

IBM INSTALLATION INSTRUCTIONS

Industrial Computer System Unit Cards and Hard Drive(s) Migration for 3494 Tape Library Dataserver

Document Number 05H7751 EC F23367

SSD, Tucson

Written by: J. Dowell
Checked by: L. Bannert
Approved by: S. Nunn
Support/DPCE Review by: L. Lawson
Status: Field Use

Note: Install this Field Feature Bill Material (FFBM) only on the 3494 Tape Library Dataserver for which it was shipped.

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Before Install (Sections 1 through 8)

1.0 Machines Affected

This FFBM applies only to those 3494 subsystems who have the *PS/ValuePoint Library Manager* (e.g. 3494 serial number is BELOW 10345; **AND** EC C88742 is **NOT INSTALLED**) and require installation of **BOTH** of the following:

- FC 5220 (*Ethernet LAN Attachment*)
- FC 5229 (*Expansion Attachment Card*)

2.0 Prerequisites / Concurrent / Companion

Prerequisites

3494 Library Manager Code must be at EC C88729 at Patch level LM50D.08 or higher.

Checkpoint for Microcode EC's: Check the EC level of the Library Manager by using the following steps:

1. From the **Mode** pulldown menu on the Library Manager, select **Service Menu....** If asked for, type the password **SERVICE**.
2. From the **Service** pulldown menu, select **View Code Levels...**
3. From the **View Code Levels...** window, scroll down to **LM EC Level is...**, and read the current EC level.
4. From the **View Code Levels** window, scroll down to **LM Patch Level is...**, and read the current Patch level.

3.0 FFBM's To Be Installed

3.1 Industrial Computer System

| FFBM | Description |
|---------|---|
| 05H7751 | Industrial Computer System Unit Replacement |

3.2 MIC1 Card Replacement

| FFBM | Description |
|---------|----------------------------|
| 05H8297 | MIC4/LPC3 Card Replacement |

4.0 Preparation

- ___ 1. Refer to Figure 1 on page 7 (*PS/ValuePoint Library Manager*), Figure 2 on page 7 (*Model 7585 Industrial Computer System Unit*) and Figure 3 on page 8 (*Model 7588 Industrial Computer System Unit*) to verify which Library Manager is currently installed.
 - ___ a. **Discontinue this installation procedure, and go to installation instruction 05H7753 (*Expansion Attachment Card - FC 5229*) or installation instruction 05H7750 (*Ethernet LAN Attachment - FC 5220*) if Figure 2 on page 7 or if Figure 3 on page 8 represents your currently installed Library Manager. Set the contents of this FFBM to the side for parts disposition as defined within Section 14.0, "Parts Disposition" on page 33.**
 - ___ b. Continue to step 2 if Figure 1 on page 7 represents your currently installed library manager.
- ___ 2. Read and understand the purpose and details of this installation instruction.
- ___ 3. Check all items listed on the bill of material to determine that all parts have been received.

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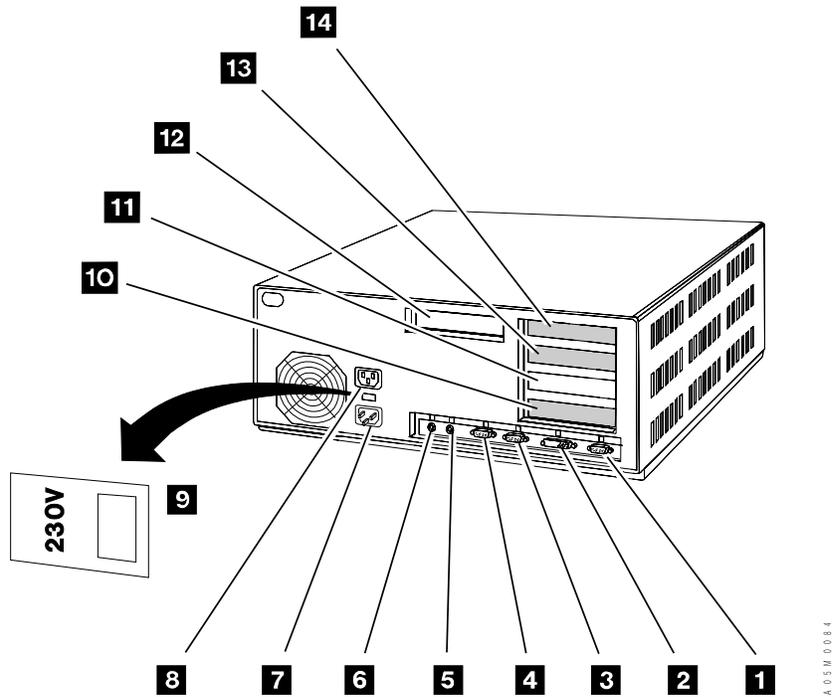


Figure 1. PS/ValuePoint System Unit

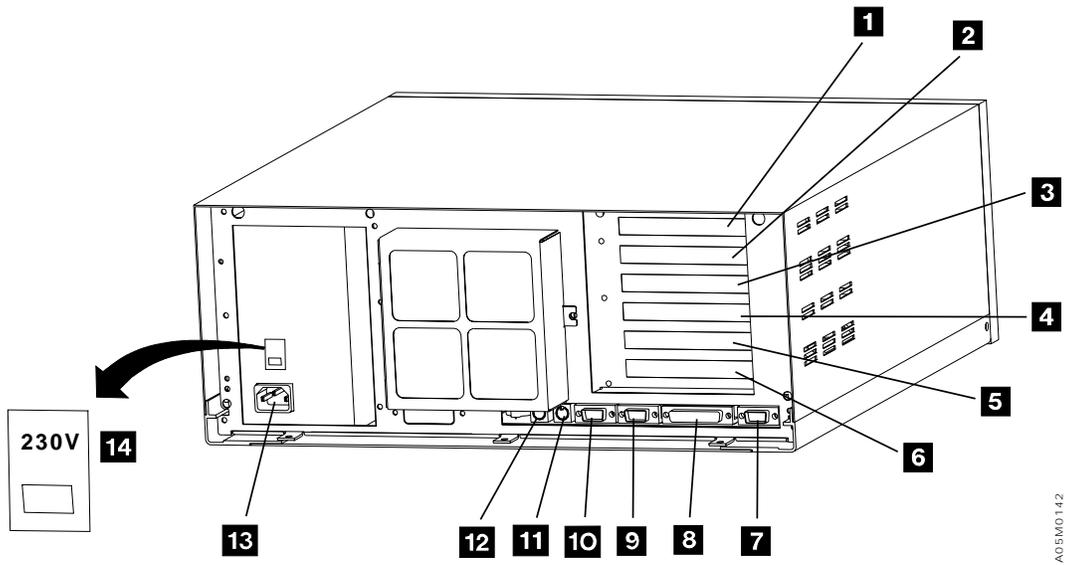


Figure 2. Model 7585 Industrial Computer System Unit

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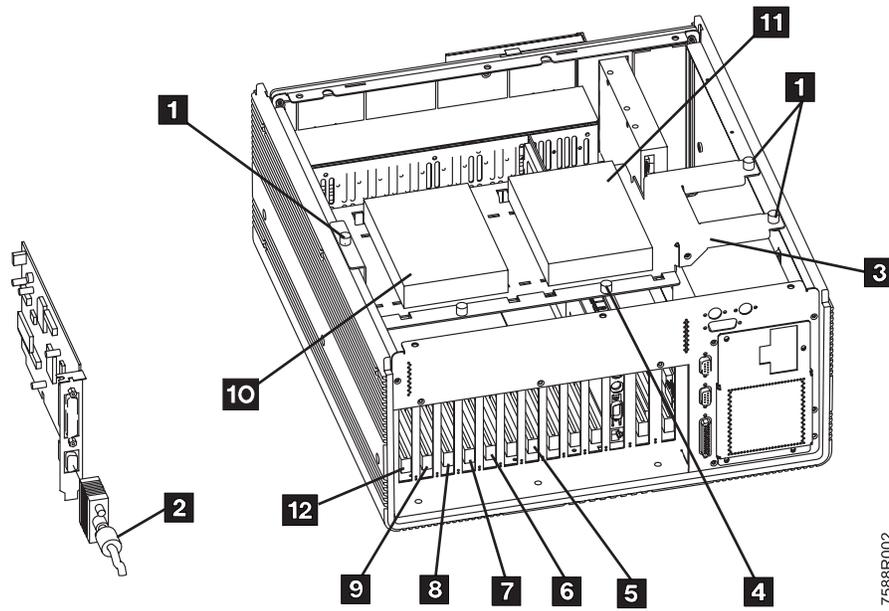


Figure 3. Model 7588 Industrial Computer System Unit (Interior View)

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5.0 Programming Updates

None.

