I-MODEM APPLICATION NOTES AND COMMON QUESTIONS

Courier I-Modem and Sportster 128K

How do I configure a Sportster 128K to I-Modem connection using Windows 95 and Windows NT 4.0?

	DIALING DEVICE (remote)	SERVER DEVICE
Modem Name	Sportster ISDN 128k	Courier I-Modem
Operating System	Windows 95	Windows NT4.0
INIT strings Enter this command in: 1. **Start** | **Settings** | **Control Panel** | **Modems** 2. Highlight your modem. CLick **Properties** 3. Select the **Connection** tab 4. Click **Advanced** | **Extra Settings**	NONE	AT&F1*V2=5*P=3S67=0*D0=1
Special Settings	Dial-Up Networking settings 1. Uncheck **Use Country Code and Area Code** 2. Check **TCP/IP** Sportster manager Settings 1. Enable Turbo PPP	RAS settings: 1. Allow Clear Text 2. Enable Multilink 3. Dial/receive calls 4. TCP/IP
Other Info	Must dial both telephone numbers as following: "DATA(s2)"#"VOICE(s1)" ie: 5551212#5551313	

Courier I-Modem

How do I configure my I-Modem on Unix Machines/Terminal Servers for Dial In Access Only?

Your I-Modem must already be configured with the proper SPIDs and switch type.

Configure a terminal or communications software setup to match the data bit construction of the UNIX/AIX machine. The data bit construction refers to the port speed or baud rate, parity, data bits, and stop bits.

1 Open a communications software program.

2 Set the I-Modem dip switch 1 off (up) and 2 on (off).

3 Toggle the I-Modem's power to load the factory defaults.

In the initialization strings below, # represents a number for a parameter setting. Refer to the I-Modem Command Reference for more information about the command parameters.

4 Use the ATI7 command to confirm which version of the code you are using on your I-Modem. Using the formulas below and the I-Modem Command Reference Manual, construct an initialization string appropriate for your configuration.

If your UNIX/AIX System is set for Hardware Flow Control, then type the following initialization string:

```
AT&F1SO=1Q1E0&D0*V2=#S67=0S68=4 S69=1&W
```

If your UNIX/AIX System is set for Software Flow Control, use the following initialization string:

```
AT&F2SO=1Q1E0&D0*V2=#S67=0S68=4S69=1&W
```

5 Set dip switch 1 on (down) position and dip switch 2 in the off (up) position. Toggle the power on the I-Modem and connect it to your UNIX/AIX computer. When the NS status light turns solid green you are ready to accept calls.

How do I configure my I-Modem on Unix Machines/Terminal Servers for Dial In and Dial Out Access?

> *Your I-Modem must already be configured with the proper SPIDs and switch type.*
>
> Configure a terminal or communications software setup to match the data bit construction of the UNIX/AIX machine. The data bit construction refers to the port speed or baud rate, parity, data bits, and stop bits.

1 Open a communications software program.

2 Set the I-Modem dip switch 1off (up) and 2 on (down)

3 Toggle the I-Modem's power to allow the factory defaults to load.

> *In the initialization strings below, # represents a number for a parameter setting. Refer to the I-Modem Command Reference for more information about the command parameters.*

4 Use the ATI7 command to confirm which version of the code you are using on your I-Modem. Using the formulas below and the I-Modem Command Reference Manual, construct an initialization string appropriate for your configuration.

If you are using supervisor revision 2.0.6 or 2.0.9 I-Modem code and configured for Hardware Flow Control, you must use this initialization string

```
AT&F1SO=1Q1E0&D0*V2=#S67=0S68=4S69=1&W.
```

If you are using all other versions of the I-Modem code and the UNIX/AIX System is set for Hardware Flow Control, then type the following initialization string:

```
AT&F1SO=1Q1E0&D0*V2=#S67=0S68=1S69=1&W
```

If you are using supervisor revision 2.0.6 or 2.0.9 I-Modem code and configured for Software Flow Control, you must use this initialization string

```
AT&F2SO=1Q1E0&D0*V2=#S67=0S68=4S69=1&W.
```

If you are using all other versions of the I-Modem code and the UNIX/AIX System is set for Software Flow Control, use the following initialization string:

```
AT&F2SO=1Q1E0&D0*V2=#S67=0S68=1S69=1&W
```

5 Next, set dip switch 1 and 2 in the on (down) positions. Toggle the power on the I-Modem and connect it to your UNIX/AIX computer. When the NS status light turns solid green you are ready to make and receive calls.

