



# The 3ComImpact™ IQ External ISDN Modem

[Configuration Window Parameters](#)

[Running the SPID Wizard](#)

[Verifying the Configuration](#)

[Setup using Windows 95](#)

[Setup using Windows NT RAS](#)

[Technical Support](#)

## **Configuration Window Parameters**

**Telephone Company Switch Type**

**Telephone Number**

**Service Profile ID (SPID)**

**ISDN Status Bar**

**Voice Call Routing**

**B Channel Rate**

**Multilink PPP**

**Help**

**Tools**

**Update**

**Exit**

## **Telephone Company Switch Type**

This field displays the switch type used by your telephone company. The SPID Wizard automatically configures the switch type. You can also change this field manually by selecting the appropriate switch type from the Switch Type drop down list box. Then, click Update to download the changes to the ISDN modem.

## **Telephone Number**

There are two telephone number fields. One is located in the Number 1 group box and the other is located in the Number 2 group box. If your ISDN line has only one telephone number, then only one telephone number should be configured. If your ISDN line has two telephone numbers, then two telephone numbers should be configured. (The Enabled box located in the Number 2 group box must be checked.)

While running SPID wizard, you are prompted to enter the telephone number(s). You can also enter telephone numbers directly in the Configuration window. If you enter them directly in the Configuration window, click Update to download the changes to the ISDN modem.

## **Service Profile ID (SPID)**

If required, the SPID(s) is automatically configured by SPID Wizard.

To enter a SPID manually, first obtain the SPID number(s) from your telephone company. Then, enter the SPID corresponding to the first telephone number in the Number 1 group box. If you have a second telephone number with an associated SPID, enter the second SPID in the telephone Number 2 group box. Click Update to download the changes to the ISDN modem.

## ISDN Status Bar

Check the status bar (located beneath the **Help**, **Tools**, **Update**, and **Exit** buttons of the Configuration dialog box) to verify correct configuration. The following ISDN status information is provided:

- Layer 1
- SPID 1
- TEI 1
- SPID 2
- TEI 2

## **Layer 1**

Indicates whether or not the ISDN connection has been established.

Layer 1: UP-The physical ISDN connection has been established.

Layer 1: DOWN- The ISDN connection has NOT been established. Make sure the ISDN cable is securely connected to the ISDN modem's ISDN jack and the wall outlet.

## **SPID 1**

Indicates whether or not the first SPID has been initialized. A successful SPID initialization is required to establish an ISDN connection.

SPID 1: Init- Indicates that the first SPID has been initialized.

SPID 1: Idle- Indicates that either initialization has not started or there is no SPID associated with the first telephone number.

SPID 1: Invalid- Indicates that the first SPID was not entered correctly.



## **TEI 1**

The terminal endpoint identifier is a numerical value from 64 to 126 sent by the telephone company once an ISDN call has been established. It is for informational purposes only.

## **SPID 2**

If a second SPID is required, this field indicates whether or not the second SPID has been initialized. A successful SPID initialization is required to establish an ISDN connection.

SPID 2: Init- Indicates the second SPID has been initialized.

SPID 2: Idle- Indicates that either initialization has not started or there is no SPID associated with the second telephone number.

SPID 2: Invalid- Indicates the second SPID was not entered correctly.

## **TEI 2**

The terminal endpoint identifier is a numerical value from 64 to 126 sent by the telephone company once an ISDN call has been established. It is for informational purposes only.

This field should only have a value if a second telephone number and a second SPID was configured.

## **Help**

Click the Help button to access help for this configuration window. There is also comprehensive on-line help accessible from the 3ComImpact IQ ISDN modem program group box.

The message bar at the bottom of the dialog box provides help for completing the fields. If you click in a field, the message bar tells you what information to enter in the field.

## Tools

Clicking on the Tools button produces buttons for [Firmware](#), [Tests](#), [Save](#) and [Restore](#).

## **Firmware**

Refer to the readme file for firmware download instructions.

## **Tests**

Use the Tests tool only under the direction of technical support personnel.

## **Save**

Pressing the Save button saves the current Configuration window settings in a file you name. You can easily restore a previously saved file to the Configuration window.



## **Restore**

Pressing the Restore button restores the 3ComImpact IQ ISDN modem to a previously saved configuration file.

## **Update**

Click the Update button to download the current configuration parameters to your ISDN modem's S registers.

