# VIKING 56K
# EXTERNAL MODEM
## (MAC & WINDOWS OS)

**USER'S GUIDE**

VIKING
COMPONENTS

Manual No. 1005258
Release 06/99, Rev B

SPEED • POWER • PERFORMANCE ®

# Table of Contents

# 1 Introduction

Congratulations on purchasing your Viking Components 56K External fax/modem for your computer. To turn your computer into a communications center, all you need is your Viking fax/modem and a standard analog phone line.

## Viking Components 56K External Modem Features & Specifications:

• 2Mb Flash supports V.90 & K56 Flex for maximum compatibility.

### DATA MODEM:

• V.90, K56 Flex, V.34 (33.6kbps), V.32bis, V.32, V.22bis, V.22, V.23 and V.21;
    Bell 212A and 103.
• V.42 LAPM, MNP2-4 and MNP10 Error Correction
• V.42bis and MNP5 data compression.

### FAX MODEM:

• V.17, V.29, V.27ter and V.21 channel 2.
• Supports DTE speeds of up to 230,400bps.
• Serial Interface is ITU-T, V.24 (EIA/TIA-232-E) compatible.
• Supports Caller ID and Distinctive Ring.

# 2 Before You Install

It is recommended to read any additional information in your system's "*Owner's Guide*" regarding external modems before continuing.

## System Requirements

**Computer:**
  • Any computer with a COM, SERIAL, MODEM or RS-232 port.

**Compatible Operating Systems:**
  • Mac OS 7.5.3 or Later
  • DOS, Windows 3.xx, Windows 95, Windows 98, Windows NT 4.0

**Computer Memory:**
  • 4MB

**Hard Disk Space:**
  • Less than 2MB

**Phone Line:**
  • Standard residential (analog) RJ-11

**Cable Interface:**

  • Mac version:         **Mini Din-9 Connector**

  • Windows† version:    **9-Pin Serial Connector**

**Note:** Cable interfaces are not interchangeable between Mac and Windows versions.

†25-pin cable interface available with the purchase of an adapter.

## Phone Line Requirements

The phone line required by the Viking Components fax/modem is an analog RJ-11. This is a standard residential phone line.

**Warning: Do not use a PBX or digital phone line. These phone lines may damage the Viking Components External fax/modem or phone equipment.**

PBX or digital lines are used by many businesses for their phone systems. To determine if the line you wish to use is analog, look on the jack or the phone. If it says "*analog*," "*computer*," "*data*" or "*modem*," it is an analog line. If you are in an office and the phone is not labeled, check with the phone system administrator. If you are in a hotel, call the hotel operator for more information.

## Communications Software requirements

Please refer to the communication software "*User Guide*" for additional system requirements for installing the communication software.
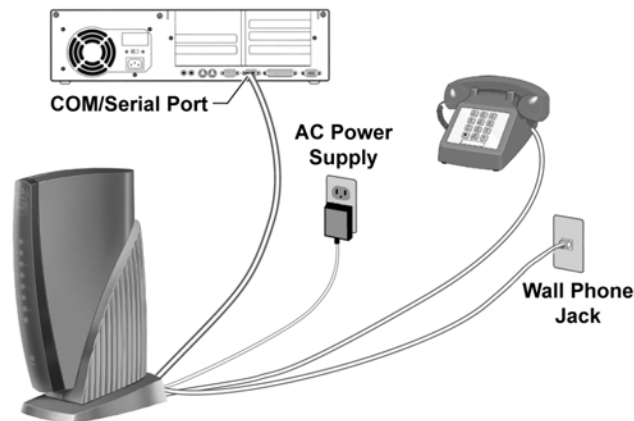
# 3 Installation

This chapter contains instructions on installing your Viking 56K External fax/modem.

## Hardware Installation

1. Turn off your computer and any attached devices, such as printers or external drives.

2. Locate the serial port on the back of your computer and connect it with the serial cable on the back of the external modem.

   **Windows Based Systems:** It may be marked COM, SERIAL, MODEM or RS-232. **Do not select AUX, GAME or PARALLEL port.** If you are not familiar with the location of these ports, your computer uses icons to mark its ports or there are no markings on any of the ports, please refer to your systems "*Owner's Guide*" for detailed instructions. The Viking external modem comes standard with a 9-pin connector on its serial cable to correspond with the majority of today's systems. If you computer has a 25-pin serial port, you will need to purchase a 9-pin male to 25-pin to female adapter.

   **Mac Based Systems:** Locate the external modem port on the back of your machine. Plug the corresponding connector on the serial cable into this port.
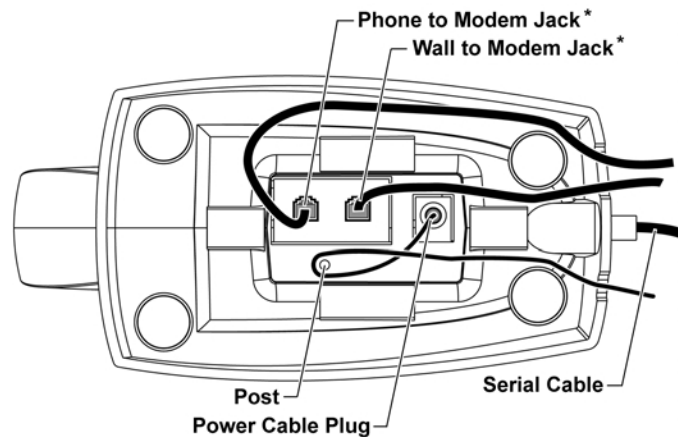
# Hardware Installation (Continued)

3. Plug the AC power adapter into a standard wall outlet. Also plug one end of the phone cord into a wall phone jack.

⚡ **Warning: The phone jack you use must be for an analog phone line. If you are in a office building, it may use digital phone lines. If you are not sure of the type of phone lines your office building has, contact your phone system administrator.**

4. Rest the modem on its side. Locate the two phone cord jacks toward the center of the bottom panel. These jacks are interchangeable when connecting the modem to a wall jack and a phone. Plug the available end of a phone cord into one of the jacks and the other end to the phone jack located on the wall. If you wish to use your modem and phone through the same wall phone jack, plug the cord from your phone into the remaining jack on the modem.

