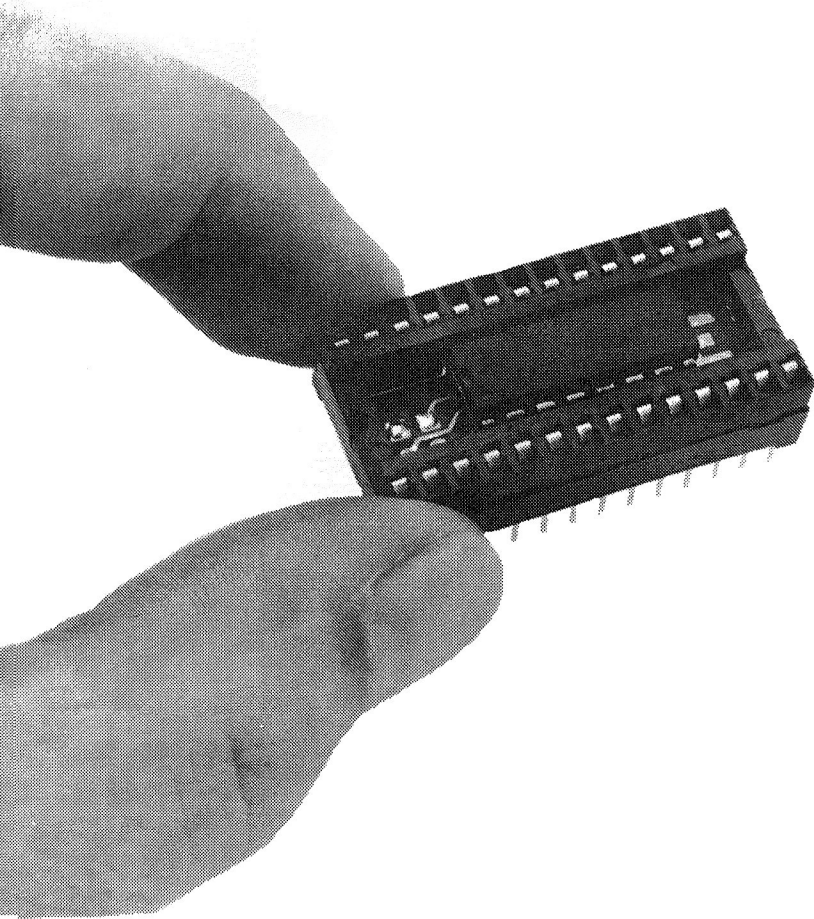


# The NO SLOT CLOCK



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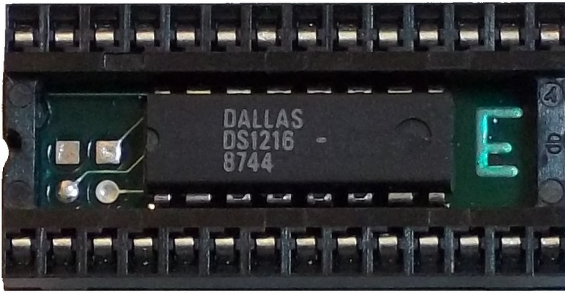


Photo courtesy of Dr. Kenneth Buchholz  
[www.Apple2Online.com](http://www.Apple2Online.com)

**ATTENTION:  
READ THIS CAREFULLY**

**This manual will answer most questions that you may have. Read and follow the instructions completely.**

**Please make every attempt to install the clock using this guide. Do not call for tech support unless you have first followed all instructions.**

**If you have followed the instructions and still are unable to properly install the NO SLOT CLOCK, call customer support.**

Thank you for choosing the NO SLOT CLOCK from SMT Peripherals, Ltd. Our customers are very important to us and we hope that you are completely satisfied with this and all our products!

