

HP 12944A
Power Fail Recovery System
installation manual



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MANUAL PART NO. 12944-90001
MICROFICHE PART NO. 12944-90002

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INTRODUCTION

This manual provides installation instructions for the HP 12944A Power Fail Recovery System, which is an accessory for the HP 2105A/2108A Processors. For additional information, refer to the HP 21MX Computer Series Reference Manual, part no. 02108-90002, and the HP 21MX Computer Series Installation and Service Manual, part no. 02108-90006.

DESCRIPTION

The power fail recovery system, which provides up to 2 hours of memory sustaining power with an automatic restart capability, consists of the following:

- a. Battery output printed-circuit assembly (PCA), part no. 5060-8346.
- b. Battery control I PCA, part no. 5060-8347.
- c. Battery control II PCA, part no. 5060-8353.
- d. Battery pack, part no. 1420-0206.
- e. Battery box, part no. 02108-00007.
- f. Battery box cover, part no. 02108-00006.
- g. Foam pad, part no. 9220-2070.
- h. Miscellaneous attaching hardware.

INSTALLATION

Install the power fail recovery system in the processor as follows:

WARNING

Hazardous voltages are present inside the processor mainframe!! Before installing the power fail recovery system, set the \sim LINE and BATTERY switches to OFF and DISCONNECT THE POWER CORD!! Failure to observe this precaution can result in serious injury or DEATH!!

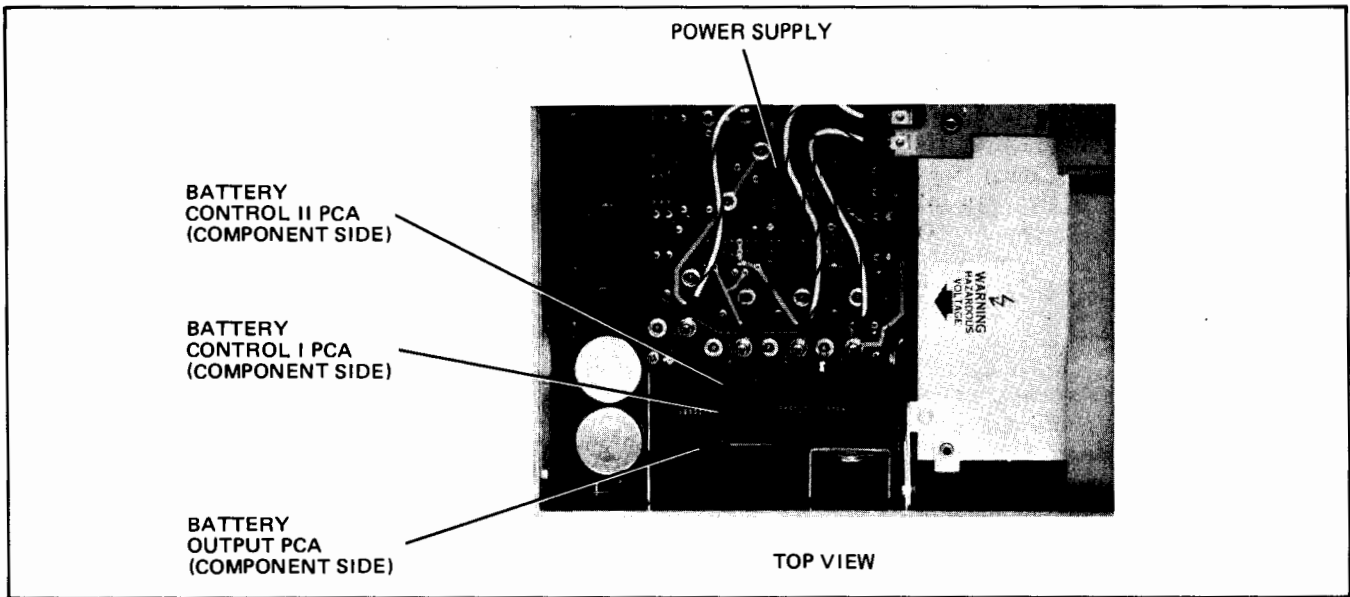
- a. On rear panel, set \sim LINE and BATTERY switches to OFF and disconnect power cord.
- b. Remove top cover and insert battery control II PCA, battery control I PCA, and battery output PCA into their dedicated slots on the lower power supply PCA. Observe component side orientation of the PCA's as shown in figure 1.

- c. Remove I/O PCA cage cover by loosening the four captive screws (HP 2105A) or pulling outward on the four plungers (HP 2108A). (See figure 2.)
- d. Remove the four screws, lockwashers, and flat washers securing battery box cover to battery box. Separate battery box cover from battery box and remove battery pack.
- e. Position battery box onto I/O PCA cage cover and secure in place with the four flat screws, lockwashers, and nuts.
- f. Reinstall battery pack against foam pad in battery box. Ensure that rubber grommet on battery cable is inserted in slot provided in right-hand side of battery box.
- g. Position battery box cover over battery box and secure in place with the four screws, lockwashers, and flat washers.
- h. Install I/O PCA cage cover and secure in place by tightening the four captive screws (HP 2105A) or pushing inward on the four plungers (HP 2108A).
- i. Connect battery cable assembly to BAT. INPUT connector and reinstall top cover.

