

Appendices

Appendix A. PDC Boot Commands, Main Menu	p. 30
Appendix B. Boot Messages	
1. Single-user Mode	p. 31
2. Multiuser Mode	p. 33
Appendix C. Support Media Guide	
1. Version 10.20	p. 36
2. Version 11.0	p. 40
Appendix D. Access to LVM in Various Boot Options	p. 43

Appendix A. PDC Boot Commands, Main Menu (from K-series)

-----Main Menu -----

<u>Command</u>	<u>Description</u>
BOot [PRI ALT <path>]	Boot from specified path
PAth [PRI ALT CON KEY] [<path>]	Display or modify a path
SEArch [Display IPL] [<path>]	Search for boot devices
COntfiguration menu	Displays or sets boot values
INformation menu	Displays hardware information
SERvice menu	Displays service commands
DIisplay	Redisplay the current menu
HElp	Display help for menu or command
RESET	Restart the system

Main Menu: Enter command or menu >

Appendix B. Boot Messages

1. Single-user Mode, D-series, HP-UX 10.10

..... Main Menu

<u>Command</u>	<u>Description</u>
BOot [PRI ALT <path>]	Boot from specified path
PAth [PRI ALT CON KEY] [<path>]	Display or modify a path
SEArch [Display IPL] [<path>]	Search for boot devices
COntfiguration [<command>]	Access Configuration menu/commands
INformation [<command>]	Access Information menu/commands
SERvice [<command>]	Access Service menu/commands
DIisplay	Redisplay the current menu
HElp [<menu>[<command>]	Display help for menu or command
RESET	Restart the system

Main Menu: Enter command > bo pri
Interact with IPL (Y or N)?> y

Booting...
Boot IO Dependent Code (IODC) revision 7

HARD Booted.

ISL Revision A.00.38 OCT 26, 1994

ISL> hpux -is

Boot
: disc(4.5.0;0)/stand/vmunix
3667468 + 335872 + 363392 start 0x188de8
inet_clts:ok inet_cots:ok Networking memory for fragment reassembly is restricted to 5656576 bytes
Logical volume 64, 0x1 configured as ROOT
Logical volume 64, 0x2 configured as SWAP
Logical volume 64, 0x2 configured as DUMP
Logical volume 64, 0x9 configured as DUMP
Swap device table: (start & size given in 512-byte blocks)
entry 0 - major is 64, minor is 0x2; start = 0, size = 262144
Checking root file system.
Root check done, starting up init.
Starting the STREAMS daemons.
9245XB HP-UX (B.10.10) #3: Thu Feb 22 14:47:21 PST 1996

Memory Information:
physical page size = 4096 bytes, logical page size = 4096 bytes
Physical: 65536 Kbytes, Lockable: 43472 Kbytes, available: 52596 Kbytes

/sbin/iointrc

INIT: Overriding default level with level 's'

INIT: SINGLE USER MODE
(c)Copyright 1983-1995 Hewlett-Packard Co., All Rights Reserved.
(c)Copyright 1979, 1980, 1983, 1985-1993 The Regents of the Univ. of California
(c)Copyright 1980, 1984, 1986 Novell, Inc.
(c)Copyright 1986-1992 Sun Microsystems, Inc.
(c)Copyright 1985, 1986, 1988 Massachusetts Institute of Technology
(c)Copyright 1989-1993 The Open Software Foundation, Inc.
(c)Copyright 1986 Digital Equipment Corp.
(c)Copyright 1990 Motorola, Inc.

(c)Copyright 1990, 1991, 1992 Cornell University
(c)Copyright 1989-1991 The University of Maryland
(c)Copyright 1988 Carnegie Mellon University

RESTRICTED RIGHTS LEGEND

Use, duplication, or disclosure by the U.S. Government is subject to restrictions as set forth in sub-paragraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause in DFARS 252.227-7013.

Hewlett-Packard Company
3000 Hanover Street
Palo Alto, CA 94304 U.S.A.

Rights for non-DOD U.S. Government Departments and Agencies are as set forth in FAR 52.227-19(c)(1,2).
.profile[22]: tset: not found
.profile[26]: tabs: not found

Value of TERM has been set to "70096".
WARNING: YOU ARE SUPERUSER !!

