

HP 35687B Installation Note

Software Installation for versions A.03.04 and B.03.04

This note describes the installation and configuration of the software for the HP 3587S Realtime Signal Analyzer. Most of the HP 3587S systems are integrated at the factory by Hewlett-Packard.

Software version A.03.04 is compatible with HP-UX versions 9.05 and 9.07. Software version B.03.04 is compatible with HP-UX version 10.20. A separate procedure is listed for each in the following document. Choose the appropriate procedure for your target operating system version.

Note

If your system was integrated at the factory, these procedures do not need to be performed before using your system. The only installation required is to connect the cables to the peripherals (display, disk drive, keyboard, mouse) and the downconverter, if your system includes one. Review the entire note and retain it for future reference.

Hardware Requirements

Refer to the *HP 35687B Operator's Reference* and *HP 3587S Hardware Installation Note* for information about installing, configuring, and turning on the system hardware. Refer to each VXI module's documentation for its configuration information to configure it as follows:

The HP E1498A V743 VXI controller module must be installed in slot 0 of the VXI mainframe.

The E1430A or E1437A ADC module must be installed in the VXI slot next to, and left of the E1485A DSP module and should have a logical address of 129.

The E1485A VXI DSP module should be configured as follows:

- It should contain 2 to 5 Motorola 96000 DSP daughter boards.
- The servant area should be set to a number > 1 (≥ 16 for option ATR).
- The logical address should be set to 128.

If option ATR is installed, the E1562E Data Disk should be configured as follows:

- The logical address should be set to 144.
- The module must be installed between the ADC and DSP modules.

See the Hardware Installation Note for more information.

Procedure

The entire procedure consists of 8 steps, any of which may be omitted, depending on your goals.

1. Backup data files to tape
2. Install HP-UX operating system
3. Install C development system (optional)
4. Install SICL
5. Install HP 3587S software (HP 35687B)
6. Install knob and button box drivers (optional)
7. Restore data files from tape
8. Restart the system

If this installation is on a new (blank) system disk, all steps should be performed. If an operating system upgrade is not required, perform all steps except 2.

Note

The installation procedures differ depending on whether you are installing the 35687B software version **A.03.04** (for HP-UX 9.05 or 9.07) or **B.03.04** (for HP-UX 10.20). Please refer to the appropriate section and follow the directions accordingly.

Version A.03.04 (for HP-UX 9.05 and 9.07)

Step 1. Backup data files to tape (files in the working directory /users/hp3587s)

1. If the analyzer software is running, shutdown the HP 3587S by pressing [HOME], [SYSTEM], [SHUTDOWN], [CONTINUE SHUTDOWN].
2. At an operating system command prompt, type:

```
su <Enter>
/etc/reboot -hq <Enter>
```

and wait for the message that sys it is OK to cycle power.
3. Turn off the power to the VXI mainframe. (switch to standby)
4. Turn the VXI mainframe power back on.
5. Answer “Date correct?” with a **Y <Enter>**
6. Answer “Access HP-UX?” with a **Y <Enter>**
7. At the console login, type: **hp3587s** (no password).
8. Put a blank DAT (digital audio tape) in the DAT drive & wait for the DAT drive indicator to stop blinking.
9. Type the following at the prompt: **tar -cvf /dev/update.src ***
10. When the backup is complete, remove the DAT from the drive (press the button next to the tape slot).

Step 2. Install HP-UX operating system

Warning

This procedure erases all files on the disk. It should be performed only if the operating system has never been installed or requires updating.

1. If the analyzer software is running, shutdown the HP 3587S by pressing [HOME], [SYSTEM], [SHUTDOWN], [CONTINUE SHUTDOWN].
2. At an operating system command prompt, type:

```
su <Enter>
/etc/reboot -hq <Enter>
```

and wait for the message that says it is OK to cycle power.
3. Turn off the power to the VXI mainframe. (switch to standby)
4. Put the HP-UX Install DAT in the drive and wait for the DAT drive indicator to stop blinking.
5. Turn the VXI mainframe power on. As the boot process begins, this message appears on the display:

System Search started

Press [Esc] to discontinue the Auto Boot process.

