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Printed in the U.S.A

Introducing the Com.plete PC Card

Introduction

The Com.plete™ PC Card is a unique, state-of-the-art, fully integrated, single Type III PC Card module for sending and receiving data, fax and voice communications over the Advanced Mobile Phone System (AMPS) cellular network as well as over conventional land-based phone network. The cellular phone and fax/modem are optimally matched and integrated into a single PC Card which means there is **no need to connect the Com.plete PC Card to any external device, it is a cellular phone**. The result is an elimination of the compatibility problems which usually arise with cable connected cellular phone-to-modem combinations.

Your Com.plete PC Card is enabled to perform both cellular and land-based voice, data and fax communications using standard communication software packages. Mode selection is fully automatic. This manual contains important information about setting up, using, and caring for your Com.plete PC Card. It assumes that you are familiar with the computer (hardware and software) which will be used. Before using the product, you should read this manual carefully as it provides important information and setup tips.

Product Feature Summary:

- Capable
- Mobile Station Power Class III (0.6W transmit power)
- Error correction (LAP-M, MNP 2-4, MNP10, MNP10 EC) and data
- Celeritas TX-CEL cellular throughput acceleration

  system and up to 33600 Baud over landline
  bis fax/modem transfer rate up to 14400 Baud
- Optional Earphone for cellular and landline voice communication
- Extended Industry Standard AT command set compatible with most common

- FCC and CTIA approved
- Firmware field upgradable by user

What is in the package:

Your package should contain:

- Com.plete™ PC Card
- Antenna
- Antenna extension cable
- Land-based telephone connector with RJ-11 jack for Data Access Arrangement (DAA)
- Phone extension cable
- Software Disks with Install and Activation Utilities
- Users Guide and Technical reference manual
- Miniature speaker/microphone - EarSet™

TIA Health/Safety Instructions

IMPORTANT !!!

READ THIS INFORMATION BEFORE USING YOUR CELLULAR Com.plete PC Card

The cellular telephone is one of the most exciting and innovative electronic products ever developed. With it you can stay in contact with your office, your home, emergency services, and others.

For the safe and efficient operation of your phone, observe these guidelines.

Your mobile cellular telephone is a radio transmitter and receiver. When the phone is ON, the externally mounted antenna is the part of the phone that sends out and receives radio frequency (RF) energy. The phone operates in the frequency range of 824 MHz to 894 MHz and employs commonly used frequency modulation (FM) techniques. When you use your phone, the cellular system handling your call controls the power level at which your phone transmits. The power level can range from 0.006 of a watt to 0.6 watts.

Exposure to Radio Frequency Energy

In 1991 the Institute of Electrical and Electronics Engineers (IEEE), and in 1992 the American National Standards Institute (ANSI) updated the 1982 ANSI Standard for safety levels with respect to human exposure to RF energy. Over 120 scientists, engineers, and physicians from universities, government health agencies and industry, after reviewing the available body of research , developed this updated Standard. In March 1993, the U.S. Federal Communications Commission (FCC) proposed the adoption of this updated Standard. To operate within this updated ANSI Standard, use your phone as described under “Efficient Phone Operation”.

To comply with FCC RF exposure requirements, a minimum separation distance of 2 cm (0.8 inches) must be maintained between the user/bystander and the PCMCIA cellular modem card, including the antenna.

Antenna Care and Replacement

Do not use the phone with a damaged antenna. Replace a damaged antenna immediately. Consult your manual to see if you may change the antenna yourself. If so, use only a manufacturer-approved antenna. Otherwise, have your antenna repaired by a qualified technician.

Use only the supplied or approved antenna. Non-approved antennas. modifications, or attachments could impair call quality, damage the Card, and violate FCC regulations.

Driving

Check the laws and regulations on the use of cellular telephones in the areas where you drive. Always obey them. Also, when using your phone while driving, please:

- give full attention to driving
- use hands-free operation, if available, and
- pull off the road and park before making or answering a call if driving conditions so require.

Electronic Devices

Most modern electronic equipment is shielded from RF energy. However, RF energy from cellular telephones may affect inadequately shielded electronic equipment.

RF energy may affect improperly installed or inadequately shielded electronic operating and entertainment systems in motor vehicles. Check with the manufacturer or its representative to determine if these systems are adequately shielded from external RF energy. You should also check with the manufacturer of any equipment that has been added to your vehicle.

Consult the manufacturer of any personal medical devices (such as pacemakers, hearing aids, etc.) to determine if they are adequately shielded from external RF energy.

Children

Do not allow children to play with your Com.plete PC Card. It is not a toy. Children could damage the Card, or make calls that increase your telephone bills.

Blasting Areas

To avoid interfering with blasting operations, turn OFF when in a “blasting area” or in areas posted: “Turn off two-way radio”. Construction crews often use remote control RF devices to set off explosives.

Potentially Explosive Atmospheres

Turn your phone OFF when in any area with a potentially explosive atmosphere. It is rare, but your phone or its accessories could generate sparks. Sparks in such areas could cause an explosion or fire resulting in bodily injury or even death.

Areas with a potentially explosive atmosphere are often, but not always, clearly marked. They include fueling areas such as gas stations; fuel or chemical transfer or storage facilities; and areas where you would normally be advised to turn off your engine.

Do not transport or store flammable gas, liquid, or explosives in the compartment of your vehicle which contains your phone or accessories.

Vehicles using liquid petroleum gas (such as propane or butane) must comply with the National Fire Protection Standard (NFPA-58). For a copy of this standard, contact the National Fire Protection Association, One Battery march Park, Quincy, MA 02269, Attn: Publication Sales Division.

Getting Started - Setting Up the Com.plete™ PC Card

Your Com.plete PC Card is designed to be used with any laptop, notebook or hand-held computer equipped with a type III PC Card slot.

Requirements:

- PCMCIA type III slot conforming to PCMCIA's Standard Version 2.1 or later.
- Card and Socket Services compliant to version 2.0 or later
- Windows 95/98, Windows NT, or DOS (Version 6.2 or Later)
- For data/fax communication: an application, terminal or fax software such as HyperTerminal, ProComm Plus, WinComm, etc.(not included)

Installing the Com.plete PC Card Hardware and Drivers

Using Windows NT :

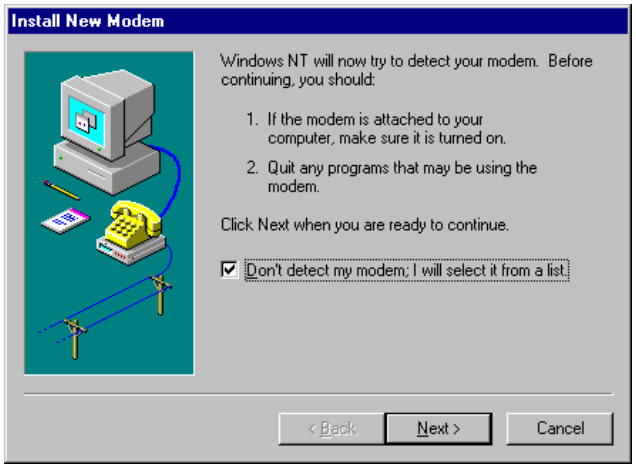
Inserting the Com.plete PC Card:

1. Make sure you have Card and Socket Services installed and configured properly on your computer. See your computer's documentation for more information.
2. Hold the PC Card with the top label facing upward (see indication on the label) and the antenna pointing away from the computer.

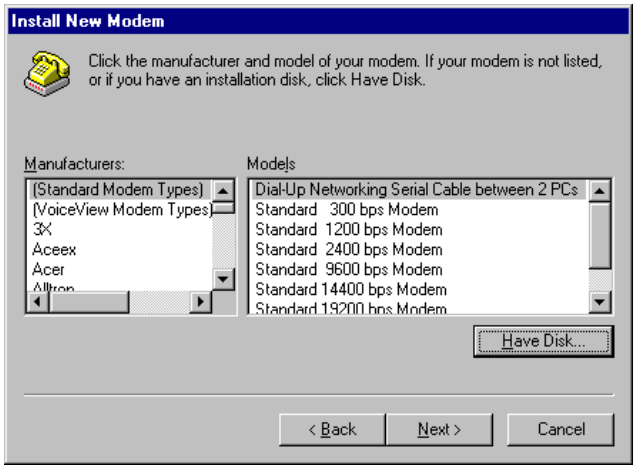
3. Insert the PC Card into the PC Card slot of the computer until the card seats firmly.
   Attention: Do not force the Com.plete PC Card into the slot as it may damage the card or the device.

Installing Your Com.plete PC Card Windows NT Drivers

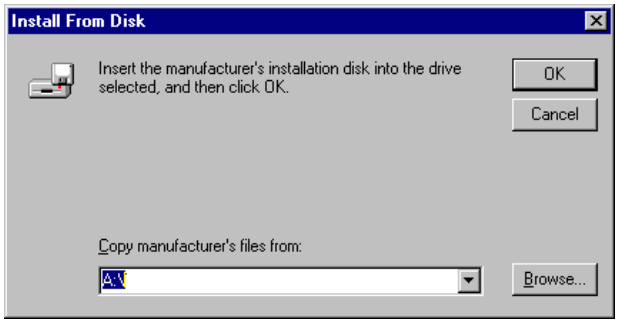
1. Insert the Com.plete PC Card into the computer's type III PC Card Slot.
2. Double-click the "My Computer" icon and then the "Control Panel" icon or, click the "Start" button on the task bar, select "Settings" from the pop-up menu and then select "Control Panel" from the new pop-up menu.
3. Double-click the "Modems" icon on the "control Panel" window. The "Install New Modem" window is displayed
4. Check the "Don't detect my modem; I will select it from a list" check box and press the "Next" button.



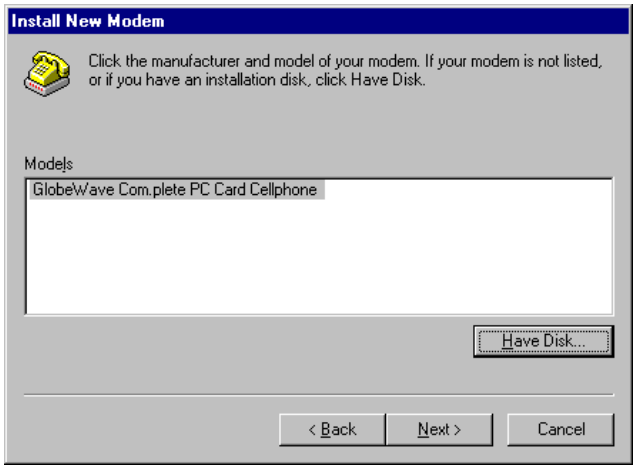
5. The selection window is displayed.



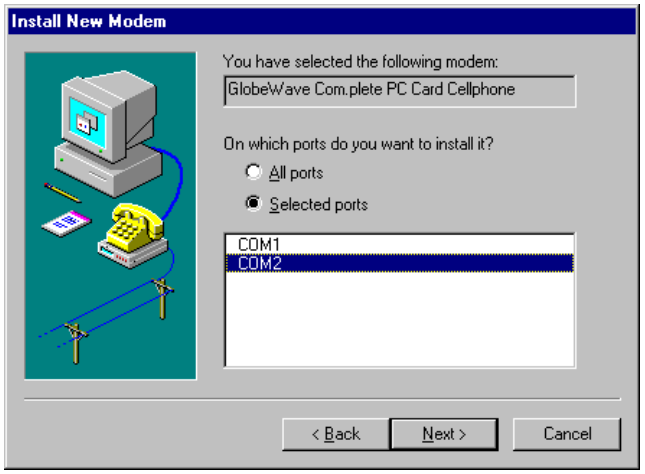
6. Press the “Have Disk…” button. In the “Install From Disk” window, verify that A:\ is displayed in the “Copy manufacturer’s files from” box and press the “OK” button.



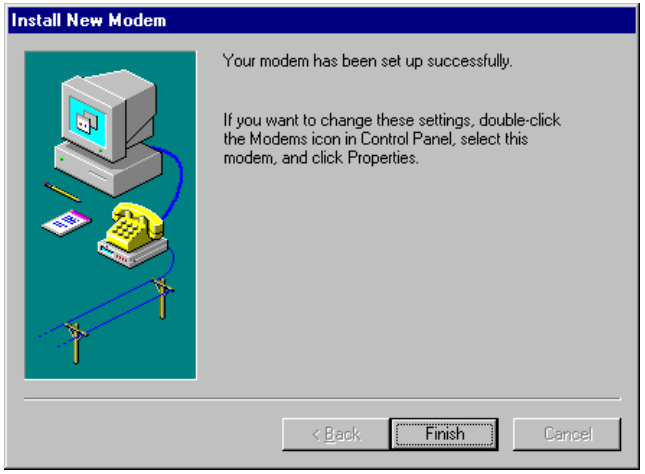
7. In the displayed window verify that “GlobWave Com.plete PC Card Cellphone” is displayed in the “Models” box.



