

Installing VAX/VMS on a VAX-11/750 from Magnetic Tape

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Installing VAX/VMS on a VAX-11/750 from Magnetic Tape

You should use this procedure *only* if you are installing VAX/VMS Version 4.4 on a VAX-11/750 processor from a magnetic tape distribution kit.

WARNING

The software installation procedure overwrites the entire contents of the system disk. You should install VAX/VMS on your processor only if it is new, or if you want to destroy the contents of the system disk. If your system disk contains files that you wish to save, you should upgrade to the new version of VAX/VMS. See the *VAX/VMS Release Notes, Version 4.4* for instructions on upgrading to Version 4.4 of VAX/VMS.

Before you install the system software, your hardware must be installed and checked for proper operation.

If your configuration has a CI750 device, obtain the DECnet area number and node number for your processor from either your network or cluster manager before starting the installation. You will need this information to complete step 27 of the installation procedure.

Here are definitions of some terms used in this procedure that may not be familiar to you.

Term	Definition
load device	The drive that holds the distribution tape during the installation. You should use the physical device name when you are prompted for the <i>load device</i> .
system device	The drive that holds the disk you are building. You should use the physical device name when you are prompted for the <i>system device</i> .
boot	Literally "bootstrap load"; the process of software loading itself into a computer.
console TU58	The TU58 that contains the console program.
spin up/spin down	To spin up means to bring a disk drive up to operating speed and to spin down means to bring it to a gradual stop.

Be sure you have all the items listed on the distribution kit bill of materials. If your kit is incomplete, notify the DIGITAL Software Distribution Center and request priority shipment of any missing components.

This procedure assumes the system is not powered up when you start the installation. If you need help with any of the installation steps, please refer to the *Guide to VAX/VMS Software Installation*.

1. Decide which drive will hold the distribution tape and which drive will hold the system disk.

If you build your system on a UDA disk, select a unit numbered in the range 0 through 3.

2. Turn on the console terminal, if you have not already done so.
3. Check that the console TU58 is in the console drive. Be sure that your console medium is P/N BE-T204*-ME. The asterisk (*) identifies the revision level and should be the letter G or greater. If your console medium is not revision G or greater, contact your DIGITAL field service representative and order the correct medium through the Field Change Order Process.
4. At the processor control panel, set the POWER ON ACTION switch to HALT.
5. Position the keylock switch to LOCAL.
6. Verify that the POWER lamp turns on and the ERROR lamp is dimly lit. If the ERROR lamp is brightly lit, use the RESET switch to reset the system.
7. If your system disk is an HSC (hierarchical storage controller) device, be sure the CI750 is powered up and the HSC50 or HSC70 is powered up and on line. See the *HSC User Guide*, order number AA-GMEAA-TK, for details on how to set the HSC system identification and the HSC name. Note that HSCs must have unique names and system identifications to operate properly.
8. Thread the distribution tape on the load device and put it on line. Be sure the write-enable ring is removed from the tape reel.
9. If you are building a removable system disk, place a blank disk in the system device.
10. Spin up the system disk but do *not* write protected it.
11. When you get the console prompt (> > >), enter this command to invoke BOOT58:

```
>>>B/800 DDA0
```
12. When you get the BOOT58 prompt (BOOT58>), enter this command to begin the standalone BACKUP boot sequence:

```
BOOT58>@CSAB00.CMD
```

13. The procedure prompts you to successively place the three volumes containing the standalone BACKUP kit in the console drive.

The first prompt directs you to replace the console TU58 with the first standalone volume (VAX/VMS V4.4 S/A BKUP T58 1/4) and to enter YES, or simply Y, when you are ready to continue.

When you enter YES, the procedure displays this message:

```
Resuming load operation on volume 'label', please stand by...
```

14. When the first volume is booted, the procedure prompts you to replace it with the second standalone volume (VAX/VMS V4.4 S/A BKUP T58 2/4) and to enter YES when you are ready to continue.

