

HP 9000 Series 500 Computer Systems

**HP 27123A
Programmable Serial Interface
Shared Resource Management System (PSI SRM)
Installation Manual**

Card Assembly: 27123-60001

Date Code: B-2529



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PRINTING HISTORY

The Printing History below identifies the Edition of this Manual and any Updates that are included. Periodically, update packages are distributed which contain replacement pages to be merged into the manual, including an updated copy of this Printing History page. Also, the update may contain write-in instructions.

Each reprinting of this manual will incorporate all past updates; however, no new information will be added. Thus, the reprinted copy will be identical in content to prior printings of the same edition with the user-inserted update information. New editions of this manual will contain new information, as well as updates.

27123-90001

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SAFETY CONSIDERATIONS

GENERAL - This product and related documentation must be reviewed for familiarization with safety markings and instructions before operation.

SAFETY SYMBOLS



Instruction manual symbol: the product will be marked with this symbol when it is necessary for the user to refer to the instruction manual in order to protect the product against damage.



Indicates hazardous voltages.



Indicates earth (ground) terminal (sometimes used in manual to indicate circuit common connected to grounded chassis).

WARNING

The **WARNING** sign denotes a hazard. It calls attention to a procedure, practice, or the like, which, if not correctly performed or adhered to, could result in injury. Do not proceed beyond a **WARNING** sign until the indicated conditions are fully understood and met.

CAUTION

The **CAUTION** sign denotes a hazard. It calls attention to an operating procedure, practice, or the like, which, if not correctly performed or adhered to, could result in damage to or destruction of part or all of the product. Do not proceed beyond a **CAUTION** sign until the indicated conditions are fully understood and met.

CAUTION

STATIC SENSITIVE DEVICES

When any two materials make contact, their surfaces are crushed on the atomic level and electrons pass back and forth between the objects. On separation, one surface comes away with excess electrons (negatively charged) while the other is electron deficient (positively charged). The level of charge that is developed depends on the type of material. Insulators can easily build up charges in excess of 20,000 volts. A person working at a bench or walking across a floor can build up a charge of many thousands of volts. The amount of static voltage developed depends on the rate of generation of the charge and the capacitance of the body holding the charge. If the discharge happens to go through a semiconductor device and the transient current pulse is not effectively diverted by protection circuitry, the resulting current flow through the device can raise the temperature of internal junctions to their melting points. MOS structures are also susceptible to dielectric damage due to high fields.

The resulting damage can range from complete destruction to latent degradation. Small geometry semiconductor devices are especially susceptible to damage by static discharge.

The PSI SRM card is shipped in a transparent static shielding bag. The card should be kept in this bag at all times until it is installed in the system. Save this bag for storing or transporting the card. When installing the card in the system, do not touch any components. Hold the card only by the edges or extractor levers.

WARNING

SAFETY EARTH GROUND - The computer on which this product is installed is a safety class I product and is provided with a protective earthing terminal. An uninterruptible safety ground must be provided from the main source to the product input wiring terminals, power cord, or supplied power cord set. Whenever it is likely that the protection has been impaired, the product must be made inoperative and must be secured against any unintended operation.

SERVICING

WARNING

Any servicing, adjustment, maintenance, or repair of this product must be performed only by qualified personnel.

This manual provides information for you to install and verify correct operation of the HP 27123A Programmable Serial Interface Shared Resource Management (PSI SRM) card. You will also need the appropriate computer system installation manual. These two manuals should provide all the required information.

INSTALLATION

Before installation review the safety precautions in the front of this manual. Install the PSI SRM as follows:

1. Determine if your computer system can supply the power needed for the PSI SRM card. Refer to table 1 for power requirements for the PSI SRM card. If the PSI SRM card is going to provide power for the HP 98028A Resource Management Multiplexer, refer to the appropriate manual for power requirements for this item. The PSI SRM card can provide power for a maximum of two HP 98028A multiplexers.

Table 1. Power Requirements for the PSI SRM Card.

Voltage	Current (Amps)		Power Dissipation (Watts)	
	(typical)	(2-sigma)	(typical)	(2-sigma)
+ 5 V	1.415 A	1.616 A	7.077 W	8.082 W
+12 V	0.072 A	0.087 A	0.864 W	1.040 W
-12 V	0.094 A	0.109 A	1.128 W	1.304 W
Total Power Consumption:			9.069 W	10.426 W

2. Verify that the Memory Configuration jumpers (U81, see figure 1) are configured correctly for the EPROMs/RAMs installed on the card. For the PSI SRM card, jumpers should be installed in jumper positions 2, 4, and 5. Jumpers should *not* be installed in any of the other jumper positions.
3. The Node Address switch (SW1 through SW8) at location U118 (see figure 1) is used to set the node address for the PSI SRM card.

