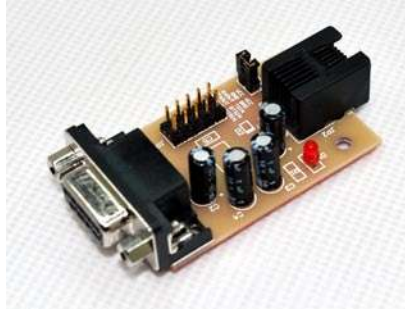


Serial TTL to RS-232C Converter

with Zilog Encore! Programming Cable Function



e-Gizmo RS-232C to Serial TTL converter is a interface board that provides level translation between your RS-232C level communication channel to your TTL UART circuit. This kit uses a chip MAX3245 that will work with supply voltages of 3.3V to 5V, making it correspondingly compatible with both logic. Mustering all of MAX3245's I/Os, full implementation of RS-232C hardware handshake is realized, making the kit truly compatible with all possible RS-232C wiring schemes.

As an added feature, it also has a jumper configurable option to enable it to function as a programming dongle for selected Zilog Encore! micro controller chips.

Features and Specifications

Chip:	MAX3245
Supply Voltage:	3.0V to 5.5V DC
Baud Rate:	Up to 1Mbps
RS-232C Implementation:	Tx, Rx, CTS, RTS, DTR, DSR
Auxiliary Function:	Zilog encore! Programming Dongle

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JUMPER & CONNECTOR PIN DESCRIPTION

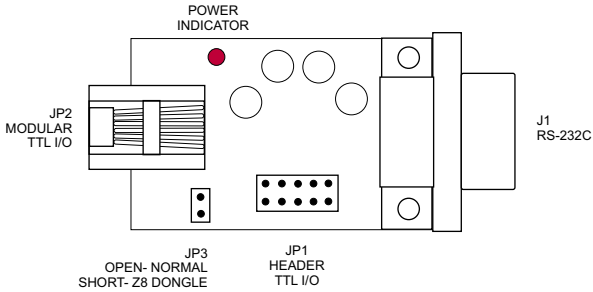


Figure 1. RS-232C to TTL Converter component layout showing the terminals and jumper connectors.

Table 1. J1 - RS-232C Port (DB-9)

PIN	ID	Description
1	N.C.	No connection
2	TX OUT	Transmit Data Output
3	RX IN	Receive Data Input
4	DSR IN	Data Set Ready Input
5	GND	Signal Ground
6	DTR OUT	Data Terminal Ready Output
7	CTS IN	Clear To Send Input
8	RTS OUT	Ready To Send Output
9	N.C.	No connection

Table 2. JP1 - TTL Level Port

PIN	ID	Description
1	Vcc	+3.0 to 5.0V Power Input
2	Vcc	+3.0 to 5.0V Power Input
3	GND	Power Supply/Signal Ground
4	GND	Power Supply/Signal Ground
5	TX IN	Transmit Data Input

6	RX OUT	Receive Data Output
7	RTS IN	Ready To Send Input
8	CTS OUT	Clear To Send Output
9	DTR IN	Data Terminal Ready Input
10	DSR OUT	Data Set Ready Output

Table 3. JP2 - TTL Level EZKonnek Modular Jack

PIN	ID	Description
1	GND	Signal GND
2	N.C.	No connection
3	N.C.	No connection
4	TX IN	Transmit Data Input
5	RX OUT	Receive Data Output
6	Vcc	+3.0 to 5.0V Power Input

JP3 - Programming Dongle Function

Open - Normal Conversion

Jumper Installed - z8 Encore! Programming Dongle

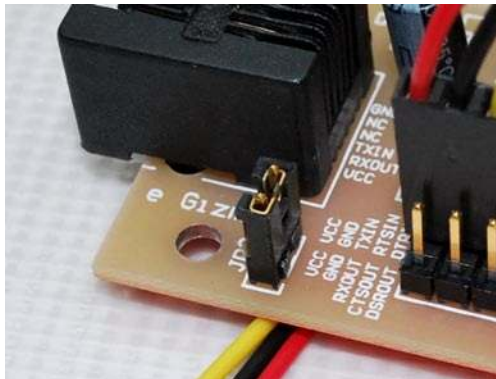


Figure 2. JP3 with jumper installed to use the converter as z8 encore! programming dongle.

