

# **IBM WorkPad Modem Handbook**

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P/N: 423-0222-16

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# Introduction

Congratulations on purchasing the IBM® WorkPad® Modem, an external, snap-on, modem for your IBM WorkPad PC companion. The WorkPad Modem enables you to send and receive data transmitted between your WorkPad Modem and another modem. This data transfer takes place via regular (analog) telephone lines.

WorkPad Modem is convenient and easy-to-use. Installation is easy — you simply snap it on to the bottom of your WorkPad. Once installed, you can perform remote HotSync® operations as easily as you can from the WorkPad cradle — by pressing a single button.

With the WorkPad Modem, you can:

- Easily perform remote HotSync operations
- Synchronize your WorkPad and your desktop with one touch
- Take full advantage of WorkPad applications, such as E-Mail and TCP/IP.

## What's In Your Package

Check the contents of this package to make sure everything listed below is there and ready to use. Your package should include:

- WorkPad Modem
- Two pre-installed AAA Alkaline batteries
- An RJ11-to-RJ11 telephone cable
- WorkPad Modem Handbook



# Chapter 1

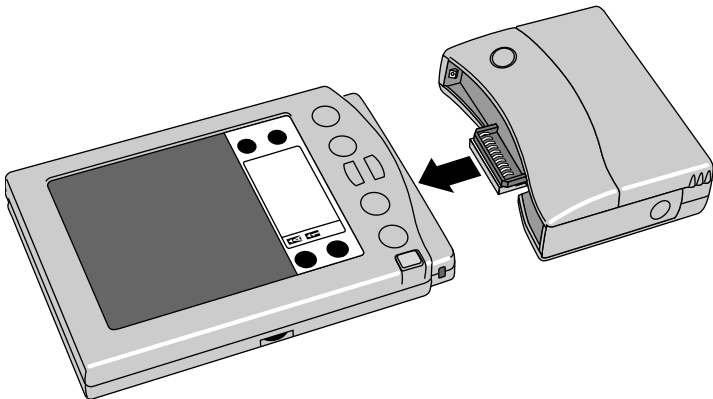
## Setting Up Your WorkPad Modem

To set up your IBM WorkPad Modem, you need to:

- Attach the WorkPad Modem to your IBM WorkPad PC companion
- Attach the telephone line to your WorkPad Modem
- Configure your WorkPad Modem Preferences and Phone Setup information

### Attaching Your WorkPad Modem

To attach your WorkPad Modem to your WorkPad, simply snap it on to the bottom of your WorkPad so that it is securely connected.



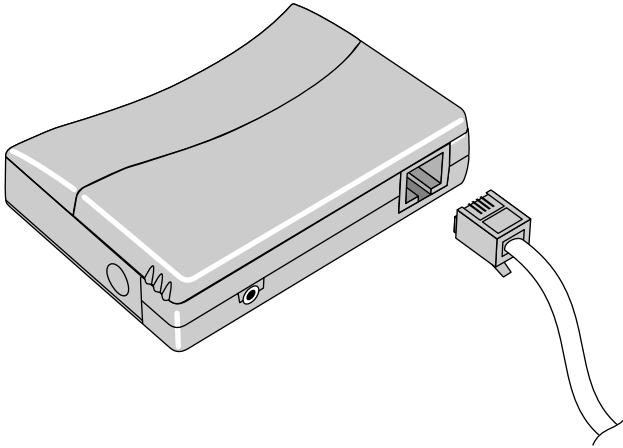
When correctly installed, the curved edge on the bottom of the WorkPad aligns smoothly with the modem.

## Attaching the Cables

The WorkPad Modem uses a standard RJ11-to-RJ11 cable to connect to your telephone service.