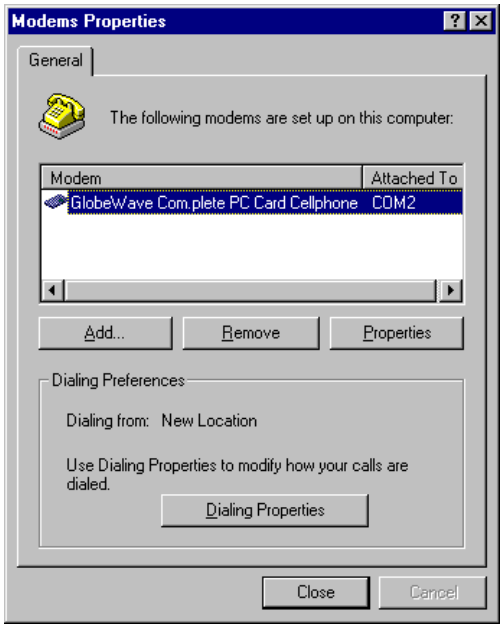
8. Press the “Next” button to install the modem. Select “COM2” in the next window and press the “Next” button. If no COM port is shown in the “Selected Port” box, you have to r3eboot your computer, enter the setup menu and verify that the serial communication ports are enabled (refer to your computer’s user guide for this action).



9. The ending window is displayed. Press the “Finish” button and the syst4em will finish the installation of your modem.



10. At the end of the installation the “Modem Properties” window will be displayed, indicating your modem and the COM port on which it is installed. Press the “Close” button if you do not wish to change the modem’s configuration, or press the “Properties” button and refer to Setting up Windows For Cellular Data: to set the configuration of your modem.



Ejecting the Com.plete PC Card:

1. Make sure all software accessing the PC Card has been closed. This also includes software that has instructed the PC Card to switch to Auto Answer mode.
2. Press the PCMCIA eject button.
3. Remove the card when it is released.

Using Windows 95/98:

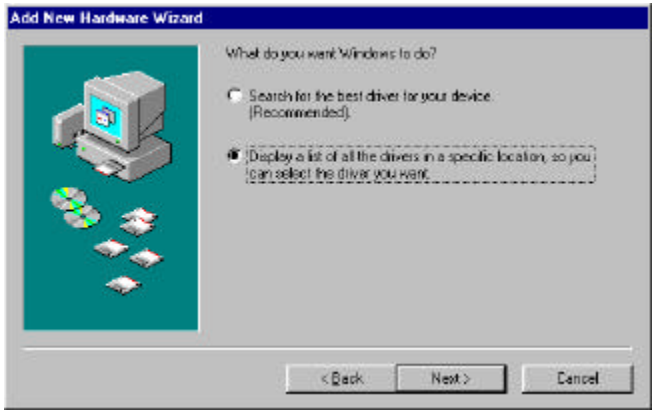
Inserting the Com.plete PC Card:

1. Facing up (see indication on the label,) insert the Com.plete PC Card to the bottom slot – a beep or a pop up message should indicate recognition of the card's presence.
   Attention: Do not force the Com.plete PC Card into the slot as it may damage the card or the device.

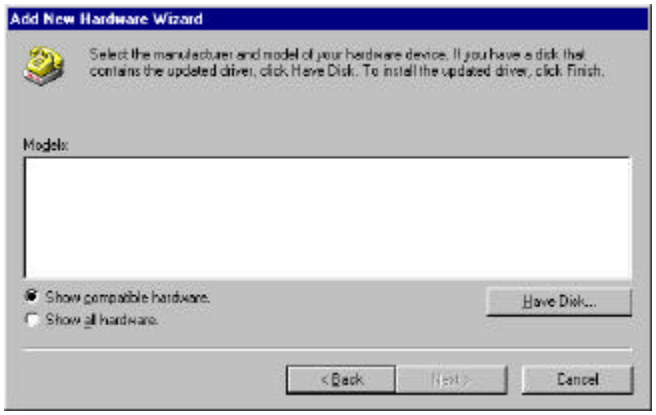
Installing the Com.plete PC Card Windows 95/98 Drivers

1. The first time you insert the card, the PC Card Wizard should open (see figure below).

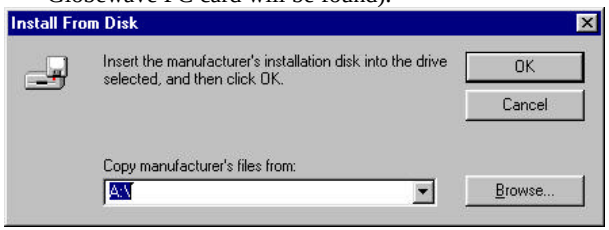
2. Press the “Cancel” button to exit the installation or “Next” to continue. The next window as shown below is displayed.
3. Check the “Display a list of all the drivers in a specific location, so you can select the driver you want” command box and press the “Next” button.



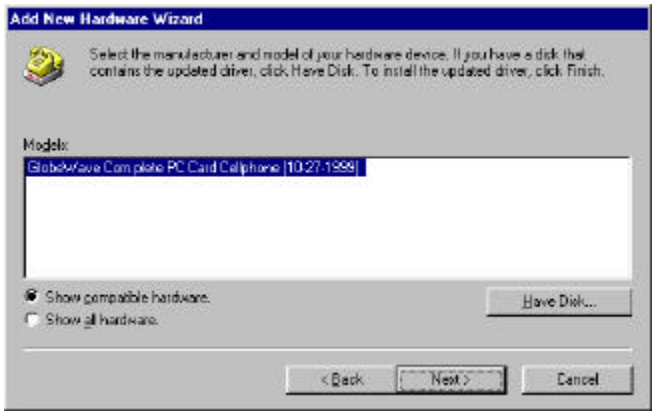
4. The driver location selection screen is displayed. Insert the drivers diskette into drive A and press the “Have Disk…” button.



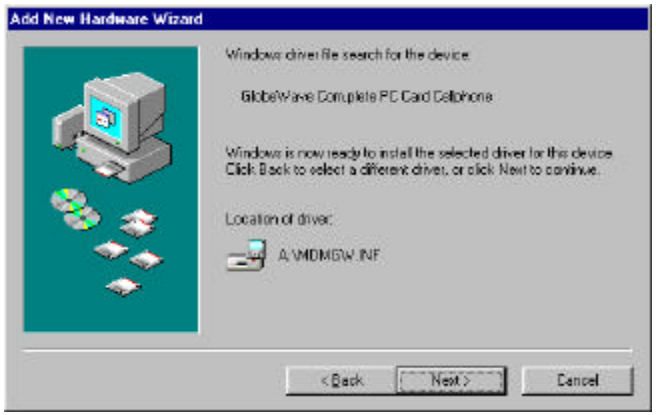
5. The window in the figure below is displayed and indicates the driver found by the system (in most newly purchased Windows system the driver for Globewave PC card will be found).



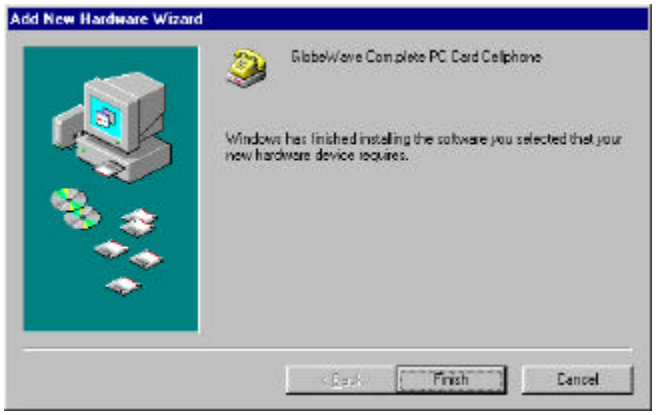
6. Verify that the A:\ drive is specified in the “Copy manufacturer’s files from” box and press the “OK” button. The “GlobeWave Com.plete PC Card Celphone” will appear in the “Models” box.



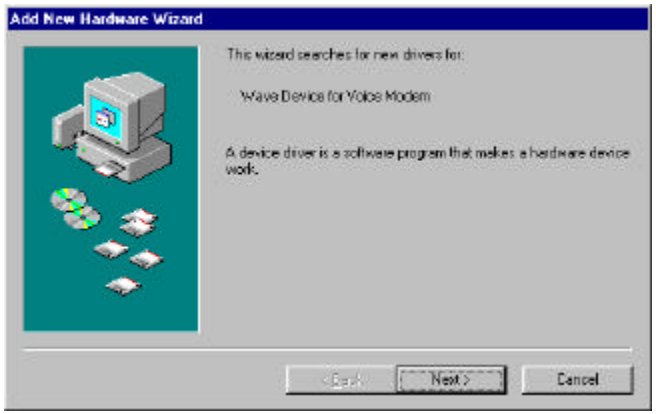
7. Press the “Next” button. A window carrying the identification of the card “GlobeWave Com.plete PC Card Cellphone” and the name of the file driver (MDMGW.INF) will appear.



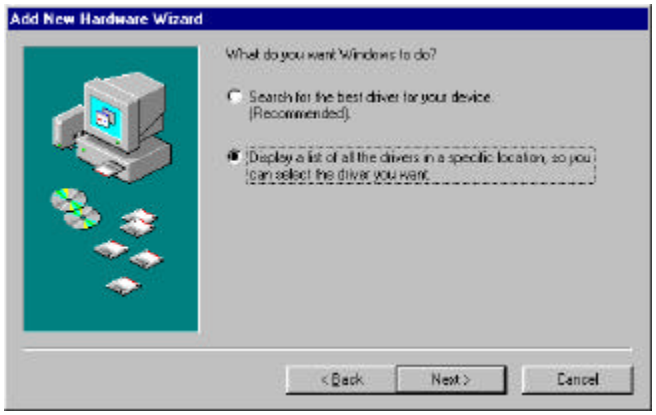
11. Press the “Next” button. The ending window will appear. Press the “Finish” button.



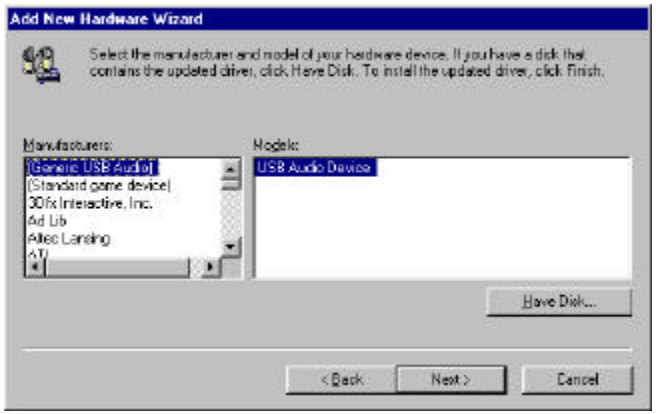
12. A window indicating that the system will look for a voice modem is displayed. Press the “Next” button.



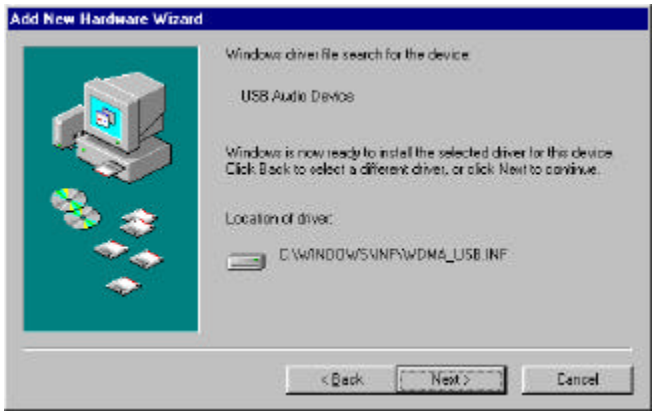
13. Check the “Display a list of all the drivers in a specific location, so you can select the driver you want” command box and press the “Next” button.



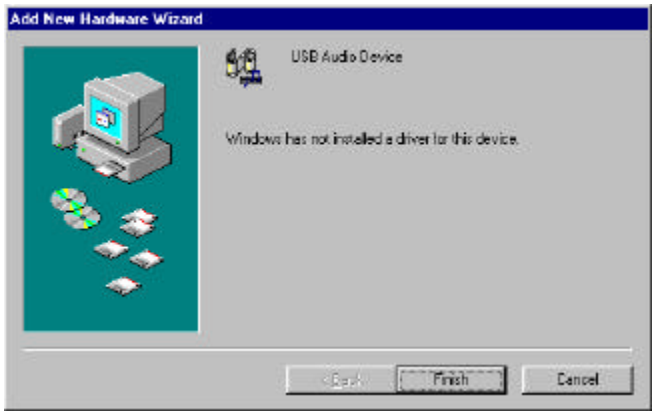
14. After the search the system will come with a manufacturer and model name (see figure below).



15. Press the “Next” button. A window indicating the name and location of the driver file is displayed.



16. Press the “Next” button. The ending window for the installation is displayed.



17. Press the “Finish” button to complete the installation.

Ejecting the Com.plete PC Card:

1. Make sure all software accessing the PC Card has been closed. This also includes software that has instructed the PC Card to switch to Auto Answer mode.
2. Press the PCMCIA eject button.
3. Remove the card when it is released.

Your Com.plete PC Card is now ready to work with your communication software. **However**, for cellular data operation , you must still **activate your PC Card** to work over the cellular network.