**Note:** You can not use the phone and the modem at the same time if they share the same phone line.



Phone to Modem Jack*
Wall to Modem Jack*
Post
Power Cable Plug
Serial Cable
*Interchangeable

# Hardware Installation (Continued)

5. Locate the AC power cable plug. Plug the cable from the AC power supply in and rap it around the post, so that the power cable crosses and exists out the back panel, as shown in the illustration on the previous page.

6. Return the modem right-side up and turn it on by the power switch located on the modem's back spin above the serial cable.



7. Turn on your computer and any attached devices.

Your hardware setup in now complete. To complete the setup of your modem, please proceed to the section "*Software Installation*" in this guide.

# Software Installation

Once the Viking fax/modem is installed, you will need to install the software necessary to communicate with the fax/modem. This section will cover the steps necessary to configure each of the operating systems. It includes instructions for the following operating systems:

• Mac OS 7.5.3 or Later
• Windows 95
• Windows 98
• Windows NT 4.0

## Mac OS 7.5.3 or Later:

1. Insert the "*Viking Modem Companion Software*" CD into your computer's CD-ROM drive. Once the CD appears on your system's desktop, double-click on its icon to open. Locate the "*Viking Modem Installer*" icon on the CD and double-click on it to launch.



Viking Modem Installer

**Note:** If the CD can not be located, the drivers can be downloaded from the Viking Components Web site at: *www.vikingcomponents.com*

3. Select "*Viking 56K External Modem*" by clicking on its button. Then click the "*Install*" button to begin the driver installation.
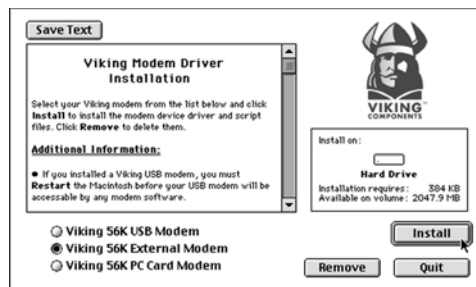
## Mac OS 7.5.3 or Later (Continued):

4. Once the driver installation is done, click the "*Quit*" button to leave the installer.

5. Click the "*Restart*" button to restart your system.

6. From the Apple (🍎) menu, select "*Control Panel*" and then choose "*Modem*." Next to "*Connect via:*" the "*Modem Port*" should be listed. Locate the "*Modem:*" pop-up menu in the "*Setup*" section.  If your Internet Service Provider (ISP) supports 56KFlex and V.90, select "*Viking 56k_v90*."  For ISP's that only support 56KFlex, select "*Viking force 56kflex*."  Then close the "*Modem*" control panel and click the "*Save*" button.
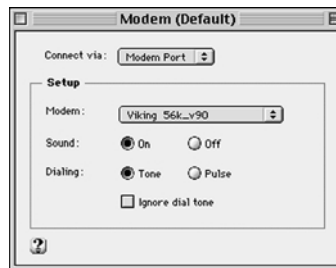
**Note:** If you experience problems connecting to your Internet Service Provider (ISP) with the supplied modem script, try contacting your ISP for further instructions or go to the Viking Components Web site for updated modem scripts.

Your driver installation is now complete.

# MacComCenter Communication Software

1. Insert the "*Viking Modem Companion Software*" CD in your computer's CD-ROM drive.  Once the CD appears on your system's desktop, double-click on its icon to open.  Locate the "*MacComCenter*" icon on the CD and double-click on it to launch.
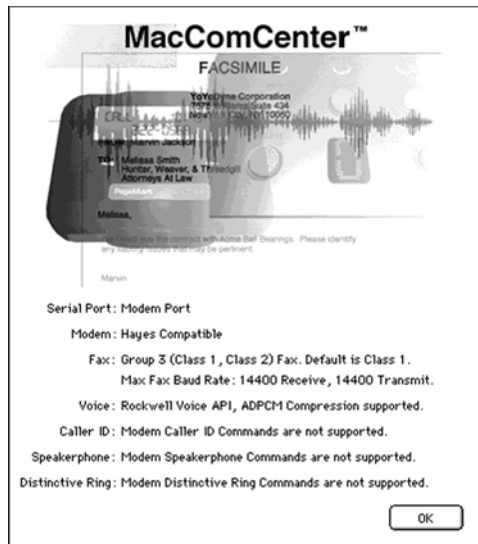


MacComCenter™

2. In the "*MacComCenter*" window, the "*Modem Port*" should be selected in the "*What serial port should MacComCenter use:*" pop-up menu.  Click the "*Install*" button to begin the communication software installation.
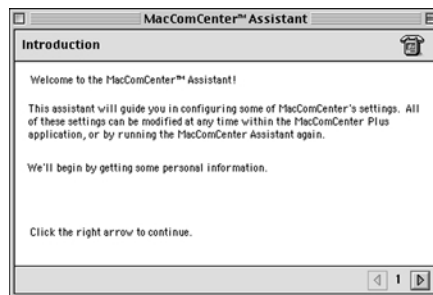
# MacComCenter Communication Software (Continued)

3. Once the software for MacComCenter has been loaded, a modem description window will appear. Click the "*OK*" button to continue with the software setup.



4. The "*MacComCenter Assistant*" will guide you through the rest of the setup procedure. Follow the onscreen instructions until the setup has been completed.



Your MacComCenter software installation is now complete.

## Remote Access/Mac PPP Setup

1. From the Apple menu, select "*Control Panel*" and then choose "*TCP/IP*." From the "*Connect Via*" pop-up menu, choose "*PPP*." From the "*Configure*" pop-up menu, choose "*PPP Server*." In the text box labeled "*IP Address*," enter the IP address given to you by your ISP. In the text box labeled "*Domain Name*," enter the domain name given to you by your ISP. Close the "*TCP/IP*" control panel and click "*Save*."

2. From the Apple menu, select "*Control Panel*" and then choose "*Remote Access/PPP*." Enter your user name, password and phone number in their appropriate text fields.

Your software installation and setup is now complete.