## **Exit**

Click Exit to leave the utility.

## Running the SPID Wizard

SPID Wizard automatically detects the switch type and configures the SPID(s).

You will need the telephone number(s) your telephone company assigned to your ISDN line.

1. Double-click the 3Com Impact IQ globe icon to run the SPID Wizard configuration program.

*NOTE: SPID Wizard automatically runs when you are configuring the ISDN modem for the first time or if you connect the ISDN modem to a different ISDN line.*

While the SPID Wizard configures the switch type you will see a status message. After the switch type is configured, the dialog box for the first telephone number appears.

2. Enter the first telephone number for your ISDN line and include the area code.
3. Click *Next*.

A dialog box appears, indicating that the ISDN modem is detecting the SPID for telephone number one. After the SPID is configured, the dialog box for a second telephone number appears.

4. If you have a second telephone number for your ISDN line, enter it, and then click *Next*. If you do not have a second telephone number for your ISDN line, leave the field incomplete, and then click *Done*.

The main Configuration window appears.

## Voice Call Routing

If you plan to use the ISDN modem's phone ports, you will want to assign telephone number(s) to the analog ports. By default, calls to and from both ISDN telephone numbers ring the devices connected to both ports simultaneously.

For example, if the first telephone number is configured as 908 555 1212 and only the Phone Port 1 box is checked, then calls to 908 555 1212 will only ring the device attached to Phone Port 1.

A typical scenario is a fax machine connected to one phone port and an analog telephone connected to the other phone port. In this case, it is likely you will want one telephone number associated with just the analog telephone and the other telephone number associated with just the fax machine.

### **To configure this scenario:**

1. From within the Number 1 group box, check the box labeled Phone Port 1 and clear the box labeled Phone Port 2.
2. From within the Number 2 group box, clear the box labeled Phone Port 1 and check the box labeled Phone Port 2.
3. Click Update.

## Configuring Multilink PPP

Multilink PPP aggregates the two 56 Kbps or 64 Kbps ISDN B channels, creating a virtual single digital connection of up to 128 Kbps.

With Multilink PPP enabled (default), when you place a call using PPP, the two 56 Kbps or 64 Kbps B channels will be linked to form a single 112 Kbps or 128 Kbps channel.

### To enable or disable Multilink PPP, do the following:

1. Click inside the Multilink check box in the PPP area to check it (enable) or clear it (disable).
2. Click the Update button to download the change to your ISDN modem's S register.

Although this is not generally the case, your Internet Service Provider may require an Endpoint Identifier Class and an Endpoint Identifier. The Endpoint Identifier Class is configured using S register 82. The Endpoint Identifier is configured using S register 83.

### **S82 Multilink PPP Endpoint Identifier Class**

If required, this information is provided by your Internet service provider.

- 1 — Locally Assigned Address
- 2 — Internet Protocol (IP) Address
- 3 — IEEE 802.1 Globally Assigned MAC Address
- 4 — PPP Magic-Number Block
- 5 — Public Switched Network Directory Number (default)

To change the default value, send the command AT S82 = (number representing your ISP's class).

For example, to change the Multilink PPP Endpoint Identifier Class to locally assigned address, send the command AT S82=1 to the ISDN modem.

### **S83 Multilink PPP Endpoint Identifier**

If required, this information is provided by your Internet service provider. To configure this field, send the command AT S83= (identifier) to the ISDN modem. By default, telephone number 1 is sent because the endpoint identifier class is 5. If your endpoint identifier class is not 5, obtain the identifier from your service provider and enter that information in this register.

## **Configuring B Channel Rate**

By default, the connection speed is 56 Kbps. Check with your telephone company to determine the connection speed they require. To change the connection speed to 64 Kbps, do the following:

1. Select the radio button labeled 64 Kbps.
2. Click the Update button to download the change to your ISDN modem's S register.

## Verifying the Configuration

Check the status bar located toward the bottom of the Configuration dialog box to verify correct configuration. If the ISDN parameters were configured, the status bar fields will appear as shown here.

- Layer 1: UP
- SPID 1: Init (if required)
- TEI 1: Number from 64 to 126
- SPID 2: Init (if required)
- TEI 2: Number from 64 to 126 (if required)

*NOTE: The TEI number(s) are not configured by the user. The TEI number(s) are provided by the telephone company for informational purposes only.*



## **Set Up Using Windows 95**

The following instructions assume that Windows 95, Microsoft Plus has already been installed.

