Owner's Manual

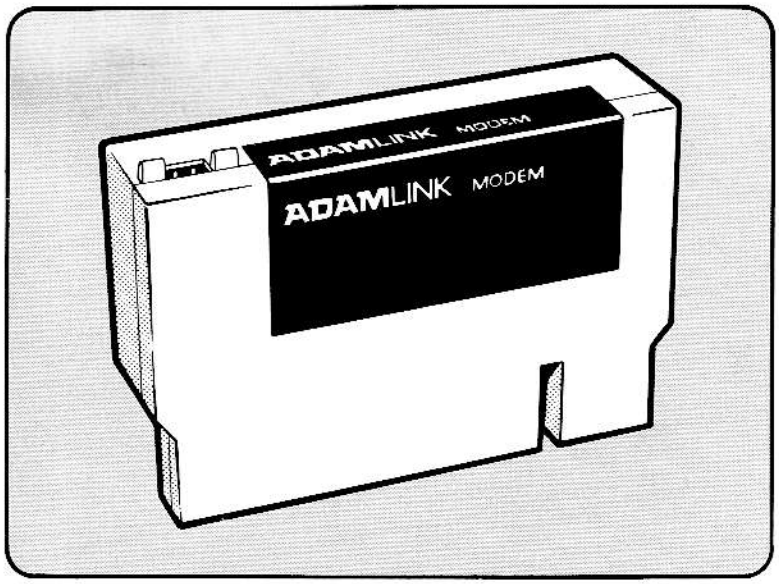
Item No. 7818

Guide No. 42752

ADAM™

THE COLECOVISION® FAMILY COMPUTER SYSTEM

ADAMLINK™ MODEM



Connect your ADAM™ to the world of online services!

COLECO

Coleco Industries, Inc. Amsterdam, New York 12010

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INTRODUCTION

When Alexander Graham Bell said, "Watson, come here . . ." over the first telephone, he had no way of knowing the impact his invention would have on modern communications. From its simple beginning, the telephone has developed into a powerful communication system that lets people from all over the world talk to one another.

But today, telephone communications are not limited to calls between people. Computers can talk to one another over regular phone lines. Your ADAM computer can put you in touch with other computers throughout the world. With the ADAMLink Modem and your telephone service, you can talk to other ADAM owners, read magazine articles, research topics of interest, or play games—all from the comfort of your home.

What is a Modem?

A modem is a device that converts information into a format that can be sent from one computer to another across regular phone lines. A modem also converts incoming data into a format that your ADAM computer can understand.

About This Manual

To get the most out of ADAMLink, take a few minutes to read this manual. And, don't let the size of this manual frighten you. ADAMLink comes ready to use and pre-set to work with most of the popular on-line data services. But, ADAMLink is designed to be flexible. It can change as your needs change—this booklet tells you how!

How This Manual Is Organized

The first chapter tells you how to install the ADAMLink Modem in your ADAM computer.

Chapter two describes ways in which you can use your modem to "talk" with other computers as well as other computer owners.

The third chapter introduces you to the program that comes on the ADAMLink disk or digital data pack. The command and terminal modes of the modem are described and the function of each is discussed. This chapter also identifies keys with special uses in ADAMLink.

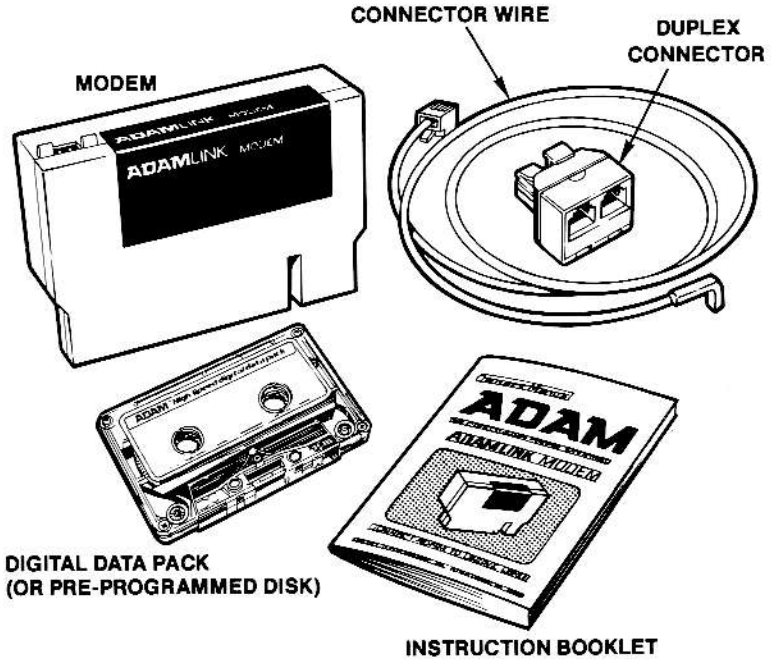
The fourth chapter has step-by-step instructions for placing and answering a modem call. Special features including the time saving re-dial feature and message printing are also explained.

Chapter five lists preset characteristics (usually called parameters) used by ADAMLink. These parameters let ADAMLink communicate with many different computers including other ADAMs. Though the values are preset to match many of the popular on-line data services, you may occasionally need to change a value or two in order to successfully "talk" to a particular computer. This chapter shows you how to change these parameter values. Each of the parameters is identified in this chapter and there is a brief explanation of how each parameter is used. Control key commands your ADAMLink understands are also explained.

The three appendixes contain useful reference information. Appendix A is a glossary of computer and on-line communication terms. These terms are used in this manual and you'll hear them when you talk with other modem users. Appendix B shows the Smart Key options used by the ADAMLink Modem. Appendix C contains a list of technical specifications for both the modem and the program that comes with it.

1. INSTALLATION INSTRUCTIONS

Your ADAMLink comes with everything you should need to install your modem in your ADAM computer and begin communicating. The illustration below shows all the parts that you should have. Check to be sure you have everything you need before beginning the installation. If anything is missing, call the 800 number listed in the Service Policy section at the back of this manual.



Your Modem and the Telephone Company

Because the ADAMLink modem sends and receives messages over a regular phone line, you're required to let the phone company know that you plan to install a modem on your line.