6.0 Purpose and Description

Replaces the existing PS/ValuePoint Library Manager with the Model 7588 Industrial Computer System Unit.

7.0 Installation Time - Industrial PC Exchange

| Machine Hours | System Hours | CE Hours |
|---------------|--------------|----------|
| 4.0 | 0.0 | 4.2 |

8.0 Special Tools, Materials, and/or Procedures Required

Warning: Some parts handled during this installation are **very sensitive** to electrostatic discharge (ESD). See *Working with ESD-Sensitive Parts* in the CARR section of the 3494 Maintenance Information Manual.

You will require a copy of the **PS/ValuePoint Installing Options** manual that was shipped with the 3494. Familiarize yourself with Chapter 1, "Option Installation Overview", located in the **PS/ValuePoint Installing Options** manual.

You will require a copy of the **7588 Industrial Computer Information: Installation, Operation and Hardware Maintenance** manual (S76H-4349) that was shipped with the Model 7588 Industrial Computer System Unit. Familiarize yourself with Chapter 3, "Installing Options".

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Details of Installation (Sections 9, 10, and 11)

9.0 Safety

9.1 Safety Notice

Refer to 10.1 Subsystem Power and follow steps 10.1.1 through 10.1.13.

10.0 Details Of Installation

10.1 Subsystem power

- ___ 1. Ask the operator to complete or cancel jobs in the queue.
- ___ 2. Ask the operator to vary all library devices offline.
- ___ 3. Place the library manager in **Offline** mode by selecting the **Offline** option from the **Mode** pull-down menu.
- ___ 4. Place the library in **Pause** by selecting the **Pause** option from the **Mode** pull-down menu.
- ___ 5. Remove cartridges left in drives and place them in the error recovery cell (1A1 for machines WITHOUT the Dual Gripper Gripper feature; or 1A3 for machines WITH the Dual Gripper feature) or an empty storage cell.
- ___ 6. Shut down the library manager by selecting the **Shutdown** option from the **Mode** pull-down menu.
- ___ 7. Select **Shutdown computer** from the Shutdown panel.
- ___ 8. After the Shutdown completes, use the library **Unit Power switch** on the library operator panel to power the library down.
- ___ 9. Turn off **CB1** on the 3494 Control Unit power control compartment (PCC).

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10.2 Prepare the Library Manager System Unit for Service

- ___ 1. Loosen the screw holding the braided strap to the MIC1 card or the metal stiffener around the MIC2 and LPC2 cards and remove the strap.
- ___ 2. Open the cable clamps that secure the library manager signal and power cables to the control unit frame.
- ___ 3. Remove the cables from the cable clamps to allow enough slack in the cables to rotate the library manager counter clockwise 90 degrees.

Go to Section 10.3, "Relocate Library Manager Cards."

10.3 Relocate Library Manager Cards

Note: The following four sections will deal with the relocation of the: (1) Display Adapter Card; (2) DI/DO Card; (3) Servo Control Card; (4) the appropriate feature card (i.e. IBM Token Ring OR Ethernet OR Expansion Attachment Card).

- ___ 1. Prior to proceeding to section -- Heading 'RELDAC' unknown --, perform the following:
 - ___ a. With the exception of the DI/DO cables, disconnect all cables from the PS/ValuePoint Library Manager.

Warning: Some parts to be handled during the DI/DO cable and card removal are **very sensitive** to electrostatic discharge (ESD). See "Working with ESD-Sensitive Parts" in the CARR section of the 3494 Maintenance Information Manual.

- ___ b. Disconnect the DI/DO cables from the MIC card, and the cable ties that helped secure the cables. Retain the cable ties for future reinstallation. The cables will be removed in a later step when the DI/DO card is removed.
- ___ c. Remove the PS/ValuePoint Library Manager, and locate it in a convenient work area to allow for easibility of relocating all appropriate cards and hard drive(s).
- ___ d. Remove the cover of the PS/ValuePoint Library Manager by following the instructions below. For additional detail on removing the cover, see **PS/ValuePoint Installing Options** manual.
 - ___ 1) With the front of the computer facing you, unlock the cover lock.
 - ___ 2) Push down and hold the cover-release latch (on the top left-hand side of the unit) as you slide the cover toward you until it separates from the computer.
- ___ 2. Unpack the Model 7588 Industrial Computer System Unit, and locate it in a convenient work area (close to the PS/ValuePoint Library Manager) to allow for easibility of relocating all appropriate cards and hard drive(s).

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- ___ 3. Remove the cover of the Model 7588 Industrial Computer System Unit by following the instructions below:
 - ___ a. Loosen the six screws on the top cover to the system unit, and place the cover to the side for future reinstallation.
 - ___ b. Disconnect the IDE ribbon cable and the power cable from the rear of the HDD.
 - ___ c. Loosen the three knurled thumbscrews that secure the HDD carrier to the sheet metal chassis, and then gently place the HDD carrier assembly to the side for future reinstallation.
 - ___ d. Attach the new braided strap (P/N 50G1046, supplied) to the top-left power supply screw at the back of the Model 7588 Industrial Computer System Unit.

Go to Section 10.3.1, "Relocate DI/DO Card."

10.3.1 Relocate DI/DO Card

Warning: Some parts to be handled during the DI/DO cable and card removal are **very sensitive** to electrostatic discharge (ESD). See "Working with ESD-Sensitive Parts" in the CARR section of the 3494 Maintenance Information Manual.

Note: This section deals with the relocation of the DI/DO Card from the PS/ValuePoint Library Manager to the Industrial Computer System Unit.

See Figure 4 on page 14 when performing the following step.

- ___ 1. Using a screwdriver, remove the expansion slot screw that secures the card **14** to the system unit.

See Figure 5 on page 15 when performing the following step.

- ___ 2. As you slide the card **3** out of the card slot, feed the cables through the card slot (**14** within Figure 1 on page 7).

See Figure 6 on page 16 when performing the following steps.

- ___ 3. Feeding the cables through the card slot opening ten **7**, slide the card into card slot ten **7** of the Model 7588 Industrial Computer System Unit.
- ___ 4. Using a screwdriver, install the expansion slot screw that secures the card to the system unit.

Go to Section 10.3.2, "Relocate Servo Control Card."

10.3.2 Relocate Servo Control Card

Note: This section deals with the relocation of the Servo Control Card from the PS/ValuePoint Library Manager to the Model 7588 Industrial Computer System Unit.

See Figure 4 on page 14 when performing the following steps.

- ___ 1. Using a screwdriver, remove the expansion slot screw that secures the card **13** to the system unit.
- ___ 2. Slide the card **13** out of the card slot.

See Figure 6 on page 16 when performing the following steps.

- ___ 3. Slide the card into the card slot nine **6** of the Model 7588 Industrial Computer System Unit.
- ___ 4. Using a screwdriver, install the expansion slot screw that secures the card to the system unit.

