Canon

Service Bulletin

COPIER

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Model : Network Multi PDL Printer Board-H1
Network Printer Board-K1

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DATE: 09.04.99

Location : NETWORK MULTI-PDL PRINTER BOARD-H1/NETWORK PRINTER BOARD-K1

Subject : MARKETING OF NETWORK MULTI-PDL PRINTER BOARD-H1/NETWORK PRINTER BOARD-K1

Reason : Provision of information, including an outline of products and points to keep in mind for servicing work, in response to the marketing of the Network Multi-PDL Printer Board-H1 and the Network Printer Board-K1 newly designed for the imageRUNNER330/400, GP335/405 in the European market.

Details : Note that the term *Printer Board* used in the singular refers to both types of printers.

<Outline of the Product>

The Printer Board is designed for installation to an imageRUNNER330/400, GP335/405 Series copier with a view to enabling the use of the copier as a printer.

The Printer Board comes with an Ethernet interface as standard in addition to a Centronics-compliant parallel port, not requiring an additional board for connection to a network.

The network interface of the Printer Board supports the high-speed 100BASE-TX specifications as well as the generally used 10BASE-T specifications.

The Printer Board supports TCP/IP, IPX/SPX, and AppleTalk protocols, and is capable of receiving and printing print data on a network on which these protocols exist side by side.

As for page description language, support is as follows: the Network Printer Board-K1 supports PCL5e of Hewlett Packard, while the Multi-PDL Network Printer Board-H1 supports PCL5e and PostScript 3. The built-in fonts include 46 types for PCL5e, and 136 types for PostScript (all available as standard).

<Features>

1. The Printer Board comes equipped with a high-capability MIPS R5000 CPU (operation frequency of 200 MHz) of the RISC type and a 32-MB memory (DIMM) for high speed processing and printing of print data.
2. The Network Printer Board-K1 supports PCL5e, and comes standard with 46 types of PCL fonts. The Multi-PDL Network Printer Board-H1 is equipped with a PostScript 3 interpreter, and comes standard with 136 types of PS fonts in addition to PCL5e.

3. The Printer Board supports, as standard, the Ethernet 10BASE-T and high-speed Ethernet 100BASE-TX specifications. It is also comes equipped with an AUI connector so that it may be connected directly to a 10BASE5 port or through an external transceiver to a 10BASE2 port.
4. The Printer Board possesses a 2.1-GB hard disk drive as standard so that it is capable of spooling print jobs and downloading external fonts.
5. On a TCP/IP network, the Printer Board enables checking on the progress of print jobs using such browsers as Netscape Navigator and Internet Explorer with the help of WebTools. Likewise, it allows installation of printer drivers and utilities.

<Specifications>

CPU	
Type	MIPS R5000
Operating frequency	200 MHz
RAM	
Mounting	168-pin DIMM, 2-slots
Type	SDRAM, 3.3 V, 10 nsec, unbuffered, non-parity
Size	32 MB DIMM X 1 (standard) 32 MB DIMM x 1 (option)
Recommended:	UG54S6608GSG from Unigen
Hard Disk Drive	
Type	2.5"
Size	2.1 GB
Interface	E-IDE
Computer Interface	
Parallel Interface	
Centronics	
Standard:	IEEK-1284 (bi-Centronics)
Connector:	IEE 1284-B Receptacle (36-pin connector)
Network Interface	
Ethernet	
RJ45 (10BASE-T/100BASE-TX)	
AUI (10BASE5)	10BASE2 may be used in combination with an external transceiver. (Care is needed to meet restrictions on dimensions.)
Recommendation:	Center COM MX10S from Allied Telesyn International
TokenRing (option)	
OSs Supported	
Windows NT 4.0	
Windows 95	
Mac OS 7.6.1 or later	
Protocols Supported	
TCP/IP (LPD, SMB over TCP/IP)	
IPX/SPX (PServer, NDS)	
AppleTalk (PAP)	
Page Description Language	
Network Multi-PDL Printer Board-H1	
PCL5e (46 types of standard built-in fonts), PostScript 3 (136 types of standard built-in fonts)	
Network Printer Board-K1	
PCL5e (46 types of standard built-in fonts)	

< System Configuration >

In order to make use of a copier by installing the Printer Board, the following PCBs and casing will be needed, and all these will be installed inside the copier.

