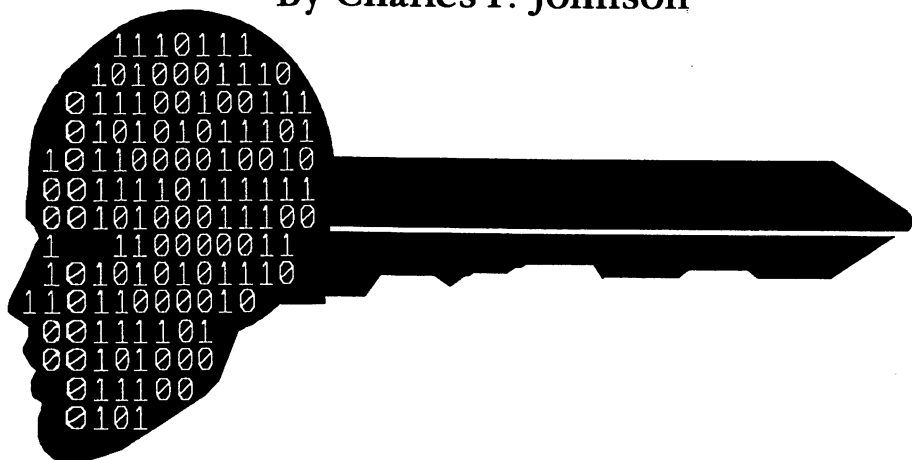# CODEHEAD SOFTWARE

CODEKEYS

By Charles F. Johnson

The Macro Tool!

Unlock the Full Potential
of Your Atari Computer!

CODEKEYS

Reference
Manual

Version 1.1

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1st Printing

CODEKEYS Contents

Introduction

Thank you for purchasing CodeKeys! As with all CodeHead Software products, we've strived to make CodeKeys the finest software of its type. *And* we are dedicated to maintaining it by adding features and providing updates to ensure that CodeKeys remains the best macro program available for Atari computers.

A CodeKeys macro is a "recording" of a series of keypresses or mouse commands which can be "played back" at the press of a key or key combination. Whether this concept is new to you or not, you will not realize the full potential of CodeKeys until you have used it for a while. In fact, you will find that the more you use CodeKeys, the more unique and innovative uses you will find. We are constantly finding ourselves amazed with the power of this program.

- CodeKeys macros can be recorded or played back at any time, no matter where you are or what program you are in.

- There's no requirement that you be in a GEM program or even in a program at all.

- CodeKeys macros can call each other and can be played back automatically or repeated on a regular or scheduled basis -- like clockwork.

- Macro definitions files can be linked to programs so that they are automatically loaded whenever one of those programs is run -- and your current macros will be restored upon exiting the program.

- You can load and save partial sets of macros allowing you to keep some macros safely tucked away while moving other macro definitions in and out of CodeKeys.

- CodeKeys runs in any resolution on all Atari ST computers, the STe, and the Atari TT computer.

We recommend that you read this manual thoroughly before starting to use CodeKeys. It's also a good idea to read it again after a couple of weeks of using CodeKeys. We've found that with most of our software there are features which are sometimes forgotten after the first reading of the manual.

Before You Do Anything Else

The first thing you should do after opening your CodeKeys package is make a backup copy of the CodeKeys master disk. This will protect you against possible accidental loss of valuable files. It can be done by making a complete disk copy or by copying the files from the CodeKeys master disk to another disk. If you're unsure about how to copy a disk or a group of files, please refer to your Atari owner's manual.

Please make sure that you also read the file called README.TXT on your CodeKeys master disk. It contains important information about CodeKeys that couldn't be included in this manual due to publishing deadlines and program revisions. You can double click on this file to read or print it; or you can load it into a word processor.

Also, please take a moment to fill out and return the registration card included with this package. This will enable us to enter you properly in our registered user database.

NOTE: We've provided CodeKeys on a disk that is not copy-protected because we believe you have the right to make a backup copy as a safeguard against disk failures. Please don't prove this expression of trust to be a mistake on our part. It is illegal and immoral to give away or sell any copies of CodeKeys, or of any copyrighted software, without the consent of the copyright holder. It's called piracy, but in simpler terms it's pure theft. Even though you may have bought a copy of our software, you are *stealing* another copy from us if you make a copy and give it to your friend (yes, really). We're just normal folks trying to make a living in the software business. Please don't drive us away.

Included Files

The following files are included on the CodeKeys master disk:

CODEKEYS.ACC...... This accessory goes in the root directory of your boot disk.

CODEKEYS.PRG...... This program goes in your AUTO folder.

LOADKEYS.PRG...... This program can be used with HotWire to load KEY files automatically.

MAKELINK.PRG...... This program will create a link file for automatic loading of KEY files when running programs.

README.TXT............Read this first -- it contains important information which couldn't be included in this manual.

SHARWARE...............This folder contains useful shareware programs which are provided for your convenience. You are not, however, automatically registered for this shareware and are expected to pay for it if you find it useful.

(There may be other programs besides these included on your master disk. If so, they will be explained in the README.TXT file).

Installing CodeKeys

The installation of CodeKeys is a two-step
process. CODEKEYS.PRG belongs in the AUTO folder of your boot disk and CODEKEYS.ACC goes in the root directory. The CodeKeys accessory is not required in order to operate CodeKeys, although you will need it to edit, name, load, and save your KEY files.

• Installing CODEKEYS.PRG

If you do not currently have an AUTO folder on your boot disk, create a folder called AUTO in the root directory of the disk you use to boot your computer. Then copy CODEKEYS.PRG from your master disk into the AUTO folder of your boot disk. See your computer owner's manual if you are unsure about how to do this. If you already have an AUTO folder on your boot disk with programs in it, please read the following section.

• Reordering Your AUTO Folder

When you boot up your Atari computer, the programs in the AUTO folder are executed in the order in which they were originally placed there, not alphabetically as you usually view them. The order in which your AUTO folder programs execute during the bootup process may make a difference to CodeKeys' usefulness. In order for macro playbacks to correctly be received by some programs, CODEKEYS.PRG must run *before* those programs in the AUTO folder. The result of an incorrect order of execution is nothing fatal, the program will simply not recognize CodeKeys' macro playback.