Press [Esc] key on the keyboard in response to the prompt. You should be prompted with the “**MAIN MENU**” and a list of choices. Select the following choice from the “**MAIN MENU**”:

Select 1 - Boot From a Device

After selecting this choice, you should see the following message:

Scanning for boot devices. Please wait...

You should then be prompted with the “**BOOT FROM DEVICE**” menu that lists the available boot devices. Select the entry that specifies the DAT drive in which the HP-UX Install tape is inserted. For example the entry should appear something like:

Key	Boot Device
1	SCSI.3.0 HP HP35470A

6. After selecting the DAT tape drive as the boot device, the system begins to boot up and start the installation process. A menu driven interface guides you through the process of setting up the operating system (ROOT) disk.¹

- a. Select the appropriate disk that acts as the ROOT drive for the HP-UX operating system.
- b. Allow long filenames for the ROOT filesystem by responding with a “**y**” (Yes) to the appropriate prompt.
- c. You can change other ROOT filesystem parameters (such a swap space) by selecting the “Change ROOT Filesystem Parameters” choice. In many cases, the default values can be used unchanged.
- d. Select “Continue Installation Process” when ready. You are asked to confirm the ROOT disk swap space before continuing. When ready to begin work on the disk, you are prompted with “Do you wish to continue [**y/n**]?”. When you respond with “**y**” (Yes), the contents of the disk is erased and the installation process begins.

7. A system reboot occurs during the installation whereby you are prompted to select the keyboard type appropriate for your system.

8. You should then see the following message:

Ensure that the install media unit has been removed and an update media unit is online and prepared for reading.

When it prompts you to Press “Return” to Continue, eject the DAT (press the button beside the tape slot), put the HP-UX Run Time DAT in the DAT drive, and wait for the DAT drive indicator to stop blinking.

9. Press **<Enter>**.
10. Choose* Select All filesets on the Source Media. **<Enter>**
(*use up/down-arrows to scroll to and highlight the entry)
11. Choose Start Loading Now. **<Enter>** Various messages are displayed, the last of which says, “This is your last chance to change your mind about your selection... Start loading filesets now? **[y]**”. The system now begins loading software, which may take 40 to 50 minutes. When loading is finished, the system reboots and asks more configuration questions. See next step.
12. Answer the startup questions as follows:
-Link system to network? **[n] <Enter>**
-Continue? **[y] <Enter>**
-System name: **<Enter>** (name “unknown”; if you enter a name you are prompted for an IP address)
-Is it correct? **[y] <Enter>**
-Timezone area? (pick from list) **<Enter>**
-Timezone? (pick from list) **<Enter>**
-Correct? **[y] <Enter>**
-Time correct? **[y] <Enter>**
-Root password **[n] <Enter>**
13. Congratulations, you are finished installing the HP-UX system on the ROOT disk. **<Enter>**

¹ This step selects and configures the root disk. You may want to choose a root disk swap space value more appropriate to the root disk size and overall system configuration. See the HP-UX System Administrator’s Manual for more detail.

Step 3. Install C development system (optional)

1. Login as `root`.
2. Is your terminal ...? The 3587S console is not one of those listed.
Type `n`, then set up the console height and width (number of characters/line and lines).
3. Put the C development DAT in the DAT drive and wait for the drive indicator to stop blinking.
4. Type the following at the # prompt: **`/etc/update <Enter>`**
5. Choose* Select All File Sets on the Source Media **`<Enter>`**.
(*use up/down-arrows to scroll to and highlight the entry)
6. Choose Start Loading Now. **`<Enter>`** Various messages are displayed, the last of which says, "This is your last chance to change your mind about your selection...
Start loading filesets now? **[y]**". When this step is finished, it returns you to the # prompt and you are ready for the next step.