GP Expansion Board Base Unit-C1

Kit casing

Printer Board Unit

Network Multi-PDL Printer Board-H1 or Network Printer Board-K1

Inside the Printer Board Unit, a hard disk drive is mounted on the board.

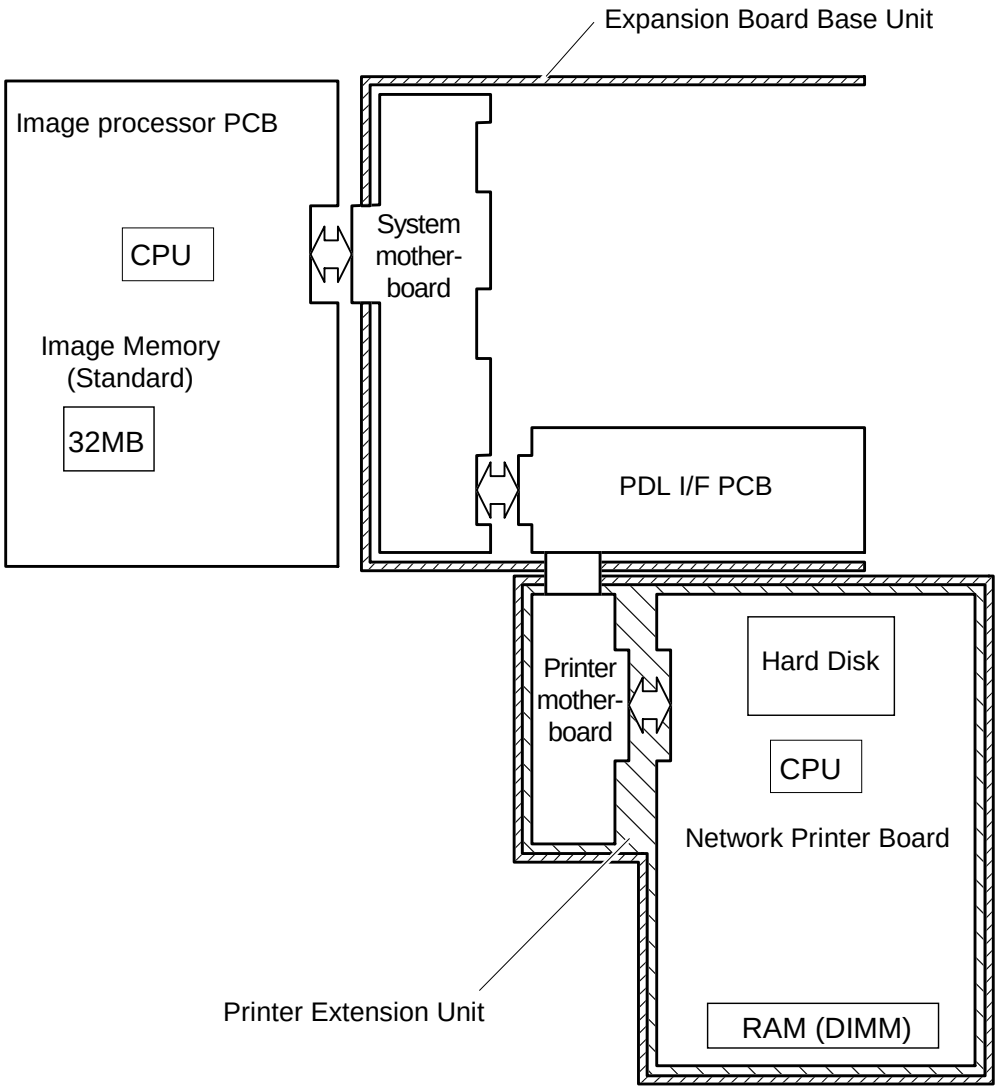


Fig. 1

Points to Note for Servicing Work :

1. Points to Note for Installation

1-1. Copier's IP Version

Before starting the work, check to make sure that the copier's IP version is 30.04 and DCON version is 22.01 or later.

