

IBM INSTALLATION INSTRUCTIONS

Install Functional Microcode for Virtual Tape Server Model 3494-B18

Microcode Level 2.17.10.0

Document Number 35L0667 EC F23233A

SSD - Tucson

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Status: Field Use

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Before Installation (Sections 1 through 8)

1.0 Machines Affected

All 3494 B18 Virtual Tape Servers.

2.0 Prerequisites / Concurrent / Companion

2.1 Prerequisites

Be sure to execute the SSA Checkup procedure described in Section 4.1, "New Mandatory Procedure: SSA Checkup Diskette Must Be Run Prior to Starting Install" on page 4.

2.1.1 Prerequisite LM Code Level is 523.00 or Higher

LM code level 523.00 or higher must be installed in order for the VTS to go online. Make sure you have this code available and install it FIRST before starting the VTS code install.

2.1.2 Feature Diskettes Required for Hardware Feature Control Management

This microcode includes the Hardware Feature Control function, which manages the hardware features installed in each VTS. Features are managed using a feature control database kept on the VTS microcode hard disk. This database is also backed-up on the AIX Install diskettes customized to each VTS in case the microcode hard disk needs to be replaced.

The function was first introduced in code level 2.14.14.0, so B18's operating at this level or higher will already have features installed. **However, if the B18 is currently at a code level LOWER than 2.14.14.0 AND has the High Per-**

formance ESCON option installed, it is critical that you have the appropriate feature control diskettes in hand PRIOR to starting the microcode install. The feature diskettes required by the High Performance ESCON option are as follows:

- One Feature Diskette 3200 for the first two High Performance ESCON cards installed in the VTS. These are the ESCON cards that became available 4Q98 with hardware compression, released as feature 3200.
- One Feature Diskette 3302 for the third and fourth (if any) High Performance ESCON cards installed in the VTS.

During the microcode install you will be prompted to insert the feature diskettes - see step 26 on page 13.

For code levels 2.14.14.0 and higher, any needed features should already be installed in the VTS. To check feature status, use the service login to select "Microcode Maintenance" and then select "Display Feature Status".

When the VTS is going online, it compares its feature control database with the hardware features installed on the machine. If the hardware features are installed without the corresponding feature control database entries, the VTS will NOT go online.

For all other field upgradeable hardware features, feature control diskettes will be shipped with the associated MES packages. The MES instructions will indicate when to use its feature control diskettes during the MES process.

2.1.3 Code Level Requires AIX Level 4.3.2

This microcode level 2.17.10.0 requires AIX level 4.3.2. If upgrading from microcode levels LOWER than 2.14.14.0, it is necessary to install AIX 4.3.2 first, so increase the planned outage time accord-

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ingly (see section 7.0, "Installation Time" on page 6).

The microcode level installed on the VTS may be checked using the following procedure:

1. Connect to the B18 using EBTERM
2. At prompt for menu name, type **service** and press enter
3. Highlight the item **Microcode Maintenance** and press enter
4. Highlight the item **Display Active Code Level and Status** and press enter

The installed microcode level is shown immediately to the right of the word "Level" in the information displayed.

The installed AIX level is shown immediately to the right of the phrase "AIX Level" in the information displayed.

2.2 Concurrent

2.2.1 Customer Data Migration Procedure Added for AIX Install

This EC includes a Customer Data Migration procedure which must be executed prior to installing AIX 4.3.2. The procedure is detailed starting at section 10.4.1, "Customer Data Migration Procedure" on page 9. All customer data is migrated to tape as a precaution.

This procedure only applies when it is necessary to install AIX 4.3.2. See section 7.0, "Installation Time" on page 6 for planning the outage time to run this procedure. Also, if it is necessary to run this procedure, make sure you have been supplied with the following parts:

- 1 Source VTS Fast Migration/Backup diskette (P/N 09L5210)
- 2 Tape Cartridges (P/N 05H4434)
- 2 Cartridge Labels (P/N 70X8330)

3.0 FBMs To Be Installed

FBM	Description
35L0601	Install Instructions and Microcode Updates

4.0 Preparation

4.1 New Mandatory Procedure: SSA Checkup Diskette Must Be Run Prior to Starting Install

This EC includes a SSA Checkup diskette (P/N 35L0608) which must be run prior to starting the code install, regardless of the currently installed microcode level. The SSA Checkup program performs a complete check of the SSA disks, adapters, and link configuration and reports any errors found. Run this diskette prior to starting the code install to confirm there are no problems with the SSA configuration. Correct ALL errors reported using normal SSA service procedures and re-run the diskette until it runs cleanly.

