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The DOXport® 111 Cable Modem User's Guide

Contact Information

If you need help installing your modem, you can contact Com21 by telephone or Internet:

Phone: 1.888.868.4154

Website: www.com21.com

Important Rules for Safe Operation

Please read and follow the instructions in this manual. Use the AC adapter that is provided with the modem. Do not disconnect the RF cable from your cable modem while the modem is on.

FCC Compliance

This DOCSIS cable modem has been tested and found to comply with the limits for a Class B personal computer and peripherals, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this unit does cause harmful interference to radio or television reception, which can be determined by turning the unit off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to a circuit that is isolated from the receiver circuit.

SAFETY PRECAUTIONS

Be Careful - Be careful when unplugging this product from the wall outlet, as the AC adapter may be hot.

Protect Power Cords - Route power cords so that they are not likely to be walked on, or pinched by items placed upon or against them.

Do Not Overload - Do not overload wall outlets or extension cords. Overloaded AC outlets, extension cords, frayed power cords, damaged or cracked wire insulation, and broken plugs are dangerous. They can result in shock or fire hazard. Periodically examine the cord, and, if its appearance indicates damage or deteriorated insulation, have it replaced by your service technician.

Check Ventilation - Openings are provided in the enclosure for ventilation to ensure reliable operation of the product and to protect it from overheating. Do not block or cover these openings.

Do Not Remove Covers - Do not attempt to service this product yourself. Opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

Use Care in Moving Product-and-Cart Combinations - Quick stops, excessive force and uneven surfaces may cause the product-and-cart combination to overturn.

Unplug Power before Cleaning - Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.

Protect from Lightning - To protect this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet, and disconnect the cables. This will prevent damage from lightning and power line surges.

Refer Servicing - Refer servicing to qualified service personnel under the conditions listed below:

- When the power supply cord or plug is damaged.
- If liquid has been spilled on, or objects have fallen into the product.
- If the product has been exposed to rain or water.
- If the product does not operate normally according to operating instructions.
- If the product has been dropped or the enclosure has been damaged.
- When the product exhibits a distinct change in performance, such as the inability to perform basic functions.

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INTRODUCTION

Your DOXport 111 Cable Modem

Your DOXport 111 cable modem gives you high-speed access to the Internet through your cable TV (CATV) network. The DOXport 111 works on any cable system that complies with the DOCSIS 1.0 or 1.1 specification.

Package Contents

Check the contents of the package. It should contain the items shown in Figure 1.



Figure 1 Package Contents

Please contact the place of purchase if any of the above listed items are missing or damaged.

Before You Start

Before you install your DOXport III, you will need the following items. These items are not supplied with the DOXport III.

1. DOCSIS cable modem service from your local service provider
2. CATV (cable TV) outlet
3. Two-way CATV splitter
4. Two coaxial cables; one cable connects the CATV outlet to the 2-way splitter, the other cable connects one output of the splitter to your cable modem
5. 10Base-T Ethernet LAN card or USB-to-Ethernet LAN adapter, installed and configured in your personal computer
6. TCP/IP protocol stack

Installing the Cable Modem

Place your DOXport III cable modem in an area that will not block any of its ventilation holes. A convenient stand is included to hold the modem in an upright position, as shown in Figure 2. Figure 3 shows the rear panel connectors for Ethernet, Power, and RF (cable).



Figure 2 Detachable Stand

Please use the SETTING UP sheet provided in your package. The SETTING UP sheet defines a step-by-step procedure for setting up your modem. To set up your modem:

1. Connect the cable TV coaxial cable to the input connector of a signal splitter.
2. Connect a coaxial cable from one of the output connectors of the splitter to the input connector of the television set. Connect a coaxial cable from the other output connector of the splitter to the RF input connector on the cable modem rear panel.
3. Connect a 10Base-T cable from your computer to the 10Base-T Ethernet connector on the cable modem rear panel.