Go to Section 10.3.3, "Relocate Feature Card" on page 14.

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10.3.3 Relocate Feature Card

Note: This section deals with the relocation of the appropriate feature card (i.e. *IBM Token Ring LAN Attachment; Ethernet LAN Attachment; OR Expansion Attachment Card*) from the PS/ValuePoint Library Manager to the Model 7588 Industrial Computer System Unit.

See Figure 4 when performing the following steps.

- 1. Using a screwdriver, remove the expansion slot screw that secures the card **11** to the system unit.
- 2. Slide the card **11** out of the card slot.

See Figure 6 on page 16 when performing the following steps.

- 3. Slide the card into the appropriate card slot within the Industrial Computer System Unit:
 - a. *Expansion Attachment Card:* Card slot location seven **5**.
 - b. *Ethernet LAN Attachment:* Card slot location twelve **9**.
 - c. *IBM Token Ring LAN Attachment:* Card slot location twelve **9**.
- 4. Using a screwdriver, install the appropriate expansion slot screw that secures the feature card to the system unit.

Go to Section 10.4, "Move Hard Disk Drives" on page 17.

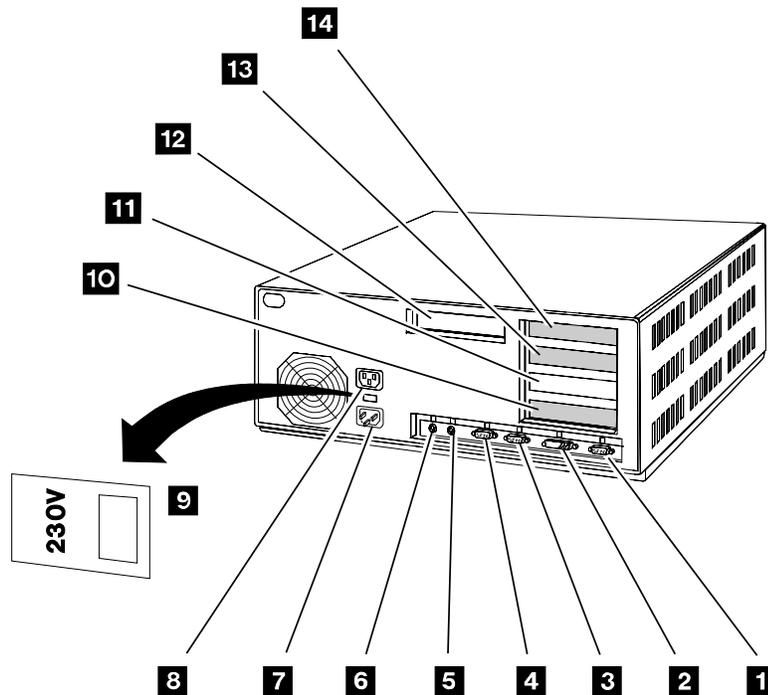


Figure 4. PS/ValuePoint System Unit (Exterior View)

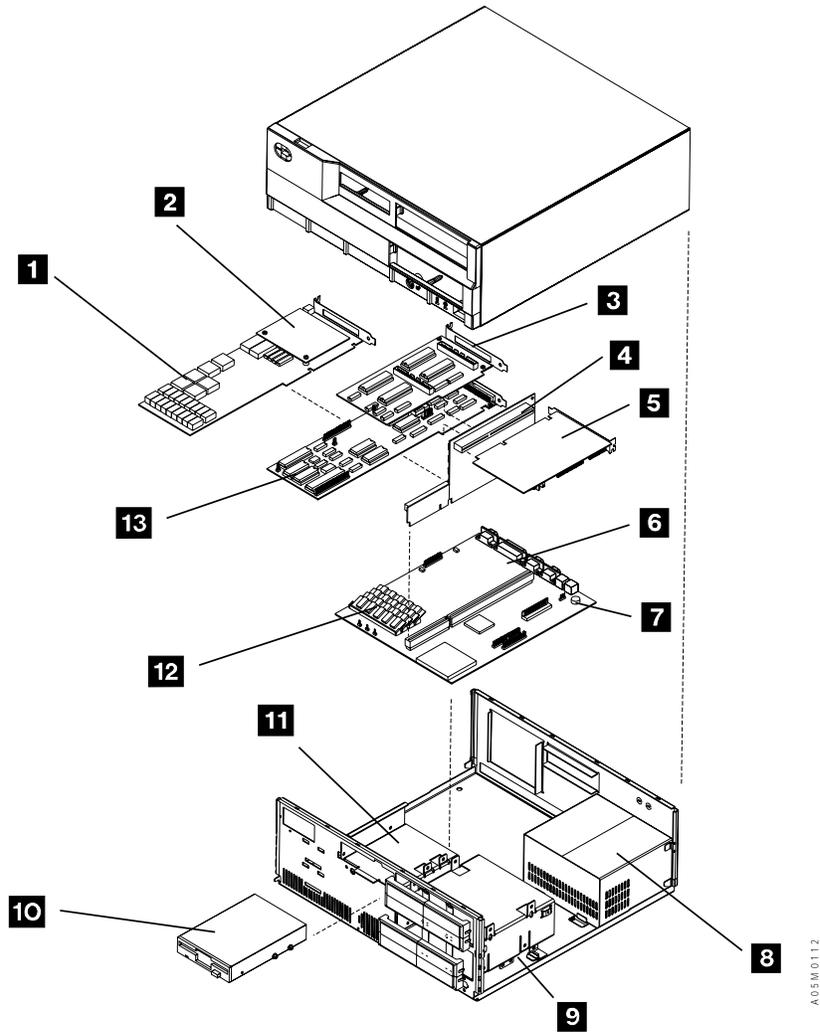


Figure 5. PS/ValuePoint System Unit (Interior View)

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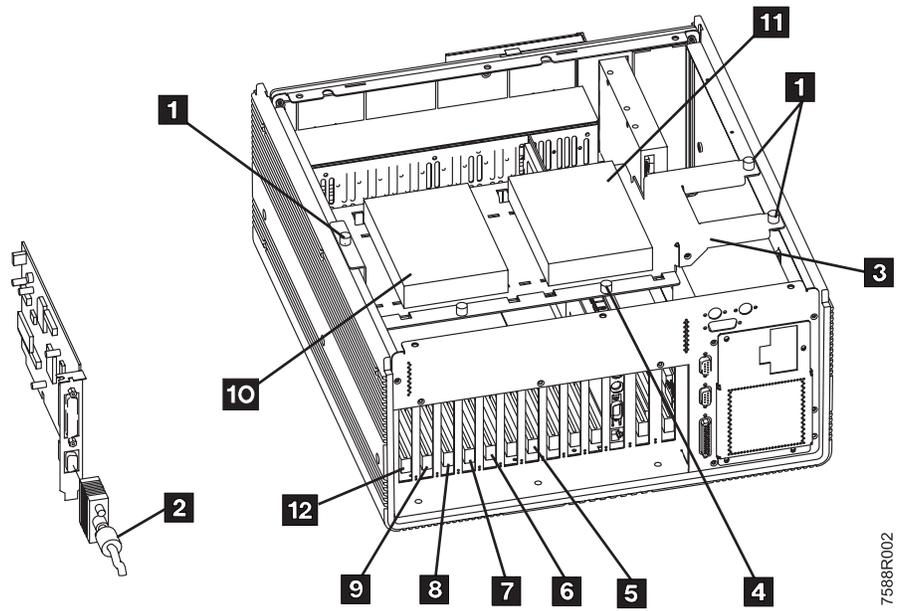


Figure 6. Model 7588 Industrial Computer System Unit (Interior View)

10.4 Move Hard Disk Drives

Note: The following two sections will deal with the movement of the primary hard disk drive; and if installed, the relocation of the "Secondary Hard Disk Drive" (FC 5214).