To attach the cable:

1. Insert one end of the RJ11 cable into the female jack located on the bottom of your WorkPad modem.



2. Insert the other end of the cable into an analog telephone jack on the wall.

**Note:** You can also plug an analog telephone line from your telephone directly into your modem.

## Using the Correct Telephone Line Type

It is important to use a standard analog telephone line, which is commonly used in households today. If you are in an office, use a line that is connected to a fax machine or another modem. If you are in a hotel, request a room with a standard telephone line or a data port.

If you are not sure what kind of line you are connecting to, check with the local telephone company or telephone administrator before you try to send data.



If you try to transmit data using the wrong kind of telephone line (such as a digital PBX line, which is common in offices and hotels), your WorkPad Modem will emit **three beeps**. If this occurs, disconnect the telephone cable from your WorkPad Modem immediately and find an analog telephone line to use.

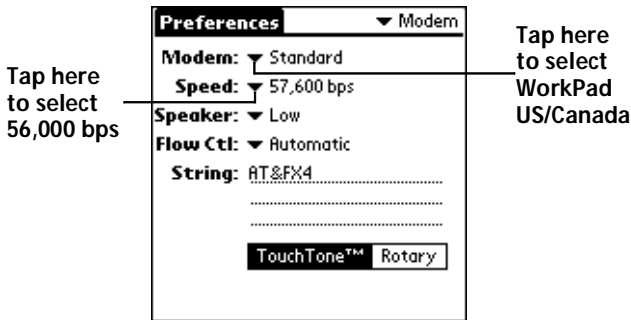


## Configuring WorkPad Modem Preferences Settings

Your WorkPad Modem uses the Modem Sync software already in your WorkPad to establish a connection with another modem. To use the WorkPad Modem, you must enter Modem Preferences settings as described below. For additional information, see “Modem Preferences” in your WorkPad manuals.

To configure the WorkPad Modem Preferences settings:

1. Tap the  icon to open the Applications Launcher.
2. Tap the  icon to display the Preferences screen.
3. Tap Modem from the pick list in the upper-right corner to display the Modem Preferences screen.
4. Tap WorkPad US/Canada from the Modem pick list to update the startup String for your WorkPad Modem.



**Note:** Refer to the Appendix B for information about AT commands: what they are, how they work, and how to enter them.

5. Tap 57,600 bps from the Speed pick list to select this as the modem speed.

**Note:** Although your WorkPad Modem is rated at 14,400 bps, choose 57,600 bps to take advantage of the WorkPad to modem communications and the modem’s V.42bis data compression.

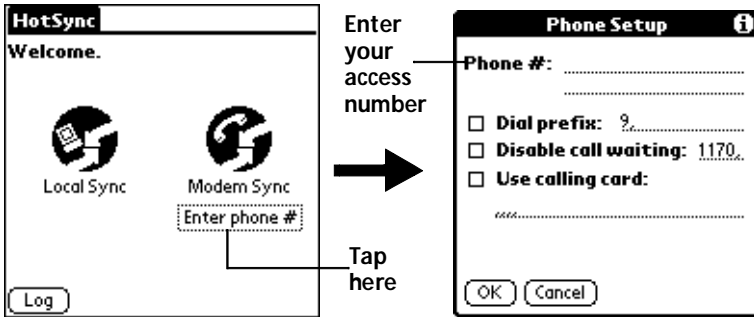
6. Tap done to confirm your selections and return to the HotSync screen.

## Configuring WorkPad Phone Setup Settings

To use the WorkPad Modem, you must enter Phone Setup settings as described below. For more information, see your WorkPad manuals.

To configure the WorkPad Phone Settings:

1. Tap the Enter Phone # box on the HotSync screen to open the Phone Setup dialog.



2. Enter the telephone number to access your remote modem in the Phone # field.
3. If you need a prefix, (such as 9) to access an outside line, select the Dial prefix check box and enter the prefix followed by a comma in the Dial prefix field.

**Note:** The comma tells your WorkPad to pause for 2 seconds before dialing the telephone number.

4. If you need to disable Call Waiting, select the Disable call waiting check box and enter the code to disable call waiting in that field.

