CORVUS SYSTEMS

INSTALLATION GUIDE

Disk System

Zenith Z89/H89

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INSTALLATION GUIDE

Disk System

PRELIMINARY

Zenith Z89/90 Computers

Table of Contents

NOTES:

Scope

This document describes the installation and initialization of a Corvus disk system for use by a Zenith Z-89 or Z-90 computer. By following the procedures described in this installation guide, a 6 or 10 Mbyte Corvus disk is divided into two logical CP/M drives, C: and D:, while a 20 Mbyte is divided into three logical CP/M drives, C:, D: and E:.

This guide details only installation and initialization procedures. It does not contain extensive explanations or descriptions of the Corvus drive and software. Further information on your Corvus disk system and associated software can be found in the "CORVUS SYSTEMS USER GUIDE FOR CP/M COMPUTERS."

Note: If you are configuring a disk system for use with a multiplexer, proceed to the Host Multiplexer Installation Guide for Zenith Z-89/90 computers; disregard the remainder of this single-user Disk System Installation Guide.

Hardware Setup

To use your Corvus disk system with a Zenith computer, the following hardware and software is required:

- Zenith Z-90 or Z-89 Computer with 64K RAM
- Corvus Hard Disk System
- Corvus ZN UTILITIES
- Zenith CP/M Version 2.2.03 operating system

1. Power off all equipment.

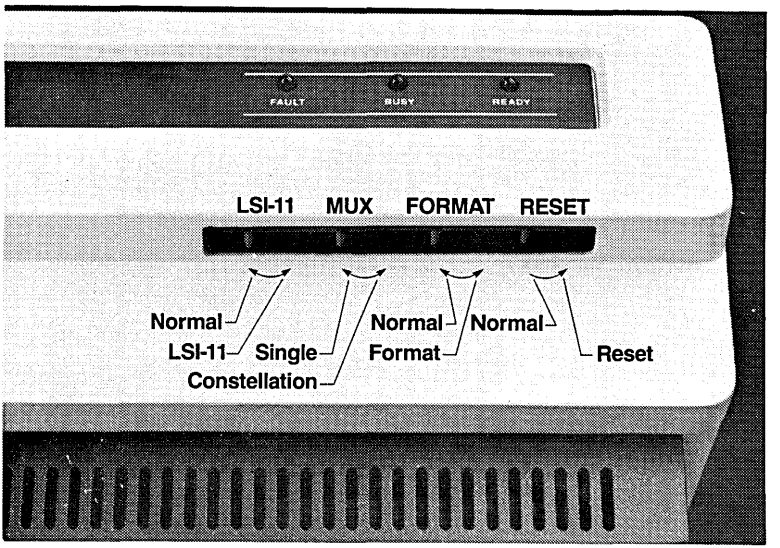
POWER OFF

2. Place the disk unit on a flat surface, either on its side or on its base. Be sure the disk drive has adequate ventilation. Do not place electromagnetic field generating equipment, such as a video cassette recorder, display monitor, or television, on top of the drive container.

   Since the Corvus disk system is a precision instrument, it must be handled carefully. The disk drive must not be operated when the unit is upside down or if the long direction is at an incline.

   To ensure cool-running equipment, the air flow slots located at the front and rear of the drive container should not be blocked. Avoid putting the unit in a closed area (e.g., box or drawer).