**Setting up the ISDN modem using Windows 95 Plug and Play**

**Setting up a remote connection using Windows 95**

**Running Windows 95 Internet Setup Wizard**

## Setting up the ISDN Modem Using Windows 95 Plug and Play

1. Reboot your PC with the ISDN modem powered up and physically connected to your PC. The New Hardware dialog box appears.
2. Select the *Driver from disk provided by hardware manufacturer* option to allow Windows 95 to detect the 3C882 ISDN modem.
3. Insert the *3ComImpact IQ DOS & Windows Installation Diagnostic Utilities* diskette into an available floppy drive.
4. Click *OK*. The Select Device dialog box appears.
5. Select *3ComImpact IQ* and then click *OK*.

If you are planning to run your computer at the maximum 230.4 Kbps baud rate, you must set up the driver that allows a maximum 230.4 Kbps baud rate. To do so, go on to step 6.

Otherwise, if you plan to run your computer at baud rates up to 115.2 Kbps, the process is complete. You can verify that the ISDN modem is installed by double-clicking the Modems icon located in the Control Panel. The Modems Properties dialog box appears. The 3ComImpact IQ modem should be listed.

6. From the Control Panel dialog box, double click on the icon Modems. The Modems Properties dialog box appears.
7. Click *Add*. The Install New Modem dialog box appears.
8. Check the box to prevent automatic detection of the 3ComImpact IQ ISDN modem.
9. Click *Next*. The dialog box listing modem manufacturers and modem models appears.
10. From the Manufacturers list box, select *3COM*. From the Models list box, select *3ComImpact IQ 240K*. Click *Next*.
11. Select the appropriate COM port. Click *Next*. A dialog box indicates successful setup.
12. Click *Finish*.

## Setting Up a Connection Using Windows 95

Once you have added the ISDN modem driver to Windows 95, you are now ready to set up a connection to which you can place calls. If you want to connect to the Internet, you can easily do so by running the Internet Setup Wizard. For other remote connections, do the following:

1. From the *Start* menu, select *Programs*, then *Accessories*, and then *Dial-Up Networking*. The Dial-Up Networking dialog box appears.
2. Double-click the icon *Make New Connection*.
3. Enter a name for this connection.
4. Select *3ComImpact IQ* for baud rates up to 115.2 Kbps. For a baud rate up to 230.4 Kbps, select *3ComImpact IQ 230K*.
5. Click *Configure*. The 3ComImpact IQ dialog box appears.
6. Select the appropriate COM port.
7. Select the maximum COM port speed.
8. Click *OK*.
9. Click *Next*. A dialog box appears that lets you enter the telephone number of the computer you want to call.
10. Enter the country code (if necessary), area code, and phone number of the destination you want to call.
11. Click *Next*.
12. Click *Finish*. The icon representing the Dial-Up Networking connection you just created appears in the Dial-Up Networking folder.

To place a call, double-click the connection icon for the destination you want to call. A connection dialog box appears. Click *Connect*.

## Running the Windows 95 Internet Setup Wizard

The Internet Setup Wizard walks you through each step required to set up your PC for Internet access. During this procedure, the Wizard prompts you to enter information. Ensure that you have the following information available prior to using the Internet Wizard utility.

Obtain the following information from your Internet service provider:

- Name of your service provider
  - Access number
  - User name
  - Password
  - IP address (if any)
  - Subnet mask (if any)
  - Domain Name Service (DNS) server and alternate DNS server
- If you want to send and receive mail through the Internet, you will also need the following information:
- Email address
  - Address of Internet mail server

### To set up a connection using the Internet Setup Wizard:

1. From the Windows 95 *Start* menu, select *Programs* then *Accessories*, then *Internet Tools* and finally *Internet Setup Wizard* to view the main dialog box.
2. Click *Next* to view the Connection Type dialog box.
3. Select *Connect Using My Phone Line*. Click *Next* to view the Connection Method dialog box.
4. Select the second choice to connect to the Internet using an Internet service provider.
5. Click *Next*. If this is the first time you are running the Internet Set Up Wizard, the Installing Files dialog box appears. Click *Next*. The Choose Modem dialog box appears.
6. Select *3ComImpact IQ* for baud rates up to 115.2 Kbps. For a baud rate up to 230.4 Kbps, select *3ComImpact IQ 230K*.
7. Click *Next* to view the Service Provider dialog box.
8. Enter the name of your Internet service provider. Click *Next* to view the Phone Number dialog box.
9. Enter the country code (if necessary), area code, and phone number of the destination you want to call. Click *Next* to view the User Name and Password dialog box.
10. Enter your User name and Password for your Internet access account. Press *Next* to view the IP Address dialog box.
11. If your Internet service provider automatically assigns an IP Address, check the first option. Otherwise, check the second option and enter the IP Address and Subnet Mask information provided

by your Internet access provider. Click *Next* to view the DNS Server dialog box.