1-2. Installation Procedure

Follow the instructions in the *Installation Procedure* that comes with the Network Multi-PDL Printer Board-H1 or the Network Printer Board-K1.

1-3. Media Pack

The Printer Board comes packaged with a Media Pack, which includes software and documentation for the user. When you have installed the Printer Board and checked its operations, be sure to ask the user's administrator to set up the Printer Board and the computer (e.g., installing the printer drivers) by referring to the documentation.

- User Software CD-ROM

  The User Software CD-ROM includes the following:

  Printer Drivers
  Utilities

  The contents of the User Software CD-ROM are written in hybrid format, and a single disk is used for both Windows software and Macintosh software. (The Windows software, however, can be accessed from a Windows computer only. Likewise, the Macintosh software is available on a Macintosh computer only.)

  The utilities and each printer driver (PS, PCL) are stored in separate folders by language (English, German, French, Italian, Spanish, with English being available in both international and American versions). The PostScript printer driver for Windows is found inside the Ps_drvr folder.

  The use of User Software requires consent to the terms of the contract. The Media Pack includes a document showing the terms imposed on the use of the software. Ask the user to refer to the document for details. Also, inform the user that opening the User Software CD-ROM amounts to agreement to the terms of the contract.

  Further, inform the user that the PostScript printer driver may be installed only in combination with the Network Multi-PDL Printer Board-H1 for reason of a licensing agreement.

- User Document

  Getting Started

  It is intended for the user's administrator and the end user, providing how to install the printer drivers and utilities and how to make settings for printing from a computer running on Windows or Macintosh.

  User Guide

  It is intended for the user's administrator and the end user, explaining how to select print options and how to print from a computer running on Windows or Macintosh. It also explains how to use the utilities and other software available with the Printer Board.

1-4. Constraints Relating to the Printer Driver

[1] If you have installed the Macintosh driver, you will no longer be able to use the standard LaserWriter driver.

[2] If you are printing using the Windows version of MS Word, you may not be able to obtain normal output if you select "PostScript (optimize for portability-ADSC)."

[3] If you are using the PCL printer driver, you may encounter the following problems:

- If you are printing MS Excel 97 data, the text at the lower right may be "whited" out and not visible.
- If you are printing MS Word 97 data, yellow text or graphics may be too light and not visible.
- If you are printing WordPro data, the bottommost print on a second page may be too light and not visible.
- As in the case of Service Packs 3 and 4 of Windows NT4.0, different substitution of fonts is used ("different margin between platform").

1-5. PCL FaxDriver

[1] In the case of broadcasting through a network from a computer running on Windows NT, divisions of jobs may not be recognized correctly, making broadcasting of 50 recipients or more not possible.

- for Cover Sheet Settings = None/Send the Same Sheet to All Recipients, the maximum is 256 recipients
- for Cover Sheet Settings = Send a Different Sheet to Each Recipient, 8 recipients for a 32-MB model, 25 recipients for a 64-MB model, 40 recipients for a 96-MB model

The foregoing initial specifications are not realized at present.
Corrections on the firmware were not complete, and the present release version deals with these problems as follows in relation to the driver (described in *ReleaseNote*/*ReadMe*).

< Measures >

When printing is executed from an application program running on Windows NT4.0 or later, a warning message is displayed if any of the following conditions is true when 'OK' is selected on the Send FAX sheet:

1) 'Cover Sheet Settings' is set to 'None' or 'Send the Same Sheet to All Recipients' is selected and 51 or more recipients are selected.
2) 'Cover Sheet Settings' is set to 'Send a Different Sheet to Each Recipient'.

[Message]
When transmission is executed, a dialog box with an OK button will be displayed.
For both conditions 1) and 2) above, the message in the dialog box will be as follows:
"This version does not support broadcasting of different cover sheets or broadcasting to 50 or more recipients. Please change the settings before transmission."
If the OK button is pressed, transmission will not occur, and the 'Send Fax' sheet will be displayed. Using the 'Send Fax' sheet, the user is allowed to change (reduce) the number of recipients. (This is more or less identical to the present sequence of displaying the 'Fax Sheet' after the message "No Entries in the Recipient List" when the OK button is pressed without selecting a recipient.)

