

## **Configure Your PC's IP Address (fixed IP)**

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Setting up your PC with a Network Interface Card is a straightforward process assuming you have the proper driver software for the Network Interface Card here onwards referred to as the NIC. If you don't have a NIC installed in the system follow the instructions that came with you NIC card to install the card under Windows and load the proper accompanied drivers when requested by the OS. You might be in one of two situations: (1) You don't have a NIC card installed on your system at this time and you want to install one to transfer files to TINI (2) You want to configure your existing NIC card to be able to access TINI and transfer file while maintaining connection to the existing network.

Please keep your original OS installation cd/disks and NIC card drivers handy before installing or reconfiguring your network connections. When reconfiguring your network connections make a note of your existing setup before proceeding.

For option (1) do the following:

1. Under Win95/98 make sure the NIC card is installed properly by checking for the existence of the newly installed NIC card under Device Manager->Network Adapters. If you see a yellow exclamation sign beside your NIC card or a red cross then your card did not install properly. Try a reboot and check again, if problem persists then remove the NIC card from the Device Manager and reinstall.

2. Once you are sure the NIC card is installed properly, next go to the Network configuration window, Start->Settings->Control Panel->Network. Check to make sure you have Client for Microsoft Networks and you may also have Microsoft Family Logon, followed by your NIC driver, if you don't have TCP/IP in the list we need to get that driver installed, so click on Add then chose Protocol then click on Microsoft on the left and finally double click on TCP/IP, now this operation might request you to insert your original Windows installation CD so keep it handy. Once the drivers are installed, the PC would request to be rebooted, go ahead with that.

When the PC starts up again, it might ask you for a username and password, accept the username and don't enter a password and then make sure you press the enter key. Don't click on Cancel.

If you enter a password it will ask you to enter the same password next time the PC reboots, I find it annoying to key in password everytime windows reboots. And Windows needs to be rebooted several times in the course of a day.

Next go to the Network configuration window again, this time make sure to change the Primary Network Logon to Windows Logon and then click on the Identification tab at the top and enter some meaningful workgroup name and computer name, try to keep it short and simple between 6 to 9 characters with no spaces or forward or backward slashes etc. Next double click TCP/IP->NIC CARD DRIVER, click on IP ADDRESS tab, click Specify an IP address and enter 192.168.10.100 for IP Address and a subnet mask of 255.255.255.0. For the IP Address chose any address you like as long as this PC doesn't

connect to the Internet. Next click on WINS Configuration Tab, and select Disable WINS Resolution. Finally click on OK, then OK again and at this point Windows might request to be rebooted go ahead with that.

3. Once Windows is booted up, you should have a working, configured Windows PC. To perform a simple test to make sure your network is working go to DOS shell and type ping 192.168.10.100 and you should get 3 reply's back. If there is a timeout then something is wrong. Next try ping 127.0.0.1 which is the Loopback if that fails as well then TCP/IP drivers did not install properly and perhaps the NIC card drivers did not install properly either. To make sure the network is configured with proper settings click on Start-> Run -> type in Winipcfg and click on OK and you should get IP Configuration window, from the drop down list select your NIC card and review the settings. If the NIC card is not listed then uninstall the existing drivers for TCP/IP and NIC and reinstall. But if everything worked fine then you are ready to connect to your TINI.

4. To connect to the TINI you need a crossover cable or a straight-thru cable depending on your setup. If you have a 10/100Mb Hub or a Simple 10Mb hub, then all you need to do is connect using a straight thru cable from your NIC card's RJ45 port from your PC to the Hub then connect the TINI using straight-thru cable to your HUB and you should be able to ping the TINI once TINI is configured with a proper TCP/IP address. If you don't have a hub then you can simply connect to the TINI using a crossover cable from the NIC card's RJ45 port from the back of the PC directly to the RJ45 port on the TINI. Once TINI is configured with a valid IP address you should be able to ping TINI from a DOS Shell. If your pings don't get returned then there is possibly a problem with the cable. If you are using a HUB, make sure your hub can negotiate with a 10Mb NIC card as the TINI is only 10mb. If you have a 10/100MB hub then it doesn't matter if your PC has a 10/100MB NIC Card or 100MB or 10Mb card the hub will negotiate properly and shouldn't affect connection with the TINI in such a setup. Once you are able to ping the TINI, you can fire FTP or Telnet to your TINI.

### Setting up your Linux system:

If you have a newer distribution of RedHat Linux like version 6.xx and up then its easier to use Linuxconf to setup your system with the proper network settings.

Make sure your Linux system recognizes and installs the NIC card on boot up. Usually the first NIC card found would be labeled as eth0 and the second eth1 and so forth. In your hosts file under /etc make sure your system has a valid Ip address (if Dynamic IP address is disabled) followed by your hostname. If there is no valid IP address then your eth0 may not load up properly. Using Linuxconf its very easy, simply fire up Linuxconf, chose Basic Host Configuration, enter a valid Hostname if there is none, then enter a valid Ip address for e.g. 192.168.10.100 and a subnet mask of 255.255.255.0 and usually under Kernel Mode the proper NIC card driver would be automatically listed if not then save the settings and then reboot the system and when the system boots up watch for eth0 to load up properly. If it did not load up then try running kudzu from the shell if kudzu doesn't detect the NIC card then remove the NIC card from the system, boot up the

system and wait for it to boot up completely, ignore any warnings and then shutdown insert the IC card again and then reboot again, and this time kudzu should find the NIC card if it doesn't then the NIC card could be at fault or there is a system resource conflict. If Linux finds and configures eth0 on boot up, then logging to the system do a ping to 192.168.10.100 and you should see replies coming back consistently, do a control-c to break and then connect the TINI to the PC using a crossover cable or thru a 10/100Mb hub. And you should configure TINI with a valid IP address and then try to ping TINI over the network.

**For option (2) do the following:**

In order to maintain existing network connections to a corporate network setup or a simple home network setup, your NIC card would be setup for non-static or Dynamic IP address. Your options are either contact your network administrator and request for a static IP Address for your TINI that falls outside of existing DHCP zone so that TINI doesn't end up conflicting with a PC on the network. Then configure your TINI with that IP address. This way a TINI development team can access TINI from their respective workstations over the network. Make sure to enter the proper subnet mask when configuring TINI with the IP address, Do not set TINI to Use DHCP to lease an IP address...if you do this then TINI's IP address would keep changing when the lease is over.

If you have a home network then most likely you could have a internet connection like DSL or broadband coming in and then being split on HUB or router. Set TINI to an IP address that will not conflict on the net for example 192.168.10.100 should be fine with a subnet mask of 255.255.255.0. If you have a router or firewall then you would have a small DHCP server, in that case chose an IP address for TINI and make sure to exclude it from the normal DHCP zone to prevent conflicts on the network. This way your PC would continue to get a leased IP address while your TINI has static IP address and both don't conflict with each other. However your setup might be, try to get a static IP address for TINI and Do not set TINI to Use DHCP to lease an IP address as the IP address will keep changing when the lease is over. Try not to expose TINI directly to the Internet, Hackers abound on the net.

Hope that helps to get your PC setup with your TINI over standard Ethernet network.