3. Flip all of the drive controller switches to the left.



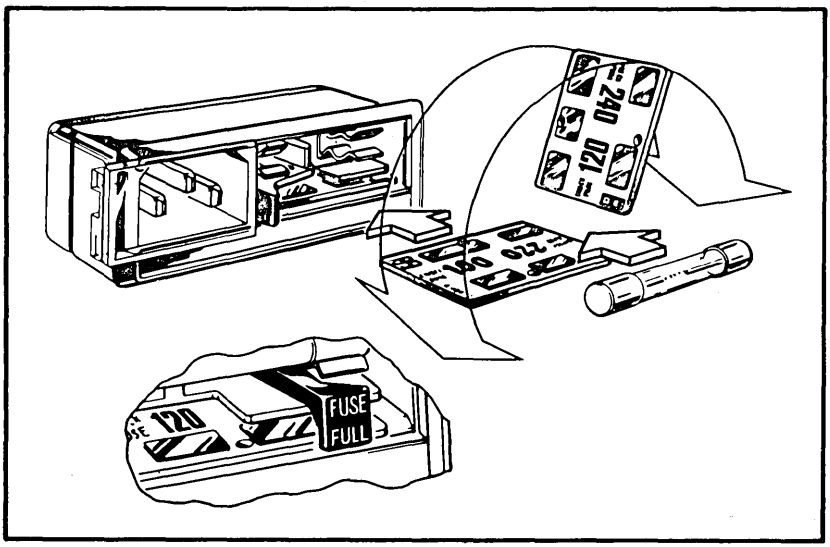
SWITCH SETTINGS ON CORVUS DRIVE

Approximately two inches below the indicator lights, the front panel of the drive protrudes slightly. Directly beneath the lights, and up under the lip of the protrusion, are the four drive controller switches.

4. Verify that the voltage setting for the Corvus disk matches the local voltage supply (100, 120, 220, or 240 volt). The drive works with 50 or 60 Hz power in any of the voltage settings. The voltage setting, fuse, and local voltage supply must match. Any type of mismatch here can cause damage to your disk drive.

   To verify the voltage setting, look at the botton right corner of the drive's back panel. There you will find the ac power cord connector and fuse receptacle. Directly underneath the fuse holder, the voltage setting is displayed.

5. If the voltage setting matches the voltage supply in your area, continue to Step 6. If you must change the voltage setting, proceed as follows:



VOLTAGE SELECTION

PROCEDURE FOR CHANGING VOLTAGE SETTING ON CORVUS DISK DRIVES

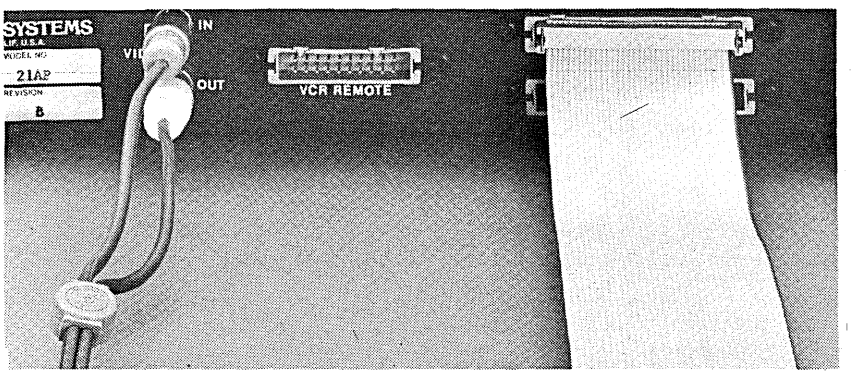
- Slide open the clear plastic cover door, pull the fuse-pull lever to the left, and remove the fuse.
- Use long-nose pliers to carefully pull the voltage circuit board out of the fuse housing. To select the proper operating voltage, position the circuit board so that the desired voltage displays on the top left side of the board. Push the board firmly into the module slot.

Do not reinsert the fuse you removed if you have chosen a different voltage setting than the one you received with the drive. Select the correct fast blow fuse using the following table:

6 MB disk systems:	
100 and 120 volt	2.0 amp fuse
220 and 240 volt	1.0 amp fuse
10 MB disk systems:	
100 and 120 volt	4.0 amp fuse
220 and 240 volt	2.0 amp fuse
20 MB disk systems:	
100 and 120 volt	4.0 amp fuse
220 and 240 volt	2.0 amp fuse

- To return the fuse to its receptacle, push the fuse-pull lever to the right, and insert a fuse into the holder. Slide the clear plastic cover door to the right to expose the ac power cord connector.

6. Plug one end of the 5-foot interface card flat ribbon cable into the connector labeled PROCESSOR on the drive's back panel. The cable should lead down and from the drive.