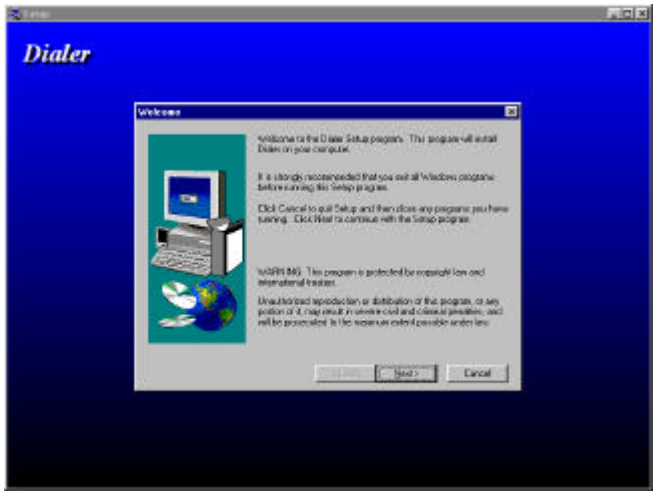
Loading the Com.plete PC Card User Software:

Your Com.plete PC Card user's software includes:

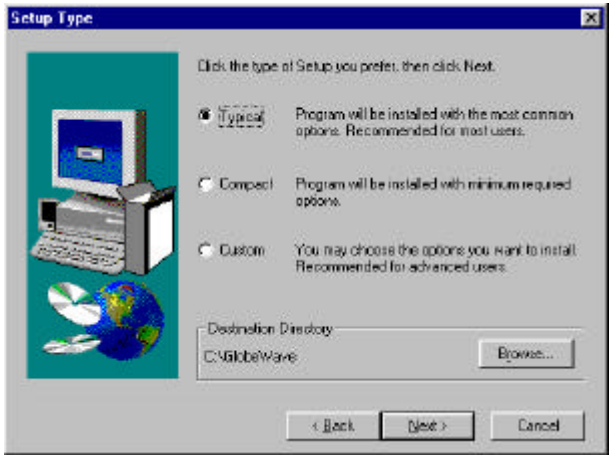
- Activation Software - Used to activate the card for cellular use
- Dialer Software - Used to dial cellular voice calls
- Status Software - Advanced cellular status software
- Firmware Download - To update card's firmware

Using Windows 95/98 and Windows NT:

1. Insert the disk labeled "Setup/User Software Windows 95 Disk 1 of 3 " into your floppy disk drive.
2. Use the Windows 95 "Start" button and select "Run".
3. Type or select by the "Browse" button "A:\Setup". The "Dialer" setup screen will be displayed.
4. Press the "Next" button to continue the installation, or the "Cancel" button to exit the installation. The "Choose Destination Location" window will be displayed.



5. The software is installed by default to <c:\GlobeWave> directory. If you wish to install it into another directory, press the “Browse” button and select a new directory to install the software in.
6. Press the “Next” button. The “Setup Type” window will be displayed.



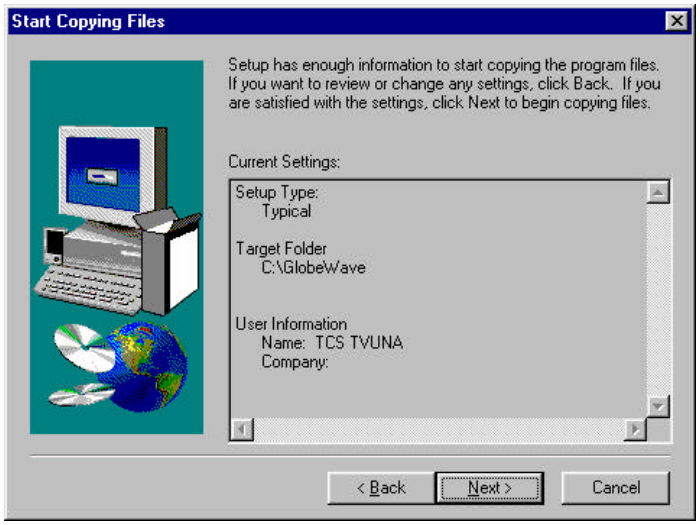
7. Three types of setup are available:
   One. Typical – installs the “Dialer” software and “Activate” service program.

Two. Compact – installs only the “Dialer” software.

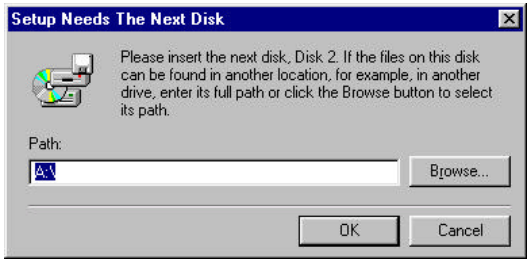
Three. Custom – allows you to choose whether or not to install the “Activate” and “Status” service programs (the “Dialer” box should always be checked).

Check the command box of the setup type you wish to carry out and then press the “Next” button. The “Start Copying Files” window is displayed. The “Current Settings” settings area shows the settings you selected.

15. Press the “Next” button to continue the installation.

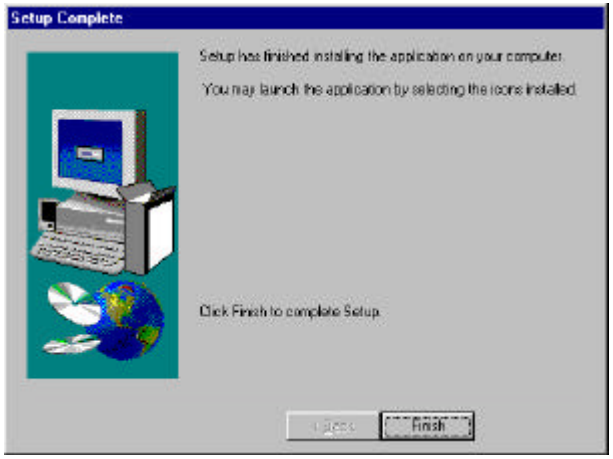


9. Setup starts copying files and installing the Dialer. Throughout the installation setup will prompt you to replace the diskette (see figure below). Replace the diskette as required and press the “OK” button.



10. At the end of the installation the “Complete Setup” window is displayed.

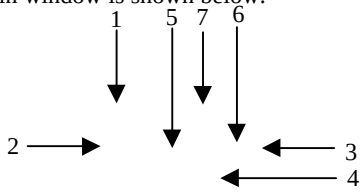
11. Press the “Finish” button to complete the installation. The system completes the installation and adds three new icons on the task bar at the bottom right-had corner of the screen.



12. Your user software is now loaded and ready for use and the “Dialer” icon is added to your computer’s screen.

Running and Using Dialer

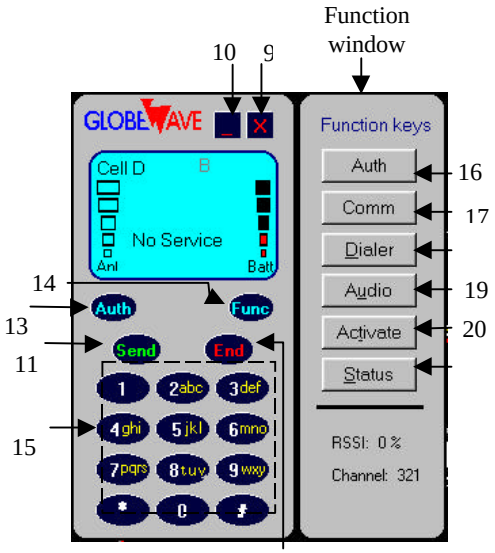
1. Double-click one of the three icons on the task bar. The “Dialer” window will be displayed.
2. The three added icons are inactive as long as the “Dialer” screen is open. Once the “Dialer” screen is minimized, the three icons become active (see Task Bar Icons for details).
3. The “Dialer” main window is shown below:



5. The “Dialer” window is used for dialing, answering an incoming call, retrieving information about the PC card and open the functional windows.
6. The window’s displays and command buttons are as follows:
   1) Mode label:
      Cell – cellular phone
      Line – line phone
      Cell D – cellular modem
      Line D – Line modem
   2) Signal Strength display – displays the level of the received signal. Visible only in the cellular modes.
   3) Power display – displays the computer’s battery power.
   4) GlobeWave label – shows the status of the PC card communication:
      No Service – when cellular service is not available for the card in the cellular modes
      Incoming call – indicates an incoming call (together with a sound or beep)
      Number – when a number is dialed, it is displayed in this place
      Connected – when connection with the dialed number or the incoming call is established.
   5) Dialing label – appears after the “Send” button is pressed and is displayed until connection is established.
   6) Roaming label – this label is displayed in cellular modes, when the service is provided by other than the home carrier.
   7) System label – indicates the current used system, A or B.
   8) Connection symbol – appears when connection with the other party is established.
   9) Close button – press to exit the dialer.

10) Minimize button – minimizes the “dialer” window and activates the task bar icons.
11) Send – press to dial a number or to answer an incoming call.
12) End button – press to hang up.
13) Auth/Clr – a two functions button:
    - Auth – used only in cellular modes to send the authentication number. After sending the authentication number the button switches to Clr.
    - Clr – clears the last dialed number.
14) Func button – opens and closes the “functions” window.
15) Number keys – serve for dialing a number.

7. The functions windows is opened by pressing on the “Func” button (see figure below):
16) Auth – opens the authentication window.
17) Comm – opens the communication window
18) Dialer – opens the Dialer Setup window.
19) Audio – Opens the audio window.
20) Activate – opens the Activate window (only if the Activate service program was installed).
21) Status – opens the Status window (only if the Status service program was installed).

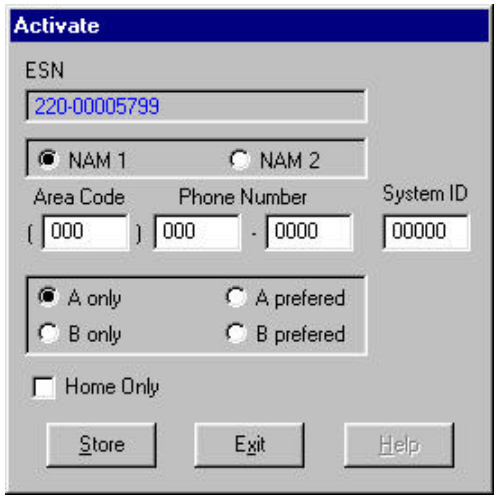


Activating your Com.plete PC Card for Cellular service:

Since your Com.plete PC Card contains a cellular phone, the first thing to do once you have installed the Com.plete PC Card driver and activation software is activate your card for cellular usage.

The Activation software is designed to be a fast and simple tool to ease you through this process, but there are a few items to prepare prior to running the activation software.

- Make sure that the PCMCIA slot is enabled and the card drivers are installed properly on your computer. These should be installed and pre-configured in your computer already. If not, consult the documentation provided with your computer on how to enable the PCMCIA slot.
- Run Windows, if not already running.
- Slide the Com.plete PC Card (front label up) into the PCMCIA slot of your host computer until it is fully seated.
- Wait for the Card and Socket Services to recognize and initialize the card. Usually you will get a "beep" and/or a popup window indicating the successful configuration of your card. If you are not familiar with the operation of your PCMCIA drivers, please consult the documentation provided with your computer for additional information.
- On the “Dialer” window’ press the “Func” button.
- Click the “Activate” button on the “functions” window. The activate screen will pop-up (see figure below).


Activate
ESN
220-00005799
NAM 1
NAM 2
Area Code
Phone Number
System ID
(000) 000 - 0000
00000
A only
A prefered
B only
B prefered
Home Only
Store
Exit
Help

Using and Understanding the Activation Software:

The activation software is provided to be a simple cellular phone programming interface. There are five (5) important pieces of information either provided by or to be programmed on the activation utility:

- ESN (Electronic Serial Number)
- NAM Selection
- Cellular Phone Number
- System ID
- System Service Selection

The software locates the card comm port when it is started. If the card is not found a message appears and the software is terminated. If the software finds the card, the comm port number can be seen on the communication window.

The activation software then reads the Electronic Serial Number (ESN) of the card and displays it. This number is electronically stored in your PC Card's memory, and is the only number required by the cellular service provider, since it identifies the specific card's manufacturer and serial number. The remaining fields are left to input by you, based on information you receive from the cellular service provider. These fields are:

- **Cellular phone number -** a 10 digit number consisting of 3 digits area code and 7 digits phone number
- **System ID -** a 5 digit home cellular service identifier
- **System select**: Click on the "system select" button matching the carrier of your choice. Available options are:
  A only: The Com.plete PC Card will register with Carrier A only. If Carrier A is unavailable in this particular area, "No Service" will be indicated and cellular calls will be disabled
  B only: The Com.plete PC Card will register with Carrier B only. If Carrier B is unavailable in this particular area, "No Service" will be indicated and cellular calls will be disabled
  A preferred: The Com.plete PC Card will try to register with Carrier A first. If not available, it will alternately try Carrier B. If both Carriers are unavailable in this particular area, "No Service" will be indicated and cellular calls will be disabled
  B preferred: The Com.plete PC Card will try to register with Carrier B first. If not available, it will alternately try Carrier A. If both Carriers are

unavailable in this particular area, "No Service" will be indicated and cellular calls will be disabled

Note: If the Card registers with the "non-preferred" carrier, you might eventually get a recorded message anytime you try to place a call. This message will give you more information on how to get service for this carrier.

