1541 FLASH!

DISK SWITCHBOARD

INSTRUCTION MANUAL

by

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Introduction

Congratulations on purchasing 1541 FLASH! Disk Switchboard Assembly. This upgrade to the original 1541 FLASH! assures that any future program protection scheme will be compatible with the 1541 FLASH! by virtue of the fact that you can always return your computer and disk drive to their original operating ROMs. Commodore Business Machines has, at the time of this writing, released 3 different versions of the "kernal" ROM inside the C-64, and 3 different versions of the Operating system ROM inside the 1541 Disk Drive. Since many programmers are very long on paranoia and cleverness and very short on common sense there will continue to be programs that will not load with the particular combination of original kernal and operating system ROMs that your Computer and disk drive contain. If this is the situation please contact the publisher of the program.

This instruction consists of 12 pages of installation instructions and 1 page of operating instructions. It is recommended that the operating instructions be cut out of these instructions and pasted onto the last page (page 53) of your original 1541 FLASH! instruction manual.

It is likely that this 1541 FLASH! Disk Switchboard contains a Disk Operating System EPROM different from your original 1541 FLASH!. After installation of the Disk Switchboard it is recommended that you attempt to load all your programs in the FLASH! mode. You will in many instances be pleasantly surprised that a previously slow load program now loads at FLASH! speed.

Please turn to page 1 when you are ready to begin.

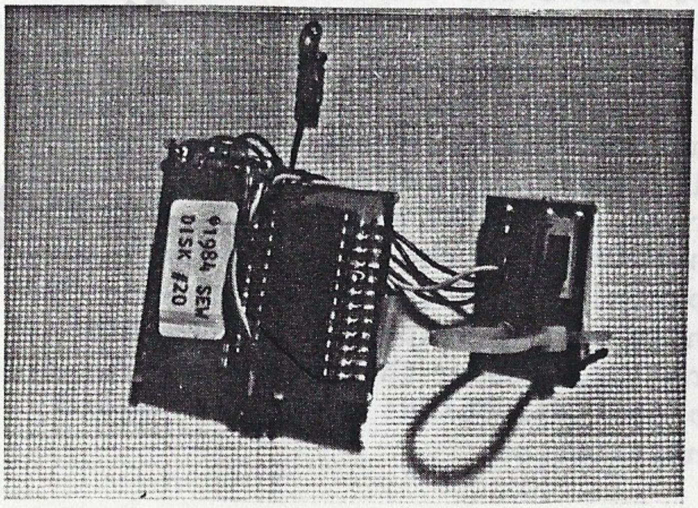
1541 FLASH! SWITCHBOARD INSTALLATION

Installation of your 1541 FLASH! Disk Switchboard will take about 20 minutes. The following installation instructions are detailed and lengthy so that hopefully every question and concern that might come up is answered. For most 1541 Disk Drives, anybody familiar with the use of a phillips screwdriver can easily install the 1541 FLASH! Disk Switchboard. If you are concerned about "getting your fingers into" your Commodore 1541 Disk Drive, please have your local dealer install the 1541 FLASH! Disk Switchboard.

Installation of the 1541 FLASH! Disk Switchboard requires:

- A Phillips (Crosshead) screwdriver
- A Sharp knife
- A pair of pliers
- A pair of strong scissors or wirecutters

While is takes two to Tango the 1541 FLASH! Disk Switchboard is a single assembly shown below.



INSTALLATION

Installation, Commodore 1541 Disk Drive

1) Unplug all serial and power cables and peripheral assemblies from your Commodore 1541. Unplug the Flash! Cable from the CableCard on the back of your C-64.

2) Place the Commodore 1541 upside down on a well lighted surface. The front edge of the 1541 should be toward you.

3) Using the Phillips screwdriver remove the 4 screws located in wells at each corner on the bottom of the 1541. Place tape over the wells where the screws are located. This will keep them in the wells.

