

TimeSaver Guarantee

Thank you again for buying a TimeSaver by C Ltd for your Amiga Computer! If your TimeSaver should fail to operate within ninety (90) days of purchase for any reason other than gross negligence or intentional damage, you may either return it to your dealer for replacement, or return it to us for repair or replacement at:

C Ltd
723 East Skinner
Wichita, KS
67211

In otherwords, if your house is hit by lightning, and it blows-up your TimeSaver we will (within the Guarantee period) repair, or replace it at no cost to you. If on the other hand, you drop your TimeSaver out of the window of your 22nd story Condo, Sorry 'bout that! The final determination of the cause of failure belongs to C Ltd.

There is a Catch to this Wonderful Guarantee!

You MUST provide a proof of purchase in the form of a copy of your purchase receipt that clearly shows your name, the date and place of purchase as well as the price that you paid for your TimeSaver.

And as a bonus, an additional ninety days of guarantee coverage will be extended to all owners who mail the Product Registration Form (provided herein) along with a copy (save your original, you might need it) of the purchase receipt to us at the address shown above within fifteen days of the date purchase.

TimeSaver Macro-Clock Instruction Manual
C Ltd. Customer Service - (316) 267-3807

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TimeSaver by C Ltd.

Introduction:

Thank you for buying a TimeSaver. We called TimeSaver a Macro-Clock, but TimeSaver does so many tasks not normally associated with a piece of hardware that it was very difficult for us to come up with a descriptive word that really defines what TimeSaver is. TimeSaver is a clock and a whole lot more, so we simply decided to call it a Macro-Clock. TimeSaver has many functions and we are sure that you will find most of them useful.

This manual is laid out in three sections. Section I covers set-up and installation. Section II is a User's Guide that explains the many functions of TimeSaver and their uses. And Section III is a technical explanation of how and why TimeSaver works the way it does and includes a Trouble Shooting guide and a Helpful Hints Section. We have also included a Quick Reference sheet which contains a listing of the TimeSaver functions and the built-in ROM Macros.

There are several things you must know before continuing on with this manual. As you look at the keyboard of your Amiga you see 89 keys. Some of the keys would seem to be duplicates of other keys. (The LEFT SHIFT key and the RIGHT SHIFT key for example.) Though some of these keys may seem to do the same things, TimeSaver sees each key as unique. For example, both the '7' key in the center of second row from the top of the keyboard and the '7' key on the top row of the numeric keypad section will print a 7 on your screen, but TimeSaver sees them as two different keys. You will find this to be a very useful feature.

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In the text of this manual we must sometimes differentiate between the keys that would seem to be duplicates of other keys. In general, we will refer to them as either left or right. For example, LEFT-SHIFT would refer to the LEFT SHIFT key and RIGHT-ALT would refer to the RIGHT ALT key. We will also differentiate between the number keys in the main section of the keyboard and those in the numeric keypad; 3 for the '3' key in the main section of the keyboard, and NUM-3 for the '3' key in the numeric keypad area. Within this manual, we will always use the DASH (-) to join the descriptor (ie. LEFT, RIGHT, and NUM.) and the key name (ie. SHIFT, 3, etc.). (Also NOTE that the LEFT-Amiga key will refer to the key with the red letter 'A' that is just to the left of the space bar. And the RIGHT-Amiga key will refer to the key with the red 'A' that is just to the right of the space bar.)

Just as we must have a way of naming each key, we must have a standard way of describing combinations of keys. The convention that we will use in the manual will name the key to be pressed first, then a plus sign to indicate an additional key is to be pressed before the first is released and finally the name of the additional key to be pressed. For example, if we write HELP + S, that would mean that you should press and hold down the HELP key, and while holding it down, press the 'S' key, then release both keys. Some of these key names may seem confusing at first, but if you remember that the DASH sign joins a key name and its descriptor, and the PLUS sign signifies that a combination of keys is to be pressed, you should have no trouble. For example, can you figure out what this statement would mean:

PRESS LEFT-ALT + 7

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If you said, "press and hold down the ALT key located at the LEFT of the keyboard and while holding it down, press the '7' key in the MAIN part of the keyboard." You are 100% correct.

Another standard notation we will use in this manual will be:

<RETURN>

Whenever you see <RETURN> that will mean that you should press the RETURN key.

Also, within this manual, you will see some information enclosed in square brackets. [...] The use of the brackets signifies that the keystrokes shown within the brackets, though required, will not be printed on your screen.

For example:

[LEFT-ALT + S]

In the case above, the LEFT-ALT + S key sequence must be pressed, but when you press the keys, nothing will be displayed on your screen to signify that they have been pressed.

Finally, within TimeSaver, the HELP key is the initiator and usually the terminator for all TimeSaver functions. Some TimeSaver functions will terminate automatically, but in most cases if you remember HELP + (some key) to start and HELP to quit you will be able to easily get in and out of most TimeSaver functions. The TimeSaver Quick Reference sheet provided with TimeSaver shows a list of the functions available.

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Section I - TimeSaver Installation:

We recommend that you install the TimeSaver in two phases. First connect and test the unit. We recommend that this be done first to insure that you do indeed have a functioning unit before you complete the actual installation. Then second we will cover the recommended mounting position for the TimeSaver on the underside of your Amiga.

Electrical Hook-Up:

WARNINGS:

*** The SHORT cable provided is NOT wired in the same manner as the normal Amiga keyboard cable, using the short cable between the Keyboard and the Timesaver and/or using a normal Amiga keyboard cable between the Timesaver and your Amiga WILL be harmful to TimeSaver and/or the keyboard.

*** Using other than the standard Amiga keyboard cable, for example a telephone cable, may cause TimeSaver to fail to operate properly!

*** REVERSING the A and K connections specified below will be FATAL to the TimeSaver.

1. Turn off your Amiga!
2. Unplug the Amiga keyboard from the rear of the computer.
3. Plug one end of the short cord that was supplied with TimeSaver into the keyboard socket in the rear of the computer.
4. Plug the other end of the short cord into the socket on the TimeSaver marked "A".
5. Plug the cord from the Amiga keyboard into the socket on the TimeSaver marked "K".
6. The electrical hook-up is now complete.

Operational Testing:

1. Turn on your Amiga.
2. Follow the normal Amiga start-up procedures using both KickStart and WorkBench disks.
3. Follow the instructions in your Amiga manual to open a CLI window.
4. At the CLI prompt, PRESS [HELP + F5].
5. Something like the following should be printed to your screen:

date 20-Apr-87 23:52

(if the date or time is incorrect,
don't worry we'll fix it later.)

6. Now PRESS [HELP + F10].
7. The following should be printed to your screen:

```
;f1=auto break
;f2=macros
;f3=auto macros
;f4=auto date
;f5=history store
;f6=echo
;f7=auto password
;f8=timesaver
; press key to toggle
;f1 f2 f3 f4 f5 f6 f7 f8
;on on off on on on off
```

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We don't need to do anything with this information now, this was just a test to insure that all functions are working, so press the HELP key to exit the program. If the text on your screen doesn't match the text shown, you should look for an "ADDITIONS and ERRATA" sheet which should explain any new or modified functions.

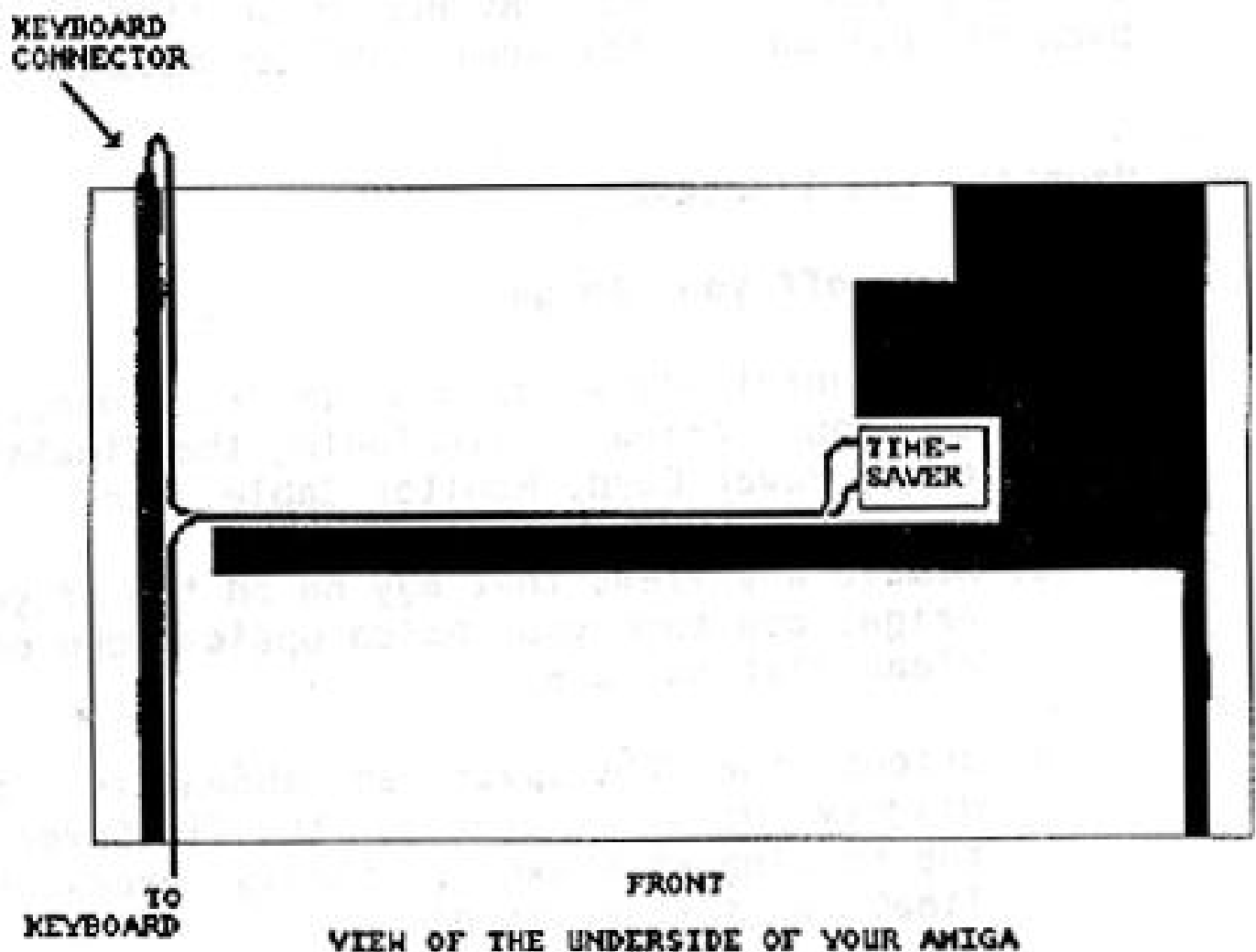
8. If the two commands given in steps 4 and 6 produced the results shown in steps 5 and 7 then your TimeSaver is functional. If there are any problems, refer to the "TROUBLE ?" section at the back of this manual for additional assistance.

