Printer Controller Unit
(UC5)

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Symbols

This manual uses several symbols. The meanings of those symbols are as follows:

☛	See or Refer to
	Clip ring
	E-ring
	Screw
	Connector

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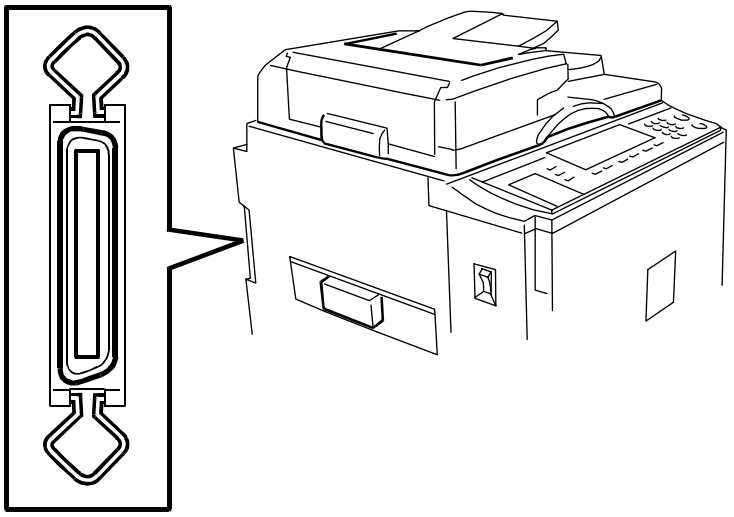
1. INSTALLATION

The HP4 for China (HP4P) is equipped with a standard printer controller unit and Video I/F board. Connect the printer controller unit to the host computer with a parallel cable. Then install the printer driver in the host computer.

Host computer	IBM PC/AT compatible PC
Interface	IEEE1284B (Compatible, Nibble, ECP)
Operating Systems Supported	Windows 95/98/Me, Windows NT4.0, Windows 2000/XP
Printer Driver	Digital Duplicator A3 400 GDI



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2. REPLACEMENT AND ADJUSTMENT

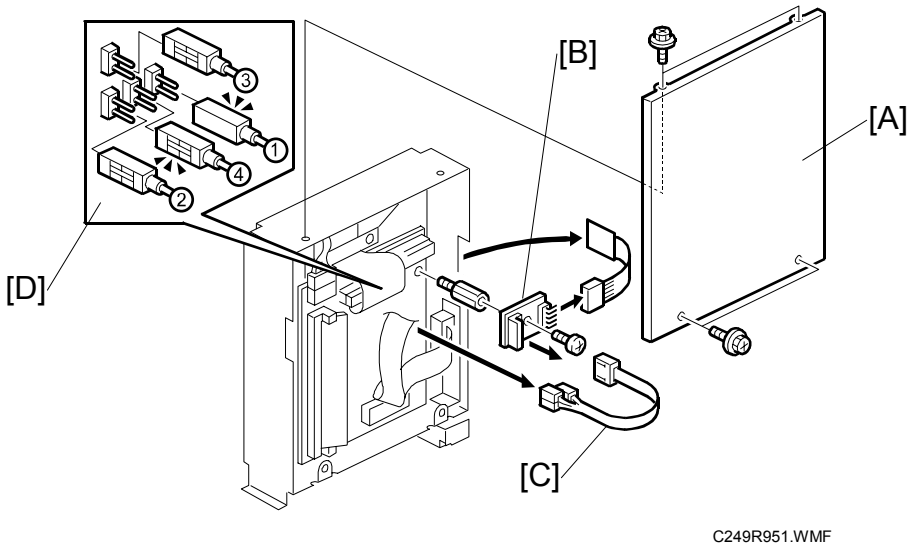
⚠CAUTION

Before removing any of the controller components, do the following:

1. **If the 'data-in' lamp on the operation panel is blinking or lit, wait until the document or report is printed. Then turn off the machine.**
2. **Turn off the main switch and disconnect the power cord, and the cable.**

NOTE: This manual uses these symbols:
Screw: Connector:

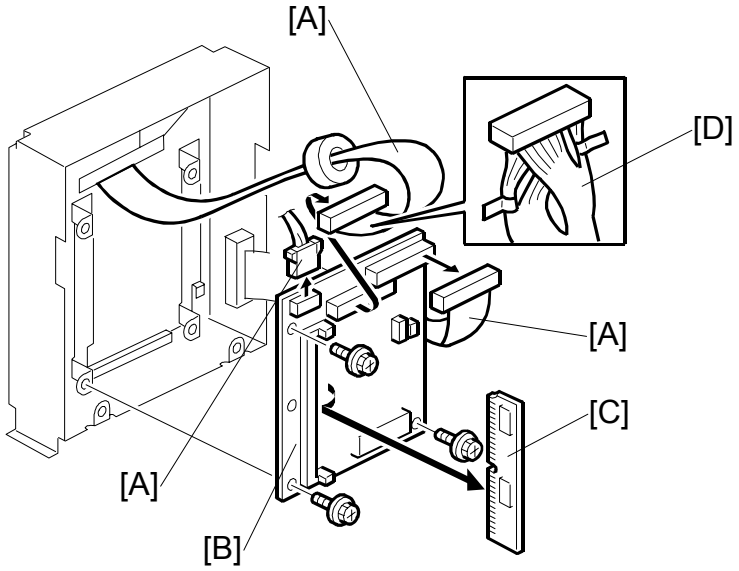
2.1 CONTROLLER BOARD MEMORY



[A]: Cover

[B]: Keypad board

NOTE: When you attach the connector [C] make sure to attach it in the correct direction and position [D].



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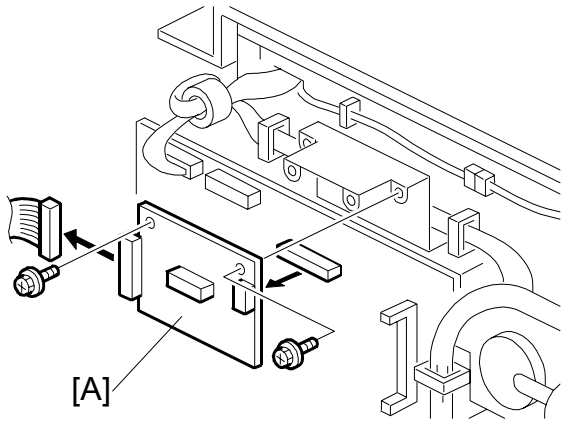
[A]: Connector

[B]: Printer controller board

[C]: SIMM module

NOTE: The twisted portion of the harness [D] should fit loosely and close to the controller board.

2.2 VIDEO I/F BOARD



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[A]: Video I/F Board

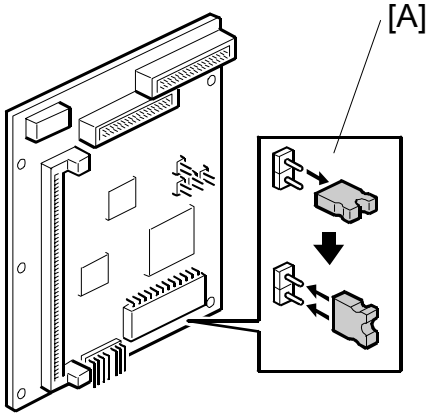
2.3 LOAD PROGRAM

This procedure is for upgrading the system firmware for the controller.

NOTE: If the controller does not start up after a firmware update, try to download the firmware again. If it still does not work, you may need to replace the flash ROM on the printer controller board.

⚠CAUTION
Do not turn off the machine while downloading the firmware.

1. Before downloading new firmware, print the test page. Then check the current version. (☛ 2.6)
2. Turn off the machine.
3. Remove the rear cover and the controller cover.
4. Put the jumper next to the flash ROM into the position [A].
5. Turn on the machine.
6. Boot up the PC and access the MS-DOS prompt or Command Prompt.
7. Use COPY command to update the flash ROM. e.g. “copy file_name LPT1:” LPT1 is the connected port.



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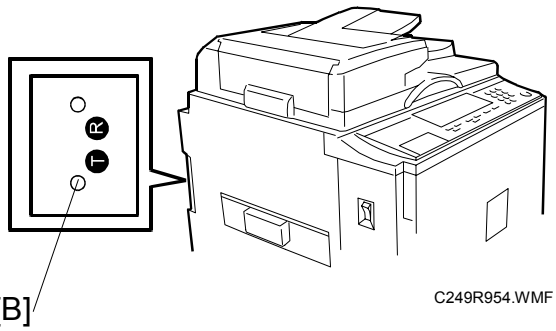
8. While the flash ROM is updating, the left LED [B] on the control button board is continuously on.