Step 4. Install SICL

1. Login as `root` and set up the console height and width (number of characters and lines).
2. Put the SICL DAT in the DAT drive and wait for the DAT drive indicator to stop blinking.
3. Type the following at the # prompt: **`/etc/update <Enter>`**
4. Choose Select All Filesets on the Source Media **`<Enter>`**
5. Choose Start Loading Now. **`<Enter>`** Various messages are displayed, the last of which says, "This is your last chance to change your mind about your selection...
Start loading filesets now? **[y]**".
6. Type the following at the # prompt:
`cp /usr/pil/defaults/hwconfig.cf /usr/pil/etc <Enter>`
7. Edit the file with vi; type the following: **`vi /usr/pil/etc/hwconfig.cf <Enter>`**
 - a. Uncomment 2 lines by removing the # signs.
Use the arrow keys to move the cursor to each # sign and type `x` to delete it
`#7 hpib s743 ...`
`#16 vxi v743 ...`
 - b. Then press `<Esc>` and `:wq <Enter>`
8. Type the following at the # prompt: **`cp /usr/pil/defaults/iprocf.cf /usr/pil/etc <Enter>`**
9. Edit the file with vi; type the following: **`vi /usr/pil/etc/iprocf.cf <Enter>`**
 - a. Uncomment the following 3 lines (remove the # signs)
`#boot ivxirm -p -Ivxi`
`#sysreset vxi ivxirm -t &`
`#monitor`
 - b. Then press `<Esc>` and `:wq <Enter>`
10. Type **`/usr/pil/bin/pilconf <Enter>`**
11. Answer questions:
-OK to use HW configuration file ...? **[y] <Enter>**
-...Is this OK? **[y] <Enter>**
-OK to use dfile: ...? **[y] <Enter>**
-Save backup ...? **[y] <Enter>**
12. Do you wish to reboot now? **[y]**

Step 5. Install HP 3587S software (HP 35687B)

1. Login as `root`.
2. Is your terminal ...? The 3587S console is not one of those listed.
Type `n`, then set up the console height and width (number of characters/line and lines).
3. Put HP 3587s DAT in the DAT drive and wait for the DAT drive indicator to stop blinking.
4. Type the following at the prompt: `/etc/update <Enter>`
5. Choose Select All Filesets on the Source Media `<Enter>`.
6. Choose Start Loading Now. `<Enter>` Various messages are displayed, the last of which says, "This is your last chance to change your mind about your selection...
Start loading filesets now? `[y]`.
7. If you have option 333, edit `/usr/hp3587s/CONFIGURATION`; add the following line at the end of the file:
`License Number: xxxxxxxxxxxxxxxxxx`
where `xxxxxxxxxxxxxxxxxxxx` is the 16-character license number from your 3587S software license.
8. Edit `/usr/hp3587s/CONFIGURATION` and add the following line at the end of the file:
`codeword: xxxxxxxxxxxxxxxxxx`
where `xxxxxxxxxxxxxxxxxxxx` is the 16-character codeword from your 3587S software license.
9. If you are installing option ATR, edit `/usr/hp3587s/CONFIGURATION`.
 - a. Change the line:
`#ATR Option : 0000000000000000`
to
`ATR Option : xxxxxxxxxxxxxxxxxx`
where `xxxxxxxxxxxxxxxxxxxx` is the 16-character codeword from your 3587S software license.
 - b. Change the line:
`#e1562b Logical Address: 144`
to
`e1562b Logical Address: 144`

Step 6. Install knob and button box drivers (optional)

If your 35687S system includes the optional HP A4362A/A4363A Dial and Button Box input devices, you must install their drivers to assure proper operation with the 3587S. Please refer to the installation instructions in the HP A4362A/A4363A User's Guides on how to install these drivers.