[2] The specifications have been changed to change the maximum number of recipients that may be registered in the telephone directory.
[3] The specifications have been changed to change the maximum number of group members in the list.
[4] When using CorelDraw/PageMaker, fax transmission with paper other than A4 (LTR) is not possible (described in *ReadMe*).
[5] When a fax is sent after selecting 'Cover Sheet', the cover sheet will be reduced if the body text is written in Landscape (the output will be in Landscape).
[6] If UI is opened of multiple fax drivers, no message is displayed and transmission is possible.
[7] User-defined paper size is not supported (described in *ReadMe*).

1-6. Points to Note about Default Paper Sizes

If English is selected as the language for use, the default paper size will be LTR. It is important, therefore, to select A4 as the default paper size as in the case of European countries. If a non-English language is selected, the default paper size will be A4.

1-7. Generating the Configuration Page

Recommend the user's administrator to print out the Configuration page as follows so as to keep a record of settings information as soon as the Printer Board has been set up:

1) Press the Option key on the copier's control panel so that the Basic screen will appear on the touch panel display.
2) Select 'Functions'.
3) Select 'Print Pages'.
4) Select 'Configuration'.
5) Store away the Configuration page that is generated for use as a reference for the Printer Board settings.

2. Indicating the Version

The system software version of the Printer Board is indicated on the Printer screen appearing on the touch panel display in response to a press on the Option key on the copier's control panel.

- Network Multi-PDL Printer Board-H1 (AMS, UK) Model

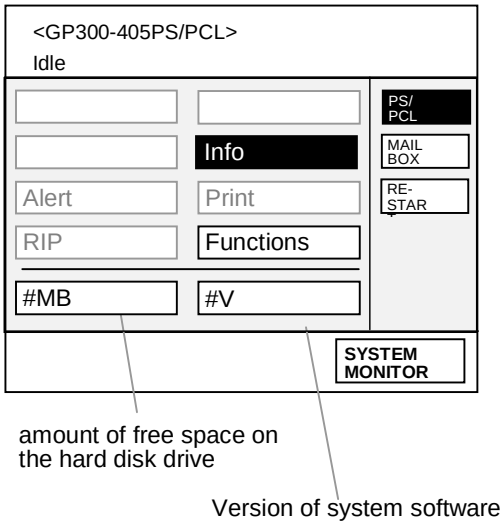


Fig. 2

If the Printer Board is installed, the indication of 'PRCNT' of 'Version Indication' in display mode (service mode) will be '0110.00.00'; the indication for 'PS/PCL' will be '0100.20.00'.

3. Self Diagnosis

3-1. Outline

The Printer Board is equipped with a self diagnostic mechanism which runs a check on the parts of the Printer Board when the main power is turned on, indicating an error code (E677) on the copier's touch panel display upon detection of a fault

3-2. LED Indications

As many as two LEDs (D4, D5) are used to indicate the result of self diagnosis run by the Printer Board when the copier's main power switch is turned on; see the following for how to interpret the LEDs:

		D4 (green)	D5 (red)
1	during initialization	flashes	off
2	OK at power-on	on	off
3	NG at power-on	off	on
4	normal in operation	on	off
5	error in operation	on	off

3-3. Error Code Indication (E677)

When the main power is turned on, a check is made on the communications functions used between the copier and the Printer Board, indicating an error code (E677) on the copier's touch panel display upon detection of a fault.

If an error occurs in the communication between the copier and the Printer Board during printing operation, the same code (E677) will also be indicated.

- If an error occurs when the main power is turned on,
  It is likely that some type of hardware-related fault exists.
  Keep in mind that turning off and then on the power switch in rapid succession can result in E677 because of the discrepancy between the copier and the Printer Board for initialization. Be sure to wait at least 5 sec between turning off and on the main power switch.
- If an error occurs during normal operation,
  If the copier starts up normally after canceling the print job and turning off and then on the power switch, an overload on the PCU is most likely.
  In rare cases, E677 can occur if an overload condition continues on the CPU of the Printer Board, as when processing a large volume of print data while receiving a large volume of data from a network.
  If this is the case, instruct the user to cancel the print job, turn off and then on the copier's main power switch, and send print data units one by one.