- **Home Only checkbox**, Click, if you want to use your Com.plete PC Card only within your home service area and disable roaming to avoid possible roaming charges. Ask your service provider for a map indicating your home area range.

Programming Your PC Card For Cellular Service

Once you have started the Com.plete PC Card Activation software, you are ready to program your PC Card. You will need to contact a cellular service provider to obtain your phone number and other pertinent information programmable on the PC Card.

The activation software will show the data for the NAM1 (the first phone number entry). The first time you program your PC Card, these boxes should either be blank or read zeros (0). The remaining information is given by your cellular service provider and should be programmed in the appropriate fields.

The cellular carrier will ask you for the PC Card's (or they will say Cellular Phone) Electronic Serial Number (ESN). This number combined with the cellular phone number they provide you make up your electronic phone number on the AMPS Cellular Network.

1.
   Card (Phone.)
2. Give the cellular provider the PC Card's Electronic Serial Number (ESN)
3. Select the "*NAM 1"*
4.
   it in the Area Code and Phone Number boxes on the screen.
5. Ask the Cellular Service Provider for their System ID and System Selection
   (A or B) and enter into them the appropriate boxes.
   Once the phone number, system
   "*Store*
7. *Exit*" button to leave the Activation Program. You are now ready

NOTE: If you would like to program a second phone number into your PC Card,

Using the Dialer

Making a Call

1. Verify that the PC Card is in the desired mode.
2. Type in the number by pressing the number keys. To correct or change the number, use the “Clr” button.
3. Press the “Send” button to dial the number.
4. To terminate the call and hang-up press the “End” button.

Answering an Incoming Call

1. Verify that the card is in the desired mode.
2. Press the “Send” button.
3. To terminate the call and hang-up press the “End” button.

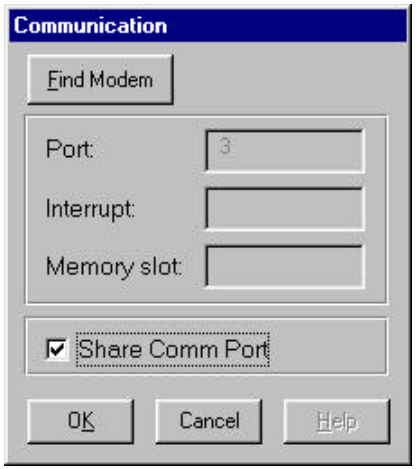
Setting the Authentication Number

1. Press the “Func” button to open the “Functions” window.
2. Press the “Auth” button on the “functions” window. The “Authentication” dialog box is opened (see the figure below)

3. If the “Dialer” window is minimized, you can click the right button of the mouse on one of the icons on the task bar and select “Authentication” from the pop-up menu.
4. Type in or edit the authentication number and press the “Save” button.
5. Verify that you are in a cellular mode.
6. To dial the authentication number, press the “Auth” button on the “dialer” window, or open the “Authentication” diaog box and press the “Authenticate” button.
7. Press the “Close” button to close the “Authentication” dialog box.

Setting the Communication Options

1. Press the “Func” button to open the “Functions” window.
2. Press the “Comm” button on the “functions” window. The “Communication” dialog box is opened (see the figure below)



3. If the “Dialer” window is minimized, you can click the right button of the mouse on one of the icons on the task bar and select “Authentication” from the pop-up menu.
4. Press the “Find Modem” button in order to scan the computer’s ports and locate the Com.plete PC Card.
5. Check the “Share Comm Port” box to retrieve the PC card information when the “Dialer” window is minimized (the icons on the task bar are active).

Setting the Dialer Options

1. Press the “Func” button to open the “Functions” window.
2. Press the “Dialer” button on the “functions” window. The “Dialer Setup” dialog box is opened (see the figure below)
3. If the “Dialer” window is minimized, you can click the right button of the mouse on one of the icons on the task bar and select “Dialer” from the pop-up menu.

4. Check the “Put in startup” box to add the “dialer” to the startup menu. Uncheck the box to remove the “Dialer” from the startup menu. When the “dialer” is added to the startup menu, it will start automatically whenever the Windows system is started.
5. Check the “Launch upon startup” box to open the “Dialer” window every time you start the software. Uncheck the box in order to display and activate the task bar icons when the software is initiated.
6. Check the “Always on top” box to force the “Dialer” window to be always displayed above any other active window.
7. Check the “Dock” box, in order to dock the “Dialer” window to one corner. The check boxes under the “Dock” box are illuminated and become active. Select the box of the corner you wish to dock the window into. Once you selected a corner and pressed the “OK” button, the “Dialer” window will be docked to the desired corner and you will not be able to drag it from there.
8. Press the “OK” button to confirm and activate your choices.

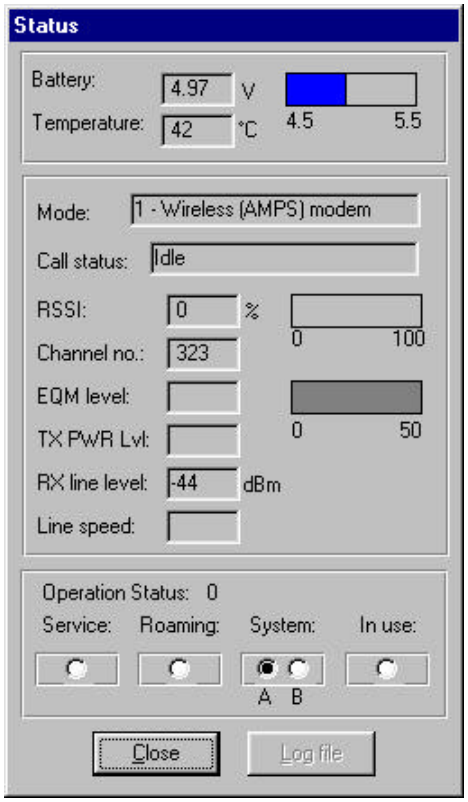
Setting the Audio Options

1. Press the “Func” button to open the “Functions” window.
2. Press the “Audio” button on the “functions” window. The “Audio Setting” dialog box is opened (see the figure below)
3. If the “Dialer” window is minimized, you can click the right button of the mouse on one of the icons on the task bar and select “Audio” from the pop-up menu.

4. To select a wav file that will be played when an incoming call is detected, check the “Activate modem audio” box. Type in the name of the wav file and its path in the box, or select a file using the “Browse…” button.
5. To select a wav file that will be played on low battery power or low signal strength warning, check the “Activate audio for warning” box. Type in the name of the wav file and its path in the box, or select a file using the “Browse…” button.
6. Press the “OK” button to confirm your choices and close the dialog box.

The Status Window

1. Press the “Func” button to open the “Functions” window.
2. Press the “Status” button on the “functions” window. The “Status” dialog box is opened (see the figure below)
3. If the “Dialer” window is minimized, you can click the right button of the mouse on one of the icons on the task bar and select “Status” from the pop-up menu.



4. The status of various characteristics of the modem and communication are displayed in this window.

Task Bar Icons

When the dialer is initialized, three icons appear on the task bar. As long as the “dialer” screen is active, these icons are inactive. Once the “Dialer” screen is minimized these icons become active.

Mode Icon

The right icon can have one of the following shapes:

Cellular mode Icon

Voice mode Icon - Switched automatically when EarSet plugged in

Landline mode Icon

Modem mode switched when DAA (RJ11 connector) plugged in

Clicking the icon with the left button of the mouse will restore the “Dialer” screen and inactivate the task bar icons.

Clicking the icon with the right button of the mouse will open a pop-up menu, which contains all the functions of the “Functions” menu.

The Signal Icon

The middle icon is the signal icon. When you point it with the mouse, a label indicating the received signal level percentage will appear.

Clicking the icon with the left button of the mouse will restore the “Dialer” screen and inactivate the task bar icons.

Clicking the icon with the right button of the mouse will open a pop-up menu, which contains all the functions of the “Functions” menu.

The Battery Icon

The left icon is the battery icon. When you point it with the mouse, a label indicating the battery voltage will appear.
Clicking the icon with the left button of the mouse will restore the “Dialer” screen and inactivate the task bar icons.

Clicking the icon with the right button of the mouse will open a pop-up menu, which contains all the functions of the “Functions” menu.

Important Operational Information

Auto-Mode Switching Capability:

Your Com.plete PC Card comes set-up to automatically detect the type of call you are placing. This is done to minimize or eliminate special hardware or software set-ups for your PC Card. Depending on the connections made to your PC Card, the card will switch automatically to one of four (4) different operational modes, Cellular Data, Land-Based Data, Cellular Voice or Land-Based Voice. The default modes are shown below:

AUTOMATIC MODE SWITCHING DEFAULTS

Accessories	Communications Mode	Mode number
Antenna Only	Cellular Data Mode	1
EarSet & Antenna	Cellular Voice Mode	3
EarSet & Landline DAA	Landline Voice Mode	2
Landline DAA only	Landline Data Mode	0

In addition to the automatic mode defaults, several software definable optional modes can be programmed into the PC Card. Please note that unless the defaults are changed, the PC Card will operate only in the modes shown above. Your Com.plete PC Card is equipped with several features designed to provide simple and reliable cellular data and voice connections. Specifically, the PC Card is equipped with a high performance ¼ wave cellular antenna, significant cellular error correction and enhancement firmware, radio shielding, power saving features and auto-mode selecting firmware. Unlike a standard cellular phone, the cellular radio in your PC Card has been designed specifically for a notebook or hand-held computing environment. In most cases, you will be in an environment where good to excellent cellular coverage exists and should have no problem sending and receiving cellular data. However, there are a few tips provided below which, if followed, will further improve your cellular data experience.

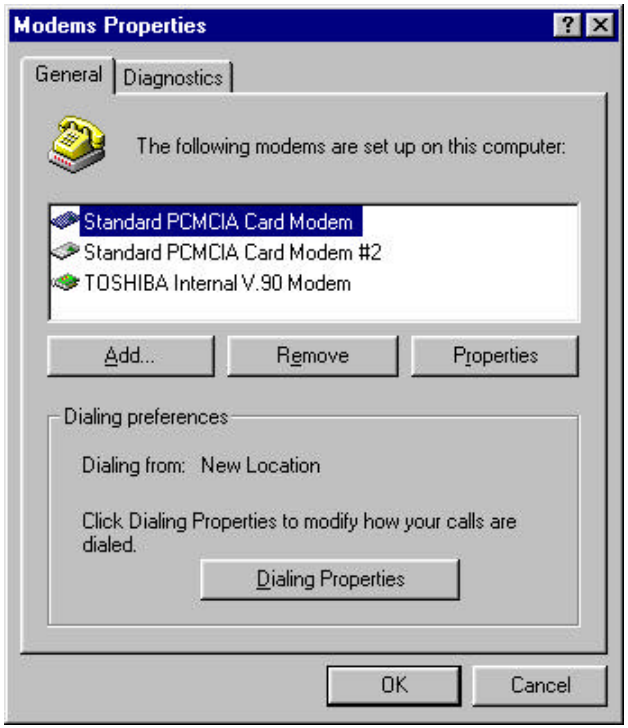
Cellular Reception:

Your card's antenna can be rotated and detached for removed positioning. Proper use and placement of your antenna can enhance your cellular performance and may be critical for sending and receiving cellular data in locations where you are either far away from the nearest cellular switch or have some bulky obstructions between you and the cellular switch. In all cases, we recommend the following usage guidelines for your cellular antenna.

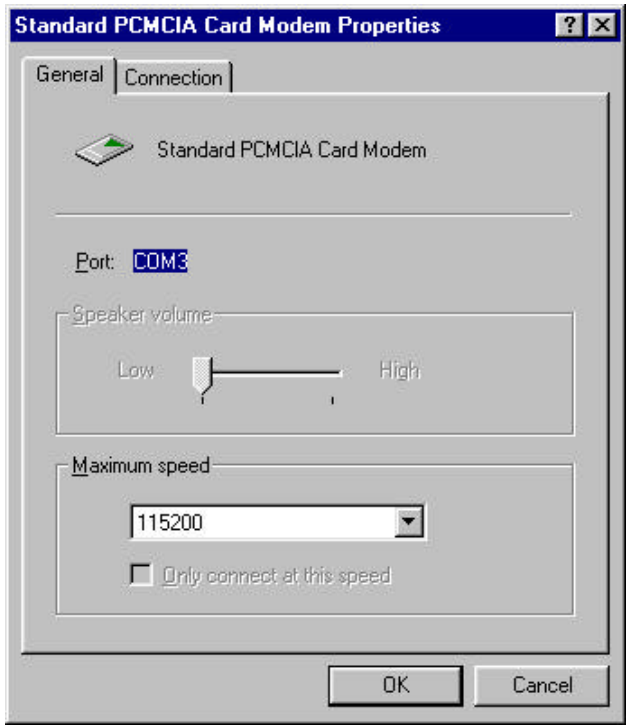
1. In most cases your antenna should be used directly plugged or into the PC Card. You should always have the antenna pointing vertically towards the ceiling/sky.
2. If you are indoors and have trouble in cellular communications, you should locate the notebook or hand-held computer as close as possible to a window. Radio signals do go through walls, but some of the signal strength is lost, so it is always best to locate yourself near a window where signal degradation is minimized.
3. If you are not receiving enough signal strength from the cellular network to send or receive data, you may have some interference being generated from your computer. In this case, you should remove the antenna and attach it to the antenna extension cable, then plug the extension cable into your PC Card. Positioning the antenna away from noisy sources like computers can sometimes help improve your signal strength and therefore increase your data throughput.

