CHAPTER 1

Introduction

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The PCL-841 is a special purpose communication card that brings the Control Area Network to your PC. With the built-in CAN controller, the PCL-841 provides bus arbitration and error detection with automatic transmission repeat function. This drastically avoids data loss and ensures system reliability. The on-board CAN controllers are located at different positions in the memory. You can run both CAN controllers at the same time, independently. The PCL-841 operates at baud rates up to 1 Mbps and can be installed directly into the expansion slot of your PC.

Control Area Network

The CAN (Control Area Network) is a serial bus system especially suited for networking "intelligent" I/O devices as well as sensors and actuators within a machine or plant. Characterized by its multi-master protocol, real-time capability, error correction, high noise immunity, and the existence of many different silicon components, the CAN serial bus system, originally developed by Bosch for use in automobiles, is increasingly being used in industrial automation.

Direct memory mapping

The PCL-841 is assigned with memory address, which allows direct access to the CAN controller. This is the simplest and fastest way of programming any board in a PC because the board is regarded as standard RAM.

Optical Isolation Protection

On-board optical isolators protect your PC and equipment against damage from ground loops, increasing system reliability in harsh environments.

Features

- Operates two separate CAN networks at the same time
- High speed transmission up to 1 Mbps
- 16 MHz CAN controller frequency
- Takes a 4 KB address space, 40 base address adjustable in steps from C800H up to EF00H
- Optical isolation protection of 1000 V_{DC} ensures system reliability
- Wide IRQ selection for each port includes:
  IRQ 3, 4, 5, 6,7, 9, 10, 11, 12, 15
- LED indicates Transmit/Receive status on each port
- Direct memory mapping enables speedy access to the CAN controllers
- C library and examples included

Specifications

- **Ports**: 2
- **CAN controller**: 82C200
- **CAN transceiver**: 82C250
- **Signal support**: CAN-L, CAN-H
- **Memory address**: From C800H to EF00H
- **IRQ**: 3, 4, 5, 6, 7, 9, 10, 11, 12, 15
- **Isolation voltage**: 1000 V_{DC}
- **Power consumption**: +5 V @ 400 mA typical, 950 mA max.
- **Connectors**: Dual DB-9 male connectors
- **Operating temperature**: 32 to 122°F (0 to 50°C)
- **Dimensions**: 7.25" x 4.13" (18.4 x 10.5 cm)
- **Shipping weight**: 0.9 lb (0.4 kg)