Failure to run this diskette and correct all reported errors may result in a long outage during the code install procedure! The code install will FAIL if SSA configuration errors are detected during the install process.

The SSA Checkup diskette may be run concurrently with customer operations. The diskette is in the PFE diskette format. The procedure for running this diskette is as follows:

- ___ 1. If not already connected, Connect to the B18 using EBTERM.
- ___ 2. At prompt for menu name, type **service** and press enter.
- ___ 3. Highlight the item **VTS Control Unit Service Utilities** and press enter.

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- ___ 4. Highlight the item **Run PFE/Support Center Provided Functions** and press enter.
- ___ 5. Insert the SSA Checkup diskette P/N 35L0608 into the diskette drive.
- ___ 6. Press enter again to start the program.
- ___ 7. If errors are reported, use the normal SSA service procedures to correct the problem. If necessary, contact the support center for assistance.
- ___ 8. Remove the diskette when finished.

It is important that the SSA Checkup program completes without detecting errors. If errors are detected during the code activate process, the activation will FAIL until the problems are corrected.

5.0 Programming Updates

None.

6.0 Purpose and Description

This EC:

- Updates the 3494-B18 Virtual Tape Server functional microcode to EC F23233A (VTS code level 2.17.10.0). Included in the package are:
 - These installation instructions.
 - 3494-B18 VTS Functional Code CD (P/N 34L2685)
 - 3494-B18 VTS SSA Checkup Diskette (P/N 35L0608)
 - 3494-B18 AIX Install Diskette (P/N 09L5125)- Primary copy
 - 3494-B18 AIX Install Diskette (P/N 09L5125)- Backup copy
 - 3494-B18 VTS Fixpack 4 for AIX 4.3.2 (P/N 09L5124)
 - AIX Version 4.3.2 CD (P/N 09L5123) - Volume 1 of 3; only volume required)

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7.0 Installation Time

Note: As indicated below, the code installation sequence is:

- Install the AIX operating system code; and then
- Install the VTS code; and finally
- install any needed AIX fix packs.

This section only applies to the VTS microcode level 2.17.10.0 installation; see the LM installation instructions for estimating the time to install LM microcode.

In addition to requiring an AIX 4.3.2 install on many machines, this code level will update the Service and System processor flash memories. This requires *2 additional reboots* of the machine during the early portion of the code activate procedure (i.e. after the AIX install).

Plan your outage time using the following conservative estimates:

1. Vary VTS Offline - 10 minutes
2. Run SSA Checkup Diskette (if not already run) - 10 minutes
3. If installing AIX 4.3.2, run Customer Data Migration - ranges from 45 minutes to 2 hours depending on cache size

4. Install AIX 4.3.2 *if required* - 1 hour
5. During Code install, update Service and System processor flash (2 reboots) - 40 minutes
6. Code Activation Time - 30 minutes
7. Time to Reboot after Activation - 15 minutes
8. Apply AIX Fixpack and Reboot - 15 minutes
9. Test Procedure - 15 minutes

The **average time** required for the Data Migration and AIX Install procedure is 4 hours.

The **average time** for the Copy and Activate procedure (when 2.14.14.0 or higher is already installed) is 2 hours.

Again, section 2.1.3, "Code Level Requires AIX Level 4.3.2" on page 3 describes how to determine what code level is installed on the VTS.

CE Hours	Machine Hours	System Hours	No Of CEs
2.4-5.7	2.0-5.3	0	1

8.0 Materials Required

None.

Installation (Sections 9 through 11)

9.0 Safety

Not applicable.

10.0 Details of Installation

Warning: Do not proceed without first successfully running the SSA Checkup diskette. Instructions are given in Section 4.1, "New Mandatory Procedure: SSA Checkup Diskette Must Be Run Prior to Starting Install" on page 4.