INTERNAL SWITCH SETTING

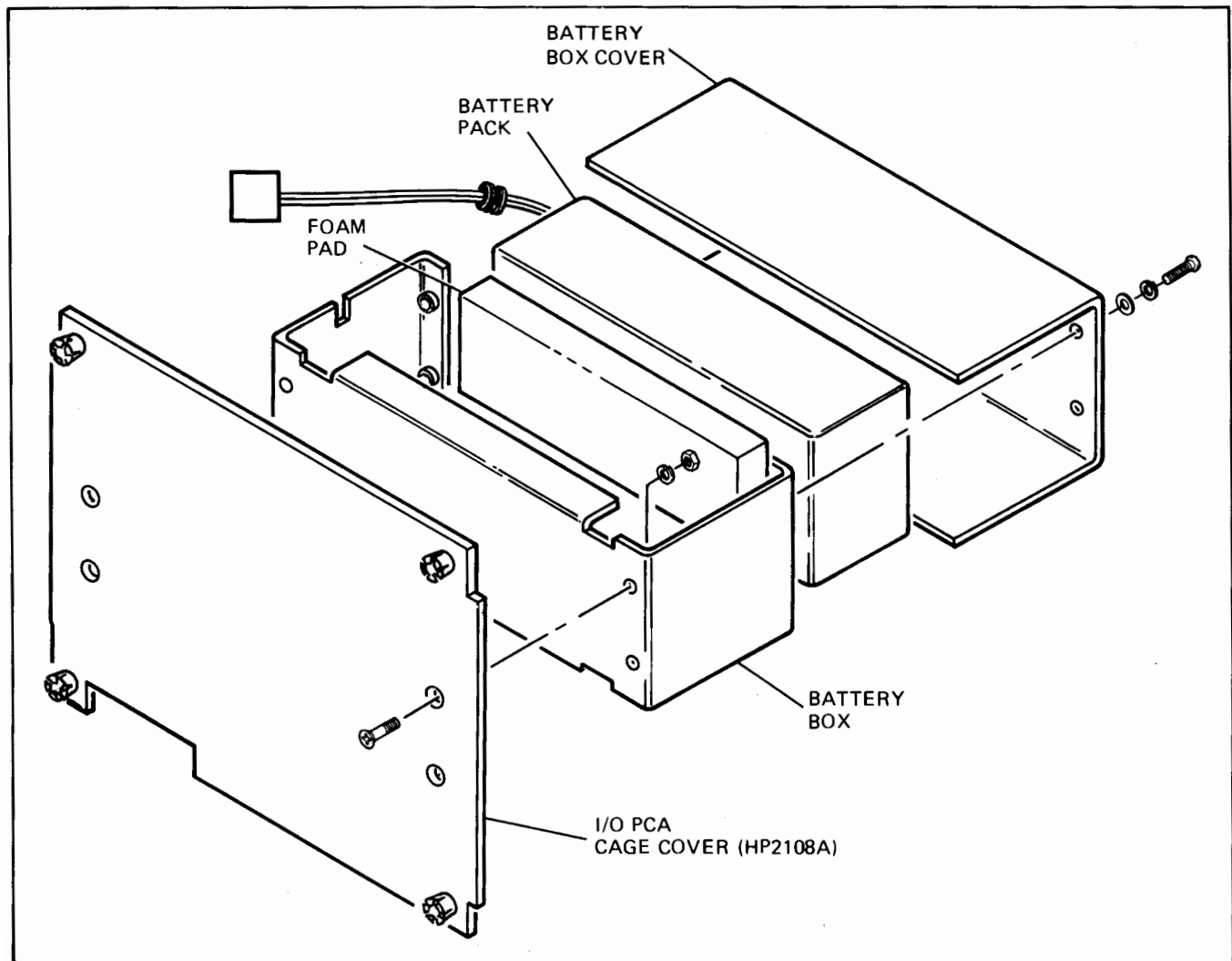
Automatic restart switch A1S2, which is mounted on the CPU PCA, will alternatively enable or disable the automatic restart capability of the processor. The action that the processor will take upon the restoration of primary power following a power failure of less than 2 hours is determined by the following alternative switch settings:

- a. **ARS.** The automatic restart feature is enabled when switch A1S2 is in the ARS position. After a built-in delay of about half a second following the return to normal power levels, an interrupt from select code 04 is generated and the processor enters the run mode. An auto-restart program may be entered by the proper JMP or JSB in trap cell 00004 or, alternatively, a HLT may be programmed.
 - (1) The ARS mode may be overridden by pressing the PRESET button while enabling power to the processor. This will prevent the interrupt to select code 04 and leave the processor in the halt mode.
 - (2) In the event that memory was lost while the processor was not powered, the ARS feature is overridden as described above.
- b. **$\overline{\text{ARS}}$.** The automatic restart feature is disabled when switch A1S2 is in the $\overline{\text{ARS}}$ position. The processor is halted immediately regardless of whether the processor was running or halted when the power failure occurred.