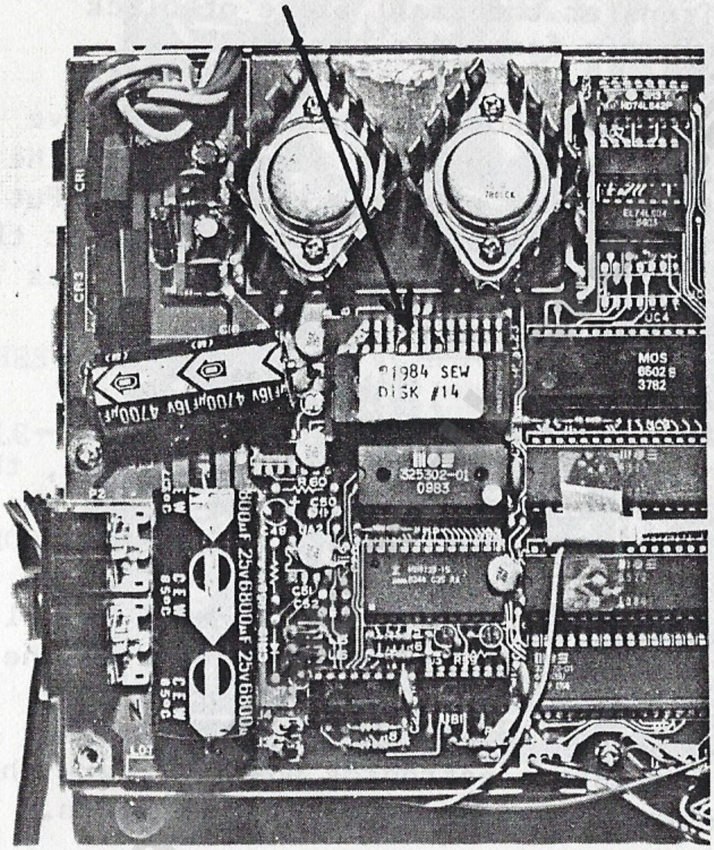
4) Holding the 1541 together at the sides place it rightside up.

5) Now carefully lift the top half of the 1541. This should expose a metal inner cover. Set the top half of the 1541 to one side.

6) Now remove the two screws on the left side of the metal cover. Lift the metal cover off and set to one side.

7) There are two different styles of electronics boards inside the 1541 Disk Drive. The 1541 FLASH! Disk Switchboard installs into the same locations on both boards. Therefore only one style is shown on the next page. Using the drawing, locate the components related to the 1541 FLASH! Disk Switchboard installation.

Installation 1541 Disk Drive



1541 FLASH! OPERATING ROM ASSEMBLY

©1984 SEW
DISK #14
MOS
6502 B
3782
325302-01
0983

Rear of Electronics Bd. 1541 Drive

commodore international society

8) Using your fingers gently pull up the 1541 Flash! Operating ROM assembly. Pull from both ends so that it comes straight up out of the socket.

9) Transfer the small piece of black plastic foam from the new Disk Switchboard Assembly plug to the Operating ROM assembly that you have just removed. Make sure that all the pins of the plug are in the foam. Put this old assembly into the box that the new 1541 FLASH! Disk Switchboard was shipped in.

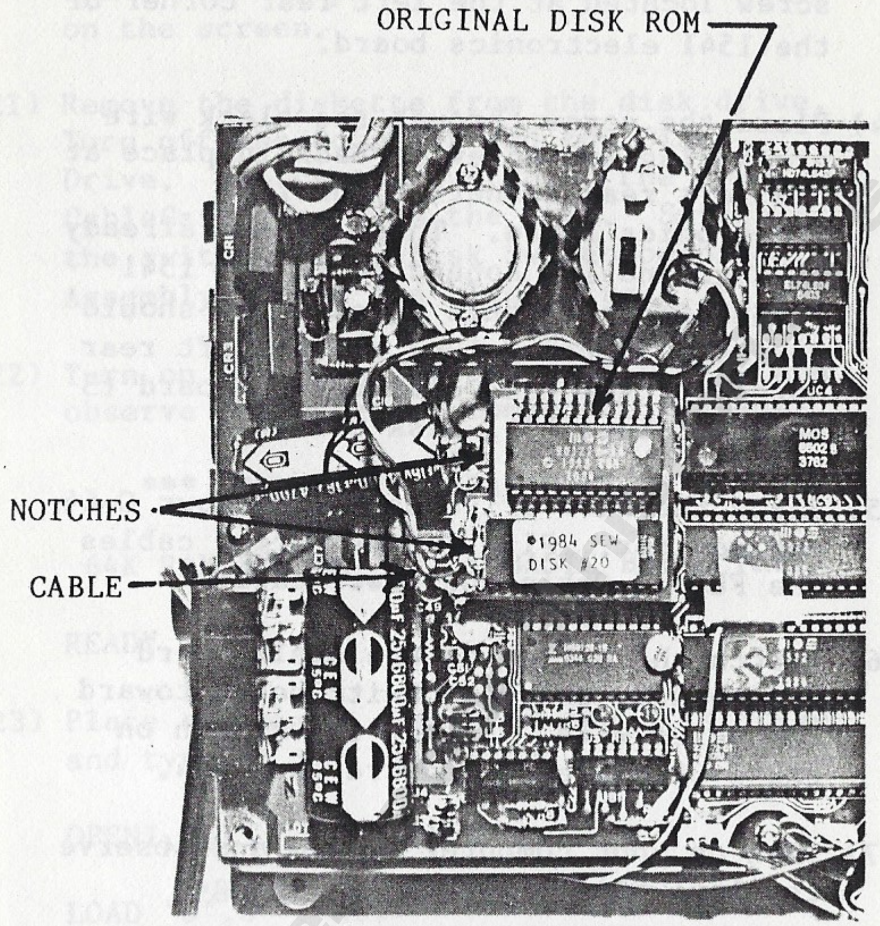
10) Now place the 1541 FLASH! Disk Switchboard over the Operating ROM socket. As shown on the next page, the three wire cable should be toward the rear of the disk drive, The FLASH! ROM to the left, and the empty socket to the right. Be sure the 24 pins of the plug are lined up over the 24 holes of the socket. Gently plug the Disk Switchboard Assembly into the socket on the main electronics board. Check the next page for the correct location.