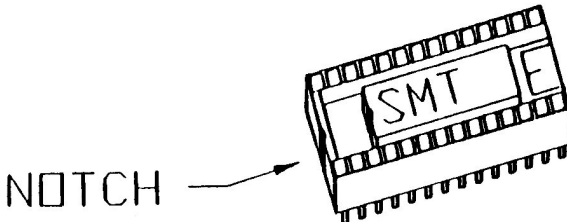
The NO SLOT CLOCK was designed to be installed in virtually any computer. It provides time keeping for the year, month, date, hour, minute, second and hundredth of seconds. The clock automatically adjusts for leap years and months with less than 31 days . The NO SLOT CLOCK contains two lithium power cells that can allow the clock to maintain time in excess of ten years!

## Section 1

### INSTALLING THE NO SLOT CLOCK

Before installing the NO SLOT CLOCK, please inspect the clock chip and take note that the pins are extremely fragile. Unfortunately it's necessary for these pins to be this thin, so please take special care when handling and installing the NO SLOT CLOCK. **If you break the pins, you void your warranty!** (However, clocks with broken pins can be made to work. You will be shown how in the trouble shooting section of this manual).

Now that you are inspecting the NO SLOT CLOCK, take notice of the notch that is on one end of the clock (refer to the following illustration). This notch must be matched to the notch of any socket or chip that the clock is installed into. Failure to do so may result in damage to your computer or



ROM bios chip. SMT Peripherals is not responsible for any damage caused by installation.

### Installation guide for IBM Compatibles

1. Turn off your computer. Clear all liquids and debris from your working area. Remove the cover from your computer.
2. Locate the 28 pin ROM sockets on the main computer board. Generally, the ROM sockets can be found in the center of the board adjacent to the RAM chips. (Look to the trouble shooting guide of Section 1 for the list of known ROM locations. The list will also give you a guide to use in determining the best place to install the NO SLOT CLOCK in any clone).

3. Your computer may have several ROM sockets to choose from. If possible, select an empty socket and proceed to step #4. If all ROM sockets are occupied, proceed to step #5.
4. Carefully install the clock into the empty ROM socket. Make sure that the notch on the clock is going in the same direction as the notch of the socket. Proceed to #6.
5. If you must install the NO SLOT CLOCK into an occupied ROM socket, carefully remove the ROM bios chip from it's socket. Use either a flat blade screwdriver or an I.C. puller to gently remove the bios chip. When the bios chip is removed, install it on top of the NO SLOT CLOCK. Make sure the notch of the clock and bios chip are matched together.
6. Put the NO SLOT CLOCK and bios chip back into the ROM socket with the notch of the chips matched to the notch of the socket.
7. The physical installation is complete, now you must attempt the software installation.

There are two command files on the NO SLOT CLOCK utility disk. The command *clkinit.com* initializes the time into the clock, the command *xtclock.com* calls the time from the clock and puts it into DOS.

To set the time and date into the NO SLOT CLOCK, turn the computer on and set the system date and time using the DOS commands (*type time and enter the correct time, type date and enter the correct date*). Next enter the command **CLKINIT.COM** from the NO SLOT CLOCK utility diskette.

If the response is:

**No Slot Clock NOT FOUND**

You must repeat the previous installation steps, except choose a different location for the clock. (*If there is a "Speed-Up" type board or cache memory type board installed in the computer, please refer to the trouble-shooting section of this manual*).

If the response is:

**Setting the No Slot Clock to Match Date and Time**

You have found a good location for the clock and have set the time and date in the clock. Next you must ammend the

autoexec.bat file of your boot disk to include the command XTCLOCK.COM

## AMMENDING THE AUTOEXEC FILE

It is absolutely necessary to enter the command XTCLOCK.COM in the autoexec.bat file of your boot disk. Without this command, your system will not automatically update the date and time. If you know how to ammend an autoexec.bat file, please do so now. Include in the file the XTCLOCK.COM from the NO SLOT CLOCK utility diskette. If you don't know how to ammend the file, follow the instructions below.