Appendix B. Boot Messages

2. Multiuser Mode, D-series, HP-UX 10.10

..... Main Menu

<u>Command</u>	<u>Description</u>
BOot [PRI ALT <path>]	Boot from specified path
PAth [PRI ALT CON KEY] [<path>]	Display or modify a path
SEArch [Display IPL] [<path>]	Search for boot devices
COntfiguration [<command>]	Access Configuration menu/commands
INformation [<command>]	Access Information menu/commands
SERvice [<command>]	Access Service menu/commands
DIisplay	Redisplay the current menu
HElp [<menu>[<command>]]	Display help for menu or command
RESET	Restart the system

Main Menu: Enter command > bo pri
Interact with IPL (Y or N)?> n

Booting...

Boot IO Dependent Code (IODC) revision 7

HARD Booted.

ISL Revision A.00.38 OCT 26, 1994

ISL booting hpux (:0)/stand/vmunix

Boot

: disc(4.5.0;0)/stand/vmunix

3667468 + 335872 + 363392 start 0x188de8

inet_clts:ok inet cots:ok Networking memory for fragment reassembly is restricted to 5656576 bytes

Logical volume 64, 0x1 configured as ROOT

Logical volume 64, 0x2 configured as SWAP

Logical volume 64, 0x2 configured as DUMP

Logical volume 64, 0x9 configured as DUMP

Swap device table: (start & size given in 512-byte blocks)

entry 0 - major is 64, minor is 0x2; start = 0, size = 262144

Checking root file system.

Root check done, starting up init.

Starting the STREAMS daemons.

9245XB HP-UX (B.10.10) #3: Thu Feb 22 14:47:21 PST 1996

Memory Information:

physical page size = 4096 bytes, logical page size = 4096 bytes

Physical: 65536 Kbytes, Lockable: 43464 Kbytes, available: 52588 Kbytes

/sbin/iointrc

/sbin/bcheckrc:

Checking for LVM volume groups and Activating (if any exist)

Volume group "/dev/vg00" has been successfully changed.

Activated volume group

Volume group "/dev/vg01" has been successfully changed.

Checking hfs file systems

/sbin/fsclean: /dev/vg00/lvol1 (root device) ok

/sbin/fsclean: /dev/vg00/lvol3 clean

/sbin/fsclean: /dev/vg00/lvol4 clean

/sbin/fsclean: /dev/vg00/lvol5 clean

/sbin/fsclean: /dev/vg00/lvol6 clean

/sbin/fsclean: /dev/vg00/lvol7 clean

/sbin/fsclean: /dev/vg00/lvol8 clean

/sbin/fsck: /dev/vg01/lvol1 clean
HFS file systems are OK, not running fsck

(c)Copyright 1983-1995 Hewlett-Packard Co., All Rights Reserved.
(c)Copyright 1979, 1980, 1983, 1985-1993 The Regents of the Univ. of California
(c)Copyright 1980, 1984, 1986 Novell, Inc.
(c)Copyright 1986-1992 Sun Microsystems, Inc.
(c)Copyright 1985, 1986, 1988 Massachusetts Institute of Technology
(c)Copyright 1989-1993 The Open Software Foundation, Inc.
(c)Copyright 1986 Digital Equipment Corp.
(c)Copyright 1990 Motorola, Inc.
(c)Copyright 1990, 1991, 1992 Cornell University
(c)Copyright 1989-1991 The University of Maryland
(c)Copyright 1988 Carnegie Mellon University

RESTRICTED RIGHTS LEGEND

Use, duplication, or disclosure by the U.S. Government is subject to restrictions as set forth in sub-paragraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause in DFARS 252.227-7013.

Hewlett-Packard Company
3000 Hanover Street
Palo Alto, CA 94304 U.S.A.

Rights for non-DOD U.S. Government Departments and Agencies are as set forth in FAR 52.227-19(c)(1,2).