Mounting the TimeSaver:

1. Turn off your Amiga!
2. Disconnect all wires and cables connected to your Amiga. (Including the TimeSaver cord, Power Cord, Monitor Cable, etc.)
3. Remove any items that may be on top of your Amiga. and turn your Amiga upside down on a clean flat surface.
4. Orient the TimeSaver as shown in the diagram below, position the TimeSaver in the opening as shown and firmly press the TimeSaver into position.
5. The TimeSaver should fit snugly in place. If the fit is not tight enough to hold the TimeSaver in place, remove the TimeSaver from the Amiga and put the 2" piece of double stick tape (supplied with TimeSaver) on the top of the cover of the TimeSaver, then press the TimeSaver firmly back into position.

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6. Route the cord from the TimeSaver to the keyboard as shown in the diagram.
7. Route the other cord from the TimeSaver to the rear of your Amiga as shown and plug this cord into its socket on the back of the Amiga.



The installation of your TimeSaver is now complete, you may now go on to the next section and start learning how to use your TimeSaver.

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Section II - How to Use TimeSaver:

For ease of organization, this manual will classify the various tasks that TimeSaver can do into four groups. We will describe the general theme that is common to each group and then discuss each function within the group. The first group, **CLOCK FUNCTIONS**, will consist of the TimeSaver functions that relate to TimeSaver's built-in battery-backed-up real-time clock. The second group, **MACRO FUNCTIONS**, will deal with the TimeSaver's Macro capabilities. The third group will address the TimeSaver's **PASSWORD** security system. And the final function group, **UTILITY FUNCTIONS**, will cover the other utility functions of the TimeSaver.

CLOCK FUNCTIONS

TimeSaver has a built-in clock chip that is powered by a battery on the circuit board within the body of the TimeSaver device. (The battery in the TimeSaver is a 3 volt battery of the Lithium type, Part # BR2325, and should last a year or more before requiring replacement.) The TimeSaver's internal clock runs at all times and is not affected by any outside factors such as re-booting the computer or even turning the Amiga off and on. There are three functions that deal with the clock chip inside the TimeSaver.

Setting The TimeSaver's Internal Date/Time Clock.

The **SET CLOCK** Function.....**HELP + F4**

When you first connect TimeSaver to your system, the date and time may or may not be set correctly. Because the clock inside the TimeSaver

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has its own battery power supply, once the time and date are set correctly, they should never need to be set again except to allow for time changes (like Daylight Saving Time, or moving to another time zone) or after replacing the battery.

To set the clock press the **HELP + F4** keys. A prompt will be placed on your screen showing that you are in the Set Clock Function and requesting that you enter the date and time and provides you with an example of the format expected by TimeSaver for the input of this information. The prompt will look like this:

[HELP + F4]
;set yynmddwhhmmss

If you wish to abort this function you may do so at any time by pressing the **HELP** prior to entering the required information. Otherwise, you should now enter the correct information. In the format requested above the letters mean the following:

yy : the last two digits of the year
(ie: for 1987, yy = 87)
mm : the two digit month (ie: for Jan.
mm = 01, for Nov. mm = 11.)
dd : the two digit date (ie: 01, 02,
03... 28, 29, 30, 31.)
w : the one digit day of the week (ie:
SUN = 1, MON = 2, TUE = 3, etc.)
hh : the two digit hours (in 24 hr.
format ie: 01, 02 ... 22, 23, 24.)
mm : the two digit minutes (ie: 00, 01,
02, ... 57, 58, 59.)
ss : the two digit seconds (ie: 00, 01,
02, ... 57, 58, 59.)

After entering the information as shown above TimeSaver will exit the **SET CLOCK** Function.

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Date Stamping and Reading the Clock.

The DATE STAMP Function.....HELP + F5

Once the time and date have been set, you can see the time and date at any point by pressing the HELP + F5 keys. Pressing the HELP + F5 keys will cause the following to be printed to your screen:

```
[HELP + F5]
date 21-apr-87 16:37
```

Please notice that this is the exact form as the Amiga 'DATE' command, so if this command is executed from the CLI mode, it will cause the time and date clock in your Amiga to be updated as well.

You can use the HELP + F5 function at any CLI prompt or within any program to enter the date into letters, spreadsheets or other documents. It also works well as a date stamp on programs that you are writing to assure that you can always locate the most recent version.

For a more formal application, you may prefer the alternate form:

```
26-Apr-87 11:31
```

This is the form of the date stamp used by TimeSaver's internal functions, it is displayed when the HELP + F5 keys are pressed with the SCREEN ECHO turned OFF (See SCREEN ECHO Option) for example:

```
[HELP + RIGHT-SHIFT + 6] [HELP + F5] [HELP + 6]
```

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Automatic Time and Date on Start-Up.

The AUTO-DATE ON/OFF Option.....HELP + 4

Unlike any other clock device being marketed for the Amiga today, TimeSaver will automatically update the Amiga's internal clock every time you start-up or re-boot your computer. Other external clock devices for the Amiga require their owner (you) to modify the Startup-Sequence on every workbench diskette used to boot-up your system.

Aside from being tedious, in some cases (like some protected software) this is either risky and/or impossible to do.

TimeSaver only requires that the standard commodore 'DATE' command (which is supplied in the 'C' directory of every Amiga WorkBench disk) be in either the 'C' directory or the root directory of the diskette used to boot the system. Then TimeSaver uses the facilities provided in the Amiga operating system to interrupt the normal Start-Up and then uses the Amiga 'DATE' command in combination with TimeSaver's own internal clock to set the clock in your Amiga totally automatically. (Also see the AUTO-BREAK Option)

Although we really don't understand why anybody might want to, the AUTO-DATE Option can be turned off by pressing HELP + RIGHT-SHIFT + 4 or by changing its FLAG in TimeSaver's SET FLAG function to OFF. (See SET FLAG Function in the UTILITY FUNCTIONS Section.) Pressing HELP + 4, or changing the FLAG in SET FLAG function to ON will make the AUTO-DATE Option active again. The clock within TimeSaver will not be affected by any of these activities, and you should never have to re-set the time.

MACRO FUNCTIONS

A Macro within the computer world is generally defined as a shorthand notation, or a simple keystroke (or set of keystrokes) that define (or represent) a more complex set of keystrokes. All Macros consist of two parts, the first part is the Macro Initiator. (The Macro Initiator is more commonly referred to as simply THE MACRO.) The Macro Initiator is the keystroke (or series of keystrokes) that you actually enter on the keyboard. The second part of any Macro is the Macro Definition. The Macro Definition is the aeries of keystrokes that are represented by the Macro Initiator. (See the list of ROM Macros below for examples of Macro Initiators and Macro Definitions.

Macro Definitions can be simple or very complex. You are probably familiar with several good examples of Macros used quite often in the Amiga's CLI mode. An example of a simple Macro might be the Amiga's 'DIR' command. When you type 'DIR' and press return a list of files is printed to the screen, the list contains all of the files in the directory that you are currently using. You are not required to supply the name of the directory that you want listed, so if you were working with the WorkBench Disk Demos directory, the 'DIR' is really a Macro Initiator (or shorthand) for the Macro Definition "DIR DF0:DEMOS". The 'DIR' command is a good example of complex Macro as well. If you had the Amiga WorkBench disk in your drive, Typing "DIR OPT A" is really a Macro Initiator for the complex Macro Definition "DIR DF0:", "DIR DF0:S", "DIR DF0:C", "DIR DF0:L", "DIR DF0:LIBS", "DIR DF0:DEVS", "DIR DF0:DEVS/PRINTERS", "DIR DF0:DEVS/KEYMAPS", etc, etc. In other words the one small command "DIR OPT A" causes many commands to be executed.

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TimeSaver's Macros can be as simple as defining a key sequence that will type your name, or as complex as setting up a Macro that will run several programs while copying several directories to your ram disk, while performing a complete back-up of your hard disk, and all this can be done automatically at start-up before you ever touch the keyboard of your Amiga. The Macro capabilities of the TimeSaver as described in the following sections all make use of the RAM and ROM memory within the TimeSaver. They can all be turned on or off at will and are stored in TimeSaver's battery backed-up memories until you remove them.

Pre-Programmed Macros That You Can Use Now!

The ROM MACRO Functions

Several Macro definitions are permanently stored in the ROM (Read-Only-Memory) that is supplied with your TimeSaver. To activate any of these Macros, simply press the keys assigned in the Macro definition. The chart on the next page lists the ROM MACROS that are supplied with TimeSaver.

NOTE: Several of the Macro commands shown on the next page actually cause the Mouse Pointer to move to specific locations and click on objects. You can program these types of Macro commands by making use of the Amiga's keyboard 'Mouse' control keys; either of the Amiga Keys combined with the arrow keys for small movement, shifted for rapid movement, AMIGA + LEFT-ALT for left button and AMIGA + RIGHT-ALT for right button.

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MACRO INITIATOR	MACRO DEFINITION
HELP + NUM-0	CD DF0:
HELP + NUM-1	CD DF1:
HELP + NUM-2	CD DF2:
HELP + NUM-3	CD DH0:
HELP + NUM-4	CD DH1:
HELP + NUM-5	CD DH2:
HELP + NUM-6	Move Mouse and Click On the "screen to front box"
HELP + NUM-7	Move Mouse and Click On the "left requester box"
HELP + NUM-8	Move Mouse and Click On the "right requester box"
HELP + NUM-9	Move Mouse and Click On the "screen to back box"
HELP + C	COPY #? TO RAM: <RETURN>
HELP + D	DiskCopy DF0: to DF1: <RETURN>
HELP + F	Format Drive DF0: Name
HELP + P	Preferences <RETURN>
HELP + R	Rename
HELP + S	S/Startup-sequence
HELP + X	Execute

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Making Macros That Can Make Your Jobs Easier.

The NEW MACRO Function.....HELP + F1

In the previous section we discussed what a Macro is and we provided a list of some Macros that are permanently stored in TimeSaver's internal ROM chip. This section will deal with Macros that are defined by you and stored in TimeSaver's internal RAM (Random Access Memory) chip.

TimeSaver provides over seven thousand bytes of RAM space that is dedicated to the storage of user-defined Macro commands. This RAM space is powered by the same battery that TimeSaver uses to power the internal clock, so unlike the RAM memory in your computer that goes away when you turn off the power, things stored in the TimeSaver's memory stay there until you remove them. (The TimeSaver memory will also fail when you remove or replace the battery, or when your battery goes dead.) This means that your Macro commands are always available instantly, as soon as you power-up your Amiga. There is no waiting for a driver program, no need to call a special routine and no confusion as to what file to use with what program.

TimeSaver's RAM Macros Definitions are not limited to just one line, they can contain carriage returns and even special characters like escape and control codes. The only thing that a TimeSaver RAM Macro can't do is call another TimeSaver RAM (or ROM) Macro.

TimeSaver's unique use of the keyboard allows over 500 different MACRO Initiators and MACRO Definitions to be active without conflict.

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There are four steps required to define a TimeSaver RAM Macro, they are as follows:

1. Press the HELP + F1 Keys.
2. Enter the Two Key Macro Initiator.
3. Enter the Macro Definition.
4. Press the HELP Key to Store the Macro.