In general, it is a good idea for CODEKEYS.PRG to run very early in the AUTO folder, right after such programs as PINHEAD.PRG, POOLFIX.PRG, and DESKMGR.PRG, if you use them. This will insure that CodeKeys works with as many programs as possible. At the time of this writing there are three programs in particular which should run *after* CODEKEYS.PRG in the AUTO folder. These are LGSELECT.PRG (the shareware **Little Green Selector**), REGACC.PRG (which controls CodeHead's **PopIt!**), and HOTWIRE.PRG. Since these programs allow you to use keyboard commands, it is useful to be able to control them with CodeKeys macros. Check the README.TXT file on your CodeKeys master disk to determine if you need an updated version of any of these programs in order for them to correctly "see" CodeKeys' output. (A recent version of Little Green Selector is included in the SHARWARE folder on your master disk).

If you have CodeHead's **Auto Organizer** program from the **CodeHead Utilities** disk, you can use it to quickly rearrange the order of execution of your AUTO folder. If not, and you have our **MaxiFile** program you can use it to create another folder called AUTOX (or whatever). Using the "No Sort" option, move the files you wish to run before CODEKEYS.PRG into the AUTOX folder, then copy CODEKEYS.PRG into AUTOX, and move the rest of the files from your AUTO folder. Then delete the empty AUTO folder and rename AUTOX to AUTO.

If you have neither of these programs you can copy all of your AUTO programs to another location, delete them from your AUTO folder, and copy them back to your AUTO folder in the order that you wish them to execute, inserting CODEKEYS.PRG at the appropriate point.

• Installing CODEKEYS.ACC

To install CODEKEYS.ACC, simply copy it to the root directory of your boot disk. You must then reboot your computer in order for the accessory to be installed. If you have CodeHead's **MultiDesk**, you can keep CODEKEYS.ACC anywhere you like and load it into MultiDesk either manually or automatically when you boot up.

Using CodeKeys

• Abbreviations Used to Show Key Combinations

In CodeKeys and in this manual the following abbreviations are used to denote shift keys and keypresses:

LS ....Left Shift

RS .... Right Shift

Ctl................................ Control

Alt .... Alternate

Spc............................... Space bar

Back .... Backspace

Del............................... Delete

Ret .... Return

Ins................................ Insert

Clr .... Clr Home

Ent............................... Enter

NK............................... Numeric Keypad

All other keys will be displayed as they are on the computer keyboard itself.

In this manual, if the word "shift" is in lower case letters, it refers to any of the shift keys -- Left Shift, Right Shift, Control, or Alternate. If "Shift" is capitalized, it means that either the Left Shift key or the Right Shift key may be used, otherwise "Left Shift" or "Right Shift" will be explicitly notated.

• Definition of an Event

CodeKeys records and plays back "events" (up to 128 events per macro). There are four types of CodeKeys events:

1. A keypress event may be any single keypress (together with an optional shift key combination).

2. A delay event is a time value in hundredths of a second.

3. A mouse button event consists of an X coordinate, a Y coordinate, a button state, and a shift key state.

4. A comment is a string of up to 16 characters which you can manually enter to help you with later editing of the macro. Comment events are ignored during playback.

The CodeKeys accessory displays a macro in its window with one event occupying each line.

• Recording Macros

Start................................ LS-Ctl-Alt-Esc

Stop................................ LS-Ctl-Alt-Esc

Delay or Comment... LS-RS-Ctl-Alt

NOTE: Later, under "Keys" in the "Options Box" section, we will describe how you can change the key combinations which are defined for starting and stopping the recording of macros. For now we will assume that you have not redefined the default combinations and we'll refer to those that are pre-defined.

Macros can be recorded (defined) at any time, whether you are in the CodeKeys accessory or not. To record a macro when the accessory is not open, press LS-Ctl-Alt-Esc. The top line of the screen will display the message:

        Record macro number:

Enter the number of the macro (1-32) you wish to record and hit return. (You can cancel the recording operation at this point by simply typing Return without entering a number). If you have chosen a number which is already used you will be given the opportunity to either continue, thereby replacing the previous macro, or cancel and chose another number. If you are unsure as to which macros are available, you can just enter Esc and Return and CodeKeys will pick the first available macro for you! You will next get the message (where xx is the number of the macro you are recording):

`Macro #xx - type trigger, then record.`

You should first enter the trigger key combination for this macro. It can be any combination of shift keys (or none) plus a keypress. (You cannot use the Alternate-Help combination as it is reserved for screen dumps). You will not be allowed to use a combination that is already used, or the termination combination, LS-Ctl-Alt-Esc.

Now you may begin entering the keys and/or mouse button presses you'd like to record. Any combination of shift keys may be used in conjunction with either keypresses or mouse button presses. While recording a macro there are two special combinations that can be used. These allow you to insert a pause, a comment, or end the recording.

You can create a pause in your macro by pressing down all four shift keys, LS-RS-Ctl-Alt. The top line will give you a choice of "Delay or Comment?"

If you select 'C' for Comment, you can enter a string of up to 16 characters. The comment will be displayed when viewing the macro for the CodeKeys accessory.

If you select 'D', you will get the prompt:

`Delay (hundredths of a sec) >`

Enter the desired delay time in hundredths of a second from 1 to 9999 (.01-99.99 seconds).

To terminate the recording of the macro, type the same combination used to start the recording, LS-Ctl-Alt-Esc. A recording will also be

terminated if you reach the limit of 128 events. A bell will ring to notify you that further input is impossible.

You have now defined a macro and it can be played back immediately by typing its trigger key.

NOTE: CodeKeys allows macros to call other macros by recording other trigger combinations within a macro. This can be a very powerful feature, but it can also be extremely confusing. Be very careful if you have a macro call itself (record the trigger key combination within the same macro). It will play itself 9 times before aborting, but depending on the location of the trigger key within the macro, the results may not be what you expect. (See the section titled "Macro Confusion").

• Recording a Timed Macro

Start..............................Ctl-Alt-Esc (no Left Shift)

Stop..............................LS-Ctl-Alt-Esc

Delay or Comment...LS-RS-Ctl-Alt

If you record a macro as described above, the events will be played back with no pauses other than those which you have explicitly entered. You will find that this is not always a desirable method since there will be many times, especially when using mouse button events, where the lack of delay events prohibits correct playback.

The solution to this problem is to record a timed macro. A timed macro will play back with the same timing with which it was recorded because delay events are automatically inserted while recording. To record a timed macro when the accessory is not open, press the key combination Ctl-Alt-Esc. The top line will display the message:

Timed record - macro number:

After you've entered the number of the macro you wish to record, the procedure will be the same as above except that delay events will be automatically inserted between each keypress or mouse button.

