Testingof a Controller Area Network (CAN)

Hnin Aye Khine[1]and Pho Kaung[2]

Abstract

Controller Area Network (CAN) is a serial bus protocol which is used in real time applications. A CAN has been designed and constructed for two nodes. The two nodes can communicate each other by using CAN bus. Each node consists of a PIC18F458 microcontroller, an MCP 2551 transceiver chip, an LCD module and a sensor. Two nodes are almost identical but only differ in sensor used. Voltage sensor (potentiometer) is attached to node1 and temperature sensor (LM 35) is attached to node2.The PIC18F458 microcontroller has been chosen for the constructed system because it has a built- in CAN module. One microcontroller reads the data from its sensor and sends it to another node via the CAN bus. The microcontroller also requests the data from the other node. MCP 2551 transceiver chip has been used to convert the logic signal to CAN signal. The data is transferred between two nodes by using CAN protocol and is shown on their respective LCD module. The data transfer rate is 200 kb s^{-1} that applies to a network up to 21 meters (70 feet).

1. Demonstrator, Dr., Department of Physics, Yangon Institute of Education
2. Pro-rector, Dr., Universities' Research Centre, University of Yangon