NOTE: There are three possible error messages that you may encounter while attempting to enter a Macro Initiator or Macro Definition:

INVALID means that the Macro Initiator that you have entered does not begin with one of the required keys. (See the following NOTE.)

Duplicate warns that the Macro Initiator you have just entered duplicates an existing Macro Initiator.

RAM FULL tells you that the Macro storage area is full and that the Macro information just entered has not been accepted.

NOTE: There are some limitations as to what keys may be used as a Macro Initiator. The first key of any TimeSaver Macro Initiator MUST be one of the six keys (in this manual we will call these keys ACTION Keys) listed below:

CTRL
LEFT-ALT
LEFT-Amiga
RIGHT-Amiga
RIGHT-ALT
RIGHT-SHIFT

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The second key may then be any key other than the first key. For example the following are all LEGAL TimeSaver Macros:

CTRL + D
CTRL + LEFT-ALT
CTRL + HELP
LEFT-ALT + NUM-1
LEFT-Amiga + SPACE
RIGHT-Amiga + F3
RIGHT-ALT + ESC
RIGHT-SHIFT + LEFT-SHIFT
RIGHT-SHIFT + .
RIGHT-SHIFT + F1

The following would NOT be legal TimeSaver Macros:

LEFT-SHIFT + S
ESC + R
A + B
F1 + RIGHT-SHIFT
HELP + A
CTRL + CTRL

In the above first several of the examples, LEFT-SHIFT, ESC, A, F1 and HELP can't be used as the first key of a RAM MACRO, and in the last example though CTRL could be used as either the first or second key of a RAM Macro, it cannot be used both places in the same Macro.

When you press the HELP + F1 keys, you will be prompted to enter the two keys that will be the Macro Initiator with the prompt:

;enter 2 keys

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TimeSaver now expects you to press the two keys that you want to use as your Macro Initiator. To enter the two keys you may either press and release the first key, then press and release the second key; alternatively, you may press and hold down the first key, then press the second key and finally release both keys. Either of these works, so we will leave the choice up to you. As you press the two keys, they will NOT be printed to the screen, this is the normal mode of operation for TimeSaver.

Again remember, as you enter the two keys, they will not be printed on the screen. Do not let this alarm you, it is just the way TimeSaver works. After you press the second key, you will get another prompt which is nothing more than a plain semicolon.

;

You should now type in your Macro Definition. You are now in TimeSaver's LEARN MODE, TimeSaver will now learn and remember every thing you type in as the definition for the Macro. REMEMBER: TimeSaver will store every keystroke you make as part of the Macro Definition this includes back-spaces to erase mistakes as well as the return key and other non-printing keys like the CTRL key and the ESC key.

After you have completed the entry of your Macro Definition, press the HELP key to store the Macro and its definition and this will also exit you from the RAM Macro Function. When you have completed the entry of a Macro, TimeSaver will signify its acceptance of your Macro with:

;entered

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The following are some examples of complete Macro entry sessions, these are first shown as they were typed in with the non-printing keys shown in brackets, the same sequence is then shown as it actually looked on the screen.

This Macro uses LEFT-ALT + E to print my name.

Key-in Sequence

```
[HELP + F1]
;enter 2 keys
[LEFT-ALT + E]
;E. J. Lippert II[HELP]
;entered
```

Actual Screen representation

```
;enter 2 keys
;E.J. Lippert II
;entered
```

This Macro uses CTRL + F to Send a CHR(12) or Form Feed to a parallel printer.

Key-in Sequence

```
[HELP + F1]
;enter 2 keys
[CTRL + F]
;ECHO > PAR: [CTRL + L][<RETURN>]
;[HELP]
;entered
```

NOTE: Pressing the CTRL + L keys will clear your Amiga's display screen. It's O.K. Don't Panic!

Actual Screen representation

```
;enter 2 keys
;ECHO > PAR: 1
;
;entered
```

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This Macro uses LEFT-Amiga + Z to set-up my Modula-2 Compiler, copy my work files to RAM disk, make the proper directory re-assignments and start my TxE^D text Editor with my current working file in place.

Key-in Sequence

```
[HELP + F1]
;enter 2 keys
[LEFT-Amiga - Z]
;CD DH0:Modula/Work [<RETURN>]
;Copy #? to RAM: [<RETURN>]
;CD DH0:Modula/C [<RETURN>]
;Copy #? to RAM: [<RETURN>]
;Assign M2: DH0:Modula/M2 [<RETURN>]
;Assign T: RAM:T [<RETURN>]
;CD RAM: [<RETURN>]
;Copy DH0:C/E to RAM: [<RETURN>]
;RUN E Work.mod [HELP]
;entered
```

Actual Screen representation

```
;enter 2 keys
;CD DH0:Modula/Work
;Copy #? to RAM:
;CD DH0:Modula/C
;Copy #? to RAM:
;Assign M2: to DH0:Modula/M2
;Assign T: RAM:T
;CD RAM:
;Copy DH0:C/E to RAM:
;RUN E Work.mod
;entered
```

Just one key sequence can do all that!

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Preventing Conflicts with Other Programs.

The ROM/RAM MACRO ON/OFF Option.....HELP + 2

There may be some situations when the keys you have used to define a MACRO INITIATOR might conflict with a key combination that is used by the program you are using. For example, if you are using TextCraft, TextCraft accepts the RIGHT-Amiga + B keys to turn on BOLD printing. If you had a MACRO stored as RIGHT-Amiga + B, TimeSaver would intercept the keys and execute the assigned MACRO DEFINITION, but TextCraft would never get the command to go to BOLD printing.

To allow you to access special key sequences in your applications programs, TimeSaver allows you to turn the Macro functions ON and OFF quickly and easily.

Both ROM and RAM MACROS are turned off by pressing the HELP + RIGHT-SHIFT + 2 keys or by changing the FLAG in TimeSaver's SET FLAG function to OFF. (See SET FLAG Function in the UTILITY FUNCTIONS Section.) Pressing HELP + 2, or changing the FLAG in SET FLAG function to ON will make the ROM and RAM MACROS active again. The ROM and RAM MACROS must be turned off and on as a group, ROM or RAM MACROS can not be disabled or enabled individually.

With the Macros OFF, all TimeSaver MACRO INITIATORS are ignored, but all of TimeSaver's function keys and function switches remain active. The HELP + (Function Keys) and the HELP + (number keys) are still intercepted by TimeSaver and are not resent to the Amiga. The ROM/RAM MACROS ON/OFF Option only determines how TimeSaver deals with RAM and ROM MACRO INITIATORS.

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You might also want to read the TimeSaver ON/OFF section for additional information in the area of conflicts with applications programs. There is also a very handy way around any key conflict explained in the Helpful Hints in Section III. Be sure you read the Helpful Hints information!

Deleting Un-Wanted Macros.

The DELETE MACRO Function.....HELP + F2

There are times when you may need to delete one, some or all of the Macros you have programmed with TimeSaver's RAM MACRO Function. Possible reasons to delete some of your Macros might include the fact that there is no room to enter a needed Macro because your RAM is full, or that there is a mistake in one of your Macros, or that you want to update a Macro to include some additional commands, or sometimes you might just want to do a general house cleaning. In any of these situations you will be able to use the DELETE MACRO Function to eliminate any, or all of your RAM Macros.

To delete a RAM Macro you should follow these steps:

1. Press the HELP + F2 keys.
2. Enter the MACRO Initiator of the Macro to be deleted OR Press the ESC key to delete ALL the RAM Macros.

NOTE: If you press 'ESC' to delete ALL Macros, TimeSaver will ask "are you sure?", just in case you pressed the 'ESC' key by accident.

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If a RAM Macro is found that matches the description given, it will be deleted and you will get a message saying 'cleared' to notify you that the Macro was found and deleted. If no Macro is found that matches the Macro Initiator given, you will get a message saying 'error' to notify you that no RAM Macro was found that matched the one you supplied. The following are examples of a successful and an unsuccessful attempt to delete a RAM Macro:

This is a successful attempt to delete the Macro with the Macro Initiator CTRL + A:

```
[HELP + F2]
;enter 2 keys to delete or esc for all
[CTRL + A]
;cleared
```

Having just deleted the RAM Macro with the Macro Initiator CTRL + A, a second attempt to do so will cause an error because that Macro Initiator no longer exists.

```
[HELP + F2]
;enter 2 keys to delete or esc for all
[CTRL + A]
;error
```

REMEMBER: Before you can enter a RAM Macro you must be sure that a RAM Macro with the same Macro Initiator does not exist, or you will get the 'duplicate' error message. And if you try to delete a Macro that does not exist you will also get an 'error' message.

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A Quick-Change Startup-Sequence.

The NEW AUTO-MACRO Function.....HELP + F3

The Startup-Sequence in the S directory of your Amiga WorkBench disk is a script file that contains a list of commands that are executed whenever you power-up or re-boot your Amiga. It might be handy to be able to easily add a command or two, or replace the entire Startup-Sequence without having to go through the entire procedure of loading a text editor, loading the Startup-Sequence file, editing the file and finally storing the file back to the disk again. In some cases, like heavily protected software, you may not want to risk writing to the disk to change the Startup-Sequence for fear that you might accidentally damage the disk. TimeSaver's AUTO-MACRO Option was designed for situations like these.

As we discussed earlier in the section about the AUTO-DATE Option, there is a special routine (also see AUTO-BREAK Option) that was built into the Amiga by Commodore to interrupt the boot process prior to the execution of the Startup-Sequence. TimeSaver uses this routine to pass the date and time to the Amiga. TimeSaver also allows you access to this routine through the AUTO-MACRO Function. The AUTO-MACRO Option allows you to easily specify that one of the TimeSaver's user defined RAM MACROS should be executed during at this time. TimeSaver also allows you to quickly and easily change which RAM MACRO is to be executed.

You may select any of the TimeSaver's RAM MACROS (these are the Macros that you have previously defined) to be executed by the AUTO MACRO Function. To select or change the Macro to be executed you would:

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1. Press the HELP + F3 keys.
2. Press the two key Macro Initiator for the RAM Macro to be used as the AUTO-MACRO.
3. If the Macro you specify is found, you will be notified that it has been selected as the AUTO-MACRO with the response 'entered'.

For example:

```
[HELP + F3]
;enter 2 keys
[CTRL + S]
;entered
```

There is the possibility that you may not have a RAM Macro that matches the Macro Initiator given. In such cases you will receive an 'error' message.

Controlling the AUTO-MACRO Function.

The AUTO-MACRO ON/OFF Option.....HELP + 3

The AUTO-MACRO Function can be turned off by pressing HELP + RIGHT-SHIFT + 3 or by changing the FLAG in TimeSaver's SET FLAG function to OFF. (See SET FLAG Function in the UTILITY FUNCTIONS Section.) Pressing HELP + 3, or changing the FLAG in SET FLAG function to ON will make the AUTO MACRO active again.

If the TimeSaver's AUTO-DATE Option is active and if the AUTO-MACRO Option is active, the most recently selected AUTO-MACRO will be executed after the AUTO-DATE Function is executed. If the AUTO-DATE Option is not active, only the most recently selected AUTO-MACRO will be executed immediately. For more information about the various things that happen during start-up, see START-UP EVENTS in Section III.