The setting on this switch must correspond to the node address assigned to you by your System Manager. See table 2 for information on setting the switches to obtain the desired address.

4. Check to see that the load resistors are installed in their correct positions, and that the "short pack" is in the correct socket (see figure 1). Be sure that the "short pack" is installed flush with the left edge of its socket (the pin 1 edge).

5. Install the card in the appropriate slot in the computer. When installing the card, use care not to damage components or traces on the card or on adjacent cards. Press the PSI SRM card firmly into place.
6. If the PSI SRM card is to provide power to the HP 98028A Resource Management Multiplexer, connect the 2-foot cable (part number 27123-63002, supplied with the card) from J2 on the PSI SRM card to the 50-pin connector on the multiplexer (see figure 2A). If the PSI SRM card is not going to provide power to the multiplexer, connect the 2-foot cable (part number 27123-63002) to pin J2 on the PSI SRM card, then connect cable HP 97061A (10-meter), HP 97061B (25-meter), HP 97061C (60-meter), or HP 97061D (60-meter cable and connector kit) from cable 27123-63002 to one of the 15-pin connectors on the multiplexer (see figure 2B). If you have the test hood, which exercises more of the card's circuitry, and can be ordered separately (Hewlett-Packard part number 1258-0207), connect it to J2 instead of connecting the cable.

CAUTION

Be sure to install the diagnostic test hood so that its component side (the side with the LED) has the same orientation as the component side on the PSI SRM card. Damage to the PSI SRM card can result if the test hood is installed incorrectly.

NOTE

A "grounding grommet" on the interface cable allows the cable shield to be grounded at that point in some applications. Models 520, 530, and 540 do not use this grommet. Your computer installation manual will have details.

7. Turn on computer system power.
8. A self-test is contained on the card. The host computer system determines if the self-test is run automatically at power-on or must be invoked by the user. Refer to the appropriate manual for your system for a description of self-test initiation.
 - If the diagnostic test hood is not installed when the self-test executes, the LED located on the card should light briefly and go out. This indicates that the card passed self-test. If the LED does not light at all, the card is defective. If the LED stays on, the card did not pass self-test. For either of these latter two cases, return the card to Hewlett-Packard (refer to the "Reshipment" paragraph for details).
 - If the diagnostic test hood is installed when the self-test executes, the conditions above should occur, plus the LED located on the test hood should light briefly and go out simultaneously with the card's LED. If the LEDs (the one mounted on the card and the one mounted on the diagnostic test hood) do not light at all, or if they light and stay on, the causes are the same as above.
9. Refer to your system documentation for information on using the PSI SRM in your system.