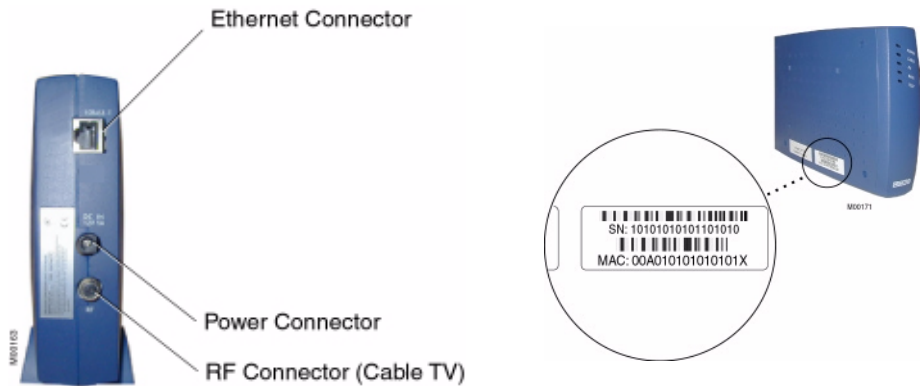


Figure 3 Rear Panel Connectors and MAC Address Label

4. Connect the 12 VDC 1A AC adapter to the power connector on the cable modem rear panel. Then plug the AC adapter into the facility outlet.
5. Look at the label on the side of the cable modem. This label (Figure 3) shows the serial number and MAC (Media Access Control) address of your cable modem. Both of these numbers are unique to your modem; write them in the space below in case you need them for future reference. The network uses the MAC address to communicate with your modem.

Serial number _____

MAC address _____

Your finished installation should have the configuration shown in Figure 4.

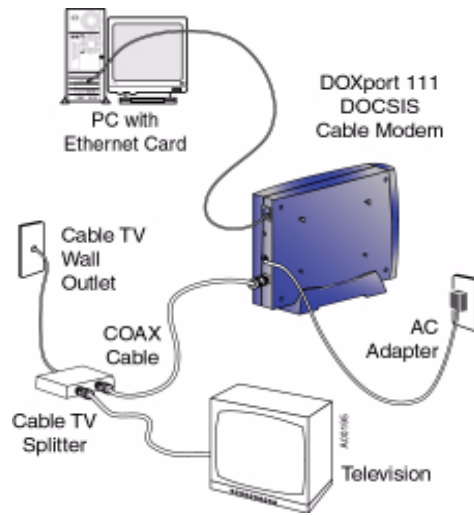


Figure 4 Cabling Diagram

Configuring TCP/IP

With the modem connected, make sure that you have your computer configured for TCP/IP and check for an IP address. The following instructions are for Windows 95 or 98. If you are using a different operating system, refer to the user guide for that system.

To configure TCP/IP:

1. On the Windows desktop, click **START**.
2. Select **SETTINGS** and then **CONTROL PANEL** from the pop-up menu. Double-click the **NETWORK** icon on the **CONTROL PANEL** window. The **NETWORK** window appears, as shown in Figure 5.

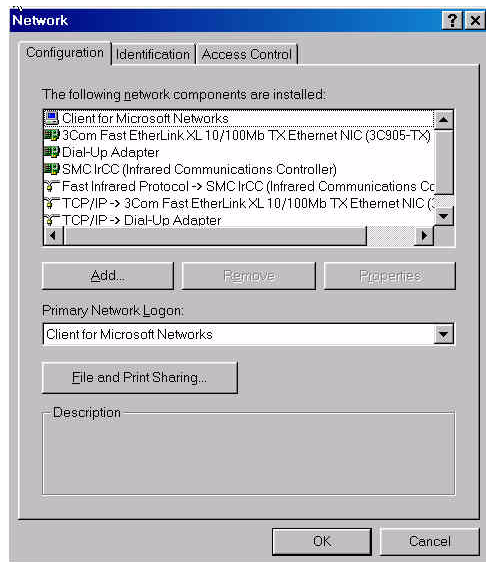


Figure 5 Network Window

3. Select the **CONFIGURATION** tab on the **NETWORK** window.

4. Check to see if TCP/IP has been installed for the Ethernet card. If TCP/IP appears in the list of network components, it is installed. Select it and proceed to step 8. If it doesn't appear on the list, click **ADD** and continue with step 5.
5. Double-click the **PROTOCOL** option on the **SELECT NETWORK COMPONENT TYPE** window (Figure 6).