1. Remove the write protect tab from the boot diskette and place it in the drive. Type and enter the statement: TYPE AUTOEXEC.BAT

This command will list out the autoexec.bat file. If a file is not listed, go to step #2. If a file is listed type and enter the statement:

```
COPY AUTOEXEC.BAT+CON
```

At the cursor, type and enter XTCLOCK.COM

Next, hit the F6 key. (You should see a ^ Z on the screen). Hit the Enter key. The message 1 file(s) copied is displayed on the screen.

2. If the autoexec.bat file is not listed when you type and enter TYPE AUTOEXEC.BAT you must create one. Type and enter the statement:

```
COPY CON AUTOEXEC.BAT
```

At the cursor, type and enter XTCLOCK.COM

Next hit the F6 key. (You should see a ^ Z on the screen) Hit the Enter key. The message 1 file(s) copied is displayed on the screen.

3. You must now copy the XTCLOCK.COM from the utility diskette to the boot floppy. The ammended autoexec.bat will only work if this command is on the boot disk. Finally, after copying the XTCLOCK.COM to the boot floppy, place the write protect tab back on the boot diskette.

To ammend the autoexec.bat file on your hard disk simply follow the previous steps except do them from the root directory of the C drive. ( C:\ ) Place the XTCLOCK.COM command toward the top of the autoexec.bat file. Copy the XTCLOCK.COM file from the utility diskette, to the C:\

## **TROUBLE-SHOOTING GUIDE**

### **Where To Install The No Slot Clock**

The following list details the ROM location to install the clock in some computers. This is also a general guide to help you determine the location in most clones.

- Under the Low Bios ROM in clones with a High and Low Bios.
- Under the Odd Bios ROM in clones with an Odd and Even Bios.
- IBM PS/2 Model 25 under the U17 ROM.
- IBM PC/XT under the U19 ROM.
- IBM PC in the only empty 24 Pin ROM location U28. *(Read further in this trouble shooting guide to learn how to modify the No Slot Clock to operate correctly in a 24 Pin ROM socket).*
- TANDY 1000 series, under the High Bit ROM. *(This is opposite most IBM Compatible computers, but it works!)*
- FRANKLIN PC6000 or PC8000 under the U43 ROM.
- For most XT compatibles use the empty ROM socket that is directly next to the ROM Bios chip. If that location does not work, put the clock under the ROM Bios chip.

If you still don't know where to install the clock, refer to the installation instructions and select the most logical location.

## SOLUTIONS TO PROBLEMS YOU MAY ENCOUNTER

**PROBLEM:** Every time the XTCLOCK.COM or CLKINIT.COM is executed the response is "No Slot Clock NOT FOUND"

**SOLUTION:** There are 4 possible reasons for this problem. A) You have the clock installed incorrectly, B) you have some type of "Speed-Up" board in your system, C) you have one of the few computers that will not except the clock on the motherboard, or D) the clock may be defective. (*Although the clocks are good about 99.99% of the time*). If you don't have a "Speed-Up" board, reinstall the clock choosing a different location in the computer. (*The clock can also be installed on a Video Controller or a Hard Drive Controller card*). If you do have a "Speed-Up" board, you need to slow the board down to its slowest setting (*or turn cache RAM off*) while accessing the clock. "Speed-Up" boards usually come with software to manipulate the speed or cache memory. In the autoexec.bat of your computer, first shut off the cache memory (*or slow the board down to its slowest speed*) second, execute the XTCLOCK.COM and finally, turn the cache memory back on (*or speed the board back to its original speed setting*). These three steps must be executed in the order given to allow the clock to operate with the "Speed-Up" board. If you are unsure of the software commands necessary to slow down or speed up the board, please contact the board manufacturer.

**PROBLEM:** The clock loses the time and date every time the computer is booted.

**SOLUTION:** XTCLOCK.COM must be in the autoexec.bat file of the boot disk. You must copy the XTCLOCK.COM file to the root directory of the boot disk. Without this file, the command in the autoexec.bat cannot be executed.

