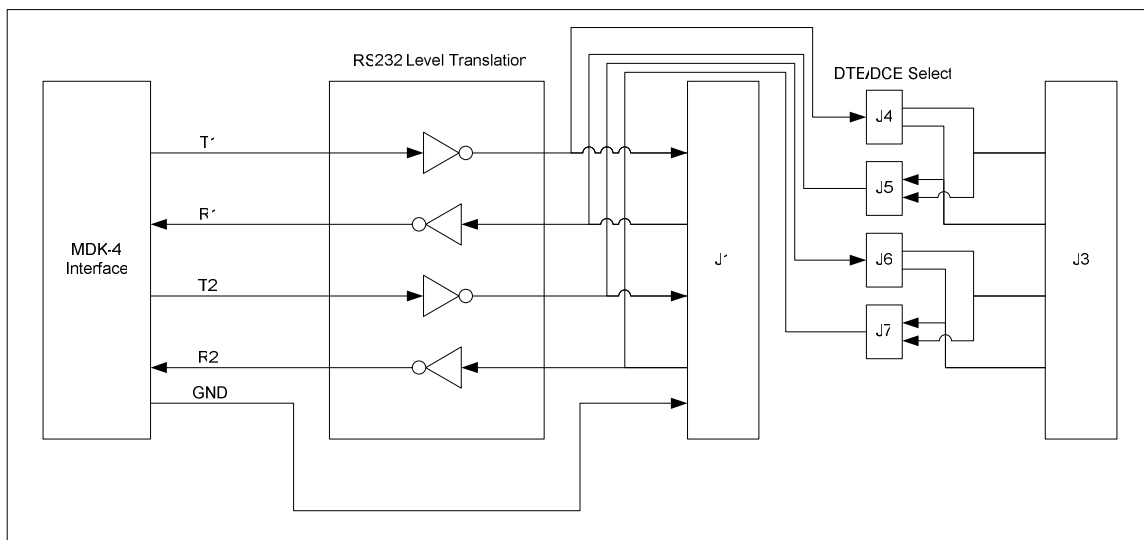


Figure 1 MDK4-RS232 Block Diagram

## ABSOLUTE MAXIMUM RATINGS

If Military/Aerospace specified cards are required, please contact the Critical Link Sales Office or unit Distributors for availability and specifications.

Storage Temperature Range     -65 to 80C  
 Shock, Z-Axis                         ±10 g  
 Shock, X/Y-Axis                     ±10 g

## OPERATING CONDITIONS

Ambient Temperature             0 to 55C  
 Range  
 Humidity                             0 to 95%  
   Non-  
   condensing  
 Vibration, Z-Axis                 TBS  
 Vibration, X/Y-Axis             TBS

## ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Conditions	Typical	Limit	Units (Limits)
<b>Power Dissipation</b>					
<b>Notes:</b>					

### MDK-4 Socket Interface Description

The bottom connector of the MDK4-RS232 card uses the required Hirose FX6-20P-0.8SV 20 position socket. The pin assignments for the card are listed in Table 1.

**Table 1 MDK-8 Connector Pin Assignments**

Pin	Signal	Pin	Signal
A1	T1	B1	NC
A2	T2	B2	NC
A3	R1	B3	+3.3V
A4	R2	B4	+3.3V
A5	NC	B5	GND
A6	NC	B6	GND
A7	NC	B7	RSV
A8	NC	B8	RSV
A9	RSV	B9	RSV
A10	RSV	B10	RSV

### RS-232 Interface Description

The RS-232 interface to the MDK-ADS8344 uses either a single row Molex 6 pin connector on standard 0.100 inch spacing. AMP TBD connectors (or equivalent) should be used with interface cables.

**Table 2 J1 Pin Assignments**

Pin	Signal	I/O
1	GND	-
2	R2	O
3	R1	I
4	T2	O
5	T1	I
6	GND	-

For configurations using a single RS-232 interface with hardware flow control signals, a standard 10 pin dual row ribbon connector header is provided, supporting direct connects to DB-9 adaptors. Jumpers J4 through J7 provide DTE/DCE selection. All jumpers connecting pins 2 and 1 provide DCE configuration. All jumpers connecting pins 2 and 3 provide DTE configuration. The pinout for the J3 is listed below. The configuration assumes that the T2 and R2 signals are used as CTS and RTS flow control lines, according to the DTE/DCE configuration.

**Table 3 J3 Pin Assignments**

Pin	Signal	I/O	Pin	Signal	I/O
1	N/C	-	2	N/C	-
3	T1 (DCE) / R1 (DTE)	O / I	4	R2 (DCE) / T2 (DTE)	I / O
5	R1 (DCE) / T1 (DTE)	I / O	6	T2 (DCE) / R2 (DTE)	O / I
7	N/C	O	8	N/C	-
9	GND	-	10	N/C	-

### Software API and Supported Modes

The MityDSP software and firmware development kit includes a core interface and C++ API for interfacing to UART ports. Depending on the desired configuration, users may opt for 1 or 2 UART cores (with or without flow control, respectively). Refer to the MDK Software User's Guide for more information.