ATTACHMENT OF INTERFACE CABLE TO THE PROCESSOR CONNECTOR ON DRIVE'S BACK PANEL

NOTE: stripe is on right side of cable

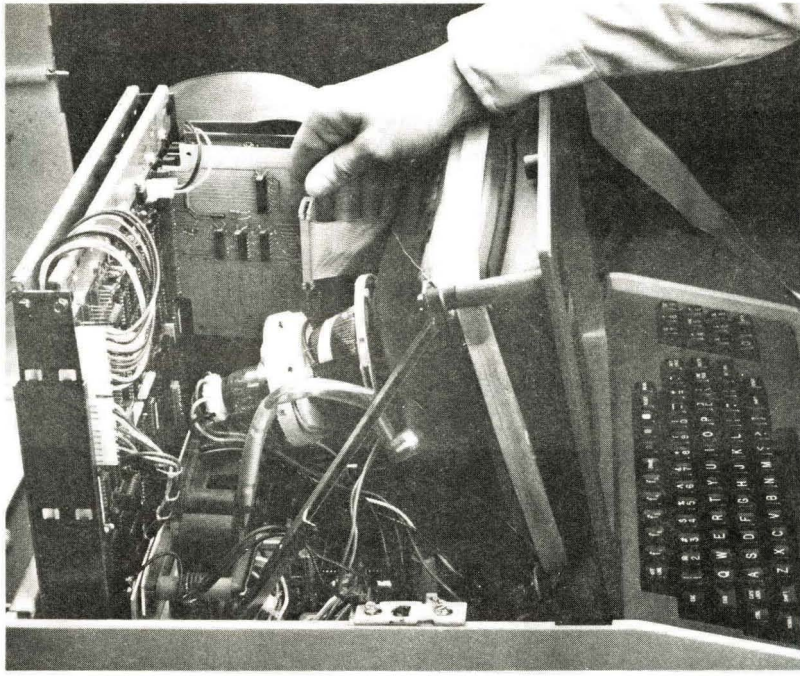
There are two 34-pin flat cable connectors on the rear of the drive. The top connector is labeled PROCESSOR, and the bottom connector is labeled DRIVE.

The interface cable should only be attached with the cable leading down and away from the drive. When facing the drive's back panel, the colored stripe on the interface cable should be on the right side.

7. Open the Zenith Z-89/90 cover by releasing the latch on each side of the computer. Use a screwdriver to push each latch toward the keyboard. Rotate the cover and partially remove it.

8. Connect the other end of the interface card flat cable to the Zenith Z-89/90 interface card so that the cable exits to the side nearest the connection.

9. Locate the P504 port on the right side of the Zenith main circuit board. Connect the interface card to the P504 port making sure not to offset any pins. When the card is installed properly, the colored stripe of the interface cable is on top.



INTERFACE CARD AND CABLE CONNECTED TO ZENITH Z-89/90 COMPUTER

10. Position the cable to exit at the back of the computer and replace the cover.

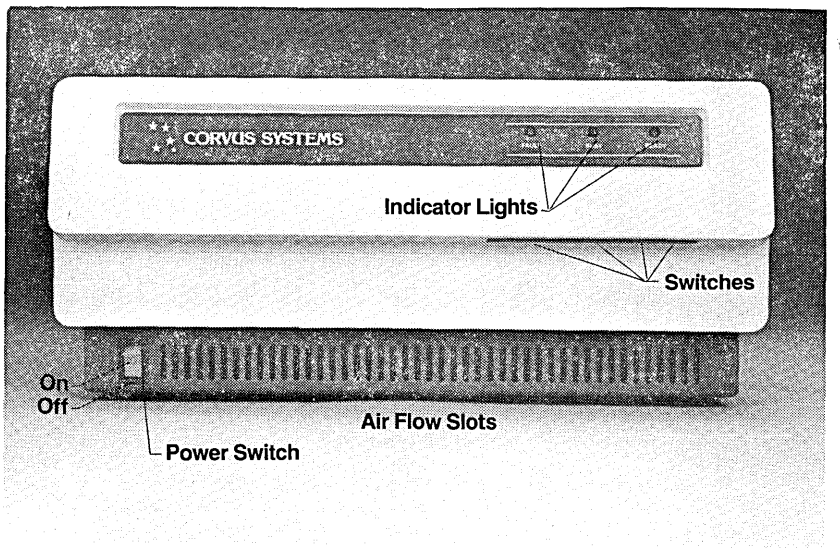
11. Connect the ac power cord to the disk unit, then to a power receptacle.