• Recording Macros From the Accessory

To record a macro from within the CodeKeys accessory, use the "New" option. The "Recording Options" box will appear offering you a couple of choices. You can choose to record either an "Untimed" or a "Timed" macro. These correspond to the types of recording explained above.

You'll also have the choice of exiting the accessory or not. If you choose to exit the accessory, the main dialog box will disappear after you've selecting the trigger key, allowing you to record the macro in a similar fashion to that explained above.

If you select "OK", you'll be asked to type the key combination that will trigger this macro. After you type the desired combination you may begin recording the macro, either within or without the accessory dialog box depending on your previous choice.

Recording a macro from within the CodeKeys accessory is a little different in that you will be able to see the events displayed in the window as you enter them. The drawback to this method is that you are not interacting with the application while recording events.

• Playing Macros

Macros can be played back at any time from any location or within any application on your computer. Simply type the trigger combination of the macro you wish to play. (If you've defined a repeating, delayed, or scheduled macro, it may even begin playing by itself).

Unless you've selected "Lock" from the "Options" box (see below), playback of a macro will be aborted if any key is pressed, the mouse is moved, or a mouse button is pressed.

Results may not be as you expect when playing back macros. This could be due to many different factors, from incorrect timing to nested macros (macros that call other macros). If you are having problems getting your macros to do what you want, see the section entitled "Macro Confusion" later in this manual.

• Enabling & Disabling

You can instantly disable CodeKeys at any time by typing the combination:

    RS-LS-Ctl-Undo

When disabled, CodeKeys will not start any macro playbacks even if one of the trigger key combinations is typed. You can re-enable CodeKeys again by typing the combination:
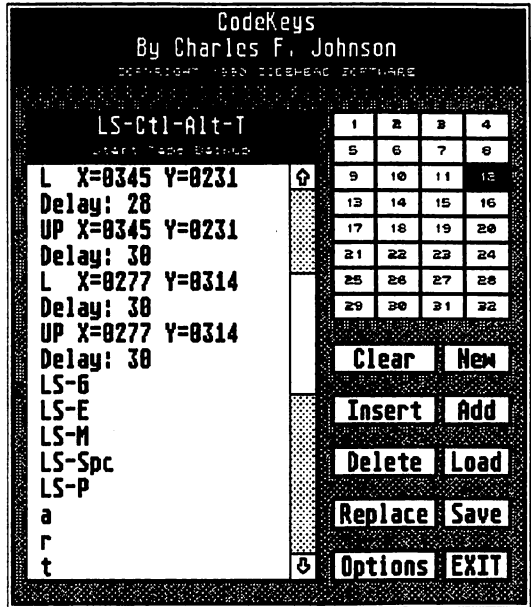
    RS-LS-Ctl-Help

When CodeKeys is disabled and you bring up the accessory, the CodeKeys title at the top of the dialog box will be shown in disabled (half-tone) text. The current state of CodeKeys enabling is also shown by the buttons labeled "Macros ON" and "Macros OFF" in the "Options" box.

The CodeKeys Accessory

• The Macro Selector Buttons

The upper right portion of the CodeKeys accessory contains 32 buttons numbered from 1 to 32. Clicking the left mouse button on any of these buttons will cause the macro with that number to be displayed in the macro display window. You may also use the left and right arrows (with or without the Control key) to change the number of the macro currently being displayed. Holding the Control key while using the up and down arrows will move the macro select cursor up and down (plus or minus four macro numbers). Macro selection will "wrap around" if the arrow keys are used to select numbers above 32 or below 1.

```
                CodeKeys
           By Charles F. Johnson
           COPYRIGHT 1989 CODEHEAD SOFTWARE

        LS-Ctl-Alt-T         1   2   3   4
        START TAPE BACKUP    5   6   7   8
  L   X=8345 Y=8231    ⇧     9   10  11  12
  Delay: 28                  13  14  15  16
  UP X=8345 Y=8231           17  18  19  20
  Delay: 38                  21  22  23  24
  L   X=8277 Y=8314          25  26  27  28
  Delay: 38                  29  30  31  32
  UP X=8277 Y=8314
  Delay: 38
  LS-G
  LS-E                       Clear   New
  LS-M
  LS-Spc                     Insert  Add
  LS-P
  a                          Delete  Load
  r
  t                    ⇩     Replace Save
                             Options EXIT
```

Moving Macros

To move a macro to another location, drag it with the mouse (hold down the left mouse button while moving from one number to another). A move operation is just what it implies. The macro is copied to the new location and deleted from the previous location. If you drag

a macro to a location containing another macro, an alert box will appear asking you to confirm that you wish to replace the existing macro before proceeding. If you answer "Yes", the existing macro will be deleted.

Copying Macros

You can copy a macro from one location to another by holding down either Shift key while dragging the macro. This operation is the same as moving a macro except that the macro will not be deleted from its previous location. For this reason you will be asked to enter a new trigger key combination for the duplicate macro. A warning will again be issued when copying over an existing macro.

Paste Buffer

CodeKeys has a paste buffer to make your editing jobs a breeze. The paste buffer is a temporary storage place for macro events. It allows you to copy or move events between macros or even between different macro KEY files.

Every time you delete some events or an entire macro, the deleted events are moved into the paste buffer (the previous contents of the paste buffer are lost). This happens when you use the "Delete" function or when you "Clear" the current macro. If you hold down either Shift key during these operations, a copy of the events will be placed in the paste buffer and the original events will not be deleted. An alert box will inform you that the event(s) were copied.

You can "paste" the contents of the paste buffer into a macro by holding either Shift key while selecting "Insert". If you want to paste into an existing macro you'll need to first select an insertion point by clicking on the macro event before which you'd like to insert the paste buffer. If you are pasting to an undefined macro you will first be asked to type a trigger key combination, after which the paste buffer contents will be copied into the macro.

• The Macro Display Window

The Macro Display Window occupies the left portion of the CodeKeys accessory. This window is used to display the currently selected macro.

Some of the editing options require that you select one or more events before choosing the option. You can select one of the displayed macro events by clicking on it with the mouse whereupon it will become highlighted. Selecting events is similar to the GEM desktop in that other selected events will be deselected. You can "lasso" a group of events by dragging a box with the mouse starting in the blank space to the left of an event. By holding either Shift key you can select events or groups of events without causing previous selections to be deselected, allowing you to select more than one event at the same time.