<u>HP-UX Start-up in progress</u>	<u>Status</u>
Mount file systems	[OK]
Setting hostname	[OK]
Set privilege group	[N/A]
Display date	[N/A]
Save system core image if needed	[N/A]
Enable auxiliary swap space	[OK]
Start syncer daemon	[OK]
Configure LAN interfaces	[OK]
Start Software Distributor agent daemon	[OK]
Configuring all unconfigured software filesets	[OK]
Recover editor crash files	[OK]
Clean UUCP	[OK]
List and/or clear temporary files	[OK]
Clean up old log files	[OK]
Start system message logging daemon	[OK]

<u>HP-UX Start-up in progress</u>	<u>Status</u>
Start pty allocator daemon	[OK]
Start network tracing and logging daemon	[OK]
Configure HP Ethernet interfaces	[OK]
Configure LAN interfaces	[OK]
Start name server daemon	[N/A]
Start NFS core subsystem	[OK]
Start NIS server subsystem	[OK]
Start NIS client subsystem	[OK]
Start NFS client subsystem	[OK]
Start multicast routing daemon	[N/A]
Start internet services daemon	[OK]
Start dynamic routing daemon	[N/A]
Start router discover protocol daemon	[N/A]
Start remote system status daemon	[N/A]
Starting mail daemon	[OK]

<u>HP-UX Start-up in progress</u>	<u>Status</u>
Starting outbound connection daemons for DDFA software	[N/A]
Start SNMP Master Network Management daemon	[OK]
Start OSPF MIB Network Management subagent	[N/A]
Start SNMP HP-UNIX Network Management subagent	[OK]
Start SNMP MIB-2 Network Management subagent	[OK]
Start DCE daemons	[N/A]
Start DFS daemons	[N/A]
Start NCS broker daemons	[OK]
Start Gradient License Server Daemon	[N/A]
Start remote boot daemon	[N/A]
Starting X Font Server at TCP port 7000	[N/A]
Start vt daemon	[OK]
Start time synchronization	[N/A]
Start accounting	[N/A]
Start HPC2400 daemon	[OK]

<u>HP-UX Start-up in progress</u>	<u>Status</u>
Start print spooler	[N/A]
Start clock daemon	[OK]
Start diagnostic subsystem	[OK]
Start environment monitoring daemon	[OK]
Start auditing subsystem	[N/A]
Start audio server daemon	[N/A]
SAM Single point administration configuration	[N/A]
Installing software to diskless nodes	[OK]
Start NFS server subsystem	[OK]

The system is ready.

GenericSysName [HP Release B.10.10] (see /etc/issue)
 Console Login:

Appendix C. Support Media Guide

1. Version 10.20

Using the 10.20 SUPPORT/RECOVERY CD

This article is provided as a courtesy to our customers whose system is unbootable. Recovering files necessary to boot the system is data recovery and is not covered by the Software Support Terms and Conditions (contract). As such, the response center may at it's discretion, request remuneration for further assistance in the data recovery process.

Please be advised that assistance with this document is also beyond the scope of the contract and may also be subject to Time and Materials assistance.

Excerpt from the Software Support Terms and Conditions, section 4:

- o. Exclusions. HP System Support service does not include assistance that involves program development, coding, isolation of coding problems, implementation assistance, performance --->consulting, data recovery regardless of the cause of data loss, or hardware malfunctions and problems or investigation time relating to the use of privileged mode code on HP 3000 systems. HP System Support service does not include consulting unless a consulting option has been purchased. HP System Support service is not a substitute for any formal training offered by HP.

```
*****
----- 10.20 SUPPORT/RECOVERY Media -----
Derived from Support Media Users Manual: 92453-90010
```

This document details booting and fundamental repairs as well as how to access your 10.20 LVM Root Volume Group from the 10.20 Support media. In earlier releases of 10.x, the /dev/vg00/lv011 in the root volume group was /, but in 10.20, it is /stand. This required a few changes from prior 10.x support media procedures.

Activation of your LVM Root Volume Group requires a system with >24MB of RAM.

- ```

```
1. Boot from the path of the SUPPORT/RECOVERY media and interact with ISL. Interrupt the autoboot process, then...  
On 700's: at boot admin prompt type: bo <CD scsi path> isl  
On 800's: bo <CD scsi path>; interact with ISL  
At the ISL> type "700support" or "800support" depending on the platform you are working with.
  2. Select [Run a Recovery Shell] . Do NOT start networking.  
The SUPPORT MEDIA MAIN MENU will be displayed:

- s. Search for a file
- b. Reboot
- l. Load a file (loads HP-UX command from CD)
- r. Recover an unbootable HP-UX system
- x. Exit to shell (lets you enter commands)
- c. Instructions on chrooting to a lvm /(root).