## Free PPP Setup

The Viking Apple Modem Script is not required for this setup. This setup is for version 2.6.2 of Free PPP.

1. Double-click the "*Free PPP Setup*" application.

2. Click the small arrow at the bottom left of the window for the pop-up menu. Choose "*General*" from the pop-up menu and click the checkbox "*Disconnect If Idle*" to disable.

3. Choose "*Accounts*" from the pop-up menu and click "*New*." Complete all text fields under "*Account*" and "*Dialup*." Then click "*OK*."

4. Choose "*Modems*" from the pop-up menu and click "*New*." Give the modem a name. Select a modem from "*Connected To*." Set the port speed to 115200. Add the AT Command: *AT&FW2+MS=12,1* to the init string setting for V.90 preferred and click "*OK*."

5. Click "*Open TCP/IP*." The "*Connect Via*" pop-up menu should have "*Free PPP*" chosen and the "*Configure*" pop-up menu should have "*PPP Server*" chosen. Complete the text fields "*Server Address*" and "*Search Domains*." Close and click "*Save*."

Your software installation and setup is now complete.

# Windows 95 Software:

1. After the boot sequence, you will be prompted with the "*New Hardware Found*" message. Click on the "*OK*" button.

2. The "*Update Device Wizard*" window will appear. The device found should read: "*56Modem*." Insert the Viking modem driver diskette that was supplied with your modem into the floppy drive. (If the diskette was not included or lost, the drivers can be downloaded from our Web site.) Then click on the "*Next*" button.



3. Your system will retrieve the necessary drives off the driver diskette. Note that the "*Device Found*" has changed from "*56Modem*" to the "*Viking V.90+K56Flex EXT PnP Modem*." Then click on the "*Finish*" button.



Your installation is now complete.

# Windows 98 Software:

1. You will be prompted with the "*New Hardware Found*" message. Then "*Add New Hardware Wizard*" window will appear. A message in the window will read "*This wizard searches for new drivers for: 56Modem.*" Click on the "*Next*" button.



2. A new message inside the "*Add New Hardware Wizard*" window will read "*What do you want Windows to do?*" Select "*Search for the best driver for your device. (Recommended).*" Then click on the "*Next*" button.

# Windows 98 Software (Continued):

3. The next message that should appear in the "*Add New Hardware Wizard*" is "*Windows will search for new drivers in its driver database on your hard drive, and in any of the following selected locations. Click Next to start the search.*" Select "*Floppy disk drives.*" Insert the Viking modem driver diskette that was supplied with your modem into the floppy drive. (If the diskette was not included or lost, the drivers can be downloaded from our Web site). Then click on the "*Next*" button.



4. The next message should read "*Windows driver file search for the device: Viking V.90+K56Flex EXT PnP Modem.*" The bottom of the window will show your drive A:\ or diskette drive as the location of the modems driver. The driver listed should read, "*MDMVEXT.INF.*" Click on the "*Next*" button.

# Windows 98 Software (Continued):

5. The final message in the "*Add New Hardware Wizard*" should show your new Viking modem "*Viking V.90+K56Flex EXT PnP Modem*" the top. A message "*Windows has finished installing the software that your new hardware device requires*" should also appear. Click on the "*Finish*" button.
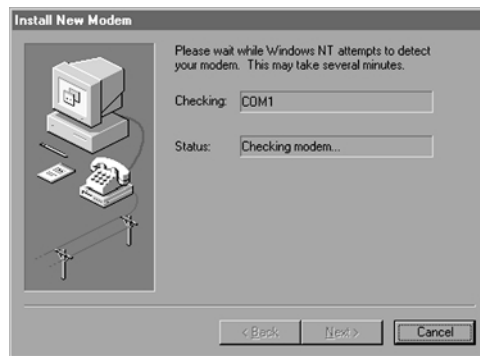


Your installation is now complete.

# Windows NT 4.0:

1. From the "*Start*" button on your desktop, select "*Settings*" and then "*Control Panel*."
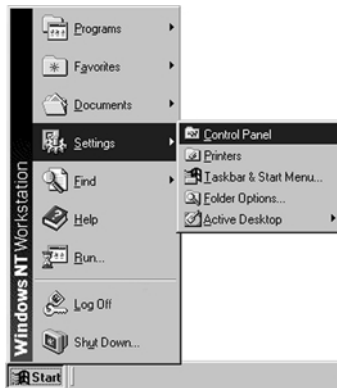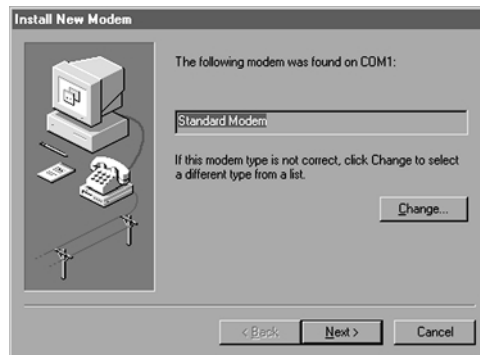


2. Click on the "*Modems*" icon. The "*Install New Modem*" window will appear. You should receive a message "*Please wait while Windows NT attempts to detect your modem*."
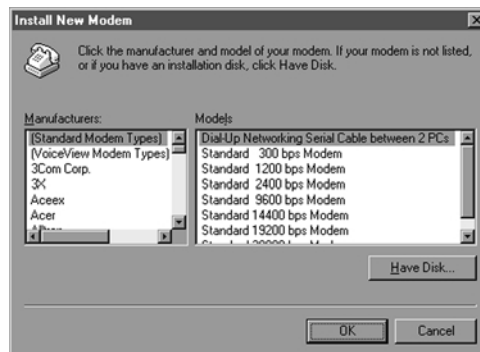
# Windows NT 4.0 (Continued):

3. You will receive a message that a "*Standard Modem*" was found.  Click on the "*Change*" button to load the correct modem and drivers.
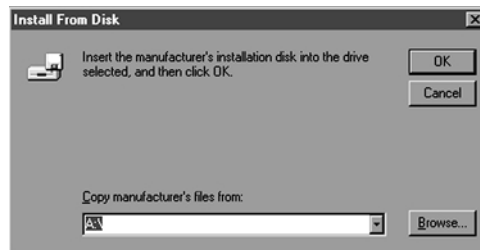