If a macro contains more than 16 events, you can use the standard GEM window gadgets to scroll up and down. This includes clicking on the up or down arrows to move one line at a time, clicking in the shaded areas to scroll one screen at a time, and dragging the slider up or down to move to various relative locations within the macro. You can also use the up and down arrows to scroll single lines or Shift-arrows to scroll by screen pages. Selected events will remain selected even though they may have scrolled off the screen.

Shown at the top of the window is the trigger key and the title. The trigger key is the key combination which "triggers" the macro. You can click on the trigger key display or type Ctl-T to assign a different key combination. If you click on the title display or type "T", the "Macro Options" box will appear.

```
          Macro Options

       MACROS: 1        EVENTS: 0

                 TITLE
Time to call Atari..._____

  [ Repeat 0 ]   [  Delay  ]

  [ Repeat 1 ]   [ Scheduled ]

Time: 11:00:00| Repeats: __
      HH  MM  SS

  [  Lock  ]  [  Bell  ]  [Autorun]

              [CANCEL]  [  OK  ]
```

• Macro Options Box [T]

The Macro Options Box allows you to define many special functions of the currently selected macro. You can enter a descriptive title of up to 28 characters. If a title already exists, it will appear in the box for editing.

At the top of the Macro Options Box you will find the macro number and the number of events currently used by that macro. This can be useful in determining how close you are to the limit of 128 events.

You can designate the current macro as any of four special types of self-playing macros -- Repeat 0, Repeat 1, Delay, or Scheduled.

Repeating Macros

There are two types of repeating macros -- Repeat 0 and Repeat 1. These macros will play repeatedly after being triggered the first time. The zero or one defines whether or not the macro will play when you first trigger it. If you select "Repeat 0", the macro will not play until the time interval has transpired. A macro with "Repeat 1" selected will play when you first press the trigger key combination.

The Timer value is entered as the number of hours, minutes, and seconds that should elapse between playbacks. The number following "Repeats:" is optional and defines how many times you'd like the playback to play. It may be any number from 0 to 99. A Repeat setting of zero or leaving it blank will produce infinite repeats until you press the trigger key to stop it.

To use this feature you must start the macro the first time by pressing its trigger key combination. It will continue repeating at the specified timer interval until it has repeated the correct number of times or you press the trigger key combination once again to stop it. When the macro is preparing to play it will show the title at the top of the screen and ring a bell five times to warn you that it is about to take over. This will give you a chance to either stop any typing or mouse movement to keep from aborting the macro, or else intentionally move the mouse, hit a key, or the trigger key (if locked) to stop its playback.

One possible use for repeating macros is to periodically save the data file on which you are working. Be aware, though, that you may be in an area of the program where the actions of your macro will not save your file and in fact might even do something destructive to your work. Put on your thinking cap!

Examples:

Repeat 0 / Time: 01:00:00 / Repeats: 3

This macro will play 3 times, one hour apart, starting one hour after triggering.

Repeat 1 / Time: 00:15:00 / Repeats: [blank]

This macro will play when triggered and every 15 minutes thereafter until stopped.

Delayed Macros

A delayed macro tells CodeKeys to play a macro once after a specified delay time. The Timer value specifies the number of hours, minutes, and seconds that you want to delay the macro playback after pressing the trigger key combination. As with repeating macros, a delayed macro playback be preceded by five bells.

Scheduled Macros

If you designate a macro as "Scheduled", it will play back at a preset time of day, like an alarm clock. You must enter the desired playback time in hours, minutes, and seconds. Hours must be entered in 24-hour format. If the "Scheduling" button in the "Options" box is enabled, scheduled macros are automatically enabled after they are entered or when a KEY file is loaded which contains scheduled macros, otherwise a scheduled macro will not play back under any circumstances. Once again, five bells will ring as a warning that a scheduled macro is about to play back.

Examples:

Scheduled / Timer: 08:00:00

This macro will play back at 8 AM.

Scheduled / Timer: 22:30:00

This macro will play back at 10:30 PM

If more than one macro is scheduled to play at the same time, the one with the lowest macro number will play first and when it is finished, the other(s) will play.

Bell

This button allows you to turn the bell on or off for the current macro.

NOTE: If the "Bells" button is turned off globally from the "Options" box, no bells will sound under any circumstance.

Autorun

You can have CodeKeys automatically start up a macro when the CodeKeys accessory loads. Only one macro may be designated as the

---

"Autorun" macro. When the accessory loads, if there is an autorun macro defined, it will begin playing it immediately.

It is up to you to make sure that your auto-start macro contains a delay in the beginning that waits long enough for the rest of the accessories to finish loading. Also remember that any movement of the mouse, or pressing of keys will abort the playback of a macro unless "Lock" is enabled from the "Options" box.

Lock

The "Lock" button will make the current macro un-abortable. That is, if "Lock" is selected, the playback of this macro will not be aborted by normal keypresses or mouse actions. Instead you must re-enter the trigger key combination in order to stop it. This feature is useful for running demos which you don't want to be interrupted by curious or unauthorized fingers.

NOTE: Once again there is a great potential for confusion when using the lock feature with self-starting macros (repeating, delayed, and scheduled). Be careful.

If "Lock" is enabled from the "Options" box, all macros will be locked regardless of their individual settings.

• Clear [Clr-Home]

This option allows you to erase all 32 macros or just the current one. If you clear the current macro it will be moved into the paste buffer, or copied to the paste buffer if either Shift key is held down.

• Insert [Insert]

With this option you can insert new events into an existing macro. You must first select an insertion point. The new events will be inserted before this point (or the first selected event). After selecting "Insert" the

window will clear, you may begin recording events, and they will be displayed as you enter them. While entering events, the standard options for entering delays, comments, and terminating entry are available (see the section on "Defining Macros"). After quitting from insert mode (by pressing LS-Ctl-Alt-Esc) the full list of events will again be displayed with the new events inserted before the point that you selected.

Selecting "Insert" while either Shift key is being held down will cause the contents of the paste buffer to be inserted before the insertion point. You can also also do this to an undefined macro (with no selected insertion point). In this case you'll first be asked for a trigger key combination, after which the contents of the paste buffer will be inserted into the macro.

• Delete [Delete]

Selecting "Delete" will cause all selected events to be immediately eliminated from the macro (and moved into the paste buffer). You must first select one or more events. If either Shift key is held down, the events will be copied into the paste buffer without being deleted from the macro.

