

CPT-COM-U Card
TTL Serial – USB Isolated Interface Board
Technical Brief

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Manual Release 1.0
Card Version 1.1

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CPT-COM-U Manual Revision History

CARD VERSION 1.0:

CARD VERSION 1.1: Integrated ESD Protection Diodes

Release 1.0 – Initial Release, includes outlines for both V1.0 and V1.1 boards.

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1.0 CPT-COM Board Range Selection Guide

Board Name	Features								
	TTL Input	RS232	RS422	RS485	USB	SPI	On-card Battery	External Supply	On-Card Isolation
CPT-COM-B	3.3V	•					•	•	•
CPT-COM	3.3V	•	•	•				•	•
CPT-COM-4	3.3V			•				•	•
CPT-COM-U	3.3/5V				•			•	•
CPT-COM-S	3.3V					•		•	•

CPT-COM-U TTL Serial to USB Interface Board

2.0 Overview of the CPT-COM-U

The CPT-COM-U is an isolated serial interface board that converts 5V-TTL level serial communications signals to a fully isolated USB output. The board is separately powered from the USB interface and the connected TTL interface.

The CPT-COM card measures 60mm x 47mm.

On-card facilities include:

- Transmit and Received LEDs
- Optional USB Shield connection to USB Ground.
- Selection of USB connections.
- 1000V Isolation between 5V-TTL level signals and USB Interface

Figure 2-1 shows a functional block diagram of the CPT-COM card.

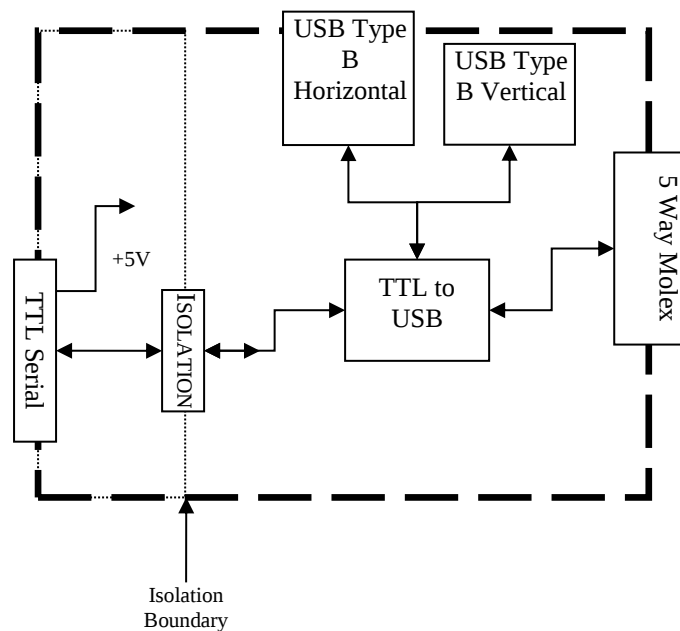


Figure 2-1: Functional Diagram of CPT-COM-U Board

3.0 Specifications

3.1 Communications Interface

Definition	USB Serial Port connection, providing two pin serial communications for interface between a standard PC serial port and a 5V-TTL serial interface, as used on Creative Power Technologies DSP controller boards
Isolation	1kV
PCB Connection: 5V TTL	4 way MASCON/MOLEX header with DVCC (5V) and DGND connections (X1)
USB Interface	USB PC Drivers available from Future Technology Devices International Limited website http://www.ftdichip.com Install drivers onto the PC, attach the CPT-COM-U board to the USB connection and the USB device should be automatically detected and installed.
Shield termination	Linkable to USB ground (LK1)
PCB Connections: USB	5-way MOLEX connector, with pin outs compatible with USB. (X2) OR USB Type B standard connector – Vertical Mount (X3)/Horizontal Mount (X4)

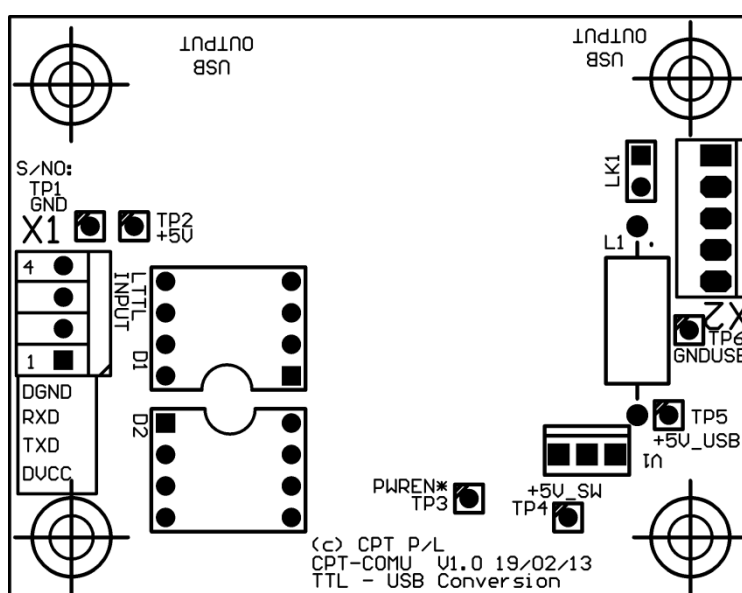
3.2 General

Physical Dimensions	L: 60mm
	W: 47mm
	H: 20mm approx.
Mounting Arrangement	4 off 3.5 mm holes spaced 50 x 36.5mm apart in the corners of the board
Environmental	-40 – 85°C ambient operating temperature 5% - 95% non condensing humidity

3.3 Power Supply

Input Voltage Range	5VDC - TTL, 5VDC – USB
Standalone Input Current	< 60mA
Max Input Power	Approx. TBD ~300mW
Supplies Generated on-card	None
Input Power Connector	USB connector Type B X3 or X4 or TTL 4-way MASCON/MOLEX (X1) +5V on pin 1, DGND on pin 4

Appendices

Appendix A Component Layout**Top Layer – V1.0 Board****Bottom Layer – V1.0 Board**