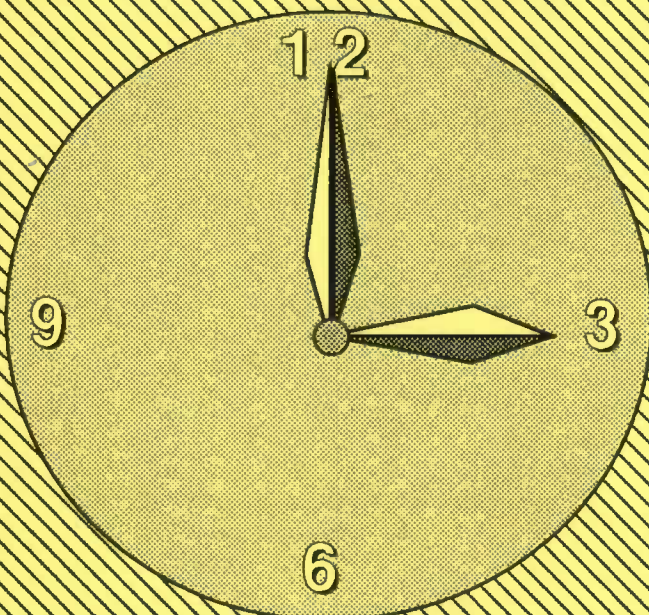


SCRG



Slot #3
Clock

REAL TIME CLOCK CARD
For The Apple //e

Designed By Chuck Shaffer

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Slot #3 Clock

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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.

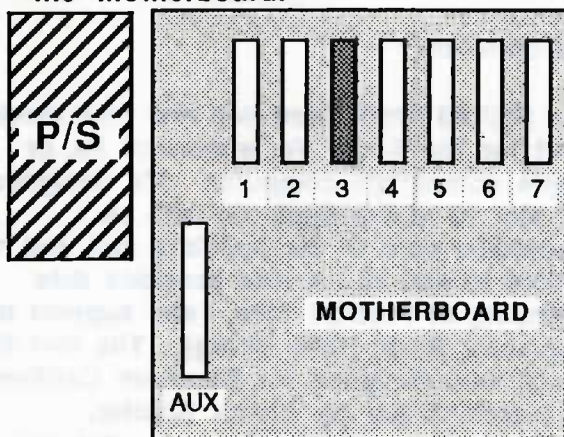
2.0 Installation

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 programmer. It allows the user to move the **TIME** binary program to the area of memory that best suits the user. the program creates 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 Compatibility

The Slot #3 Clock shares some of the memory addresses that a card in the auxiliary 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	

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