**Note:** Each telephone company assigns a code to disable call waiting. Two examples are \*70 and 1170. Contact your local telephone company for the appropriate code.

5. If you need to use a calling card, select the Use calling card check box and enter your calling card number in that field.

**Note:** Most telephone companies broadcast a tone to let you know when to enter your calling card number. It's a good idea to add an ampersand (&) or at least three commas at the beginning of your calling card number to compensate for any cue delay.


6. Tap the OK button to confirm your selections and return to the HotSync screen.

## Chapter 2

# Using Your WorkPad Modem

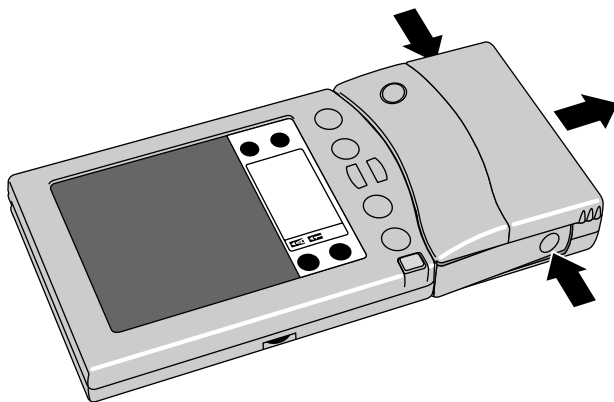
After you set up your IBM WorkPad Modem as described in the previous chapter, you are ready to use the modem to perform a HotSync operation.

To perform a HotSync operation with the WorkPad Modem:

- Press the  button on the front of the WorkPad Modem.

## Detaching Your WorkPad Modem

To remove your WorkPad Modem from your WorkPad, simply press the buttons on either side of the modem (using your thumb and index finger) and gently slide the modem away from your WorkPad.



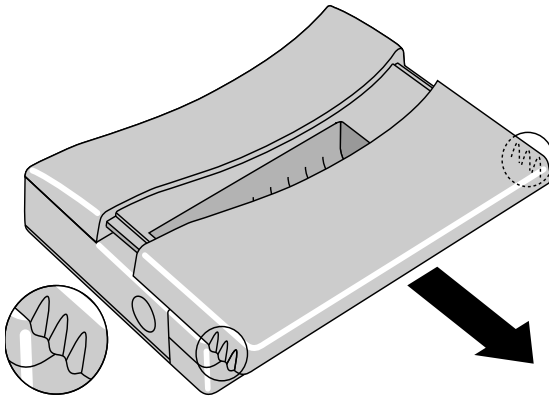
## Replacing the Batteries

The WorkPad Modem uses two (2) AAA alkaline batteries. The batteries fit behind the battery door on the front panel of your WorkPad Modem.

When the WorkPad Modem has approximately four minutes of battery time left, it emits three short beeps. These beeps repeat every minute until the batteries drain. When you hear this warning, replace your batteries as soon as possible.

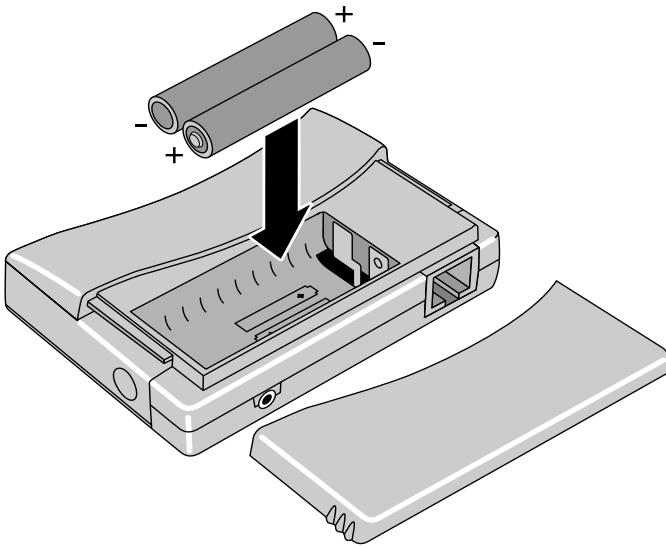
### To replace the batteries:

1. With the front of the modem facing you, place your fingers on either side of the modem. Use the small ridges to grip the battery door and slide it toward you and away from the modem.