**PROBLEM:** One or more of the pins on the NO SLOT CLOCK were broken during installation.

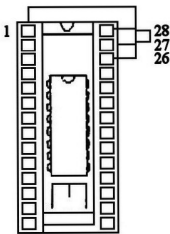
**SOLUTION:** This is fairly easy to overcome. For example let's assume that you have accidently broken pin #1. Take a thin but sturdy piece of wire about 4 inches in length. Plug one end of the wire into the ROM socket location that the broken pin would have gone into and then lay the wire aside. Next install the clock as normal, being very careful not to break any more



pins. After the clock is installed, wrap the wire to the top of the **NO SLOT CLOCK** plugging it into the socket on the clock that corresponds to the broken pin. You have now completed the connection necessary to allow the clock to function as if the pin had never been broken! Make sure that the wire used is thin but sturdy. If you need to piggy-back the ROM Bios on top of the clock, the pin of the ROM chip must share the socket with the wire that you have used to jumper the clock. You can repeat this jumpering for as many pins as necessary!

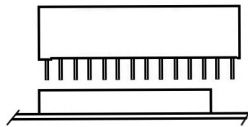
**PROBLEM:** The computer you are attempting to install the **NO SLOT CLOCK** into, has only 24 Pin ROM sockets. (*Like the IBM PC*).

**SOLUTION:** In the following illustration, you will see a diagram explaining how to jumper the **NO SLOT CLOCK** to work in a 24 pin socket. The diagram shows how to jumper by soldering, but you can get the same results by taking 4 jumper wires and plugging one wire into each of the sockets on the clock that correspond to pins #1, 28, 27 and 26. Twist all 4 of



JUMPER PINS 1, 26, 27, & 28  
TOGETHER WITH THIN WIRE

PRESS THE NO-SLOT CLOCK INTO  
THE 24 PIN SOCKET WITH PINS  
1, 2, 27 & 28 HANGING BEYOND  
PIN ONE OF THE SOCKET.



the wires together thus completing the jumpering. **Avoid soldering, it voids your warranty!** When you install the clock into the 24 pin socket, overhang pins 1,2,28 and 27.

**PROBLEM:** The **NO SLOT CLOCK** software will find the clock one moment, but not find it another.

**SOLUTION:** There are a few computers on the market that may have this problem. These computers have proprietary addressing of their ROM locations that are somewhat different from the standard established by IBM. Although the computer is an IBM compatible, its address locations are non-standard. You can install the **NO SLOT CLOCK** into a different ROM location or on a controller card. The hard drive controller or the video controller many times will allow the clock to work. Unfortunately, there is nothing else we can do about this problem unless we write a software driver specifically for that computer.

**PROBLEM:** You own a Zenith computer and the date comes up 20 to 80 years advanced.

**SOLUTION:** Believe it or not, the answer to this problem is to take the **XTCLOCK.COM** out of the **autoexec.bat** file. It seems that Zenith's system bios calls up the clock without needing the **XTCLOCK.COM**. So when you execute the **XTCLOCK.COM** it interferes with the system command, throwing the date forward 20 to 80 years. If removing the **XTCLOCK.COM** does not solve the problem, try putting the **NO SLOT CLOCK** in the **ROM 2 (ROM 2 is the high bit ROM)** location and using the **XTCLOCK.COM** in the **autoexec.bat** file as you normally would.

## Section 2

### INSTALLING THE NO SLOT CLOCK INTO AN APPLE II COMPATIBLE

1. Turn off the computer and remove the cover.
2. Touch the power supply to discharge any static build-up you may be carrying.
3. For the older Iie, the clock needs to be installed into the CD ROM location. For the newer Iie, the location is the CF ROM. Look to the troubleshooting section of this manual for the location to install the clock in your particular system.
4. When you have found the location that the clock is to be installed into, remove the ROM chip from the socket. Gently pry first one end of the chip, then the other, using a small, flat

blade screwdriver or a chip puller. Be very careful not to damage this chip in any way.

5. Once the ROM chip is removed from the socket, plug it into the top of the **NO SLOT CLOCK** chip. (*Make sure the notch on the ROM chip is going in the same direction as the notch of the NO SLOT CLOCK.*)

6. Next install these two chips back into the ROM socket of the computer making sure the notch of the **NO SLOT CLOCK** and the ROM chip are in the same direction as the notch of the socket.