12. Power on the Corvus drive.

    On 10 and 20 MB models, the power switch is on the lower left corner of the drive's front panel. For 6 MB models, the power switch is located in the lower right hand corner of the drive's back panel. The power switch has two positions: upper part depressed is ON, lower part depressed is OFF.

13. When you power on the drive, all three indicator lights come on. When the drive is ready (after approximately 40 seconds), only the Ready light stays on. When the drive comes ready, continue to the next section, "Initialization for CP/M."

    Looking at the front of the drive cabinet, in the upper right hand corner there are three indicator lights labeled FAULT, BUSY and READY.

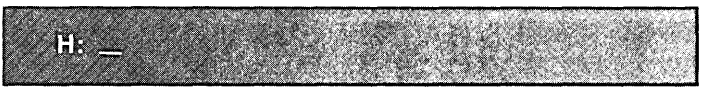


INDICATOR LIGHTS ON CORVUS DISK DRIVE

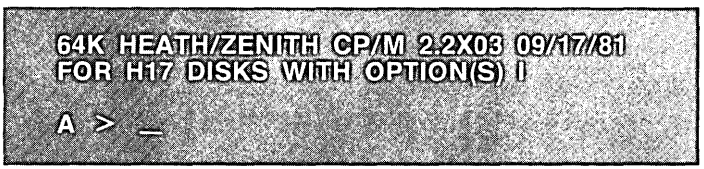
14. If after one minute the drive does not become ready, flip the reset switch (the rightmost switch on the front of the drive cabinet) to the right. If the drive becomes ready, continue to the section "Initialization for CP/M."

15. If your drive did not become ready, recheck the hardware installation (Steps 1-14). If your drive still does not become ready, see the "Trouble-shooting" Section of the CORVUS SYSTEMS USER GUIDE FOR CP/M COMPUTERS.

1. When the Zenith computer is turned on after hardware setup, the screen diplays:

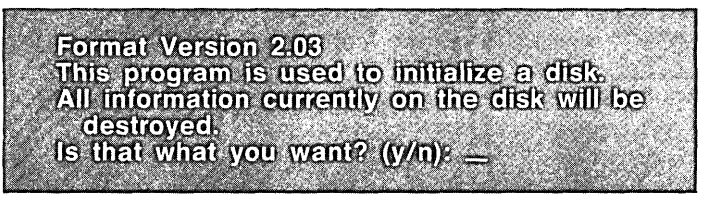


2. Place a 64K CP/M source diskette in the floppy drive.
3. Type **B** <**return**>. The screen displays:

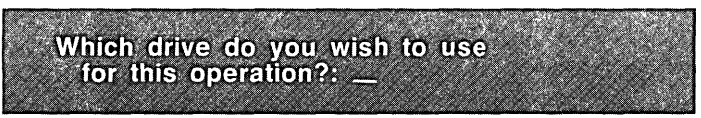


4. The CP/M source diskette is presently configured for a Zenith computer with 64K RAM. In order for the Zenith computer to work with the Corvus disk, CP/M must be moved down 1K. This 1K area is used for the Corvus disk interface software.

   Type **FORMAT** <**return**>. The screen displays:



5. Press **Y.** The screen displays:



6. Press **A.** The screen displays:

```
Put the disk you wish to be formatted in
  drive A.
Press return to begin.
```

7. Place an blank diskette in the floppy drive and press <**return**>. The diskette drive will work for about one minute. The screen displays:

```
Do you have more disks to format? (y/n): _
```

8. Press N. The screen displays:

```
Place a bootable disk in drive A and press
  any character:
```

9. Replace the formatted diskette with the original CP/M source diskette. Press <**return**>. The screen displays:

```
A > _
```

10. Type **SYSGEN** <**return**>. The screen displays:

```
SYSGEN VER 2.0.03
SOURCE DRIVE NAME (OR
  RETURN TO SKIP): _
```