4. Downloading Tool

4-1. Outline

The system software of the Printer Board is stored on the hard disk. You will have to copy the system software to the hard disk from an external source if you have replaced the hard disk or when you install or upgrade the system software.

The program used to copy the system software to the hard disk is stored in the flash ROM of the Printer Board, but the system software must be transferred from a computer through the parallel port using a program called "downloading tool."

4-2. Installing the Downloading Tool

The downloading tool is made available in the form of a self-decompressing file.

1) Double-click the file icon (Pdldl115eng.exe) of the downloading tool from Windows 95 My Computer or Explorer to execute. In response, the files necessary for the installation of the downloading tool will decompress, and the set-up program will start up automatically.
If you are using a floppy disk, be sure that the floppy disk contains the downloading file only. If other files exist, the disk may run out of space when the downloading file decompresses, not enabling installation.

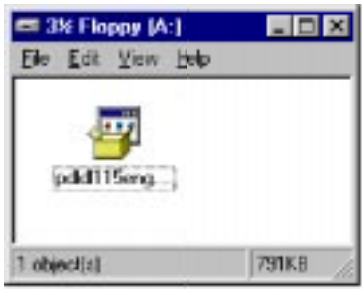


Fig. 3

2) When you are asked to confirm the folder used to install the downloading tool, click the Next button (default).

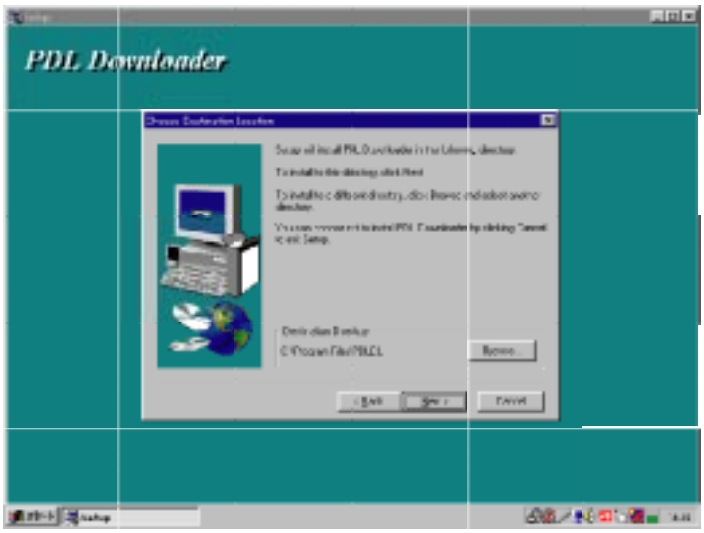


Fig. 4

3) The downloading tool will automatically be installed into the PDLDL folder inside the Program Files found on drive C.
When the downloading tool has been installed, you may delete the Pdldl115eng.exe file used for installation.
To un-install the downloading tool, select and execute 'PDL Downloader' using 'adding and removing programs' on the control panel.

5. Installing the System Software

5-1. Caution

Before re-installing the system software, be sure to inform the user's administrator that the files and fonts downloaded to the hard disk and the job log will be lost. Ask the administrator to take appropriate measures.

5-2. Items to Prepare

If you are installing the system software, prepare the following:

- Computer to which the downloading tool has been installed.
- Centronics cable complying with IEEK-1284 standards (cable showing the notation "IEEK-1284 Std Compliant")
- System Software CD-ROM

5-3. Preparing the Copier

Press the Option key on the copier's control panel so that the Printer Basic screen appears on the touch display.
Select "Functions."
Select "Print Pages."
Select "Configuration."
Store away the Configuration page that is generated, showing Printer Board settings.

5-4. Preparing the Computer

Install the downloading tool in advance.
The system software is made available on a CD-ROM. If you are using a computer without a CD-ROM drive, obtain an external CD-ROM drive. Or, copy the following files to the hard disk of the computer from the System Software CD-ROM from the network or by connecting an external CD-ROM drive at the service station.

H1K1_10.um
H1K1_10.psu

5-5. Connecting the Printer Board and the Computer

Obtain the consent of the user's administrator. Then, turn off the copier's main power switch, and disconnect all cables (fax public telephone line, network cable, Centronics interface cable).
Connect the copier's parallel port and the printer port of the computer to which the downloading tool has been installed with a Centronics cable.
Turn on the computer, and start Windows 95.