10.1 Vary Virtual Tape Server Offline

Inform/Request operations that the 3494-B18 needs to be taken offline. Do not proceed until operations has verified that all **virtual** drives in the VTS have been varied offline at all attached systems.

- ___ 1. If not already connected, Connect to the B18 using EBTERM.
- ___ 2. At prompt for menu name, type **service** and press enter.
- ___ 3. Highlight the item **Control Unit and Tape Drive Online/Offline Control** and press enter.
- ___ 4. Highlight the item **Vary Control Unit Offline** and press enter.
Press enter again to select cu0.
- ___ 5. When OK is returned, the offline process is in progress, but may NOT yet be com-

plete. **Wait 5 minutes before proceeding to the next step** to allow the VTS to complete offline processing.

- ___ 6. Press F10 to exit.

Go to section 10.2, "Determine Install Procedure."

10.2 Determine Install Procedure

The install procedure that can be used depends on what code is currently installed on the machine. If the currently installed microcode level is 2.14.0.0 or higher (and therefore AIX 4.3.2 is already installed), the copy and activate procedure can be used, which will save about 1 hour on the code installation time. This procedure is detailed in section 10.3, "Copy and Activate Install Procedure."

Otherwise, the procedure requiring an AIX reinstall followed by the microcode installation **MUST** be used. This procedure is detailed in section 10.4, "AIX and Microcode Install Procedure" on page 9.

IMPORTANT: Go to either section 10.3, "Copy and Activate Install Procedure" or 10.4, "AIX and Microcode Install Procedure" on page 9. You will perform **ONLY ONE** of these procedures. Do **NOT** perform both.

10.3 Copy and Activate Install Procedure

Warning: Do not proceed without first successfully running the SSA Checkup diskette. Instructions are given in Section 4.1, "New Mandatory Procedure: SSA Checkup Diskette Must Be Run Prior to Starting Install" on page 4..

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10.3.1 Copy the code image from the CD

- ___ 1. If not already connected, Connect to the B18 using EBTERM.
- ___ 2. At prompt for menu name, type **service** and press enter.
- ___ 3. Highlight the item **Microcode Maintenance** and press enter.
- ___ 4. Highlight the item **Copy Code Image From Source Media** and press enter.

You may get a message indicating only two images are allowed on the VTS. If so, follow the screen to delete (use F4 to select) the older (lower number) image.
- ___ 5. Highlight the item **Copy VTS Subsystem Code from Source Media**.
- ___ 6. When asked what type of media, enter "c" (without quotes) for CD.
- ___ 7. As prompted, place the microcode CD in the CD drive, hit enter, and the code image is copied from CD to the VTS controller.

You may get a message indicating the copy failed due to not enough disk space. If this occurs, use the **Microcode Maintenance** option **Delete Code Image** to delete another code image stored in the VTS, and then repeat steps 4 through 7.
- ___ 8. Once the image is copied, press F10 to return to the main menu.

10.3.2 Activate the code image

- ___ 1. Confirm that the Library Manager is in Auto, Online Mode.
- ___ 2. If not already connected, connect to the B18 using EBTERM.
- ___ 3. At prompt for menu name, type **service** and press enter.
- ___ 4. Highlight the item **Microcode Maintenance** and press enter.
- ___ 5. Highlight the item **Activate Code Image** and press enter.

- ___ 6. Highlight the item **Activate VTS Subsystem Code Image** and press enter.
- ___ 7. Highlight the item **oc.2.17.10.0** and press enter.

ATTENTION

Early in the activation process there will likely be a notification that the "System and Service Processor Flash is to be Updated". Each "FLASH" update will require a "REBOOT". For each reboot cycle, you will need to repeat steps 1 through 8. Once the flash updates (3 maximum) have completed, the normal functional microcode activation sequence will commence.

- ___ 8. Follow the rest of the instructions on the screen. The last thing you'll do is remove the CD and enter "r" to reboot, after which code installation is complete.

10.3.3 Update AIX Install Diskettes

This procedure writes configuration data to the Primary and Secondary AIX Install diskettes. It is recommended that you update the new diskettes shipped with this EC (P/N 09L5125), but alternatively you may update the diskettes originally used to install AIX 4.3.2 on this VTS.