11) Retrieve your previously saved 1541 disk drive operating ROM. It should have one of the following numbers on it:

901229-01, 901229-03, 901229-05

12) Place this ROM into the empty socket on the Disk Switchboard. The small notch should be toward the rear of the Disk Drive.

Installation 1541 Disk Drive


ORIGINAL DISK ROM
NOTCHES
CABLE
©1984 SEW
DISK #20
MOS
6502 B
3782

1541 FLASH! DISK SWITCHBOARD

Rear of Electronics Bd. 1541 Drive

1541 FLASH! Disk Switchboard Installed

commodore inte society

13) With the Phillips screwdriver remove the screw located at the left rear corner of the 1541 electronics board.

14) Place the screw through the black wire ground lug and screw it back in place at the left rear corner of the 1541 electronics board. There should already be a ground lug connected to the 1541 FLASH! Cable on this screw. You should now have 2 ground lugs on the left rear corner of the 1541 electronics board (3 on some older 1541 disk drives).

15) Place the Disk Drive back with your C-64 and monitor. Plug in the serial cables the FLASH! Cable and power cable.

16) Switch the switch on the small board attached to the Disk Switchboard toward the white wire. Switch the switch on the C-64 CableCard toward the C-64.

17) Turn on your computer system and observe the 1541 FLASH! copyright message.

```
***COMMODORE 64 BASIC V2 ***

W/1541 FLASH! 38911 BYTES FREE

(C) 1984 BRYCE NESBITT

READY.
```

18) Place a program diskette into the disk.

19) Type on the keyboard:

```
SYS 65526   <RET>

@I   <RET>

@$   <RET>
```

20) Observe the initialization of the disk drive and the printout of the directory on the screen.

21) Remove the diskette from the disk drive. Turn off the Computer and the Disk Drive. Switch the switch on the C-64 CableCard away from the C-64. Switch the switch on the Disk Switchboard Assembly toward the black wire.

22) Turn on the Computer and disk Drive, and observe the original Commodore message:

```
    *** COMMODORE 64 BASIC V2 ***

 64K RAM SYSTEM  38911 BASIC BYTES FREE

READY.
```

23) Place a program disk into the disk drive and type on the keyboard:

```
OPEN1,8,15,"IO"   <RET>

LOAD "$",8   <RET>

LIST   <RET>
```

24) Observe the initialization of the disk drive and the printout of the directory on the screen.

25) If one of these tests does not work correctly, recheck the installation starting at step 7.

26) Remove the diskette from the drive and turn off the computer system. Unplug the serial cable(s), FLASH! cable (from the CableCard at the computer), and power cable.

27) Place the Commodore 1541 on a well lighted surface. The rear end of the 1541 Disk Drive should be toward you.

28) Using the scissors or the wire cutters, cut off the "nub" of the cable tie that is holding the FLASH! Cable. This should free the FLASH! Cable from the back of the 1541 Disk Drive.