5-6. Operating the Copier

1) Perform steps up to 3) under 5-7 (for the computer).
2) Turn on the copier's main power switch and the control panel switch, and press the Extension key on the control panel without delay.
3) When the message "Do you want to go to setup?" appears on the touch panel display, press the Yes key without delay.

Caution: *The message "Do you want to go to setup?" remains for several seconds only. If you inadvertently started in normal mode, turn off and then on the copier's main power switch and control panel switch, and start over.*

4) On the Start Up screen, select 'Format Disk'.
5) When the message "Format Internal Drive?" appears, select 'Yes', and press 'OK'.
6) For 'Select Level', select 'Standard', and press 'OK'.
7) When the hard disk drive has been formatted, the message "Format OK" will appear. Press 'OK'.
8) Press 'Install Software'.
9) Select 'Yes', and press 'OK'.
10) When the message "Please copy installation software to the parallel port." appears, perform 4) of 5-7.

Caution: *If you leave the copier alone without any operation, it will indicate a Time-Out error. If this happens, go back to step 7) and start over.*

5-7. Operating the Computer

1) Double-click the short cut of Windows95 PDL Downloader, or select 'PDL Download' from 'Programs' (start menu) to start up the downloading tool.



Fig. 5

2) Click 'Select'.

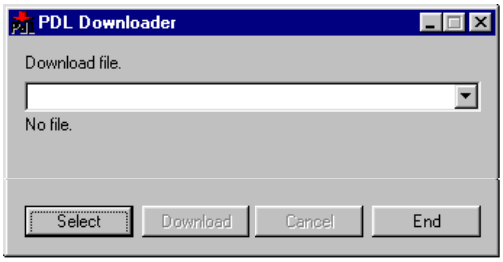


Fig. 6

3) Select the H1K1_10.um file, and click 'Open'.

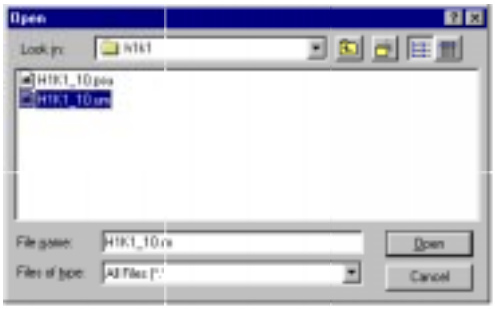


Fig. 7

4) Click 'Download'.

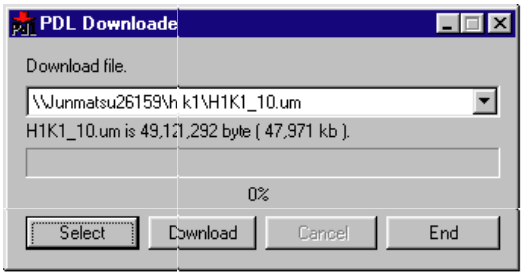


Fig. 8

As long as downloading is under way normally, the copier's touch paned display indicates the message "Receiving ..." and the amount of data it has received in percentage.

Note: *If you double-click 'Download' to start downloading, 'Cancel' will be enabled. If you stopped downloading by clicking it, files will not be transferred normally when you click 'Download' once again, indicating the message "Corrupt file," "Wrong file size," or "Bad file type" at the end of transfer and processing will be suspended.*
For this reason, it is important that you not stop the system installation work once downloading has started and let the work end normally.
If you happen to stop the work in the middle, be sure to perform the following. The Printer Board will not function as expected until the system software has been downloaded.

Resuming Downloading

For the copier, start with formatting the hard disk drive.

For the computer, when the copier is ready, click 'Download' to start over with the transfer of the file.

5-8. Operating the Copier

1) The downloading file is in compressed form, and will decompress automatically when it has been transferred normally.
2) When decompression ends, the message "Software installation completed." will appear on the copier's touch panel display. Press 'OK'.
3) When the Setup screen appears once again, select 'Start System', and press 'OK. (The copier will automatically start up once again.)
4) When the message “Reboot is required after installation” has appeared, press ‘OK’. (The copier will reboot automatically.)