It is critical that you write the VTS serial number on the AIX Install diskettes used for the update, safely store these diskettes, and discard any old or unused versions.

- ___ 1. If not already connected, connect to the B18 using EBTERM.
- ___ 2. At prompt for menu name, type **service** and press enter.
- ___ 3. You must update the AIX install diskettes to be compatible with this new microcode level.
- ___ 4. Highlight the item **Microcode Maintenance** and press enter.

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- ___ 5. Highlight the item **Refresh AIX Install Diskettes** and press enter.
- ___ 6. Follow the rest of the instructions on the screen.
- ___ 7. Store the AIX install diskettes safely with the machine.

10.3.4 Apply AIX Fixpack

- ___ 1. If not already connected, connect to the B18 using EBTERM.
- ___ 2. Follow the steps in section 10.1, "Vary Virtual Tape Server Offline" on page 7.
- ___ 3. Highlight the item **Microcode Maintenance** and press enter.
- ___ 4. Highlight the item **Install AIX Fixpack** and press enter.
- ___ 5. Follow the rest of the instructions on the screen. The last thing you'll do is remove the CD and press "Enter" to reboot, after which, the fixpack installation is complete.
- ___ 6. Go to section 11.0, "Test Procedure" on page 14.

10.4 AIX and Microcode Install Procedure

Notes: The following procedure installs a new AIX operating system. This process resets the RISC ERRPT logs.

Warning: Do not proceed without first successfully running the SSA Checkup diskette. Instructions are given in 4.1, "New Mandatory Procedure: SSA Checkup Diskette Must Be Run Prior to Starting Install" on page 4. Once the new level of AIX is installed you cannot go back to the previous microcode level without first down-leveling AIX, which is a difficult process.

Warning: As explained in Section 2.1.2, "Feature Diskettes Required for Hardware Feature Control Management" on page 3, make sure you have the 3200 and 3302 feature

diskettes available prior to starting the AIX install. Also, for the data migration procedure, make sure you have the migrate diskette and tape cartridges as described in Section 2.2.1, "Customer Data Migration Procedure Added for AIX Install" on page 4.

There can be Library Manager screen time-outs encountered throughout the install procedure. This may surface as a blank screen or an error window on EBTERM. Some errors on EBTERM can occur as a result of hitting the space bar to reactivate the blank screen. If this happens, clear the error by clicking OK.

There may be times during the installation that communication can be lost between EBTERM and the 3494 B18 VTS Control Unit. You can determine if you need to reconnect with EBTERM by looking at the tool bar. If **connect** is highlighted, a reconnect will be required before continuing to the next step.

10.4.1 Customer Data Migration Procedure

As a precaution during the AIX and Microcode Install, this procedure migrates all customer data from disk to tape.

Before proceeding with the next section, verify that the Control Unit Library Manager and the VTS Unit are in the following state of readiness:

- *Control Unit Library Manager:* must be in **Auto AND Online**.
- *Virtual Tape Storage Unit:* Must be **Offline**.
- All 3590 drives are available on Library Manager.

Warning: During this instruction you will be periodically instructed to **Pause** the Library Manager, and return to **Auto** so that the accessor can mount (if needed) the native drives. There is no need to be in the **Manual Mode**.

Note: The data migration and backup will use physical scratch volumes. To avoid possible problems with "out of scratch" inter-

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ventions, or reclamation, **ensure that you have 20 or more scratch volumes available for the B18.** To find out how many scratch are available, use **Database Search** on the library manager, and display the volumes in category FF03, with Media Type for the B18 VTS (e.g. J-1 for VTS1). You should insert scratch volumes if the number is low.

Go to Section 10.4.1.1, "Inhibit Reclamation."

10.4.1.1 Inhibit Reclamation

To prevent ADSM reclamation from interfering with data migration and backup, you should Inhibit Reclamation on the Library Manager as follows:

- ___ 1. Select **System Management** under the **Commands** pull-down on the Library Manager Operator Menu.
- ___ 2. Select **Set VTS Management Policies.** Select the check box for the VTS being updated.
- ___ 3. Record the following data:
Note: Record times using 24-hour notation; for example, 3:30 PM is written as 1530.
Day of week _____
Start time _____
Duration _____
Note: Save the above information for use when you complete the installation.
- ___ 4. Add an entry for the current day, and current time, for a duration of 12 hours 00 minutes. For example if today is Tuesday, and the time is 3:30 PM, you would add an entry for:

	Start Time	Duration
Day of Week	Hour Minute	Hours Minute
Tuesday	15 30	12 00
- ___ 5. Use **Add** to add the entry, then **Save** to save and exit.