The primary hard disk drive relocation is being performed to eliminate the need to load the Library Manager code into the newly received Model 7588 Industrial Computer System Unit's hard disk drive.

10.4.1 Exchange Primary Hard Disk Drives

Note: This section deals with the movement of the primary hard disk drive between the PS/ValuePoint and the Model 7588 Industrial Computer System Unit.

Steps 1 through 4 deal with its removal from the PS/ValuePoint Library Manager; and steps 5 through 6 deal with its removal from the Industrial Computer System Unit.

See Figure 5 on page 15 while working on the PS/ValuePoint Library Manager.

- ___ 1. Disconnect the power cables and signal cables from the 3.5" diskette drive **10** in bay 1, and the hard disk drive **11** in bay 2.
 - a. The hard disk drive is located under the 3.5" diskette drive in the drive-bracket assembly.
 - b. Set the cables to the side for future reinstallation.
- ___ 2. Remove the two front panel screws located under the diskette drive. Set the screws to the side for future reinstallation.
- ___ 3. Removing the drive-bracket assembly rear screw (at the back of the PC), remove the

drive-bracket assembly from the library manager. Set the screw to the side for future reinstallation.

- ___ 4. Remove the hard disk drive from the drive-bracket assembly. Set the hard disk drive and drive-bracket assembly to the side for installation later.

See Figure 6 on page 16 while working on the Model 7588 Industrial Computer System Unit.

- ___ 5. After Loosening the knurled screw **4**, remove the shock mount assembly from the HDD carrier assembly.
- ___ 6. Turn the shock mount assembly over, and remove the four screws that secure the hard drive to the shock mount assembly. Place the hardware to the side for future reinstallation.

Note: Steps 7 through 9 deal with the reinstallation of the primary hard disk drive that was removed from the Model 7588 Industrial Computer System Unit during step {REMIC1C}.

See Figure 5 on page 15 while working on the PS/ValuePoint Data Manager.

- ___ 7. Attach the hard disk drive (removed within step {REMIC1C}) to the drive-bracket assembly (removed within step 4).
- ___ 8. Align the drive-bracket assembly (removed within step 3) to the library manager.
 - ___ a. Reinstall the drive-bracket assembly rear screw (removed within step 3),
 - ___ b. Reinstall the two front panel screws (removed within step 2) located under the diskette drive.
- ___ 9. Reconnect the power cables and signal cables to the 3.5" diskette drive **10** in bay 1 and the hard disk drive **11** in bay 2.

See Figure 6 on page 16 while working on the Model 7588 Industrial Computer System Unit.

- ___ 10. Using the four screws (removed within step {REMIC1C}) and the shock mount assembly (removed within step 6 on page 17), attach the hard disk drive that was removed within step 4 on page 17.
 - ___ a. Be sure that you attach the hard disk drive to the bracket in such a manner that the side flanges on the bracket point down and away from the hard disk drive.
 - ___ b. *Skip the following step*, and proceed to Section 10.4.2, "Relocation of Secondary Hard Disk Drive" if FC 5214 (*Secondary Hard Disk Drive*) **IS INSTALLED**.
- ___ 11. Attach the shock mount bracket to the hard drive carrier assembly by aligning the tab, an tightening the knurled screw **4**.

Go to Section 10.4.3, "Reinstall Computer Covers" on page 19.

10.4.2 Relocation of Secondary Hard Disk Drive

Note: Proceed with this section if you currently have the *Secondary Hard Disk Drive* (FC 5214) installed within a PS/ValuePoint Library Manager. Otherwise, skip to Section 10.5, "Relocate Breakout Box Bracket" on page 19.

This section deals with the relocating of the secondary hard disk drive from the PS/ValuePoint Library Manager to the Industrial Computer System Unit. Steps 1 through 4 deal with its removal from the PS/ValuePoint Library Manager.

See Figure 5 on page 15 when performing the following steps.

- ___ 1. Disconnect the signal and power cables from the hard drive **9** in bay 5.
- ___ 2. Remove the drive support bracket by removing the two front panel screws located under the bay 4 opening. Set all parts to the side for future reinstallation.
- ___ 3. Remove the right side support screw. Set the screw to the side for future reinstallation.
- ___ 4. Remove the hard disk drive from the drive support bracket. Set the hard disk drive and drive support bracket to the side for installation later.

Note: Steps 5 and 6 deal with the reinstallation of the drive support bracket that was removed from the PS/ValuePoint Library Manager during step 4; and steps 7 on page 19 through 8 on page 19 deal with the the reinstallation of the secondary hard disk drive that was removed from the PS/ValuePoint PC during step 4, and will now be installed within the Model 7588 Industrial Computer System Unit.

See Figure 5 on page 15 when performing the following steps.

- ___ 5. Reinstall the drive support bracket (removed within step 2) by reinstalling the two front panel screws (also removed within step 2) that are to be located under the bay 4 opening.
- ___ 6. Reinstall the right side support screw (removed within step 3).

See Figure 6 on page 16 when performing the following steps.

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- ___ 7. Using the four screws (P/N 0055726, supplied), attach the hard disk drive that was removed within step 4 on page 18 to the shock mount bracket (P/N 76H4325, supplied).

Note: Be sure that you attach the hard disk drive to the bracket in such a manner that the side flanges on the bracket point down and away from the hard disk drive.

- ___ 8. Attach the shock mount bracket to the hard drive carrier assembly by aligning the tab, and tightening the knurled screw **4**.

Go to Section 10.4.3, "Reinstall Computer Covers."

10.4.3 Reinstall Computer Covers

- ___ 1. For the PS/ValuePoint Library Manager, do the following:
 - ___ a. Align the glides of the cover with the tracks on the front of the computer.
 - ___ b. Slide the cover to the back of the computer until it snaps into place.
 - ___ c. Lock the cover lock.
- ___ 2. For the Model 7588 Industrial Computer System Unit, do the following:
 - ___ a. Reinstall the HDD carrier assembly by tightening the three knurled

thumbscrews that secure the HDD carrier to the sheet metal chassis.

- ___ b. Connect the IDE ribbon cable(s) and the power cable(s) to the rear of each HDD.
- ___ c. Reinstall the cover, and tighten the six screws on the top cover of the system unit.

Go to Section 10.5, "Relocate Breakout Box Bracket."

10.5 Relocate Breakout Box Bracket

See Figure 7 on page 20 when performing the following steps.

- ___ 1. Remove the ARTIC breakout box(es), but **do not** disconnect the ARTIC breakout box cables.
 - ___ a. Remove the two screws **2** that secure the base Library Manager ARTIC breakout box **1** to the side of the control unit frame. Set the screws to the side for future reinstallation.
 - ___ b. If the "Expansion Attachment Card" ARTIC breakout box **3** is installed, remove the two screws **4** that secure it to the side of the control unit frame. Set the screws to the side for future reinstallation.