When dialing out you will not be able to see what you type on your computer screen However, the I-Modem will receive the commands and dial out as instructed. The I-Modem will give connect messages but only when dialing out.

6 If you see "garbage" characters, the I-Modem has a different data bit construction or baud rate saved in NVRAM than the computer serial port.You will have to correct the baud rate and data bit construction in your communications software or terminal and perform the above steps again.

How do I configure I-Modem to I-Modem connections using Win95 and TCP/IP?

This solution is ONLY relevant for external I-Modems on a Windows 95 system using either Dial-Up Networking or the upgrade 1.2. The TCP/IP protocol must be connecting to another external I-Modem on a Windows 95 system. BOTH I-MODEMS NEED TO RUN THE SAME CODE.

This configuration will ONLY work for a point to point TCP/IP connection between two computers. This configuration will NOT allow you to access other computers on the Host's Local Area Network.

Host Side Configuration

1 Network Settings

Go to **Start** | **Settings** | **Control Panel** | **Network Properties**

a Highlight **TCP/IP -> Dial Up Adapter** and click **Properties**

b **IP Address tab**

- Click **Specify IP Address**

- Enter IP address (For example 10.1.2.3)

- Enter Subnet Mask (For example 255.255.255.0)

c **WINS Configuration tab**

Disable WINS Resolution

d **Gateway tab**

Leave empty

2 Dial-Up Server

Click the **Courier I-Modem tab**

a Click **Allow caller access**

Setup a password (recommended)

b Click **Server Types**

- Use PPP/Win95 for server type

- Enable software compression

- Disable option for password encryption

Remote Side Configuration

1 Network Settings

Go to **Start** | **Settings** | **Control Panel** | **Network Properties**

a Highlight **TCP/IP -> Dial Up Adapter** and click **Properties**

b **IP Address tab**

- Click **Specify IP Address**
- Enter IP address (For example 10.1.2.4)
- Enter Subnet Mask (For example 255.255.255.0)

c **WINS Configuration tab**

Disable WINS Resolution

d **Gateway tab**

Leave empty

2 Dial-Up Networking Connection

Right click on icon and select **Properties**

a **General tab**

- Enter both phone numbers to the remote I-Modem (For example 5551152&5551153)
- Make sure you are dialing the Data port phone number first

b **Server Types tab**

- Dial-Up Server is **PPP/Win95**
- Under **Advanced** only check **Log On To Network**
- Under **Network Protocols** only have **TCP/IP** checked
- Click **TCP/IP settings** button
  - Leave everything **SERVER ASSIGNED**
  - Uncheck **IP header compression**
  - Check **default gateway**

General Notes:

- Make sure both I-Modems have this string saved to NVRAM to configure both modems for 128K ML/PPP connections:

      `AT&F1*V2=5S67=0S68=64S69=0*D0=1*P=3&W`

- Dial-Up Server can run in the background to wait for incoming calls and you will still be able to make outbound calls.

- Make sure BOTH the REMOTE and the HOST are using the same Primary Network Logon. For example both the remote and host could use **Client for Microsoft Network**s.

- Since the TCP/IP connection is point to point, you can use bogus IP addresses.

- Use the 2.7.6 code for the external I-Modems if you are having a problem with 128k connections.

How do I perform a recovery procedure for Courier I-Modem Flash Errors?

1 Go to **Start** | **Shut Down** | **Restart Computer in MS-DOS Mode**.

You cannot use a MS-DOS Shell for this procedure.