FYI: The "r." option submenus to 4 automated processes:

- a. Rebuild the bootlif (ISL, HP-UX, and the AUTO file) and install all files required to boot and recover HP-UX on a customer's root file system. \*\*\*\* VERY TIME CONSUMING AFTER-EFFECTS\*\*\*\*
- b. Do not rebuild the bootlif but install files required to boot and recover HP-UX on the root file system. \*\*TIME CONSUMING\*\*
- c. Rebuild only the bootlif.
- d. Replace only the kernel on the root file system. (with a stripped-down kernel)

NOTE

----> Because these automated processes shotgun the problem and may require unforeseen additional effort, we recommend a more specific approach that more rapidly resolves the problem.

To gain access to / and /stand to manually resolve problems follow this procedure:

- 3. Select x from the SUPPORT MEDIA MAIN MENU, to exit to the shell.

The following is a sample listing of an actual interactive session. Comments have been added to guide your actual response.

```
Support# chroot_lvmdisk <----- You type this
Enter the hardware path associated with the '/'(ROOT) file system
(example: 10/0.6.0) <----- Your boot disk path should be listed

Is 10/0.6.0 the hardware path of the root/boot disk?[y|n|q]-y <-- if correct
**** Automated from here ****
/sbin/fs/hfs/fsck -c 0 -y /dev/rdisk/c0t6d0s1lvm
** /dev/rdisk/c0t6d0s1lvm <--- The SupportCD's path to your HFS
/stand
** Last Mounted on /stand
** Phase 1 - Check Blocks and Sizes
** Phase 2 - Check Pathnames
** Phase 3 - Check Connectivity
** Phase 4 - Check Reference Counts
** Phase 5 - Check Cyl groups
55 files, 0 icont, 47805 used, 24 free (24 frags, 0 blocks)
***** MARKING FILE SYSTEM CLEAN *****

***** FILE SYSTEM WAS MODIFIED *****

Mounting c0t6d0s1lvm to the Support Tape's /ROOT directory...

/sbin/fs/vxfs/fsck -y /dev/rdisk/c0t6d0s2lvm <----- Normally your / (JFS)
log replay in progress
replay complete - marking super-block as CLEAN
```

```

/sbin/fs/vxfs/mount /dev/dsk/c0t6d0s2lvm /ROOT
/sbin/fs/hfs/mount /dev/dsk/c0t6d0s1lvm /ROOT/stand
loading /usr/sbin/chroot
x ./usr/sbin/chroot, 12288 bytes, 24 tape blocks
Enter 'cd /ROOT; chroot /ROOT /sbin/sh' at the shell prompt to chroot to
the customer's /(root) disk.
Support#: <----- If all goes well, it stops here.

```

4. Enter "cd /ROOT; chroot /ROOT /sbin/sh" at the shell prompt.

THIS MOVES THE SUPPORTCD / TO YOUR BOOT DISK'S / level.

5. Enter "vgchange -a y /dev/vg00".
 

```

cat /etc/fstab to list which lvol's mount to which file systems.
mount /usr
mount /var
mount /tmp

```

6. Enter the swapon command; for example, "swapon /dev/vg00/lvol2".

Executing this command will yield the error no room in system tables to add paging to lvol2, but this just means that it couldn't configure all the swap in lvol2; however, enough swap is configured to prevent possible memory faults caused by lack of swap.

7. Enter fsck /dev/vg00/</usr's lvol> (possible lvol6 or lvol7)
8. Enter the mount command; e.g., mount /dev/vg00/</usr's lvol> /usr.
9. Repeat steps 7 and 8 for /var and /tmp.

You can now 'vi' files and use normal commands to effect repairs.

After activating your vg00, the following solutions are available

```

----- To restore current LVM structures to vg00 disks -----
ll /etc/lvmconf/vg00.conf <-- date stamp indicate current data?
vgcfgrestore -n /dev/vg00 /dev/rdisk/_____ (path of vg00 disk)
Repeat previous command for each disk in vg00

```

```

----- To restore boot data reserve area for vg00 -----
lvlnboot -v /dev/vg00
Insure that there is a boot lvol, root lvol, and swap lvol defined
If not, for missing boot lvol use "lvlnboot -b /dev/vg00/lvol1"
 for missing root lvol use "lvlnboot -r /dev/vg00/lvol3"
 for missing swap lvol use "lvlnboot -s /dev/vg00/lvol2"

```

```

----- To replace missing special files -----
insf -e
NOTE: This doesn't replace volume group directories of special files.
 frecover them from a backup tape.