When you enter YES, the procedure displays this message:

```
Resuming load operation on volume 'label', please stand by...
```

15. When the second is booted, the procedure prompts you to replace it with the third standalone volume (VAX/VMS V4.4 S/A BKUP T58 3/4) and to enter YES when you are ready to continue.

When you enter YES, the procedure displays this message:

```
Resuming load operation on volume 'label', please stand by...
```

16. When the third volume finishes booting, the standalone system announces itself and asks for the date and time:

```
%%
```

```
VAX/VMS Version V4.4 15-APR-1986 22:29
```

```
PLEASE ENTER DATE AND TIME (DD-MMM-YYYY HH:MM)
```

17. Enter the date in day-month-year format, and the time in hours and minutes using the 24-hour clock format. For example, if the time is 3:58 P.M. and the date is April 17, 1986, type

```
PLEASE ENTER DATE AND TIME (DD-MMM-YYYY HH:MM) 17-APR-1986 15:58
```

If applicable, the standalone system configures and lists your HSC and MSCP-served devices. If you are building your system on an HSC disk, enter the appropriate device name from this list in place of the variable **system-device** when you restore the *required* save set.

18. Next, the procedure prompts you to replace the third volume with the fourth volume labeled BACKUP (VSX/VMS V4.4 S/A BKUP T58 4/4), and to enter YES when you are ready to continue.

When you enter YES, the procedure displays this message:

Resuming load operation on volume 'BACKUP' please stand by...

19. When the application TU58 cassette is booted, standalone BACKUP identifies itself and presents the DCL prompt (\$):

```
%BACKUP-I-IDENT, standalone BACKUP V4.4; the date is <DD-MMM-YYYY HH:MM>
$
```

Do not remove the BACKUP TU58 cassette from the drive until directed to do so.

20. Use the following command to restore the *required* save set. See the accompanying chart to determine the appropriate values for the **load-device** and **system-device** variables. If you are restoring the operating system to an HSC disk, select a **system-device** name from the list of devices configured by the standalone system in step 17.

```
$ BACKUP/VERIFY load-device:REQUIRED/SAVE system-device:
```

Device Type	Device Name ¹
RK07	DMcu
RP05,RP06	DBcu
RM03,RM05,RM80,RP07	DRcu ²
RA60	DJcu ³
RA80,RA81	DUcu
TU78	MFcu
TS11,TU80	MScu
TE16,TU45,TU77	MTcu
TU81	MUcu

¹Variable **c** designates the device controller; variable **u** is the device unit number.

²When you boot the RM03, RM05, RM80 or RP07, use device code DBcu.

³When you boot the RA60, use device code DUcu.

This BACKUP command builds a system disk that includes a DIGITAL-provided set of volume parameters, including a cluster factor (disk access scheme) of 1. Most volume parameters can be changed later with the SET VOLUME command. However, to change the cluster factor you must back up the system to a volume that has been previously initialized to the desired cluster factor. To save the volume's

initial parameter values, use the /NOINITIALIZE qualifier when you back up the system. For more information on the cluster factor, see the *VAX/VMS System Manager's Reference Manual*.

21. It takes approximately 15 minutes to restore the required files. The following message indicates the start of the verification pass:

```
%BACKUP-I-STARTVERIFY, starting verification pass
```

Approximately 15 minutes later, standalone BACKUP identifies itself and presents the DCL prompt (\$) indicating the verification pass is finished.

```
%BACKUP-I-IDENT, standalone BACKUP V4.4; the date is <DD-MMM-YYYY HH:MM>  
$
```

22. Press CTRL/P to put the system in console mode.
23. Replace the third standalone BACKUP cassette with the console TU58.
24. Boot the system disk using the device name for the system device:

```
>>> B system-device
```

If your system device is under control of an HSC, use the following procedure to boot it. Note that all numeric entries are made using hexadecimal notation.

