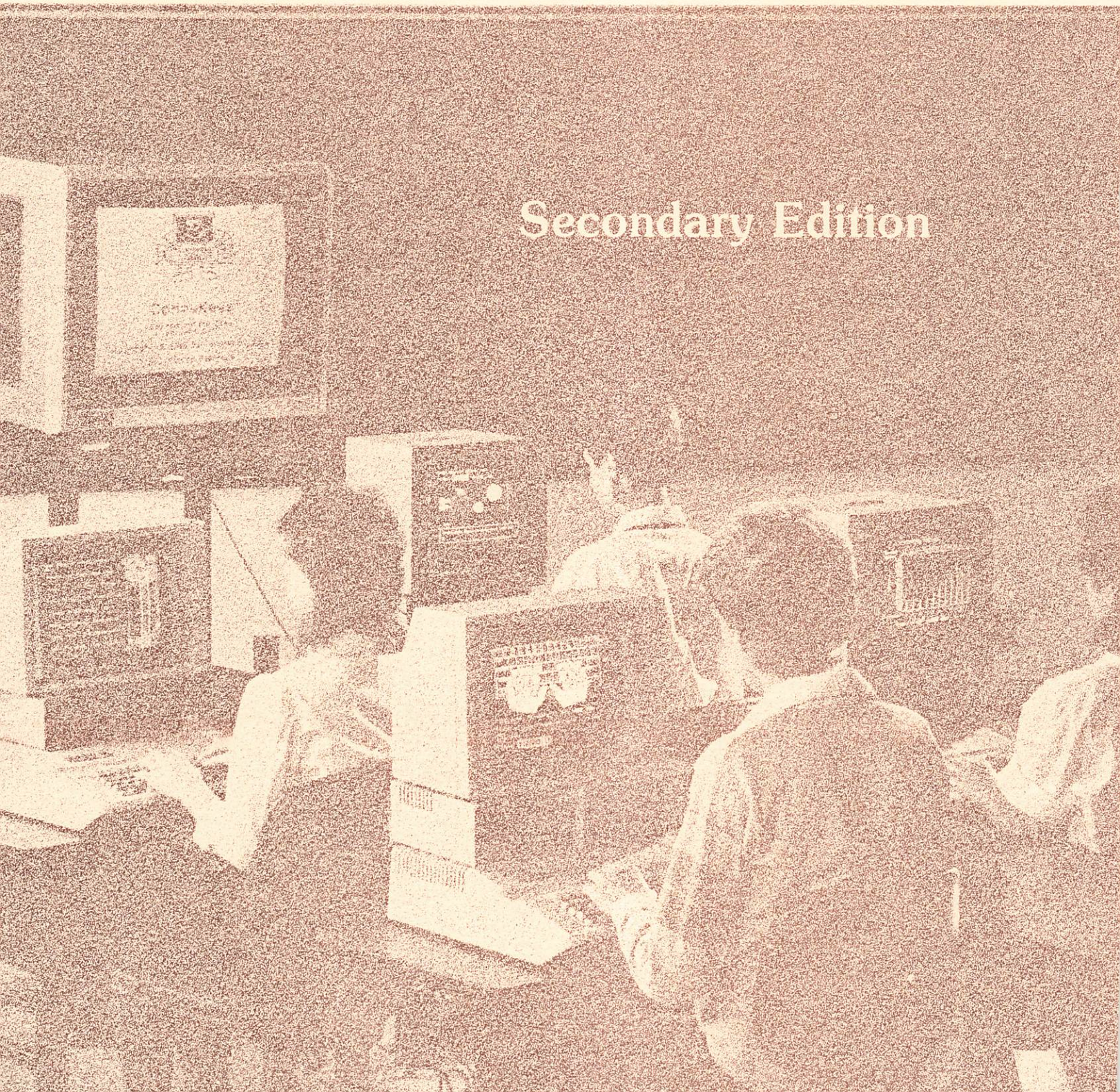


# CompuKeys™ Keyboarding Series

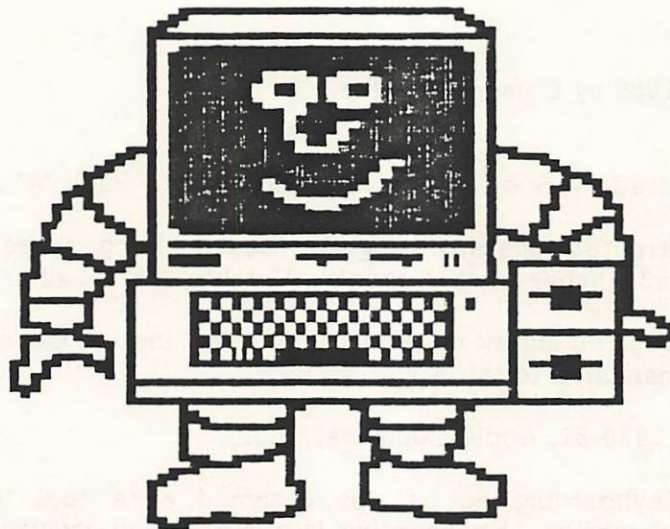
Secondary Edition



**CompuKeys™**

**Keyboarding Series**

**For the Apple II Family**



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**ACKNOWLEDGEMENT:**

CompuKeys, Inc. wishes to thank Kay Korupp for the significant contributions she made to the development of this package.



**CompuKeys**

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DOS 3.3 Copyright 1980-81, Apple Computer, Inc.

The CompuKeys Keyboarding Series was designed as a tool to help the classroom instructor teach keyboarding. Keyboarding is a skill which requires an extensive amount of practice. It is recommended that students complete the entire series of keyboarding drills. CompuKeys, Inc. makes no warranties, either expressed or implied, as to the ability of this product to produce a specific level of keyboarding skill.

Apple Computer, Inc. makes no warranties, either expressed or implied, regarding these computer software packages, their merchantability or fitness for any particular purpose. The exclusion of implied warranties is not permitted by some states. The above exclusion may not apply to you. This warranty provides you with specific legal rights. There may be other rights that you may have which vary from state to state.

The diagram below shows the organization of the CompuKeys management system.

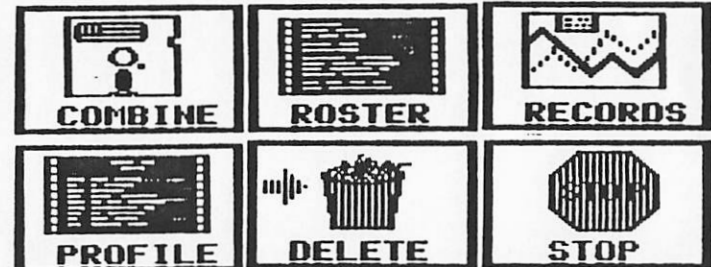
### Utility Menu



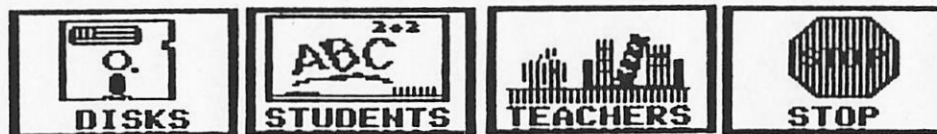
### Set Up Menu



### Management Menu



### Erase Menu

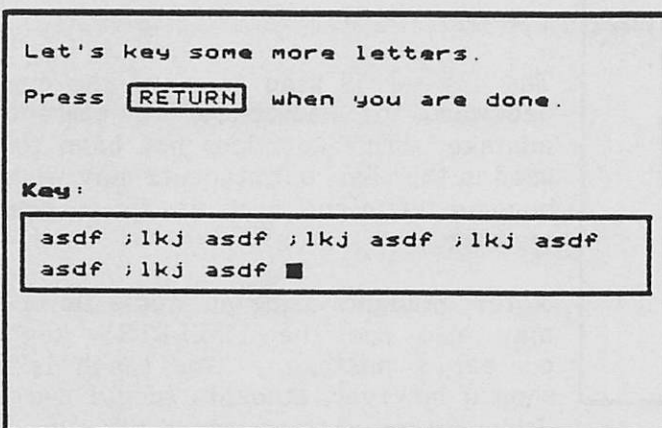




The reach is then animated three times and frozen.