2. Remove the existing batteries from the battery compartment.
3. Insert the new batteries paying close attention to the orientation of the batteries.

**Warning:** You can damage your modem if you install the batteries incorrectly.



4. Replace the battery door.

**Note:** The battery door should click into position and sit flush with the front of the WorkPad Modem.



# Appendix A

## Specifications

### Asynchronous Character Format

Up to 10 bits, including data, start, stop, and parity bits

### Asynchronous Data Rates

Transmission rate fallback through 300 bps

### Chipset

Rockwell ACG

### Compatible Public Switched Network Jacks

RJ11

### Dialing Capability

Tone and rotary pulse

### Line Requirements

Public switched telephone network including international connections

### Operating Environment

Altitude: Up to 20,000 ft.

Humidity: 10% to 90% non-condensing

### Operating Temperature

Operating: 0° to 50°C

Storage: -25° to 125°C

### Operating Modes

Asynchronous

Full duplex

Automatic and manual call originate/answer

### Performance

Line speed up to 14,400 bps

WorkPad to modem speed (DTE speed) up to 57,600 bps

V.42bis data compression

V.42 LAPM error correction

**Power Consumption**

115 $\mu$ A connected

105 $\mu$ A ready

20 $\mu$ A off

**Battery Life**

Up to five hours of uninterrupted use

**Pulse Dialing Rate (U.S. only)**

10 pulses per second

Pulse dialing duty cycle: 39/61% (U.S.)

make-to-break ratio

**Receive Sensitivity**

-9 to -43 dBm

**Ringer Equivalence**

0.5B

**Standards and Protocols**

Bell 103

Bell 212A

Hayes AT command set

ITU V.17

ITU V.21

ITU V.22 A and B

ITU V.22bis

ITU V.23

ITU V.25bis

ITU V.27 ter

ITU V.29

ITU V.32

ITU V.32bis

ITU V.42

ITU V.42bis

MNP levels 2-5

LAPM



**Tone Detected**

Dial, busy, ring back, and modem answer tones.

Blind dialing based on time-out periods available for incompatible tones.

**Electrostatic Discharge**

Direct electrostatic discharge to the RJ11 or DC power connector might cause the WorkPad screen to freeze. This problem can be easily corrected by resetting your WorkPad.

**AC Adapter**

A 3.0 - 3.3 V, 200mA regulated AC/DC Adapter is available that will allow unlimited modem use. To order accessories call 1 (800) 518-2887 (United States) or 1 (800) 891-6342 (Canada).

**Warning:** Under no circumstances can a substitute AC adapter be used. The usage of an incorrect AC power supply will cause electrical damage to the WorkPad Modem and void your warranty.



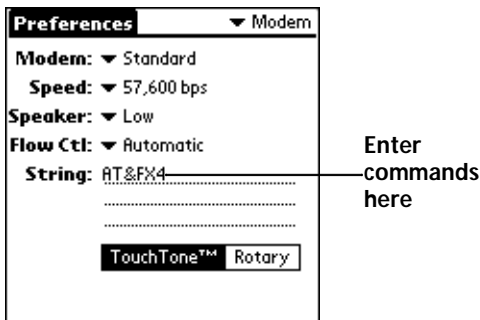
# Appendix B

## AT Commands

AT commands (also known as the AT Command set) are a way to make modems function the way you want them to. AT commands configure the modem for operation. Most users do not need to use AT commands; they are included here for experience users who are having difficulty using the default settings.

### Changing Your Initialization String

You can enter AT commands in the Initialization String field on your WorkPad Modem Preferences screen.