Step 7. Restore data files from tape

1. If the analyzer is running, shutdown the HP 3587S: [HOME], [SYSTEM], [SHUTDOWN], [CONTINUE SHUTDOWN].
2. Turn off the power to the VXI mainframe. (switch to standby)
3. Turn the VXI mainframe power back on.
4. Answer "Date correct?" with a `y <Enter>`
5. Answer "Access HP-UX?" with a `y <Enter>`
6. At the console login, type: `hp3587s <Enter>` (no password).
7. Put the backup DAT (tape) in the DAT drive and wait for the DAT drive indicator to stop blinking.
8. Type the following at the prompt: `tar -xvf /dev/update.src *`
9. When the restore is complete, remove the DAT from the drive: press the button next to the tape slot.

Step 8. Restart the system (activates the new configuration)

10. Login as `root`.
11. Type the following: `/etc/reboot -q <Enter>`
12. Once the system has rebooted, login, start X11, and execute `hp3587s` at a terminal prompt.

Version B.03.04 (for HP-UX 10.20)

Note

This note applies only to users installing the B.03.04 version of the HP 35687B software.

The A.03.04 and B.03.04 versions of the HP 35687B software are functionally equivalent. The difference between the two versions are that they run under the HP-UX 9.0X and HP-UX 10.20 operating systems respectively.

One of the major differences between HP-UX 9.0X and HP-UX 10.20 is the file system layout. HP-UX 10.20's file system is modeled after AT&T SVR4 and OSF/1 and is significantly different from that used in HP-UX 9.0X. The application installation process described in this note is designed to minimize the turmoil of moving between these two paradigms. (Note that this is a concern only if you have previous experience using an HP-UX 9.0X 3587S system.)

The file system differences for the HP 35687B application files are summarized below:

A.03.04 (HP-UX 9.0X)	B.03.04 (HP-UX 10.20)
-----	-----
/usr/hp3587s/*	/opt/hp3587s/*
/usr/bin/hp3587s	/opt/hp3587s/bin/hp3587s
/usr/bin/hp3587sar	/opt/hp3587s/bin/hp3587sar
/users/hp3587s/*	/home/hp3587s/*

To enable transparent use of the A.03.04 configuration files when running B.03.04, the /usr/hp3587s directory is symbolically linked to the /opt/hp3587s directory by the installation process for B.03.04. This allows any "older" HP-UX 9.0X-style /usr/hp3587s references to be transparently mapped into the new physical directory location (/opt/hp3587s) for HP-UX 10.20.

There is currently no separate manual for the B.03.04 version of the HP 35687B. Since the A.03.04 and B.03.04 versions of the software are functionally equivalent, the A.03.04 manual applies in total to the B.03.04 software. The only differences to note are the file system layout changes described above.

Step 1. Backup data files to tape

1. Connect a DAT (Digital Audio Tape) drive to the workstation's SCSI bus.
2. Insert a DAT tape into the drive.
3. As root, use SAM (System Administration Manager) to backup files of interest to the DAT tape. You can invoke SAM from the command line via:

```
% su  
# sam
```

Note

If your system has never had a SCSI DAT drive configured, you should use SAM to add the stape driver to the HP-UX kernel. You can also use SAM to create and configure the appropriate device files for the drive.

If you are unfamiliar with SAM, refer to the online man (manual) page or the HP-UX system administration manual for more detail.

Step 2. Install HP-UX operating system

1. If the analyzer software is running, shutdown the HP 3587S by pressing [HOME], [SYSTEM], [SHUTDOWN], [CONTINUE SHUTDOWN].

2. At an operating system command prompt, type:

```
su <Enter>
/etc/reboot -hq <Enter>
```

and wait for the message that says it is OK to cycle power. Then turn the power off on the VXI mainframe.