The students may view the reach and read the directions as long as they wish. They are reminded to keep their finger on the [J] as an anchor.

When they are ready to continue, they must key [RETURN] to go on.



Next, the students are directed to key an entire line (35 spaces) of Home Row keys.

They must key these correctly to go on in the Introduction. If they make a mistake, the computer will sound a soft "beep."

The students must remember to press the [SPACE BAR] to leave a blank space between the groups of characters.

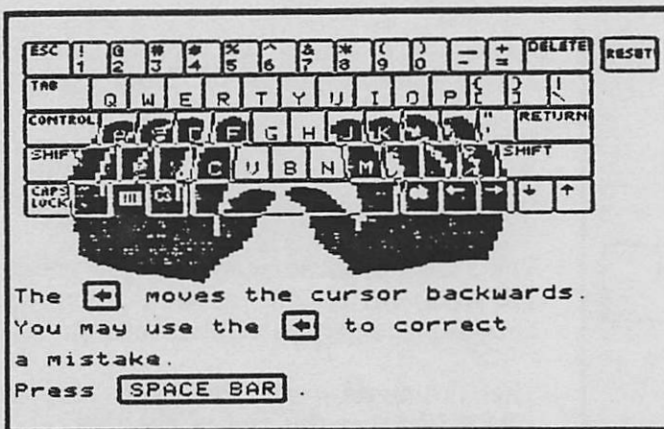
The students are directed to press [RETURN] at the end of the line.

## [ ← ] KEY



The [ ← ] key is presented.

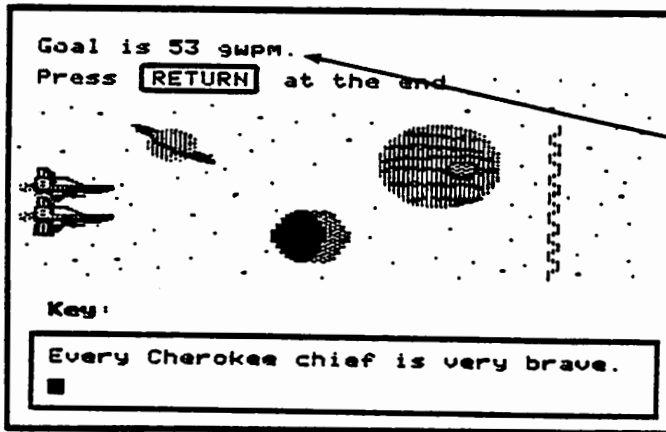
The students are directed to put their fingers on the Home Row keys and look at their keyboards and find the [ ← ] key.



The students are told the function of the [ ← ].

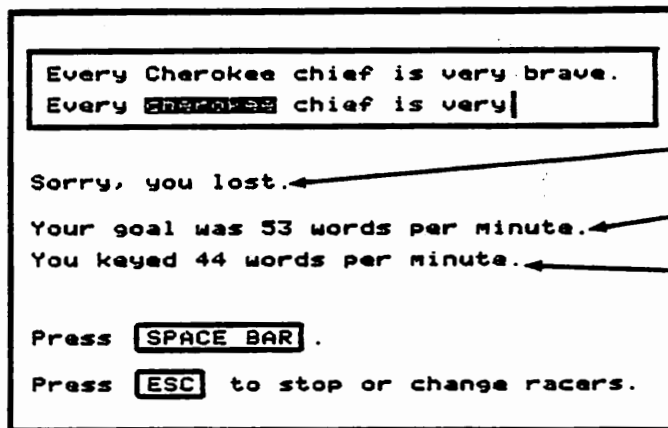
The [ ← ] is used to move the cursor backward (or backspace) to correct a mistake. This key does not have to be used in this disk, but students may wish to become efficient with it to maximize transfer.

Note: Students using an Apple IIe or IIc may also use the [DELETE] key to correct a mistake. This reach is not shown; however, students should use the little finger of their right hand to key [DELETE].



If, in the previous step, the student won the race, he/she races again against his/her new goal.

The new goal is displayed here. The new goal is one word per minute higher than the speed at which the race was won.



If the student does not meet or exceed his/her goal (keys too slowly), the screen to the left is displayed.

The student is told he/she lost the race.

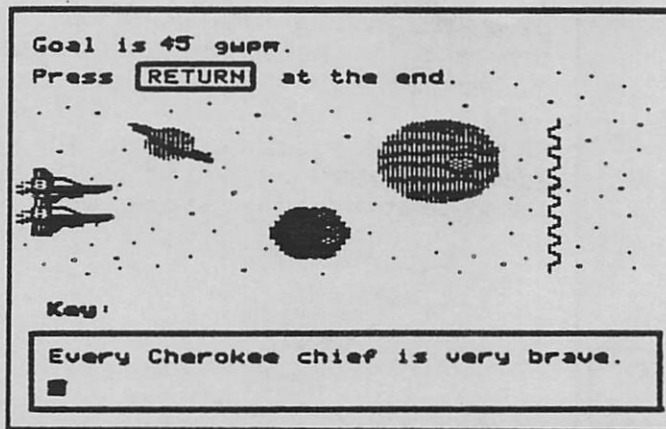
The student's goal is shown here.

The student's speed on this race is shown here.

The student presses the [SPACE BAR] to race again. (Go on to the next step.)

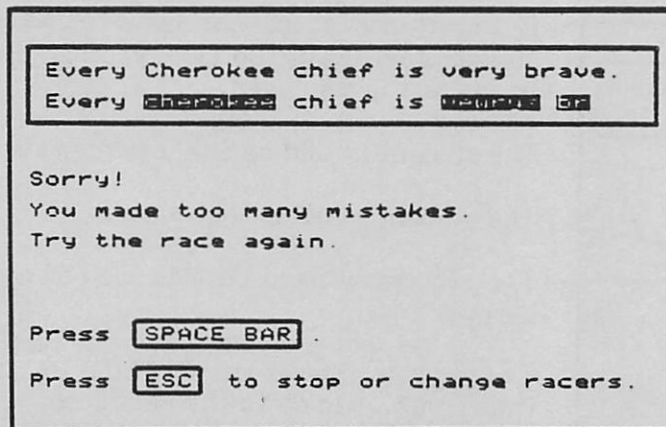
OR

The student presses [ESC] to stop racing or to select another racer. (Go on to page S-41.)



If the student lost the race (keyed too slowly), his/her goal is changed.

The student's new goal is one word per minute higher than the speed at which he/she was keying when the race was lost.



A maximum of two errors is permitted.

NOTE: Teachers have the option to change the error setting. This option allows greater flexibility.

Remember, an error is any incorrect character or combination of characters within a word, or a missing word.

If the students key the line with three or more errors, they are told they made too many mistakes and must try again.

The student presses [SPACE BAR] to try again.



Another area in which learning has typically been hindered has been the too early emphasis on accuracy. While the end goal of keyboarding is learning how to key accurately, it is important that early emphasis be on speed, with later emphasis moving toward accuracy. Thus, in this software, during the presentation lessons on the keyboard, emphasis has been placed on speed. Generous error limits have been provided simply to keep students from striking keys indiscriminately.

A frustration facing students and teachers, alike, is the lack of drill material with proven value in improving student accuracy. At the present time, the only known ways to improve accuracy are through practice and keying at a speed that is slightly lower than the student's maximum speed. At later stages, error correction immediately after perception of the error helps to reduce errors. Some of the drills provided on the Drill & Timing disk pace the students to keep them slightly below their maximum speed, thus encouraging the development of accuracy.

Knowledge of results is an especially important tool in the development of good keyboarding skills. Thus, with each practice exercise, the student is given information about speed performance and, in later lessons, about accuracy. In addition, the management portion of this package provides both student and teacher with a graphic display of performance to permit the early identification of plateaus and to encourage students, particularly in the early stages, with visual evidence of the rapid improvement they will probably experience. Knowledge of results is one of the reasons why students need visual access during early lessons.