• Replace [R]

"Replace" allows you to replace an event in the macro list. You must first select an event before using the "Replace" option. If the event is a keypress you will be asked to type a key combination to replace the

```
Please type the key combination
that will replace this entry.
```

existing one. You can abort the replacement by clicking the mouse. Only one keypress event at a time may be selected for replace.

If the event is a delay, a box will appear allowing you to enter a new delay value. After editing the delay value, you can click on "Global Replace" to replace all delay events in the current macro with the specified delay value.

Time Delay Event

New Delay Value: 0028|

1/100ths of a sec.

Global Replace **CANCEL** **OK**

If you select "OK", then only the event(s) currently selected will be altered. You may select more than one event as long as they are all delay events.
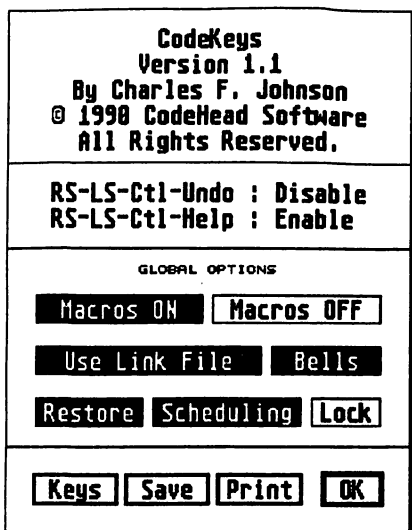
Mouse Button Event

X Coordinate: 0085|
Y Coordinate: 0012

Button: Left Right

RS **LS** **Ctl** **Alt**

CANCEL **OK**

If you have selected a mouse event, a box will appear allowing you to change the X and/or Y coordinates as well as the button status and the shift key status. You can select Left, Right, both, or neither mouse button as well as any combination of LS, RS, Ctl, and Alt shift keys. (See also "Tricks & Tips" number eight).

If a comment was selected, replace will allow you to edit it.

Comment

Little Boxes|___

CANCEL **OK**

```
      CodeKeys
     Version 1.1
  By Charles F. Johnson
 © 1990 CodeHead Software
  All Rights Reserved,

RS-LS-Ctl-Undo : Disable
RS-LS-Ctl-Help : Enable

      GLOBAL OPTIONS

 Macros ON   Macros OFF

 Use Link File    Bells

 Restore  Scheduling  Lock

 Keys   Save  Print    OK
```

• Options [Help]

This button brings up the Options Box. The Options Box shows the version number, copyright information, and the hot key combinations which enable and disable CodeKeys' operation as well as several Global Options that are available.

Macros OFF/ON

You can use the "Macros OFF" and "Macros ON" buttons to disable and enable CodeKeys' operation. These provide the same function as the hot keys described above. The "CodeKeys" title in the accessory dialog will be printed in disabled or normal text depending on the current state of enabling.

Use Link File

The "Use Link File" button allows you to disable the Link file feature described below (see "Automatic Loading of KEY Files With the Link Feature"). If there is no Link file currently loaded, this button will be disabled. If the "Use Link File" button is enabled, the appropriate KEY file will be loaded any time a program is run that is listed in the currently loaded link file.

Bells

The "Bells" button lets you turn bells on or off globally. If you turn this button off, no CodeKeys bells will ring at all. Otherwise the CodeKeys bell will ring normally while recording macros and will ring during playback based on the individual bell setting of each macro (see "Macro Options" above).

Restore

"Restore" determines whether your current macro definitions will be restored after exiting a program for which a linked KEY file was loaded. (See "Automatic Loading of KEY Files With the Link Feature" below).

Using restore means that some memory will be allocated before running a linked program. The amount of memory used will depend upon the number of events used in your macros as well as the macro titles and comments. It will be about equal to the size of the KEY file when saved, typically 500 to 20,000 bytes. Most macro files are between 500 and 2,000 bytes so unless memory is very tight for you it's best to keep "Restore" enabled.

Scheduling

If "Scheduling" is enabled, all scheduled macros will be enabled automatically when a KEY file is loaded or a macro is designated as scheduled, and they will play at their scheduled time without triggering. If you turn off "Scheduling", all scheduled macros will become inoperative.

Lock

This "Lock" button will lock all macros regardless of their individual settings (see "Lock" under "Macro Options").

Keys

The button labeled "Keys" allows you to redefine the keypress combinations which start and stop the recording of macros. These combinations are factory installed as described above in "Recording Macros". Since there may be programs which conflict with these keys, you may choose your own combinations.

When you select "Keys", a dialog box will appear asking you to type the key combination that will start and stop recording. The current key

combination will be displayed. You can enter a key combination or click the left mouse button to abort.

After defining the key to start/stop recording, you'll get another dialog box asking you to type the key combination that will start a timed recording. Again, the current key will be displayed.

WARNING: It is up to you to make sure that the key combinations you choose will not conflict with the programs you use as well as the various macro trigger combinations you may have defined in your different KEY files. When you load a KEY file, CodeKeys does not check all the trigger keys for conflicts with your start/stop keys.

Save

The button will save your current configuration (global options) to a file called CODEKEYS.CNF in the same directory as it originally found it, that is, the current directory at bootup time (see "From Which Directory Are My Files Loading?" below). If you boot from a floppy disk, you should make sure that your boot disk is back in drive A before clicking on "Save".

CODEKEYS.CNF contains the current settings of Macros OFF/ON, Use Link File, Bells (global setting), Restore, Scheduling, Lock, and the start/stop key combinations.
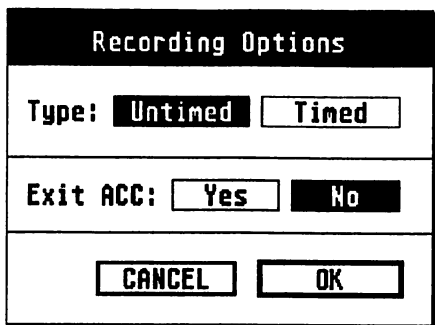
Print

This button allows you to print a listing of your current macros including the KEY file name, macro numbers, trigger key combinations, and macro titles. There are two print formats available -- full and short. Choosing "Full" will print out all 32 macros while choosing "Short" will only print those macros which are currently defined.

• New [N]

The "New" option is used to define a new macro. If another macro definition exists in the current window you will be asked if you're sure you want it deleted.