5-9. Additional Work of the Network Multi-PDL Printer Board-H1

In the case of the Network Multi-PDL Printer Board-H1, you will have to download the H1K1_10.psu file in the same way. Prior to this work, however, it is important to perform the installation work for the Printer Board and make sure that it is operating normally.

Be sure to perform the downloading work under 5-10 and make checks up to step 6) of 5-11 before starting to download the H1K1_10.psu file for the Network Multi-PDL Printer Board-H1.

Further, select 'Install Software' without formatting the hard disk to download the file.

When the message "Turn system off and on." appears, be sure to turn off the copier's main power switch.

5-10. At the End of Downloading Work

1) Click 'End of the downloading tool to end the downloading tool.
2) Remove the Centronics cable used to connect the copier and the computer.
3) Connect the cables as they were found initially (fax public telephone line, network cable, Centronics interface cable).
4) Turn on the copier's main power switch, and press the Option key on its control panel. When the Language Selection screen has appears, select the language of the user's choice.
5) In the case of the Network Multi-PDL Printer Board-H1, be sure to press 'Factory Default' first so that the server name (default) will be set to 'PSPCL'.
6) By referring to the Configuration page you generated previously, set the Printer Board. (At least, you must perform Serve Setup, Network Setup, and Printer Setup to enable End Setup.)
7) Turn off the copier's main power switch.

5-11. Checking the Operation

1) Turn on the copier's main power switch.
2) Press the Option key on the copier's control panel so that the Printer Basic screen will appear on the touch panel display.

3) Select 'Functions'.
4) Select 'Print Pages'.
5) In the case of the Network Printer Board-K1, select 'Test Page'; on the other hand, in the case of the Network Multi-PDL Printer Board-H1, 'PCL Test Page'.
6) Check to make sure that the PCL Test Page is generated normally.
   For the Network Printer Board-K1, end the check.
   For the Network Multi-PDL Printer Board-H1, generate a PS Test Page as follows; if normal, end the check.
7) Select 'PS Test Page'.
8) Check to make sure that the PS Test Page is generated normally.

6. Password Requirement at Start-Up
   In the case of the Network Multi-PDL Printer Board-H1, a password will be needed under the following conditions:
   - If a motherboard (service part) has been installed.
   - If a hard disk (service part) has been installed, and the system software has been installed.
   - If the hard disk has been formatted, and the system software has been installed once again.
   - If the memory composition has been changed.

   If any of the above applies, take notes of the serial number of the Printer Board Unit and the ID number indicated on the touch panel display, and contact the Support Department of the Sales Company to obtain the appropriate password.

Service Parts:

1. Service Parts for the Network Multi-PDL Printer Board-H1
   The service parts have already been introduced in the Parts Catalog for GP405/335, with part number FY8-31DM-010. However, the information on the following parts needs updating.

No.	Description		Part number	Q'ty		Inter-change-ability	P.C.
1	Old	PRINTER PS BOARD PCB	FE1-5023-000	1→0		No Yes	F90-6
	New	PRINTER PS BOARD PCB	FE1-5070-000	0→1			
2	Old						
	New	MEDIA PACK (120V)	FE1-5102-000	0→1			

* FE1-5046 of F90-9 is the Media Pack intended for AMS and UK.

2. Service Parts for the Network Printer Board-K1

FIGURE & KEY No.	H1 (F61-7106) Part number	K1 (F61-7126) Part number	Q'ty	Description	Remarks
F90-9	FE1-5070-000	FE1-5071-000	1	PRINTER PCL BOARD PCB ASS'Y	
	FE1-5046-000	FE1-5051-000	1	MEDIA PACK, AMS UK	
	FE1-5047-000	FE1-5052-000	1	MEDIA PACK, FRENCH	
	FE1-5048-000	FE1-5053-000	1	MEDIA PACK, GERMAN	
	FE1-5049-000	FE1-5054-000	1	MEDIA PACK, ITALIAN	
	FE1-5050-000	FE1-5055-000	1	MEDIA PACK, SPANISH	
	FE1-5102-000	FE1-5103-000	1	MEDIA PACK, 120V	