#### WHAT DETERMINES THE ORDER IN WHICH THE KEYS ARE PRESENTED?

Many factors are involved in deciding the order in which to present the keyboard. Such considerations include:

1. **the ease of making the keystroke.** Home row keys are the easiest, followed by "up" reaches and "down" reaches, with the top row (numbers and symbols) the most difficult. In addition, index finger keys are the easiest with the ring and little fingers the most difficult.
2. **the frequency of use of the keys.** One of the objectives in developing the drill material was to permit the use of high frequency words appropriate to third grade vocabulary as soon as possible. To do that, it was necessary to present first the keys that are used most often. Since the keyboard was not designed systematically for today's usage, the order chosen for presentation may not appear to be systematic.
3. **the need to present potentially competing responses close together, though not necessarily within the same lesson.** A frequent cause of stroking error is the "substitution" error—where one key that requires almost the same response as another substitutes for it. For example, "e" and "i" require the same reach using the same finger, but on opposite hands. By presenting the keys close together, students have considerable opportunity to learn to distinguish the responses between the two keys with a minimum of confusion.
4. **the need to present the most commonly used function keys (such as: [RETURN], [SPACE BAR], arrows, and [SHIFT]) early, so that sentences can be keyed and the instructional components of the software can be accessed and used efficiently.**

## WHAT IS MY ROLE AS TEACHER?

The software is very easy to use and is designed to be self-instructional, with the only supplementary material necessary being existing classroom materials. Students should begin with the Alphabet Disk and complete the introduction as well as all lessons. If your students have not used the computer before, you will need to teach them how to turn on the monitor, boot (turn on) the computer, and handle the disks. Your most important role as teacher is to be available to monitor student progress and encourage student attention to the instructions provided by the software. This may include frequent reminders to use appropriate fingering or techniques, or assisting students by adjusting chairs or desks (where possible). You may have to provide footrests when students cannot touch the floor, or pillows/books when students cannot reach the keyboard comfortably. If a printer is available, and if you want students to print out their individual graphs, you will need to teach the use of the printer.

You will need to decide if you want students to learn the number and symbol keys. If you do, they should go on to the Numbers & Symbols Disk when they have completed the Alphabet Disk. If you decide that they do not need to learn those keys, students should go to the Drill & Timing Disk. (This is a separate CompuKeys package.) This disk, among other things, is designed to permit you to enter practice material. This is most useful for teachers of students with special vocabulary needs, for teachers who want the students to have additional practice material, and for teachers who want to use the software in conjunction with a keyboarding or typewriting text. When teachers provide this input, students will receive feedback on both speed and accuracy.

## FEATURES AND BENEFITS OF CompuKeys

FEATURE	BENEFIT
The software was designed by a team including a recognized authority on keyboarding and professor of business education at a major university.	Years of research and writing of typewriting texts and methods books provide authority for software design.
Lessons and games are based on research in psychology, education, and keyboarding.	Principles employed are educationally sound and used because of their effectiveness, not their technological or fadish appeal. Other existing keyboarding games are based on incorrect assumptions about how keyboarding skill is developed.
The introductory material is brief but provides the necessary technique instruction for efficient keyboarding.	Students do not like to read extensively. Through graphics, students are shown how to keyboard for best results.
The program uses students' names, reinforcement, and a logo.	Such personalization may be helpful in increasing interest and motivating students.
Initial emphasis is on keying speed with generous error limits.	Research has shown consistently that keyboarding skill is developed most efficiently when accuracy development takes place after speed development.

Throughout the program, students are given the option to review the correct fingers to use.

Graphics depict actual hand position and movement for proper keystroking.

In the beginning stages, visual access to the keyboard is encouraged. As skill develops, students are encouraged to keep their eyes off the keyboard (but they are not prohibited from watching, if needed).

A wide variety of drills is provided in the complete series.

Content is based on high frequency words from analyses of business communication and general population vocabulary.

Students may exit a lesson at any point and reenter at predesignated points if the lessons are managed.

Actual words and sentences are used as soon as possible in the practice material. No nonsense syllables are used except for a few instances immediately after a key is introduced.

Content comes from a variety of fields—math, business, social studies, etc.

No stroke-by-stroke pacing of students is provided. Pacing is in larger blocks.

Students may correct errors at any point by backspacing and correcting.

Students are given feedback on speed following each line keyed. They are also given feedback if the error limit has been exceeded.

Errors made by students are highlighted.

The major problem for students in learning to keyboard is remembering to use the correct fingers.

Students can see the actual motions to be made when keyboarding properly.

Since students MUST be able to see the keyboard initially to make the desired response, they are not given an incorrect expectation that they can key without watching. Even experts "peek".

Each type of drill is based on sound theory; variety adds to student interest.

Content is appropriate for transfer to the level of vocabulary encountered by students using keyboarding for both personal and vocational use.

Students do not have to go through previously completed work to reach the point at which they left a lesson. They may also review reaches from previously completed lessons at any point.

Transfer and motivation are maximized when letters and words are used in the context in which they will ultimately be used.

Keyboard learning enhances learning in other fields.

Stroke-by-stroke pacing leads to metronomic rhythm which interferes with developing appropriate keyboarding responses.

This is the process that will be used by the students at a later point, thus maximizing transfer. In addition, when used beyond introductory lessons, accuracy improves.

Contiguity (immediacy) of feedback is an important factor in developing keyboarding skills.

Such feedback permits students to identify quickly and easily the kinds of errors they have made.

The software accepts entry speeds in excess of 120 gross words per minute and as slow as 1 gross word per minute.

Games have been provided and integrated into each lesson. One type of game is provided for each objective—speed and accuracy development—in the Alphabet and Numbers & Symbols disks.

Competition is based on the student's earlier performances.

The program manages the class records, with the potential to have records displayed on the screen or printed.

Teachers are given a number of options, e.g., setting error limits.

Teachers may enter student names and numbers or have students do so.

Rosters, records, and profiles may be printed by alphabet or student number order.

Utilities include a label maker for disks.

The user support manual includes all program screens with an explanation of why the program functions as it does at each point.

All content material for each lesson is included in the user support manual.

Software is standalone.

The software will accept any entry speed that students provide.

Games add variety to enhance student motivation. Speed and accuracy, according to research, must be developed separately.

Focus is on self-competition rather than competition with other students. This is the most effective type of competition.

Students have access to individual past performance by graph and statistics. Teachers have access to printed individual records and class profiles, eliminating the need to keep written records.

While the developers have used defaults that fit most settings according to research, flexibility is provided for exceptional circumstances.

Teachers have the option of improved accuracy with increased teacher work, or they may let students enter data with the chance of increased errors.

Provides a variety of teacher options. Printing records by student number helps the teacher comply with data privacy laws.

This permits a professional appearance on school-duplicated disks when purchased by license.

Any screen can be identified easily. Teachers with no background in keyboarding can determine why various educational judgments were made.

The user support manual can also serve as instructional material for students who do not have access to computers, only typewriters.

No printed material is needed by students to use the software. The primary role of the teacher is to ensure that appropriate techniques are being used.

## HOW SHOULD STUDENT PERFORMANCE BE EVALUATED?

Evaluation should be taking place continually. This simply means providing students with feedback on their progress toward their objectives (as identified previously). The management system included in the software has been designed to provide such feedback on a regular basis. Teachers also need to provide verbal feedback to enhance motivation and the learning process.

If keyboarding instruction is to be graded, then it is necessary for teachers to grade based on progress toward the objectives. Such grading **MUST NOT** be done on practice material. Rather, tests should be administered toward the end of instruction and should consist of material similar to that which the students have been practicing. For this software, material should consist of approximately 100 strokes (20 "standard" words). Students who have successfully accomplished the software objectives should finish the material within one minute (i.e., 20 gross words per minute) and have no more than three words typed incorrectly.