10.4.1.2 Fast Migrate

- ___ 1. Make sure the VTS B18 is offline.
- ___ 2. Place the Library Manager in **Pause** mode.
- ___ 3. To ensure that all VTS drives are empty, open the library and remove any cartridges that have been left in the drives. Place the cartridges in the error recovery cell (*1A1* if the machine is *without* the Dual Gripper feature; or *1A3* if the Dual Gripper feature *is installed*).
- ___ 4. Return the Library Manager to **Auto** mode.
- ___ 5. Using a service window on the Library Manager, Start EBTERM if it is not already running, enable Direct Connect, and Connect to the VTS B18.
- ___ 6. Type **service** and press **enter** to go to the main service screen.
- ___ 7. Select the **VTS Control Unit Service Utilities** option.
- ___ 8. Select the **Run PFE/Support Center Provided Functions** option.
- ___ 9. Install the **Source VTS Fast Migration/Backup** diskette (PN 09L5210, supplied) into the floppy disk drive of the B18 control unit and press **enter** on the Library Manager EBTERM window. Follow the on-screen instructions.

ATTENTION

DO NOT allow the Library Manager to be removed from its **Auto/Online** state during the migration.

Note: Fast Migrate can take from a few minutes to several hours to complete. **Do not proceed if Fast Migrate is not successful,** instead contact the support center.

Note: While running Fast Migrate, status messages indicating the amount of used space will appear every 30 seconds. Depending on the number of files and the size of the cache, it may take up to 30

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minutes before the used size starts to decrease. Be patient.

When Fast Migrate completes OK, there will be a short pause before running data backup.

- ___ 10. Place the Library Manager in **Pause** mode.
- ___ 11. To ensure that all VTS drives are empty, open the library and remove any cartridges that have been left in the drives. Place the cartridges in the error recovery cell (1A1 if the machine is *without* the Dual Gripper feature; or 1A3 if the Dual Gripper feature *is installed*).

10.4.1.3 Backup

The following program will ask you to mount two tapes. Two backup tapes are created, one is a duplicate of the other just in case there is a problem (read error) later on during the restore process.

WARNING

Do not install customer scratch tapes! You MUST use the new tape cartridges (P/N 05H4434, 2 supplied) and cartridge label (P/N 70X8330, 2 supplied) for this backup procedure.

- ___ 1. Follow the on-screen instructions to determine which drives are to be used.
- ___ 2. You will receive a message of "Backup finished on <date>" upon completion.
- ___ 3. **If the backup fails:**
 - ___ a. The log is displayed at the VTS service console.
 - ___ b. A message is displayed at VTS service console indicating that the process failed.
 - ___ c. The program waits for a user response before returning to the service menu.

- ___ d. **Do not proceed if the backup fails.** Contact the Support Center.
- ___ 4. When the fast migrate/backup is complete, the EBTERM window will display a message that backup is finished. Examine the message for a completion status.
 - ___ a. Remove the tapes and label with date and time..
 - ___ b. Remove the diskette from the VTS.

10.4.1.4 Enable Reclamation

- ___ 1. Select **Subsystem Management** under the **Commands** pull-down on the Library Manager Operator Menu.
- ___ 2. Select **Set VTS Management Policies**.
- ___ 3. Select the entry you recorded in Section 10.4.1.1, "Inhibit Reclamation" on page 10 Step 3 on page 10 and created in Step 4 on page 10.
- ___ 4. Use **Delete** to delete the entry and select **Yes** to confirm the deletion, then use **Save** to save and exit.

This completes the Customer Data Migration Procedure.

10.4.2 AIX and Microcode Install

ATTENTION

If 3590 Ultra or 3590 E1A drives are present, power off the last drive in the string (with terminators; rmt5) before beginning this procedure. (An Ultra drive should have a "Magstar Ultra" label on the rear of the drive beneath the serial number plate.)