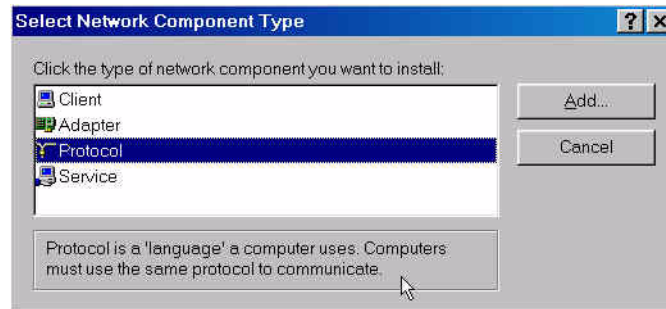


Figure 6 Select Network Component Type Window

6. Click **MICROSOFT** in the **MANUFACTURERS** section and then click **TCP/IP** in the **NETWORK** protocol section on the **SELECT NETWORK PROTOCOL** window (Figure 7).

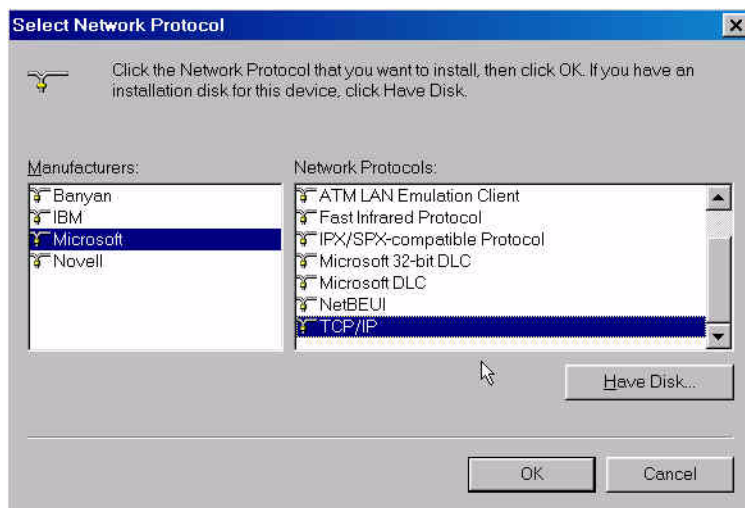


Figure 7 Select Network Protocol Window

7. Click **OK**.
8. Click **TCP/IP** on the **NETWORK** window (Figure 8). If you have more than one TCP/IP entry, choose the one associated with the Ethernet card connected to the DOXport 111.