## WHAT SHOULD STUDENTS LEARN NEXT?

The 30 hours of keyboarding instruction suggested earlier is minimal. Students should have several options available to them following such instruction:

1. **Further drill and practice.** A speed of 25 gwpm is not very fast. Considerably more drill and practice will be required to produce high speeds. Accuracy also requires considerable practice. The Drill & Timing disk will be very useful for both speed and accuracy development. Teachers may wish to use a textbook for such practice to provide extensive, rather than repetitive, practice.
2. **Typewriting.** Keyboarding instruction does not provide information on formatting. Yet keyboarding skills are useful only when they can be applied to specific activities. Thus, followup typewriting or advanced keyboarding classes can provide students with production or application skills.
3. **Other applications.** In addition to more traditional typewriting courses, students may have the option to select from several specific application courses, such as word processing, data base management, spreadsheets, business microcomputer applications, programming, etc.—all of which take advantage of the students' keyboarding skills and provide students with additional applied skills.
4. **Integrated classes.** Some of the applications described above may be learned while enrolled in another class. For example, students in an English class may be required to use word processing; students in a social studies class may be required to use a data base; and students in accounting may use spreadsheets. Students who have not taken keyboarding may be at a serious disadvantage if they have not taken keyboarding prior to enrollment in such classes.

## WHAT SHOULD I PURCHASE?

What you should purchase depends on what you intend to teach, if you want to save your student records, and how you organize your class.

Before you purchase any keyboarding software, you should decide the reason you want to teach keyboarding. Do you want to prepare students for word processing or some of the many other applications of the microcomputer such as programming, or using data bases and spreadsheets?

If your goal is to:

1. prepare students for word processing, you must purchase a package which teaches alphabetic, punctuation, and special function keys (Alphabet Disk).
2. prepare students for some of the other applications, you must purchase a package which teaches alphabetic, punctuation, number, symbol, and special function keys (Alphabet and Numbers & Symbols Disks).
3. keep track of your students' progress on the computer, you must purchase a package with management capabilities (Management Disk).
4. help students develop substantial gains in speed and greatly improve accuracy through longer paragraph and page drills, you must purchase a package which allows students to practice material of up to 4,000 characters (Drill and Timing Disk).

### WHO ARE THE AUTHORS?

Gary N. McLean is a Professor of Business Education at the University of Minnesota, St. Paul. Dr. McLean has over 20 years of experience in teaching keyboarding/typewriting (including his own six children) and conducting research on the subject. He has authored numerous articles and given hundreds of presentations on keyboarding. He has authored several textbooks, as well as a monograph on TEACHING KEYBOARDING/TYPEWRITING. Dr. McLean has served as a consultant on keyboarding to numerous school districts and corporations. He has also served as a consultant on other keyboarding software materials.

Ronald R. Geiser has been programming for 10 years. Mr. Geiser has been an educational programmer for a large computer consortium since 1981. He specializes in tutorial, management, and authoring systems. His objective has been to set new user-friendly standards for each system he has programmed. His experience includes tutorial, management, and authoring systems for English, physical education, computer literacy, and keyboarding. Mr. Geiser is currently working on his own word processing package and support utilities.

Timothy F. Cimbura has been programming since the beginning of the Apple computer. His experience and talents lie especially in the graphics and sound aspects of programming. His major accomplishment is the character generator APEXTEXT, which is currently being used in many educational packages worldwide. Mr. Cimbura is also president of Apex Software, publisher of APEXTEXT.

David C. Lindgren has a Masters degree in Business Education and is a teacher at Hudson Senior High School in Hudson, Wisconsin. Mr. Lindgren has been teaching business education, including keyboarding, for over 14 years. He has extensive experience in using microcomputer courseware. Mr. Lindgren has used several keyboarding software packages in his classrooms.

Joyce M. Lindgren is a licensed elementary teacher. Ms. Lindgren has a Masters degree in Instructional Design/Educational Computing and has been designing and developing educational software for 10 years. She is currently Coordinator/Consultant of Instructional Services for a large educational computer consortium. Her major responsibilities for the past several years have been designing and developing keyboarding, word processing, and computer literacy materials for students in grades K-12.

Jerome A. Farm has a Bachelor of Science degree in Aerospace Engineering and Mechanics. Since 1980, he has written educational and scientific programs for the Apple II, Apple Macintosh, Atari, and IBM microcomputers. He has concentrated on making programs which maximize execution speed and minimize memory requirements.

### WHERE CAN I GET HELP?

A bibliography of useful texts and periodical references is appended. For information about learning to keyboard, the West and McLean references are particularly recommended. Specific questions can be directed to:

CompuKeys, Inc.  
P. O. Box 8142  
St. Paul, MN 55108  
(612) 641-0039

## Sample Lesson

### Menu - Alphabet Disk

✓ Intro	rv
<b>asdf</b>	p?
;lkj	wx
ec Right [SHIFT]	qz-
o., Left [SHIFT]	Review Reaches
tgb	Graph
ium'	Games
hny	Stop

✓ Shows lessons finished.  
Use the arrow keys to choose.  
Then press **RETURN**.



This section of the manual includes screen displays of each screen the student will see, with an explanation of why the program functions as it does at each point. Any screen can easily be identified, and teachers with little background in keyboarding can determine why various educational judgments were made.



## CompuKeys ALPHABET DISK SAMPLE LESSON

**TEACHER NOTE:** The following section is presented to show you what a student would see when using this package. It also provides some additional information for you. It is not intended that the students use this section of the manual for their own instruction. Although instructions for the lessons are presented to the students on the diskettes, you should explain the directions to the students before they begin.

To aid in teacher planning, a complete printout of the content for all of the lessons is included in **Appendix C** of this manual. You could also use the content with students who are using typewriters because of a lack of computers or with a word processing package to provide additional practice for the students. You may reproduce this content for use in your classroom.

**NOTE:** CompuKeys Keyboarding Series was designed to be used with the Apple II family of computers. There are two versions of this program - an Apple II+ version and an Apple IIe/IIc version. Both versions are on the same disk; however, the program is "smart enough" to know which computer you are using and display the appropriate screens. This sample lesson shows the IIe/IIc keyboard. When the directions differ for the II+ version, they are explained in this manual.

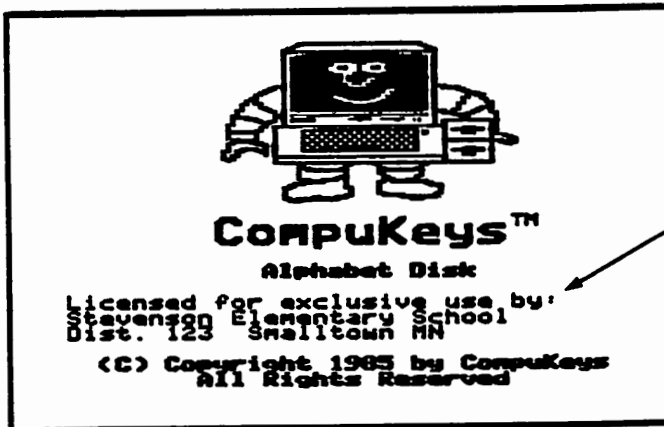
### USING THE MANAGEMENT SYSTEM

The CompuKeys package has a management system which keeps track of student progress (purchase option). The management system was designed to allow you to create, monitor, maintain, and delete records of student progress throughout the program. In order to use the management system, **you must first set up the management system.**

If you wish to manage your students' progress, go to page M-1 of the Management Guide in this manual. Follow the directions for setting up the management system. Then, return to the steps that follow in the Sample Lesson.

### BOOTING THE DISK

To use a CompuKeys lesson, the students should do the following:



Insert the CompuKeys disk into drive 1 and turn on the monitor and the Apple.

The title screen shown on the left will be displayed.

The name of the district or school to which this package is sold is shown here.

After a short pause, the program will continue.

When a student boots the disk, one of two messages will be displayed on the screen:

You must have a shift key  
adapter in your computer to  
use this disk.

Hold down the **SHIFT** key while  
you start (boot) the disk.

Press **SPACE BAR** to start over.

