AX88796B + 8051 MCU Demo Board User Guide

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Revision History

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1. Introduction

AX88796B is a full NE2000 register level compatible, low-pin-count (64-pin LQFP) non-PCI Ethernet controller for the Embedded and Industrial Ethernet applications. AX88796B also supports some advanced features like Auto-MDIX, Flow Control, WOL, VLAN, Back-To-Back Transmission, etc. ASIX provides a couple of AX88796B development boards for users to speed up the AX88796B implementation on different platforms like 8051, ISA-like, Samsung 2440 SRAM-like (through External Memory Interface of MCU platform), etc.

This document indicates the information about how to verify AX88796B + 8051 MCU demo board and how to program the Flash of 8051 MCU.

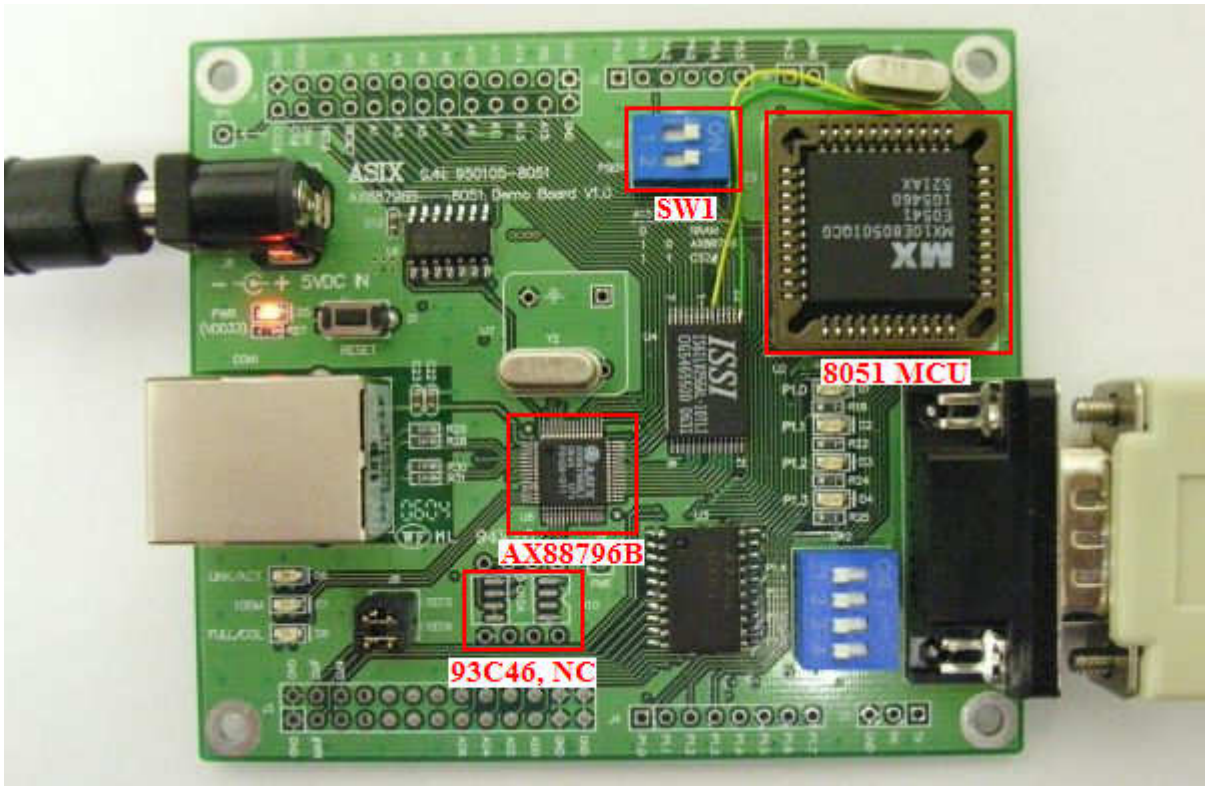

Figure 1. AX88796B + 8051 MCU Demo Board

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2. Block Diagram

The physical board image, please refer the Figure 1.