When you are ready to install your ADAMLink Modem, call your local telephone company and give them the following:

1. The telephone number of the line to which you will connect your modem.
2. The FCC registration number of your modem located on the back of the modem.
3. The ringer equivalence number (REN) of your modem which is also located on the back.

You are required to do this or you could lose your telephone service. The phone company will not charge you for this connection, since by law you are allowed to own your telephone and accessories. However, they must know what you have attached to your line.

Your modem connects to the telephone line by means of a standard jack called the RJ11C. If this type of jack is not available where you want to install the modem, you will need to buy it from a telephone equipment company.

Your ADAMLink Modem is designed to be used on standard-device telephone lines. It should not be used on coin service lines or party lines.

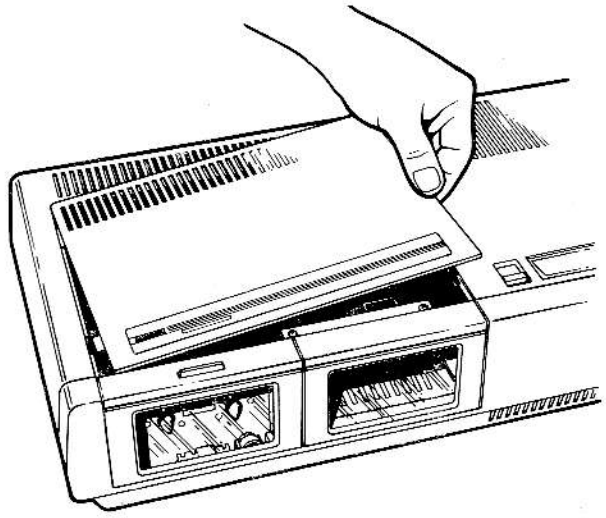
If you have any questions about your telephone line, the telephone company will provide this information upon request.

If any of your telephone equipment is not operating properly, you should immediately remove it from your telephone line, as it may cause harm to the telephone network. If the telephone company notes a problem, they may temporarily discontinue service.

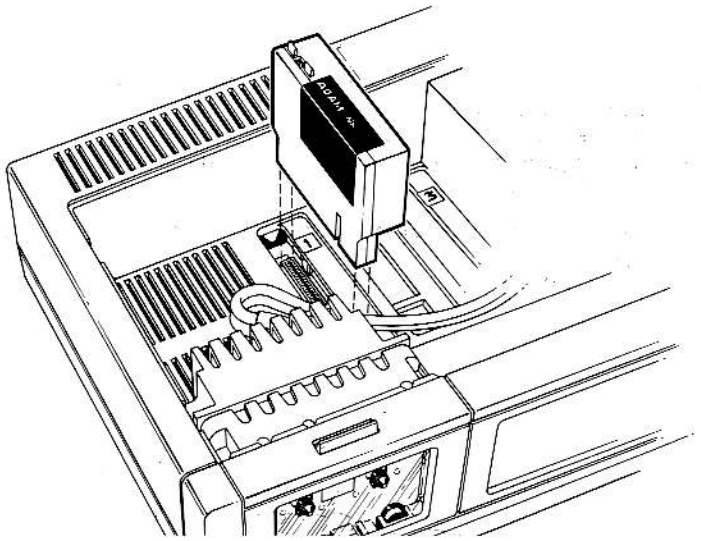
When practical, they will notify you in advance of this disconnection. If advance notice is not feasible, you will be notified as soon as possible. When you are notified, you will be given the opportunity to correct the problem and informed of your right to file a complaint with the FCC.

NOTE: **Before you install your modem, turn off the power and unplug your ADAM. Failure to do this can cause damage to your ADAMLink Modem, and your ADAM computer!**

How to Install Your Modem



Step 1. Remove the top cover of your ADAM Memory Console by sliding your finger or the blade of a screwdriver in the indentation on the right and lifting up.



Step 2. Look inside the Memory Console. There are three expansion ports. These expansion ports are labeled 1, 2, and 3 on the plastic casing to their right.

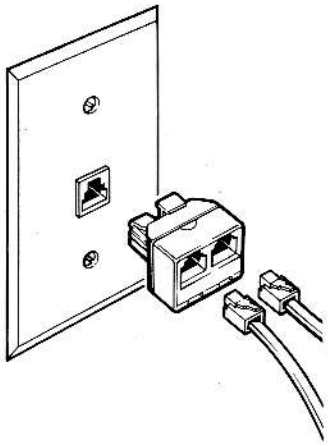
Find the expansion port labeled #1. Pick up your modem making sure that your fingers stay clear of the opening at the top. Hold the modem so that the ADAMLink label faces to the left. Position the modem over the expansion port labeled #1, then slide it into place the same way you would insert a game cartridge.

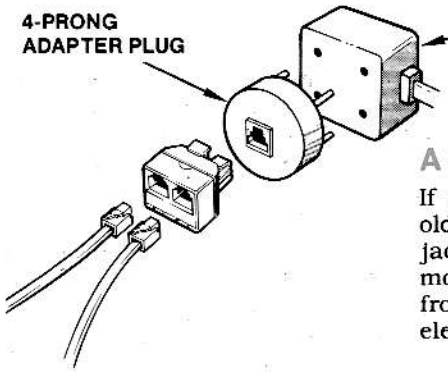
The base of the modem has a notch or key cut-out so that it can only be inserted one way. If the modem doesn't slide into place easily, don't force it. Instead, check to be sure you have positioned it correctly.

Step 3. Replace the cover of the Memory Console by sliding the tabs on the left into the Memory Console. Lower the cover into place slowly. The two tabs sticking up from the modem should

stick straight up through one of the vent holes in the cover. If the cover is not positioned properly over your modem, adjust the modem or the cover to the left or right until you can see the two tabs through one of the vent holes. Press down to snap the cover into place.