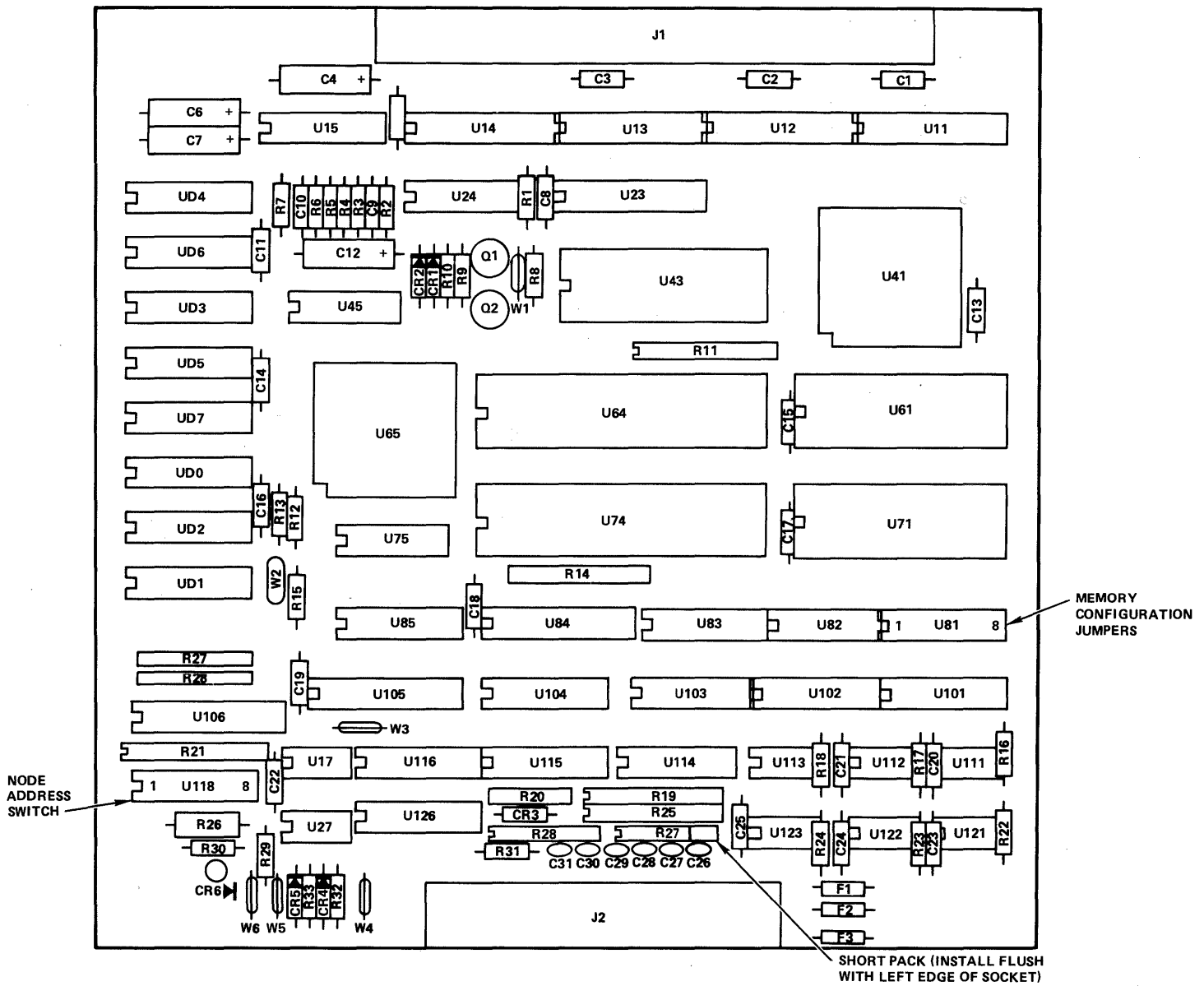


Figure 1. PSI SRM Component Locations

RESHIPMENT

If the PSI SRM is to be reshipped to Hewlett-Packard for any reason, attach a tag identifying the owner and indicating the reason for shipment. Include the part number of the PSI SRM.

Remove and retain the EPROM. The I/O chip and microprocessor should stay on the card.

Pack the card in the original factory packing material, if available. If the original material is not available, good commercial packing material should be used. Reliable commercial packing and shipping companies have the facilities and materials to repack the item. **BE SURE TO OBSERVE ANTI-STATIC PRECAUTIONS.**

PRODUCT HISTORY

In order for you to better understand where the current card fits into the PSI SRM framework, this section will briefly cover the product history. It may be helpful to look at the Printing History found on page ii.

The product first appeared in August of 1983. Essentially unchanged, it underwent a minor revision to a connecting cable (part number 8120-4269) in late 1984. This change involved the addition of a grounding grommet to reduce Radio Frequency Interference radiated by the cable in certain computer applications. The grounded cable is part number 27123-63001. This cable works in models 520, 530, and 540, but it is not mandatory, while all other models require the new cable for proper function.

To further increase its usefulness, Hewlett-Packard revised the cable in 1985. The new cable is part number 27123-63002. It is required for connecting the PSI SRM to the new SRM coaxial network, and is fully backwards compatible. There was an accompanying firmware change (part number 27123-80001 was replaced by 27123-81001). The new EPROM code is fully backwards compatible, and is required for use in the SRM coaxial network.

Later in 1985, HP changed the assembly number of the card to the current 27123-60001 (earlier versions were coded 5061-4920). This should help you more easily identify the card and its components.

The replacement of the line driver at this time affected the "Revision Code" used to help HP keep track of our products. The new code assigned is B-2529. The earlier code was B-2314.