- ___ 1. This microcode installation procedure requires the Library Manager to be **online**. Verify that the Library Manager is **Online/Auto** from its console before continuing.
- ___ 2. Write the 3494 B18 VTS serial number (found on the back of the VTS frame, not

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on the RS/6000 CPU cover) on the label of both AIX Install diskettes provided. Mark one diskette as **primary** and the other as **backup**.

- ___ 3. Insert the Primary AIX Install Diskette into the floppy diskette drive.
- ___ 4. Insert the AIX 4.3.2 CD Volume 1 of 3 (P/N 09L5123) into the CD ROM drive.
- ___ 5. On the EBTERM window, return to the **Magstar 3494 Virtual Tape Server (VTS) Maintenance** menu.
- ___ 6. Select the **Control Unit Shutdown and Restart Menu**
- ___ 7. Select **Shutdown AIX and Control Unit Code (use prior to power off)**
- ___ 8. Press Enter at each of the two warnings. The VTS will begin to shutdown.
- ___ 9. When the 3494 B18 VTS Control Unit display indicates "OK", the 3494 B18 VTS Control Unit is powered off.
- ___ 10. From the Library Manager terminal, select **Mode** on the tool bar. A mode window will pop up. Make sure **Online** has a check mark next to it. If Online is not selected, select it. When the Library Manager is "online", this microcode installation procedure can continue.
- ___ 11. Power on the 3494 B18 VTS Control Unit by pushing the power on/off button.
- ___ 12. Reconnect to the 3494 B18 VTS Control Unit with EBTERM (if necessary).
- ___ 13. Watch the EBTERM console carefully. In approximately two minutes, a series of "RS/6000" logos will scroll by. Then a "memory keyboard network SCSI ..." message will be displayed. As this line is displayed, press the **5** key. You have approximately 2 to 3 seconds to press the **5** key at this point. If the **5** key is not pressed during this time, the RISC will go directly to its "Service Menu" and the power off/on cycle will have to be repeated. If the **5** key is pressed at the proper time, then more "RS/6000" logos will be displayed, along with a "STARTING SOFTWARE..." message. This indicates you are proceeding correctly.
- ___ 14. This AIX installation will take approximately 25 to 30 minutes, so please be patient. When LED activity is no longer occurring on the 3494 B18 VTS Control Unit and the EBTERM console indicates a reboot has completed (Login menu displayed), AIX has been successfully loaded.
- ___ 15. Remove the AIX CD from the CD ROM drive.
- ___ 16. Clear any EBTERM error conditions and reconnect to the 3494 B18 VTS (if necessary).
- ___ 17. Log on as **service** (no password required).
- ___ 18. Type **i** for code install and press Enter.
 - ___ a. Insert "Magstar 3494 Virtual Tape Server Microcode" CD into the CD ROM drive.
 - ___ b. Type **c** for CD and press Enter to start the microcode install.
- ___ 19. A message will appear indicating that the Primary AIX Install Diskette should be mounted in the diskette drive. (It should still be there. Verify this.) The diskette must not be write-protected. Also, it is critical that the machine serial number is recorded on the diskette label.

Note: If an EBTERM error condition occurs, clear it. This may surface as a blank screen until you press Enter and click OK.

Note: The AIX Install diskettes are unique to this machine and are used to archive machine configuration and installed feature data. It is necessary to use one of these diskettes to restore this data if the control unit hard disk requires replacement, or if other scenarios occur which require reinstallation of the AIX operating system.

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___ 20. Press Enter when the Primary AIX Install Diskette is mounted in the floppy diskette drive.

Note: The following steps 21 through 29 on page 14 only occur when there is no machine configuration data stored on the Primary AIX Install Diskette. Once this diskette has configuration information, skip to step 30 on page 14.

___ 21. A **VTS Field Configuration Panel** will be presented, allowing the input of configuration data required to complete the functional microcode installation. Several of the fields will be filled in automatically based on detected hardware. The only fields that need to be updated are the machine serial number, the control unit LAN address, and the dual LM attachment fields.

___ 22. Move the cursor to the serial number field and enter the serial number to be used for this VTS. The standard serial number is on the cover of the VTS, but some locations use a different identifier for this field. Use the identifier that follows the convention for your location - this must be the same identifier used in teaching the Library and is also the same identifier used in the host IOCDS record for this VTS.