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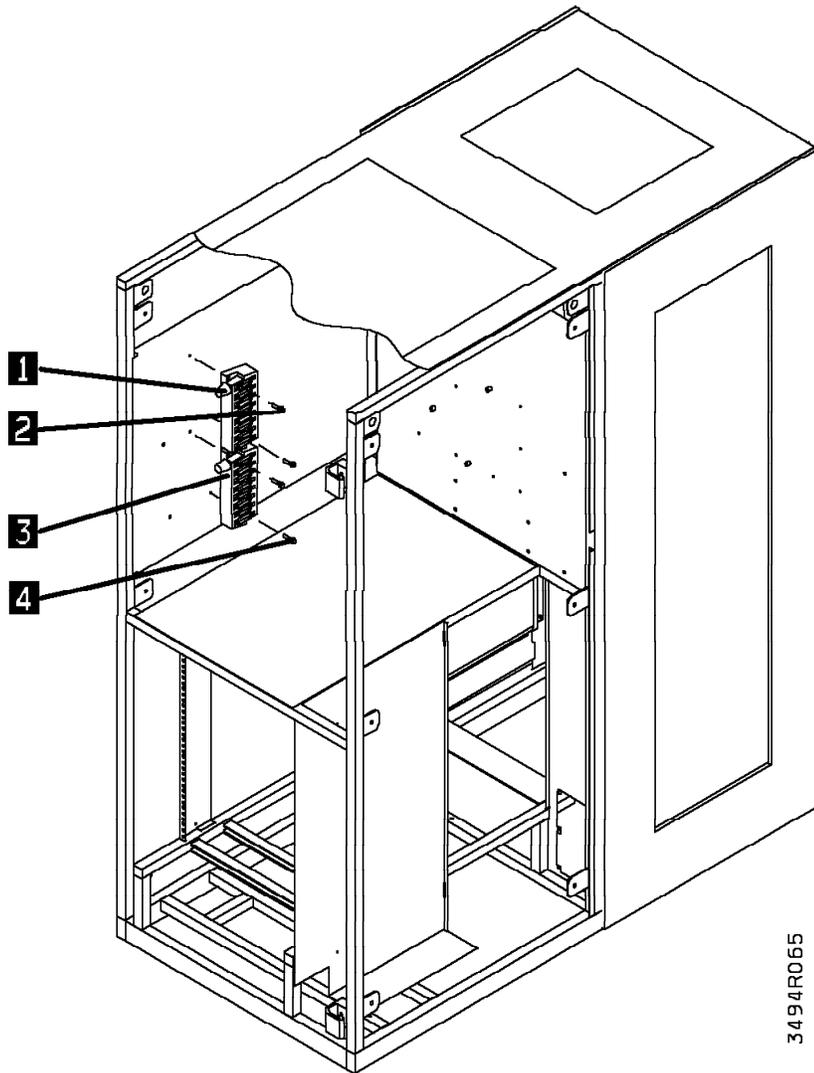


Figure 7. Breakout Box(es) Bracket Removal

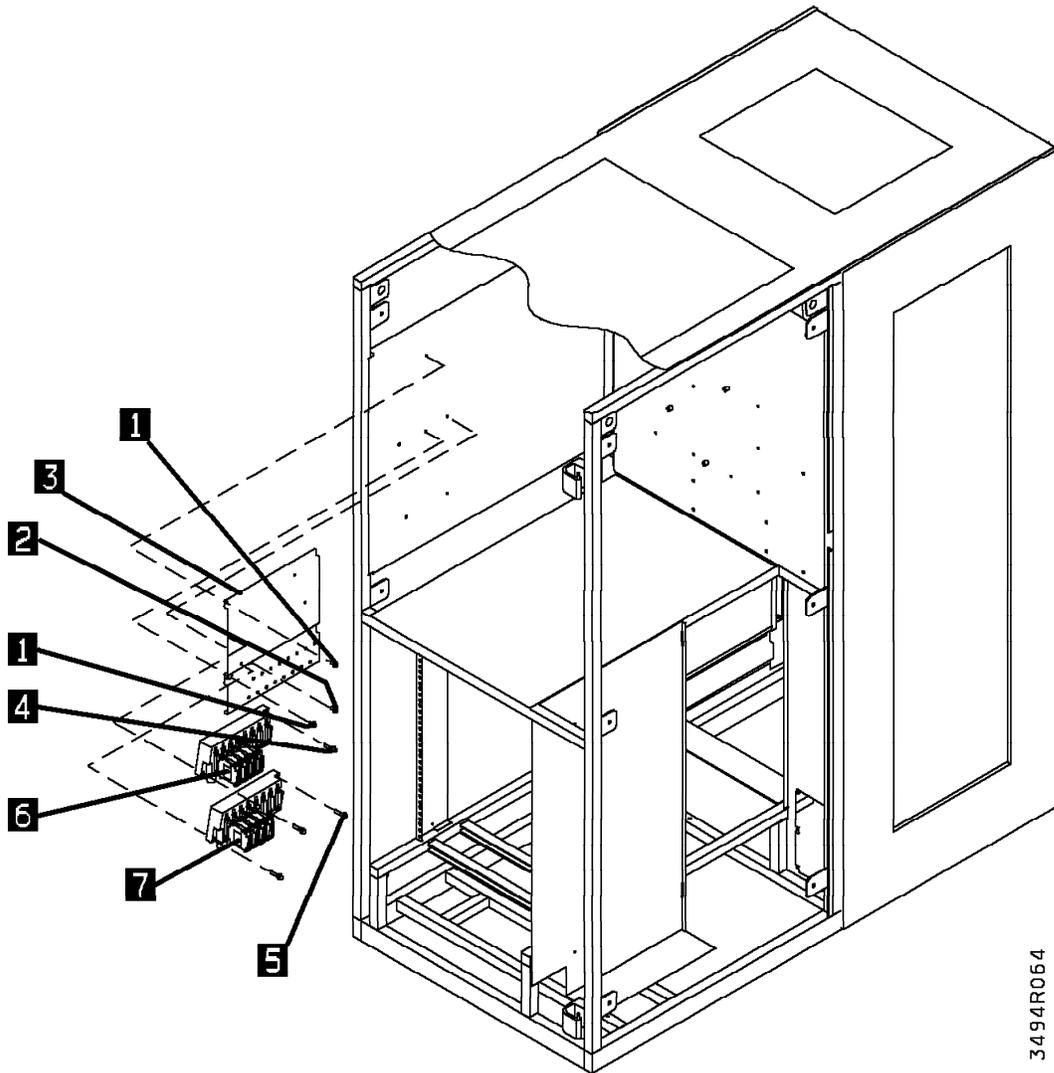
See Figure 8 on page 22 when performing the following steps.

- 2. Using three screws **1** and **2** (P/N 1624776, provided), install the bracket **3** (P/N 05H7774, provided).
 - a. As displayed, two of the screws **1** will be installed in the same two holes from which you removed the base Library Manager ARTIC breakout box.
 - b. As displayed, the third screw **2** will be installed in the top hole that normally accommodates the “Expansion Attachment Card” ARTIC breakout box.

- 3. Using the screws **4** (removed in step 1a on page 19, Section 10.5, “Relocate Breakout Box Bracket” on page 19) and **5** (removed in step 1b on page 19, Section 10.5, “Relocate Breakout Box Bracket” on page 19), reinstall the ARTIC breakout box(es):
 - a. Install the base library manager ARTIC breakout box at the top of the bracket; and
 - b. If the “Expansion Attachment Card” is currently installed, reinstall the second ARTIC breakout box directly below the first ARTIC breakout box.

Go to Section 10.6, “Install the Card Panel Adapter” on page 23.

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Figure 8. Breakout Box Bracket Relocation

10.6 Install the Card Panel Adapter

Proceed to 10.6.1, "EC's C88519 and C35035 " if EC C88519 AND EC C35035 are **BOTH NOT INSTALLED**; OR

Proceed to 10.6.2, "EC C88519 and/or EC C35035 Already INSTALLED" on page 29 if **EITHER EC C88519 OR EC C35035 IS CURRENTLY INSTALLED**.