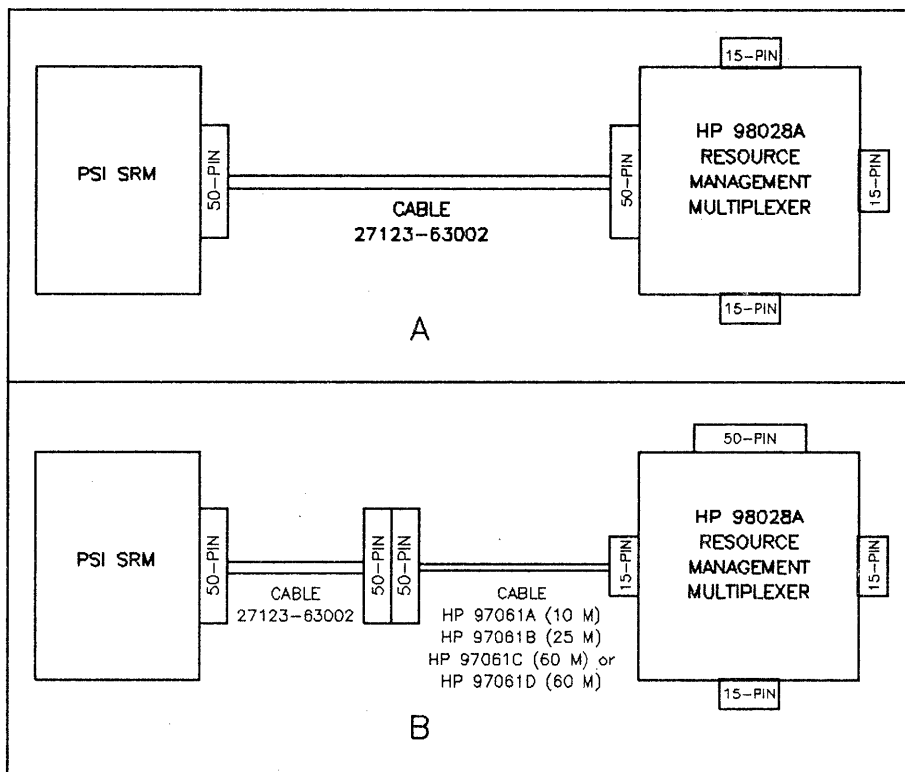


Figure 2. Cable Installation

Table 2. Node Address Switch Settings

U118								NODE ADDRESS
MSB							LSB	
S1	S2	S3	S4	S5	S6	S7	S8	
NOT USED	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	1	1
	0	0	0	0	0	1	0	2
	0	0	0	0	0	1	1	3
	0	0	0	1	0	0	0	4
								.
								.
								.
								.
								.
		1	1	1	1	0	1	61
		1	1	1	1	1	0	62
		1	1	1	1	1	1	63

0 = Switch closed (on)
1 = Switch open (off)

Table 3. Inputs from the Resource Management Multiplexer to the PSI SRM Card

J2 PIN	J2 MNEMONIC	MNEMONIC	PSI SRM INPUT
A9 B9	RD(A) RD(B)	RD	RXDB PRI_RD
A7 B7	ST(A) ST(B)	ST	TXCB-
A10 B10	RT(A) RT(B)	RT	RXCB-
A8 B8	CS(A) CS(B)	CS	CTSB-

Table 4. Outputs from the PSI SRM Card to a Peripheral Device

J2 PIN	J2 MNEMONIC	MNEMONIC	PSI SRM OUTPUT
A4 B4	SD(A) SD(B)	SD	TXDB
A6 B6	TT(A) TT(B)	TT	ST

Table 5. Cable Connections

J2 PIN	J2 MNEMONIC	PSI SRM PIN	PSI SRM MNEMONIC
A1 A2	+12 V + 5 V	10 35,36	
A4 B4	SD(A) SD(B)	27 2	SD SD-
A6 B6	TT(A) TT(B)	33 8	TT TT-
A7 B7	ST(A) ST(B)	41 16	ST ST-
A8 B8	CS(A) CS(B)	44 19	CS CS-
A9 B9	RD(A) RD(B)	42 17	RD RD-
A10 B10	RT(A) RT(B)	43 18	RT RT-
B12 B22	SG SG	48 23	SG
A25 B25	SHIELD SHIELD	24 24	

READER COMMENT SHEET

HP 9000 500 Series Computer Systems

HP 27123 PROGRAMMABLE SERIAL INTERFACE SHARED
RESOURCE MANAGEMENT SYSTEM Installation Manual

27123-90001 September 1985

We welcome your evaluation of this manual. Your comments and suggestions help us to improve our publications. Please explain your answers under Comments, below, and use additional pages if necessary.

Is this manual technically accurate? Yes No

Are the concepts and wording easy to understand? Yes No

Is the format of this manual convenient in size, arrangement, and readability? Yes No

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