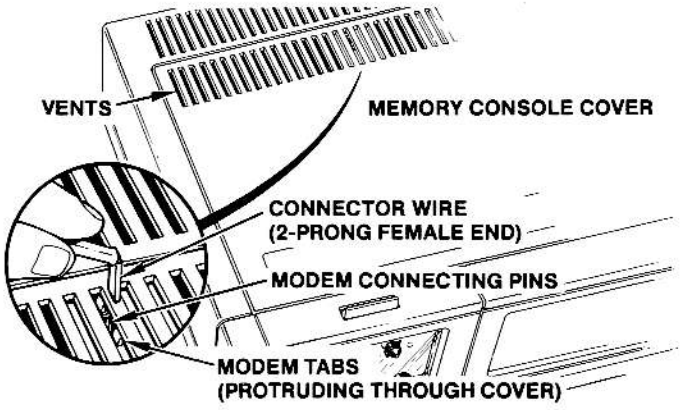
Step 4. Take the modular phone plug and plug it into a phone jack on your wall or baseboard. If you already have a phone plugged into the jack, you must unplug the phone, then plug in the duplex connector that comes with your ADAMLink modem. With this connector in place, your telephone and modem can be plugged in at the same time and share the same modular jack.





A Special Situation

If your phones have the older style four-prong jacks, you can purchase a modular phone adapter from your local phone or electronics store.



Step 5. Look at the two modem tabs protruding through the vent hole on the Memory Console. Take the two-prong connector end of the connector wire and push it through the vent hole until it plugs into the two pins on the top side of the modem. If you can still see either of these pins after you've plugged in the two-prong connector, then you haven't made a proper connection. Re-align the two-prong connector with the modem pins and plug it in again.

Installation Hints

Keep the modem wire away from the monitor or television connecting wire as well as the monitor or television. These wires and devices can cause interference during modem use.

If you plan to use your modem frequently, connect your modem to a single phone line. If you are using a phone service that offers a call-waiting signal you may have interference during modem calls. If the call-waiting tone sounds while you are using your modem, ADAMLink may disconnect you.

Your ADAMLink modem is now ready for use. The next chapter describes ways you can use your modem. If you want to skip this introductory material and jump right into placing a call, turn to Chapter 4. But, we strongly recommend that you read through this entire book before making your first call, so you'll understand your ADAMLink Modem and its features.

2. MODEM COMMUNICATIONS: AN OVERVIEW

The ADAMLink modem is designed to let you use your ADAM computer to communicate with other computers throughout the world. Using a regular phone line, you can call large databanks that store lots of information. You can also call other ADAM owners and exchange messages. In fact, you can call anyone whose computer has a modem with a baud rate of 300 and is using ASCII based software programs.

Kinds of Information You Can Find in a Databank

On-line data services are fun to explore! They usually offer something for everyone. One popular feature enjoyed by many subscribers is the community bulletin board. Members leave messages on the bulletin board for others to read. Clubs and other organizations leave notices of meetings and special events. You can find ads for buying and selling equipment and programs. You may even find ads for tutorial or custom programming help. It's fun to browse through the community bulletin boards. And when you're ready, you can leave messages and ads of your own.

Most on-line services also include a large library of different kinds of information. Some of the information is of general interest and some is specialized. Newspapers like the *Wall Street Journal* and *New York Times* are available through on-line data services. You can even peruse the classified ads from the *St. Louis Dispatch* from the comfort of your home. If you prefer browsing through magazines, you can display articles from *Newsweek* and *U.S. News & World Report*.

But reading material isn't all that's offered by on-line data services. If you're planning a trip, you can use one of the travel planners to help you find the best route and suggest restaurants and lodgings. You can even get a weather report to be sure that your plans won't be rained out.

If you have special interests, there may be an on-line data service that can meet your needs. Here are a few examples of some of the more specialized databank files you can find:

- IRS Rules and Regulations
- Wine Tasting Evaluations
- Statutes of Canadian Provinces
- Recipes and Cooking Tips
- Current Sports Standings
- Annual Reports from European Banks
- Hollywood News and Reviews
- Financial Contributions to Political Campaigns

Taking Care of Business with ADAMLink

With a modem, you can take care of business from the convenience of your home. On-line shopping services let you order specialty gift items, flowers, candy, perfume, gourmet foods, and books. A little advance planning can keep you away from the crowds at the shopping malls.

Critical mail delivery is just a modem call away. Instead of rushing out to the mailbox or the express delivery office, at the last minute, you can send important letters and documents by electronic mail. If you send a letter to someone who has a computer, you may be able to have your letter delivered immediately to an electronic mailbox. Otherwise, the letter is printed and dropped into the regular postal system in your friend's area.

Electronic banking is offered in some areas. Electronic Transfer of Funds (ETF) lets you quickly and easily move funds from one account to another at any hour of the day or night. Some banks even let you pay bills electronically.

The possibilities are endless when you subscribe to one of the on-line data services. You can explore new fields of interest, have fun, or conduct important business.

Directories of On-Line Data Services

This chapter has introduced you to some of the offerings of on-line data services. To learn more, you can browse through one of the many on-line service directories. These directories are available at libraries, bookstores and computer specialty stores.

Most directories describe membership requirements and fees as well as the information and services that are offered by a particular on-line service. Before you subscribe to an on-line data service, you can compare pricing structures and choose the service that meets both your needs and your budget.

ADAM-to-ADAM Communications

ADAMLink can help you meet and contact other ADAM owners. With ADAM-to-ADAM communications, your messages arrive at their destination faster than through electronic mail. The messages can even be printed on paper.

3. THE ADAMLINK PROGRAM

The digital data pack that comes with your modem contains the program you'll need to use your modem. This chapter provides a brief description of the ADAMLink program.

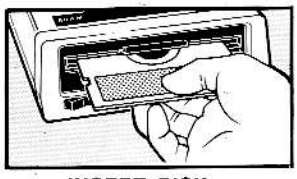
The program lets you switch between two different modes. The first is called the COMMAND mode. When you are in the command mode, you can use Smart Keys to perform certain tasks. The Smart Keys you can use are displayed at the bottom of your screen. When you connect with another computer, you automatically switch to TERMINAL mode. In this mode, your ADAM computer becomes a terminal so that it can "talk" with the other computer. You cannot use Smart Keys when you are in the terminal mode. The keys you can use to issue commands depend upon the computer with which you are linked.