7. Next boot the **NO SLOT CLOCK** utility diskette (*be sure to place the label side of the utility diskette down.*)

8. The message "Loading No Slot Utilities" will display on the monitor and then the program takes you into a menu with 4 choices. Select **#1 Configure Diskette**.

9. The next screen gives you 10 choices. Choose **Auto Find**.

10. If the message "**CLOCK NOT FOUND**" appears, you either did not install the clock properly or you have some type of "Speed-Up" board or chip in your computer. If you have a "Speed-Up" board or chip, consult the Apple II trouble-shooting section of this manual.

11. If the message "**CLOCK FOUND**" appears, press C to continue. Next choose the **Set Clock** routine to set the time and date. You must hit the return/enter key after each entry during the **Set Clock** routine.

12. And finally, you must patch every ProDOS boot disk (*floppy or hard*) using the "**Patch A Prodos Disk**" routine on the utility diskette. Without the utility program on the boot disk, you cannot have access to the clock.

## **TROUBLE-SHOOTING GUIDE FOR APPLE II COMPATIBLES**

**Where to Install the NO SLOT CLOCK in an Apple II compatible computer.**

- In the Apple IIe, install the clock under the CD or the CF Rom.

- In the Apple IIc, install the clock under the ROM that is beneath the keyboard.
- In the Apple IIc+, install the clock under the monitor ROM.
- In the Franklin Ace 2100 install the clock in the U2 ROM location.
- In the Laser 128 install the clock under the ROM accessible through the bottom panel
- In other Apple II compatible systems, the NO SLOT CLOCK needs to be installed under the program ROM.

The No Slot Clock can also be installed on some add-on boards. For example, SMT Peripherals manufactures the Envoy, a super serial card, and the Memory Expander, a 1 Mb expander. These boards are equipped with a socket that allows for installation of the clock. Other manufacturers also have ROM sockets on their boards that the clock may be installed into.

## SOLUTIONS TO PROBLEMS YOU MAY ENCOUNTER

**PROBLEM:** You have a "Speed-Up" chip or board and the utility software cannot set the time.

**SOLUTION:** One solution is to take out the speed up device, install and patch the clock, and then reinstall the speed up device. If this does not work, Q Labs, a division of Quality Computers Inc. in Michigan, has developed a software patch to allow the clock and "Speed-Up" devices to operate simultaneously. The cost of the patch is only \$10 and is a guaranteed fix. Call (800) 966-1508.

**PROBLEM:** The clock will not display the time in AppleWorks 3.0.

**SOLUTION:** AppleWorks 3.0 must be accompanied with UltraMacros from Beagle Bros. or SuperPatch from Q Labs

in order to display time. There may also be other patches available. Consult Beagle Bros., your dealer, or Q Labs for help in obtaining a patch.

**PROBLEM:** After the clock is installed in the Laser 128, the metal panel cannot be closed and the computer rests on the system bios chip.

**SOLUTION:** Due to the design of this system there is no other location to install the clock. The best "fix" is to adhere rubber stick-on feet to the bottom of the computer thus elevating it so it does not rest on the bios chip.

**PROBLEM:** The IIC+ cannot find the No Slot Clock.

**SOLUTION:** You must slow the speed of the IIC+ to the slowest setting (*refer to the owners manual for instructions on how to slow the computer*). Once the computer has been slowed, you can set the time and date with the utility diskette. After setting the time and date, you may resume to normal speed.

**PROBLEM:** You are having trouble patching the utility diskette to other programs.

**SOLUTION:** Take a copy of ProDOS that has nothing else on it. Patch the clock utility first, then patch the other program(s). Patching in this order usually clears up any problem.

**PROBLEM:** The clock does not seem to work with the PC Transporter.

**SOLUTION:** The problem lies in the modified ProDOS that the PC Transporter uses. The clock will work in any system that has a PC Transporter, but it will not work with the PC Transporter itself.