PASSWORD SECURITY

One of the benefits of a computer is that you have instant access to all of the information you need to run your business or your household. One of the disadvantages is, so does everyone else who might gain access to your computer. Security of data and protection against inadvertent tampering by un-authorized users has become a major concern in the computer industry. TimeSaver can act as a simple but reasonably effective security device for your Amiga. Because TimeSaver is actually mounted under your Amiga most potential tamperers won't realize that it is there, so its actions will be very hard to get around.

A couple of things you should know before we start discussing the PASSWORD Function are that all PASSWORDs must consist of exactly four key strokes and that the default PASSWORD is 'CLTD'. The default PASSWORD is used only when the TimeSaver is first powered-up by installing, or after replacing, the TimeSaver's battery.

REMEMBER: If you lose or forget your PASSWORD, the ONLY way to make your TimeSaver work again will be to remove and re-install the TimeSaver's battery so as to reset the PASSWORD back to the default PASSWORD 'CLTD'. But be aware that you will erase all of the RAM Macros and other information in the TimeSaver's RAM memory by doing so.

Setting Your Personal Security Code.

The NEW PASSWORD Function.....HELP + F7

To enter a new PASSWORD you must know the old one, this is to prevent someone else from changing your PASSWORD and locking you out of your own system. Assuming the current PASSWORD is the default PASSWORD 'CLTD' the procedure for entering a new PASSWORD is as follows:

1. Press the [HELP + F7] keys.
2. Enter the current PASSWORD.
3. Enter the new PASSWORD.

An example PASSWORD entry session might look like this:

```
[HELP + F7]
;enter 4 key code
[cltd]
;enter 4 key code
[mine]
;entered
```

Once a new PASSWORD has been entered, TimeSaver will use the PASSWORD until it is replaced with another PASSWORD.

Protection from Novices, Jokers and Crooks..Part 1

The AUTO-PASSWORD ON/OFF Option.....HELP + 7

The AUTO-PASSWORD Function is effective only during the power-up or re-boot operation of your Amiga. The user will be prompted to enter the PASSWORD and the keyboard will not respond until the correct PASSWORD is entered. For more information about the things that happen during start-up, see START-UP EVENTS in Section III.

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The AUTO-PASSWORD Option is turned on by either pressing the [HELP + 7] keys or by setting the AUTO-PASSWORD flag to ON. (See SET FLAG Function in the UTILITY FUNCTIONS Section.) The AUTO-PASSWORD Option is turned off by either pressing the [HELP + RIGHT-SHIFT + 7] keys, or by setting the AUTO-PASSWORD flag to OFF.

Protection from Novices, Jokers and Crooks..Part 2

The USE PASSWORD Function.....HELP + F8

While the AUTO-PASSWORD Function will protect your computer when it is turned off, or if you re-boot the computer whenever you leave your desk, it is sometimes necessary to leave your system for short periods and re-booting the computer would cause a needless wast of time. For these times, TimeSaver provides the USE PASSWORD Function. The USE PASSWORD Function may be activated at any time by pressing HELP + F8. When the USE PASSWORD Function is active, it will immediately prompt the user to enter the current four key PASSWORD with the prompt:

 ;enter password

The prompt will repeat itself until the correct PASSWORD is entered. Once the correct PASSWORD has been entered, the USE PASSWORD Function becomes inactive.

HINT: If you turn the SCREEN ECHO Option (See SCREEN ECHO in the Utilities Section) off as well, the 'enter password' prompt will never be displayed. This would make your computer act like the keyboard is locked-up.

UTILITY FUNCTIONS

The CLI UTILITIES

In sharp contrast to the sparkling ease of use of its Icon oriented Intuition User Interface, one of the major disappointments of the Amiga was its awkward, primitive Command Line Interface. Users graduating to the Amiga from the Commodore 64 and 128 were extremely shocked to find they no longer had the, often taken for granted, luxury of full screen editing. Many said that the editing capabilities of the Amiga's CLI were second only to those of the Radio Shack TRS-80 Model I in the historical annals of user UN-friendliness.

Because TimeSaver operates totally outside the Amiga, it can do things to help make using the CLI environment easier, without any form of software intervention that might cause compatibility problems with the CLI and/or other programs. The CLI UTILITIES built into the TimeSaver do not modify the operation of the Amiga's CLI program in any way, instead, they simply make the most of what is available. Some operations are still clumsy and awkward, but without actually changing or replacing the Amiga's CLI program, TimeSaver must operate within the available environment.

TimeSaver provides two utilities to help make using the CLI environment easier. The Command Line Editor Utility allows you to use the cursor left and right keys to position the cursor on the line to the position where a correction must be made. You can then insert or delete characters where they need to be corrected. It is no longer necessary to backspace over half a line and retype it just to repair one mis-typed character. The

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Command Line History Utility adds the ability to use the cursor up and down keys to 'cursor' back and forth through recently issued commands. The combination of these utilities should make working in the CLI environment a lot easier.

Because the History and Edit Utilities are so closely related, both utilities are invoked at the same time, with the same command. Therefore if you are using either utility, you are able to use the other as well.

COMMAND LINE EDITING.....HELP + (UP ARROW)

You can enter the Edit/History mode at any time by pressing the HELP + CURSOR-UP keys. For example, if you have typed in a command and before you press return, you spot a mistake. You can press the HELP + CURSOR-UP keys to correct your mistake. (When you press the HELP + CURSOR-UP keys the first few times what happens may look very strange to you. We want to assure you that what happens is necessary because of the severe limitations of the CLI environment.) If there is information on the current line, as TimeSaver enters the Edit/History mode, it erases it. Then it re-types the line (with a semicolon (;) placed as the first character) and places the cursor at the end of the line. (This all happens very quickly, but not so fast as to be invisible.) You can now use the cursor left and right keys and the delete and backspace keys to correct your mistake. You may also use the SHIFT with cursor left and right to skip left or right 15 characters at a time, we call this the CURSOR EXPRESS. When you are satisfied that your line is correct, you simply press the return key (from any position on the line). TimeSaver again re-types your line (this time without the semicolon) and executes the

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command, and returns you to the normal CLI environment, exiting the Edit/History mode. You can also opt not to edit the current line, but rather use the cursor up and down keys as described below to recall previously issued commands.

COMMAND LINE HISTORY.....HELP + (UP ARROW)

If there is nothing on the current line when you press the HELP + CURSOR-UP keys, the last command issued will be re-typed (with a semicolon (;) placed as the first character) and the cursor will be put at the end of the line. You are again in the Edit/History mode. From here you can either press the cursor up key to recall the previous line, press the return key to re-issue this command, or use the cursor left and right keys and the delete and backspace keys to modify this line. In the Edit/History mode you can continue to use the cursor up key to recall lines issued quite a while back, in fact, TimeSaver has room for over one thousand characters in its History buffer. As you cursor back through your history of commands, you may decide that you need missed what you were looking for and you need to go forward, just start pressing the cursor down key and you can start looking forward through the commands to see what you missed.

EXITING THE EDIT/HISTORY UTILITY.....HELP

If at some point you want to exit the Edit/History mode, press the HELP key at any time. TimeSaver will terminate the Edit/History operations and return you to the Normal CLI environment with a clean line.

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Suspending the Storage of CLI Commands.

The STORE HISTORY ON/OFF Option.....HELP + 9

A good/bad feature of TimeSaver is that the History memory stores everything you type. The History memory works not only in CLI, but in every other program you own. The good part is that the History memory can be used to duplicate commands in several CLIs, or even to duplicate entries in spreadsheets, data bases, etc. The bad part is if you are using the History memory to store CLI commands and then switch to your text editor, type in some text and then switch back to CLI, your History memory is now full of (probably) unwanted text from your excursion to your text editor.

To prevent your History memory from storing unwanted text, TimeSaver provides the ability to suspend and reinstate the History storage at your command. To stop the History memory storage, press HELP + SHIFT + 9, then to restart History storage, press the HELP + 9 keys. Suspending the History storage DOES NOT erase any commands stored in History memory, it just prevents any additional information from being stored until the function is reactivated.

NOTE: Trying to cursor through the history too fast may cause your screen to seem to lock-up. If this happens, press [HELP], then press <RETURN>, then press [BACKSPACE] and finally press <RETURN> again. This will reset the CLI and start you over again.

NOTE: When editing a line, TimeSaver may pause and re-write the line, this is normal operation. TimeSaver does this to get around the 255 character line limitation of the CLI environment.

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The Final Conflict.

The TimeSaver ON/OFF Option.....HELP + 0

Aside from all of the other abilities TimeSaver has to avoid conflict with keystroke combinations used by other programs, TimeSaver has a master switch that will defeat ALL TimeSaver Functions. Pressing HELP + RIGHT-SHIFT + 0 (ZERO) will put TimeSaver to sleep. The only intercepted key combination while TimeSaver is in this mode is the HELP + 0 (ZERO) key combination, which reactivates the TimeSaver Functions. (Software writers take note, to avoid conflict with TimeSaver, do not use HELP + 0 in your programming, better yet, don't use HELP + ANYTHING.)

And, for the POWER User...

The SCREEN ECHO ON/OFF Option.....HELP + 6

TimeSaver prints some useful prompts to the screen when you are making new macros or deleting old ones, but sometimes you may not want those prompts to be ECHOed (printed) on your screen. By pressing the HELP + RIGHT-SHIFT + 6 keys you can suspend all (we do mean ALL) of TimeSaver's printing of prompts and information. Pressing the HELP + 6 keys returns TimeSaver to its normal operations.

WARNING: With the ECHO off, it is very easy to get lost. If you tried to enter a new macro, for example, and you were out of RAM room, you would never know about it. Our advice here is use this option with a lot of caution.

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NOTE: When the SCREEN ECHO is off, the RAM Macros will work O.K., but the ROM Macros get turned off along with the SCREEN ECHO.

Determining which Version of TimeSaver you have, and the Approximate Amount of Available Memory.

The ABOUT TimeSaver Function.....HELP + F6

During it's life, we expect to make several revisions to TimeSaver's internal software. These changes will be released as a revisions to the TimeSaver's operating system. The TimeSaver's program is stored on a factory-programmed micro-chip called an EPROM. New EPROMS to upgrade the current operating system will be provided for registered owners for a nominal cost (about \$5.00 to \$15.00) to cover expenses.

The HELP + F6 keys will also the amount of available memory remaining for Macro storage in 1K (1024) Byte increments. If the value shown is 2K bytes free, then you have between 1024 and 2048 bytes of free memory for Macro storage. To display the version of TimeSaver you have and the amount of RAM memory available, press the [HELP + F6] keys, for example:

```
[HELP + F6]
;rev 1.2 (c)1987 cltd
;7K bytes free
```

To Break or not to Break...