In addition to letting you switch between the two available modes, the ADAMLink program also lets you review and change the preset parameter values used by your modem. These parameters are used to properly match your ADAM computer with another computer so that a communication link can be established and messages can be sent and received.

Loading the ADAMLink Program

TURN COMPUTER ON. INSERT ADAMLINK DIGITAL DATA PACK. PULL COMPUTER RESET SWITCH.

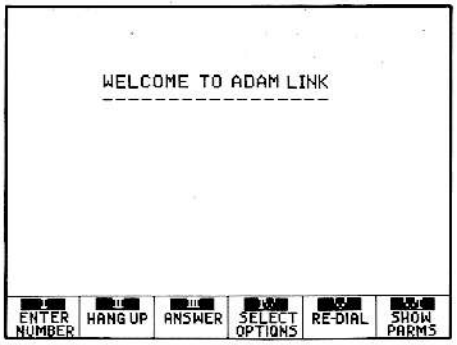
NOTE: If you are loading ADAM-Link from a disk, insert the disk into the drive so that the label faces up and the oval cutout is away from you.



INSERT DISK

The Welcome Screen

In a few seconds, the ADAMLink title screen appears on your screen. When the program is loaded, the WELCOME screen is displayed. This screen welcomes you to ADAM-Link. It displays both a greeting and the Entry Level Smart Key options.

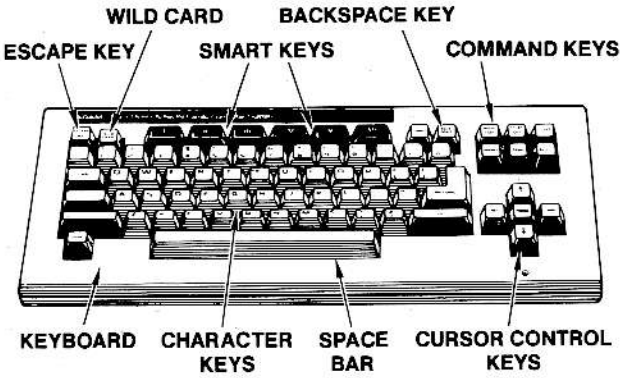


The Two Modes of ADAMLink

When you load the ADAMLink program, you begin in the COMMAND MODE. The Smart Key options you can use are displayed at the bottom of the screen. You can place a call, answer a call, display the preset parameter values, and change parameter settings.

When you use your modem to call an on-line data service, ADAMLink automatically switches to TERMINAL MODE. There are no Smart Keys displayed on the bottom of your screen, because each host computer understands its own set of commands. These commands are communicated via key presses. Since not all computers have Smart Keys like ADAM, the on-line data service computers are designed to understand commands that make use of keys found on virtually every computer keyboard. Check the users manual for the on-line service you're using to see how to send it commands.

The ADAMLink Keyboard



The ADAMLink program uses some of the keys on your ADAM keyboard in special ways. If you issue a command using one of these special keys when you are in the COMMAND mode, your ADAM computer responds by performing the task you requested.

KEYS	FUNCTION
HOME	Clears the screen and moves the cursor to the top left corner.
WILD CARD	Switches between COMMAND and TERMINAL modes.
UNDO	Stops printing.
PRINT	Prints characters that are displayed on the screen. This command is used along with the UP and DOWN ARROW keys to selectively print portions of the screen display. As the screen is being printed, no new characters are displayed. Instead, any characters received while printing is taking place are stored in a temporary storage area (known as a buffer). As soon as the printing operation is complete, the characters in the buffer are displayed on the screen in the order in which they were received.
SHIFT + PRINT	Stops and starts the printing of characters continuously as they are received.
CLEAR	Erases all characters that have been received but not displayed. This command is often used after printing to clear characters from the buffer.
ARROW KEYS	The UP and DOWN arrow keys are used together with the PRINT command to indicate the lines of text that should be printed.
P or p	Used within a phone number to insert a one-second pause between digits. Longer pauses can be created by typing several Ps in a row.
INSERT	This key pauses and restarts activity on the screen.
BACKSPACE	If you have typed in an incorrect telephone number, backspace and type over.

4. OPERATING YOUR MODEM

This section provides you with the basic instructions you'll need in order to operate your modem.

Get Ready to Call an On-Line Data Service

It's easy to call an on-line data service, but before you begin, you need to collect some information. First, you need the phone number of the databank you want to call. Next, you need to know how to use the databank. If you have a users manual, keep it handy when you place the call. Most on-line data services can only be used by members who subscribe to the service. Each member is given a unique ID number and password. These tell the databank who's calling and that the caller is entitled to use the databank. In most cases, even if you have a service's phone number, you can't use the databank unless you have a valid ID number.

Calling a Data Service

1. Load the ADAMLink digital data pack or disk (see instructions, page 18).
2. Press ENTER NUMBER (I).
3. Type the phone number of the databank you want to call.
4. Press DIAL (VI).

After ADAM dials the phone number, it listens for a special tone called a carrier. When it hears the tone, it sends out a signal that completes the connection. You can see what's happening if you watch the yellow message area at the bottom of your screen. After you issue the DIAL command, the message area says that ADAM is dialing. When the number has been dialed, the message changes to indicate that ADAM is waiting for the carrier tone. This message continues to display until the connection is complete.

Don't panic if it takes a while for the on-line data service to answer your call. These services are shared by many people within a geographic area. If you are the only caller, your call is picked up almost immediately. If there are a lot of callers, you may have to wait for your call to be answered. Some services send a busy signal if all the local lines are tied up. Other services let your call keep ringing until it can be answered.

After about 45 seconds, if your call still hasn't been answered, ADAMLink displays a message that suggests you try your call again in a few minutes. You can continue to wait for the other computer to answer, or you can ABORT (V) your call and try it again in a few minutes.

When your ADAM connects with a databank computer, the screen is cleared and the cursor jumps to the upper left corner where it waits for a message from the host computer.

Calling Hints

When you type a phone number, you can include parentheses ( ) and dashes — if you wish, but they aren't necessary.

To pause between numbers as they are being dialed, type a P where the pause is required. When ADAMLink reaches the P, it pauses for one second. You can increase the length of the pause by typing two or more Ps in a row.

