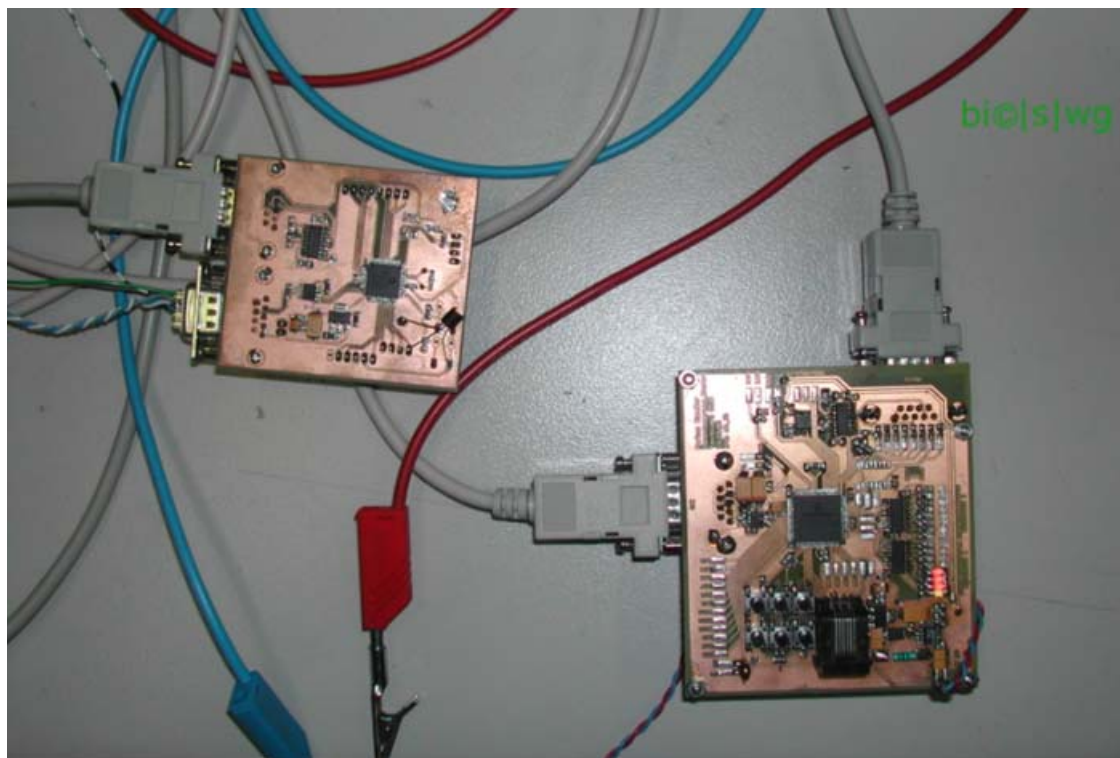


Autumn 08 Project by Helmut Angerer & Markus Kandler

Test Environment for Home Automation System

Our microcontroller project is a protocol development platform for a home automation system, communicating via the CAN bus. It consists out of a master board with a PIC24 MCU and one client board using a PIC18 MCU.



The developed bus protocol defines an all knowing master which maintains a connection and address table and processes all commands from client devices. There are four room dependent client classes specified, terminals, light control gears, control units for wall supplies and radiator control devices. All these devices are registered at the master device and receive instructions from it.

The terminals are acting as user interfaces and deliver the user commands to the master device. Time and date broadcasted by the master node can be displayed at the terminals user interface.

Each client requires a short initial setup: the room number must be specified via a serial interface before registration at the master node is done. Once the client node is configured it holds its unique identifier and other settings in a non-volatile memory.

Additionally, there are some extra addresses for special function devices reserved. These special function devices are room-independent and provide some additional functionality, for example, the measurement of the outdoor temperature.

Technical Data:

	Master Node	Terminal Node
MCU	PIC24HJ128GP510	PIC18F4680
CAN transceiver	MCP2551	MCP2551
temperature sensor	LM75	LM35 & LM75
RS232 interface	MAX202	MAX202
power supply	LM317 & LT1776	bus powered or LM317

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