The AUTO-BREAK Option.....HELP + 1

The AUTO-BREAK Function causes a break (just like pressing the [CTRL + D] keys) before the

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Amiga starts to execute the s/startup-sequence. TimeSaver then executes the AUTO-DATE, AUTO-MACRO and PASSWORD functions. After executing those functions, the AUTO-BREAK Function returns to the execution of the startup-sequence. (NOTE: If the AUTO-DATE and AUTO-MACRO Options are turned off, the AUTO-BREAK Function will not cause a break to happen.) If the AUTO-BREAK Option is OFF, no break will happen, but TimeSaver will still execute the AUTO-DATE, AUTO-MACRO and PASSWORD commands if they are active.

If the s/startup-sequence on the disk you are using to boot-up the system does an EndCLI, you will need to have the AUTO-BREAK Option ON in order for the AUTO-DATE and AUTO-MACRO functions to be recognized by your Amiga. If your startup-sequence does not end the CLI mode then the AUTO-BREAK Function is not required, but it still may be used if desired.

For a complete explanation of exactly how the AUTO-BREAK Function works and why it is used, see the section called Start-up Events in Section III of this manual.

The TimeSaver Master Menu.

The SET FLAGS Function.....HELP + F10

Most TimeSaver functions are controlled by a set of FLAGS. A FLAG is a fancy computer term for a switch that turns a function on or off. There is one master FLAG that controls all TimeSaver operations, and there individual FLAGS for each function so they may be turned on or off as well.

As TimeSaver is shipped from our factory, all the FLAGS are ON except for the AUTO-PASSWORD FLAG

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the AUTO-EDIT FLAG and the AUTO-MACRO FLAG which are OFF. You can have a listing of the FLAGS and their current status (on or off) printed to your screen at any time by pressing the HELP + F10 keys. Pressing the HELP + F10 keys also puts you into the FLAG CONTROL MODE. While in the FLAG CONTROL MODE, you can use the Function keys to toggle (or switch) the FLAGS on and off. Every time you press a Function key (and thereby change a FLAG setting) an updated list of FLAG settings is printed to the screen. When you are satisfied that all of the FLAGS are set to your liking, you may exit the FLAG CONTROL MODE by pressing the HELP key.

The functions and the FLAGS that operate them are listed below:

```
;f1=auto break
;f2=macros
;f3=auto macros
;f4=auto date
;f5=history store
;f6=echo
;f7=auto password
;f8=timesaver
;  press key to toggle
;f1  f2  f3  f4  f5  f6  f7  f8
;on  on  off on  on  on  off on
```

SETTING START-UP DELAY....HELP + RIGHT-SHIFT + F10

This function sets the amount of time that TimeSaver waits after a system reset before starting to issue commands. (See the Theory of Operation, Start-up Events in Section III for a more detailed explanation of the Start-up Delay.) The value set for this delay at the factory (default value) is Y or about 11 seconds. Some

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systems may work with less delay (9 sec is the fastest we've seen) and some require more.

To set a new delay value, press **HELP + RIGHT-SHIFT + F10**, then press the key from the chart below that matches the desired value in seconds.

DELAY	KEY	DELAY	KEY	DELAY	KEY	DELAY	KEY
=====							
0	'	8	Q	16	A	24	n/a
0.5	1	8.5	W	16.5	S	24.5	Z
1	2	9	E	17	D	25	X
1.5	3	9.5	R	17.5	F	25.5	C
2	4	10	T	18	G	26	V
2.5	5	10.5	Y	18.5	H	26.5	B
3	6	11	U	19	J	27	N
3.5	7	11.5	I	19.5	K	27.5	M
4	8	12	O	20	L	28	,
4.5	9	12.5	P	20.5	;	28.5	.
5	0	13	[21	'	29	/
5.5	-	13.5]	21.5	Return	29.5	n/a
6	=	14	n/a	22	n/a	30	n/a
6.5	\	14.5	NUM-1	22.5	NUM-4	30.5	NUM-7
7	n/a	15	NUM-2	23	NUM-5	31	NUM-8
7.5	NUM-0	15.5	NUM-3	23.5	NUM-6	31.5	NUM-9

The TimeSaver's TimeSaver

The POWER KEYS

All throughout this manual we have been giving you key combinations that activate various TimeSaver Functions or turn them on or off. In this section we will combine all of these key combinations in an attempt to help you understand the logic to their order.

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TimeSaver has many FUNCTIONS and OPTIONS, some of these functions are one time events, and others, once started continue in operation until they are turned off. But, ALL of TimeSaver's Functions and Options are initiated by a combination of the HELP key and some other key.

ALL of the TimeSaver's Functions are one time events (with one exception) and are started by a combination of the HELP key and one of the Amiga's FUNCTION KEYS. The exception to this rule is the Edit/History Function, which for ease of use, we opted to initiate with the HELP + CURSOR-UP keys.

ALL of TimeSaver's ON/OFF type Options are turned on by a combination of the HELP key and one of the NUMBER keys that are right below the Function keys, and they are turned off by combination of the HELP + RIGHT-SHIFT keys and the same NUMBER key that turned the Option ON.

We have as well tried to organize the keys in a logical sequence. If a Function key (one time event) item has a corresponding function that can be turned on and off, we will use the same number for both (ie. Function key F4 and Number Key 4) for both functions. We have also tried to group functions in close proximity to other similar functions.

This chart on the next page is designed to show the relationships between the various key combinations used to initiate TimeSaver Functions and select TimeSaver Options. The chart is also reproduced in an expanded form on the TimeSaver QUICK REFERENCE Sheet.

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NUM KEY	HELP + FUNCTION KEY	HELP + NUMBER = ON HELP + RT-SH + NUMBER = OFF
=====		
1	NEW MACRO	AUTO-BREAK ON/OFF
2	DELETE MACRO	ALL MACROS ON/OFF
3	CHANGE AUTO-MACRO	AUTO-MACRO ON/OFF
4	SET CLOCK	AUTO-DATE ON/OFF
5	DATE STAMP	- - -
6	ABOUT TimeSaver	SCREEN ECHO ON/OFF
7	NEW PASSWORD	AUTO-PASSWORD ON/OFF
8	USE PASSWORD	- - -
9	- - -	STORE HISTORY ON/OFF
10/0	SET FLAGS	TimeSaver ON/OFF

We hope this key layout will make it easier for you to learn to use and understand TimeSaver. As you become familiar with the use of TimeSaver you may find some things don't seem to work exactly the way you might expect. Reading Section III's descriptions of how TimeSaver's functions work and how they interact with each other may help you to take best advantage of the many, many combinations of functions that can be used.

If you have any problems or questions, please call us at (316) 267-3807. We will be adding things to TimeSaver in the future, and we would like to know what you like/dislike about TimeSaver as well as what you would like to see improved. To get in your 22c worth, please write us at:

C Ltd.
723 East Skinner
Wichita, KS
67211

Again, Thank You for deciding to purchase TimeSaver by C Ltd.

Section III - General Information.

First we want to remind you to be sure to send in your Product Registration Form to insure that you get any important information about product updates. We have plans to add several features to the TimeSaver and would not you to miss out on getting the most out of your TimeSaver.

This section covers a lot of 'odds and ends' that generally defy organization, so there may not be much logic to follow here. This section will explain will be divided into the areas of general theory of operation, tricks and helpful hints, what can go wrong and TimeSaver's maintenance. Along the way some sections may wander into covering other subjects so we recommend reading this entire section to get the most out of it.

Again, because the organization of this section is somewhat lacking, the index at the back of this manual will help you find information in this section a bit more easily when you just need to look up a specific item.

Theory of Operation

The Basic Design.

Inside the TimeSaver package is an eight-bit microprocessor that controls all TimeSaver operations, an 8K EPROM (Erasable, Programmable, Read Only Memory) which contains the program (only 4K is used at present) used by TimeSaver and an 8K Low-Power RAM which is used to store all macro data, CLI history and all flag and option

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settings. TimeSaver also has a Low-Power Clock chip that keeps the time and date information, a specialized chip (called 'Dallas') that arbitrates TimeSaver's power sources between the Amiga and the on-board battery.

During the times that your Amiga is on, TimeSaver uses the power supplied by the Amiga that is normally used to power the keyboard. The total power drain on the Amiga caused by TimeSaver is minimal due the extensive use of Low-Power chips in the TimeSaver. The specialized 'Dallas' chip allows all chips to be powered by the Amiga when such power is available, thereby lengthening battery life. When the Amiga is off, the 'Dallas' chip switches to the battery as the power source and allows only the Clock chip and the RAM chip to draw power from the battery.

Start-up Events.

Without a TimeSaver on your Amiga the following is a brief list of some of the things your Amiga does when you turn it on:

1. Requests a KickStart Disk and waits.
2. Loads KickStart into the KickStart RAM.
3. Starts executing the KickStart program.
4. Resets all devices attached to the Amiga. (including the keyboard)
5. Checks the keyboard for an interrupt.
6. Requests the WorkBench Disk and waits.
7. Initializes CLI.
8. Makes the CLI window active.
9. Executes s/startup-sequence

If you re-boot your Amiga by using the two Amiga keys and the CTRL key, the Amiga starts at step # 3 and completes the rest of the steps.

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There are four things that TimeSaver can do and that you can cause to happen at power-up or re-boot time. These four options include the TimeSaver's AUTO-BREAK, AUTO-DATE, AUTO-MACRO and AUTO-PASSWORD functions. These functions can interact with each other and with your Amiga to create a wide variety of start-up options.

Before going any farther you need to understand how TimeSaver fits into the normal Amiga startup routines. Look at the list of Amiga startup events given above, notice at step # 4 that the Amiga resets the keyboard. Actually, TimeSaver intercepts this reset instruction and uses it as TimeSaver's own cue to start its own startup activity. If the AUTO-BREAK Function is set ON, TimeSaver immediately sends the CTRL key-down byte and the D key-down byte to cause a BREAK CLI. Your Amiga records this data and continues with steps 6, 7, 8 and 9. Now TimeSaver waits 11 seconds (11 sec. is the default value and can be changed - see Setting the Start-up Delay) as this is the average amount of time that the Amiga takes to complete steps 6,7 and 8. Before your Amiga starts executing step 9, it re-checks the keyboard and if it finds the CTRL + D keys are still down, the Amiga breaks out of the sequence before executing step # 9 (execute the s/startup-sequence). TimeSaver then takes over and performs the functions that you have selected by the use of the SET FLAGS Function or the POWER KEYS. After completing these optional functions, TimeSaver will execute its own instruction to the Amiga to do step # 9.

TimeSaver has enough built-in options and functions to overcome all but one potential problem that can occur during startup. If for some reason the time between steps 4 and 8 exceeds 11 seconds, TimeSaver will have sent its commands

before the Amiga was ready to accept them and they will be ignored. The biggest cause of the potential time delay is the time it takes you to insert the WorkBench disk when requested. There are other possible reasons for delay, such as having a 5.25" disk drive connected to the system, but not turned on, but they are not common to most users. If you find that you are having a consistent problem see **Setting the Start-up Delay**.

Why AUTO-BREAK ?