If you make a mistake while entering a phone number, you can correct it in one of two ways. You can use the BACKSPACE key or left arrow key to erase a character at a time, or press ABORT (V) and start over.

Using the Redial Feature

If you're placing a modem call and your ADAM doesn't successfully connect with the other computer, you can retry the call easily because ADAM remembers the last phone number it dialed. To try your call again, press ABORT (V), wait a few moments, then press RE-DIAL (V). ADAM will re-try the last number you dialed.

NOTE: **If you turn off the power to your ADAM between calls, or press the RESET switch on the memory console, ADAM forgets the last number you called.**

How to Call Another ADAM Computer

In order to call another ADAM, you must tell its owner to expect the call.

1. Call the ADAM owner on a regular phone and say that you're about to place an ADAM-to-ADAM call; then hang up.
2. Load the ADAMLink digital data pack or disk (see instructions, page 18).
3. Be sure your duplex parameter value is set to HALF (see instructions, page 29).
4. Be sure AUTO LF is "ON." (see instructions, page 29).

   You may need to change the parameter settings described in steps 3 and 4 since your ADAMLink Modem is normally set at FULL duplex and AUTO LF is "OFF."
5. Press ENTER NUMBER (I).
6. Type the phone number of the ADAM owner you want to call.
7. Press DIAL (VI).
8. When the ADAM you are calling answers the phone, you can begin sending messages to your friend.

How ADAM Can Answer a Call

If you're expecting an ADAM-to-ADAM call, get your ADAM ready to answer the call before the phone starts ringing.

1. Load the ADAMLink digital data pack or disk (see instructions, page 18).
2. Be sure the duplex parameter is set to HALF (see instructions, page 29).
3. Wait until the phone begins to ring.
4. When the phone rings, press ANSWER (III). Then press ON-LINE (IV). If you press the ON-LINE Smart Key before the phone rings, the calling ADAM gets a busy signal.

When you press the ON-LINE key, your ADAM sends a special carrier tone through the phone line to say "hello" to the other ADAM. The other ADAM then completes the connection. You will sometimes hear this referred to as a handshake between the two computers. Once the connection is complete, you can begin "talking" to the other ADAM owner.

How to Print Information as It is Received

You can print information you receive during a modem call. This feature lets you keep a printed record of important details. You can print in one of two ways; you can either print up to a screenful of information at a time, or you can print each character as it is received and displayed on your screen. You can begin printing at any time after your ADAM is connected to the other computer.

1. Place your modem call as described previously.
2. When you're ready to begin printing the incoming message, hold down the SHIFT key and press the PRINT key.
3. Each incoming character is now printed at the same time it is displayed on your screen.
4. If you need to change paper, press the INSERT key. This causes the display and printing to pause while you change paper. Repeat the procedure to re-start the printing.
5. To cancel the printing of incoming characters, but have them continue to be displayed on the screen, hold down the SHIFT key and press the PRINT key.

How to Print Information Displayed on Your Screen

1. When the information you want to print is displayed on your screen, press PRINT.
2. The colors of the letters and background are reversed.
3. To print all the text on the screen, press PRINT again.
4. To print part of the text on the screen, use the UP and DOWN Arrow keys to indicate the text to be printed. The text to be printed remains reversed.
5. When you have selected the text to be printed, press PRINT to print the text you chose.
6. To stop the printing operation once it starts, press UNDO.

TERMINAL SCREEN WITH TEXT MARKED FOR PRINTING

Clear the Clutter

If you've just sent a message and want to begin a new one, you may want to clear your screen before beginning the second message. To do this, press the HOME key. The screen is cleared and the cursor jumps to the upper left corner.

Don't Forget to Hang Up

At the end of each modem call, it's a good idea to let your ADAM hang up the phone. To do this, press the HANGUP (II) key on the entry level of Smart Keys.

NOTE: **If you're calling an on-line data service, be sure to properly end your call.** Each service has its own rules for ending a call. These rules are called a log-off procedure. Check the users manual of the service you use for details.

Because most services base their charges on connect time, failure to log-off properly can be expensive. The host computer may think you're still connected and continue to add charges to your account. Even services that have a time-out feature that automatically disconnects you once it's sure you're no longer on-line can take several minutes before checking your connection. This can be a costly error that is easily avoided.

An Added Safety Feature

Whenever you press the RESET switch and reload the ADAM-Link program, the phone is automatically hung up for you. ADAM also hangs up the phone if the power switch is turned OFF. Remember, ADAM does not log-off for you.

NOTE: **If you are having trouble dialing or using any of the keys . . . check your lock key to be sure that it is not on.**

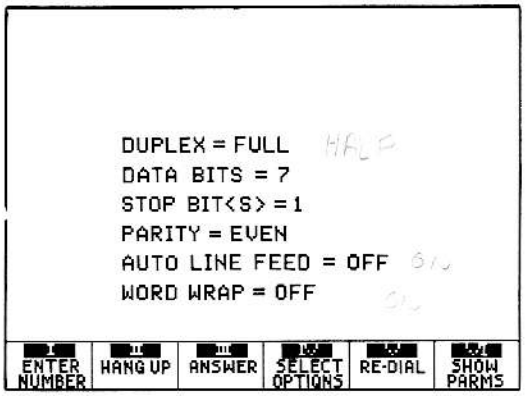
5. TECHNICAL TIDBITS

Your ADAMLink modem is designed for ease of use, but you'll also find that it's very flexible. When you install your modem, it's ready to "talk" with most of the popular on-line data services. Part of this compatibility has to do with how certain parameters are set. These important parameters are described in this chapter. Their pre-set or default values are shown in the default parameters screen. You don't need to understand all of the technical details about the parameters in order to work with them. All you need to know is what values your ADAMLink is currently using and what values the computer with which you want to communicate is expecting. The ADAMLink makes it easy for you to change the parameter values to match those of the other computer.

The second part of this chapter describes some of the control characters your ADAM is likely to receive when you're using your ADAMLink modem. The way in which your ADAM interprets these characters is also explained.

ADAMLink's Preset Parameters

When you use ADAMLink to "talk" with another computer, you must make sure that the two computers are able to understand one another. To insure this, a number of parameter settings must match. The illustration below shows you the parameters that are used for modem communications along with the preset or default values for these parameters.