Be sure to update **all seven characters** of the serial number field. When entering the standard serial number from the cover of the VTS, provide leading zeros if necessary to make up seven characters. (Note, the plant of manufacture, i.e. 13, does not need to be entered.)

___ 23. Move the cursor to the LAN Address field and press **F4** to bring up a list of available LAN addresses. Select the appropriate address by counting from the Library Manager frame to the D12 frame for this B18. For example, if the D12 frame is the third frame in the system, the correct number to be selected would be "30". Press Enter to select the address.

___ a. If this VTS is connected to a dual LM (HA1 feature) configuration, then update the **"Dual LM Attachment"** field by selecting "yes" using the tab key.

___ b. Press Enter to submit the machine configuration data.

___ 24. Press Enter in response to the **Are You Sure?** screen. (You may press F3 to Cancel and return to the Configuration Panel to make corrections if needed.)

___ 25. Press **F3** to leave the Command **OK** screen.

___ 26. You will be asked if you have a Feature Diskette to be installed. If this is the case, insert the diskette in the floppy diskette drive, type **f** for feature, press Enter, and follow the instructions on the screens. If you have no feature diskettes to install, type **c** for continue and press Enter.

ATTENTION

If either <FC 3200> **OR** <FC 3200 and FC 3302> hardware already exist in the machine, you **MUST** install the associated Feature Diskette(s) included in the kit now, before rebooting the machine and attempting to bring the subsystem online. A detected mismatch between installed hardware and installed Feature Diskettes may result in a machine check-1 condition.

Note: The opportunity to install additional Feature Diskettes will be provided. Entering **c** indicates you have no remaining Feature Diskettes to install.

___ 27. The Primary AIX Install Diskette must now be updated with machine configuration data. Insert the diskette and press enter to continue.

___ 28. Remove the Primary AIX Install Diskette, insert the Backup AIX Install Diskette, and press Enter to continue.

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- ___ 29. Remove the Backup AIX Install Diskette from the floppy diskette drive and press Enter to continue.

ATTENTION

During the installation there may be a notification that the "System and Service Processor Flash is to be Updated". Each "FLASH" update will require a "REBOOT". For each reboot cycle, you will need to repeat steps 16 on page 12 through 20 on page 13 and step 26 on page 13. You will not be required to re-enter machine configuration data again. It has already been stored on the AIX Install Diskettes and will be retrieved from there. Once the flash updates have completed, the normal functional microcode installation will commence.

- ___ 30. Store both AIX Install diskettes safely with the machine. The functional microcode installation phase will now commence and you will not be required to provide any further configuration data during the install. Press Enter to continue. A bar graph will indicate the progress of the install.
- ___ 31. At the completion of the installation, remove the CD from the CD ROM drive.
- ___ 32. You will be asked if you have an AIX Update (FixPack) CD. If this is the case, insert it in the CD ROM drive, type **u** for update, and press Enter. If no AIX Update CD is supplied, type **c** for continue and press Enter.

ATTENTION

If you powered off the last 3590 Ultra or 3590 E1A drive before starting the microcode installation procedure, power the drive back on now BEFORE rebooting.

- ___ 33. Microcode installation is now complete. The control unit must be rebooted. Remove any CDs or diskettes remaining in

the drives. Type **r** and press Enter to shutdown and reboot the B18. In approximately 10 to 15 minutes, the machine will come back up and go on line. When the machine returns online, go to section 11.0, "Test Procedure."

11.0 Test Procedure

Confirm the microcode code level and VTS operational status using the following procedure

- ___ 1. Connect to the B18 using EBTERM from the Library Manager.
 - ___ 2. At prompt for menu name, type **service** and press enter
 - ___ 3. Highlight the item **Microcode Maintenance** and press enter.
 - ___ 4. Highlight the item **Display Active Code Level and Status** and press enter. The information displayed will be used in the subsequent steps.
 - ___ 5. Looking at the information displayed, check the correctness of the Serial Number, which is shown at the top of the data immediately to the right of the phrase "S/N". Note that the standard serial number is contained on a label on the B18 frame (NOT on the RS/6000), but again some locations may follow a convention which requires an identifier other than the standard serial number to be entered in the serial number field. The Serial Number may be changed starting with the service panel "Subsystem Configuration" and proceeding to the Vital Product Data area. Refer to the Maintenance Instructions if necessary.
- Note: The host may fail the vary online of virtual drives in the VTS if the incorrect serial number is used.**
- ___ 6. Looking at the information displayed, confirm that the installed microcode level, shown immediately to the right of the word "Level", is "2.17.10.0".