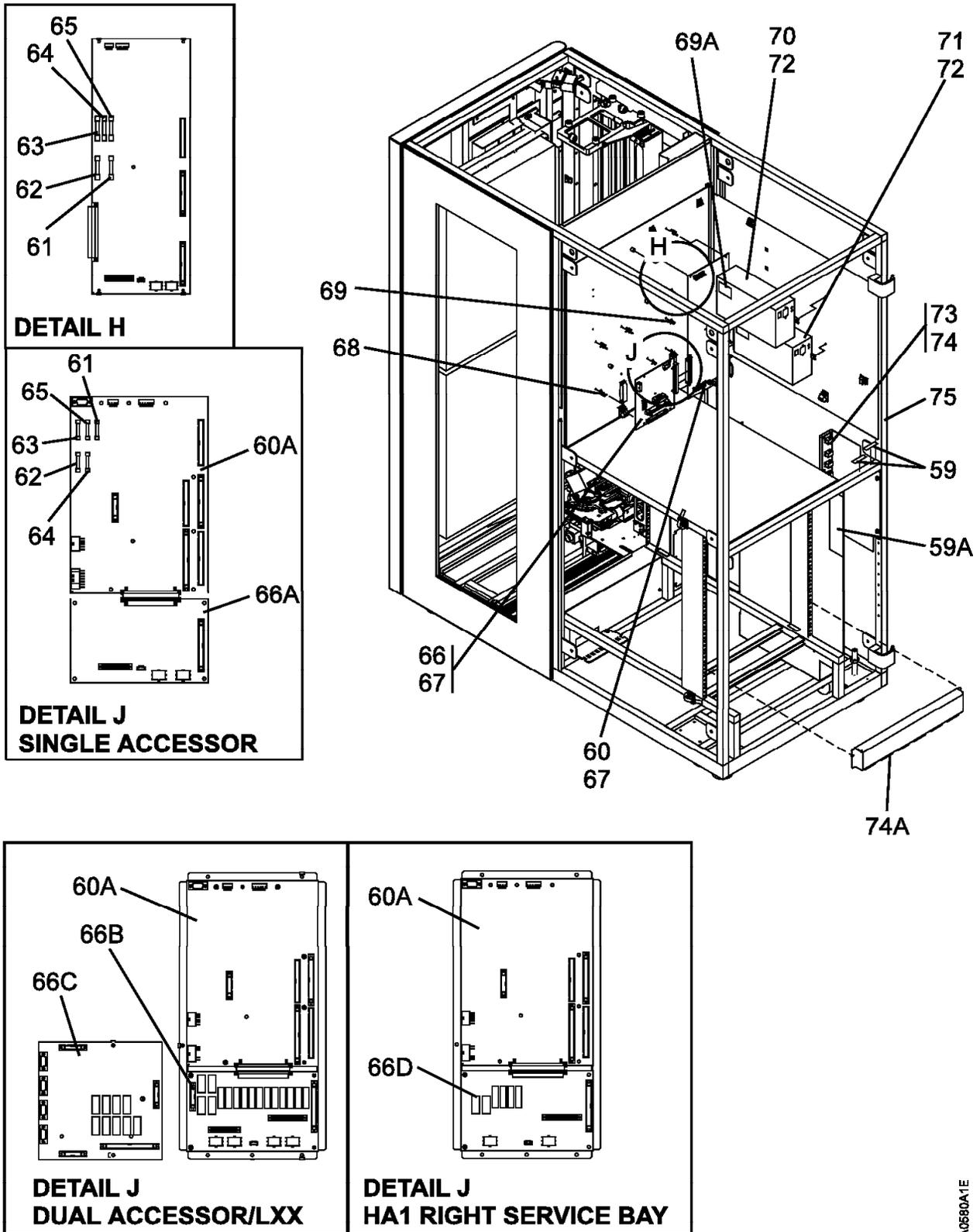
10.6.1 EC's C88519 and C35035 NOT INSTALLED

See Figure 9 on page 24 when performing the following steps.

- ___ 1. Unplug the cables from the LCC card **66** and the MIC1 card **60**.

- ___ 2. Remove the LCC card **66** :
 - ___ a. Remove the screws holding the card.
 - ___ b. Unclip the card from the nylon clips.
 - ___ c. Unplug the card from the MIC1 card.
 - ___ d. Set the card aside for disposal.
- ___ 3. Remove the MIC1 card **60** :
 - ___ a. Remove the screws holding the card.
 - ___ b. Unclip the card from the nylon clips.
 - ___ c. Set the card aside for disposal.

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Figure 9. 3494 Control Unit Frame (Rear View)

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|---------|------------|-----------|-----------|-----------|-----------|-----------|
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See Figure 10 when performing the following steps.

- 4. Before you can install the card panel adapter (P/N 05H8255, supplied), perform the following described trimming of the spacers and support clips on the rear panel located behind the the MIC1 card:
 - a. Be sure to trim the spacers and support clips close enough to the rear panel to allow the card panel adapter to contact the rear panel.
 - b. You must also trim the one cable clamp on the rear panel, which is located just above the card/pan assembly **1** (P/N 05H8147, supplied). Open the cable clamp, remove the cables and trim the clamp to allow the card panel to contact the rear panel **2**.
- 5. Place the top lip of the card panel adapter **2** (P/N 05H8255, supplied) over the top edge of the rear panel, and secure as follows:
 - a. Using the three pan head screws (P/N 1621190, provided) and three star washers (P/N 1622346, provided), secure the card panel adapter to the three standoffs on the rear panel
 - b. Install the two support clips (P/N 34G8117, provided) into the two free holes on the right side of the card panel adapter.
- 6. Using three allen head screws (P/N 1621511, supplied), attach the MIC1 card to the card panel adapter.
- 7. Plug the cables into the card assembly. Re-fold the cables and change the connector labels as appropriate.

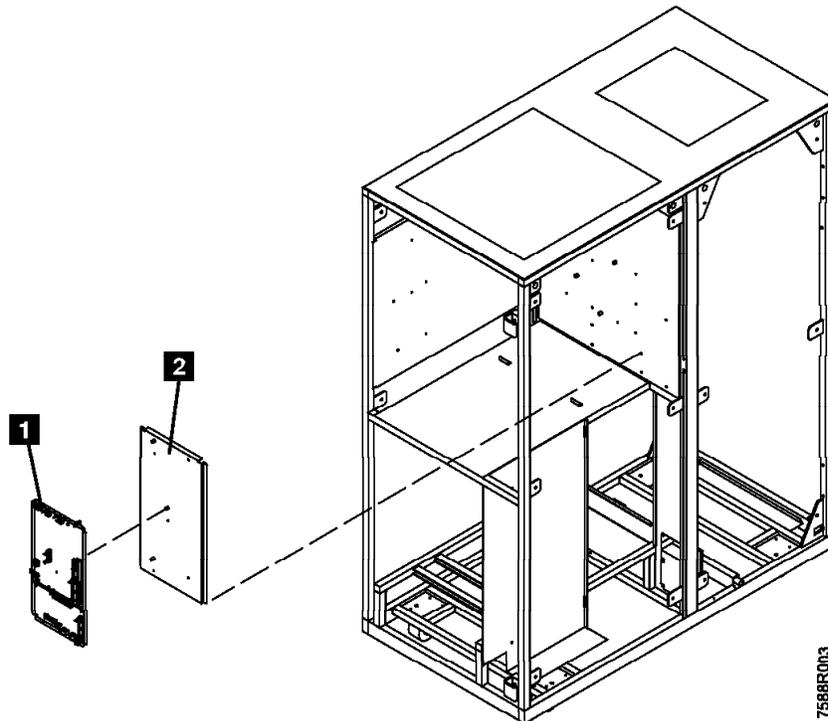


Figure 10. Install Card Panel Adapter

| | | | | | | |
|-----------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
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Refer to -- Fig '11PC' unknown -- and Figure 12 on page 28 for the new connector locations.