If the student is using an Apple II+ computer, a shift key adapter must be installed in the computer to produce upper/lower case (see Appendix A for information). In order for the program to detect the presence of the shift key adapter, the student must hold down the **[SHIFT]** while booting the program on an Apple II+. If the student fails to do this, the message to the left will be displayed.

If the student is given this message, he/she should press the **[SPACE BAR]** to begin again and, this time, hold the **[SHIFT]** down while booting.


The **CAPS LOCK** key must be up  
to use this disk.

If the student is using an Apple IIe or IIc computer, the **[CAPS LOCK]** must be up to produce upper/lower case. When the program is used on an Apple IIe or IIc, the message to the left will be displayed.

The student should make sure the **[CAPS LOCK]** is up before continuing.



## POSTURE & TECHNIQUE



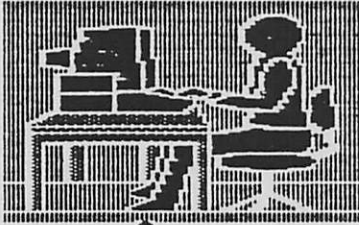
When you sit the right way, the [H] key should be in front of the middle of your body.

Press [SPACE BAR].

One of the first things to learn is how to sit correctly at your keyboard, so the next section of the introductory lesson deals with posture and technique. The most important thing is that the students are comfortable as they key.

The students should sit squarely in front of the keyboard. The [H] key is the center reference point on the keyboard.

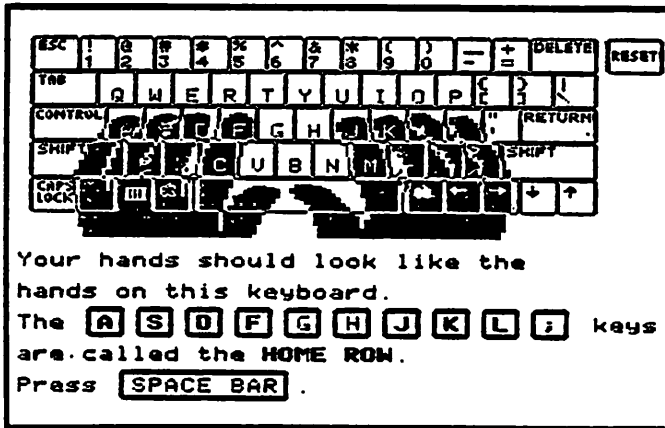
Keep your feet flat on the floor.



Press [SPACE BAR].

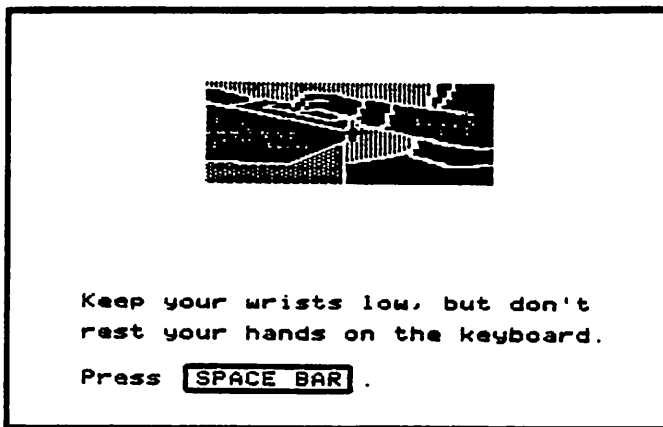
For balance, the students should keep their feet flat on the floor, with one foot slightly in front of the other.

A flashing arrow highlights the point being stressed.



After the Home Row has been presented, the screen to the left is displayed.

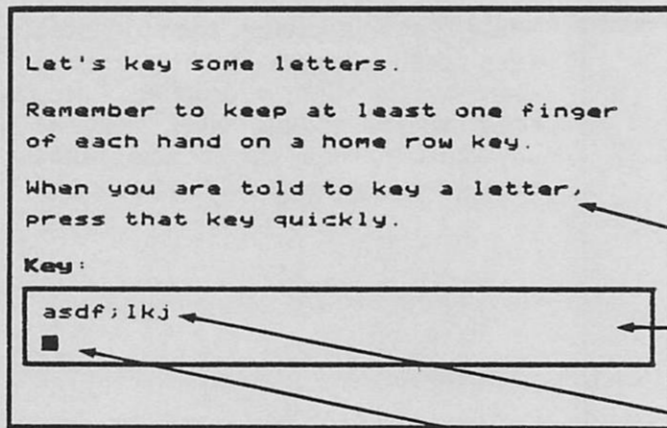
The keyboard is shown with the hands on the Home Row keys. The term HOME ROW is presented.



While they are keying, the students should keep their fingers slightly curved and their wrists slightly dropped. However, their wrists should NOT rest on the keyboard. Their upper arms should be parallel to the angle of the keyboard.



The students should sit up straight (while leaning forward slightly) and keep their elbows close to their sides.



After the students have learned posture and technique, they are ready to key some text.

When they are told to key material, they should press the key with quick motion.

In all lessons, directions will be given in this space.

The practice material will be displayed in the box.

The top line is the material to be keyed.

The bottom line will display the material as the students key.

The students are directed to key the Home Row keys.

Dr. Brad is taller than my brother.  
Dr. Brad is taller than my|

You did not finish. Try again.

Press **SPACE BAR**.

If the students press [RETURN] before completing 30 characters, they are told they did not finish and must try again.

The student presses [SPACE BAR] to try again.

Dr. Brad is taller than my brother.  
Dr. Brad is taller than my brother.

You made too many changes. Try again.

Press **SPACE BAR**.

Students may correct errors on this drill by backspacing and keying the correct copy.

This is the process that is used by students at a later point, thus maximizing transfer.

However, it is of little benefit for the student to backspace too far to correct an error. Therefore, if the students backspace more than five times (one word), they are told they made too many changes and they must try again.

This also eliminates the possibility of backspacing an excessive number of characters to increase their keystrokes and, thus, their words per minute.

The student presses [SPACE BAR] to try again.

OR

The student presses [ESC] to stop racing or to select another racer. (Go on to the next step.)

[ESC]

Hi, Mary Ann!  
Welcome to the races.  
Pick your racers.

**Spaceships**  
Sailboats  
Horses  
Runners  
Race Cars  
Leave the Races

Use the arrow keys to choose.  
Then press **RETURN**.

If, in the previous step, the students chose to ESCAPE, the screen to the left will be displayed.


If the students wish to change racers, they would select their racers and then select the arena.

NOTE: When a student changes racers, his/her scores and goal are not affected.

OR

If the students wish to stop, they would select Leave the Races. (Go on to page S-42.)

Goal is 45 gwpm.  
Press **RETURN** at the end.



Key:  
Every Cherokee chief is very brave.  
■

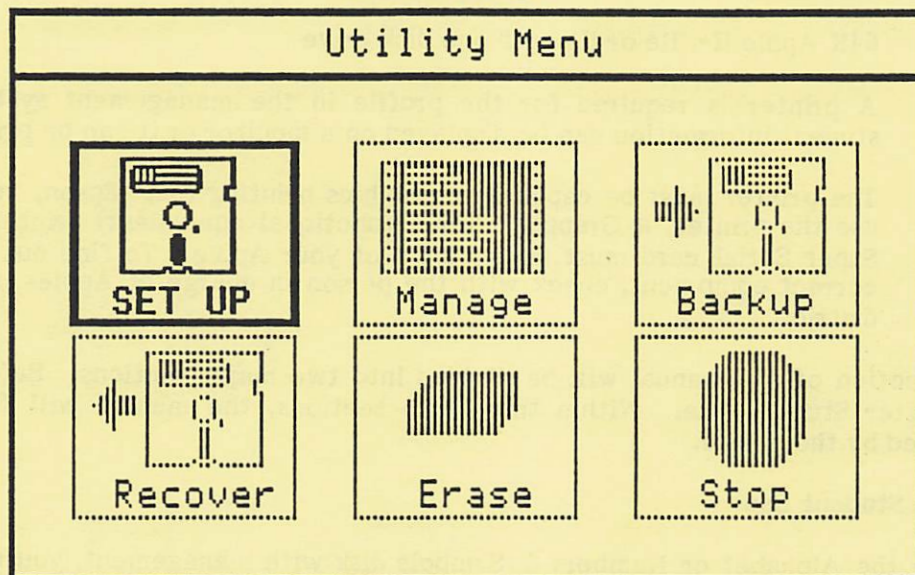
For variety and motivation, the students may wish to mix racers and arenas.