4. A window will appear showing a list of Manufacturers and Models.  Click on the "*Have Disk*" button.

# Windows NT 4.0 (Continued):

5. Insert the diver diskette that was included with your modem. (If the diskette was not included or lost, the drivers can be downloaded from our Web site) Select your floppy diskette drive at the bottom of the window and click on the "*OK*" button.
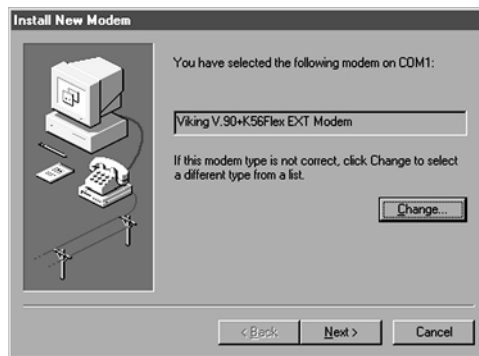
6. Select the "*Viking V.90+K56Flex EXT Modem*" below the "*Models*" section on the window. Then click on the "*OK*" button.
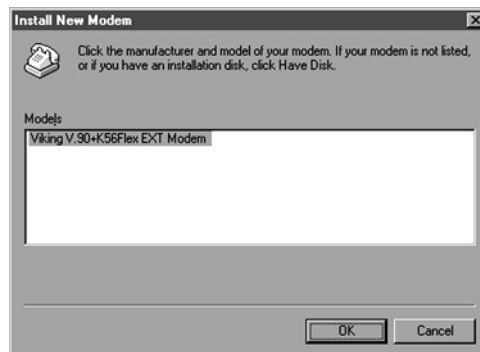
# Windows NT 4.0 (Continued):

7. The next window will show the selected modem has changed from "*Standard Modem*" to "*Viking V.90+K56Flex EXT Modem*." Click on the "*Next*" button.

8. Complete the information needed under the "*Location Information*" window. Then click on the "*Next*" button.

# Windows NT 4.0 (Continued):

9. The "*Modem Properties*" window will appear. To view and/or change your new modems dialing properties, first select the "*Viking V.90+K56Flex EXT Modem*" under the modem section of this window. Then click on the "*Dialing Properties*" button. Make any changes needed. Click on the "*Close*" button.

Your installation is now complete.

# Using Data and Fax Communication Software

Usually, most communication software installation programs will automatically detect your Viking fax/modem and preform the appropriate configurations.  In some cases, you may find it necessary to configure the software so it can send the appropriate commands to the fax/modem.

Although most applications have many different modems already programmed into the software application, sometimes you may not be able to find the exact match for your modem.  For the best compatibility, select a Hayes Compatible modem from the list of modems.  If this is unavailable, change the modem initialization string.  To change the string, please see the section below.

# Changing the modem Initialization String

If you can not find a matching modem listed, you can modify the modem initialization string.  Please refer to the data and communication software *"User's Guide"* for details on making this change.  The best initialization string to use is:

      AT&F&C1&D2

# 4 Technical Notes

This chapter covers the definitions of the status lights on the front of your exter-nal modem, the COM port and IRQ settings, and information necessary when the system does not automatically configure the fax/modem properly.

## Status Light Definitions
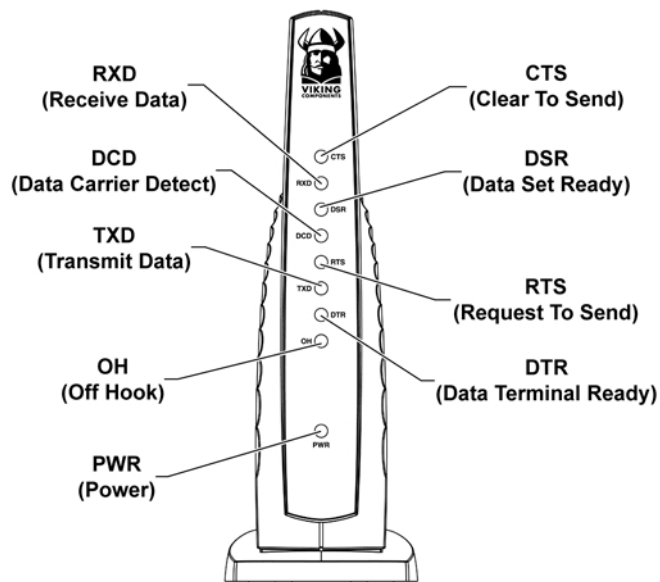
# Windows 95 & 98 COM Ports and IRQ Settings

## Identifying COM Port Settings

1. Click on the *"Start"* button and select *"Settings,"* then *"Control Panel."*

2. In the *"Control Panel,"* double click on the *"System"* icon.

3. Click on the *"Device Manager"* tab.

4. In the *"Device Manager,"* double click on *"Ports (COM & LPT)"* to expand it.

5. Highlight the Fax/Modem and then click on the *"Properties"* button.

6. Select the *"Modem"* tab.

7. Make a note of the port currently used by the modem.

8. Click on the *"Cancel"* button.

## Changing the IRQ Settings

1. Click on the *"Start"* button and select *"Settings,"* then *"Control Panel."*

2. In the *"Control Panel,"* double click on the *"System"* icon.

3. Click on the *"Device Manager"* tab.

4. In the *"Device Manager,"* double click on *"Ports (COM & LPT)"* to expand it.

5. Select the *"Communication Port"* being used by your Viking external modem. Refer to the previous section *"Identifying COM Port Settings"* if you do not know which port the modem is using.

6. Click on the *"Properties"* button.

7. Click on the *"Resources"* tab.

8. Deselect *"Use Automatic Settings."*

9. Select *"Basic Configurations"* at the *"Settings Based on"* pulldown menu. The setting you choose must show *"No Conflicts"* in the *"Conflicting Device List."*

10. Then click on the *"OK"* button.

# 5 Troubleshooting

This chapter will cover some solutions to some common problems you may experience when installing your Viking PC Card modem. Some solutions may not apply to your operating system or may not be listed. If your problem is not answered in the following sections, please proceed to page 39, on contacting Viking for support. For software problems, please refer to the communication software "*User Guide*" for solutions.

