Serial Expansion Board

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Description:

The Serial Expansion Board provides 12 additional serial channels. It is connected to the DIMM-PC through a serial port and thus has 11 serial ports for external use. It consists of a Rabbitcore module RCM2300 at 22MHz, a QUAD UART (TL16C554), two dual UARTs(PC16552D) and RS232 drivers to provide RS232 channels. 4 serial ports (2 on the Rabbit – Port C and D, and 2 on a DUART Port 7 and 8) are RS232 serial ports whereas remaining are TTL serial ports. RCM2300 is programmed using Dynamic C. It is responsible to read data from the compass, the GPS receiver, the YSI sensor and any other external sensors that will be used with the AUV. It sends all the data collected from various sensors to the DIMM-PC. It also relays any data from the DIMM-PC to appropriate serial port.

Functional Diagram:

Connections:
Input: +5V DC
Output: 4 RS232 serial ports, 8 TTL serial ports
Pictures:

Figure 1 Serial Expansion Board Top

Figure 2 Serial Expansion Board Bottom