Next the Recording Options Box will appear allowing you to select whether you want to record an Untimed or a Timed macro and whether you want to exit the accessory or not. Exiting the accessory allows you to record the macro as it will actually play back so that the keys pressed will produce the same results as they will during playback. If you choose to exit the accessory, the CodeKeys dialog box will close down as soon as you've selected the trigger key combination.

```
┌─────────────────────────────────┐
│      Recording Options          │
├─────────────────────────────────┤
│ Type:  Untimed    │   Timed    │ │
├─────────────────────────────────┤
│ Exit ACC:  │  Yes  │   No      │ │
├─────────────────────────────────┤
│        │ CANCEL │    │  OK  │    │
└─────────────────────────────────┘
```

As described above (in "Defining Macros"), defining a new macro begins with the entry of the trigger key. You will not be allowed to use a trigger key combination that has already been defined. After that, if you have chosen to stay in the accessory, the events will be displayed in the window as you enter them. While entering events, the standard options for entering delays and terminating entry are available. Recording is terminated by pressing LS-Ctl-Alt-Esc.
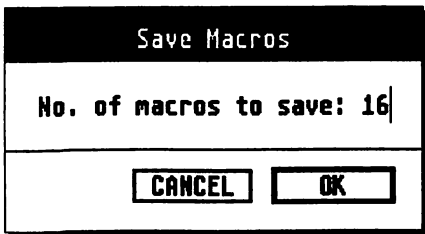
• Add [A]

Use this option to append new events to the end of an existing macro. The current macro must contain at least one event before using "Add". Selecting "Add" will bring up the same Recording Options Box that was used in the "New" option. If you've chosen to stay in the accessory, any new events entered will be displayed in the window following the last event. While entering events, the standard options for

entering delays and terminating entry are available. Entry of events is once again terminated by pressing LS-Ctl-Alt-Esc.

• Load [L]

"Load" will allow you to load another KEY file. As described below, CodeKeys allows you to save from 1 to 32 macros. When you load a KEY file, it will replace as many macros as were originally saved in that file, beginning with macro number one. This allows you to keep macros which you like to use all the time in the higher macro numbers and load and save partial macro files into the lower numbers.

CodeKeys keeps track of possible changes you may have made to your macro definitions and if you have altered anything in the current set, you will be greeted by an alert box allowing you to Abandon, Save, or Cancel. Selecting "Abandon" will abandon the changes you have made and proceed to the file selector for the loading of another KEY file. "Save" will allow you to save your current macros before loading over them. "Cancel" will abort the operation.

```
┌─────────────────────────────┐
│        Save Macros          │
├─────────────────────────────┤
│                             │
│  No. of macros to save: 16│ │
│                             │
├─────────────────────────────┤
│   [ CANCEL ]   [   OK   ]   │
└─────────────────────────────┘
```

• Save [S]

Use this option to save your current set of macros. You'll first be asked how many macros you'd like to save, from 1 to 32. Saving always starts with macro number one.

After specifying how many macros to save, the file selector will appear. Enter the name under which you'd like to save the file. If you leave off the extension (the last three letters), CodeKeys will add the extension .KEY for you. If you choose a filename that already exists, an alert box will verify that you want to overwrite it. (See the section on "From Which Directory Are My Files Loading?" for a listing of special names).

• Exit [Return]

This will return you back to the desktop or the application from which you invoked the CodeKeys accessory.

From Which Directory Are My Files Loading?

Since CodeKeys loads its KEY files in several different ways, it may be difficult to figure out where they should be located; especially if you're using MultiDesk.

When CODEKEYS.PRG runs, it searches for CODEKEYS.CNF, CODEKEYS.LNK, and CODEKEYS.KEY in the "current" directory. If you run CODEKEYS.PRG from the desktop (or HotWire), the current directory is simply the directory in which CODEKEYS.PRG is located. But when your computer boots up and runs the programs in your AUTO folder, the current directory is *not* your AUTO folder but the **root directory of your boot disk.** Since installing CODEKEYS.PRG in the AUTO folder is the recommended method, you should generally keep CODEKEYS.CNF, CODEKEYS.LNK, and CODEKEYS.KEY in the root directory of your boot disk so that they will be automatically loaded upon bootup. This means the root of A if you boot from a floppy disk or the root of C if you boot from a hard drive.

Since mouse events depend on what resolution you are currently running, CodeKeys also allows you to automatically load different default KEY files for each resolution. This is implemented by replacing the "S" in CODEKEYS.KEY with a number denoting the resolution. This function is provided by the CodeKeys accessory so that KEY files will be reloaded when you change resolutions (or load CODEKEYS.ACC into MultiDesk). When CODEKEYS.ACC loads it also looks in the current directory for a default file. If you are loading CodeKeys as a normal accessory, this will again be the root of your boot drive. But if you are using MultiDesk to load CODEKEYS.ACC you must put your default KEY files in the directory where CODEKEYS.ACC is located.

The default resolution-dependent KEY filenames are as follows:

Atari ST/TT:

    CODEKEY0.KEY ....ST Low Resolution 320 x 200

    CODEKEY1.KEY ....ST Medium Resolution 640 x 200

    CODEKEY2.KEY ....ST High Resolution 640 x 400

Atari TT:

    CODEKEY4.KEY ....TT Medium Resolution 640 x 480

    CODEKEY6.KEY ....TT High Resolution 1280 x 960

    CODEKEY7.KEY ....TT Low Resolution 320 x 480

The CodeKeys accessory must be installed in order to use the resolution-dependent default file loading feature. Note that if you have both CODEKEYS.KEY and a resolution-dependent default file, CODEKEYS.KEY will be loaded by CODEKEYS.PRG but it will be later overridden by the loading of the resolution-dependent file when the accessory loads.

Using Link Files

As described above, when CodeKeys installs, it looks for a file called CODEKEYS.LNK. This is a text file which "links" programs of your choice with the desired KEY (macro definition) files. The format of this text file is fairly simple.

The first line must contain the text "CODEKEYS:". After that you can have up to 50 lines of link definitions. Each line should contain a program's filename (without a path), any number of spaces, and the full path of the KEY file you wish to use with that program. A full path consists of a drive letter, a colon, a backslash, optional folders, and a filename (e.g. C:\CODEKEYS\PUBLISH.KEY).

To make it easier to create your link file, we've provided a separate program called MAKELINK.PRG. This program will step you through the creation of a link file using the file selector and then allow you to save it. It will also allow you to load an existing link file and append to it or delete existing entries.