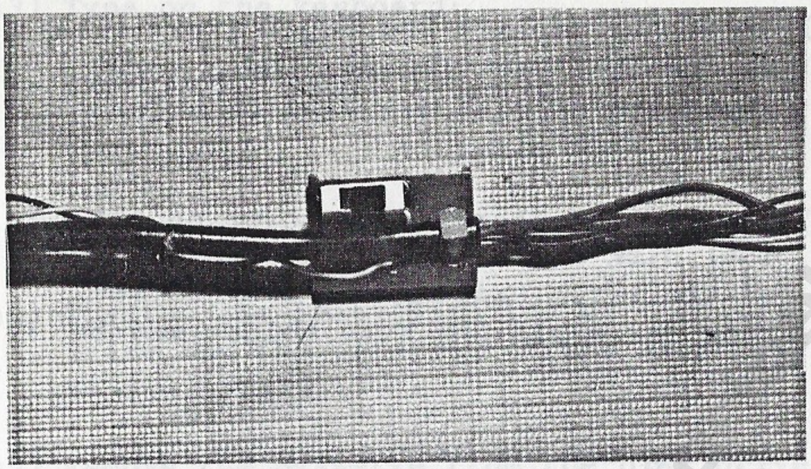
29) Place the FLASH! Cable between the switch and the black, blue, red, and white wires on the small board attached to the Disk Switchboard. The end of the the cable jacket should line up with the edge of the card on the white wire end. Please see the picture on the next page for the placement of the FLASH! Cable.

30) Place the cable tie around the FLASH! Cable and using the pliers tighten it down. Cut off the extra cable tie with the scissors or wire cutters.

31) Temporarily move the FLASH! Cable toward the front of the disk drive. Using a sharp knife cut off the old cable holddown attached to the back of the disk drive. Scrape off as much residue as possible.

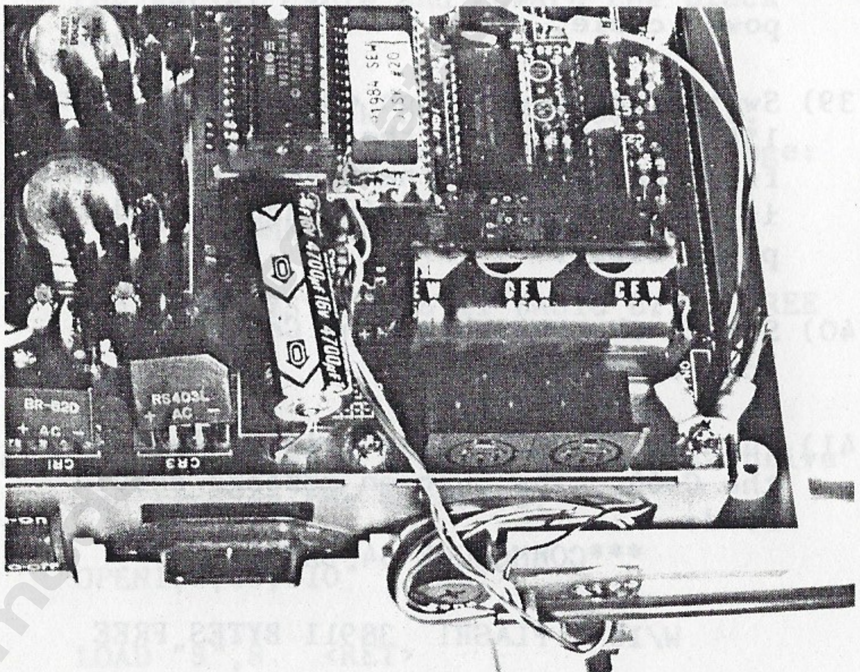
32) Route the wires of the FLASH! Cable and the Disk Switchboard around the fuse holder as shown on the next page.

33) Remove the tape backing cover paper and stick the small switch board directly below the fuse holder. The switch should be on the bottom and the FLASH! Cable toward the right.



Detail FLASH! Cable Attachment

Small Switch Board Rear 1541


BR-B20
RS403L
AC
CR1
CR3
CEW
CEW
4700µF 16V

Rear View 1541 Disk Drive

Wire Routing

34) Carefully replace the metal inner cover on the 1541 Disk Drive. The 2 small sheetmetal screws are used to attach it on the left side.

35) Replace the plastic top cover on the 1541 disk drive. Some minor adjustment of the wires exiting the rear of the disk drive via the fuse holder may be necessary.

36) Holding the two halves together turn the 1541 disk upside down.

37) Insert the four screws into the the four corner wells on the bottom of the 1541.

38) Turn the 1541 rightside up and reinstall the serial cable(s), FLASH! Cable, and power cable.

