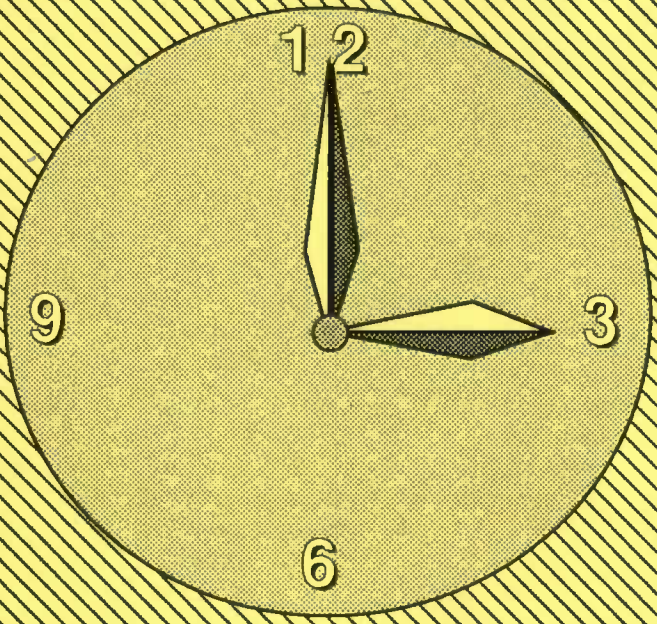
SCRG



Slot #3 Clock

REAL TIME CLOCK CARD
For The Apple //e

Designed By Chuck Shaffer

APPLE COMPUTER INC., makes no warranties, either express or implied, regarding the enclosed computer software package, its merchantibility or its fitness for any particular purpose. The exclusion of implied warranties is not permitted in some states. The above exclusions may not apply to you. This warranty provides you with specific legal rights. There may be other rights that you may have which vary from state to state.

ProDOS, Basic.System, are copyrighted programs of APPLE COMPUTER INC., licensed to Southern California Research Group to distribute for use only in combination with the Slot #3 Clock.

Slot #3 Clock

Table of Contents

1.0 Introduction

The Slot #3 Clock Card is a real time clock card for the Apple //e, enhanced //e, or Apple compatible computer. It's designed for slot #3 of the Apple //e with an 80-column card in the auxiliary slot, but not limited to slot #3. It also provides date stamping of ProDOS files, and support for Applesoft Basic (time string). The Slot #3 Clock was designed for Southern California Research Group by Chuck Shaffer.

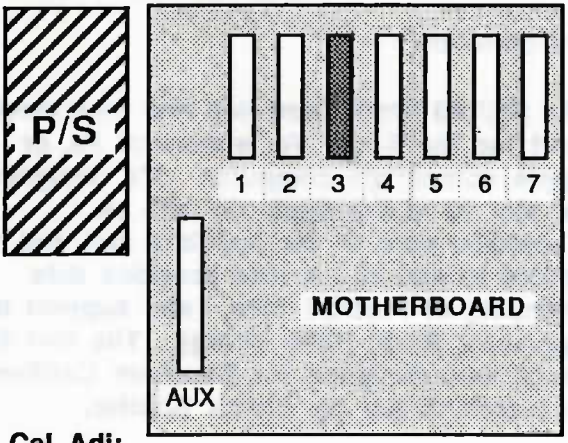
2.0 Installation

The following instructions are designed to aid you with the installation of your very own Slot #3 Clock card.

Warning: Be sure POWER IS OFF before installing your card. Always ground yourself before handling or touching any circuit card. Touch the gold or silver power supply of your Apple // to discharge static electricity from your body.

Installation Sequence:

1) Remove cardboard from the battery clip.
2) Locate slot #3 on the motherboard.
3) Insert the clock card into slot #3 with the components facing the right side of the motherboard.



Cal Adj:

If your Slot #3 Clock runs fast or slow you may carefully adjust the trim capacitor on the card.

3.0 Clock Software

Place the disk in drive one and turn on the computer.

3.1 Setting the Clock

From the main menu select SET CLOCK (Item 1). The program guides you through the sequence. Here are a few points to remember:

1) The time is set based on military format (i.e. 1 PM = 13:00 HRS)
2) Days of Week: 0=Sunday, 6=Saturday
3) Leap Year: Answer "Y" only if between March 1st and February 28th preceding a leap year. This will allow for the addition of one day (i.e. February 29th).

3.2 Installation of Clock Drivers to ProDOS

From the main menu select INSTALL PRODOS (Item 2). The program once again guides you through the sequence.

The boot message of a modified ProDOS will now have a lower case "c" after the revision number (i.e. PRODOS 1.1.1c). If you have an Apple][without lower case, the "c" will show up as a "#".

To install Slot #3 Clock on a Hard Disk, first install it on a 5 1/4 floppy then move it to your Hard Disk with your hard disk utilities.

Some protected software will not allow the installation of the Slot #3 Clock driver.

The install program should work with new revisions of ProDOS.

4.0 Use with ProDOS

ProDOS is a date-stamping operating system. Originally, a driver was built into ProDOS for a real time clock card. The install program calls up the old driver and replaces it with a new driver. The new driver is identified by a lower case "c".