Setting up Windows For Cellular Data:

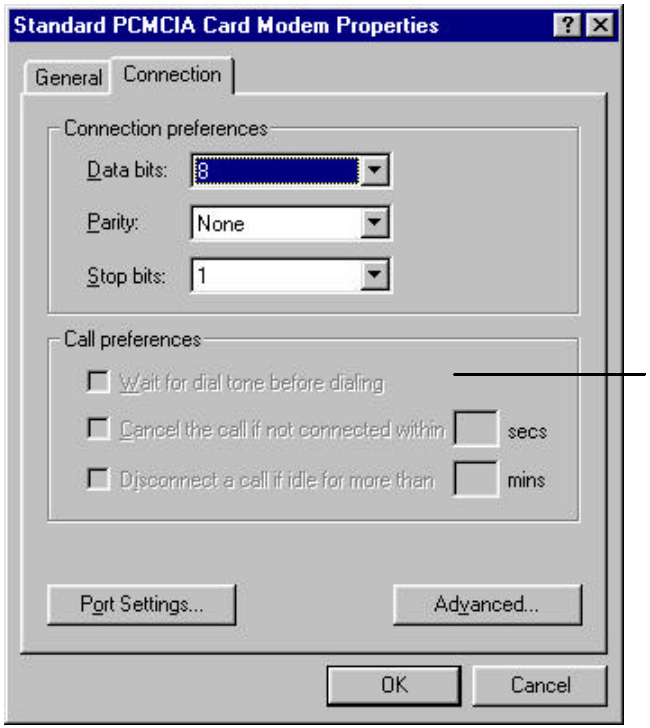
Your Com.plete PC Card needs to be set-up for proper use over the Cellular network. This can be accomplished by modifying certain modem properties in your Windows Control Panel Modem Set-Up Program:



1. Select the AMPS Modem as the active modem on your computer.
2. Select the “Properties” button on the modem set-up screen.

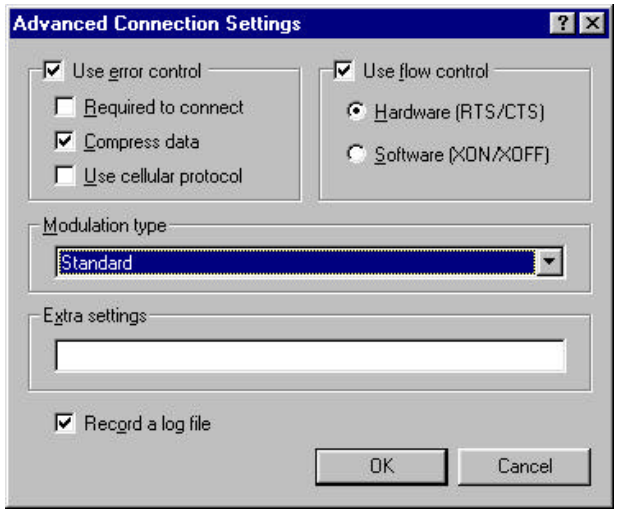


3. Set your “Speaker Volume” to High.
4. Set your “Maximum Speed” to either 57600 or 115200.
5. Select the “Connection” tab.



NOTE: For cellular connections, this box should remain un-checked. For land-based connections, the box must be checked.

6. De-select the “Wait for dial tone before dialing” checkbox. This is done because the cellular network does not use conventional land-based dial tones.
7. Set the “Cancel the call if not connected” time-out to 90-120 seconds.
8. Select the “Advanced” features button on your modem setup screen.



9. Make sure that “Use error correction” is check. “Compress data” must be checked. However, “Use cellular protocol” is not necessary to check, but may be used.
10. Make sure that “Use flow control” is checked. Make sure to use “Hardware flow control,” not software flow control.

Using Dial-Up Networking for Cellular Data Connections:

Most communications software programs are set-up to be used with a modem connected to a land-based telephone line. Your Com.plete PC Card is equipped to work with both land-based and cellular-based connections for sending and receiving data and/or voice. While your PC Card is equipped with a variety of error correcting protocols used for sending cellular data, Windows 95 and most communications programs need to be modified to work optimally over the cellular network.

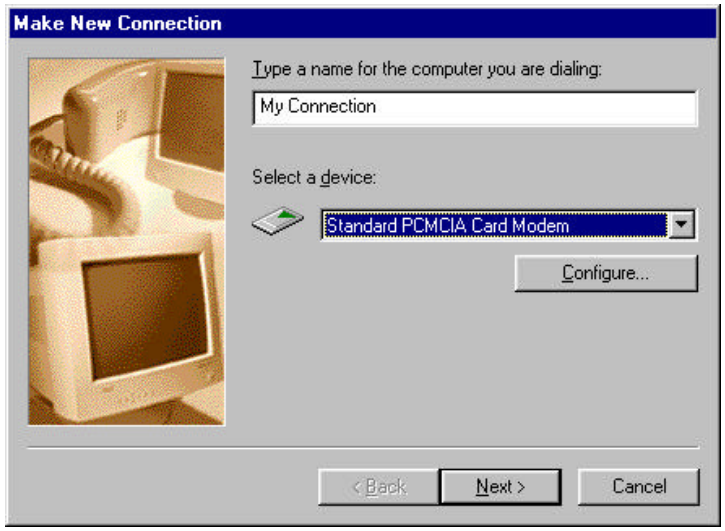
Most 32-bit Windows 95 communication programs use Windows "Dial-Up Networking" as the method to establish a data connection. This section will describe how best to set-up your connections for both land-based and cellular-based data.

Dial-Up Networking Windows 95 Screen

Setting Up Dial-Up Networking for Cellular Data Connections:

1. Double click the "Make New Connection" icon in the Dial-Up Networking window, a "Make New Connection" window will appear.
2. Enter a name for the cellular connection you wish to establish.
3. Select the Com.plete PC Card as your active modem.

Name your cellular data connection



4. If you have configured your Com.plete PC Card as outlined in the previous section, there is no need to select the "Configure" tab on the "Make New Connection" window. If you have not yet configured your Com.plete PC Card for cellular use, please select "Configure" and follow the instructions written above under "**CONFIGURING YOUR Com.plete PC CARD."**
5. Select "Next" and follow the remaining instructions for "Dial-Up Networking."
6. You are now ready to connect your cellular data call using "Dial-Up Networking."

Modem Pools: Using Cellular Error Correction & Throughput Enhancement:

Your Com.plete PC Card is provided with MNP-10, MNP-10EC cellular error correction protocols and Celeritas' TX-CEL™ throughput accelerator which improve connections and throughput when sending cellular data. These protocols work best when connected to a receiving modem which implements the protocols. Many of the cellular carriers have implemented "Modem Pools" on their cellular switches. These modem pools have the cellular error correction and throughput enhancement features which will help in speeding up your cellular data processing. While reliable data connections will be established without using modem pools, we recommend using them if possible.

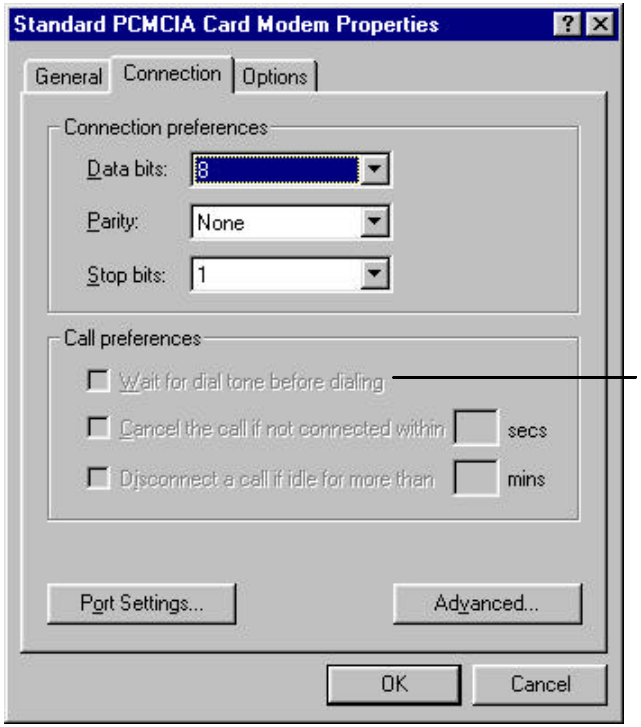
1. When contacting your cellular service provider to establish service, ask if they have modem pools for sending and receiving cellular data. Some of the carriers may have special cellular data promotions which give you incentive for using the modem pools.
2. If the carrier provides modem pool service, they typically require you simply to dial *DATA (or *3282) as a prefix to your number. In most require you to dial the entire 11-digit phone number after *DATA

EXAMPLE: Local Call without *DATA Dial: 123-4567
Local Call with *DATA Dial: *3282 123-4567

Do not use commas or other breaks between the numbers. There will not be a long distance charge incurred. Dialing all of the numbers simply identifies the call as a data call and enters the modem pool. Your benefit will be knowing that the cellular error correction and throughput enhancement is available through this connection.

Setting Back “Dial-Up Networking” for Land-Based Connections:

Set-up for land-based connections is identical to cellular connections, except you must go back to the modem configuration and enable “Wait for Dial Tone Before Dialing.” The land-based phone network needs a dial tone to dial, cellular does not. The only other thing to remember is to connect the Com.plete PC Card’s land-based telephone attachment to the PC Card.Check the Modem Configuration to make sure “Wait for dial tone before dialing” is enabled.



For land-based data connections, this box must be enabled. REMEMBER, for cellular data connections, this box must be disabled.

1. Attach the land-based modem attachment (DAA) to the PC Card’s 15-pin connector and plug in the telephone line to the attachment.
2. Run “Dial-Up Networking” and follow the instructions.

Sending Faxes with Your Com.plete PC Card

In addition to cellular and land-based voice and data, your Com.plete PC Card is equipped with cellular and land-based fax capabilities. This section explains how to use these capabilities. But first, the following tips will help you prevent encountering problems when using your PC Card to send faxes.

- If possible, do not load more than 1 fax communications software program on your computer (this is in addition to MS-Fax if you have chosen to load these features in your Windows 95 setup). Most fax communication programs use the same system files for operation and conflicts can occur if more than one program is loaded on your computer.
- If you have more than one (1) fax communications program on your computer, never run both programs at the same time. This will result in resource conflicts with your computer.
- If you switch from one fax program to another, or if you are switching from one fax program to a separate data communications program, it may be necessary to release or unload the fax driver before running any other modem programs. Fax drivers like to keep hold of the COM port in your computer. You should consult your fax and data communications software for instructions on unloading the fax driver. However, most windows programs display the fax driver as a printer selection, so unloading the driver typically means purging the fax "Print" jobs from your computer.
- If your Card remains hung, unplugging and then re-plugging your PC Card will free the driver resource as well. However, this should only be done if you cannot unload the fax driver per the instructions in your communications software program **AND** can only be done while running Windows 95 or have Card & Socket Services support on your computer. This is referred to as "Hot Plugging" or "Hot Swapping." **NEVER UNPLUG YOUR Com.plete PC CARD WHILE A DATA TRANMISSION IS TAKING PLACE**.
- You should insert your PC Card prior to launching your communications software program. Some packages will not recognize the Card if it is inserted after being launched. If this happens, simply exit and re-launch your communications software program.

Sending a Cellular Fax Using your Com.plete PC Card:

Sending a fax over the cellular network is conceptually the same as sending data, except that fax transmissions are sent using different protocols than data. Therefore, the set-up or configuration of your Card for faxing is the same as it is for sending cellular data (SEE **"Configuring Your Com.plete PC Card"**), except that you need to chose a fax protocol or "Fax Class" to use for sending faxes. This setting usually takes place in your fax communications software under the setup drop down menu. Choose setup modem and look for the modem properties. The fax class setting should be listed here. A separate guide to common fax communications program setup is shown later in this manual.

A "Fax Class" explains the way image reduction and re-enlargement is processed during fax transmissions. Fax Class 1 & 2 are typically available. Fax Class 1 uses software instructions for image management during fax transmissions. Fax Class 2 uses your hardware to accomplish the same task. The image or document will end up looking the same using either Fax Class.

Your Com.plete PC Card can send faxes using either Fax Class 1 or Fax Class 2. **HOWEVER, WE RECOMMEND USING FAX CLASS 2** for fax transmissions.

NOTE: Windows 95 Standard MS-Fax setup defaults to Fax Class 1. If you switch to Fax Class 2 as recommended, Windows has a bug which does not switch from software flow control to hardware flow control. If you look at the modem initialization string you will see AT&K4… This command refers to software flow control. Until this bug is fixed you must manually change the &K4 command to &K3. &K3 sets hardware flow control as the modem default.