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Figure 1. Installation of PCA's



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Figure 2. Battery Installation

Consult with the system programmer to determine the required switch setting and proceed as follows:

WARNING

Hazardous voltages are present inside the processor mainframe!! Before setting automatic restart switch A1S2, set the ~LINE and BATTERY switches to OFF and DISCONNECT THE POWER CORD!! Failure to observe this precaution can result in serious injury or DEATH!!

- a. Remove bottom cover of processor.
- b. Refer to figure 3 and set switch A1S2 as determined by the system programmer.
- c. Reinstall bottom cover.
- d. Perform the Power Fail/Auto Restart diagnostic test. The **Manual of Diagnostics** provides operating procedures for the diagnostic test. Part numbers for the diagnostic test are as follows:

CHECKOUT

After installing the power fail recovery system, verify proper operation by performing the following:

- a. Plug power cord into power mains receptacle and set ~LINE and BATTERY switches to ON.
- b. On operator panel, rotate key-operated switch to R (reset) and then to OPERATE.
- c. If the power fail/automatic restart is enabled, the POWER FAIL/BATTERY indicator will light when

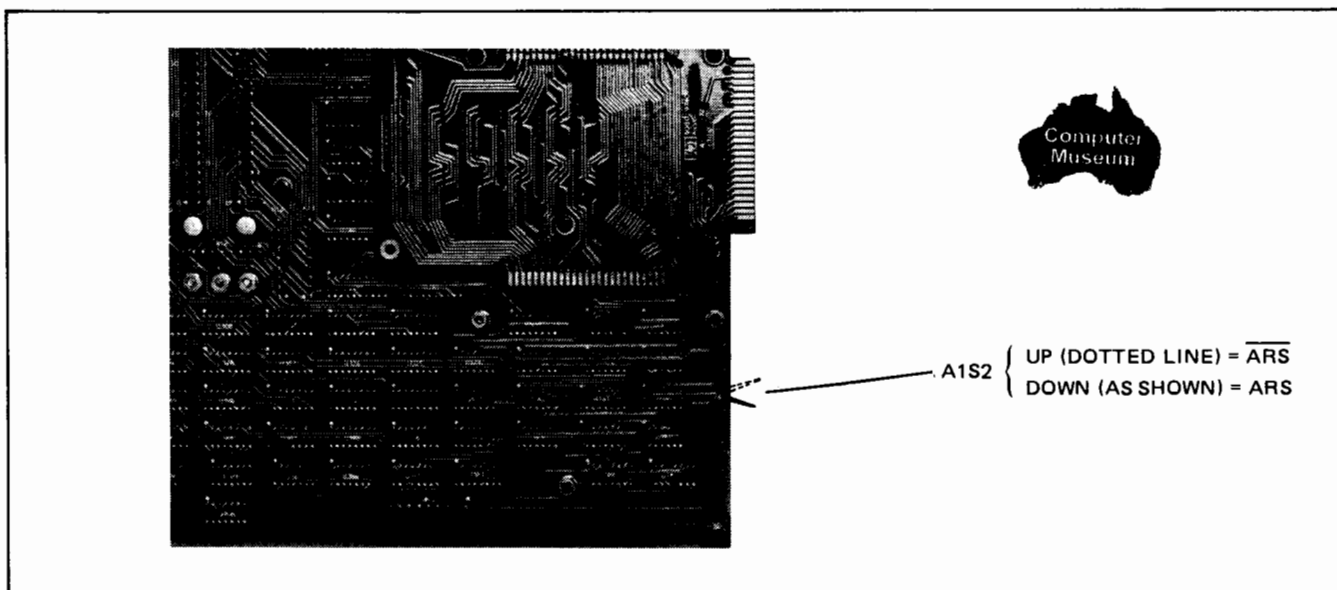
power is restored regardless of whether or not memory was sustained. This light can be turned off by pressing the PRESET switch while in the halt mode.

Note: The POWER FAIL/BATTERY indicator may flash on and off after pressing PRESET for a period of approximately 7 minutes or until the following condition(s) have been corrected: (1) if the battery is insufficiently charged to sustain memory, (2) the battery cable assembly is unplugged, (3) the BATTERY switch is set to OFF, or (4) the battery fuse is blown.

DIAGNOSTIC	MANUAL	TAPE
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Power Fail/Auto Restart	02100-90216	24321-16001
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If the diagnostic test is completed without an error halt, the power fail recovery system is operating correctly. If the diagnostic test indicates an error halt, notify your nearest HP Sales and Service Office. A list of the HP Sales and Service Offices is given in the **HP 21MX Computer Series Reference Manual**, part no. 02108-90002, and the **HP 21MX Computer Series Installation and Service Manual**, part no. 02108-90006.



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Figure 3. Automatic Restart Switch