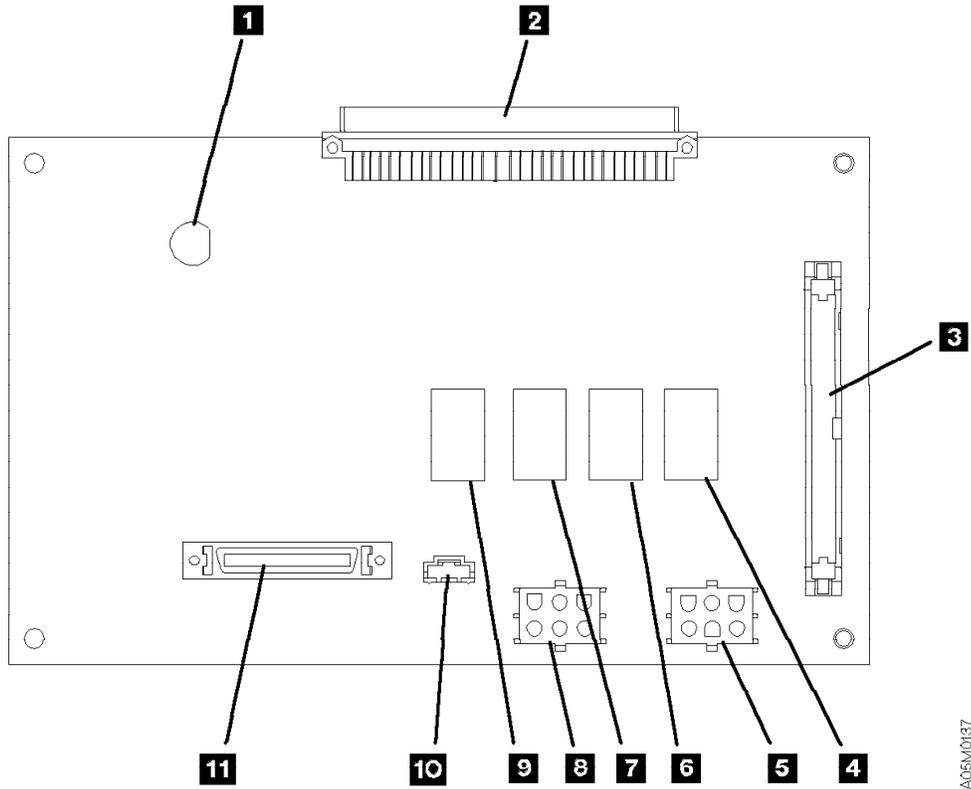
- ___ a. Plug 36V cable connector labeled MIC P2 into MIC3 P2 **2**.
- ___ b. Plug 24V cable connector labeled MIC P3 into MIC3 P3 **4**.
- ___ c. Plug cable connector labeled MIC P4 into MIC3 P4 **8**.
- ___ d. Plug cable connector labeled MIC P5 into MIC3 P5 **7**.
- ___ e. Plug cable connector labeled MIC P6 into LPC3 P6 **3**. Change the cable label to LPC P6.
- ___ f. Plug cable connector labeled MIC P7 into LPC3 P7 **11**. Change the cable label to LPC P7.
- ___ g. Plug cable connector labeled MIC P8 into LPC3 P8 **10**. Change the cable label to LPC P8.
- ___ h. Plug cable connector labeled MIC P9 into LPC3 P9 **5**. Change the cable label to LPC P9.
- ___ i. Plug cable connector labeled MIC P10 into LPC3 P10 **8**. Change the cable label to LPC P10.

- ___ j. Plug cable connector labeled LCC P1 into MIC3 P12 **10**. Change the cable label to MIC P12.
Note: It may be necessary to route the following to the right side of the Library Manager shelf.
- ___ k. Plug cable connector labeled LCC P2 into MIC3 P14 **14**. Change the cable label to MIC P14.
- ___ l. Plug cable connector labeled LCC P3 into MIC3 P15 **15**. Change the cable label to MIC P15.
- ___ m. Plug cable connector labeled LCC P4 into MIC3 P13 **18**. Re-fold this cable in the middle inline with the card connector so the cable connector is past the card connector, then fold the cable connector back under the cable and plug it into the card connector. Change the cable label to MIC P13.
- ___ n. Plug cable connector labeled LCC P5 into MIC3 P1 **9**. Change the cable label to MIC P1.
- ___ o. Plug cable connector labeled LCC P7 into MIC3 P16 **1**. Change the cable label to MIC P16.

Go to Section 10.7, "Install Industrial Computer System Unit" on page 31.

- | | |
|--------------------------------------|---------------------------------|
| 1 CR5 LED (24V power control) | 7 K2 Relay (UEPO return) |
| 2 P18 connector | 8 P10 connector |
| 3 P6 connector | 9 K1 Relay (UEPO return) |
| 4 K4 Relay (UEPO return) | 10 P8 connector |
| 5 P9 connector | 11 P7 connector |
| 6 K3 Relay (UEPO return) | |

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Figure 11. Library Power Control Card (LPC)

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|-----------|------------------------------------|-----------|---------------------------------------|
| 1 | P16 connector | 16 | CR12 LED (K2 picked) |
| 2 | P2 connector | 17 | CR10 LED (K1 picked) |
| 3 | K3 Relay (reset safety interlock) | 18 | P13 connector |
| 4 | P3 connector | 19 | K5 Relay (servo power on) |
| 5 | K4 Relay (24V from door switches) | 20 | K6 Relay (power sequence) |
| 6 | P11 connector (no removable cable) | 21 | CR7 LED (K4 picked) |
| 7 | P5 connector | 22 | CR6 LED (K6 picked) |
| 8 | P4 connector | 23 | CR5 LED (K3 picked) |
| 9 | P1 connector | 24 | F5 1.5A SB fuse (24V motors/solenoid) |
| 10 | P12 connector | 25 | F3 5A fuse (36V servo) |
| 11 | P17 connector | 26 | CR4 LED (K5 picked) |
| 12 | K2 Relay (X motor back EMF) | 27 | F4 1.5A SB fuse (24V UEPO detect) |
| 13 | K1 Relay (Y motor back EMF) | 28 | F1 1.5A SB fuse (24V operator panel) |
| 14 | P14 connector | 29 | F2 1.5A SB fuse (24V sensors) |
| 15 | P15 connector | | |

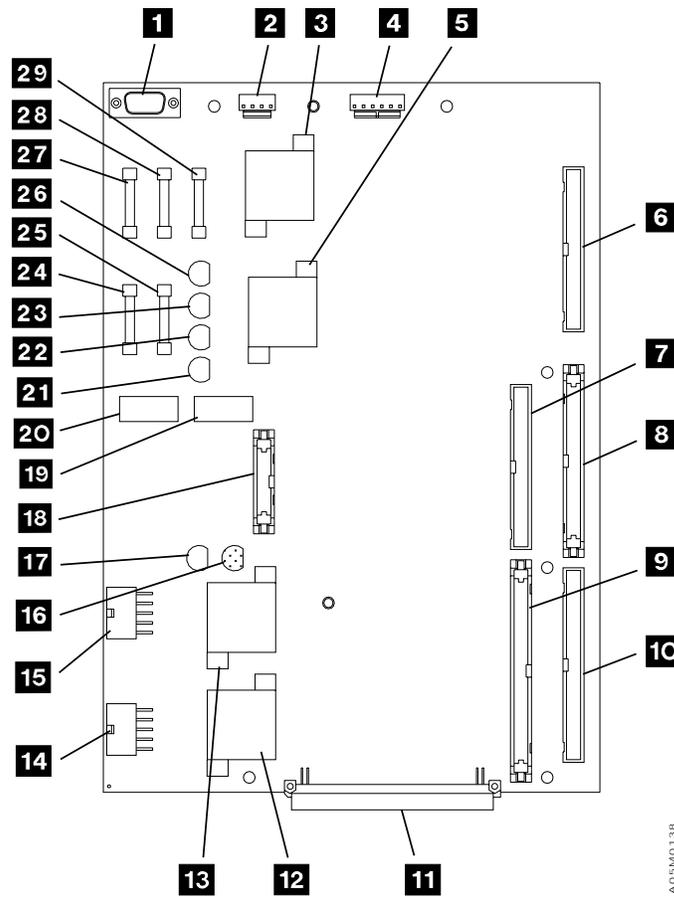


Figure 12. Machine Interface Control Card 2 (MIC3)

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10.6.2 EC C88519 and/or EC C35035 Already INSTALLED

- ___ 1. Disconnect the cables to the MIC card (up to ten cables), and then disconnect the cables from the LPC card (up to five cables).
- ___ 2. Remove the following allen head screws. Set the parts to the side for parts disposition as defined within Section 14.0, "Parts Disposition" on page 33.
 - ___ a. From the upper and lower left corners of the card pan.
 - ___ b. From the center of the MIC card.
- ___ 3. Free the card/pan assembly from the support clips, and place the card/pan assembly to the side for future reinstallation.