In this example, the runners are racing in outer space.



# Management Guide

## CompuKeys



Use the arrow keys to choose.

Then press **RETURN**.

This section of the manual includes screen displays of each screen in the management program. Any screen can be identified easily, and teachers can be "inserviced" in the use of the management system for this package.

**MANAGEMENT DISK**  
for  
**Alphabet or Numbers & Symbols Disks**

CompuKeys Alphabet or Numbers & Symbols disk may be used either with or without management. If the disks are managed, the program keeps track of student progress. You (the teacher) may obtain rosters, records, graphs and class profiles on one printout for 1 to 50 computers.

The Management Disk can monitor:

- o up to 4 classes or sections,
- o up to 50 students per class or section,
- o a set of 1 to 50 Student Lesson Disks.

The maximum number of student records which can be saved is 200 (4 classes of 50 students). These records can be on 1 disk or on up to 50 Student Lesson Disks.

**NOTE:** Hardware Requirements for the Management Disk

64K Apple II+, IIe or IIc with one disk drive

A printer is required for the profile in the management system. All other student information can be displayed on a monitor or it can be printed.

The printer must be capable of graphics printing (ex: Epson, ImageWriter). To use the printer, a Grappler+ (or a functional equivalent) printer interface or a Super Serial card must be in slot 1 of your Apple. To find out if you have the correct equipment, check with the person in charge of Apples in your school or district.

This section of the manual will be divided into two major sections: Before Student Use and After Student Use. Within these two sections, the manual will follow the order provided by the menus.

### **Before Student Use**

To use the Alphabet or Numbers & Symbols disk with management, you must first set up the management system. To set up management, follow these steps.

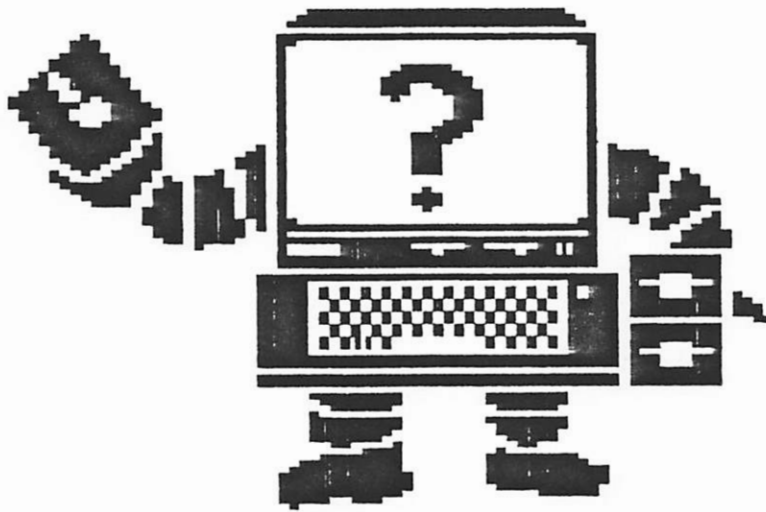
- A. Determine the number of Student Lesson Disks you will need. The number of copies you should purchase depends on how you organize your class. You must have one package for your class with enough additional Student Lesson Disks for each computer in your teaching environment. The chart on the following page should help you determine the number of copies you should purchase (or copy if you have a Site License Agreement) for your classroom needs.

You should purchase (or copy if you have licensed the software) a few extra copies of the Student Lesson Disk. This will allow you to "recover" your student data onto a new disk if disks in your set are lost or damaged.

You may purchase individual Student Lesson Disks or you may license the software so that you may make your own copies within your school or district.

If you have licensed the software, copy the Student Lesson Disk onto each disk in the set. Then copy the Management Disk. When you have made your copies, remember to put your master copies away in a safe place.

## Appendices



This section of the manual includes several items to help users integrate this package into the curriculum.

## APPENDIX A

### INSTALLATION OF A SHIFT KEY ADAPTER

#### WHAT A SHIFT KEY ADAPTER IS

The shift key adapter is a modification which permits an Apple II+ microcomputer to display upper/lower case characters using the shift keys.

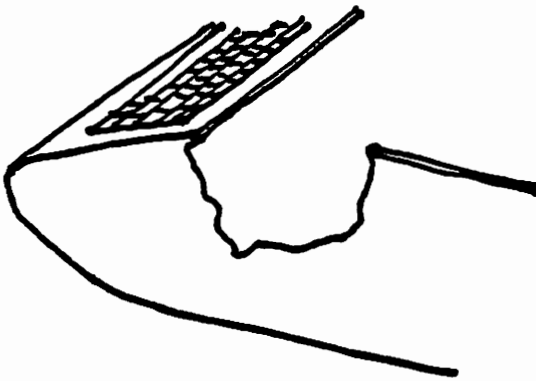
The shift key adapter can be installed easily on most Apple II+ microcomputers without using any special tools.

The shift key adapter is attached to the encoder board inside the computer directly beneath the keyboard. Some older Apple II microcomputers do not have this encoder board and the shift key adaptation is a more complex procedure than described here.

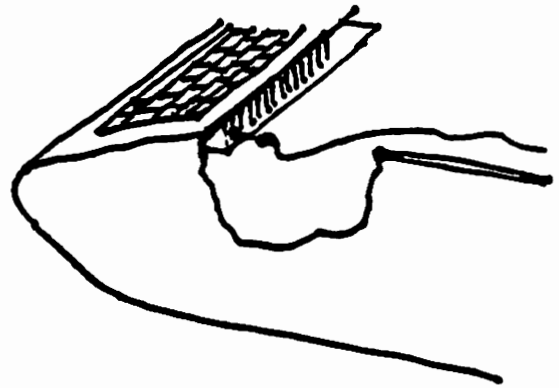
#### DETERMINE IF YOUR MICROCOMPUTER HAS AN ENCODER BOARD

To determine if your computer has an encoder board, please do the following:

- o Turn the power switch off.
- o Remove the cover from the microcomputer. Be careful not to touch anything inside the computer.
- o Look inside the computer to see if it has an encoder board.
- o Compare the inside of your microcomputer with the illustrations below.



This computer  
does not have  
an encoder board.



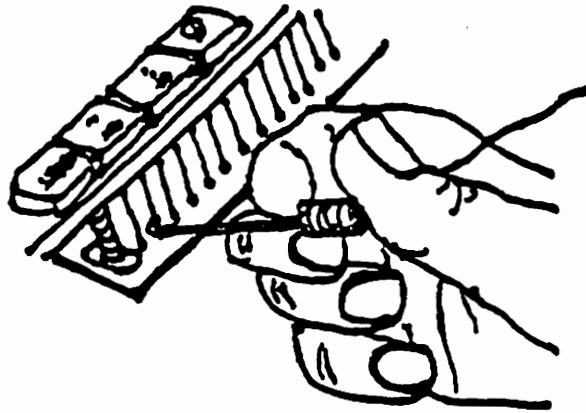
This computer  
has an encoder  
board.

- o If your computer does not have an encoder board, please contact your computer service technician to obtain additional instructions.
- o If your computer has an encoder board, follow the installation instructions.