THE DEFAULT PARAMETERS USED BY ADAMLINK.

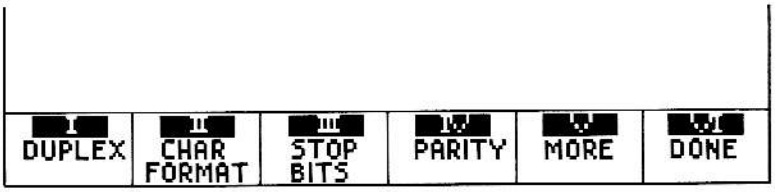
To display the current values of the parameters, press the SHOW PARMS (VI) option from the Entry Level Smart Keys.

If you're having trouble connecting with a particular computer, find out how that computer's parameters have been set and then change your ADAMLink parameter values to match.

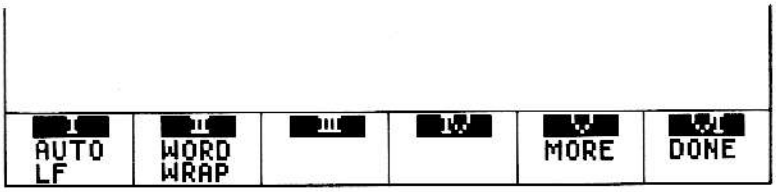
NOTE: **When you change a parameter setting, the change remains in effect until you change the parameter again, or until you turn off the power to your ADAM. When you turn off the power, or reload the ADAMLink program, the new settings are forgotten. The default values will be in effect the next time you load your ADAMLink program.**

How to Change a Parameter Setting

Begin at the Entry Level Smart Keys and press SELECT OPTIONS (IV). There are seven parameters that can be changed. They are displayed on two different screens. Option Screen 1 lets you see DUPLEX, CHARACTER FORMAT (DATA BITS), STOP BITS, and PARITY. If you press MORE (V), you can view AUTOMATIC LINE FEED, and WORD WRAP.



OPTION SCREEN 1.



OPTION SCREEN 2.

To Change a Setting

1. Press the Smart Key that corresponds to the parameter you want to change.
2. Review the Smart Key value choices and press the one you want.
3. Press DONE (VI).

You can repeat this process until you've changed any of the parameter values that need to be altered. Once the settings match those of the computer you want to "talk" to, you're ready to place your call.

Parameters

Now that you know how to change parameters so that you can communicate successfully with many different computers, you might like to know a little bit more about these parameters. This section describes each parameter and shows you the settings that are available.

Duplex **Full, Half**

A modem lets two computers "talk" to one another. With a half duplex setting, one computer sends a message, then waits for the other computer to reply. The two computers take turns talking and listening. A full duplex setting lets both computers send and receive messages at the same time. Even though both computers are talking at the same time, they are also both listening as well.

A half duplex setting is necessary for ADAM-to-ADAM calls.

When a half duplex setting is used, every keystroke you type is sent to the other computer and then displayed (or echoed) on your screen. This means that you can immediately see the effects of each keystroke on your screen.

Data Bits **5, 6, 7, 8**

This parameter tells ADAM how many bits are used to represent a character.

Stop Bit(s) **1, 1½, 2**

This is the number of bits used to tell ADAM that an entire character has been received.

Parity **Odd, Even, None**

During a modem call, it's necessary to verify that the message that is sent is the same as the message that is received. Checking the parity status is one way of verifying the accuracy of the message.

As a message is sent from one computer to another, the sending computer can add an extra bit to each character to make each character have an odd or even one-bit count. The receiving computer checks the message as it is received to be sure that the characters have the correct parity status. If they don't, a message is sometimes displayed by the host computer.

Auto Line Feed **On, Off**

When you're "talking" to another computer, the computer must tell ADAMLink two things: when to return to the beginning of a line and when to advance to the next line. Unlike a typewriter, a computer may interpret a RETURN to mean "go back to the beginning of this line" instead of "begin a new line." If you turn the automatic line feed ON, ADAM interprets a carriage return sent by the host computer as a carriage return plus a line feed. If the host sends both a carriage return and a line feed, then ADAM will double-space lines of text.

Word Wrap **On, Off**

The screen displays a maximum of 36 characters from left to right. When Word Wrap is ON, a word that falls at the end of a line will be wrapped down to the next line if that word cannot fit completely onto the line. If Word Wrap is OFF, ADAMLink will fit as many characters on a line as possible. This means that a word may be split in an unusual place if it cannot fit completely on a line.

Control Key Commands

A control key command is a command that's issued by holding down the CONTROL key then striking another key. This combination of key presses sends a special code to a computer. If the computer understands the code, it can respond by performing a task.

Your ADAMLink modem program understands certain control key commands. If you're on a modem call and one of these commands is sent to your ADAM from the host computer, ADAM will respond. This means that if you are "talking" to a host computer that repeats back (or echoes) each of your keystrokes, you can send one of these commands to the host, who in turn, sends the command back to you. In this case, your ADAM recognizes the code and performs the task.

Before you begin experimenting, though, check the user manual for whatever on-line service(s) you plan to call. You should know what special control key commands the service computer understands and what functions each of those commands represents.

If you're talking to another ADAM and either you or the other ADAM owner issue one of these commands, both of your ADAMs will respond.

CONTROL CODE*	FUNCTION
^A	HOME, Sends the cursor to the upper left corner of the screen.
^E	Clears text from the cursor position to the end of the line.
^G	Sends a tone in ADAM to ADAM Communications.
^H	Moves the cursor to the left one space. Does not erase any characters.
^I	Moves the cursor to the next TAB setting. Tabs are preset every eight columns.
^J	Sends a linefeed instruction to your ADAM so that the print wheel, or cursor, will advance a vertical line before printing, or displaying, the next line of text.
^K	Erases the text from the cursor location to the bottom of the screen.
^L	Erases all of the text from the screen.
^M	Sends a carriage return instruction so that the print wheel, or cursor, will move to the left before printing or displaying the next line of text. (If automatic linefeed is ON, the print wheel or cursor will advance to the next vertical line as well as moving to the left.