The Slot #3 Clock card supports all date-stamping conventions of ProDOS. All software using the ProDOS GET TIME ($82) Call is fully supported.

5.0 Use with Applesoft Basic

TIME is a binary program that loads at $300 (768) with a length of $AE (174) bytes. The following demonstrates the use of the time string:

```
10  D$ = CHR$ (4)
20  PRINT D$ "BLOAD TIME"
30  CALL 768,A$
40  VTAB (15)
50  PRINT A$
60  GOTO 30
```

In the statement (CALL 768,xx$) 768 is the starting address of the TIME program and xx$ is a string variable assigned by the user.

5.1 Time Format

The time string is returned in the format: W_MO/DD/YY_HH:MI:SS

5.2 MOVE.TIME

MOVE.TIME is a utility for the advanced programer. It allows the user to move the TIME binary program to the area of memory that best suits the user. the program creats a new TIME binary named by the user (CALL address,xx$) address =new starting address.

6.0 Moving Programs to DOS 3.3

The Slot #3 Clock card supports Applesoft under DOS 3.3, but does not support DOS 3.3 date stamping. You may move the programs TIME, SET.CLOCK.3.3 & MOVE.TIME to DOS 3.3 with the ProDOS convert program.

7.0 Battery Replacement

The Slot #3 Clock card has a long life lithium battery with a life expectation of approximately two years. Replace with a 3 volt DL2430 or equivalent.

8.0 Hardware Compatibilty

The Slot #3 Clock shares some of the memory addresses that a card in the auxilary slot uses. For this reason the Slot #3 Clock may not be compatible with other hardware using slot #3 addresses. This card is always addressed as slot #3 even if it's in another slot (1-7).
Shared addresses are:

$C0B0 $C0B2
$C0B1 $C0B3
$C0BE - SET.CLOCK ONLY

Southern California Research Group

POST OFFICE BOX 593
MOORPARK, CALIFORNIA 93020
(805) 529-2082

Slot #3 Clock
Dos 3.3 Addendum

The First thing to do is INIT a DOS 3.3 Disk from the DOS 3.3 System Master. Then transfer the following files using the ProDOS Convert program to the DOS 3.3 disk.

```
DOS.CLOCK
INSTALL
REMOVE
SET.CLOCK.3.3
DOS.DEMO
```

Now boot the disk and run DOS.DEMO. This program installs the DOS 3.3 drivers, saves a file called test, catalogs the disk and displays the time.

DOS 3.3 is supported in two ways by the Slot #3 Clock. first is the Applesoft time string and second is the DOS 3.3 time, date stamp.

1. Applesoft time string.
   To use the time string follow the instructions in the Slot #3 Clock Manual. The CALL 768,T$ returns the string to the assigned variable.

```
10 CALL 768,T$
20 PRINT T$
30 F= FRE(Ø)
40 GOTO 10
```

   Returns the variable T$ in the form: W_MM/DD/YY_HH:MM:SS

   Remember to use the FRE(Ø) Command to Free Memory.

2. DOS 3.3 time, date stamp.
   Once the DOS.CLOCK driver is installed, the system will save the create date, time as part of the file name in the volume table of contents.

```
DISK VOLUME 254

 A 002  TEST                 03/31/86 12:35
 B 002  INSTALL              03/30/86 12:36
 B 002  REMOVE               03/30/86 12:38
 B 002  DOS.CLOCK            03/29/86 14:45
 A 016  SET.CLOCK.3.3        03/29/86 15:31
```

A. File names are now only 15 characters long instead of 30.
B. Time and date are only saved at time of creation so in order to update the time, date you must DELETE the old file before saving the new one: **BE CAREFUL NOT TO DELETE A FILE YOU DO NOT HAVE BACKED UP.**

NOTE:
If you need to INIT a DOS 3.3 disk be sure to BRUN REMOVE before you perform INIT other wise you will have a DOS with clock hooks and no clock driver. After INITing your disk BRUN INSTALL to connect the clock.

SCRG SOUTHERN CALIFORNIA RESEARCH GROUP
P.O. BOX 593
MOORPARK, CA 93021
(805) 529-2082

Enclosed is the new software to update your SLOT 3 CLOCK to work with ProDOS 8.

This disk will boot and run just like always to work on ProDOS 8. If you want to install the old driver in a previous ProDOS, all you have to do (from the main menu) is type

3 EXIT TO PRODOS
-INSTALL.OLD.PRO

That will run the old version of the installer.

BE CAREFUL! This software is not foolproof, and you can install the wrong driver in the ProDOS, so make sure you have the right one.

This disk has a clean copy of ProDOS 8 1.4 on it. If you run the install ProDOS 8 driver on it, you can use filer to copy the updated ProDOS to your new disk.

NOTICE: New ProDOS 8 disks can have either ProDOS 8 or P8 on them. This update program will only update ProDOS 8. If your disk has ~P8, you will have to rename the file prior to updating it. Rename to "Prodos"

This software just became available, so there might be a bug or two in it. Be sure to use it on a back-up of your software, and not the original.

Sorry for the delay, but we hope this update will make the SLOT 3 CLOCK a useful tool.