The AUTO-BREAK Function was developed to solve another potential problem. Normally, when the CLI window becomes active during Step # 8 of the Startup, TimeSaver could just send its commands and put them in the normal Amiga cue of tasks. The Amiga would then perform the startup-sequence and look in the CLI window for any additional tasks to be performed. Normally, this would work O.K., but there are two conditions that might be problems. First, if the user wants to send the Date, or execute the assigned Auto-Macro BEFORE the Amiga executes the s/startup-sequence, this system would not work. Second, if the s/startup-sequence ends the active CLI window (with the EndCLI command) all pending tasks are ignored, so any commands TimeSaver might have issued will not be processed. Using the AUTO-BREAK Function will eliminate both of these problems. If, however, you do not use a startup-sequence that ends the CLI with the EndCLI command and you don't care when the Date command and/or your Auto-Macros are executed, you can do just fine without the AUTO-BREAK option. Your system will start-up slightly faster when the AUTO-BREAK Function is OFF.

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Interactions of TimeSaver Commands on Startup.

The four AUTO Functions that can be selected at Startup have a specific order in which they are done, and the presence or absence of the functions also affect how other functions perform. The order these functions are processed in is:

1. The AUTO-BREAK Function
2. The AUTO-DATE Function
3. The AUTO-PASSWORD Function
4. The AUTO-MACRO Function

There is a lot of interaction between these functions on Startup the following chart lists the various combinations and what happens:

AUTO-BREAK Function	OFF
AUTO-DATE Function	OFF
AUTO-PASSWORD Function	OFF
AUTO-MACRO Function	OFF

TimeSaver does nothing! And the Amiga follows the normal startup procedures and then executes the s/startup-sequence.

AUTO-BREAK Function	ON
AUTO-DATE Function	OFF
AUTO-PASSWORD Function	OFF
AUTO-MACRO Function	OFF

TimeSaver does nothing! And the Amiga follows the normal startup procedures and then executes the s/startup-sequence. Even though the AUTO-BREAK Function is ON, TimeSaver is smart enough to realize that there are no functions active that require access to the CLI.

AUTO-BREAK Function	OFF
AUTO-DATE Function	ON
AUTO-PASSWORD Function	OFF
AUTO-MACRO Function	OFF

The Amiga follows the normal startup procedures executes the s/startup-sequence and TimeSaver puts the Date Command in the Active CLI window as a task to be processed.

AUTO-BREAK Function	ON
AUTO-DATE Function	ON
AUTO-PASSWORD Function	OFF
AUTO-MACRO Function	OFF

TimeSaver Issues the Break instruction, then executes the Date Command and finally executes the s/startup-sequence command.

AUTO-BREAK Function	OFF
AUTO-DATE Function	OFF
AUTO-PASSWORD Function	ON
AUTO-MACRO Function	OFF

TimeSaver does nothing during Startup and the Amiga follows the normal startup procedures and then executes the s/startup-sequence. TimeSaver requests the Password and prevents any keyboard access until the correct code is entered.

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AUTO-BREAK Function	ON
AUTO-DATE Function	OFF
AUTO-PASSWORD Function	ON
AUTO-MACRO Function	OFF

TimeSaver does nothing during the Startup, and the Amiga follows the normal startup procedures and then executes the s/startup-sequence. Then **TimeSaver** requests the Password and prevents any keyboard access until the correct code is entered. Again, though the **AUTO-BREAK Function** is on, there are no functions active that need it.

AUTO-BREAK Function	OFF
AUTO-DATE Function	ON
AUTO-PASSWORD Function	ON
AUTO-MACRO Function	OFF

The Amiga follows the normal startup procedures executes the s/startup-sequence and **TimeSaver** puts the Date Command in the Active CLI window as a task to be processed. Then **TimeSaver** requests the Password and prevents any keyboard access until the correct code is entered.

AUTO-BREAK Function	ON
AUTO-DATE Function	ON
AUTO-PASSWORD Function	ON
AUTO-MACRO Function	OFF

TimeSaver Issues the Break instruction, executes the Date Command, requests the **PASSWORD** and prevents any keyboard access until the correct code is entered. After the correct password is entered **TimeSaver** executes the s/startup-sequence command.

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AUTO-BREAK Function	OFF
AUTO-DATE Function	OFF
AUTO-PASSWORD Function	OFF
AUTO-MACRO Function	ON

The Amiga follows the normal startup procedures, executes the s/startup-sequence and TimeSaver puts the Commands from the selected Auto-Macro in the Active CLI window as tasks to be processed.

AUTO-BREAK Function	ON
AUTO-DATE Function	OFF
AUTO-PASSWORD Function	OFF
AUTO-MACRO Function	ON

TimeSaver Issues the Break instruction, executes the Commands in the selected Auto Macro, but does not execute the s/startup-sequence command. Whenever both the AUTO-BREAK Function and AUTO-MACRO Function are on, TimeSaver will not issue the execute s/startup-sequence command! This allows you the option of bypassing the s/startup-sequence or making the 'execute s/startup-sequence' command the last command in your Macro, you can continue and execute it.

AUTO-BREAK Function	OFF
AUTO-DATE Function	ON
AUTO-PASSWORD Function	OFF
AUTO-MACRO Function	ON

The Amiga follows the normal startup procedures, executes the s/startup-sequence and TimeSaver puts the Date Command and the Commands from the selected Auto-Macro in the Active CLI window as tasks to be processed.

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AUTO-BREAK Function	ON
AUTO-DATE Function	ON
AUTO-PASSWORD Function	OFF
AUTO-MACRO Function	ON

TimeSaver Issues the Break instruction, then executes the Date Command and Commands in the selected Auto Macro, but does not execute the s/startup-sequence command.

AUTO-BREAK Function	OFF
AUTO-DATE Function	OFF
AUTO-PASSWORD Function	ON
AUTO-MACRO Function	ON

The Amiga follows the normal startup procedures, executes the s/startup-sequence, TimeSaver requests the Password and prevents any keyboard access until the correct code is entered and ONLY AFTER the password is entered does TimeSaver put the Commands from the selected Auto-Macro in the Active CLI window as tasks to be processed.

AUTO-BREAK Function	ON
AUTO-DATE Function	OFF
AUTO-PASSWORD Function	ON
AUTO-MACRO Function	ON

TimeSaver Issues the Break instruction, then TimeSaver requests the Password and prevents any keyboard access until the correct code is entered and ONLY AFTER the password is entered does TimeSaver execute the Commands in the selected Auto Macro, and again TimeSaver does not execute the s/startup-sequence.

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AUTO-BREAK Function	OFF
AUTO-DATE Function	ON
AUTO-PASSWORD Function	ON
AUTO-MACRO Function	ON

The Amiga follows the normal startup procedures, executes the s/startup-sequence, TimeSaver puts the Date Command in the Active CLI window as a task to be processed. TimeSaver requests the Password and prevents any keyboard access until the correct code is entered and ONLY AFTER the password is entered does TimeSaver put the Commands from the selected Auto-Macro in the Active CLI window as tasks to be processed.

AUTO-BREAK Function	ON
AUTO-DATE Function	ON
AUTO-PASSWORD Function	ON
AUTO-MACRO Function	ON

TimeSaver Issues the Break instruction, then executes the Date Command, then TimeSaver requests the Password and prevents any keyboard access until the correct code is entered and ONLY AFTER the password is entered does TimeSaver execute Commands in the selected Auto Macro, and again TimeSaver does not execute the s/startup-sequence.

The above list shows the interactions of the four TimeSaver AUTO Functions, and how they interact with your Amiga during the normal start-up of your system. Armed with this information you should be able to custom design a system startup that exactly meets your needs.

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Normal Operations

In action TimeSaver receives data from the keyboard, processes it and sends it on to the Amiga. The Amiga is able to send, and TimeSaver is also able to receive data from the Amiga, but other than sending some very basic reset information, the Amiga does not (during normal operation) send any information to the keyboard that can be used by the TimeSaver.

It is important to remember that the keyboard sends information to the Amiga as single bytes of data that indicate key-down and key-up actions. When a key is pressed, the keyboard sends a byte of data to the Amiga that indicates that a specific key is now down. When the key is released, the keyboard sends a byte of data to the Amiga that indicates that a specific key has been released. Much of how TimeSaver works in certain situations is determined by this design.

As stated earlier, TimeSaver processes all information passed between the keyboard and your Amiga. In its NORMAL CONDITION, all key-up and key-down data is compared against the keys TimeSaver is programmed to act on. (These are HELP, CTRL, LEFT-ALT, LEFT-Amiga, RIGHT-Amiga, RIGHT-ALT and RIGHT-SHIFT and we will call them ACTION Keys.) If the data does not indicate a key-down action of one of these keys, the data is simply sent to the Amiga and TimeSaver remains in its NORMAL CONDITION. If the data indicates a key-down for an ACTION key, TimeSaver places that byte of data in temporary storage and does not send it to the Amiga. TimeSaver is now in what we call its ACTION CONDITION.

Now in the ACTION CONDITION, with the one byte of data (the Action key-down) stored, the

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next byte of data TimeSaver receives will cause one of three possible actions. First, if it is the ACTION key-up, TimeSaver sends the stored byte (ACTION Key-down), clears the stored data, sends the ACTION key-up and returns to its NORMAL CONDITION.

Second, if TimeSaver gets a key-down, that in combination with the stored ACTION key matches an existing Macro Initiator, TimeSaver executes the Macro, retains the stored Action key in memory and rather than returning to its NORMAL CONDITION, it is still in the ACTION CONDITION, waiting for the next byte with all three options still available.

The Third possible action that can be taken from the ACTION CONDITION, is triggered if TimeSaver gets a key-down, that in combination with the stored ACTION key does not match an existing Macro Initiator. TimeSaver breaks out of the ACTION CONDITION, sends the stored byte (the Action key-down) to the Amiga, clears the temporary storage area, sends the just received key-down byte to the Amiga and returns to the NORMAL CONDITION.

The above system provides for some unusual conditions to exist. For example, If you press and hold any TimeSaver Action key and then press two (or more) other keys that activate Macros, before releasing the TimeSaver ACTION key, TimeSaver will continue executing Macros until you release the Action key, or hit a key that doesn't match a Macro. It also allows you to send any key combination to the Amiga, even one that would normally be acted on as a TimeSaver Macro, without interception by TimeSaver, as long as you execute a 'dummy' (non-Macro) key stroke first. (See Helpful Hints, Eliminating Conflicts for examples of the use of this oddity.)

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Operating in the CLI Edit/History Mode

As you have learned earlier in this manual, the CLI Edit/History Mode is activated by pressing the **HELP + UP-ARROW** keys. The CLI Edit/History Mode can be used with programs other than the Amiga's CLI, but that is the program we designed it to be used with so this section will reference the interactions between TimeSaver and your Amiga while in the CLI environment. The Amiga's CLI leaves a lot to be desired in terms of ease of use. CLI is a very basic program with lots of limitations. TimeSaver does its best to provide an easier to use environment, but it still must work within the limitations placed on it by CLI.