## General

| Problem | Solution |
|---|---|
| Modem does not respond, modem communication error or modem not found. | • Did you select the correct modem type? If the Viking modem is not listed, try a Hayes compatible modem. |
| | • Is the COM/Serial cable completely plugged into its port and are all of the connections secure? |
| | • Check your computer's BIOS setup. You may need to disable a built-in COM port to prevent conflict. |
| | • Is your operating system set to the correct Com port and IRQ? Please refer to chapter 4, "*Technical Notes*" for detailed information. |
| | • Did you select the correct COM port? Usually, the communication software selects the COM port automatically during installation. Be sure that the COM port setting in your communication software matches the setting used in your "*Card and Socket Services*" software. |
| | • Check your computer for conflicting COM port settings. |
| | • Does your system recognize your Viking external modem? |
| | • If the modem stop after the computer enters power-saving mode, disabling this feature is recommended. |

# General (Continued)

| Problem | Solution |
|---|---|
| Modem cables do not fit. | • Be sure that you have the correct pin count on the cable connector.<br><br>• Check the pins inside the connector to make sure none of them are damaged or bent. |
| Can not hear the speaker or the modem. | • Is the computer's speaker turned on?<br><br>• Do you need to increase the speaker volume?<br><br>• Add L3 to Init. string. |
| Modem does not dial or it dials incorrectly. | • Are you cable and phone line connections secure?<br><br>• Is there another phone extension on the same line in use?<br><br>• Are you using a standard analog phone line? Digital phone line will not work with this modem.<br><br>• Is the telephone number correct?<br><br>• Did you enter a "1" before the area code when dialing long distance?<br><br>• Are you required to enter a prefix, such as a "9" in your settings.<br><br>• Is the other line busy or not answering? Make sure it is available before calling. |
| Modem does not fax | • Did you select the correct fax class? Check your software, select another fax class and try again.<br><br>• Do you have another communications program open? If so, close it.<br><br>• Did you select the correct printer in your application? For example, fax/modem. |

# General (Continued)

| Problem | Solution |
| --- | --- |
| No Dial Tone message | • Are all of the cable connections secure?<br><br>• Is the phone line in use by someone else?<br><br>• Are you using a standard analog phone line?<br><br>• Test the line by connecting a standard phone and listening for a dial tone.<br><br>• Change software to use new modem. |
| How can I change the speaker volume on the modem? | • The volume can be changed through AT Commands. Use the following AT Commands to change the volume levels:<br><br>ATL0    Set lowest speaker volume<br>ATL1    Set low speaker volume<br>ATL2    Set medium speaker volume<br>ATL3    Set high speaker volume<br>ATM0    Turn speaker off<br>ATM1    Turn speaker on during handshaking and while receiving carrier<br>ATM2    Turn speaker on during handshaking and while receiving carrier.<br>ATM3    Turn speaker off during dialing and receiving carrier and turn speaker on during answering. |

# Mac OS 7.5.3 or Later

• If your modem has difficulty operating, verify the modem settings. In the example below we have entered only the pertinent information. To access this screen, simply open the hard drive and go into the MacComCenter folder. Click on the "*MCC Terminal*" icon. Once it is open, go into "*Setup/Modem*" and verify the following settings.
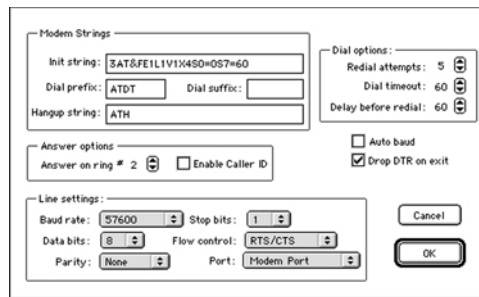


## CONNECTION SCRIPTS (Mac OS 7.6 or Later):

1. Copy the "*Viking 56k/V.90 Modem*" script to the "*Modem Scripts*" folder, in the "*Extensions*" folder.

2. To access it, go to the "*Control Panel*" and select "*Modem*." Then select "*Viking 56K/V.90Modem*."

3. Close out of the "*Modem Script Control Panel*" and select "*Save*."

# 6 Basic AT Commands

From terminal mode or command line, AT commands allow you to control your modem. If you are using your communications software to operate your modem, the software menus configure the AT commands. Follow the instructions in this chapter, to operate your modem directly from the terminal mode.

## Guidelines

"*AT*" precedes most commands. Enter the AT commands exactly as they appear in the following Command column. The commands can be type in either upper or lower case letters, but cases should not be mixed. There can be up to a total of 40 characters in one command and spaces are not necessary. To activate a complete command string, press the "*Enter*" key.

## Basic AT Command Set

| Command | Function |
|---------|----------|
| A/ | Re-execute command. |
| A | Go off-hook and attempt to answer a call. |
| B0 | Select V.22 connection at 1200 bps. |
| B1 | Select Bell 212A connection at 1200 bps. |
| C1 | Return OK message. |
| Dn | Dial modifier. |
| E0 | Turn off command echo. |
| E1 | Turn on command echo. |
| H0 | Initiate a hang-up sequence. |
| H1 | If on-hook, go off-hook and enter command mode. |
| I0 | Report product code. |
| I1 | Report pre-computed. |
| I2 | Report OK. |