11. Press **A.** The screen displays:

```
SOURCE DRIVE ON A, THEN TYPE RETURN
```

12. Press <**return**>. The screen displays:

```
FUNCTION COMPLETE
COPY BIOS.SYS (Y/N): _
```

13. Press **N.** The screen displays:

```
DESTINATION DRIVE NAME (OR
  RETURN TO REBOOT): _
```

14. Replace the CP/M source diskette with the formatted diskette created in Step 7. Press **A.** The screen displays:

```
DESTINATION ON A, THEN TYPE RETURN
```

15. Press <**return**>. After the operation has been completed, the screen displays:

```
FUNCTION COMPLETE
DESTINATION DRIVE NAME
(OR RETURN TO REBOOT): _
```

16. Replace the SYSGENed diskette with the original CP/M source diskette. Press <**return**>. The screen displays:

```
A > _
```

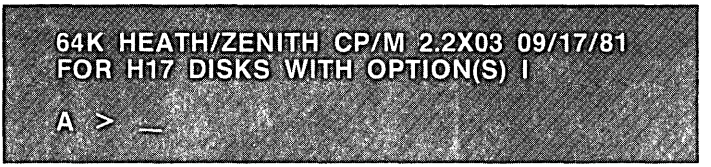
17. Type **PIP B:**=*.*[**R**] <**return**>. The screen displays:

```
COPYING-
BIOS.SYS
PUT DISK B IN DRIVE A: AND PRESS
RETURN _
```

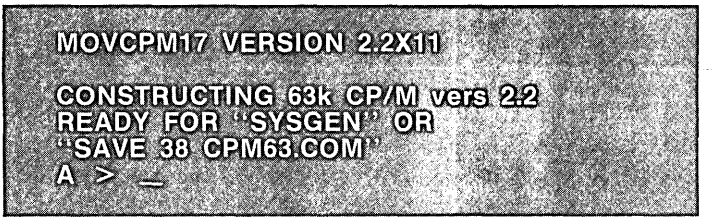
18. The diskette which has been SYSGENed is considered disk B. The CP/M source diskette is considered disk A. Alternate disks A and B as the screen instructs. Continue this operation until the screen displays:

19. With the newly created copy of the original CP/M source diskette in the floppy drive, simultaneously press <**shift**><**reset**>. The screen displays:

20. Type **B** <**return**>. The screen displays:



21. Type **MOVCPM17 63** * <**return**>. The screen displays:



22. Type **SYSGEN** <**return**>. The screen displays:

23. Press <**return**>. The screen displays:

24. Press **A.** The screen displays:

25. Press <**return**>. The screen displays:

26. Simultaneously press <**shift**><**reset**>. The screen displays:

27. Type **B** <**return**>. The screen displays:

```
63K Heath/Zenith CP/M 2.2X03 09/17/81
FOR H17 DISK WITH OPTION(S) I

A > _
```

28. In the hard disk initialization procedure described below, all references to a CP/M source diskette are references to the 63K CP/M source diskette which was just created. Also, use the 63K CP/M source diskette just created whenever the Zenith computer is used with the Corvus hard disk.

29. Replace the CP/M source diskette with ZN UTILITIES - VOL 1 OF 4 diskette.

30. Type **PUTGET** <**return**>. The screen displays:

```
--- CORVUS PUT/GET ROUTINE ---
    ( VERSION 1.4ZN )

PUT, GET, OR FILL (P/G/F) ? _
```

31. Press **F.** The screen displays:

```
DRIVE # (1-4) ? _
```

32. Press **1.** The screen displays:

33. Type **E5** <**return**>. The screen displays:

34. The starting address of the directory for drive C: varies with the size of the Corvus hard disk being initialized:

	CORVUS HARD DISK SIZE		
	6 MB	10 MB	20 MB
CP/M DRIVE			
C:	2320	2316	2320

Enter the starting address appropriate for the size of the drive being initialized. For example, for a 6 MB drive, type **2320** <**return**>. The screen displays:

35. Type **64** <**return**>. The screen displays:

36. Drive C: has now been initialized. The steps below describe the procedure to initialize drive D: on the Corvus drive.
37. Press **F.** The screen displays:

38. Press **1.** The screen displays:

39. Type **E5** <**return**>. The screen displays:

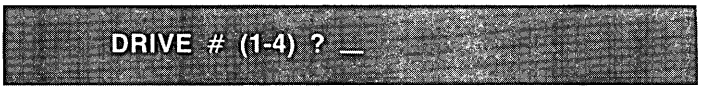
40. The starting address of the directory for drive D: varies with the size of the Corvus hard disk being initialized.