- a. Set the BOOT SELECT switch to position A.
- b. Invoke BOOT58 with this command:

```
>>> B/800 DDAO
```

- c. When you get the BOOT58> prompt, deposit the HSC node number into register R2 using the following command format:

```
BOOT58> D/G 2 node-number
```

For example, if the HSC is node number 12 on the CI750, you use this command:

```
BOOT58> D/G 2 0C
```

NOTE

If the system device is accessible to two HSCs, deposit both node numbers putting the greater number in digits 3 and 2, and the lesser in digits 1 and 0. For example, if one HSC is numbered 15 (hexadecimal 0F) and the other is numbered 10 (hexadecimal 0A), the proper command is

```
BOOT58> D/G 2 0FOA
```

- d. Deposit the unit number of the system device into register R3 using the following console command format:

```
BOOT58> D/G 3 unit-number
```

For example, if the load device is unit number 21, deposit a hexadecimal 15 into R3:

```
BOOT58> D/G 3 15
```

- e. Enter this command to boot the system disk:

```
BOOT58> @CIB00.CMD
```

25. When the boot is complete, you get the following message:

```
%%
```

```
VAX/VMS Version 4.4 15-APR-1986 22:29
```

```
XXXXXXXXXXXX OPCOM <DD-MMM-YYYY HH:MM:SS.S> XXXXXXXXXXXX  
Logfile has been initialized by operator _SALONE$OPAO:  
Logfile is SYS$SYSROOT:[SYSMGR]OPERATOR.LOG;1
```

```
Please enter the date and time (DD-MMM-YYYY HH:MM):
```

Enter the date in day-month-year format, and the time in hours and minutes using the 24-hour clock format. For example, if the time is 3:58 P.M. and the date is April 17, 1986, type

```
Please enter the date and time (DD-MMM-YYYY HH:MM): 17-APR-1986 15:58
```

26. The procedure asks you which drive holds the distribution tape. Enter the device name for the load device:

```
Enter drive holding distribution kit (DDCU): load-device:
```

27. This step only applies if your system includes a CI750; if it does not, go to the next step.

- a. The procedure gives you the opportunity to build a common system disk:

```
If this node is part of a VAXcluster, you may want to set up your HSC-based  
system disk to run multiple cluster nodes from a single disk.
```

```
Do you want to know more about cluster common system disks [N]?
```

- b. The procedure displays the following message if you enter Y:

```
If you have an HSC-based system disk, it can be made to run  
multiple systems with up to 14 nodes sharing all files except  
PAGEFILE.SYS, SWAPFILE.SYS, SYSDUMP.DMP and VAXVMSSYS.PAR.
```


- c. The procedure asks

Do you want to generate a cluster common system disk [N]?

- d. Enter Y if you want a common system disk; if not, press the RETURN key.
- e. If you select the common system disk option, see Chapter 4 of the *Guide to VAX/VMS Software Installation* for instructions on building system roots for the other nodes in your cluster.
- f. The next message prompts you for the first of two SYSGEN parameters:

In order to successfully boot the system, you must provide a nonzero value for the SYSGEN parameter SCSSYSTEMID and a nonblank value for the SYSGEN parameter SCSNODE. See the *Guide to VAXclusters* for information on setting up other SYSGEN parameters after the system is installed.

Enter this node's SCSSYSTEMID value:

Enter a value equal to 1024 times the DECnet-VAX area number plus your system's DECnet-VAX node number in decimal.

For example, if your DECnet-VAX area number is 5, and your DECnet-VAX node number is 122, the value for SCSSYSTEMID is calculated as follows:

$$(5 * 1024) + 122 = 5242$$

- g. The procedure prompts you for the second parameter:

Enter this node's SCSNODE name:

Enter your system's DECnet-VAX node name.

28. The procedure restores the rest of the operating system and displays appropriate messages:

Restoring library save set.

%BACKUP-I-STARTVERIFY, starting verification pass

Restoring optional save set.

%BACKUP-I-STARTVERIFY, starting verification pass

29. If you have elected to build a common system disk, the procedure creates a V4COMMON directory tree at this point.
30. The procedure prompts you for new passwords for the SYSTEM, SYSTEST, and FIELD accounts. Passwords must be at least six characters in length.

