Serial to Ethernet Demo

Hardware setup guide

This document is a guide to setup the required hardware to demonstrate Serial to Ethernet application.

Hardware required:

- Motor Control board XP-MC-CTRL-L2 1V2
- XTAG2 (if program not flashed)
- Ethernet cable
- Power supply 5V
- 8 one-pin female jumper wires (http://www.sparkfun.com/products/8430)

Setup

1. Power up the Motor Control board and flash Serial to Ethernet application via XTAG2
2. Unplug power supply and XTAG2
3. Take the Motor Control board and short following pins on IDC Header (JP1):

Setup

Port 8C – Rx Pin	Port 8A – Tx Pin	UART Channel ID	UART Speed	Default Telnet Port
Port 8C0 – 19	Port 8A0 – 39	0	100000	46
Port 8C1 – 20	Port 8A1 – 40	1	50000	47
Port 8C2 – 22	Port 8A2 – 42	2	25000	48
Port 8C3 – 23	Port 8A3 – 43	3	12500	49
Port 8C4 – 24	Port 8A4 – 44	4	10000	50
Port 8C5 – 47	Port 8A5 – 46	5	100000	51
Port 8C6 – 21	Port 8A6 – 41	6	50000	52
Port 8C7 – NC	Port 8A7 – NC	7	25000	53

Loopback Configuration

Rx Pin	Tx Pin	Function
47	39	UART 0 to UART 5
21	40	UART 1 to UART 6
20	41	UART 6 to UART 1
22	42	UART 2
23	43	UART 3
24	44	UART 4
19	46	UART 5 to UART 0

4. To demonstrate message passing using separate channels, short the appropriate pins. For example, if any message on Channel0 must appear on Channel5, then Channel0 and Channel5 must be shorted; short pins 47 – 39 and pins 19 – 46
5. To demonstrate message echo on the same channel, UART channels must be looped back to themselves. Example, Channel2 loopback – short pins 22 – 42.
6. Connect Ethernet cable between Motor Control board and a PC
7. Power up the motor control board

Demo

1. Once setup, on the connected PC, open a web browser and connect to http://169.254.196.178/ (or IP specified by you in the application)
2. If the webserver is configured to use dynamic IP, then please connect to the assigned IP
3. The UART settings page opens. You can now setup required configuration for channels
4. The Channel Identifier field represents the UART channel number
5. To read settings of an UART channel, select appropriate 'Channel Identifier' and click 'Get'
6. To change any configuration setting for UART channel, modify by selecting from drop-down lists or enter value in the text field. Click on 'Set' to update configuration
7. Open a Telnet client (using Putty), with the IP address and port as configured
8. Usual demo is to echo any message typed in the telnet client
9. If the demo is to pass message between two ports, then open two Telnet clients.

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