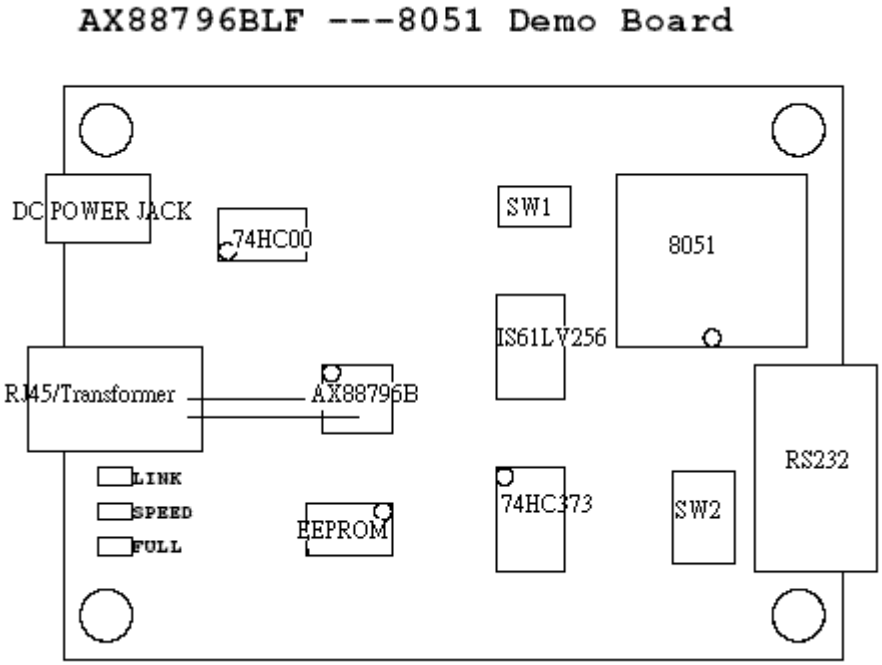

Figure 2. AX88796B + 8051 Demo Board Diagram

3. Network Environment Setup

ASIX provides an 8051 uIP TCP/IP stack source code for AX88796B + 8051 MCU demo board. This AX88796B uIP TCP/IP demo firmware supports a basic web server function to demonstrate the network function of AX88796B. Users can refer to this uIP TCP/IP stack source code to implement AX88796B on your target applications. You can download this archive from ASIX web site.

Users can refer to below figure to setup the test environment of AX88796B + 8051 MCU demo board.

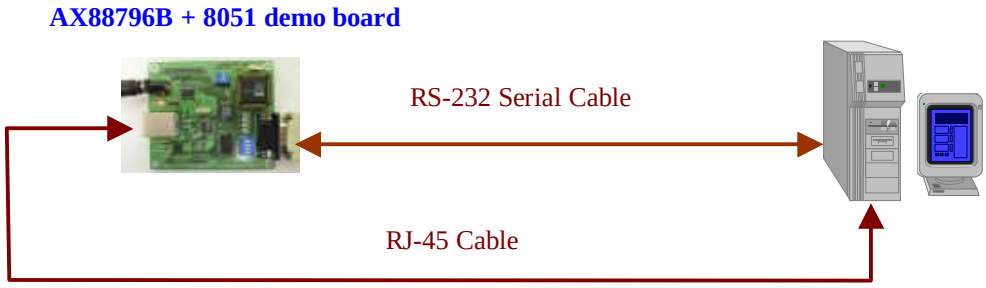

Figure 3. AX88796B + 8051 Demo Board Environment Setup

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4. How to verify AX88796B + 8051 MCU demo board?

AX88796B + 8051 MCU demo board is programmed with the AX88796B uIP TCP/IP demo firmware which supports a basic web server function to demonstrate the network function of AX88796B. Users can refer to the following procedures to verify the AX88796B + 8051 MCU demo board.

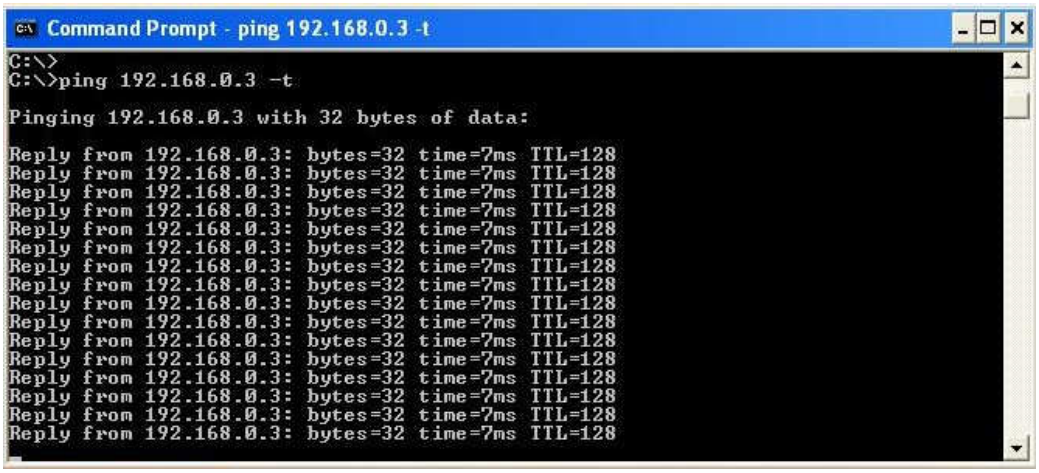
1. Connect AX88796B + 8051 MCU demo board and PC through a RJ-45 cable (serial or crossover) directly or through an Ethernet switch HUB.