31. When you have changed the passwords, the procedure creates your RIGHTS database and then displays the following message:

AUTOGEN computes the SYSGEN parameters for your configuration and then reboots the system with the new parameters.

After the reboot you may want to do one or more of the following tasks (consult the VAX/VMS System Manager's Reference Manual for detailed information):

AUTOGEN will reboot the system *only* if you are building a non-HSC system disk and the default bootstrap command procedure is set to boot it. See step 33 if AUTOGEN does not reboot the system disk.

Note that the suggested tasks are to be done *after* the reboot when your system is up and running.

- a. The first suggested task is to delete the installation procedure itself:

- Delete SYS\$SYSTEM:STARTUP.INS

- b. The next suggestion is to decompress the system library files:

- DECOMPRESS THE SYSTEM LIBRARIES - For space considerations, many of the system libraries are shipped in a data compressed format. If you have enough disk space, you may decompress them for faster access. Use SYS\$UPDATE:LIBDECOMP.COM to data expand the libraries. If you choose not to decompress these libraries there will be a negative impact on the performance of the HELP and LINK commands.

The decompressed libraries require approximately 5000 additional blocks of disk space and the decompression process may take up to 1 hour.

- c. If your system includes a CI750, the procedure reminds you to run AUTOGEN after the final boot if you want to be part of a VAXcluster.

If your system is to be part of a VAXcluster, you will need to invoke AUTOGEN with this command:

@SYS\$UPDATE:AUTOGEN SAVPARAMS REBOOT

- d. The procedure displays the following suggestion *only* if you are building a common system disk.

- Create system directory trees for other nodes in your cluster.
(See the Guide to VAXclusters for details).

32. The procedure indicates the start of AUTOGEN with this message:

Running AUTOGEN - Please wait.

When AUTOGEN finishes, you get a sequence of shutdown messages that begins like this:

```
The system is shutting down to allow the V4.4 system to boot with the
generated site-specific parameters and installed images.
```

```
The system will automatically reboot after the shutdown and the
upgrade to VAX/VMS Version 4.4 will be complete.
```

33. The system reboots automatically only if your default bootstrap command procedure is set to boot your non-HSC system disk. If your system disk is an HSC disk, or the default bootstrap command procedure is not set to boot your non-HSC system disk, follow the procedure described in step 24 to boot the system disk.

When you get the following message, the reboot is complete and the operating system is running. If your system includes a CI, it will come up with the VAXCLUSTER parameter set to 1 and will form a cluster.

```
%%
```

```
VAX/VMS Version 4.4 15-APR-1986 22:29
```

```
XXXXXXXXXX OPCOM <DD-MMM-YYYY HH:MM:SS.S> XXXXXXXXXXXXX
```

```
Logfile has been initialized by operator _SALONE$OPPAO:
```

```
Logfile is SYS$SYSROOT:[SYSMGR]OPERATOR.LOG;1
```

```
%SET-I-INTSET, login interactive limit=64, current interactive value = 0
SYSTEM          job terminated at DD-MMM-YYYY HH:MM:SS.CC
```

34. Reread step 31. You may perform any of the suggested tasks at this time. Note that if your configuration includes a CI750 device you must rerun AUTOGEN at this time if you want to be part of a VAXcluster.
35. Install the mandatory update. The *VAX/VMS Release Notes, Version 4.4* contains instructions for installing the mandatory update.

With your system running, you should set up DEFBOO.CMD to boot your system disk. See the *VAX/VMS System Manager's Reference Manual*.

If your system is part of a VAXcluster, see the *Guide to VAXclusters* for detailed descriptions of cluster-related SYSGEN parameters.

You should now run the User Environment Test Package (UETP) to verify the installation (see the *Guide to VAX/VMS Software Installation*.) After you run the UETP, refer to the *VAX/VMS System Manager's Reference Manual* for instructions on customizing and using your system.

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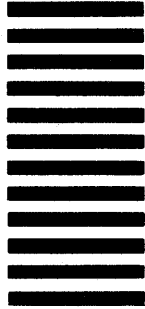
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