### Using the Correct Syntax

Typical AT commands except A/ are preceded by AT, in the following format:

AT<command><value>

where command is the symbol and letter representing the AT command, and value is the new setting.

AT commands are case sensitive so you must use all upper or all lower case letters. For example, you can enter **AT** or **at** but not **At**. You do not need spaces between commands but inserting spaces (to make the commands easier to read) does not affect the commands.

**Note:** In the AT Command Summary Table, the character 0 indicates the number zero. Almost all commands use 0 (zero). Any command that uses the letter O will say O (letter).

## More Information

- Each AT command string can contain up to 40 characters.
- Many AT commands are interrelated, meaning that what some commands do depend on the setting of other commands.
- When a command letter is entered without a number following it, 0 (zero) is assumed. For example, AT&L is the same as AT&L0.
- The WorkPad viewer will respond with OK. A summary of result codes follows the AT Command Summary table.
- Often S-Register values can be changed by either entering an AT command or by entering the new value of the S-Register (preceded by AT). For example, both AT&K3 and AT\$39=3 reset the value of the S-Register to 3.

The following tables summarize the AT commands, result codes, and S-Registers that pertain to your WorkPad Modem. When you see <v>, that means that you must enter a letter, number, or symbol. When you see <n>, that means that you must enter a number. The possible values are listed below the command.

## AT Commands

Command	Description	U.S. Defaults
A/	Re-execute command	
A	Go off-hook and attempt to answer a call	
ATDL	Dial last number	
B0	Select CCITT connection at 300 or 1200 bps	
B1	Select Bell connection at 300 or 1200 bps	✓
D	Dial	
E0	Turn off Echo command	
E1	Turn on Echo command	✓
F0	Select auto-detect mode (equivalent to N1)	✓
F1	Select V.21 or Bell 103 at 300 bps line modulation	
F3	Select V.23 line modulation	
F4	Select V.22 or Bell 212A 1200 bps line speed	
F5	Select V.22bis 2400 bps line modulation	
F6	Select V.32bis or V.32 4800 bps line modulation	
F7	Select V.32bis 7200 bps line modulation	

Command	Description	U.S. Defaults
F8	Select V.32bis or V.32 9600 bps line modulation	
F9	Select V.32bis 12000 bps line modulation	
F10	Select V.32bis 14400 bps line modulation	
H0	Initiate a hang-up sequence	
I0	Reports product code	
I1	Report pre-computed checksum from ROM	
I2	Return OK message	
I3	Report firmware revision	
I4	Report response programmed by an OEM	
I5	Report the country code	
I6	Report modem data pump model and internal code revision	
L0	Set medium speaker volume (same as L3)	
L1	Set medium speaker volume (same as L3)	
L2	Set medium speaker volume (same as L3)	
L3	Set medium speaker volume	✓
M0	Turn speaker off	
M1	Turn speaker on during handshaking and turn speaker 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 auto-mode detection	
N1	Turn on auto-mode detection	✓
O(letter)0	Go on-line	
O(letter)1	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?	Return the value of S-Register n	
Sn=v	Set S-Register n to value v	
?	Return the value of default S-Register	
T	Force DTMF dialing	

Command	Description	U.S. Defaults
V0	Report short form (terse) result codes	
V1	Report long form (verbose) result codes	✓
W0	Report DTE speed	
W1	Report line speed, EC protocol and DTE speed	
W2	Report DCE speed	✓
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	
X1	Report basic call progress result codes and connection speeds: (OK, CONNECT, RING, NO CARRIER (also, for busy, if enabled, and dial tone not detected), NO ANSWER, CONNECT XXXX and ERROR	
X2	Report basic call progress result codes and connection speeds: i.e., OK, CONNECT, RING, NO CARRIER (also, for busy, if enabled), NO DIAL TONE, NO ANSWER, CONNECT XXXX and ERROR	
X3	Report basic call progress and result codes and connection rate: i.e., OK, CONNECT, RING, NO CARRIER, NO ANSWER, CONNECT XXXX, BUSY 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 soft reset	
Z1	Restore stored profile 1 after soft 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	
&D1	Interpret DTR ON-to-OFF transition per Qn	
&D2	Interpret DTR ON-to-OFF transition per Qn	✓
&D3	Interpret DTR ON-to-OFF transition per Qn	
&F	Recall (restore) factory profile	