TimeSaver saves all of the keys you enter in an area in its own RAM Memory called the History Buffer. When you enter the CLI Edit/History Mode, the first thing TimeSaver does is look in that History Buffer to see if the current line you are on has information on it or if it is an empty line. Basically TimeSaver considers a **<RETURN>** to mean end the current line and start a new line. So, if the most recent key pressed was the **<RETURN>** key, TimeSaver takes this to mean that the current line contains no new information (ie: is empty). TimeSaver also tries to keep track of the cursor position on the line and in most cases using the backspace key to delete the contents of a line will also cause TimeSaver to recognize the line as an empty line. TimeSaver will get confused if you use the **CTRL + X** key to clear the line, or if you hold down the BackSpace key and use the Amiga's auto-repeat feature to delete the characters from the line.

If TimeSaver determines that the current line is has no information to edit, TimeSaver reasons that you want to use the CLI History. TimeSaver

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will switch to the Edit Mode and re-print the last line entered stored in the History Buffer. (NOTE: Remember that TimeSaver considers everything between <RETURN> characters to be one line.)

If, however, TimeSaver finds that there is information on the current line, TimeSaver assumes you want to Edit this information. TimeSaver then clears the current line, switches to the Edit Mode and re-prints the current line.

In both cases above it is stated that 'TimeSaver switches to the Edit Mode'. What exactly is the Edit Mode? Since there is no way that CLI recognizes any cursor movement commands TimeSaver must supply an environment wherein CLI will allow TimeSaver to edit a line, but CLI will ignore the result. For example, if you typed the following:

CPY FileA to FileB

Then you noticed that you mis-typed COPY as CPY, and wanted to edit the line. TimeSaver could allow you to move the cursor back to the correct position and insert the required character, but CLI would not recognize the correction. What CLI would see would be:

CPY FileA to FileB	[ESC]	[CSI]	[SHIFT+D]		
[ESC]	[CSI]	[SHIFT+D]	[ESC]	[CSI]	[SHIFT+D]
[ESC]	[CSI]	[SHIFT+D]	[ESC]	[CSI]	[SHIFT+D]
[ESC]	[CSI]	[SHIFT+D]	[ESC]	[CSI]	[SHIFT+D]
[ESC]	[CSI]	[SHIFT+D]	[ESC]	[CSI]	[SHIFT+D]
[ESC]	[CSI]	[SHIFT+D]	[ESC]	[CSI]	[SHIFT+D]
[ESC]	[CSI]	[SHIFT+D]	[ESC]	[CSI]	[SHIFT+D]
[ESC]	[CSI]	[SHIFT+D]	[ESC]	[CSI]	[SHIFT+D]
[ESC]	[CSI]	[SHIFT+D]	[ESC]	[CSI]	[SHIFT+D]
o <RETURN>					

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NOTE: [ESC] [CSI] [SHIFT+D] is the Amiga screen code to move back one character. To try it type some characters, then press and release the ESC key, press and release the [key, then press SHIFT+D. The cursor should go backwards one character.

CLI's limited editing would see exactly those characters represented above, which to CLI would be meaningless and result in a 'COMMAND NOT RECOGNIZED' error Message from CLI. So TimeSaver can't simply allow you to edit the line, TimeSaver must provide a way to make CLI recognize the corrected version of the line as well.

To allow editing, TimeSaver prints a semi-colon (;) at the beginning of every line and then prints the information to be edited. In normal CLI operation, CLI does not process any information that follows a semi-colon, so you now have an environment wherein you can edit a line without creating a mass of error conditions.

The next problem is getting CLI to recognize the edited line. While you and TimeSaver edit the line on the screen, TimeSaver builds a copy of the line (in its edit form) within its History Buffer. When you complete the edit and press <RETURN>, TimeSaver adds a <RETURN> character to the end of the edited line on the screen which causes CLI to process the line on the screen (since the entire line is preceded with a semi-colon, the contents of the line are ignored by CLI) and issue a new line command. TimeSaver also adds a <RETURN> character to the end of the edited version of the line it has been building in its History Buffer and then re-prints the edited version of the line (without the leading semi-colon) on the new CLI line on the screen. Cli sees this new line in its edit form (without all

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of the garbage characters) as an executable line and (if your edited line is correct) processes it.

There are three things we would like to do (or do better) in the Edit Mode, but as of yet haven't resolved the associated problems. First, as you saw in the example, moving the cursor back one space requires three characters (ESC, [and D) for every cursor left movement. But, CLI has a 255 character line limit, when CLI gets 255 characters it simply STOPS. To overcome this limitation TimeSaver keeps a count of the actual number of characters CLI has in its line count. When CLI's line gets full, TimeSaver sends a <RETURN> character to end the line and start a new line, then TimeSaver re-prints the edited version of the line and lets you start editing again with a clean slate. This may seem a bit awkward, but it was the best system we could come up with. We don't think this will happen very often, 255 characters is a lot, but if you enter a lot of long file names and directory paths, it can.

The second and third limitations are related. TimeSaver's Edit Mode does not process non-printing characters. So if you have a line that has an imbedded ESC or CTRL character, it will not work properly when Edited or when issued by the CLI History Mode. TimeSaver stores ONLY printable ASCII characters in the History Buffer and only works with printable ASCII characters in the CLI Edit/History Mode. This causes a third condition, that is, when you are in the Edit Mode TimeSaver's Macro Keys don't work!

There is also one other situation that can come up. This involves the Amiga's auto-repeat of keys held down for more than a second or so. Since the timing for the auto-repeat function of the Amiga is set in the preferences program, and

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is totally up to the user, it is impossible for TimeSaver to know that it is ON or how long the delay is or even how rapidly the characters are repeated. TimeSaver simply ignores the Amiga's auto-repeat and treats every keystroke as one single keystroke no matter how long it is held. For example if you typed:

```
TYPE > PRT: "*****"
```

using the auto-repeat to make the repeated *'s, and then asked TimeSaver's CLI Edit/History Mode to recall the line you would get

```
;TYPE > PRT: "***"
```

printed to your Screen. For this same reason, TimeSaver does not provide any auto-repeat functions in any of its operating modes.

We are working on all of these situations and if we find any better techniques, we will incorporate them into the next software revision. If you have any feedback in this area, or notice a problem we haven't discussed, please write us a note and let us know.

The CLI Edit/History Mode also provides for the recall of the most recently issued commands. These commands are stored in the History Buffer which can contain about 1,000 characters of data. A command is defined to mean the information between two <RETURN> characters. If a command exceeds 255 characters, TimeSaver simply stops saving data at the 254th character and ignores the rest. TimeSaver allows you to turn ON and OFF the storage to the History Buffer by using the HELP + SHIFT-9 (for OFF) and HELP + 9 (for ON) keys. This is a very useful if you switch between CLI and another program. For example entering a

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couple of paragraphs of text into your Word Processor could quickly fill up the History Buffer so turning the History Buffer OFF will allow more CLI commands to be stored.

After starting the CLI Edit/History Mode with the **HELP + UP-ARROW** keys you can use the **UP-ARROW** and **DOWN-ARROW** keys to scroll through the commands stored in the History Buffer. Pressing the **UP-ARROW** key will move you back through the stored commands until you get to the oldest command stored in the History Buffer, at that point, TimeSaver will loop back to the most recent command in the History Buffer and start moving backward again. The **DOWN-ARROW** key moves you toward the most recent command, but the **DOWN-ARROW** key does not loop like the **UP-ARROW** key. When you get to the most recent command stored in the History Buffer all additional **DOWN-ARROW** keystrokes will be ignored.

Helpful Hints.

Resolving Macro Key Conflicts

It always seems that no matter how much time is devoted to designing Macro Initiators so that they don't conflict with key combinations used within applications programs, some company releases a hot new program that uses the same key combinations you did. Earlier in this manual we said that you can turn off the Macro keys (or turn off TimeSaver itself) to get around this problem. This will work, but it is a brute force solution to the problem and it eliminates your use of the TimeSaver's functions while they are turned off. There is a much more elegant solution:

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TimeSaver was designed so it could be put into a mode in which it would pass any key combination through to the Amiga, even if that key combination was a legitimate Macro Initiator. An explanation of this design is in the Theory of Operations section (Normal Operations), but here is a simple explanation and an good example.

A simple explanation is if you press and hold down a TimeSaver ACTION key, as long as you keep pressing keys that combine with that ACTION key to make Macros that you have stored in your TimeSaver then TimeSaver will keep on executing those Macros, but as soon as you press a key that TimeSaver does not have stored as a Macro Initiator, then TimeSaver switches to a different mode where it passes through to your Amiga that key and ALL additional keys pressed AS LONG AS THE ACTION KEY IS HELD DOWN. So, even if the first key you pressed while holding down an Action key did not match any of your Macro Initiators, it and all subsequent keys pressed while holding down that Action key would not be processed by your TimeSaver, but would be sent directly to your Amiga.

Normally, you would want to use a 'dummy' key combination that does nothing when sent to your Amiga. The LEFT and RIGHT SHIFT keys are usually perfect for this purpose. We call them 'DO NOTHING' keys, 'cause that's exactly what they do.

For example: you have a TimeSaver Macro linked to the key combination RIGHT-Amiga + B and defined as Bill Boyer and you also have nothing assigned to the RIGHT-Amiga + LEFT-SHIFT key combination. You are typing a letter with TextCraft. TextCraft uses the RIGHT-Amiga + B keys to initialize BOLD printing, so there would normally be a conflict. TimeSaver makes this an

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easy problem to deal with, to use the TimeSaver Macro RIGHT-Amiga + B to print Bill Boyer just press the RIGHT-Amiga + B, no problem. To use the TextCraft RIGHT-Amiga + B to turn on BOLD printing, PRESS and HOLD the RIGHT-Amiga Key, then PRESS and RELEASE the RIGHT-SHIFT key (which does nothing with TimeSaver because you have no Macro assigned to that key combination, and also does nothing in TextCraft because TextCraft doesn't use RIGHT-Amiga + LEFT-SHIFT for anything either), THEN PRESS and RELEASE THE B KEY and THEN RELEASE THE RIGHT-Amiga key. You are now in the TextCraft BOLD PRINTING mode.

The secret here is to always reserve one 'DO NOTHING' key (often called a NULL key) combination so you can 'sneak' past TimeSaver whenever you need to. It seems that the RIGHT-SHIFT key is perfect for this purpose, so we never use the RIGHT-SHIFT key in any Macro Initiators.

This solution only requires one extra (easily remembered) keystroke and resolves the problem without requiring you to turn on and/or off any TimeSaver functions.

Using a TimeSaver Macro as a Safety Net

Though we would like to believe otherwise, some programs and some Amigas seem to crash once in a while. Most software vendors warn users to store their data often, but what about the stuff you entered since the last time you 'saved' the file. How about this scenario:

John is building a spreadsheet with Analyze! to forecast his company's sales, and John has a TimeSaver. First John loads Analyze! and then

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loads the partially complete spreadsheet he was working on last night. John now moves through the worksheet until he gets to the point where he wants to start entering new information. Now John does an unusual thing, he presses the HELP + 6 keys, the HELP + F1 keys, and then the RIGHT-SHIFT + ESC keys. Now John starts entering data into the worksheet, but he carefully avoids using the mouse, instead, using the keyboard equivalent of the mouse commands. He also avoids using the auto-repeat keys, by pressing the keys one at a time. Every ten minutes or so John (as recommended) saves his worksheet, but before entering any new data, he presses the HELP key, then he presses HELP + F2, then RIGHT-SHIFT + ESC, then HELP + F1, and the RIGHT-SHIFT + ESC again. Is John crazy? No, John is just worried about the electrical storm brewing to the west and wants to be sure he isn't wasting his time.