	CORVUS HARD DISK SIZE		
	6 MB	10 MB	20 MB
CP/M DRIVE			
D:	23632	43628	52848

Enter the starting address appropriate for the size of the drive being initialized. For example, for a 6 MB drive, type **23632** <**return**>. The screen displays:

41. Type **64** <**return**>. The screen displays:

42. If a 6 or 10 Mbyte drive is being initialized, skip to Step 47. If a 20 Mbyte drive is being initialized, drive E: must be initialized. Press **F.** The screen displays:



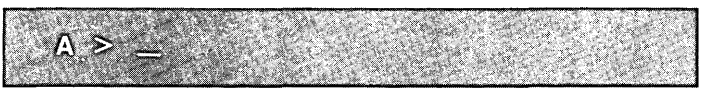
43. Press **1.** The screen displays:

44. Type **E5** <**return**>. The screen displays:

45. Type **103376** <**return**>. The screen displays:

46. Type **64** <**return**>. The screen displays:

47. Exit the PUTGET program by holding down the <**CTRL**> key and pressing **C.** The screen displays:



48. The disk is now initialized. The Corvus link may now be installed. The link is installed by running a program. The name of the program to run depends on the size of the drive being linked. The appropriate program names are listed below:

6 MB	CLINK2FV
10 MB	CLINK2TN
20 MB	CLINK2TW

Type in the name of the program appropriate for the size of the drive being linked. For example, for a 6 MB drive, type **CLINK2FV** <**return**>. The screen displays:

```
--- CORVUS LINK INSTALLED ---
A > _
```

Software setup has now been completed. The Corvus hard disk is initialized for use with a Zenith Z-89/90 computer and the Corvus link has been installed.

The procedure described below is a simple test of the Corvus drive. Note that all standard CP/M commands can be used with the Corvus drive.

49. Replace the ZN UTILITIES - VOL 1 OF 4 diskette with the 63K CP/M source diskette. Type **A:PIP** <**return**>. The screen displays:

```
* _
```

50. Replace the CP/M source diskette with the ZN UTILITIES - VOL 1 OF 4 diskette. Type **C:=A:*.DOC[V]** <**return**>. The screen displays:

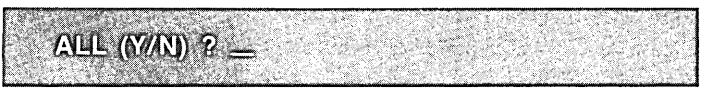
```
COPYING-
INDEX.DOC
CERROR.DOC
CDIAGNOS.DOC

* _
```

51. Replace the ZN UTILITIES - VOL 1 OF 4 diskette with the CP/M source diskette. Press <**return**>. The screen displays:

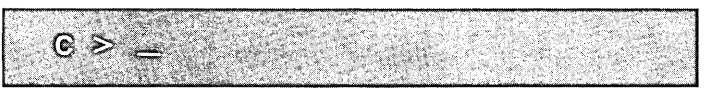
52. Type **C:** <**return**>. The screen displays:

53. Type **DIR** <**return**>. The screen displays:

54. Type **ERA** *.* <**return**>. The screen displays:



55. Press **Y.** The screen displays:



The drive is now ready for use. The hardware has been set up and the Corvus drive initialized. The Corvus link has been installed. The hardware and software setup has been quickly tested by the transfer of files from a floppy to the Corvus disk. These files were then erased to free up disk space. Files may now be replaced to the Corvus drive from floppies using PIP. Remember that the appropriate CLINK2 program must be run each time the computer is powered on (refer to step 48 above).

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