```

```

----- To manually replace the LIF (boot files) -----
1. determine the special file which points to the boot disk.
2. # mkboot /dev/rdisk/cXtYd0 where X and Y are your boot disk's numbers

```

----- To generate a new kernel -----

1. # cd /stand.
2. # cp vmunix vmunix.save.  
# cp system build  
# cd build
3. You may edit system with 'vi' and then generate a new kernel by typing: mk\_kernel -s system

Execution of this command creates the file /stand/vmunix\_test.

4. # mv vmunix\_test /stand/vmunix

-----To Delete a "trusted system" root password -----

Two ways:

1. # modprpw -k root ( will enable root account again)  
-or-
2. Use vi on /tcb/files/auth/r/root to change the line with :u\_pwd=:&#@\$(  
to :u\_pwd=:\
3. Reboot in single-user mode to set the password.

----- To restore files -----

Example:

0. # cd /ROOT; chroot /ROOT /sbin/sh
1. Determine the special file to the tape you plan to restore from using  
# ioscan -kfnC tape
2. # mount /usr (the file system) if it needs to be mounted
3. # frecover -xvf /dev/rmt/lm -i /usr  
Note: if the default tape drive is /dev/rmt/0m then use:  
# frecover -xv -i /usr

\*\*\*\*\*  
>>>> After all repairs have been made,

1. umount all file systems on your root disk
2. vgchange -a n /dev/vg00
3. Exit the "chroot" shell by typing "exit" at the prompt.
4. umount /ROOT
5. Reboot by selecting b from the SUPPORT MEDIA MAIN MENU.

NOTES:

Support CD for 10.01: B3920-10116 (800) & B3782-10038 (700)  
for 10.10: B3782-10173 (800) & B3782-10173 (700)  
for 10.20: B3920-13668 (800) & \_\_\_\_\_ (700)  
for 10.30: B3920-13892 (800) & B6202-10002 (700)

as of Feb 1998:

RECOVERY CD for 10.20: B3920-13903 (800) & B3782-10301 (700)  
for 10.10: B3920-13902 (800) & B3782-10277 (700)  
for 10.01: B3920-13901 (800) & N/A (700)

See also <http://www.software.hp.com/HPUX-RDMP/>

## Appendix C. Support Media Guide

### 2. Version 11.0

Using the 11.0 SUPPORT/RECOVERY CD

NOTE:

This article is provided as a courtesy to our customers whose needs have exceeded the scope of the Software Support Contract. Please be advised that assistance with this document is also beyond the scope of the contract and may be subject to Time and Materials assistance. This article is derived from "Support Tape/CD-ROM User's Manual" Part number 92453-90010.

Excerpt from the Software Support Terms and Conditions, section 4:

- o. Exclusions. HP System Support service does not include assistance that involves program development, coding, isolation of coding problems, implementation assistance, performance > consulting, data recovery regardless of the cause of data loss, or hardware malfunctions and problems or investigation time relating to the use of privileged mode code on HP 3000 systems. HP System Support service does not include consulting unless a consulting option has been purchased. HP System Support service is not a substitute for any formal training offered by HP.

\*\*\*\*\*

----- FOR HPUX 11.XX -----

Activate an LVM Root Volume Group from the Install/Support Media on a 11.00 system with 24MB of memory or more

This document details how to access your LVM Root Volume Group from the Install/Support Media at 11.00.

NOTE

The following example includes a kernel regen.

1. Boot from the Install/Support Media.  
Boot from the path of the CD media and do NOT interact with ISL.  
You will get a menu with the following options:

```
Install HP-UX
Run a recovery shell
Advanced Options
```

2. Select "Run a Recovery Shell" from the menu.
3. Enter x from the SUPPORT MEDIA MAIN MENU, to exit to the shell.
4. Type chroot\_lvmdisk. Something similar to the following will be displayed:

Enter the hardware path associated with the '/'(ROOT) file system  
(example: 7.6.9.37 )

5. Type <return> to accept the example (default) as your root file system hardware path; otherwise, enter the hardware path for the root file system hardware you wish to specify in its place.