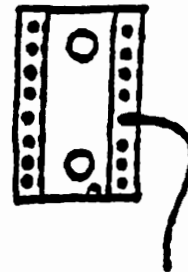
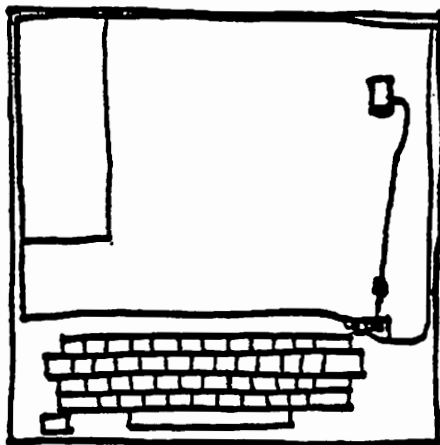
## HOW TO INSTALL A SHIFT KEY ADAPTER

**NOTE:** Before you attempt to do anything inside a microcomputer, there is something you should know. Touching a chip lightly with your fingertip can short circuit the microcircuit. Static electricity can raise havoc with microcomputer circuitry. Therefore, before you reach inside a computer, the first thing you should do is touch the power supply (the metal box on the left) to draw off any potential charge.

- o Pick up the shift key adapter. Hold it between your thumb and the middle and pointer fingers as illustrated below.



- o Depress the plunger and attach the protruding metal hook around the second pin from the left on the encoder board (if you are accessing it from the back of the Apple). Release the plunger. The adapter should stay firmly attached. If it does not, repeat this step.
- o Locate the "Game I/O" socket illustrated below. It is near the back of the motherboard on the right side.



- o Insert the bare wire on the end of the shift key adapter into the fourth hole from the front on the right side of the socket.

The shift key adapter installation is complete. You may leave the adapter in place while using other software. It should not interfere with the operation of most other software. In fact, some software may take advantage of the adapter to permit the use of the shift keys to produce upper/lower case.

## Reach differences II Plus & IIe/c



Use the pointer finger of your right hand to key **←**.



Use the middle finger of your right hand to key **→**.



Use the little finger of your right hand to key **RETURN**. Keep your pointer finger on the **J** key.



Use the ring finger of your left hand to key **"**. Press **SHIFT** with your other little finger.



Use the pointer finger of your right hand to key **'**. Press **SHIFT** with your other little finger.



Use the little finger of your right hand to key **"**. Keep your pointer finger on the **J** key.



Use the middle finger of your right hand to key **←**. Press **SHIFT** with your other little finger.



Use the ring finger of your right hand to key **→**. Press **SHIFT** with your other little finger.



Use the little finger of your right hand to key **\***. Press **SHIFT** with your other little finger.



Use the little finger of your right hand to key **+**. Press **SHIFT** with your other little finger.

## Lesson 1: a s d f

### a & s reaches

1. aaa aaa sss sss a s a s as as as as
2. a as s sa a as s sa a as as sa sa a
3. a as a as a as sa sa sass sass sass
4. as a as s sa a as s sa sass as sass
5. as a as a as a sass as sass as sass

### d reach

1. ad ad add add sad sad dad dad ad ad
2. da da dad dad dads add ad ad dad ad
3. as a dad add a sad dad add dads ads
4. add a sad dad a dad sad add dad sad
5. sad dad add a dad adds ad a sad dad

### f reach

1. fa fa fa fad a fad as a fad as a as
2. fa fa fad a fad as a fad sad fad as
3. fads as a sad dad fad sad add a fad
4. as fads a add a sad fad dad fads as
5. fad as add fad dad fads sass as fad

### Combined Practice

1. fa sa fad sad dad a fad as fads sad
2. a as sass fads dad sad fads as fads
3. sass fad dad add a sad dad fads add
4. as fad dad sad add a sad dad fad as
5. fad sad dad add dad sad fad as sass

### Time Check

1. as a sad add fads as a sass sad fad
2. fad a sad add a sad dad fad as sass
3. dad fad sad add a as sass dads fads
4. sass as a fads dads fad add as fads
5. adds a sad dad fad sass a fad a dad

### Race

1. as a sad add sad fad dad sad as fad
2. a fad sad dad fad sad dad ad as sad
3. fad dad sad add as a dad sad dad as
4. sad fad dad sass dad sad as fad dad
5. sass dad sad fad as a fads add sass



Use the little finger of your left hand to key **A**.



Use the ring finger of your left hand to key **S**.



Use the middle finger of your left hand to key **D**.



Use the pointer finger of your left hand to key **F**.



## Lesson 2: ; l k j

### ; reach

1. ;;; ;;; aa ;; aa ;; ss as; ad; add;
2. sass as fad; a sad dad; add as dad;
3. dad sad as; a fad sad dad; as sass;
4. a sad dad ad; add a dad; as fad ad;
5. sad as; add as; fad sad; as ad dad;

### l reach

1. ;;; lll ;;; lll sl sl a;a; all fall
2. all; fall; salad; as fall; all fall
3. all add; all fall; all salads; fall
4. all fall; all dads fall; all salads
5. as fall; salad; all sad dads; fall;

### k reach

1. kkk kkk aa ;; ss ll dd kk dk sl all
2. ask a dad; ask a lad; ask dad; ask;
3. all add; all ask; ask all dads; ask
4. dads fall; ask dad; ask a dad; ask;
5. ask all; ask dad; all dads ask; ask

### j reach

1. jjj jjj a;a; sl ja sl ja jad ja jas
2. ja ja jal jas jad ja jak jal ja jas
3. ja ja jal jas jad jal jak ja jad ja
4. ja a dad; jas jad jal dads ask fall
5. a add jak as ask jad fall ajs salad

### Combined Practice

1. a sad dad; ask jal; all dad ask jas
2. jad fall dad fall; jak all adds ask
3. jal ask; dads add; all dads ask jas
4. dads fall; sad jak falls; jak salad
5. ask dad; ask all; jal adds jad dads

### Time Check

1. jal add; ask all dads; dads add jak
2. dads fall; ask jak; jas adds salads
3. sad jak falls; ask dad; salad; jals
4. dads ask jals; dads add salads; jak
5. jak; all fall; as jak; all dads ask

### Race

1. a sad jak falls; a jak adds a salad
2. ask jas; dad falls; all dads ask ja
3. dads all ask; jad adds a salad; jak
4. as all fall ask dad; kal falls; jak
5. fall jad; all dads fall; jak ask as



Use the little finger of your right hand to key **J**.



Use the ring finger of your right hand to key **L**.



Use the middle finger of your right hand to key **K**.



Use the pointer finger of your right hand to key **I**.

This program was designed to work on the Apple II+, IIe, IIc, and IIGS.

In order to use this program on the Apple IIGS, you must set the speed of the microprocessor. The way you control the speed is through the Control Panel, a program that is built into the Apple IIGS.

The Apple IIGS can operate at two speeds: fast and normal. Fast is the standard setting for the IIGS. However, the fast speed throws off the application's timing, therefore, you must change the Control Panel setting to NORMAL.

Getting to the Control Panel Program is explained on pages 108-118 of Apple IIGS Owner's Guide.

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CONFIDENTIAL

**CompuKeys**

Licensed Disk Copy System							
	Source	Destination					
		1	2	3	4	5	6
Slot	6	6	--	--	--	--	--
Drive	1	2	--	--	--	--	--
Volume			--	--	--	--	--

Licensed for exclusive use by:  
 Smalltown Elementary School  
 Dist. 123 Smalltown MN

Press **[SPACEBAR]** to copy, **[ESC]** to stop.

Remove the Copy disk from the source drive and insert the MASTER disk into the source drive. NOTE: Do not place a write protect tab on the MASTER disk.

Then, insert the blank disk(s) into the destination drive(s).

Press the **[SPACE BAR]** to start copying.

**CompuKeys**

Licensed Disk Copy System							
	Source	Destination					
		1	2	3	4	5	6
Slot	6	6	--	--	--	--	--
Drive	1	2	--	--	--	--	--
Volume			--	--	--	--	--

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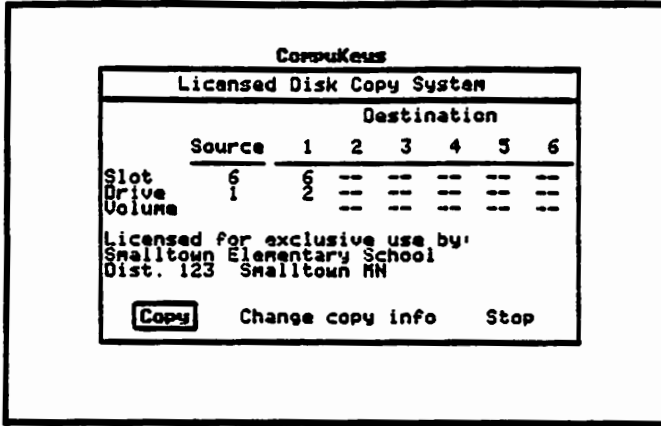
5  
|  
|

6  
|  
|

The current disk being accessed is indicated by a box. The amount remaining to be copied on each destination disk is shown by a solid bar. The bar will get smaller as more of the disk is successfully copied.