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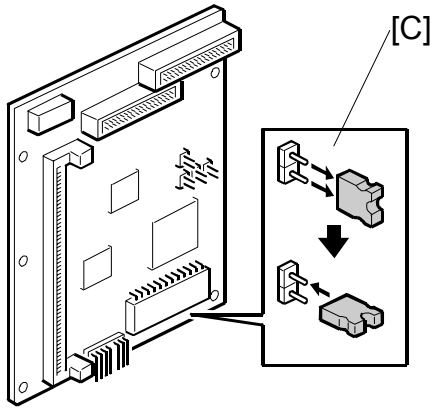
9. When the left LED flashes rapidly, the process has completed.
10. Turn off the machine.
11. Put the jumper into the off position [C] next to the flash ROM.
12. Turn on the machine and print the test page pressing the test page button. Then check the new version.



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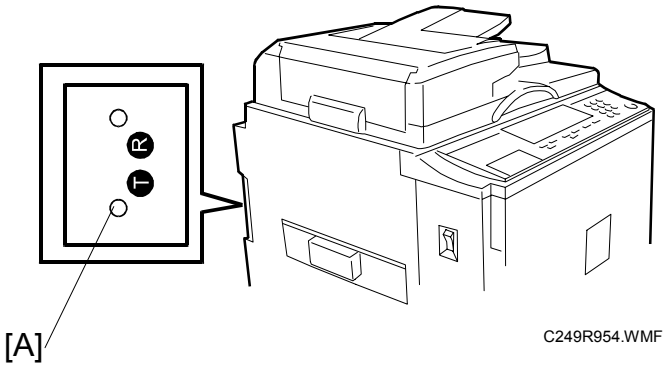
2.4 TEST PAGE

Press the test page button [A] on the keypad board. The right LED will start to flash quickly. This indicates that the controller is in the process of creating the test page.



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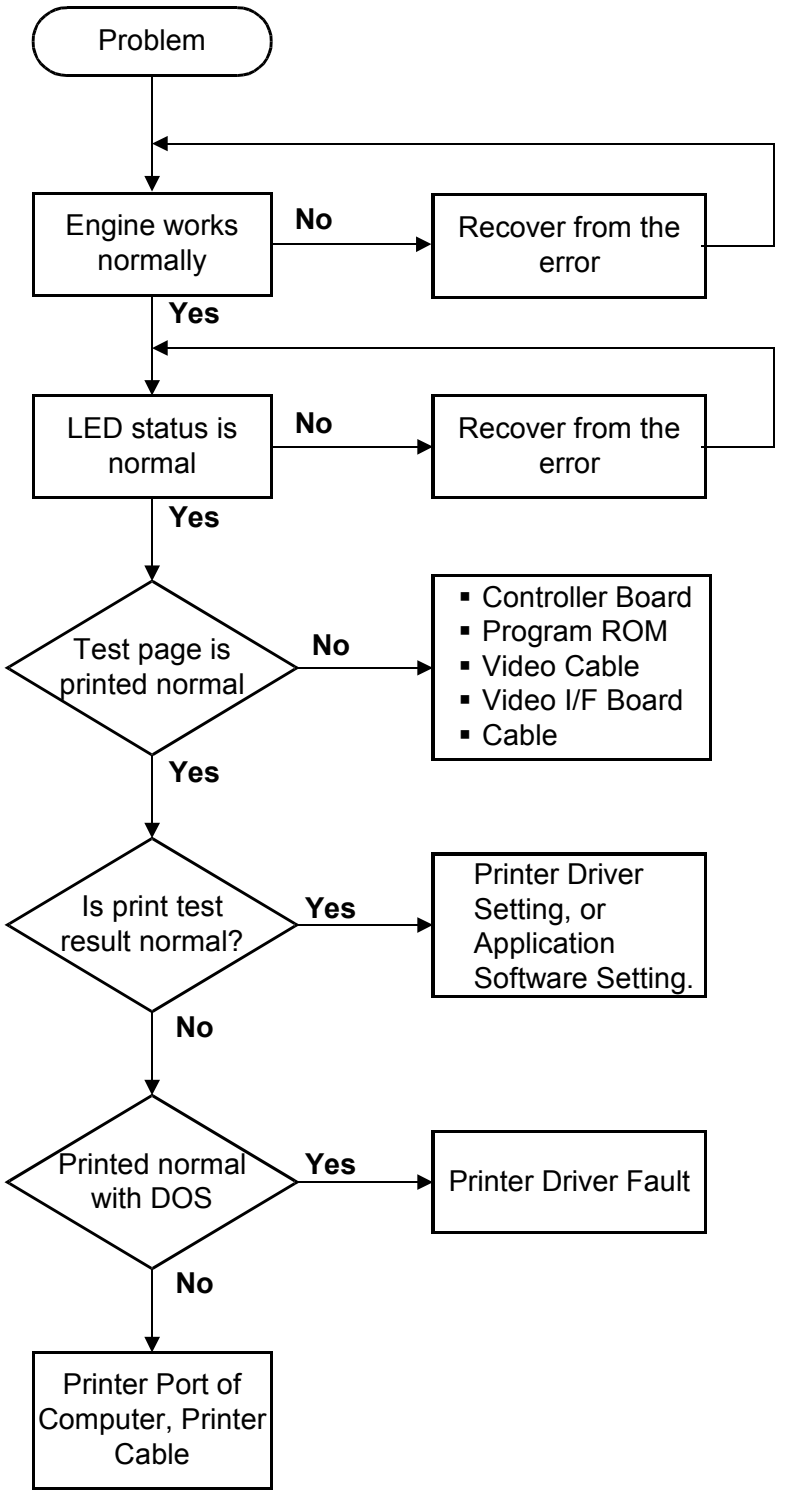
3. TROUBLESHOOTING