3. Connect a CD-ROM drive to the workstation's SCSI bus.

4. Put the HP-UX INSTALL and CORE OS CD-ROM into the CD-ROM drive.

5. Turn the VXI mainframe power on. As the boot process begins, this message appears on the display:

```
System Search Started
Press [Esc] to discontinue the Auto Boot process.
```

Press [Esc] key on the keyboard in response to the prompt. You should be prompted with the “**MAIN MENU**” and a list of choices. Select the following choice from the “**MAIN MENU**”:

```
Select 1 - Boot From a Device
```

After selecting this choice, you should see the following message:

```
Scanning for boot devices. Please wait...
```

You should then be prompted with the “**BOOT FROM DEVICE**” menu that lists the available boot devices. Select the entry that specifies the CD-ROM drive in which the HP-UX install media is inserted. For example the entry should appear something like:

Key	Boot Device
1	SCSI.2.0 TOSHIBA CD-ROM XM-5401TA

The workstation should now begin to boot from the CD-ROM drive.

6. If your workstation has a DIN keyboard, you will first be prompted to confirm the localization language for your keyboard. As of this writing, the choice for US English was:

```
45) PS2_DIN_US_English
```

Enter the number at the prompt and press <Enter>. You may be asked to reconfirm the choice.

7. You should then be greeted with a "Welcome to the HP-UX installation process!" message. This menu driven utility will lead you through the installation of the HP-UX operating system. Select the [Install HP-UX] option and press <Enter>.

Respond to the prompts as appropriate for your desired system configuration. Refer to the HP-UX installation documentation or system administration manuals for details on system configuration options.

As of this writing (with HP-UX 10.20), these value yield an acceptable default system configuration:

Would you like to enable networking now?	[n]
Whole-System Configuration	[Standard LVM Configuration]
Primary Swap Size	[400 MB]
² Secondary Swap Size	[None]
Software Selection	[CDE Runtime Environment]
Software Language	[English]
Locale Setting	[default (C)]
File system file name length	[Long]
/home Configuration	[Minimal]
Make volatile dirs separate	[True]
Create /export volume	[False]

When prompted for the Disk Parameters/FS Parameters entry, select the disk that will serve as the system disk. **Caution: all information on this disk will be erased.** Modify the <FS Parameters> to allocate more space to the /home volume. At least 200 Mb is recommended. Note that this can be changed later after the system is booted via the Logical Volume Manager (LVM) within SAM. Refer to the HP-UX system administration manuals for more details.

²This value assumes a system disk capacity of 4 GB. Select a value commensurate with your system disk size.

When prompted whether to interact with SD-UX, reply no.

```
Do you want to interact with SD-UX swinstall? [ No ]
```

The installation process will now build the HP-UX file system on the target disk drive and install the appropriate filesets off of CD-ROM. This process may take 40 to 50 minutes. When loading is finished, the system will reboot and asks more configuration questions. See next step.

8. Respond to the "Welcome to HP-UX!" prompts as appropriate for your desired system configuration. Refer to the HP-UX installation documentation or system administration manuals for further details on system configuration options.

As of this writing (with HP-UX 10.20), the following responses result in a desirable default system configuration:

```
- Link system to a network? [ no ]
- System name           [ Enter desired name, recommend max length = 8 chars ]
- Timezone?             [ As appropriate ]
- Timezone area?        [ As appropriate ]
- Time correct?          [ As appropriate ]
- Root password?        [ respond "yes" to set root password, remember for
                           later usage ]
- Font server?           [ no ]
```

If you need to change these settings in the future, run "/sbin/set_parms" as root. Once you have completed the dialog above, the workstation will reboot and you should be greeted with a CDE (Common Desktop Environment) login prompt.

9. Congratulations, you are finished installing the HP-UX operating system.

Step 3. Install HP I/O Libraries (SICL)

1. Login through CDE as root.
2. Open up a terminal window.
3. Load the CD-ROM containing the "HP I/O Libraries (SICL/VISA)" into the CD-ROM drive.
4. Mount the CD-ROM for access via:

```
# /etc/mount /dev/dsk/c0t2d0 /SD_CDROM
```

This assumes that the CD-ROM drive is at SCSI address 2.