2 In MS-DOS, change to the directory of the saved files. CD dir:\dir name

c Type: edit go.bat

d The original go.bat file looks like this:

      `PCSDL –p%1 –r115200 –vNA2.7.6 –vSD2.7.6 –nSDie –nNAie`

   Change it to look like this:

      `PCSDL –p%1 –r57600 –vNA2.7.6 –vSD2.7.6 –nSDie –nNAie`

e Save the file.

3 Run the go.bat file from MS-DOS, with the number of the COM port your modem is attached to. For example: go 2

4 If this fails, turn off the I-Modem and change dip switch 1 and 2 to the up position.

   Turn the I-Modem back on and attempt to run the go.bat file again.

a After successfully completing the update utility, you need to turn off the I-Modem and change the dip switches 1 and 2 back to the down position.

b Turn the I-Modem back on and go to a terminal program.

c You must send AT&F1&C1&D2&W to the I-Modem to restore the &F1 template and ensure that carrier detect (CD) and DTR are set to normal operations.

5 If you are still unable to perform a recovery procedure, then the modem must be sent in for repair.

How do I connect my I-Modem to my ISP with both B channels?

1 Go to **Start** | **Settings** | **Control Panel** | **Modem**

2 Highlight your I-Modem, then go to **Properties** | **Connection** | **Advance**

3 Use the following Initialization String: `AT&F1*V2=5S67=0S68=0*DO=1`

On my I-Modem the NS light is solid red, how do I address this problem?

First, make sure that your RJ45 or RJ11 cable is good.

Second, check your ISDN line to see if it is working properly. To test if your line is active, plug an analog device such as a phone into the ISDN wall jack.

■ If you don't hear any sound through the earpiece, your line is inactive.

■ If you hear a sound like a click, click, click, your line is active.

Third, make sure the SPIDs and switch protocol are correct.

When Turbo PPP is enabled on my I-Modem, I cannot authenticate a PPP session to my NT server from Windows 95 Dial-Up Networking. If I disable TurboPPP, all is well. What am I doing wrong?

■ Make sure you are using I-Modem code version 2.7.6 or greater. Open a Communications software package and send the ATI7 command to the I-Modem. The screen that appears, lists the version of the code your I-Modem is currenlty using.

■ If you are trying to authenticate to an Windows NT domain, enter your **Domain/Username** in the **Username** field at **Dial-Up Networking**. Enter your password in the **Password** field.

I have a Courier I-Modem on an NT 4.0 server and another on a client workstation (WIN95/NT4.0). How do I configure them to connect at 128K?

NT 4.0 host

RAS must be configured for dial-in with Multilink enabled and security set for **any authentication including cleartext**. If TCP/IP is used, a DHCP server must be configured to assign IP addresses or a static address pool specified.

NT 4.0 client

1 Go to **Start** | **Settings** | **Control Panel** | **Modem**.

2 Highlight you I-Modem.

3 Go to **Properties** | **Connection** | **Advance**.

4 Enter: `&F1*V2=5*P=3S67=0*D0=1`

5 Reboot your computer.

WIN95 client

1 Go to **Start** | **Settings** | **Control Panel** | **Modem**.

2 Highlight you I-Modem.

3 Go to **Properties** | **Connection** | **Advance**.

4 Enter: `&F1*V2=5*P=3S67=0*D0=1`

5 Create a new Dial-Up Networking connection. When prompted for a phone number, enter the number for the data channel (directory number 2).

6 Go to **Start** | **Programs** | **Accessories** | **Dial-Up Networking** and find the icon for your connection.

7 Right click on the icon and choose **Properties**.

8 Under **Server Types**:

■ Set **Dial-Up Server** to **PPP: Windows 95, NT, Internet**.

■ **Advanced Options**, should ONLY have **Log on to network** and **Enable software compression** checked.

■ Under **Allowed network protocols**, choose the protocol specified on the host.

When dialing, you MUST enter the data channel (directory number 2) & voice channel (directory number 1)numbers. For example, 5551212&5551211 (For long distance, include 1+area code on both numbers).