Cellular Voice Calls:

Your Com.plete PC Card is equipped with a small ear-phone jack located on the same side of the PC Card as the antenna. This jack can be used with an EarSet to place cellular voice phone calls in the same manner that you would place a cellular voice call with your standard cellular phone. It is important to note that the PC Card automatically selects the mode that it is in by the attachments that are connected to it. If the EarSet is connected, the default mode of the PC Card is voice, not data, and the modem in the PC Card will not initialize.

Using AT Commands To Dial

If you are using “AT Commands” to dial a phone number for a cellular voice call, you must do the following:

1. Plug the Com.plete PC Card into your notebook or hand-held computer WITHOUT the EarSet plugged into the card.
2. Launch your communication applications software.
3. Initialize the Card.
4. Enter the “Terminal” or “Command” mode in your communications program.

NOW, plug in the EarSet. Your Com.plete PC Card is ready to make voice calls by dialing ATDT (Phone Number) and Enter.

APPENDIX A: Phone Company Requirements and Notices

FCC Radio Frequency Interference Statement

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in 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 equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment 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 an outlet on a circuit different that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by GlobeWave can void the user's authority to operate the equipment.

FCC Part 68 Rules and Regulations

This equipment complies with Part 68 of the FCC Rules. On the back of the card is a label that contains, among other information, the FCC Registration Number and Ringer Equivalency Number (REN) for this equipment. You must, upon request, provide this information to your telephone company.
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 the RENs 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 of 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 GlobeWave,, for information on obtaining service or repairs. The telephone company may ask that you disconnect this equipment for the network until the problem has been corrected or until you are sure that the equipment is not malfunctioning.
There are no user serviceable parts contained in this equipment.
This equipment may not be used on coin service provided by the telephone company. Connection to party lines is subject to state tariffs.

Fax Branding Compliance

The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device to send any message via a telephone fax machine unless such message clearly contains in 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, other entity, or individual. (The telephone number provided may not be a 900 number or any other number for which charges exceed local or long-distance transmission charges.) In order to program this information into your fax application software package, please refer to your fax/modem software documentation on enabling fax branding.

Industry Canada Compliance Statement

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled: Digital Apparatus, ICES-003 of Industry Canada.

Industry Canada Information:

NOTICE: The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational and safety requirements. Industry Canada 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. In some cases, the company's inside wiring associated with a single line individual service may be extended by means of a certified connector assembly (telephone extension cord). 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 made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications 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 electrical inspection authority, or electrician, as appropriate.

Appendix B: AT Command Summary

Important Notes:

- All commands are preceded by the attention sequence “AT” with exception of the A/ command, which repeats the last AT command
- Factory default settings (use AT&F to restore) are indicated by "*"
- For commands using a numeric value, entering such command without a value uses a default value of 0 (zero)

Basic AT Commands

Com-mand	Description							
A	**Answer an Incoming Call**							
B	**Select Communications standard (for low speed connections)**							
	300 bps	**1200**	**2400**	**4800**	**7200**	**9600**	**12 Kbps**	**14.4**
B, B0	V.21	V.22	+	+	+	+	+	+
B1	Bell 103J*	Bell 212A*	+	+	+	+	+	+
B2	+	**O:**V.23R1200/T75 **A:**V.23T1200/R75	+	+	+	+	+	+
B3	+	**O:**V.23 T1200/R75 **A:**V.23 R1200/T75	+	+	+	+	+	+
B15	V. 21	+	+	+	+	+	+	+
B16	Bell 103J	+	+	+	+	+	+	+
B30	+	+	V.22bis*	+	+	+	+	+
B41	+	+	+	V.32*	+	+	+	+
B52	+	+	+	+	V.32*	+	+	+
B60	+	+	+	+	+	V.32*	+	+
B70	+	+	+	+	+	+	V.32bis*	+
B75	+	+	+	+	+	+	+	V.22bis*
C	**Carrier control option**							
C, C0	Transmit carrier is always off (Returns Error)							
C1	Modem manages transmit carrier switching*							
D	**Dial a Number**							
	Dial Modifiers:							
	J	Link Negotiation:	Sets *H1 for a single connection					
	K	Cellular Connection:	Sets)M1 for a single connection					
	P	Pulse dialing						
	R	Originate call in answer mode						
	S=n	Dial stored Telephone Numbers (n=0-3)						
	T	Tone dialing						
	W	Wait for dial tone						
	,	Pause (for time in S8, default 2 seconds)						
	!	Hook Flash						
	@	Wait for silence /Quiet Answer						
	;	Return to Command Mode after dialing						

Basic AT Commands	
Com-mand	**Description**
E	**Offline echo command**
E, E0	Echo disabled
E1	Echo enabled *
F	**Online echo command**
F, F0	Echo enabled (Returns Error)
F1	Echo disabled *
H	**Switch hook control**
H, H0	Go on-hook (execute hang up process)
H1	Go off-hook (on-line)
I	**Identification/checksum option**
I, I0	Report product code
I1	Display ROM checksum
I2	Verify ROM checksum
I3	Report ROM components
I4	Modem capabilities (encoded bitmapped string)
L	**Speaker volume**
L, L0	Low
L1	Low
L2	High*
L3	High
M	**Speaker control**
M, M0	Speaker always off
M1	Speaker on until carrier is detected *
M2	Speaker always on
M3	Speaker off during dialing, then on until carrier is detected
N	**Select negotiate handshake**
N0	When originating or answering, handshake only at the communication standard specified by S37 and Bn
N1	When originating or answering, begin handshake in V8. During handshake, a speed change may occur (automode)* (default)
N2	When originating or answering, begin handshake at the communication standard specified by Bn and S37. During handshake, a speed change may occur (automode no V.8)*

Basic AT Commands	
Com-mand	**Description**
N3	When originating or answering, handshake only in V.8
O	**Return to On-line state**
O,O0	Returns modem to a previously established on-line state
O1	Begins an equalizer retrain sequence, then returns to on-line state
O3	Issues rate renegotiation sequence, then returns to on-line state
P	**Enable pulse dialing**
Q	**Result code display option**
Q, Q0	All Result codes enabled *
Q1	All Result codes disabled
S	**Select an S register**
Sn	n=0-112: S register address
Sn=x	**Write to an S register**
	n=0-112: S register address x=0-255: S register value
Sn?	**Read an S register**
	n=0-112: S register address
T	**Enable tone dialing**
V	**Select Result code format**
V, V0	Result codes are displayed in Numeric form
V1	Result codes are displayed in text (Verbose) form *
W	**Select extended result code**
W, W0	CONNECT result code reports DTE speed; If S95=0, then disable all extended result codes *
W1	CONNECT result code reports DTE speed; If S95=0, then enable the CARRIER and PROTOCOL extended result codes
W2	CONNECT result code reports DCE speed; If S95=0, then disable all extended result codes

Basic AT Commands	
Com-mand	**Description**
X	**Result code set/call progress**
X, X0	Result codes 0...4 enabled. Busy and dial tone detect disabled (Blind dial)
X1	Result codes 0...5,10 enabled. Busy and dial tone detect disabled (Blind dial)
X2	Result codes 0...6,10 enabled. Busy detect disabled and dial tone detect enabled
X3	Result codes 0...5,7,10 enabled. Busy detect enabled and dial tone detect disabled
X4	Result codes 0...7,10 enabled. Busy and dial tone detect enabled *
Y	**Select Long space disconnect**
Y, Y0	Disable long space disconnect *
Y1	Enable long space disconnect (1.6 seconds of BREAK will terminate the connect)
Z	**Recall stored profile**
Z, Z0	Recall stored profile 0
Z1	Recall stored profile 1

Extended AT "&" Commands

Com-mand	Description
&B	**Select V.32 auto retrain**
&B, &B0	Hangup if bad EQM, do not retrain
&B1	Retrain, if bad EQM. If unable to retrain within time specified in S7, hangup *
&B2	Do not hangup and do not retrain (*i.e.*, tolerate bad line)
&C	**Select Data Carrier Detect (DCD) Option**
&C, &C0	State of carrier from remote modem is ignored. DCD is always ON
&C1	State of carrier from remote modem is tracked. DCD reflects the state of carrier *
&Dn	**Select Data Terminal Ready (DTR) Option**
&D, &D0	Ignore DTR, behave as if DTR is active all the time
&D1	ON-to-OFF transition: Switch to command mode (if in data mode) and return OK
&D2	ON-to-OFF transition: Disconnect, return OK, disable autoanswer while DTR is off *
&D3	ON-to-OFF transition: Perform a soft reset (ATZ) and restore stored profile
&F	**Load factory defaults**
&G	**Guard tone option (for V22/V22bis connections in answer mode)**
&G, &G0	Guard tone disabled *
&G1	550Hz guard tone enabled
&G2	1800Hz guard tone enabled
&J	**Auxiliary relay control**
&J, &J0	Auxiliary relay is never operated *
&J1	Reserved
&K	**Select flow control**
&K, &K0	Flow control disabled
&K1	Reserved
&K2	Reserved
&K3	Enable hardware flow control (RTS/CTS) *
&K4	Enable software flow control (XON/XOFF)
&K5	Reserved
&L, &L0	Dial up line processing *

&L1	Reserved
&M	**Select communication mode**
&M, &M0	Asynchronous Mode *
&M1,&M2, &M3	reserved
&P	**Dial pulse ratio**
&P, &P0	Make = 39%, Break = 61% for use in the United States and Canada *
&P1	Make = 33%, Break = 67% for use in the United Kingdom and Hong Kong
&Q	**Communications mode option**
&Q, &Q0	Asynchronous Mode *
&Q1,&Q2 ,&Q3	reserved
&R	**Select RTS/CTS option**
&R, &R0	CTS tracks RTS while modem is in on-line state *
&R1	RTS is ignored. CTS remains on while the modem is in on-line state
&S	**Select Data Set Ready (DSR) option**
&S, &S0	DSR signal is always on *
&S1	DSR signal is turned on during handshaking and connection, and turned off in test and idle mode and when the carrier is lost
&T	**Self Test Commands (V.22bis only)**
&T, &T0	Terminate any test in progress
&T1	Start local analog loopback test
&T3	Start local digital loopback test
&T4	Grant remote digital loopback (RDL) request from remote modem
&T5	Deny remote digital loopback (RDL) request from remote modem
&T6	Start remote digital loopback test
&T7	Start remote digital loopback test with self-test (sends CCITT test V.54 pattern)
&T8	Start local analog loopback test with self-test
&U	**Disable Trellis Coding**
&U, &U0	Enable trellis coding (use V32bis for 9600 bps connections)*
&U1	Disable trellis coding (use V32 for 9600 bps connections)
&V	**View Active Configuration and Stored Configuration Profile**
&V, &V0	Display active profile and stored profile 0
&V1	Display active profile and stored profile 1

&W	**Store Active Profile in Memory**
&W,&W0 &W1	Store current profile in memory location 0 Store current profile in memory location 1
&X	**Synch Transmit Clock Source Option**
&X, &X0 &X1,&X2	Default* Reserved
&Y	**Select Default Configuration Profile on power-Up**
&Y, &Y0 &Y1	Use memory profile 0 after power-up * Use memory profile 0 after power-up
&Zn=x	**Store Telephone Number x in Directory Entry n** x = 0...9, A , B ,C ,D ,# ,* ,T ,P ,R ,W ,@ ,, ,! ,; max. 36 characters n=0...3: standard stored numbers n=4 : user programmed quick dial number n=5 : last dialed number (system controlled) n=6 : emergency number (dealer programmable only)

AT Commands for V42/MNP control	
Command	**Description**
%A	**Set Autoreliable Fallback Character**
%An	n=0...127 (ASCII character) Default: 13
%C	**Select Data compression Mode**
%C, %C0	No compression
%C1	MNP Class 5 compression enabled*
%E	**Select Auto-retrain (V.22bis and V.32 only)**
%E, %E0	Disabled
%E1	Enabled *
%G	**Auto fallforward/fallback enable (V.22bis and V.32 only)**
%G, %G0	Disabled
%G1	Enabled *
%L	**Read current receive signal level (in - dBm)**
%Q	**Read current Datapump Receive Eye Quality Monitor EQM value** value: 0...127. A smaller value indicates a better line condition, this means, that there is a smaller chance for the receiver to make an data error
%T	**400Hz detection**
%T, %T0	Enabled
%T1	Disabled *
\A	**Maximum MNP block size**
\A,\A0	Max. 64 characters
\A1	Max. 128 characters
\A2	Max. 192 characters
\A3	Max. 256 characters *
\B	**Transmit break**
\Bn	n=0...9: Break length in 100 msec

