Introduction

The PEX-CAN200i can represent an economic solution of an active CAN board with express PCI bus. It has 2 independent CAN bus communication ports with 5-pin screw terminal connector or 9-pin male D-sub connector, and has the ability to cover a wide range of CAN applications. Besides, PEX-CAN200i uses the new CAN controller Phillips SJA1000T and transceiver 82C250, which provide bus arbitration, error detection with auto correction and re-transmission function.

Utility

- Can be a CAN system monitor tool with CAN cards
- Can test CAN cards
- Send/Receive/Record CAN messages
- Provide cyclic transmission function
- Record the CAN messages with filter ID with time stamp

Software Layer

- DasyLab / LabView Driver
- CANopen / DeviceNet library
- CAN library (User Mode)
- CAN library (Kernel Mode)

Features

- Compatible with CAN 2.0 parts A and B
- Fully compatible with ISO 11898-2 standard
- Support CAN baud from 10 kbps ~ 1 Mbps
- 2500 Vrms photo couple isolation on the CAN bus
- Built-in jumper to select 120 Ω terminal resister
- 3 kV galvanic isolation
- 2 independent CAN channels
- Direct memory mapping to the CAN controller
- LabView/DASYLab driver
- Driver support Windows XP/7/8/10, Linux

Hardware architecture

Pin Assignments

Terminal Resistor
## Hardware Specifications

<table>
<thead>
<tr>
<th>Model Name</th>
<th>PEX-CAN200i-D</th>
<th>PEX-CAN200i-T</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bus Interface</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type</td>
<td>33 MHz, 32 bit, X1 PCI Express bus</td>
<td></td>
</tr>
<tr>
<td><strong>CAN Interface</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Controller</td>
<td>NXP SJA1000T with 16 MHz clock</td>
<td></td>
</tr>
<tr>
<td>Transceiver</td>
<td>NXP 82C250</td>
<td></td>
</tr>
<tr>
<td>Channel number</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Connector</td>
<td>9-pin male D-Sub</td>
<td>5-pin screwed terminal block</td>
</tr>
<tr>
<td>Baud Rate (bps)</td>
<td>10 k, 20 k, 50 k, 125 k, 250 k, 500 k, 800 k, 1 M (allow user-defined baud rate)</td>
<td></td>
</tr>
<tr>
<td>Terminal Resistor</td>
<td>Jumper for 120 Ω terminal resistor</td>
<td></td>
</tr>
<tr>
<td><strong>Power</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power Consumption</td>
<td>100 mA @ 12 V, 100 mA @ 3.3 V</td>
<td></td>
</tr>
<tr>
<td><strong>Software</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Driver</td>
<td>Windows XP/7/8/10, Linux 2.6.x ~ 5.4.0, LabView, DASYLab, InduSoft</td>
<td></td>
</tr>
<tr>
<td>Library</td>
<td>VB 6.0, VC++ 6.0, BCB 6.0, Delphi 4.0</td>
<td></td>
</tr>
<tr>
<td><strong>Mechanism</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimensions</td>
<td>120 mm x 22 mm x 85 mm (W x L x H)</td>
<td></td>
</tr>
<tr>
<td><strong>Environment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating Temp.</td>
<td>0 ~ 60 ℃</td>
<td></td>
</tr>
<tr>
<td>Storage Temp.</td>
<td>-20 ~ 70 ℃</td>
<td></td>
</tr>
<tr>
<td>Humidity</td>
<td>5 ~ 85% RH, non-condensing</td>
<td></td>
</tr>
</tbody>
</table>

## Flow Diagram for Applications

- **Start of Application**
  - CAN_ActiveBoard
  - CAN_Reset
  - CAN_Init
  - CAN_Config
    - CAN_Rx_Msg_Count = 0
      - No
      - CAN_Rx_Msg_Count = 0
        - Yes
          - CAN_ReceiveMsg
          - CAN_CloseBoard
          - End of Application
    - Yes
      - CAN_SendMsg
      - CAN_CloseBoard
      - End of Application

- **Start of Application**
  - CAN_ActiveBoard
  - CAN_Reset
  - CAN_Init
  - CAN_Config
    - CAN_Rx_Msg_Count = 0
      - No
      - CAN_ReceiveMsg
      - CAN_EnableRxIRQ
      - CAN_RemoveIrq
      - CAN_CloseBoard
      - End of Application
    - Yes
      - CAN_Init
      - CAN_InstallIrq

- **Start of Application**
  - CAN_ActiveBoard
  - CAN_Reset
  - CAN_Init
  - CAN_Config
    - CAN_Rx_Msg_Count = 0
      - No
      - CAN_ReceiveMsg
      - CAN_EnableRxIRQ
      - CAN_RemoveIrq
      - CAN_CloseBoard
      - End of Application

## Ordering Information

- **PEX-CAN200i-D CR**
  - 2-Port Isolated Protection CAN Communication Board with 9-pin D-sub connector (RoHS)

- **PEX-CAN200i-T CR**
  - 2-Port Isolated Protection CAN Communication Board with 5-pin Screw Terminal Connector (RoHS)