When you run a program listed in your link file, CodeKeys will display a message in the upper left corner of the screen showing the name of the KEY file it is loading. If you have enabled the "Restore" button in the "Options" box (before the linked program has run), your currently defined macros will be saved in memory while you are in the program and CodeKeys will restore the saved macro definitions when you exit from the program. Upon exiting, if you have made any changes to the KEY file which was loaded by the link process, you will get the message:

Macros may have been changed! Restore?

Answering "Y" will restore your previously saved macro setup, losing the changes you may have made. Otherwise you can answer "N" to

---

retain your linked KEY file so that you can save it with the changes and load your default macro file again from disk.

Note that you can make changes to your default macros without saving them to disk and still not be in danger of losing them since they are saved in memory and restored after exiting the program.

LOADKEYS.PRG

There is a separate program supplied on your master disk called LOADKEYS.PRG. It allows you to load KEY files and LNK files into CodeKeys remotely. When used with CodeHead's HotWire program, LOADKEYS.PRG provides another means of automatically loading a KEY file for use with a specific program or a means of loading another link file.

LOADKEYS.PRG simply looks at its command line for a file name and loads the file (if it is a KEY or LNK file) into CodeKeys. You needn't run away at the mention of a command line, this usage is very easy. In fact, it is the same as the "Install Application" feature of the desktop. This means that you can install LOADKEYS.PRG as an application for .KEY or .LNK documents and just double click on either type of file from the GEM desktop to load it into CodeKeys.

You can use LOADKEYS.PRG with HotWire in two different ways. One method is to install it in the HotWire menu with a document type of KEY and LNK. Then you can install KEY or LNK files right in the HotWire menu or you can double click on them in MaxiFile (if MaxiFile was entered from HotWire) to load them into CodeKeys.

The second method offers you another way (besides link files) to automatically link KEY files with programs. This method is more cumbersome to implement than link files but we offer it here as an alternative.

To do this, first find a spot in the HotWire menu with 2 or 3 blank lines and install LOADKEYS.PRG in the first slot, selecting "Command Line" in the Options Box. Enter Control-B as the first character of the title. This will produce a down-arrow which is HotWire's chain character to proceed to the next entry when finished running the program. Continue by entering an optional space and a title describing the KEY file you

wish to load (or the title of the program it will be used with). If you wish, you can enter a hot key for starting the chain before exiting the Options Box with OK.

Next, run the program you've just installed by clicking on the entry or pressing its hot key and the HotWire command line box will appear. Click on "File Selector" and locate the KEY file which you'd like to be loaded. Upon returning from the file selector, the filename will appear in the command line box. Type a tilda character ("~") at the end of the command line. This will tell HotWire to bypass the command line box in the future. If you later wish to change the command line, you should hold down the Control key when selecting the HotWire entry. Exit the command line box by selecting OK. The KEY file will be loaded into CodeKeys.

Now install the program you wish to run into the next slot in the HotWire menu. Enter Control-B as the first character to tell HotWire that it is part of the chain and click OK to finish the installation.

To complete the chain, you may wish to add a third entry which will reload your main KEY file (CODEKEYS.KEY) after exiting the program. To do this, repeat the procedure used above to install LOADKEYS.PRG. Since this is the last entry in the chain you can use either the Control-B character or an asterisk ("*") to terminate the chain.

After completing this installation you will be able to simply select the first entry by clicking on it (or pressing its hot key). The KEY file will be immediately loaded into CodeKeys and HotWire will proceed with running the program. Your specialized macros will be in place for use within that program and when you exit the program (perhaps with a macro), your main KEY file will be reloaded.

If you run LOADKEYS.PRG without a command line it will come up with a file selector allowing you to manually load any KEY or LNK file. (This is the only way to load a LNK file into CodeKeys after bootup).

Tricks & Tips

Here are some tips that might help you make better use of CodeKeys:

1. There are many possible uses for CodeKeys. One of them is to insert your name and address into a letter in your word processor. You can define one macro to output your name and a carriage return and define another macro to output your address and a CR. Then you can define a third macro which calls the other two macros. This lets you easily enter your name or address separately, or enter both with a single keypress.

2. To record mouse button events in menu dropdowns you must first click the mouse button on the menu title to create a mouse event in that location. You can then move to the desired selection and click on it. If you do not complete this two-step process the menu will not drop down during playback.

3. After recording a timed macro you can speed it up by deleting unnecessary delays and editing other delays down to a minimum value. This can make some operations very fast, such as triggering menu items which have no keyboard equivalents. We've found that for simple menubar selections (where there is one click on the title and one click on the option), you can remove the delays completely and still properly select the item.

4. In order for mouse button events to be processed correctly, CodeKeys adds a tenth of a second delay to each button event. If you are trying to do a timed recording of a double-click (such as starting up a program from the desktop), you may need to edit two of the delay times for each double-click, that is, the delay after the first "L" event and the delay after the first "UP" event. We've found that setting these both to a delay value of 1 seems to produce reliable results with all double-click speed settings.

5. Mouse button events may include any combination of shift keys. That is, when you click the mouse button to record an event, CodeKeys notes the current state of the LS, RS, Ctl, and Alt keys.

6. The maximum delay setting in CodeKeys is 9999 or 99.99 seconds (essentially 100 seconds). If you want delays longer than this you can use consecutive delay events. For extremely long delay events, you can have a macro call itself. This will take 9 times as long as the same macro without calling itself. While doing a timed macro recording, CodeKeys will add additional delay events for pauses greater than 99.99 seconds.

7. It was mentioned earlier that a repeating macro can be used to automatically save your data file at predetermined intervals, but that this also might cause problems if you are in another area of the program. One possible solution is to create a repeating macro with no actions (maybe just a comment). When it rings its warning bell at your preset intervals, it will serve as a reminder to save your file.

8. The Little Green Selector allows you to select files immediately by clicking on them with the right mouse button. It uses a special trick to do this by changing the right button into the left button to fool the operating system. This trick also fools CodeKeys so if you want to record macros that select files this way, you must use the accessory to edit the macro event by turning the left button off and the right button back on. Alternately, you can record the macro using the conventional method of first selecting the file and then selecting "OK".

