

# Asynchronous I/O PMC

## Triple-Isolated RS232/485/422 Async Communications Adapter PMC

The Technobox 3-port Isolated Async Communications Adapter is a cost-effective solution for providing additional RS232/RS422/RS485 based serial ports for a host processor.

Each port is independently set-up by Technobox to operate at either RS232 or RS422 levels. In the RS422 case, an additional option is provided to transmit data on the receive data line in an RS485 fashion. Please specify your port configuration when ordering.

When configured for RS232 mode, a port provides the full set of data and modem control lines - RTS, CTS, TXD, RXD, DCD, DTR, DSR, and RI.

When configured for RS422 mode, a port provides TXD, RXD, CTS, and RTS, each operating at RS422 differential levels with uni-directional drive.

The RS485 mode supports both 2-wire and 4-wire RS485 connections. In 2-wire mode, a

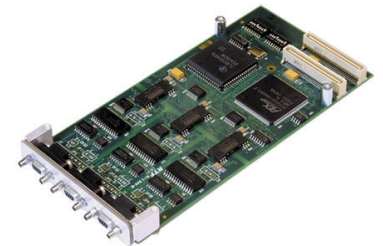
single differential RS422 driven pair carries transmit or receive data in a half-duplex fashion.

For 4-wire mode, the TXD is also driven on an additional RS422 unidirectional output. Control of transmit/receive direction is accomplished via the RTS control signal from the 16650 UART, as is customarily done for RS485 applications.

Options to terminate the differential RS422/RS485 signals with 150 ohm parallel termination are provided by the design. Please specify your termination requirements on order.

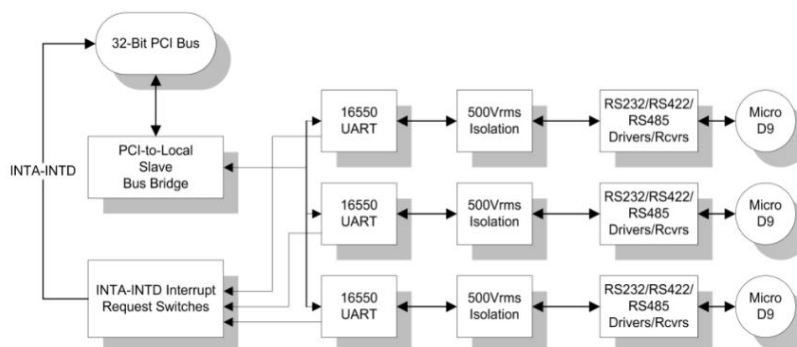
All three ports are accessed via 9-pin Micro D-Subminiature connectors on the PMC front-panel.

Independent isolation is provided for each port using a separate isolated DC-to-DC converter and optoisolators for conveying I/O signals. This implementation provides 500V RMS of electrical isolation.

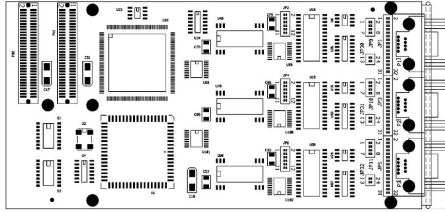


# 5751

- Provides Three Front-panel Async Serial Ports (16650 UARTS)
- Each Port Configurable as RS232, RS422, or RS485
- Independent Isolation for Each Port
- Micro D9 Sub-miniature Front-panel Connectors
- Selectable PCI Interrupt Configuration
- Optional Cable Assembly Supports Standard DB-9 Interface
- RoHS-compatible
- Lead-free



**Technobox<sup>®</sup>, inc.**



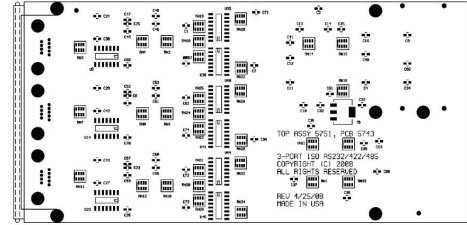
## COMPONENT PLACEMENT VIEW - SIDE #1

Switches on the board direct the interrupts from each port to the desired INTA/INTB/INTC/INTD request on the PCI bus. Any combination of connection to the INTx lines is possible, thereby supporting shared and non-shared interrupt requests.

Industry standard 16550 UARTS operating up to 115K-baud are used in this product. The 16550 register set is accessed from the host processor using Programmed-I/O. "C" source

code is provided with the board to illustrate how to set up the PCI bus bridge in order to access the UART registers. Once the registers are mapped into host I/O space, standard async communication drivers may be used to access the ports.

Higher baud rates (up to 1 Mbaud) are possible by changing the frequency of this crystal, which may find application in RS422 and RS485 environment. Please



## COMPONENT PLACEMENT VIEW - SIDE #2

contact Technobox if you have non-standard baud rate requirements for your application. Except for rear I/O, this product is hardware and software compatible with the Technobox P/N 2012/4960 non-isolated asynchronous adapters, providing an easy migration for customers using those products.

### SPECIFICATIONS

**Temperature (Operating):** -40 to +85 degrees C

**Temperature (Storage):** -50 to +100 degrees C

**Altitude:** Not Specified or Characterized. Typical similar equipment is at 15,000 ft.

**Humidity (Operating/Storage):** 5% to 95% non-condensing.

**Vibration:** Not specified or characterized

**Shock:** Not specified or characterized

**MTBF:** Available on request

**Weight:** 79 grams

**Size:** 74mm by 149mm

**Voltages Required:** +5V

**PCI Signaling:** 3.3V, 5V

**PCI Bus:** 33MHz, 32 bit

**Power:** TBD

**Timing Accuracy:** +/- 200ppm full temperature range

### ORDERING INFORMATION

**5751:** Triple-Isolated RS232/485/422 Async Communications Adapter PMC

**2402:** Cable Assembly; 36" MicroD9 to DB9 (m)

# Technobox<sup>®</sup>, inc.

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