Command	Description	U.S. Defaults
&G0	Disable guard tone	✓
&G1	Disable guard tone	
&G2	Enable 1800 Hz guard tone	
&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 RTS/CTS and XON/XOFF flow control	
&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 dialing of directory zero	
&M3	Select sync connect with async off-line command mode	
&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 operations in normal mode	
&R0	CTS tracks RTS (async) or acts per V.25 (sync)	
&R1	CTS is always active	✓
&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	✓

Command	Description	U.S. Defaults
&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	
%C0	Disable data compression	
%C1	Enable MNP 5 data compression	
%C2	Enable V.42 bis data compression	
%C3	Enable both V.42 bis and MNP 5 compression	✓
%E1	Enable line quality monitor and auto retrain	
%E2	Enable line quality monitor and fallback/fall forward	✓
%E3	Enable line quality monitor & auto-retrain (fast hang-up)	
%L	Return received line signal level	
%Q	Report the line signal quality	
%TTn	PTT certification test signals	
\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	
\G0	Disable modem to modem XON/XOFF flow control	✓
\G1	Enable modem to modem XON/XOFF flow control	
\Kn	Controls break handling during three states	
\L0	Use stream mode for MNP	
\L1	Use block mode for MNP	
\W0	Select normal speed buffered mode	
\W1	Select direct mode	
\W2	Select reliable link mode	
\W3	Select auto reliable link mode	✓
\W4	Force LAPM mode	
\W5	Force MNP mode	



## S-Register Settings

Reg	Function	Range	Default		Units
			Pro 1	Pro 1	
S0	Rings to Auto Answer	0-255	0	0	rings
S1	Ring Counter	0-255	0	0	rings
S2	Escape Character	0-127	43	43	ASCII
S3	Carriage Return Character	0-127	13	13	ASCII
S4	Line Feed Character	0-127	10	10	ASCII
S5	Backspace Character	0-32	8	8	ASCII
S6	Wait Time for Dial Tone	2-255	4	4	S
S7	Wait Time for Carrier	1-255	50	50	S
S8	Pause Time for Dial Delay	2-255	6	6	0.1 S
S9	Carrier Detect Response Time	1-255	6	6	0.1 S
S10	Lost Carrier to Hangup Delay	1-255	14	14	0.1 S
S11	DTMF Tone Duration	50-255	95	95	mS
S12	Escape Code Guard Time	0-255	50	50	.02 S
S14	General Bit Mapped Options		138	138	
S16	General Bit Mapped Test Options (&T)		0	0	
S18	Test Timer	0-255	0	0	S
S19	Autosync Register		0	0	
S20	Autosync HDLC Address or BSC Sync Character	0-255	0	0	
S21	V.24/General Bit Mapped Options		116	116	
S22	Speaker/Results Bit Mapped Options		119	119	
S23	General Bit Mapped Options		54	54	
S25	Delay to DTR	0-255	1	1	S
S26	RTS-to-CTS Delay	0-255	1	1	.01 S
S27	General Bit Mapped Options		73	73	
S28	General Bit Mapped Options		0	0	
S29	Flash Dial Modifier Time	70	70	70	10 mS
S30	Disconnect Inactivity Timer	0-255	0	0	10 S
S31	General Bit Mapped Options		194	202	
S32	XON Character	0-255	17	17	ASCII
S33	XOFF Character	0-255	19	19	ASCII