See Figure 13 on page 30 when performing the following steps.

- ___ 4. Before you can install the card panel adapter (P/N 05H8255, supplied), perform the following described trimming of the spacers and support clips on the rear panel located behind the card/pan assembly:
 - ___ a. Be sure to trim the spacers and support clips close enough to the rear panel to allow the card panel adapter to contact the rear panel.

- ___ b. You must also trim the one cable clamp on the rear panel, which is located just above the card/pan assembly. Open the cable clamp, remove the cables and trim the clamp to allow the card panel to contact the rear panel.
- ___ 5. Place the top lip of the card panel adapter **2** (P/N 05H8255, supplied) over the top edge of the rear panel, and secure as follows:
 - ___ a. Using the three pan head screws (P/N 1621190, provided) and three star washers (P/N 1622346, provided), secure the card panel adapter to the three standoffs on the rear panel
 - ___ b. Install the two support clips (P/N 34G8117, provided) into the two free holes on the right side of the card panel adapter.
- ___ 6. Using three allen head screws (P/N 1621511, supplied), attach the card/pan assembly **1** (P/N 05H8147, supplied) to the card panel adapter **2**.
- ___ 7. Using the 3590 MI's to ensure that the cables have been attached correctly, reattach the cables to the MIC and LPC cards.

Go to Section 10.7, "Install Industrial Computer System Unit" on page 31.

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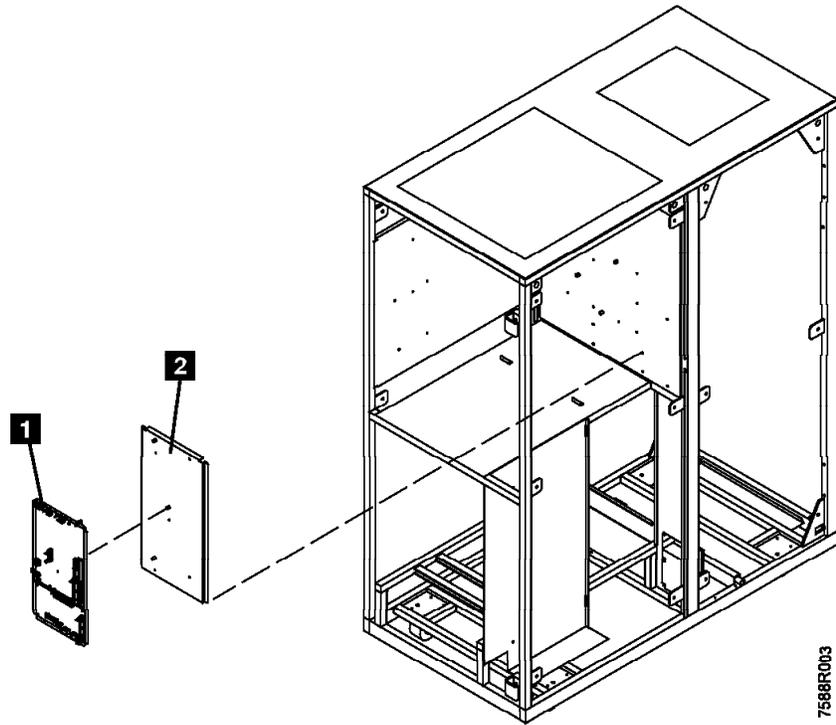


Figure 13. Install Card Panel Adapter

10.7 Install Industrial Computer System Unit

- ___ 1. Move the Model 7588 Industrial Computer System Unit to the 3494 control unit.
- ___ 2. Replace the PS/ValuePoint Library Manager power cord with the new Model 7588 Industrial Computer System Unit power cord (P/N 05H8911, supplied).
- ___ 3. With the exception of the DI/DO cables and the ground strap, attach all PC cables.

Note: Refer to the *7588 Industrial Computer Information: Installation, Operation and Hardware Maintenance*; and to the *Industrial Computer System Unit* figure display in the **LOC** Section of the 3494 Maintenance Information Manual.

Warning: Some parts to be handled during the DI/DO cable and card removal are **very sensitive** to electrostatic discharge (ESD). See "Working with ESD-Sensitive Parts" in the CARR section of the 3494 Maintenance Information Manual.

- ___ 4. Reconnect the DI/DO cables to the MIC card.
- ___ 5. Using the cable ties removed earlier, secure the DI/DO cables to the cable trough.

Go to Section 10.8, "Reinstall Ground Strap.."

10.8 Reinstall Ground Strap.

- ___ 1. Attach the ground strap to the lower left screw of the card/pan assembly.

10.9 3494 Power-up

- ___ 1. Turn **CB1** on.
- ___ 2. Ensure the **Power-on switch** is activated on the Library Manager.
- ___ 3. Power the 3494 on using the **Library Unit power switch**.
- ___ 4. If you are presented with the *Configuration Utility* screen, refer to the **Library Manager Configuration Utility Program** within the CARR section of the 3494 MI's.
 - a. Make sure that those options that can be altered (i.e. option displayed within brackets) are changed to properly match the MI figures.
- ___ 5. Make sure that the Library Manager *Operational Status* screen is displayed.
- ___ 6. Resolve any errors prior to proceeding to section 11.0, "Test Procedure."

Go to Section 11.0, "Test Procedure."

11.0 Test Procedure

Test will be performed upon completion of all steps listed within installation instructions 05H4072 (*Expansion Attachment Card*) OR 05H4083 (*IBM Token Ring LAN Attachment; or Ethernet LAN Attachment*).

Go to Section 12.0, "Field Updating" on page 33.

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After Installation (Sections 12 through 15)

12.0 Field Updating

None

be subject to additional branch office or country charges.

13.0 Field Support Publications

None

15.0 Machine Records

Note: Upon completion of this section, proceed to the *Prepare the Library Manager Unit for Service* section of the appropriate MES installation instructions: PN 05H4072 (*Expansion Attachment Card*); OR PN 05H4083 (*IBM Token Ring LAN Attachment; or Ethernet LAN Attachment*).

14.0 Parts Disposition

Pack the PS/ValuePoint Library Manager into the packing material used to ship the Industrial Computer System Unit.

Ship the container to:

IBM Corporation
 ATTN: Steve Roffinoli (Laboratory 340/031-1)
 9000 S. Rita Road
 Tucson, Arizona, 85794.

As in the Net-Priced MES process, timely **and complete** PS/ValuePoint Library Manager returns will be tracked. Missing or incomplete returns will

- ___ 1. Update machine history provided to reflect that EC C35093 (i.e. Model 7588 Industrial Computer System Unit installation) has been installed.
- ___ 2. Upon completion of the **entire MES installation**, use existing procedures to report the installation and quality
- ___ 3. Upon completion of this section, proceed to one of the following appropriate installation instructions:
 - ___ a. Part number 05H4072 (*Expansion Attachment Card*) if you will be installing FC 5229.
 - ___ b. Part number 05H4083 (*IBM Token Ring LAN Attachment; or Ethernet LAN Attachment*) if you will be installing either FC 5219 or FC 5220.

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