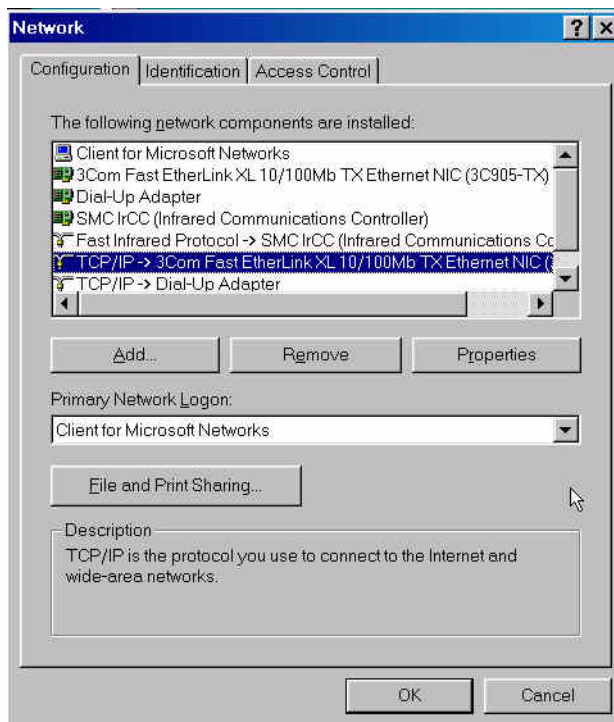


Figure 8 Network Window

9. Click **PROPERTIES**.

10. Select the **IP ADDRESS** tab on the **TCP/IP PROPERTIES** window (Figure 9).

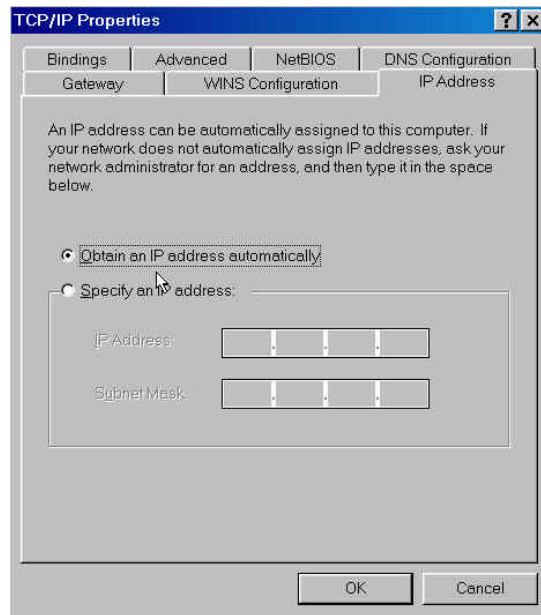


Figure 9 TCP/IP Properties Window

11. Click on **OBTAIN AN IP ADDRESS AUTOMATICALLY**.
12. Click **OK** to accept the TCP/IP settings.
13. Click **OK** to close the **NETWORK** window.
14. Click **OK** when a prompt to restart your computer is displayed, and then click **OK** again.

Verifying Your IP Address

The following instructions are for Windows 95 or 98. If you are using a different operating system, refer to the user guide for that system. To check the IP address:

1. On the Windows desktop, click **START**.
2. Select **RUN**.
3. Type **winipcfg.exe**. A window similar to the example in Figure 10 appears.

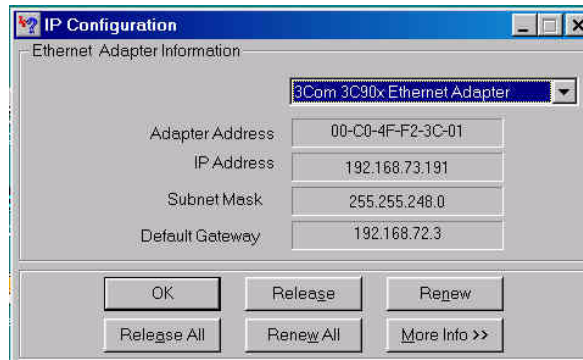


Figure 10 Verifying IP Address

4. Select your adapter name.
5. Click **RENEW**
6. Click **OK** after the system displays the IP address.

If, after performing this procedure, your computer doesn't access the Internet, call your service provider. They will assist in verifying your configuration.

Diagnostics

The cable modem has five LED panel lights (Figure 11). The LEDs let you monitor status during installation and operation.

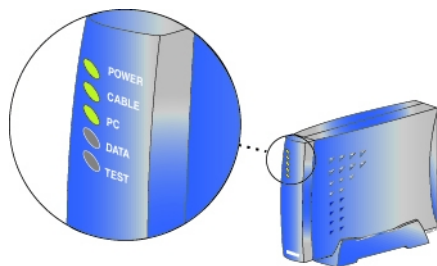


Figure 11 LED Indicators

The **POWER** LED lights and the modem starts the service acquisition process when power is applied to the modem. No additional intervention is required on your part. The modem automatically finds the data channel, registers, and connects to your computer.