# Basic AT Command Set (Continued)

| Command | Function |
|---|---|
| I3 | Report firmware revision, model, and interface type. |
| I4 | Report response programmed by an OEM. |
| I5 | Report the country code parameter. |
| I6 | Report modem data pump model and code revision. |
| I7 | Reports the DAA code (W-class models only). |
| L0 | Set low speaker volume. |
| L1 | Set low speaker volume. |
| L2 | Set medium speaker volume. |
| L3 | Set high speaker volume. |
| M0 | Turn speaker off. |
| M1 | Turn speaker on during handshaking and turn off while receiving carrier. |
| M2 | Turn speaker on during handshaking and while receiving carrier. |
| M3 | Turn speaker off during dialing and receiving carrier and turn speaker on during answering. |
| N0 | Turn off automode detection. |
| N1 | Turn on automode detection. |
| O0 | Go on-line. |
| O1 | Go on-line and initiate a retrain sequence. |
| P | Force pulse dialing. |
| Q0 | Allow result codes to DTE. |
| Q1 | Inhibit result codes to DTE. |
| Sn | Select S-Register as default. |
| Sn? | Return the value of S-Register. |
| =v | Set default S-Register to value v. |
| ? | Return the value of default S-Register. |
| T | Force DTMF dialing. |
| V0 | Report short form (terse) result codes. |
| V1 | Report long form (verbose) result codes. |
| W0 | Report DTE speed in EC mode. |
| W1 | Report line speed, EC protocol and DTE speed. |
| W2 | Report DCE speed in EC mode. |
| X0 | Report basic call progress result codes, i.e., OK, CONNECT, RING, NO CARRIER (also, for busy, if enabled, and dial tone not detected), NO ANSWER and ERROR. |

# Basic AT Command Set (Continued)

## Command　　　Function

| Command | Function |
| --- | --- |
| X1 | Report basic call progress result codes and connections speeds (OK, CONNECT, RING, NO CARRIER (also, for busy, if enabled, and dial tone detected), NO ANSWER, CONNECT XXXX, and ERROR. |
| X2 | Report basic call progress result codes and connections speeds, i.e., OK, CONNECT, RING, NO CARRIER (also, for busy, if enabled, and dial tone not detected), No ANSWER, CONNECT XXXX, and ERROR. |
| X3 | Report basic call progress result codes and connection rate, i.e., OK, CONNECT, RING, NO CARRIER, NO ANSWER, CONNECT XXXX, BUSY, NO DIAL TONE and ERROR. |
| X4 | Report all call progress result codes and connection rate, i.e., OK, CONNECT, RING, NO CARRIER, NO ANSWER, CONNECT XXXX, BUSY, NO DIAL TONE and ERROR. |
| Y0 | Disable long space disconnect before on-hook. |
| Y1 | Enable long space disconnect before on-hook. |
| Z0 | Restore stored profile 0 after warm reset. |
| Z1 | Restore stored profile 1 after warm reset. |
| &C0 | Force RLSD active regardless of the carrier state. |
| &C1 | Allow RLSD to follow the carrier state. |
| &D0 | Interpret DTR ON-to-OFF transition per &Qn: <br> &Q0, &Q5, &Q6 The modem ignores DTR. <br> &Q1, &Q4 The modem hangs up. <br> &Q2, &Q3 The modem hangs up. |
| &D1 | Interpret DTR ON-to-OFF transition per &Qn: <br> &Q0, &Q1, &Q4,. <br> &Q5, &Q6 Asynchronous escape. <br> &Q2, &Q3 The modem hangs up. |
| &D2 | Interpret DTR ON-to-OFF transition per &Qn: <br> &Q0 through &Q6 The modem hangs up. |
| &D3 | Interpret DTR ON-to-OFF transition per &Qn: <br> &Q0, &Q1, &Q4,. <br> &Q5, &Q6 The modem performs soft reset. <br> &Q2, &Q3 The modem hangs up. |
| &F0 | Restore factory configuration 0. |
| &F1 | Restore factory configuration 1. |

# Basic AT Command Set (Continued)

| Command | Function |
| --- | --- |
| &G0 | Disable guard tone. |
| &G1 | Disable guard tone. |
| &G2 | Enable 1800 Hz tone. |
| &J0 | Set S-Register response only for compatibility. |
| &J1 | Set S-Register response only for compatibility. |
| &K0 | Disable DTE/DCE flow control. |
| &K3 | Enable RTS/CTS DTE/DCE flow control. |
| &K4 | Enable XON/XOFF DTE/DCE flow control. |
| &K5 | Enable transparent XON/XOFF flow control. |
| &K6 | Enable both RTS/CTS and XON/XOFF flow control. |
| &L0 | Select dial up line operation. |
| &L1 | Select leased line operation. |
| &M0 | Select direct asynchronous mode. |
| &M1 | Select sync connect with async off-line command mode.* |
| &M2 | Select sync connect with async off-line command mode and enable DTR of directory zero.* |
| &M3 | Select sync connect with async off-line command mode and enable DTR to act as Talk/Data switch.* |
| &P0 | Set 10 pps pulse dial with 39%/61% make/break. |
| &P1 | Set 10 pps pulse dial with 33%/67% make/break. |
| &P2 | Set 20 pps pulse dial with 39%/61% make/break. |
| &P3 | Set 20 pps pulse dial with 33%/67% make/break. |
| &Q0 | Select direct asynchronous mode. |
| &Q1 | Select sync connect with async off-line command mode.* |
| &Q2 | Select sync connect with async off-line command mode and enable DTR dialing of directory zero.* |
| &Q3 | Select sync connect with async off-line command mode and enable DTR to act as Talk/Data switch.* |
| &Q4 | Select Hayes AutoSync mode. |
| &Q5 | Modem negotiates an error corrected link. |
| &Q6 | Select asynchronous operation in normal mode. |
| &R0 | CTS tracks RTS (async) or acts per V.25 (sync). |
| &R1 | CTS is always active. |
| &S0 | DSR is always active. |
| &S1 | DSR acts per V.25. |
| &T0 | Terminate any test in progress. |

*Serial Interface operation only.