AT Commands for V42/MNP control	
Command	**Description**
\C	**Set autoreliable buffer**
\C, \C0	Does not buffer data *
\C1	Buffers data for 4 seconds, until 200 characters have been buffered or SYN character is detected, then switches to reliable mode. If buffer fills, data is passed to serial port
\C2	Does not buffer data. Switches to normal mode upon receipt of autoreliable character and passes it to serial port
\G	**Set modem port flow control**
\G, \G0	Disable port flow control *
\G1	Set port flow control to XON/XOFF
\J	**DTE Port Bps rate adjust**
\J, \J0	Turn off feature (Serial port speed is independent of line connection speed) *
\J1	Turn on feature (Serial port speed adjusts to line connection speed)
\K	**Set break control**
	(In connect state, if reliable mode then transmit break to remote)
\K0, \K2, \K4	Enter command state but do not send a break
\K1	Destructive/Expedited
\K3	Non-destructive/Expedited
\K5	Non-destructive/Non-expedited
	(In command state, if reliable mode then transmit break to remote)
\K0, \K1	Destructive/Expedited
\K2, \K3	Non-destructive/Expedited
\K4, \K5	Non-destructive/Non-expedited
	(In connect state, if direct mode then receive break at serial port)
\K0, \K2, \K4	Immediately send break and enter command state
\K1, \K3, \K5	Immediately send break through
	(In connect state, receive break at modem port, send to serial port)

Modem S-Registers			
Reg.	**Range**	**Default**	**Description**
\K0, \K1			Destructive/Expedited
\K2, \K3			Non-destructive/Expedited
\K4, \K5			Non-destructive/Non-expedited
			Default: 5

AT Commands for V42/MNP control	
Command	**Description**
\L	**Select MNP link Type**
\L, \L0	MNP connections will use stream link *
\L1	Reserved
\N	**Set operating mode**
\N, \N0	NORMAL mode: Data buffered, flow control, no protocols/compression
\N1	DIRECT mode: Data not buffered, no flow control,no protocols/compression
\N2	MNP reliable mode: Data buffered, flow control, use MNP protocols only
\N3	V.42 autoreliable mode:Data buffered, flow control, use LAP-M (preferred) or MNP
\N4	V.42 reliable mode: Data buffered, flow control, use LAP-M protocols only
\N5	LAP-M reliable mode: Data buffered, flow control, use LAP-M protocols or normal (default)
\O	**Originate MNP reliable Connection**
\Q	**Set Serial Port Flow Control**
\Q, \Q0	Disables DTE flow control
\Q1	Bidirectional XON/XOFF flow control
\Q2	Unidirectional hardware flow control (modem uses CTS to control transfer from DTE)
\Q3	Bidirectional hardware flow control (RTS/CTS) *
\T	**Set Inactivity Timer**
\Tn	n=0...90: Length in minutes to break connection, if no data transfer occurs Default: 0 minutes (disabled)
\U	**Accept MNP autoreliable link**
\V	**Modify result code form**
\V, \V0	Enable codes defined by ATV command *
\V1	Enable modified MNP codes (add /REL for reliable connections)
\V1	Enable modified MNP codes (add /REL for reliable connections)

AT Commands for V42/MNP control	
Com-mand	**Description**
\X	**Set XON/XOFF pass-through Flow Control**
\X, \X0	Processes flow control characters (XON/XOFF) and do not pass to remote modem *
\X1	Processes flow control characters and passes them through to the local or remote so they can process the characters
\Y	**Switch to MNP Reliable mode**
\Z	**Switch to Normal mode**
-B	**Forces a downshift to the next lower speed during an MNP 10 connection**
-C	**Calling tone option**
-C, -C0	Calling tone disabled *
-C1	Calling tone enabled
-J	**Select V.42 Error Control Detection phase**
-J, -J0	Disables the V.42 detect phase
-J1	Enables the V.42 detect phase *
-K	**Select MNP 10 extended services**
-K, -K0	Disables MNP 10 extended services
-K1	Enables MNP extended services *
-K2	Enables MNP extended services without MNP indication during the answer detect phase
-Qn:	**Fallback modulation speeds (MNP 10)**
-Q, -Q0	Disables fallback from V.32bis or V.32 connection to a 2400 or 1200 bps connection
-Q1	Enables fallback from V.32bis or V.32 connection to a 2400 bps connection
-Q2	Enables fallback from V.32bis or V.32 connection to a 2400 or 1200 bps connection *
-U	**Forces an upshift the the next higher speed during an MNP 10 connection**

AT Commands for V42/MNP control	
Com-mand	**Description**
-V	**Display modem firmware version number**
"H	**V.42bis compression control**
"H0	Disable V.42bis
"H1	Enable V.42bis only when transmitting data
"H2	Enable V.42bis only when receiving data
"H3	Enable V.42bis for both transmitting and receiving data *
"M	**MNP 10 control**
"M, "M0	Disable MNP 10
"M1	Enable MNP 10 *
"N	**V.42bis dictionary size**
"Nn	n=512...2048: Number of nodes in the V.42bis dictionary
“O	**V.42bis string length**
"On	n=6...250: Number of characters (Default: 32)
***H**	**MNP Link negotiation speed**
*H, *H0	Link negotiation occurs at the highest supported speed*
*H1	Link negotiation occurs at 1200 bps
*H2	Link negotiation occurs at 4800 bps
)M	**Power level adjustment and spectral enhancements for cellular connections**
)M,)M0	Auto-adjust power level (only) if the remote is)M1. Use for modems that will connect to both cellular and non-cellular site modems. (PSTN / Mode 0 default)
)M1	Auto-adjust power level and perform spectral enhancements. For cellular site modems this forces adjustment of power level and spectral enhancements. (AMPS/Mode 1 default)

Result Codes	
Numeric Code	Verbose Code
0	OK
1	CONNECT
2	RING
3	NO CARRIER
4	ERROR
5	CONNECT 1200
6	NO DIALTONE
7	BUSY
8	NO ANSWER
9	CONNECT 600
10	CONNECT 2400
11	CONNECT 4800
12	CONNECT 9600
13	CONNECT 14400
14	CONNECT 19200
18	CONNECT 57600
24	CONNECT 7200
25	CONNECT 12000
26	CONNECT 1200/75
27	CONNECT 75/1200
28	CONNECT 38400
31	CONNECT 115200
40	CARRIER 300
42	CARRIER 75/1200
43	CARRIER 1200/75
46	CARRIER 1200
47	CARRIER 2400
48	CARRIER 4800
49	CARRIER 7200
50	CARRIER 9600
51	CARRIER 12000
52	CARRIER 14400
65	RINGBACK
66	COMPRESSION: MNP5
67	COMPRESSION: V.42BIS
69	COMPRESSION: NONE

Result Codes	
Numeric Code	Verbose Code
70	PROTOCOL: NONE
77	PROTOCOL: LAPM
80	PROTOCOL: MNP
81	PROTOCOL: MNP 2
82	PROTOCOL: MNP 3
83	PROTOCOL: MNP 2, 4
84	PROTOCOL: MNP 3, 4
85	PROTOCOL: MNP 2, 10
86	PROTOCOL: MNP 3, 10
87	PROTOCOL: MNP 2, 4, 10
88	PROTOCOL: MNP 3, 4, 10
89	PROTOCOL: MNP 2,10 (CELLULAR)
90	PROTOCOL: MNP 3,10 (CELLULAR)
91	PROTOCOL: MNP 2,10 (EC)
92	PROTOCOL: MNP 3,10 (EC)
93	PROTOCOL: MNP 2,4,10 (CELLULAR)
94	PROTOCOL: MNP 3,4,10 (CELLULAR)
95	PROTOCOL: MNP 2,4,10 (EC)
96	PROTOCOL: MNP 3,4,10 (EC)

Modem S-Registers			
Reg.	**Range**	**Default**	**Description**
S0	0-255	0	**Ring to auto-answer on**
S1	0-255	0	**Ring count**
S2	0-255	43	**Escape Character (decimal ASCII value)**
S3	0-127	13	**Carriage Return character (decimal ASCII value)**
S4	0-127	10	**Line Feed Character (decimal ASCII value)**
S5	0-127	8	**Backspace Character (decimal ASCII value)**
S6	2-255	2	**Pause before blind dialing in seconds**
S7	1-255	90	**Wait time for carrier after dialing in seconds**
S8	0-255	2	**Pause time for command or dial modifier (comma)**
S9	1-255	6	**Carrier recovery time (1/10 seconds)**
S10	1-255	14	**Lost carrier hang up delay (1/10 seconds)**
S11	50-255	95	**DTMF dialing speed (Duration and spacing in milliseconds)**
S12	0-255	50	**Escape Sequence Guard time (1/50 seconds)**
S13			**Reserved**
S14	0-255		**Bit mapped options:**
			Bit 0 Reserved
			Bit 1 0 E0 is selected
			1 E1 is selected *
			Bit 6, 2 0 Q0 is selected *
			1 Q1 is selected
			Bit 3 0 V0 is selected
			1 V1 is selected *
			Bit 4 0 Dumb mode off *
			1 Dumb mode on
			Bit 5 0 T is selected *
			1 P is selected
			Bit 7 0 Answer
			1 Originate *

Modem S-Registers					
Reg.	**Range**	**Default**	**Description**		
S15			**Reserved**		
S16	0-255	0	**Modem test options (bitmapped):**		
			Bit 0	0	Local analog loopback disabled *
				1	Local analog loopback enabled (&T1)
			Bit 1	0	Reserved
			Bit 2	0	Local digital loopback disabled *
				1	Local digital loopback enabled (&T3)
			Bit 3	0	Remote digital loopback off *
				1	Remote digital loopback in progress (&T6)
			Bit 4	0	RDL not active *
				1	RDL request from distant end is in service
			Bit 5	0	Remote digital loopback with self-test disabled *
				1	Remote digital loopback with self-test enabled (&T7)
			Bit 6	0	Analog loopback with self-test disabled *
				1	Analog loopback with self-test enabled (&T8)
			Bit 7	0	Reserved

Modem S-Registers					
Reg.	**Range**	**Default**	**Description**		
S17			**Reserved**		
S18	0-255	0	**Modem test timer (seconds)**		
S19-S20			**Reserved**		
S21			**Bit mapped options**		
			Bit 0	0	&J0 is selected *
				1	&J1 is selected
			Bit 1	0	Reserved
			Bit 2	0	&R0 is selected *
				1	&R1 is selected
			Bit 4, 3	00	&D0 is selected
				01	&D1 is selected
				10	&D2 is selected *
				11	&D3 is selected
			Bit 5	0	&C0 is selected
				1	&C1 is selected *
			Bit 6	0	&S0 is selected *
				1	&S1 is selected
			Bit 7	0	Y0 is selected *
				1	Y1 is selected
S22			**Bit mapped options**		
			Bit 1, 0	00	Reserved
				01	L1 is selected
				10	L2 is selected *
				11	L3 is selected
			Bit 3, 2	00	M0 is selected
				01	M1 is selected *
				10	M2 is selected
				11	M3 is selected
			Bit 6, 5, 4	000	X0 is selected
				001	Reserved
				010	Reserved
				011	Reserved
				100	X1 is selected
				101	X2 is selected
				110	X3 is selected
				111	X4 is selected *
			Bit 7	0	&P0 is selected *
				1	&P1 is selected

Modem S-Registers					
Reg.	**Range**	**Default**	**Description**		
S23			**Bit mapped options**		
			Bit 0	0	&T5 is selected
				1	&T4 is selected *
			Bit 3,2,1	000	0-300 bps rate
				001	1200 bps
				010	2400 bps
				011	4800 bps
				100	7200 bps
				101	9600 bps
				110	19.2K bps
				111	38.4K bps *
			Bit 5, 4	00	Even parity *
				01	Space parity/no parity
				10	Odd parity
				11	Mark
			Bit 7, 6	00	&G0 is selected *
				01	&G1 is selected
				10	&G2 is selected
				11	Reserved
S24			**Reserved**		
S25			**Detect DTR change**		
	0-255	5	(100ths second) if on line or on-line command state		
	0-255	5	(1 second) otherwise		
S26			**RTS to CTS delay interval**		
	0-255	1	0 - 255 (100ths second)		

Modem S-Registers					
Reg.	**Range**	**Default**	**Description**		
S27			**Bit mapped options**		
			Bit 3,1, 0	000	&Q0 is selected *
				001	&Q1 is selected
				010	&Q2 is selected
				011	&Q3 is selected
				100	&Q4 is selected
				101	Not used
				110	Not used
				111	Not used
			Bit 2	0	&L0 is selected *
				1	&L1 is selected
			Bit 5, 4	00	&X0 is selected *
				01	&X1 is selected
				10	&X2 is selected
				11	Reserved
			Bit 6	0	B0 is selected
				1	B1 is selected *
			Bit 7		Reserved
S28-9			**Reserved**		
S30	0-90	0	**Modem Inactivity timer value (minutes)**		
S31-6			**Reserved**		
S37	0-11	0	**Desired DCE speed** (only, when not in automode, ATN0)		
			0	Attempt to connect@last AT speed	
			1	Reserved	
			2	Reserved	
			3	Attempt a 300 bps connection	
			4	Reserved	
			5	Attempt a 1200 bps connection	
			6	Attempt a 2400 bps connection	
			7	Attempt a 4800 bps connection	
			8	Attempt a 7200 bps connection	
			9	Attempt a 9600 bps connection	
			10	Attempt a 12.0K bps connection	
			11	Attempt a 14.4K bps connection	
S38	3-255	30	**Non-MNP10 Fall Forward Time (seconds)**		