Check the cable modem status. The front panel LED indicators show when the cable modem is operating properly. Basic indications are:

POWER - Green

CABLE - Green

PC - Green (if PC is on)

DATA - Flashing or off

TEST - Off

Detailed LED indications are described in Table 1.

Table 1 Detailed LED Indications

LED	Status	Description
POWER	Off Solid Green	Not receiving power Receiving power

Table 1 Detailed LED Indications (Continued)

LED	Status	Description
CABLE	Off Solid green Slow blinking green Fast blinking green	Not detecting signal from the cable network or not receiving power Modem is online and ready to transmit data Detecting signal and trying to connect to cable network Rebooting is in progress
PC	Off Solid green	Not detecting Ethernet connection or not receiving power Ethernet connection is established to powered-up computer
DATA	Off Blinking green	Not transmitting data or not receiving power Modem is transmitting
TEST	Off Blinking amber Solid amber	Ready to use after initial self-test, or not receiving power Initial self-test in progress or software downloading in progress Self-test failed. Corrective action: try rebooting. If the problem persists, contact your retail supplier or call or 24-hour customer support at 888-868-4154

The Com21 DOXport III cable modem complies with DOCSIS 1.0 and 1.1. Table 2 lists detailed operating and environmental specifications.

Table 2 Specifications

Parameter	Specification
DOWNSTREAM	
Demodulation	64QAM/256QAM
Physical speed	30 Mbps (64QAM) / 40 Mbps (256QAM)
Error correction	Reed Solomon + Trellis (Enhances Annex B)
Frequency range	88 MHz to 860 MHz (edge-to-edge) in 62.5 kHz steps
Bandwidth	6 MHz
Input signal level	-15dBmV to+15dBmV
Input impedance	75 ohms
Return loss	> 6 dB from 88 MHz to 860 MHz

Table 2 Specifications (Continued)

Parameter	Specification
UPSTREAM	
Modulation	QPSK /16QAM
Physical speed	320, 640, 1280, 2560, 5120 Kbps (QPSK) 640, 1280, 2560, 5120, 10240 Kbps (16QAM)
Error correction	Reed Solomon
Frequency range	5 to 42 MHz (edge-to-edge), in 1Hz steps
Bandwidth	200, 400, 800, 1600, 3200 kHz
Output signal level	8 dBmV to 58 dBmV (QPSK) 8 dBmV to 55 dBmV (16QAM)
SNMP MANAGEMENT	
MIB Group	MIB II, MCNS MIB
INTERFACE	
DTE	IEEE802.3/10Base-T
Cable	F type female 75 ohm
POWER	
Power input	12VDC
Power consumption	8 W (Max)

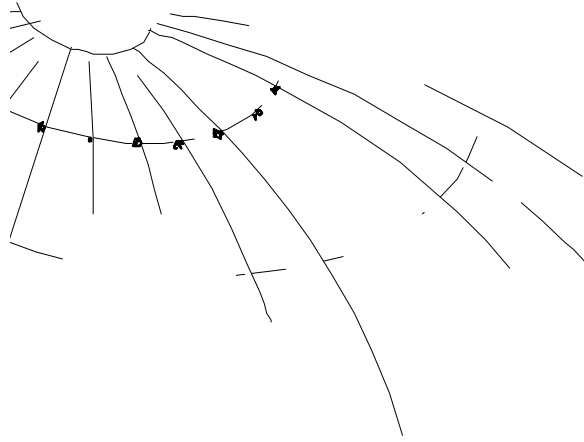
MECHANICAL	
Size	Width 2.38 in (6 cm) Depth 8.13 in (20.6 cm) Height 5.88 in (14.9 cm)

Table 2 Specifications (Continued)

Parameter	Specification
Weight	2.1 lb (4.62 kg)
ENVIRONMENTAL	
Operating temperature	0 to +104 degrees Fahrenheit (0 to +40 degrees Celsius)
Humidity	10 % to 90 % (non-condensing)
Storage temperature	-4 to +140 degrees Fahrenheit (-20 to +60 degrees Celsius)
Safety	UL1310, UL1950
Emission	FCC part 15, class B

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