# Basic AT Command Set (Continued)

## Command        Function

| Command | Function |
|---------|----------|
| &T1 | Initiate local analog loopback. |
| &T2 | Returns ERROR result code. |
| &T3 | Initiate local digital loopback. |
| &T4 | Allow remote digital loopback. |
| &T5 | Disallow remote digital loopback request. |
| &T6 | Request an RDL without self-test. |
| &T7 | Request an RDL with self-test. |
| &T8 | Initiate local analog loop with self-test. |
| &V | Display current configurations. |
| &W0 | Store the active profile in NVRAM profile 0. |
| &W1 | Store the active profile in NVRAM profile 1. |
| &X0 | Select internal timing for the transmit clock. |
| &X1 | Select external timing for the transmit clock. |
| &X2 | Select slave receive timing for the transmit clock. |
| &Y0 | Recall stored profile 0 upon power up. |
| &Y1 | Recall stored profile 1 upon power up. |
| &Zn=x | Store dial string x (to 35) to location n (0 to 3). |
| %E0 | Disable line quality monitor and auto retrain. |
| %E1 | Enable line quality monitor and auto retrain. |
| %E2 | Enable line quality monitor and fallback/fall forward. |
| %L | Return received line signal level. |
| %Q | Report the line signal quality. |
| %TTn | PTT certification test signals. |
| \Kn | Controls break handling during three states: |

When modem receives a break from the DTE:

| Command | Function |
|---------|----------|
| \K0,2,4 | Enter on-line command mode, no break sent to the remote modem. |
| \K1 | Clear buffers and send break to remote modem. |
| \K3 | Send break to remote modem immediately. |
| \K5 | Send break to remote modem in sequence with transmitted data. |

When modem receives \B in on-line command state:

| Command | Function |
|---------|----------|
| \K0,1 | Clear buffers and send break to remote modem. |
| \K2,3 | Send break to remote modem immediately. |
| \K4,5 | Send break to remote modem in sequence with transmitted data. |

# Basic AT Command Set (Continued)

### Command     Function

When modem receives break from the remote modem:

| Command | Function |
|---|---|
| \K0,1 | Clear data buffers and send break to DTE. |
| \K2,3 | Send a break immediately to DTE. |
| \K4,5 | Send a break with received data to the DTE. |
| \N0 | Select normal speed buffered mode. |
| \N1 | Select direct mode. |
| \N2 | Select reliable link mode. |
| \N3 | Select auto reliable mode. |
| \N4 | Force LAPM mode. |
| \N5 | Force MNP mode. |
| +MS | Select modulation. |
| +H0 | Disable RPI. |
| +H1 | Enable RPI and set DTE speed to 19200 bps. |
| +H2 | Enable RPI and set DTE speed to 38400 bps. |
| +H3 | Enable RPI and set DTE speed to 57600 bps. |
| **0 | Download to flash memory at last sensed speed. |
| **1 | Download to flash memory at 38.4 bps. |
| **2 | Download to flash memory at 57.6 bps. |
| -SDR=0 | Disable Distinctive Ring. |
| -SDR=1 | Enable Distinctive Ring Type 1. |
| -SDR=2 | Enable Distinctive Ring Type 2. |
| -SDR=3 | Enable Distinctive Ring Type 1 and 2. |
| -SDR=4 | Enable Distinctive Ring Type 3. |
| -SDR=5 | Enable Distinctive Ring Type 1 and 3. |
| -SDR=6 | Enable Distinctive Ring Type 2 and 3. |
| -SDR=7 | Enable Distinctive Ring Type 1,2 and 3. |
| -SSE=0 | Disable DSVD. |
| -SSE=1 | Enable DSVD. |

# ECC Commands

**Command**     **Function**

%C0          Disable data compression.
%C1          Enable MNP 5 data compression.
%C2          Enable V.42 bis data compression.
%C3          Enable both V.42 and MNP 5 compression.

\A0          Set maximum block size in MNP to 64.
\A1          Set maximum block size in MNP to 128.
\A2          Set maximum block size in MNP to 192.
\A3          Set maximum block size in MNP to 256.
\Bn          Send break of n x 100 ms.

# MNP 10 Commands

**Command**     **Function**

)M0          Disable MNP 10 link negotiation power adjustment.
)M1          Enable MNP 10 link negotiation power adjustment.
)M2          Enable cellular mode without power level adjustment during MNP link
             negotiation.

*H0          Select MNP 10 link negotiation at highest rate.
*H1          Select MNP 10 link negotiation at 1200 bps.
*H2          Select MNP 10 link negotiation at 4800 bps.

-K0          Disable MNP 10 extended services.
-K1          Enable MNP 10 extended services.
-K2          Enable MNP 10 extended services detection only.
-Q0          Disable MNP 10 fallback to 2400 bps (V.22 bis)/1200 bps (V.22).
-Q1          Enable MNP 10 fallback to 2400 bps (V.22 bis)/1200 bps (V.22).
-SEC=0       Disable MNP10-EC.
-SEC=1,[<tx level>]

             Disable MNP10-EC and set transmit level <tx level> 0 to 30 (0 dBm to -30
             dBm).

# MNP 10 Commands (Continued)

**Command**          **Function**

@M0                  Select initial transmit level of -26 dBm.
@M1                  Select initial transmit level of -30 dBm.
@M2                  Select initial transmit level of -10 dBm.
@M3 - @M10           Select initial transmit level of -10 dBm.
@M11                 Select initial transmit level of -11 dBm.
@M12                 Select initial transmit level of -12 dBm.
@M30                 Select initial transmit level of -30 dBm.

:E0                  Disable the compromise equalizer.
:E1                  Enable the compromise equalizer.

# W-Class Commands

**Command**          **Function**

*B                   Display list of permanently blacklisted numbers.
*D                   Display list of delayed numbers.
*NCn                 Change country to one of eight NVRAM.

# Caller ID Commands

**Command**          **Function**

#CID=0               Disable Caller ID.
#CID=1               Enable Caller ID with formatted presentation.
#CID=2               Enable Caller ID with unformatted presentation.