Reg	Function	Range	Default		Units
			Pro 0	Pro 1	
S36	LAPM Failure Control		7	4	
S37	Desired Line Connection Speed		0	0	
S38	Delay Before Forced Hangup	0-255	20	20	S
S39	Flow Control		3	3	
S40	General Bit Mapped Options		104	104	
S41	General Bit Mapped Options		195	195	
S46	Data Compression Control	136, 138	138	138	
S48	V.42 Negotiation Control	0, 7, 128	7	128	
S82	Break Handling Options	3, 7, 128	128	128	
S86	Call Failure Reason Code	4-14			
S91	PSTN Transmit Attenuation Level	10	10	10	-dbm
S95	Extended Result Codes		47	47	
S202	Remote Access Escape Character	0-255	170	170	ASCII

# Appendix C

## Warranty and Regulatory Information

### IBM Statement of Limited Warranty

The warranties provided by IBM in this Statement of Limited Warranty apply only to Machines you originally purchase for your use, and not for resale, from IBM or your reseller. The term "Machine" means an IBM machine, its features, conversions, upgrades, elements, or accessories, or any combination of them. Unless IBM specifies otherwise, the following warranties apply only in the country where you acquire the Machine. If you have any questions contact IBM or your reseller.

Machine: **IBM WorkPad Modem**

Warranty Period\*: **One Year**

The IBM WorkPad uses AAA batteries, these batteries are supply items and are provided by IBM without warranty of any kind.

*\*Contact your place of purchase for warranty service information.*

### Production Status

Each Machine is manufactured from new parts, or new and used parts. In some cases, the Machine may not be new and may have been previously installed. Regardless of the Machine's production status, IBM's warranty terms apply.

### The IBM Warranty for Machines

IBM warrants that each Machine (1) is free from defects in materials and workmanship and (2) conforms to IBM's Official Published Specifications. The warranty period for a Machine is a specified, fixed period commencing on its Date of Installation. The date on your receipt is the Date of Installation, unless IBM or your reseller informs you otherwise.

During the warranty period IBM or your reseller, if authorized by IBM, will provide warranty service under the type of service designated for the Machine and will manage and install engineering changes that apply to the Machine.

For IBM or your reseller to provide warranty service for a feature, conversion, or upgrade, IBM or your reseller may require that the Machine on which it is installed be (1) for certain Machines, the designated, serial-numbered Machine and (2) at an engineering-change level compatible with the feature, conversion, or upgrade. Many of these transactions involve the removal of parts and their return to IBM. You represent that all removed parts are genuine and unaltered. A part that replaces a removed part will assume the warranty service status of the replaced part.

If a Machine does not function as warranted during the warranty period, IBM or your reseller will repair it or replace it with one that is at least functionally equivalent, without charge. The replacement may not be new, but will be in good working order. If IBM or your reseller is unable to repair or replace the Machine, you may return it to your place of purchase and your money will be refunded.

If you transfer a Machine to another user, warranty service is available to that user for the remainder of the warranty period. You should give your proof of purchase and this Statement to that user. However, for Machines which have a life-time warranty, this warranty is not transferable.

## Warranty Service

To obtain warranty service for the Machine, you should contact your reseller or call IBM. In the United States, call IBM at 1-800-772-2277.

In Canada, call IBM at 1-800-565-3344. You may be required to present proof of purchase.

IBM or your reseller will provide certain types of repair and exchange service, either at your location or at IBM's or your reseller's service center, to restore a Machine to good working order.

When a type of service involves the exchange of a Machine or part, the item IBM or your reseller replaces becomes its property and the replacement becomes yours. You represent that all removed items are genuine and unaltered. The replacement may not be new, but will be in good working order and at least functionally equivalent to the item replaced. The replacement assumes the warranty service status of the replaced item. Before IBM or your reseller exchanges a Machine or part, you agree to remove all features, parts, options, alterations, and attachments not under warranty service. You also agree to ensure that the Machine is free of any legal obligations or restrictions that prevent its exchange.