12. Enter the IP Address of your DNS Server. Click *Next* to view the Internet Mail dialog box.
13. To send and receive email through the Internet, check the box, enter your email address and the address of your Internet mail server. Click *Next* and then click *Finish*.

## Set Up Using Windows NT Remote Access Service

The following instructions assume that you have already configured the ISDN modem and Windows NT remote access service.

1. Using the File Manager, locate the Windows NT modem.inf file in the %SystemRoot%/System32/RAS directory and rename it to modem.org.

For example, if your root directory is windows, you would look for the Windows NT modem.inf file in the following directory:

C:\windows\System32\RAS

2. Copy the 3ComImpact IQ ISDN modem's modem.inf file to the same directory as the modem.org.
3. From the *Main* menu, select *Control Panel*, then select *Network*. The Network Settings dialog box appears.
4. From the Installed Network Software list box, select *Remote Access Service*. The Remote Access Setup dialog box appears.
5. If a modem is already configured, select it, then click *Remove*.
6. Click *Add*. The Add Port dialog box appears.
7. Choose a COM port, then click *OK*. The Remote Access Setup message box appears.
8. Click *Cancel*. The Select Modem dialog box appears.
9. Select *3ComImpact IQ* for baud rates up to 115.2 Kbps. For a baud rate up to 230.4 Kbps, select *3ComImpact IQ 230K*.
10. Specify the Port Usage. Click *OK*. The Remote Access Setup dialog box appears.
11. Click *Continue*.
12. Click *OK* to exit the Network Settings dialog box. The Network Settings Change alert box appears.
13. Click *Restart Now*.

Once your system has rebooted, you are ready to use the ISDN modem.

## **Technical Support**

**On-line Technical Services**

**Contacting Technical Support**

**Returning Products for Repair**

## **On-line Technical Services**

**3Com Bulletin Board System**

**3Com FTP Site**

**3Com World Wide Web Site**

**3ComFacts**

**3ComForum on CompuServe**



## **Contacting Technical Support**

If you have gone through the troubleshooting tips and still have not been able to resolve the problem, contact 3Com Technical Support. In the U.S. and Canada, call (800) 876 3266.

When you call, please have the following information available:

- The serial number of your ISDN modem
- A list of symptoms including any LED status information computer display status
- The type of application software you are running and the version number

## **Returning Products for Repair**

A product sent directly to 3Com for repair must first be assigned a Return Materials Authorization (RMA) number. A product sent to 3Com without an RMA number will be returned to the sender unopened, at the sender's expense.

To obtain an RMA number, call (800) 876 3266.

## **3Com Bulletin Board Service**

Digital: (408) 654 2703

Analog: (408) 980 8204

3ComBBS contains patches, software, and drivers for 3Com products. This service is available seven days a week, 24 hours a day.

## **3Com FTP site**

ftp.3Com.com

3Com FTP contains patches, software, and drivers for 3Com products. This service is available seven days a week, 24 hours a day.

## **World Wide Web Site**

<http://www.3Com.com/>

This service features news and information about 3Com products, customer service and support, 3Com's latest news releases, selected articles from 3TECH™ (3Com's award-winning technical journal) and more.

## **3ComForum on CompuServe**

To use 3ComForum, you need a CompuServe account.

### **To use 3ComForum:**

1. Log on to CompuServe.
2. Enter go threecom.
3. Press [Return] to see the 3ComForum main menu.

3ComForum is a CompuServe-based service containing patches, software, drivers, and technical articles, as well as a messaging section for peer support.

## **3ComFacts Automated Fax Service**

(408) 727 7021 (analog)

3Com Corporation's interactive fax service, 3ComFacts, provides data sheets, technical articles, diagrams, and troubleshooting instructions on 3Com products 24 hours a day, seven days a week.