# Fax Class 1

## Command     Function

| Command | Function |
|---|---|
| +FCLASS=n | Service class. |
| +FAE=n | Data/fax auto answer. |
| +FRH=n | Receive data with HDLC framing. |
| +FRM=n | Receive data. |
| +FRS=n | Receive silence. |
| +FTH=n | Transmit data with HDLC framing. |
| +FTM=n | Transmit data. |
| +FTS=n | Stop transmission and wait. |

# Fax Class 2

## Command     Function

| Command | Function |
|---|---|
| +FCLASS=n | Service class. |
| +FAA=n | Adaptive answer. |
| +FAXERR | Fax error value. |
| +FBOR | Phase C data bit order. |
| +FBUF? | Buffer size (read only). |
| +FCFR | Indicate confirmation to receive. |
| +FCLASS= | Service class. |
| +FCON | Facsimile connection response. |
| +FCIG | Set the polled station identification. |
| +FCIG: | Report the polled station identification. |
| +FCR | Capability to receive. |
| +FCR= | Capability to receive. |
| +FCSI: | Report the called station ID. |
| +FDCC= | DCE capabilities parameters. |
| +FDCS: | Report current session. |
| +FDCS= | Current session results. |
| +FDIS: | Report remote capabilities. |
| +FDIS= | Current sessions parameters. |
| +FDR | Begin or continue phase C receive data. |
| +FDT= | Data transmission. |
| +FDTC: | Report the polled station capabilities. |
| +FET: | Post page message response. |

# Fax Class 2 (Continued)

## Command          Function

| Command | Function |
|---|---|
| +FET=N | Transmit page punctuation. |
| +FHNG | Call termination with status. |
| +FK | Session termination. |
| +FLID= | Local ID string. |
| +FLPL | Document for polling. |
| +FMDL? | Identify model. |
| +FMFR? | Identify manufacturer. |
| +FPHCTO | Phase C time out. |
| +FPOLL | Indicates polling request. |
| +FPTS: | Page transfer status. |
| +FPTS= | Page transfer status. |
| +FREV? | Identify revision. |
| +FSPL | Enable polling. |
| +FTSI: | Report the transmit station ID. |

# 7 Modem Driver & Firmware Upgrades

Your Viking External modem can be upgraded by updating its drivers and through firmware upgrades. These upgrades can be downloaded from Viking Components Web page at:

**http://www.vikingcomponents.com**

Once you have reached Viking's Web site, select "*Support*." Then select "*Software*" and finally select "*Viking Components External Modems*." Scroll down to your modem and select the file you wish to upgrade your modem with.

**Note:** If you unfamiliar with driver updates and firmware upgrades, it is recommended to contact our Technical Support Department before starting these procedures. If the modem is upgraded incorrectly, it can be damaged. For information on contact Technical Support, please proceed to Chapter 8, page 39.

# 8 Contacting Technical Support

If your questions have not been answered or if you are unable to solve a problem with your modem by using this guide, Viking Components has Technical Support available 7 days a week and 24 hours a day.

Before calling Technical Support, please prepare to have the following available:

• Modem part number or Viking bar code on the modem.
• Machine type.
• Operating system.
• Detailed descriptions of question or problem.

<div align="center">

Viking Components Technical Support
Phone Number: **888-801-9181**
E-mail: **techsupport@vikingcomponents.com**

</div>

# 9 Communication Regulations

## INDUSTRY CANADA (IC) NOTICE:

"**NOTICE:** The Industry Canada (IC) label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements documents(s). The department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by a user to this equipment, or equipment malfunctions, may give the telephone communications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection, that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

**Caution:** Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate."

"**NOTICE:** The Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the device does not exceed 5."

REN: 1.0B

# PART 68 REQUIREMENTS:

This equipment complies with Part 68 of the FCC Rules. On this equipment there is a label that contains, among other information, the FCC Registration Number and Ringer Equivalence Number (REN) for this equipment. You must, upon request, provide this information to your telephone company.

This equipment uses RJ11 jack.

An FCC compliant telephone cord and modular plug are provided with this equipment. This equipment is designed to be connected to the telephone network or premises wiring using a compatible modular jack which is Part 68 compliant. See installation instructions for details.

The REN is useful to determine the quantity of devices you may connect to your telephone line and still have all those devices ring when your telephone number is called. In most, but not all areas, the sum of all the REN's of all devices connected to one line should not exceed five (5.0). To be certain of the number of devices you may connect to your line, as determined by the REN, you should contact your local telephone company to determine the maximum REN for your calling area.

If your telephone equipment causes harm to the telephone network, the telephone company may discontinue your service temporarily. If possible, they will notify you in advance. But if advance notice is not practical, you will be notified as soon as possible. You will be informed of your right to file a complaint with the FCC.

Your telephone company may make changes in its facilities, equipment, operations or procedures that could affect the proper functioning of your equipment. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service.

If you experience trouble with this telephone equipment, please contact Viking Components, Inc., Customer Support at 888-801-9181 for information on obtaining service or repairs. The telephone company may ask that you disconnect this equipment from the network until the problem has been corrected or until you are sure that the equipment is not malfunctioning.

# PART 68 REQUIREMENTS (Continued):

This equipment may not be used on coin service provided by the telephone company. Connection to party lines is subject to state tariffs.

The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device, including fax machines, to send any message unless such message clearly contains a margin at the top or bottom of each transmitted page or on the first page of the Transmission, the date and time it is sent and an identification of the business or other entity, or other individual sending the message and the telephone number of the sending machine or such business, or entity, or individual. (The telephone number provided may not be a 900 number or any the number for which charges exceeds local or long-distance transmission charges.)

In order to program this information into your fax software, you should complete the steps described in the communications software manual.

# 10 Warranty & Disclaimers

## 5 YEAR WARRANTY

**All Viking Components products have been thoroughly tested free of defects in material and workmanship. If any malfunction should occur while used in its recommended environment, Viking, at its option, will repair or replace this product at no charge, provided the product or any part thereof has not been abused, misused, neglected, replaced, repaired or modified. Viking shall make the final determination as to the existence and cause of any defect.** Viking will not repair or replace products designated as having a *"Limited Lifetime"* which fail solely because their estimated life has expired. No warranty is made with respect to customer products produced to original purchaser specifications except as specifically stated in writing by Viking.

**All shipping costs shall be the responsibility of the purchaser.**

Except as provided herein, there are no express or implied warranties of merchantability or fitness for a particular purpose. Under no circumstances will Viking Components be liable in any way to any purchaser for any damages, including but not limited to lost revenue, lost wage, or any other incidental or consequential damages arising out of the use of or inability to use this product. **Viking reserves the right to make modifications in both hardware and software without prior notifications.**

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