*The ^ represents the CONTROL key.

APPENDIX A: GLOSSARY

ASCII a standardized code used to identify text characters.

auto line feed a feature that is used to cause both the printed and visual display of characters to advance a line vertically before printing the next line horizontally.

baud rate the speed, measured in bits per second, at which information is transferred over phone lines from one computer to another. ADAMLink transfers information at a speed of 300 baud.

buffer a temporary storage area where characters that are not currently displayed on the screen can be saved.

bulletin board a commonly accessible location where messages can be posted by and for subscribers to an on-line data service.

call waiting a feature offered by some phone systems that signals an incoming call when the phone is in use. The signal is usually a special tone.

carrier a tone generated at a specific frequency that allows two computers to establish a communications link.

control key commands commands that are issued by holding down the control key then pressing a second key.

command mode one of the two modes offered by ADAMLink. In this mode, Smart Keys are displayed and parameter values can be changed.

cursor a square displayed on the screen that indicates where the next character typed or received will appear.

data bits the number of bits used to represent a character.

databank a large quantity of information stored in a central computer. Information is usually accessed by terminals connected to the central computer by phone lines.

default value a pre-assigned value which will be used by the program unless another value is assigned. Whenever the ADAMLink program is loaded, the parameters are set to their default values.

echo a process which causes characters being sent from one computer to another to be received, then re-transmitted back to the sending computer as a way of verifying the accuracy of the data being sent.

electronic mail a method of sending letters and messages from one computer to another using an on-line data service. Subscribers of the service are assigned on-line mailboxes where letters and other mail can be stored. Mail sent to non-subscribers is printed then dropped into the regular postal system at a location near the recipients address.

entry level smart keys this is the first group of smart keys that is displayed when the ADAMLink program is loaded.

ETF (electronic transfer of funds) a method of transferring money from one account to another using a computer. Many banks offer this service to their customers so that funds can be transferred at any time of the day.

full duplex a mode of communication where two computers can send and receive messages at the same time.

half duplex a mode of communication where two computers must alternate between sending and receiving messages.

handshake a term used to describe the linking process that takes place between two computers when a modem call is placed.

host computer the computer to which a modem call is placed.

linefeed the vertical advancing of a printed or visual display before the next horizontal line is printed.

log-off a sequence of commands, codes, or activities that indicates to the host computer that the calling computer has completed the call and wants to be disconnected from the service. Proper execution of this sequence enables the host computer to properly keep track of the time spent on-line so that the subscriber can be charged accordingly.

modem a device that lets you send and receive messages from one computer to another over phone lines.

on-line data service a service that provides information by communicating from one computer to another over phone lines. These services usually store large amounts of information on big computers. Access to the service is usually by membership subscription and members are charged by the amount of time they use the service.

parameter a characteristic that describes one aspect of a system.

parity bit a bit which can be used to verify the accuracy of data being communicated from one computer to another.

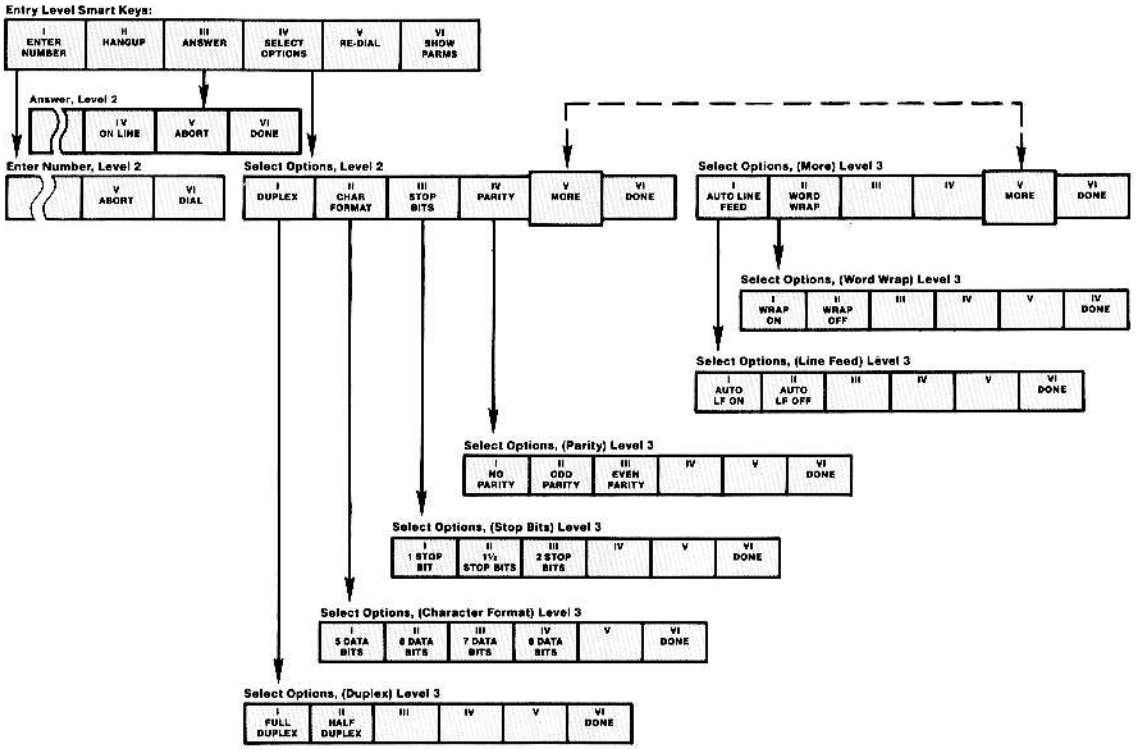
password special code assigned to subscribers of an on-line data service. This code is typed whenever the subscriber calls the service. It identifies the caller to the service. Most services prohibit the password from being displayed on the screen while it is being entered so that bystanders cannot see the special code.

stop bit(s) the number of bits used to indicate that a complete character has been received during a communication transmission.

terminal mode one of the two modes available with ADAMLink. In this mode, the ADAM computer is able to communicate with many host computers.

word wrap a feature that allows the program to intelligently display information on the screen. When the word wrap feature is active, the program checks the length of each word as it is displayed on the screen. If the last word on a line cannot fit completely on the line, the entire word drops down to the next line rather than dividing into an unusual place.

