

4142B-11

S E R V I C E N O T E

SUPERSEDES: None

**HP 4142B Modular DC Source/Monitor**

**Duplicate Service Notes:** None

**Serial Numbers:** 0000A00000 / 9999Z99999

**Repair Strategy of 41420A SMU, 41423A HVU, and Power Supply Module**

**To Be Performed By:** HP-Qualified Personnel

**Parts Required:**

| HP Part No. | Qty. | Description    |
|-------------|------|----------------|
| 04142-90210 | 1    | Service Manual |

**Situation:**

When the HP 4142B Modular DC Source/Monitor was introduced, the repair strategy of the HP 4142B was module-level replacement using exchange modules. So the cost of repair has been relatively high due to the high module cost. To reduce this repair cost, we have decided to use a board-level replacement strategy for the 41420A, 41423A and power supply modules that have multiple circuit boards in their module. We expect that the repair cost can be reduced about 35% (4142B total average) by using new exchange boards. 41423A's strategy is already scheduled in the original PSP of the 41423A. The repair strategy of other modules has not been changed. Also, this change does not apply to on-site service. The exchange modules of the 41420A and power supply will not be deleted for on-site service.

*Continued*

DATE: 06 April 1992

ADMINISTRATIVE INFORMATION

|                              |         |                         |
|------------------------------|---------|-------------------------|
| SERVICE NOTE CLASSIFICATION: |         |                         |
| <b>INFORMATION ONLY</b>      |         |                         |
| AUTHOR:                      | ENTITY: | ADDITIONAL INFORMATION: |
| HS                           | 3301    |                         |

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**Solution/Action:**

Refer to the new service manual of the 4142B (PN: 04142-90210) for the information concerning board-level troubleshooting and repair. Following is the summary of the HP 4142B Repair Strategy Change.

**41420A HP SMU:**

The 41420A Module is divided into three boards. The exchange program will be used for the A1 board. The A2 and A3 boards are to be replaced with new ones. Troubleshooting can be done by using the results of the self-test.

| Module        | Old Parts<br>(Modules) | New Parts<br>(Boards) |                    |
|---------------|------------------------|-----------------------|--------------------|
| 41420A HP SMU | 41420-69001            | 41420-69501           | A1 SMU Main        |
|               |                        | 41420-65502           | A2 Output Floating |
|               |                        | 41420-65503           | A3 +/-4V Floating  |

**41423A HVU:**

The 41423A HVU consists of two main boards. The exchange program can be used for one board. The other board will be replaced with a new one. The self-test will be used for troubleshooting, but some checking procedures may be required to determine the failed board.

| Module     | Old Parts<br>(Modules) | New Parts<br>(Boards) |                    |
|------------|------------------------|-----------------------|--------------------|
| 41423A HVU | 41423-61001            | 41423-69501           | A1 Floating SMU    |
|            |                        | 41423-65502           | A2 Power Amplifier |

**Power Supply:**

The power supply consists of three boards -- one primary circuit board and two secondary circuit boards --. The exchange program will be used for the primary circuit board. The secondary circuit boards will be replaced with new ones. Most failures will be on the A1 primary circuit board. When specific output voltage is out of specification, one of the secondary circuit boards has failed.

| Module       | Old Parts<br>(Modules) | New Parts<br>(Boards) |                |
|--------------|------------------------|-----------------------|----------------|
| Power Supply | 04142-69015            | 04142-69530           | A0 Primary     |
|              |                        | 04142-65531           | A1 Secondary-1 |
|              |                        | 04142-65532           | A2 Secondary-2 |
|              | Fuses                  | Fuses                 |                |