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- ___ 7. Looking at the information displayed, confirm that the AIX Fixpack is installed, shown as the text "AIX patches installed: VTS Fixpack 4 for AIX 4.3.2".
- ___ 8. Looking at the information displayed, confirm that the CU is running. If not, the machine may still be in the process of going online. Wait a few minutes, then update the information by pressing F3 to cancel the current display and then press enter again to display updated information. If 15 minutes have elapsed and the CU is still not running, there is a problem.
- ___ 9. Looking at the information displayed, confirm each physical tape drive SCSI status and code level. All operational tape drives are listed under the heading "IBM 3590 TAPE DRIVES AND MEDIUM CHANGERS ...". Each tape drive should
 - a. Show a "Primary" SCSI path
 - b. Show a "Alternate" SCSI path
- ___ 10. Press the "F3" key twice to return to the main VTS service menu.
- ___ 11. The next step is to determine the 3590 tape drive availability to ADSM, using the information displayed in the "Vary Tape Drive Online" selection. To display this information, highlight the item **Control Unit and Tape Drive Online/Offline Control** and press enter. Next highlight the item **Vary Tape Drive Online** and press enter. With the word **Important** highlighted, press enter again.
- ___ 12. Looking at the information displayed on the sub-panel labeled "Select Tape Drive", do the following:
 - Page down and verify that all VTS 3590 drives are marked Y under Avail

and that ADSM STATUS is NOT Off-line.

If a drive is not available to ADSM, further service action is required. The VTS must have a minimum of 2 tape drives available to ADSM in order for the VTS to go online, although performance is degraded in this configuration.

Note: The alternate path will probably indicate "N" in the OK column, this indicates which path was active at the time the VTS was brought online. Since the primary path was probably the active one, the alternate will indicate that it is NOT active. No further action is required unless both primary and alternate paths show "N".

- ___ 13. Analysis of the VTS operational status information is complete. Press the "F10" key to exit the service menu and then disconnect EBTERM.
- ___ 14. On the Library Manager System Summary display, confirm that the Direct Attach port and the 4 CU ports connected to the B18 are initialized.

11.1 3590 Compressor Verification

- ___ 1. Insert a 3590 cleaner cartridge into each 3590 drive. Drive will automatically test the pneumatics compressor. If the drive cannot automatically adjust the pressure, a FID2 04 or FID1 B0 will be displayed. If these FIDs are displayed, follow the 3590 Bxx MI instructions for these FIDs.
- ___ 2. When drive ejects the cleaner cartridge, remove the cartridge from drive.

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After Installation (Sections 12 through 15)

12.0 Field Updating

No changes.

13.0 Field Support Publications

None.

14.0 Parts Disposition

- ___ 1. If you installed AIX 4.3.2. as part of this code install, replace the old level of the AIX install diskette and the Virtual Tape Server Microcode CD with the new version for backup.

Note: There are now two copies of the AIX Install Diskette - primary and backup. These diskettes are now customized to the VTS on which the install was performed.

Make sure you have written the VTS serial number on the labels of these diskettes

If the microcode hard drive fails, this media will be needed to re-install this code.

- ___ 2. **DO NOT** discard the AIX 4.3.2 for Clients CD or the VTS Fixpack for AIX 4.3.2 CD. These CDs will be needed if the microcode hard drive fails and for subsequent microcode installs which require AIX to be re-installed.
- ___ 3. **DO NOT** discard the AIX install diskettes. They must remain with the machine.
- ___ 4. **DISCARD** the feature control diskettes 3200 and 3302. They are one-time use only, and they will not be needed once the features have been installed on the VTS.

15.0 Machine Records

- ___ 1. Update field records to reflect that EC F23233A has been installed.
- ___ 2. Using existing procedures, report installation and quality.

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