You agree to:

1. obtain authorization from the owner to have IBM or your reseller service a Machine that you do not own; and
2. where applicable, before service is provided:
  - a. follow the problem determination, problem analysis, and service request procedures that IBM or your reseller provide,
  - b. secure all programs, data, and funds contained in a Machine, and
  - c. inform IBM or your reseller of changes in a Machine's location. IBM is responsible for loss of, or damage to, your Machine while it is (1) in IBM's possession or (2) in transit in those cases where IBM is responsible for the transportation charges.

## Extent of Warranty

IBM does not warrant uninterrupted or error-free operation of a Machine.

The warranties may be voided by misuse, accident, modification, unsuitable physical or operating environment, improper maintenance by you. Removal or alteration of Machine or parts identification labels, or failure caused by a product for which IBM is not responsible.

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## FCC-68

This equipment complies with Part 68 of the FCC Rules. A label is attached to this equipment that contains, among other information, the FCC registration number and ringer equivalence number (REN) for this equipment. If requested, this information must be provided to the telephone company.

This equipment uses the following USOC jacks: RJ11C.

The REN is used to determine the quantity of devices that may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of the RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to the line, as determined by the total RENs, contact the telephone company to determine the maximum REN for the calling area.

If this equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. If advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make the necessary modifications in order to maintain uninterrupted service.

If trouble is experienced with this equipment, please contact IBM at 1-800-772-2277 (U.S.) or 1-800-565-3344 (Canada) for repair and warranty information. If the trouble is causing harm to the telephone network, the telephone company may request you remove the equipment from the network until the problem is resolved.

The user must use the accessories and cables supplied by the manufacturer to get optimum performance from the product.

No repairs may be done by the customer.

This equipment cannot be used on telephone company provided coin service. Connection to Party Line Service is subject to state tariffs.

When programming and/or making test calls to emergency numbers:

- Remain on the line and briefly explain to the dispatcher the reason for the call.
- Perform such activities in the off-peak hours such as early morning or late evenings.

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 facsimile machine unless such a 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, other entity, or individual sending the message and the telephone number of the sending machine of such business, other entity, or individual.

In order to program this information into your facsimile, refer to your communications software user manual.

## FCC-15

This equipment has been tested and found to comply with the limits for a Class B digital device as applicable, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this 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 into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

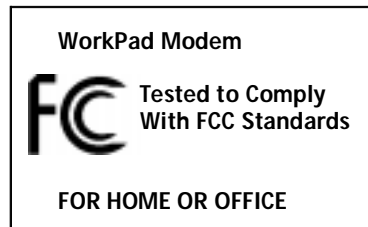
This device complies with Part 15 of the FCC Rules. Operations is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The user must use the accessories and cables supplied by the manufacturer to get optimum performance from the product.

**Note:** This device was tested to comply with FCC-15 Class B requirements.

## Manufacturers Declaration of Conformity

3Com Corporation  
Mobile Communications Corp.  
605 North 5600 West  
PO Box 16020  
Salt Lake City, UT 84116  
(800) 527-8677



Declares this product:

Date: 20 December 1996

Name: WorkPad Modem

Model Number: WorkPad Modem

Equipment Type: Modem

Complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

## Industry Canada (ICES-003)

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Note: This device was tested to comply with FCC-15 Class B requirements in the cases of the following configurations:

### (a) Modem

The user must use the accessories and cables supplied by the manufacturer to get optimum performance from the product.

## Industry Canada (CS-03)

The Load Number of this modem is 5. The standard connecting arrangement code for this equipment as specified in CP-01, Section 1.8.3 is CA11A.

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 devices does not exceed 5.

The Industry Canada 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 document(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 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 systems, 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.



# CE Mark

## Electromagnetic Compatibility

This device complies with the following standard in accordance with the European Directive 89/336/EEC.

- Immunity: EN 50082-1 1992
- Emission: EN 55022 Class B 1987

## Safety

This device complies with the following standard in accordance with the European Directive 73/23/EEC.

- EN 60950/A3 1995