APPENDIX B: SMART KEYS



APPENDIX C:
TECHNICAL SPECIFICATIONS

Hardware

Data Transfer Rate: 300 baud
Compatible Bell 103
GSTN Line impedence: 600 ohms balanced
Carrier Detect ON level: −43 dbm
Carrier Detect OFF level −46 dbm
Transmit Carrier Load: −12 dbm
Power Requirement: 75 mA @ 5V, Supplied by ADAM
Operating Temperature Range: 10−40 degrees centigrade
80% RH noncondensing
Storage Temperature Range: −10 to 60 degrees centigrade
90% RH
FCC Type Approval: Registration
Data Format: Serial, binary, asynchronous
5, 6, 7 or 8 data bits
1, 1.5, or 2 stop bits
odd, even, or no parity
Modulation: Phase coherent, Frequency Shift Keyed

		Orig. Mode	Ans. Mode
Transmit Frequency:	Mark	1270 Hz	2225 Hz
	Space	1070 Hz	2025 Hz
Transmit Frequency Accuracy: 0.01%			
Receive Frequency:	Mark	2225 Hz	1270 Hz
	Space	2025 Hz	1070 Hz

Receive Frequency Accuracy: 0.5%
Connects with modular jacks: RJ11C

Dialing Parameters
Pulse Dial
Rate: 10 pps
Make: 40 ms
Break: 60 ms
Interdigit time: 750 ms
Digits 1–9: 1–9 pulses
Digit 0: 10 pulses
Number Buffer Capacity: 30 characters
Operation: Full and Half Duplex
Operating modes: Terminal and Command
Incoming Character Buffer size: 8000 characters
Screen Line Width: 36 characters

INDEX

FCC NOTICE

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause 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 the receiving antenna.

Relocate the computer with respect to the receiver.

Move the computer away from the receiver.

Plug the computer into a different outlet so that computer and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commissions helpful:

"How to Identify and Resolve Radio-TV Interference Problems".

This booklet is available from the U.S. Government Printing Office. Washington, D.C. 20402. Stock No. 004-000-00345 4.

WARNING: This equipment has been certified to comply with the limits for a Class B computing device, pursuant to Subpart J of Part 15 of FCC Rules. Only peripherals (computer input/output devices, terminals, printers, etc.) certified to comply with the Class B limits may be attached to this computer. Operation with non-certified peripherals is likely to result in interference to radio and TV reception.

When you are ready to install your modem, call your local telephone company and give them the following: 1. The telephone number of the line to which you will connect your modem. 2. The FCC registration number of your modem located on the back of the modem. 3. The ringer equivalence number (REN) of your modem, which is also located on the back.

You are required to do this or you could lose your telephone service. The phone company will not charge you for this connection, since by law you are allowed to own your telephone and accessories. However, they must know what you have attached to your line.

Your modem connects to the telephone line by means of a standard jack called the USOC RJ11C. If this type of jack is not available where you want to install the modem, you will need to order it from the telephone company.

Your modem is designed to be used on standard-device telephone lines. It should not be used on coin service lines or party lines.

If you have any questions about your telephone line, the telephone company will provide this information upon request.

If any of your telephone equipment is not operating properly, you should immediately remove it from your telephone line, as it may cause harm to the telephone network. If the telephone company notes a problem, they may temporarily discontinue service. When practical, they will notify you in advance of this disconnection. If advance notice is not feasible, you will be notified as soon as possible. When you are notified, you will be given the opportunity to correct the problem and informed of your right to file a complaint with the FCC.

90-DAY LIMITED WARRANTY

Coleco warrants to the original consumer purchaser in the United States of America that this ADAMLink Modem, and digital data pack or disk will be free of defects in material or workmanship for 90 days from the date of purchase under normal in-house use.

Coleco's sole and exclusive liability for defects in material and workmanship shall be limited to repair or replacement at an authorized Coleco Service Station. This warranty does not obligate Coleco to bear the cost of transportation charges in connection with the repair or replacement of defective parts.

This warranty is invalid if the damage or defect is caused by accident, act of God, consumer abuse, unauthorized alteration or repair, vandalism, or misuse.

Any implied warranties arising out of the sale of the ADAMLink Modem, and digital data pack or disk including the implied warranties of merchantability and fitness for a particular purpose are limited to the above 90 day period. Coleco shall in no event be liable for incidental, consequential, contingent or any other damages.

This warranty gives you specific legal rights, and you may have other rights which vary from State to State. Some states do not allow the exclusion or limitation of incidental or consequential damages or limitations on how long an implied warranty lasts, so the above limitations or exclusions may not apply to you.

SERVICE POLICY

Please read this ADAMLink Modem, and digital data pack or disk Owner's Manual carefully before using the product. If your ADAMLink Modem, and digital data pack or disk fails to operate properly, please check the installation instructions. If you cannot correct the malfunction **after** checking the installation instructions, please call Customer Service on Coleco's **toll-free service hotline: 1-800-842-1225 nationwide.** This service is in operation from 8:00 a.m. to 10:00 p.m. Eastern Time, Monday through Friday.

If Customer Service advises you to return your ADAMLink Modem, and digital data pack or disk, please return it postage prepaid and insured, with your name, address, proof of the date of purchase, and a brief description of the problem to the Service Station you have been directed to return it to by the toll-free service information. If your modem and digital data pack or disk is found to be factory defective during the first 90 days, it will be repaired or replaced at no cost to you. If the modem, and

digital data pack or disk is found to have been consumer damaged or abused and therefore not covered by the warranty, then you will be advised, in advance, of repair costs.

If your modem and digital data pack or disk requires service after expiration of the 90 day Limited Warranty period, please call Coleco's toll-free service hotline for instructions on how to proceed: **1-800-842-1225 nationwide.**

IMPORTANT: SAVE YOUR RECEIPTS SHOWING DATE OF PURCHASE.

SERIAL # 16383

FCC ID # BNV8N27818

FCC REGISTRATION # B4V8N2-70317-DM-R

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