Getting Started Guide for AXIS 88 Developer Board and AXIS 89 Device Server Platform

This guide is for the latest AXIS 88 Developer Board and AXIS 89 Device Server Platform software release.

Serial Number/Ethernet Address

The Ethernet address of interface eth0 is the same as the serial number. The serial number is found on the label on the AXIS 88 board, or on the underside of the AXIS 89 chassis. The Ethernet address of interface eth1 = serial number + 1.

Setting the IP Address temporarily

By default, the AXIS 88/89 uses DHCP to acquire an IP address for its first network interface (eth0).

If eth0 fails to get a new IP address with DHCP, you can still reach eth0 at the preset default IP address 192.168.0.90. The second ethernet interface (eth1) is preset to 10.0.0.90.

If not using DHCP, you need to acquire a unique IP address (ask your network administrator), and configure the AXIS 88/89 to use that IP address.

Use the following method to set the IP address for ethernet interface (eth0) within two minutes after booting the unit (press the reset button to reboot if you are too late).

1) Start a shell

2) Type the following as superuser (root):

   - arp -s <IP address> <Ethernet address> temp
   - ping -s 408 <IP address>

   Example:

   - arp -s 123.45.67.89 00:40:8c:12:34:56 temp
   - ping -s 408 123.45.67.89

This method sets the IP address temporarily. To set it permanently you need to change the IP address in 2 files (if using both interfaces) in the AXIS 88/89. Change at least the IP address, the subnet mask and the gateway. If this is not done, the default network settings will be restored when the unit is rebooted and you will have to start all over again.

Change these files:

/etc/conf.d/net.eth0 and **/etc/conf.d/net.eth1**

NOTE: If you don't succeed in setting the IP address temporarily, you can still set it permanently using a serial port (see Login from serial port below).

Setting the IP Address permanently

Once the IP address has been set temporarily it can be set permanently using HTTP, telnet or FTP. If you did not succeed in setting the IP address temporarily you can still login to the AXIS 88/89 and make a permanent change using a serial connection.

HTTP

1) Start your web browser of choice.
2) Open the URL `http://<IP address>/`

   Example: `http://123.45.67.89/`
3) Choose **Edit network settings for eth0** or **Edit network settings for eth1** and edit the variables according to your local network. Then click on the **Save file** button.
4) Reboot the AXIS 88/89 for your changes to take effect.

telnet

1) Telnet to the IP address of the AXIS 88/89. Example: Start a command tool (MS-DOS prompt, UNIX shell etc) and type `telnet <IP address>`

   Example: telnet 123.45.67.89
2) Login as user root with password pass:
   - Login: `root`
   - Password: `pass`
   - Edit the file `/etc/conf.d/net.eth0` and/or `/etc/conf.d/net.eth1` using the vi text editor.

     Example: `vi /etc/conf.d/net.eth0`
3) Change the settings.
4) Save the file and exit vi by pressing `<ESC>` and then type `:wq <ENTER>`
5) Close the connection by typing exit.
6) Reboot the AXIS 88/89 for the changes to take effect.

FTP

1) Start your FTP client of choice.
2) Open a connection to the IP address of the AXIS 88/89.
3) Log in as user root with password pass.

4) Download the file `/etc/conf.d/net.eth0` and/or `/etc/conf.d/net.eth1`.

5) Change the settings in the file(s).

6) Upload the file(s) to the AXIS 88/89.

7) Close the connection to the AXIS 88/89.

8) Reboot the AXIS 88/89 for the changes to take effect.

Login from serial port

If you cannot connect to the AXIS 88/89 over the network, you can instead connect via a serial port and then edit the network configuration file(s).

1) Connect the debug port (COM1/ser0) on the AXIS 88/89 to a serial port on your computer using an ordinary null modem cable with RX/TX and RTS/CTS.

2) Create a serial connection to the AXIS 88/89 using a terminal program (e.g., *cu* in linux or *Hyper Terminal* in Windows) set to 115200 baud, no parity, eight databits and one stopbit.

3) Press the Enter key on your keyboard when connected.

4) A shell is started in the startup procedure, so that you don't have to log on to the AXIS 88/89.

5) Edit the file `/etc/conf.d/net.eth0` and/or `/etc/conf.d/net.eth1` using the vi text editor.

   Example: `vi /etc/conf.d/net.eth0`

6) Change the settings.

7) Save the file and exit vi by pressing `<ESC>` and then type `:wq <ENTER>`

8) Close the connection by typing exit.

9) Reboot the AXIS 88/89 for the changes to take effect.

Test your configuration by rebooting the AXIS 88/89 and pinging it.

Example:

1) Press and release the reset button on the AXIS 88/89.

2) Wait approximately 20 seconds (until the unit is up and running).

3) Type ping `<IP Address>` (e.g. `ping 123.45.67.89`).

Terminal connector installation guide for the AXIS 88/AXIS 89

Pin	Description
1	Power input: 8-20V DC
2	GND
3	General Purpose I/O 0 (GPIO0)(1)
4	General Purpose I/O 1 (GPIO1)(1)
5	General Purpose I/O 2 (GPIO2)(1)
6	General Purpose I/O 3 (GPIO3)(1)
7	In RS485 mode: TX+ B In RS232 mode: TxD
8	In RS485 mode: TX- A In RS232 mode: RTS
9	In RS485 mode: RX+ B(2) In RS232 mode: RxD
10	In RS485 mode: RX- A(2) In RS232 mode: CTS

NOTE:

1) V_{IH} = 5V DC Max; V_{IL} = 0V DC Min

2) Use pins 9 and 10 for 2-wire RS-485

Further information

For further information, see www.axis.com/products/dev/