What John has done is to use TimeSaver's Macro Function LEARN MODE as a temporary memory for all the changes he makes to his worksheet. If his power goes out he simply presses the HELP key (which stores the keystrokes issued up to that point as the Macro Definition for the Macro Initiator RIGHT-SHIFT + ESC), re-loads Analyze! and his worksheet, then he moves to the cell he started entering data in. Now John executes the TimeSaver Macro RIGHT-SHIFT+ ESC and watches while TimeSaver re-creates his worksheet.

In preparation for this, John uses only a few Macros, reserving as much of the TimeSaver's memory as possible for the one Super Macro (RIGHT-SHIFT + ESC) that he uses to protect himself against the perils of the Amiga. In most cases you can define a reasonable number of Macros and still have two to three thousand characters of storage available.

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Keep a Place to Go to Play

We have found it easier to use TimeSaver if you always leave an operational CLI window open. Until you learn TimeSaver well enough to use it with the SCREEN ECHO OFF, an open CLI window gives you a place to go to check TimeSaver's status and to create Macros without dumping un-wanted letters all over the project you are working on.

Keeping Track of RAM Memory Availability

Though TimeSaver supplies an approximate value for the amount of memory available (the HELP + F6 key) it may not be accurate enough for some. C Ltd provides a TimeSaver Quick Reference Sheet for you to keep track of the RAM Macros that you create. We have found it also is a handy place to keep track of the amount of RAM left available as well. After you store a Macro, and list it on the Quick Reference Sheet, list its size and a running total of the memory used as well. Each Macro uses four bytes of TimeSaver system information, two bytes for the Macro Initiator and one byte for each key-down or key-up action. For example:

```
[HELP + F1]
enter two keys
[ALT + E]
;Ed<RETURN>
;[HELP]
```

would require fourteen bytes, four system bytes + two bytes for [ALT + E] + eight bytes for Shift-down, E-down, E-up, Shift-up, D-down, D-up, <RETURN>-down and <RETURN>-up.

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Instant s/startup-sequences

Most of the times you startup or re-boot your Amiga you know what you are planning to do with it during the session. Usually you do similar things, but not always. An easy timesaver is to have several series of commands (just like the script files in your s/startup-sequence) stored as Macros. Each of these Macros would then be set-up to get you to a specific environment (like word processing, 'C' programming, etc.) and you could either assign them to the AUTO-MACRO Function as needed, or issue them directly from the keyboard.

Quicker s/startup-sequences

Most of the time your Amiga will execute an AUTO-MACRO containing your s/startup-sequence commands faster than it will the same commands in a normal s/startup-sequence disk file.

Make a 'Cheat Sheet'

An aid to help you learn how to use TimeSaver with the SCREEN ECHO OFF is easy to make. Set the SCREEN ECHO ON type 'copy * to PRT: <RETURN>' then type the function you want to use and its key codes, for example:

Create New Macro: [HELP + F1] <RETURN>

Now use the function to create a Macro as you normally would, and when you are done, press [CTRL + \]. This procedure will create a print-out of the prompts supplied by TimeSaver so you can use this print-out as a guide when using the function with the SCREEN ECHO OFF. Your print-out should look like this:

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Create New Macro: [HELP + F1] <RETURN>

;enter 2 keys
;Macro Definition
;entered

TimeSaver Saves More.

If you take the package TimeSaver came in, and carefully cut a one inch slot in one of the plastic end pieces, it will make a very attractive and novel Piggy-Bank that will allow you to save more than just time!

Trouble ?

If you have one of the problems listed below following the steps listed for that problem will in most cases get you on the right track. If the solution listed doesn't work, or if your problem isn't listed here, call our Customer Service line (listed at the top of every page in this manual) and let us know.

I just got it hooked up and it doesn't work:

Be sure all connections are correct.

Press HELP + 0, then HELP + 6, then press the <RETURN> key five times. Now press Amiga-Amiga-CTRL to re-boot your Amiga.

If you get a prompt that says ';enter code' then someone has set the PASSWORD function on and you should see the solution to the problem 'I forgot my Password'.

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If your keyboard seems locked-up then someone has set the PASSWORD function on AND turned the SCREEN ECHO OFF and you should see the solution to the problem 'I forgot my Password'.

If nothing seems to help, the battery may be dead, so see the section on replacing the TimeSaver's Battery.

It was working fine but it just died:

TimeSaver may be turned OFF, press HELP + 0 to turn it back on.

The SCREEN ECHO might be OFF, Press HELP + 6 to turn it back on.

Your PASSWORD may be on and you missed the prompt, or the SCREEN ECHO may be OFF so you can't see the prompt. Enter your PASSWORD <RETURN>, enter your PASSWORD <RETURN> again, enter your PASSWORD <RETURN> again, enter your PASSWORD <RETURN> again. This will assure that your password has been entered at least once. Now press HELP + 6 to turn SCREEN ECHO ON.

Press Amiga-Amiga-CTRL to re-boot your Amiga and reset TimeSaver.

Your Battery might be dead, see the section on changing TimeSaver's Battery.

The AUTO-DATE Function doesn't seem to set the date in my Amiga properly:

You are probably using an s/startup-sequence that ends up with the ENDCLI statement. Turn

the AUTO-BREAK Function ON. (See start-up events for an explanation of the problem.)

The Start-up Delay may be set at too small a value, use the Set Start-up Delay Function to increase the delay on Start-up. (See start-up events for an explanation of this problem.)

It is also possible that you might have accidentally defeated the AUTO-DATE function by taking too long to insert your Amiga WorkBench disk on initial power-up or re-boot of your system, but you can still set the correct time and date in your Amiga by either re-booting your system (by pressing LEFT-AMIGA + RIGHT-AMIGA + CTRL) or by pressing the HELP + F5 keys at any CLI prompt.

The commands in my AUTO-MACRO are being ignored:

You are probably using an s/startup-sequence that ends up with the ENDCLI statement. Turn the AUTO-BREAK Function ON. (See start-up events for an explanation of the problem.)

The Start-up Delay may be set at too small a value, use the Set Start-up Delay Function to increase the delay on Start-up. (See start-up events for an explanation of this problem.)

The AUTO-BREAK Function doesn't work:

The Start-up Delay may be set at too small a value, use the Set Start-up Delay Function to increase the delay on Start-up. (See start-up events for an explanation of this problem.)

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My keyboard is locked-up:

Press the BackSpace key several times and press <RETURN>

Press CTRL-H, CTRL-J, CTRL-M and CTRL-L.

I forgot my PASSWORD:

If you truly have forgotten your PASSWORD, there is only one answer. You will have to erase all data now stored in TimeSaver's RAM and reset TimeSaver to its default factory preset condition. This will reset the PASSWORD to the default PASSWORD CLTD. To do this you must remove all power from your TimeSaver. See the section on Normal Battery Replacement for instructions.

I can't use the RIGHT-SHIFT key to select multiple Icons in my WorkBench Window:

You are absolutely correct, it will not work! So, use the LEFT-SHIFT key instead.

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Maintenance of your TimeSaver.

Most maintenance on the TimeSaver is reasonably simple, but before doing so please take the following basic precautions that should be taken when dealing with any electronic circuitry:

1. ALWAYS turn off your computer and all devices (like printers etc.) that are attached to it before attempting to plug-in or un-plug anything from your system.
2. Eliminate any static electricity built up in your body by touching anything metal (except for your Amiga or your Hard Drive) that is grounded.
3. If Possible, reduce the chances of static build up by working in an un-carpeted area or on a grounded anti static mat. (You could also use anti-static spray in carpeted areas, and don't forget to spray your clothes. By the way, more that one kitty-cat has wound up homeless as a result of being a very excellent source of static electricity!)

NOTE: One part Downy fabric softener to seven parts water in a spray bottle will make an excellent anti-static agent. [Ed]

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Changing the TimeSaver's internal battery.

TimeSaver's internal battery is a 3 Volt Lithium battery (Part # BR 2325) made by Ray-O-Vac as well as several other companies. Use ONLY a direct replacement. Use of other than a 3 Volt Lithium Battery will VOID your Guarantee.

Normally battery replacement will cause the loss of all stored information, and reset the TimeSaver to its factory pre-set startup condition. Though it is possible to replace the TimeSaver's battery without losing any stored data, the procedure is not fail-safe. In most cases you will be replacing the battery after it has gone dead and all memory has been lost anyway. In other cases (such as a forgotten PASSWORD) you may want or need to erase all of the TimeSaver's memory. So, for these situations, the normal battery replacement procedure will be covered first:

Normal Battery Replacement

1. Turn off your Amiga.
2. Disconnect the two cables from TimeSaver.
3. Remove TimeSaver's cover by gently prying it off with a small flat blade screwdriver.
4. Locate the battery, and replace it.
5. Replace the TimeSaver's cover.
6. Re-install the TimeSaver as per the instructions in this manual for initial installation.

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Battery Replacement preserving TimeSaver's memory.

1. Turn off your Amiga.
2. Disconnect the two cables from TimeSaver.
3. Remove TimeSaver's cover by gently prying it off with a small flat blade screwdriver.
4. Re-connect the two cables to TimeSaver.
5. Turn your Amiga on.
6. Locate the battery, and replace it.
7. Turn your Amiga off.
8. Disconnect the two cables from TimeSaver.
9. Replace the TimeSaver's cover.
10. Re-install TimeSaver per the instructions in this manual for initial installation.

Installing new EPROMS.

As stated earlier, TimeSaver's program is stored on an Erasable Programmable Read Only Memory chip called an EPROM. If any updates are made to TimeSaver's programming, you will need to replace the EPROM that contains the program with one containing the new one. (If you prefer not to change the EPROM yourself, C Ltd will replace it for you at no charge other than the postage and insurance to get the TimeSaver to and from C Ltd.) To replace the TimeSaver's EPROM, first read and heed the basic precautions that should be taken when dealing with any electronic circuitry listed at the beginning of this section. Then:

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1. Turn off your Amiga.
2. Disconnect the two cables from TimeSaver.
3. Remove TimeSaver's cover by gently prying it off with a small flat blade screwdriver.
4. Separate the two TimeSaver circuit boards, and being careful not to touch the contacts on the solder side of the top board, set it aside on a non-conductive surface.
5. On the bottom circuit board, locate the EPROM, it is the IC chip farthest away from the two cable connectors and is the only 28 pin IC on the bottom board.
6. Remove the EPROM using a small flat blade screwdriver to pry the chip out of its socket.
7. Install the replacement EPROM with the notch on the chip pointing toward the center of the circuit board, being careful not to bend any of the pins and making sure that all of the pins are properly seated in the socket.
8. Replace the top circuit board, making sure that all of the pins are properly seated in the socket.
9. Replace the TimeSaver's cover.
10. Re-install the TimeSaver as per the instructions in this manual for initial installation.

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