Modem S-Registers				
Reg.	**Range**	**Default**	**Description**	
S39	0-3		**Cellular Modem Filter Override**	
			0	No override (use Rockwell EC filter when mobile, use Rockwell PSTN filter when land-line to mobile, use no filters for land-line to land-line links.
			1	Always use TX-CELL filter
			2	Always use Rockwell EC filter
			3	Always use Rockwell PSTN filter
S40-S90			**Reserved**	
S91	9-31	9	**Select Data Line transmit level (-dBm)**	
S92-S94			**Reserved**	
S95	0-255	0	**Extended result code bit map**	
			Bit 0	Verbose CONNECT result code indicates the DCE speed (rather than the DTE speed)
			Bit 1	Append "/ARQ" to the verbose CONNECT result code if the protocol is not "NONE"
			Bit 2	Enable the CARRIER result codes
			Bit 3	Enable the PROTOCOL result codes
			Bit 4	Reserved
			Bit 5	Enable COMPRESSION result codes
			Bit 6	Enable PROTOCOL result codes 81-83 for MNP connections (in place of result code 80)
S108	0-3	1	**Signal quality selector**	
			0	No limit
			1	Low quality
			2	Medium quality
			3	High quality

Modem S-Registers				
Reg.	**Range**	**Default**	**Description**	
S109	0-255	62	**V.32bis carrier speed selector**	
			1	Reserved
			2	4800 bps
			4	7200 bps
			8	9600 bps
			16	12.0K bps
			32	14.4K bps
			64	Reserved
			128	Reserved
			Note: The values may be added to specify several speeds. When viewed as an 8-bit number, the register is bit mapped.	
S110	0-2	2	**V.32/V.32bis selector**	
			0	V.32 enabled
			1	V.32bis enabled
			2	V.32bis and automatic rate re-negotiation enabled
S112	0-14	0	**DTE speed select during data transfer**	
			0	Last AT speed
			1	Reserved
			2	300 bps
			3	1200 bps
			4	2400 bps
			5	4800 bps
			6	7200 bps
			7	9600 bps
			8	12000 bps
			9	14400 bps
			10	16800 bps
			11	19200 bps
			12	38400 bps
			13	57600 bps
			14	600 bps

Fax Class 1 AT Commands

Command	Description
+FTS	Stop transmission and wait
+FRS	Receive silence
+FTM	Facsimilie transmit
+FRM	Facsimilie receive
+FTH	HDLC transmit
+FRH	HDLC receive

Please refer to EIA/TIA 578 for specific details on Fax Class 1 command operation.

Fax Class 2 AT Commands

Command	Description
+FAXERR	Fax error value
+FBADLIN	Number of consecutive bad lines for a bad page
+FBADMUL	Multiplier to determine error rate threshold
+FBOR	Phase C data bit order
+FBUF	Buffer size (read only)
+FBUG	Session message reporting enable
+FCQ	Copy Quality
+FCR	Capability to receive
+FCTCRTY	CTC retry value
+FDCC	Establish DCE capabilities
+FDCS	Current session parameters (read only)
+FDFFC	Data compression format conversion
+FDIS	Current session negotiation position
+FDR	Begin or continue phase C data reception
+FDT	Begin or continue sending
+FECM	Error correction mode control
+FET	End the page or document
+FK	Kill operation, orderly fax abort
+FLID	Local fax station ID string, TSI or CSI
+FLNFC	Page length format conversion
+FLPL	Indicate document available for polling
+FMDL	Identify DCE
+FMFR	Identify DCE manufacturer
+FMINSP	Minimum phase C speed
+FPHCTO	Phase C time out
+FPTS	Page transfer status
+FREV	Identify DCE revision

+FRBC	Phase C data receive byte count
+FREL	Phase C received EOL alignment
+FSPL	Enable polling
+FTBC	Phase C data transmit byte count
+FVRFC	Vertical resolution format conversion
+FWDFC	Page width format conversion

Please refer to EIA Tn 2388 for specific details on FAX Class 2 command operation.

Fax Class 2.0 AT Commands

Command	Description
+FBS:	Buffer size (read only)
+FBO:	Phase C data bit order
+FBU:	HDLC frame reporting parameter
+FCC:	DCE capabilities parameters
+FCQ:	Copy quality checking parameter
+FCR:	Capability to receive parameter
+FCS:	Current session results parameter
+FCT:	DTE phase C time out parameter
+FDR:	Data reception command
+FDT:	Data transmission command
+FEA:	Phase C received EOL alignment parameter
+FFC:	Format conversion parameter
+FHS:	Call termination status parameter
+FIE:	Procedure interrupt enable parameter
+FIS:	Current session parameters
+FKS:	Session terminate command
+FLI:	Local ID string parameter, TSI or CSI
+FLP:	Indicate document to poll parameter
+FMI:	Request DCE manufacturer
+FMM:	Request DCE model
+FMR:	Request DCE revision
+FMS:	Mimimum phase C speed parameter
+FNR:	Negotiation message reporting control parameter
+FNS:	Non-standard frame FIF parameter
+FPI:	Local polling ID string parameter
+FPS:	Page status parameter
+FRQ:	Receive quality thresholds parameter
+FRY:	ECM retry value parameter
+FSP:	Request to poll parameter

Please refer to EIA/TIA 592 for specific details on Fax Class 2.0 command operation.

Rockwell Voice Mode AT Commands

AT Command Set Extensions Global to any Mode

Command	Description
#BDR	Select Baud Rate
#CLS	Select data, fax, or voice
#MDL	Identify Model
#MFR	Identify Manufacturer
#REV	Identify Revision Level

Rockwell Voice Mode AT Commands AT Command Enabled Only in Voice Mode (#CLS=8)		
Command	**Description**	
#VBS	Bits Per Sample	
#VBT	Beep Tone Timer	
#VBQ?	Query Buffer Size	
#VCI?	Identify Compression Method	
#VGR	Receive Gain Selection	
#VGT	Transmit Gain Selection	
#VLS	Voice Line Select	
	n	Device Type and Considerations
	0	Telephone Line: This is the default device selected. In this configuration, the modem can alternately record from or playback to the telephone line. The modem currently supports one telephone line, which is in the first position of the #VLS =? response. If a telephone line is selected (unless already selected), the modem must be on-hook or it hangs up. The OK message is generated.
	2	Transmit Only Device: This is the Jabra speaker. When this device is selected, the modem immediately enters Online Voice Command Mode, and the VCON response is sent.
	3	Receive Only Device: This is the Jabra microphone. When this device is selected, the modem immediately enters Online Voice Command Mode, and the VCON response is sent.
	4	Telephone line with Speaker ON: This device type can be used to allow the DTE to select the telephone line (if present) with the modem PCMCIA speaker also turned ON. This can be used by the DTE to allow the user to monitor an incoming message as it is recorded.
#VRA	Ringback Goes Away Timer (Originate)	
#VRN	Ringback Never Came Timer (Originate)	
#VRX	Voice Reveive	
#VSD	Silence Detection	
#VSK	Buffer “Skid” Setting	
#VSP	Silence Detection Period (Voice Receive)	
#VSR	Sampling Rate Selection	
#VSS	Silence Sensitivity Tuner (Voice Receive)	
#VTD	Tone Reporting Capabilities	
#VTS	Play Tone String In Online Voice Command Mode	
#VTX	Voice Transmit	

Please refer to the Rockwell Document No. 883 (Chapter 7) for specific details on Rockwell voice commands.

IS-101 Voice Mode AT Commands	
AT Command Set Extensions Global to any Mode	
Command	**Description**
+FMI?	Manufacturer Identification
+FMM?	Product Identification
+FMR?	Revision Identification

IS-101 Voice Mode AT Commands	
AT Command Enabled Only in Voice Mode (+FCLASS=8)	
Command	**Description**
+VIP	Initialize Voice Parameters
+VRX	Voice Receive
+VTS	Play Tone String
+VTX	Voice Transmit
+VGR	Receive Gain Selection
+VGT	Transmit Gain Selection
+VIT	Voice Inactivity Timer
+VLS	Voice Line Select
+VRA	Ringback Goes Away Timer (Originate)
+VRN	Ringback Never Came Timer (Originate)
+VSD	Silence Detection
+VTD	Beep Tone Duration TImer
+VDR	Distinctive Ring Reporting
+VDT	Control Tone Cadence Reporting
+VEM	Event Reporting And Masking
+VBT	Buffer Threshold Setting
+VPR	Select Baud Rate

Please refer to IS-101 for specific details on voice command operation.

Voice View AT Commands	
Command	**Description**
+FCLASS=80	New Service Class 80 specifies VoiceView.
-SVV	Start VoiceView data mode
-SAC	Accept data mode request
-SIP	Initialize VoiceView parameters
-SIC	Reset capabilities data to default setting
-SSQ	Start capabilities query
-SDA	Start modem data mode
-SFX	Start facsimile data mode
-SQR	Capabilities query response control
-SCD	Set capabilities data
-SER?	VoiceView error reporting
-SSP	Set VoiceView transmission speeds
-SSR	Start sequence response control
VoiceView Event Summary	
-SSV	VoiceView data mode request received
-SMD	Modem data mode request received
-SFA	Facsimile data mode request received
-SRA	ADSI CAS response to capabilities query
-SQR	Capabilities query message
-SRC	Capabilities response message
-STO	Talkoff event message

For more information on VoiceView commands refer to the Radish documentation.

Phonebook AT Commands	
Command	**Description**
+CPBR=n1[,n2]	**Reads index n1 (through n2) with number and text fields**
+CPBW= **n1[,<num>,<text>]**	**Deletes Phonebook entry n1** (Writes entry n1 with specified number and text fields) n1=255 initializes the phonebook
+CPBF=<string> **+CPBI=F(L,N,P,E)?**	**Returns entries whose text fields begin with <string>** **Returns specified Adress book index:** F: alphabetically first entry L: alphabetically last entry N: alphabetically next entry to current entry P: alphabetically prior entry to current entry E: next available empty entry
+CMEE=n	**Extended Address Book error messages**
	n=0: Disabled (default) n=1: Enabled "+CME ERROR: <err>" result codes for phonebook commands

Wireless (AMPS) Mode AT Commands	
Command	**Description**
+WS46=	**Wireless (AMPS) /Wireline (PSTN) Data Service Selection** **(see also !MODE)** 0: Wireline (PSTN) Phone 1: Wireline (PSTN) Modem 7: Wireless (AMPS) Modem 17: Wireless (AMPS) Phone Note: Default value depends on attached accessory (DAA, Earphone)
+WCXF	**Display Supported PCCA Annex F commands**
+WS50?	**Normalized Signal Strength (RSSI, 0...100%)** 0: -120 dBm 100: -40 dBm
+WS51=	**Carrier Detect Signal Strength Threshold:** 0...100: Threshold value (relative RSSI in %, see +WS50) 255: disabled (default)
+WS52?	**Battery / PCMCIA voltage level** 0...100: (100 = 9 volts)
+WS56?	**Registration Status** 0: no service available 1: service available and registerd with cell site
+WS58=	**Idle Time-out Value (see also !SLEEP=)** 0: Immediate 1...60: Time in seconds 61...120: Time in minutes 255: disabled (default)

Wireless (AMPS) Mode AT Commands	
Command	**Description**
+WCID?	**Display System ID**
+WCPN=	**Personal Identification Number** "newPIN","old"PIN"
+WCLK=	**DCE Lock/Unlock** 0: Unlock 1: Lock
+WDAC	**Display Supported PCCA Annex I commands**
+WSTL=	**Call Session Time Limit** 0: Disable (default) 1-255: Time in 10 second units
+WECR=	**Enable Cellular Result Codes** 0: PSTN results (default) 1: Cellular results 5: Extended Cellular results
+WRLK=	**Roam Lockout** 0: No Lockout (default) 1: Lockout
+WBAG=	**Bias Modem Audio Gain** 0: Default level 1-15: Increase level (-1)- (-15): Decrease level
+WPTH=	**Audio Call Path** 0: Handset 1: Modem
!MODE=	**Wireless (AMPS) / Wireline (PSTN) Data Service Selection** 0: Wireline (PSTN) modem 1: Wireless (AMPS) modem 2: Wireline (PSTN) phone 3: Wireless (AMPS) phone Note: Default value depends on attached accessory (DAA, Earphone)

Wireless (AMPS) Mode AT Commands	
Command	**Description**
!WCFG= **n1,n2,n3**	**Wireless configurations** **n1 - System Select:** 0: System A Only 1: System B Only 2: System A Prefered 3: System B Prefered **n2 - Local phone number selection (NAM) (operation and programming)** 1-2: Stored number (1-2) **n3 - Discontinuous transmission (DTX):** 0: Disabled (default) 1: Enabled
!WRX=	**Set Audio receive level** 0: Default volume 1-15: Increase in dB (-1)-(-15): Decrease in dB ^: Increment by one dB step v: Decrement by one dB step
!WTX=	**Set Audio transmit level** 0: Default volume 1-15: Increase in dB (-1)-(-15): Decrease in dB ^: Increment by one dB step v: Decrement by one dB step
!WCHL?	**Display current wireless channel**
!WID?	**Display units 10 digit phone number in the format (xxx)xxx-xxxx**

Wireless (AMPS) Mode AT Commands	
Command	**Description**
!WSTAT?	**Display operating status information** **x1 - Service Available:** 0: No 1: Yes **x2 - Roaming Status**: 0: Home 1: Roam **x3 - Current System:** 0: System A 1: System B **x4 - In Use:** 0: No 1: Yes