3.1 TROUBLESHOOTING FLOWCHART



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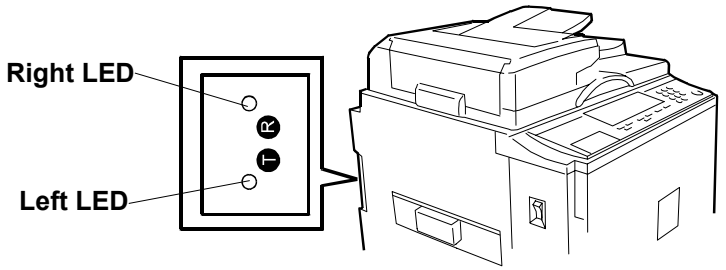
3.2 LED STATUS LIGHT SEQUENCE AND CONDITIONS



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3.2.1 POWER ON AND ACTIVATION

STATUS	CONTENTS	CHECK POINT
All LEDs are off	No power supply	• No AC power. • AC cord not properly connected. • Power supply failure in the controller.
Right LED is on	Power on	-
Left LED is flashing	Self-diagnostic test before ready	-
Left LED is flashing rapidly	Receiving data	-
Left LED is on continuously	Transferring data Making a master	-
Left LED is continuously off	Idle	-
Left LED flashing slowly and evenly	Error on engine	• Check message on operation panel.

3.2.2 TEST PAGE BUTTON

STATUS	CONTENTS	CHECK POINT
Left LED is flashing	Receiving data	-
Left LED is on	Making a master	-
Left LED continuously on	Printing	-
Left LED flashes and goes off. LED stays off.	No response from the engine.	• Turn off the engine and turn it back on. • Check if the controller is properly connected to the engine. • Check if the engine is online. • Check if SIMM card is positioned correctly.
Left LED flashes slowly and evenly.	Engine error	• Check error message on the engine. • Check if the controller is properly connected to the engine.

3.3 PRINTER DRIVER OPERATION

If the Windows test page does not print or does not look right, check the printer driver operation using these steps:

1. Select the details tab in the properties menu of the printer driver.
2. Change port connection to “File:”
3. Click on the apply button. Then select the general tab and click on the print test page button.
4. Set the file name (e.g. test.prn). Then set the disk/directory location. Save the file.
5. Click “YES” when the message pops up and asks whether the test page printed correctly.
6. Access the MS-DOS prompt or Command Prompt.
7. Check that the engine and controller are ready for printing. Then execute the following command at the MS-DOS prompt or Command Prompt. “copy /b test.prn lpt1”

   NOTE: 1) Always input “/b” after copy command.
   2) The above example applies if the file name saved in the step 4 is “test.prn”.
   3) If the controller is connected to a second port of PC, replace “lpt1” with “lpt2”.