6. If you type <return>, the following will be displayed:

```
Is 7.6.9.37 the hardware path of the root/boot disk?[y|n|q]-
```

7. Enter y, and something similar to the following will be displayed:  
If your disk IS an LVM disk, you will see the following:

```
/sbin/fs/hfs/fsck -c 0 -y /dev/rdisk/c2t1d0s2lvm

** /dev/rdisk/c2t1d0s2lvm
** Last Mounted as /
** Phase 1 - Check Blocks and Sizes
** Phase 2 - Check Pathnames
** Phase 3 - Check Connectivity
** Phase 4 - Check Reference Counts
** Phase 5 - Check Cyl groups
6256 files, 0 icon, 1494 used, 1563824 free (928 frags, 195362
blocks)
```

```
/sbin/fs/hfs/mount /dev/dsk/c2t1d0s2lvm /ROOT
/sbin/fs/hfs/mount /dev/dsk/c2t1d0s1lvm /ROOT/stand
```

```
loading /usr/sbin/chroot
x ./usr/sbin/chroot 123456 bytes 96 blocks
```

Enter 'cd /ROOT; chroot /ROOT /sbin/sh' at the shell prompt to chroot to the customer's /(root) disk.

(NOTE: If this command fails with a "bad superblock.." message, your boot disk may not be an LVM disk.  
If so, try: fsck /dev/rdisk/c2t1d0 (use your special file!)  
If you see fsck messages akin to those above, you are making progress and your disk is NOT an LVM disk.)

8. Enter cd ROOT; chroot /ROOT /sbin/sh at the shell prompt.

9. Enter vgchange -a y /dev/vg00.

This will "activate" vg00, so that you can get to your swap area, /usr, etc.

Mount /usr.

10. Enter vgdisplay -v at the prompt.

The logical volumes within the disk corresponding to the various components (/stand, swap, /, /home, /opt, /tmp, /usr, /var) are listed.

You must know which lvol is for swap (usually lvol2), which lvol is for /usr (usually lvol6), etc.

11. Enter the swapon command; for example, swapon /dev/vg00/lvol2.

Usually, install makes lvol2 your swap area with a default value of 48mb, but you must know which lvol is actually your swap area.

Executing this command will yield the error no room in system tables to add paging to lvol2, but this just means that it couldn't configure all the swap in lvol2; however, enough swap is configured to prevent possible memory faults caused by lack of swap.

12. Enter fsck /dev/vg00/rlvol6; that is, use the lvol number where /usr resides. (You may have to mount /dev/vg00/lvol6)

13. Enter the mount command; e.g., mount /dev/vg00/lvol6 /usr.

14. Repeat steps 12 and 13 for /var and /tmp.

You can now repair any file damage that has occurred.

-----  
To generate a new kernel:

1. Enter cd /stand.

2. Save your previous vmunix file by entering cp vmunix vmunix.save.

3. Generate a new kernel by typing: mk\_kernel -s system.

Execution of this command creates the file /stand/vmunix\_test.

4. Enter cp vmunix\_test vmunix

-----  
To Delete a "trusted system" root password:

1. Edit /tcb/files/auth/r/root

2. Change the line: :u\_pwd=P1M0NEyIChcmQ:\ to :u\_pwd=:\

3. Reboot in single-user mode to set the password.

-----  
After all repairs have been made,

1. Exit the chroot shell by entering exit

2. umount /mnt1

3. Reboot by selecting b from the SUPPORT MEDIA MAIN MENU.

\*\*\* End \*\*\*

## Appendix D. Access to LVM in Various Boot Options.

|                        |                                                                      |
|------------------------|----------------------------------------------------------------------|
| Normal boot:           | All volume groups activated and all file systems mounted.            |
| -lq                    | Same as normal.                                                      |
| -is                    | Only vg00 activated, /(root) mounted. All others available manually. |
| -lm                    | No vg auto activation. May be done manually. Do not init 2.          |
| Support-9.x            | No LVM access, can access only the root file system.                 |
| Support-10.x           | Manual chroot, activate vg00 only, mount vg00 lvols only.            |
| Support-10.20<br>/11.0 | Chroot_lvmdisk script, then activate vg00 manually.                  |