5. Run /usr/sbin/swinstall to install the I/O libraries. You will have to specify the <Local CD-ROM> as the source of the installation media. For more information on swinstall, refer to the detailed documentation for SD-UX (Software Distributor for UNIX).
6. Unmount the CD-ROM drive via:

```
# /etc/umount /SD_CDROM
```

7. The iosetup utility provides a graphical user interface to configure the SICL (Standard Instrument Control Library) subsystem, used to perform workstation hardware I/O. To run the iosetup utility:

```
# /opt/sicl/bin/iosetup
```

- a. Select the "V743 VXI Interfaces" and "Model v743 Built-in HP-IB" interfaces to configure.
- b. Accept the default parameters for each of these choices.
- c. When finished selecting the interfaces to configure, press <Done...>.
- d. Confirm the acceptance of the configuration. Press <OK> at the next dialog prompt (with the default entries) that describes some of the HP-UX kernel build details.
- e. When the kernel rebuild is complete, you are prompted in the terminal window whether the system should be rebooted:

```
Kernel build was successful!
Would you like to reboot now using 'shutdown -r'? y/n: y
```

Respond "y" for yes and allow the system to reboot.

Step 4. Install C development system (optional)

If you intend to develop "C" programs to interface with the HP 3587S via option AGG, you must have the "HP C/ANSI C Development Bundle". The following procedure describes how to install the development bundle.

1. Login through CDE as root.
2. Open up a terminal window.
3. Load the CD-ROM containing the "HP C/ANSI C Development Bundle" into the CD-ROM drive.
4. Mount the CD-ROM for access via:

```
# /etc/mount /dev/dsk/c0t2d0 /SD_CDROM
```

This assumes that the CD-ROM drive is at SCSI address 2.

5. Run /usr/sbin/swinstall to install the HP C/ANSI C Development Bundle. You must specify the <Local CD-ROM> as the source of the installation media. For more information on swinstall, refer to the detailed documentation for SD-UX (Software Distributor for UNIX).

6. Unmount the CD-ROM drive via:

```
# /etc/umount /SD_CDROM
```

Step 5. Install HP 3587S software (HP 35687B)

1. Login through CDE as root.
2. Open up a terminal window.
3. Load the DAT tape containing the HP 35687B software into the DAT drive.
4. Run /usr/sbin/swinstall to install the development bundle. You will have to specify the <Local Tape> as the source of the installation media. For more information on swinstall, refer to the detailed documentation for SD-UX (Software Distributor for UNIX).
5. Edit /opt/hp3587s/CONFIGURATION and add the following line at the end of the file:

```
License Number: xxxxxxxxxxxxxxxxx
```

where xxxxxxxxxxxxxxxxx is the 16-character license number from your 3587S software license.

6. Edit /opt/hp3587s/CONFIGURATION and add the following line at the end of the file:

```
codeword: xxxxxxxxxxxxxxxxx
```

where xxxxxxxxxxxxxxxxx is the 16-character codeword from your 3587S software license.

7. If you are installing option ATR, edit /opt/hp3587s/CONFIGURATION.

- a. Change the line:

```
#ATR Option : 0000000000000000
      to
ATR Option : xxxxxxxxxxxxxxxxx
```

where xxxxxxxxxxxxxxxxx is the 16-character codeword from your 3587S software license.

- b. Change the line:

```
#e1562b Logical Address: 144
      to
e1562b Logical Address: 144
```

8. Use sam to add the user login "hp3587s" to the system.

Step 6. Install knob and button box drivers (optional)

If your 3587S system includes the optional A4362A/A4363A Dial and Button Box input devices, you must install their drivers to assure proper operation. Please refer to the installation instructions in the following file for procedures appropriate for your system:

```
/opt/hp3587s/daisy/README
```

Step 7. Restore data files from tape

1. Insert the DAT tape used in the backup in step #1 into the DAT drive.
2. As superuser, use SAM (System Administration Manager) to restore files of interest from the DAT tape.

Step 8. Restart the system

1. Exit CDE (from root user).
2. At the CDE login screen, login as user "hp3587s" (added in Step 5).
3. To start the HP 3587S, at a terminal prompt, execute "hp3587s":

```
% hp3587s <Enter>
```