Keyboard Equivalents

Here is a list of all the keyboard commands used by CodeKeys:

• While not in the Accessory:

Redefinable:

LS-Ctl-Alt-Esc............ Start recording / stop recording

Ctl-Alt-Esc...................Start timed recording

Unalterable:

LS-RS-Ctl-Alt............. Enter delay event (only while recording)

RS-LS-Ctl-Undo........ Disable CodeKeys

RS-LS-Ctl-Help.......... Enable CodeKeys

• While in the accessory:

Ctl-T.............................Redefine the trigger key combination

T................................... Edit Macro Title (Macro Options Box)

Up Arrow.................... Scroll up one line

Down Arrow .... Scroll down one line

Shift Up Arrow .... Scroll up one page

Shift Down Arrow ... Scroll down one page

Left Arrow .... Select macro with next lower number

Right Arrow................ Select macro with next higher number

Ctl Up Arrow .... Select macro in previous row (numbered 4 lower)

Ctl Down Arrow....... Select macro in next row (numbered 4 higher)

Clr Home.................... Clear macro(s)

Insert........................... Insert new macro event(s)

Delete .... Delete the selected event(s)

R .... Replace the selected event(s)

O (or Help)................. Display the Options Box

N................................... Record a new macro

A .... Add events (append) to current macro

L................................... Load a macro file

S................................... Save the current macro file

Return .... Exit from the accessory

Troubleshooting

CodeHead Software has a very good reputation for

creating software which is compatible with the rest of the programs in current use.

CodeKeys should peacefully coexist with most Atari ST and TT programs. However, we can't possibly test it with every one of the thousands of programs available.

If you have a problem with CodeKeys (or any other program) causing crashes or lockups, you should use the following procedure to zero in on the problem. Eliminate all other resident programs, meaning the programs running in your AUTO folder and your accessories. This can be done by using a program like Desk Manager (from Little Green Footballs Software), or by creating a boot disk with only AUTO\CODEKEYS.PRG and CODEKEYS.ACC on it. If you still have problems with only CodeKeys in your system, there's something wrong and you should call us for help because we *know* CodeKeys works by itself. We can be reached at (213) 386-5735 or you can call the CodeHead Quarters BBS at (213) 461-2095 for support with any of our products.

After ascertaining that CodeKeys works you can begin adding your other resident programs until you find the one(s) causing the conflict. We recommend that you contact the company that developed the problem program to inform them of the conflict. They may already have an updated version of their software that solves the problem. If not, we are open to working with other software developers to iron out software conflicts. If none of this is possible you may find that the "trash can" icon or a real life facsimile of it may be the best place for their software.

Macro Confusion

There is a great potential for confusion when using CodeKeys macros. This is due to the fact that CodeKeys macros may contain other trigger key combinations so that one macro calls another. In fact, a macro may call itself up to 9 times. For this reason you should use great care in the assigning of trigger keys. The use of unshifted trigger keys is asking for trouble.

For instance, let's assume you've created the following macros:

```
r = red
t = trouble
```

These macros seem innocent enough but if you now type "r" you'll get:

```
edededededededededed
```

That's because "red" has the letter "r" in it so instead of "r" being printed it calls itself. If you type "t" you indeed get trouble, but not like you wanted. Your trouble looks like this (all in one line):

```
roubleedoubleededoubleedededoubleededededoubleededededed
oubleedededededoubleedededededededoubleedededededededed
oubleededededededededoubledouble
```

Breaking this up another way gives a better clue as to what's going on:

```
r
ouble ed
ouble eded
ouble ededed
ouble edededed
ouble ededededed
ouble edededededed
ouble ededededededed
ouble edededededededed
ouble ededededededededed
ouble
```

Rather than wasting a lot of time and space explaining the reason for this behavior, let's just say it's a good idea to be careful how you choose your trigger key combinations.

CodeHead Software
P.O. Box 74090
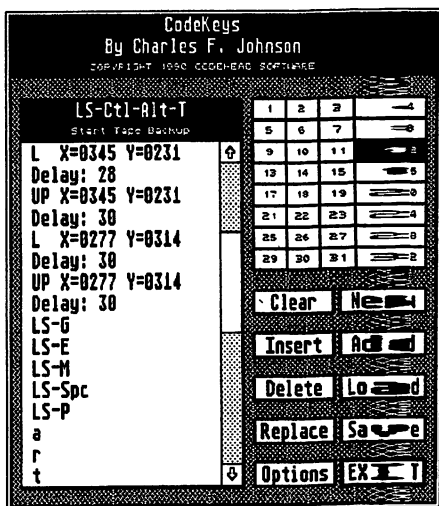# Los Angeles, CA 90004
(213) 386-5735

CODEKEYS

The Macro Tool!

Customized Mouse and Keyboard Macros for Any Program!

- CodeKeys records all key and mouse button presses, and plays them back either with precise timing, or as fast as possible.

- Automatically load the correct set of macros for each program.

- Create scheduled macros that automatically play at the time you want, or repeating macros that play at specified intervals.

- GEM-based macro editor desk accessory lets you easily fine-tune your macros for optimum results.

```
          CodeKeys
      By Charles F. Johnson
   COPYRIGHT 1990 CODEHEAD SOFTWARE

   LS-Ctl-Alt-T        1  2  3      4
   Start Tape Backup    5  6  7      0
 L   X=0345 Y=0231     9  10 11      2
 Delay: 28             13 14 15      6
 UP  X=0345 Y=0231     17 18 19      0
 Delay: 30             21 22 23      4
 L   X=0277 Y=0314     25 26 27      8
 Delay: 30             29 30 31      2
 UP  X=0277 Y=0314
 Delay: 30             Clear    New
 LS-G
 LS-E                  Insert   Add
 LS-M
 LS-Spc                Delete   Load
 LS-P
 a                     Replace  Save
 r
 t                     Options  EXIT
```

- Record and play back macros at any time, in any program...GEM or non-GEM!

- Macros can call other macros.

- CodeKeys runs in any screen resolution, on all models of Atari ST and TT computers.

CODEHEAD SOFTWARE
P.O. Box 74090
Los Angeles, CA 90004

CodeHead Software Registration Card

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CODEKEYS

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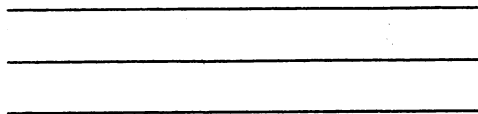**Where did you hear about this product?** ☐ CIS   ☐ Delphi ☐ Genie

☐ magazine ad ☐ review   **Which magazine?** _____

☐ computer store   ☐ other _____

Comments: _____

_____

_____

_____

_____

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