APPLICATION INFORMATION

To enable the use of normal level TTL to RS 232C conversion functions, remove the jumper block across JP3 if one is installed.

Full Hardware Handshake

Full hardware handshake helps prevent missed data frames and buffer overruns. Hardware handshake is usually necessary when frequent transfer of large amount of data over the RS-232C line is involved. If your application circuit requires the use of these lines, connect the RS-232C to TTL converter as shown in figure 3. Some handshake setup uses only the RTS and CTS line, in this case, you may omit the DTR and DSR connections. Vcc supply for the RS-232C to TTL converter is taken from the MCU Vcc bus to ensure compatibility.

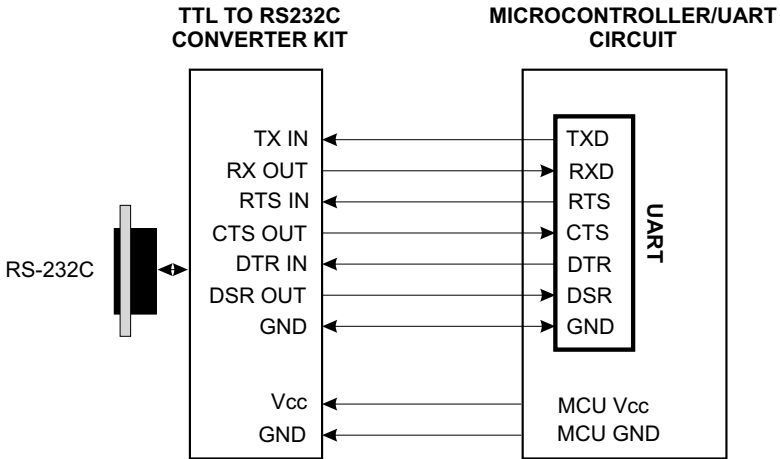


Figure 3. Full hardware handshake implementation.

No Hardware Handshake

Less critical applications may not use the handshake lines. In this case, only the RX and TX lines are used as shown in Figure 4. To minimize possible data loss, software based polling and error detection may be used.

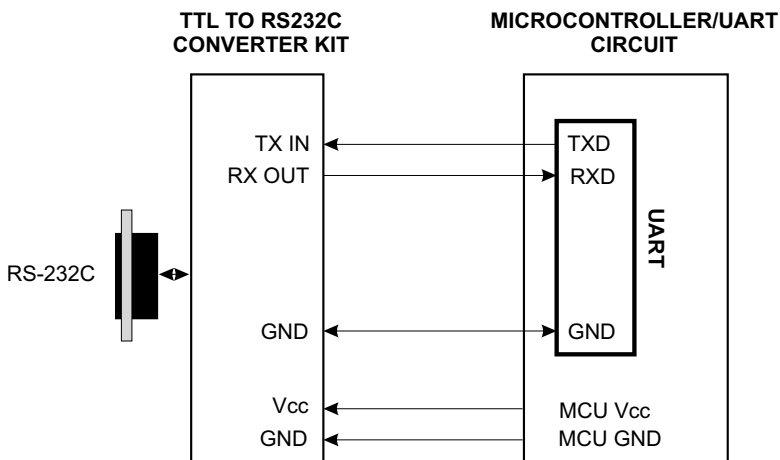


Figure 4. Non- critical applications may use TX-RX lines only for a no-handshake configuration.

Zilog Encore! Programming Dongle

Installing a jumper across JP3 will essentially tie the logic side of TX and RX. This will in effect transform the RS-232C to TTL into a zilog encore! MCU programming and debug cable (dongle). TXin functions as the debug pin. Power is supplied to the converter from the target board through the Vcc and GND pin of the debug cable.

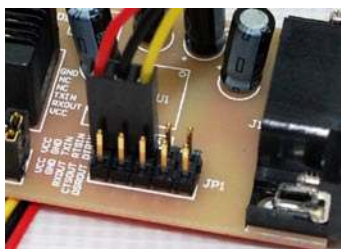


Figure 5. A 3-pin connector acting as a debug cable is installed using pin 1-3-5 of JP1. A jumper must be installed across JP3 in order to use this function.



Figure 6. Use as short as possible wires for the debug connector. In this setup, red = +3v3, black = gnd, yellow = debug.