39) Switch the new switch on the back of the 1541 Disk Drive to the right as viewed from the front of the disk drive. This is toward the white wire and toward the power cable.

40) Switch the switch on the CableCard toward the C-64.

41) Turn on the 1541 disk drive. Turn on the C-64. The turn on message should read:

```
        ***COMMODORE 64 BASIC V2 ***

     W/1541 FLASH!  38911 BYTES FREE

     (C) 1984 BRYCE NESBITT

     READY.
```

42) Place a program disk into the disk drive.

43) Type on the keyboard:

```
SYS 65526   <RET>

@I    <RET>

@$    <RET>
```

44) Observe the initialization of the disk drive and the printout of the directory on the screen.

45) Remove the diskette from the disk drive. Turn off the Computer and the Disk Drive. Switch the switch on the C-64 CableCard away from the C-64. Switch the switch on the Disk Switchboard Assembly to the left as viewed from the front of the disk drive. This is toward the serial cable and toward the black wire.

46) Turn on the Disk Drive and Computer. Observe the original Commodore message:

```
          *** COMMODORE 64 BASIC V2 ***

  64K RAM SYSTEM  38911 BASIC BYTES FREE

READY.
```

47) Place a program disk into the disk drive and type on the keyboard:

```
OPEN1,8,15,"I0"    <RET>

LOAD "$",8    <RET>

LIST    <RET>
```

48) Observe the initialization of the disk drive and the printout of the directory on the screen.

49) If one of these test does not work correctly, recheck the installation starting at step 7.

50) If you are still having trouble, replace your original Kernal ROM in the C-64 and the original Operating ROM in the 1541 Disk Drive. Test that this has returned the computer and disk drive to their original condition. Every 1541 FLASH! Disk Switchboard is tested before leaving the factory, but mistakes can happen. Notify your local dealer for test and/or possible replacement of the 1541 FLASH!.

51) In case of trouble you may also contact:

SKYLES ELECTRIC WORKS
231-E South Whisman Road
Mountain View, CA 94041

or you may call:

1-415-965-1735

between the hours of 1 and 5 PM Pacific Coast time.

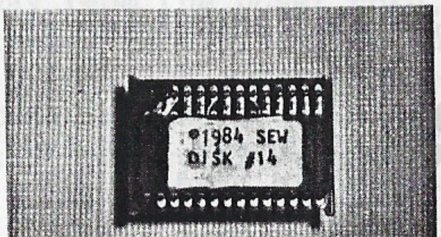
52) Cut out the next page of operating instructions and paste or tape to the blank page following page 52 in the 1541 FLASH! manual.

53) This completes the installation of the 1541 FLASH! Disk Switchboard.

54) Please now mail back to Skyles Electrics Works, at the address listed above, the old operating assembly that you have just removed from the disk drive. Please pack it carefully.

Installation 1541 Disk Drive

OPERATING
ASSEMBLY



Disk Operating ROM Assembly

TO BE RETURNED TO

SKYLES ELECTRIC WORKS
231-E SOUTH WHISMAN RD.
MOUNTAIN VIEW, CA 94041

ERRATA:

or

"Into every manual a few grievous errors doth sneak."

Please make the following corrections to your original 1541 FLASH! manual

Page iii, The sixth and last two lines of **DOS Commands** should read:

```
@UJ  <RET>  . . . . (1541 soft reset) . . 11

@Z8S  <RET> . . . . (1541 slow load)  . . 13
@Z8F  <RET> . . . . (1541 FLASH! load)  . 13
```

Page 11, Middle of page should read:

```
    @UJ   <RET>
```

Page 13, The last **DOS Commands** should read:

DOS Command   @Z8S <RET>

DOS Command   @Z8F <RET>

Page 18, The command under **Miscellaneous** should read:

```
    OPEN1,8,15,"SO:FRED,JOE,MARY,SUE"
```

Command Manual Switch on Back of Disk Drive

There is a small switch on the back of the 1541 disk drive directly below the fuse holder. Normally the switch is positioned to the right (toward the power cord) as viewed from the front of the disk drive. If you wish to return the 1541 disk drive to its original condition before the 1541 FLASH! was installed, switch the switch to the left (away from the power cord, toward the serial cable) as viewed from the front of the disk drive. If this is done you must change the C-64 as described on page 7 of the 1541 FLASH! instruction manual.

ERRATA: or "Into every manual a few grievous errors doth sneak."

Page iii, The sixth and last two lines of **DOS Commands** should read;

```
@UJ  <RET>  . . . . (1541 soft reset) . . 11

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