2. Plug the DC 5V power adapter into the remote control module.

3. Assign a static IP address for the network adapter of PC.

> **Note:** The default IP address of AX88796B + 8051 MCU demo board is “192.168.0.3”. The IP address (e.g. 192.168.0.xxx) of PC should be assigned to the same subnet.

4. Run PING command on PC as show below to verify if the network connection between AX88796B demo board and PC is established or not.



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5. Run IE web browser and enter the following URL (http://192.168.0.3) to access the web server of AX88796B uIP TCP/IP demo firmware.

6. AX88796B +8051 MCU demo board works fine now if you can see the following web page.

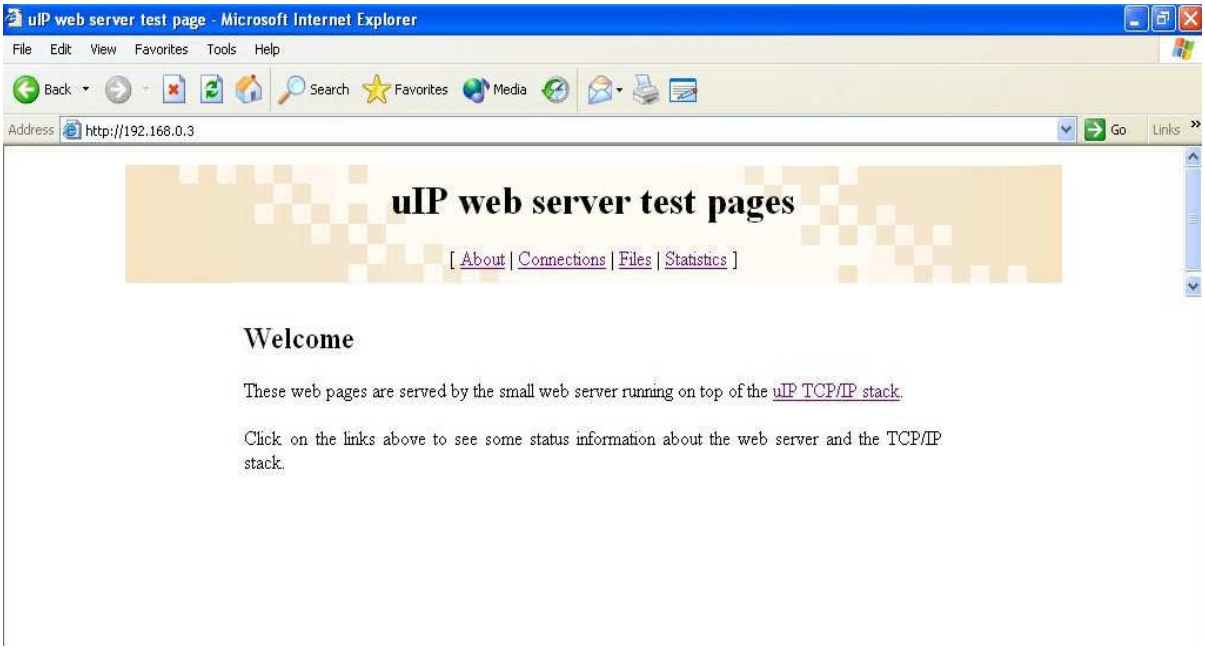

Figure 4. AX88796B uIP Demo Firmware Web Server

5. How to Program the Flash of AX88796B + 8051 MCU demo board?

AX88796B uIP TCP/IP stack demo firmware should be programmed into the Flash of 8051 MCU. Users can refer to below procedures to program the Flash of 8051 MCU by a universal programmer.

1. Remove the 8051 MCU from the socket of AX88796B + 8051 MCU demo board.

2. Run the universal programmer tool to program the AX88796B uIP demo firmware code (i.e. Ethernet.hex) into the 8051 MCU Flash. Please refer to the universal programmer tool user guide for details about how to program the 8051 MCU Flash.

3. Insert the 8051 MCU into the socket of AX88796B + 8051 MCU demo board.

4. Power ON AX88796B + 8051 MCU demo board and refer to Section 4 to verify the revised AX88796B uIP demo firmware.

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