## CompuKeys' Licensed Disk Copy System

CompuKeys' Disk Copy System allows you to copy CompuKeys' licensed MASTER disks for use within your school or district. It has been designed to allow quick and easy copying of up to 6 destination disks.

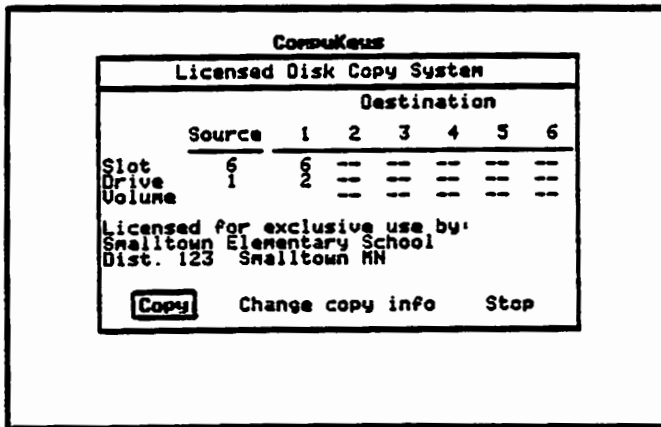


Insert the CompuKeys' Disk Copy System diskette into the source drive. Turn on the monitor and the Apple.

The menu screen shown on the left will be displayed.

The copy disk has three options:

- Copy - page C-1
- Change copy info - page C-4
- Stop - page C-5



To copy, use the arrow keys to box [Copy] and press [RETURN].

# CompuKeys™ Keyboarding Series

Right now you can have a demo disk of CompuKeys Keyboarding Series, the revolutionary way to teach keyboarding at the elementary education level, **FREE** for 30 days. Take a look. Try it out. If you don't agree that it's a better way to teach--a better way to learn--just return the disk and documentation with no further obligation.

Created by professional keyboarding, elementary education, and programming experts for classroom use with Apple® II+, IIe, and IIc, CompuKeys is based on psychologies of learning and recognized research into how keyboarding is actually learned.

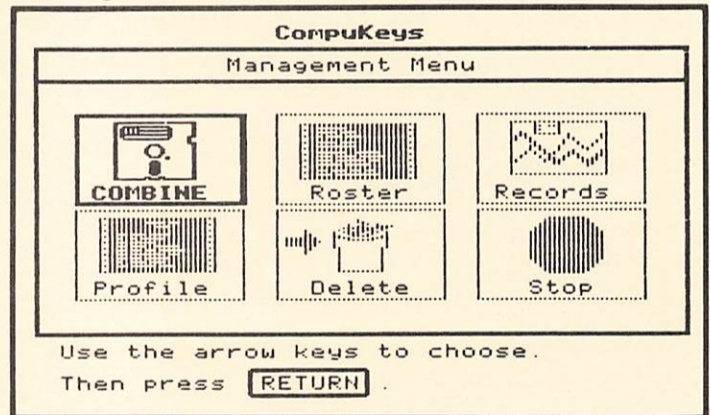
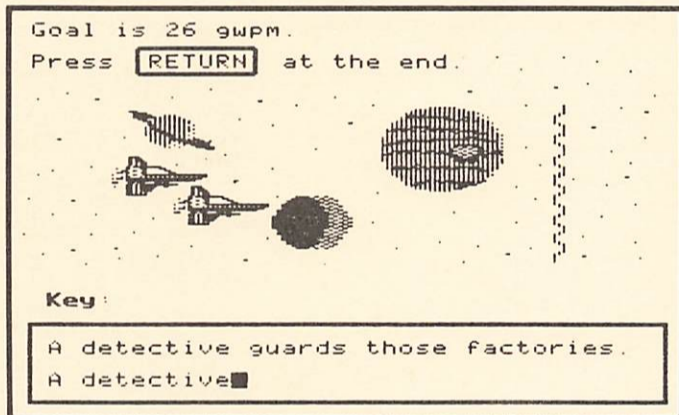


This unique software package consists of three educational disks, with full documentation:

- **Alphabet Disk** includes eleven alphabetic lessons.
- **Number & Symbol Disk** includes seven number and symbol lessons.
- **Drill & Timing Material Disk** includes drills, teacher-authored timings, and provision for timings from texts.
- Class management is available with each disk.

## DOES WHAT MAJOR PUBLISHERS HAVE FAILED TO DO:

- easy to use
- short lessons
- appropriate reading levels
- full-color, animated graphics
- open exits from lessons
- frequent lesson re-entry points
- highlights errors for easy identification
- instructional focus on self-competition
- content from a variety of fields
- designed by educators
- more emphasis on tutorial
- accepts entry speeds in excess of 140 gwpm
- learning games integrated into lessons
- teacher options--including error limits and student numbers or names
- sort options on class roster, records, and profile
- utilities include disk label maker
- manages a classroom set of disks



## PURCHASE OPTIONS:

- License agreements - School districts may purchase a license permitting unlimited duplication for use in their K-12 classrooms.
- Individual packages

## CompuKeys FREE TRIAL Reservation Form

**YES!** Please send me CompuKeys Keyboarding Series Demonstration Disk **free for 30 days**. I understand that I may return it in resaleable condition within 30 days for full credit. If I keep the materials beyond the 30 day free trial period, I will be billed \$15.00.

### CompuKeys Keyboarding Series

Item/Description	Price	Available (1985)
Alphabet Disk	\$ 39.95	spring
with Management Disk	\$ 69.95	summer
Number & Symbol Disk	\$ 39.95	spring
with Management Disk	\$ 69.95	summer
Drill & Timing Material	\$ 39.95	late fall
with Utilities Disk	\$ 69.95	late fall
Alphabet and Number & Symbol Disks	\$ 59.95	spring
with Management Disks	\$ 89.95	summer
All 3 packages with Management and Utilities Disks	\$119.95	late fall
Additional student disks (on the same purchase order)	\$ 15.00	

RUSH TO:

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St. Paul, MN 55108  
P. O. Box 8142  
CompuKeys, Inc.

PLACE  
STAMP  
HERE

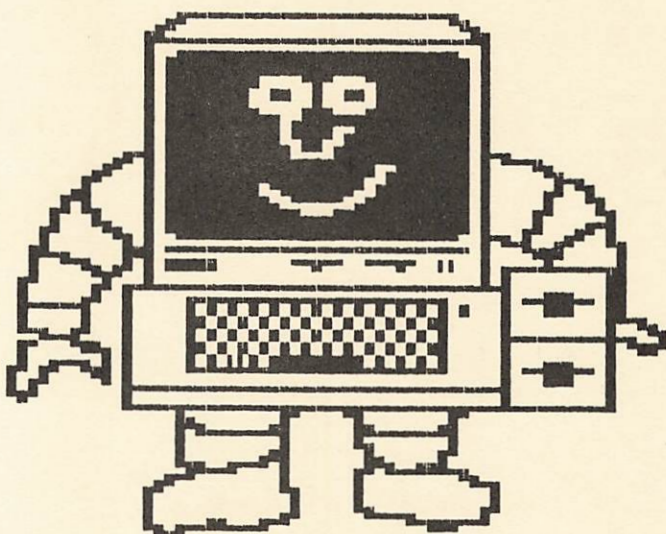
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keyboarding?

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Introducing the most comprehensive, research-based,  
keyboard-learning courseware ever produced.