When I click the TEST button on the Configuration Manager, the I-Modem switch connectivity test fails and shows an INACTIVE physical interface or data link layer or both?

Follow the section in the I-Modem Command Reference manual that covers Configuring with AT commands.

My I-Modem will not answer a call. Why?

Check your modem to see if auto answer is enabled (ATS0=1)

or

Open a communications software program and send ATI12 to the modem. Verify you are dialing the data channel (*P2), instead of the voice channel (*P1).

When trying to use Configuration Manager or Hyperterminal, I get the message UNABLE TO OPEN COM PORT. Why?

There are four possible reasons:

1 The COM port is configured and is in use by RAS. You must stop RAS in order to access the port

2 Your RS232 serial cable may be defective.

3 Check in **Start** | **Settings** | **Control Panel** | **Modems** to confirm that your modem has been installed.

4 If you have an internal I-Modem make sure the card has been hard jumpered for the correct COM port and IRQ. For further instructions on how to hard jumper your modem, see the *I-Modem Getting Started Guide*.

How do I set up my I-Modem for clear channel synchronous mode with V.25bis dialing?

> *When you see "#" in the initialization string below you will have to look in the Command Reference Manual to determine the appropriate option for your configuration.*

1 Put dip switch 1 in the off (up) position.

2 Toggle the I-Modem's power.

3 Using the formula below and the Command Reference manual, construct an initialization string appropriate for your configuration.

```
AT&F&C1&D2&R0&S1&X0&M7%N#*V2=4&W
```

4 Set DIP switch 1 down (on). Power the modem off and connect it to the synchronous DTE port. Power the modem back on and wait for the NS light to turn solid green and test the configuration.

How do I set up my I-Modem to use 230K port speed?

For internal I-Modems, nothing needs to be done. The modem will automatically achieve 230K speed whenever possible.

For external I-Modems, a serial card that supports DTE speeds of 230kbps is necessary (UART 16650 or higher).

The INF file and INF installation instructions are located on this CD-ROM. Go to: CD-Rom Drive:\I-modem\Inf\

How do I configure I-Modem to I-Modem connections using Windows NT 4.0 on both ends?

	DIALING DEVICE (remote)	SERVER DEVICE
Modem Name	Courier I-Modem	Courier I-Modem
Operating System	Windows NT4.0	Windows NT4.0
INIT strings Enter this command in: 1. **Start** | **Settings** | **Control Panel** | **Modems** 2. Highlight your modem. CLick **Properties** 3. Select the **Connection** tab 4. Click **Advanced** | **Extra Settings**	AT&F1*V2=5*P=3S67=0D0=1	AT&F1*V2=5*P=3S67=0D0=1
Special Settings	Dial-Up Networking settings 1. Dial/receive calls 2. Clear Text 3. TCP/IP 4. Uncheck use other port if busy 5. Uncheck telephony dialing properties	RAS settings: 1. Allow Clear Text 2. Enable Multilink 3. Dial/receive calls 4. TCP/IP
Other Info	Must dial both telephone numbers as following: "DATA(s2)"&"VOICE(s1)" ie: 5551212&5551313	

How do I configure I-Modem to I-Modem connections using Windows 95 to Windows NT 4.0?

	DIALING DEVICE (remote)	SERVER DEVICE
Modem Name	Courier I-Modem	Courier I-Modem
Operating System	Windows 95	Windows NT4.0
INIT strings Enter this command: 1. **Start** | **Settings** | **Control Panel** | **Modems** 2. Highlight your modem. CLick **Properties** 3. Select the **Connection** tab 4. Click **Advanced** | **Extra Settings**	AT&F1*V2=5*P=3S67=0D0=1	AT&F1*V2=5*P=3S67=0D0=1
Special Settings	Dial-Up Networking settings 1. TCP/IP 2. Check logon to network	RAS settings: 1. Allow Clear Text 2. Enable Multilink 3. Dial/receive calls 4. TCP/IP
Other Info	Must dial both telephone numbers as following: "DATA(s2)"&"VOICE(s1)" ie: 5551212&5551313	