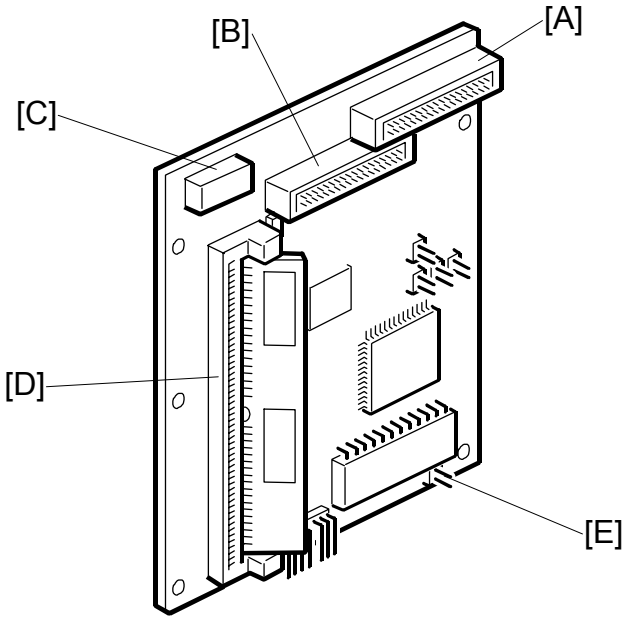
8. Input “exit”. Then exit from the MS-DOS prompt or Command Prompt.
9. If the has printed correctly, return the printer driver to the previous printer port from port “File:”.

4. SERVICE TABLE

There is no SP mode for printer controller unit.

5. DETAILED DESCRIPTIONS

5.1 OVERVIEW



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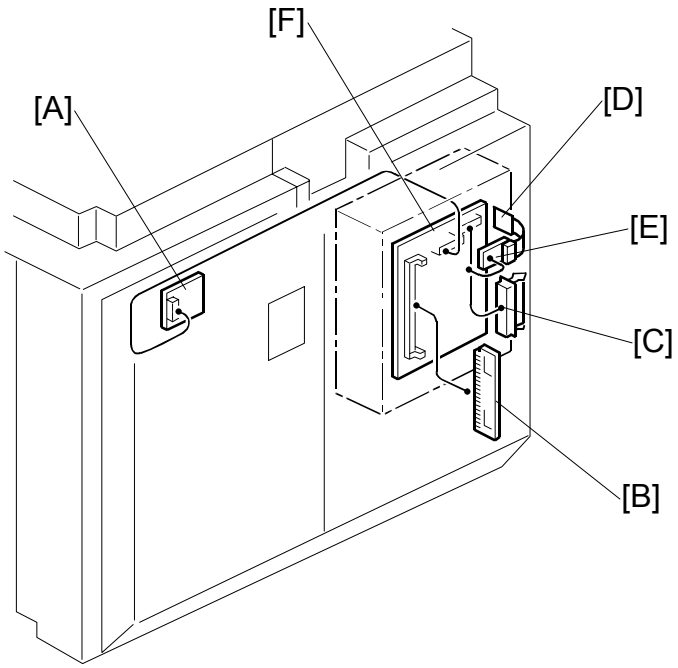
DESCRIPTION	CONTROLLER
CPU	Analog Devices ADSP chip
RAM	16MB (SIMM)
Flash ROM	1MB EPROM

REF.	CONNECTOR		DESCRIPTION
	Name	Configuration	
A	IEEE1284 I/F	26-pin socket	To IEEE1284 Interface
B	Engine Interface	26-pin socket	To video I/F board
C	Power connector	4-pin socket	To power cable
D	SIMM Interface	72-pin SIMM	For connecting the SIMM module
E	Upgrade firmware jumper	2-pin	Upgrading controller firmware

5.2 MACHINE LAYOUT



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REF.	COMPONENT
A	Video Interface Board
B	SIMM Module
C	IEEE1284 Interface
D	Control Button Board
E	Keypad Board
F	Printer Controller Board

6. SEPECIFICATIONS

CONTROLLER TYPE	EMBEDDED
Configuration	Internal embedded controller
Printer Language	GDI
Print Resolution	400dpi
Memory (RAM)	16MB (SIMM)
Resident Fonts	None
Host Interface	IEEE1284B (Compatible, Nibble, ECP)
Host PC	IBM PC/AT compatible PC
Operating Systems Supported	Windows 95/98/Me, Windows NT4.0 (*1), Windows 2000/XP
Printer Driver	Digital Duplicator A3 400 GDI

***1:** The Printer drivers for Windows NT4.0 are only for the Intel x86 platform. There is no Windows NT4.0 printer driver for the PowerPC, Alpha, or MIPS platforms.