

POMELO (G033)
SERVICE MANUAL
[Controller]

IMPORTANT SAFETY NOTICES

PHYSICAL INJURY PREVENTION

1. Before disassembling or assembling parts of the printer and peripherals, make sure that the power cord is unplugged.
2. The wall outlet should be near the printer and easily accessible.
3. Note that some printer components are supplied with electrical voltage even if the main switch is turned off.
4. If an adjustment or operation check must be made requiring the removal or opening of the exterior covers while the main switch is on, keep hands away from electrified or mechanically driven components.
5. The printer drives some of its components when it completes the warm-up period. Keep hands away from mechanical and electrical components when the printer starts operation.
6. The interior and metal parts for the fusing unit become extremely hot while the printer is operating. Do NOT touch these components with bare hands.

HEALTH SAFETY CONDITIONS

1. Never operate the printer without ozone filters installed.
2. Always replace the ozone filters with the specified replacement at the specified maintenance intervals.
3. Toner is non-toxic, but if it gets in your eyes by accident, it may cause temporary eye discomfort. Remove it with eye drops or flush eyes with water. If this is unsuccessful, get medical attention immediately.

SAFETY AND ECOLOGICAL NOTES FOR DISPOSAL

1. Do NOT incinerate toner cartridges or used toner. Toner dust may ignite suddenly when exposed to an open flame.
2. Dispose of used toner and belt cartridge in accordance with local regulations. (These are non-toxic supplies.)
3. Dispose of replaced parts in accordance with local regulations.

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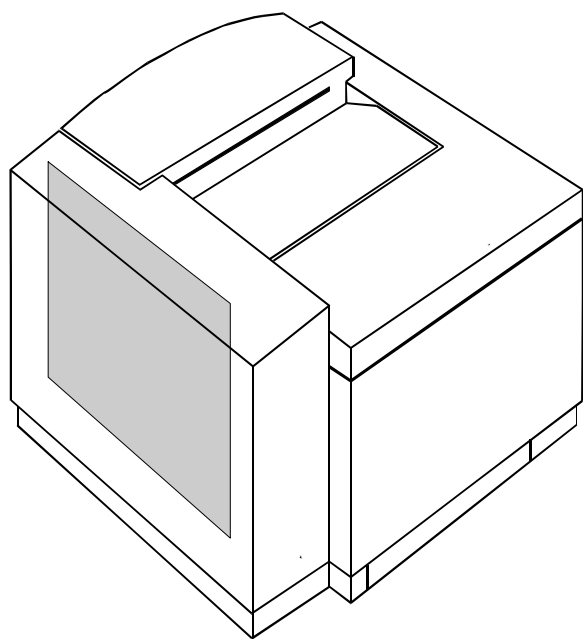
1. OVERALL MACHINE INFORMATION

1.1 SPECIFICATIONS

Page Description	IPDL-C
Language	Ricoh-Script 2 (Option)
Printer Driver	IPDL-C: Windows 98/95/3.1x/NT4.0 Ricoh-Script 2: Windows 98/95/NT4.0, Macintosh (PPD for LaserWriter 8)
Resolution	Controller: 600/300 dpi
Color Mode	Color (4 color mode only)/Monochrome (black only) Set by the printer driver
Gradation Mode	1 bit/pixel (fixed)
Toner Saving	On/Off (by a printer driver setting)
Color Correction	On/Off (by a printer driver setting) Default setting: Enabled
Paper Size	• Tray 1 Standard Tray: A4, B5, 8 1/2"x11", 7 1/4"x10 1/2", Custom Size (Length: 210 to 297 mm, Width: 100 to 216 mm) Optional Legal Tray: A4, B5, 8 1/2"x11", 7 1/4"x10 1/2", 8 1/2"x14", Custom Size (Length: 210 to 356 mm, Width: 100 to 216 mm) • Tray 2 (Optional Feed Unit) Standard Tray: A4, B5, 8 1/2"x11", 7 1/4"x10 1/2" Optional Legal Tray: A4, B5, 8 1/2"x11", 7 1/4"x10 1/2", 8 1/2"x14"
Interface	Standard: Bi-directional Parallel (IEEE1284: compatible and nibble mode supported) Option: Parallel (IEEE1284: only compatible mode supported), Ethernet (100Base-TX/10Base-T)
Network Protocol	NetWare, TCP/IP, AppleTalk (with Ricoh-Script 2)
Fonts	IPDL-C: Japanese fonts only - not used Ricoh-Script 2: 39 fonts
Memory	Standard: 16 MB Optional upgrades: 16 MB SIMM, 32 MB SIMM
SIMM Slot	1 (for optional memory)

DIMM Slot	1 (for optional Ricoh-Script 2)
Option Interface	2 (for optional network I/F board and optional parallel I/F)
Options	16 MB Memory 32 MB Memory Network Interface Board IEEE1284 Parallel Interface Ricoch-Script 2 Emulation Module

1.2 LAYOUT

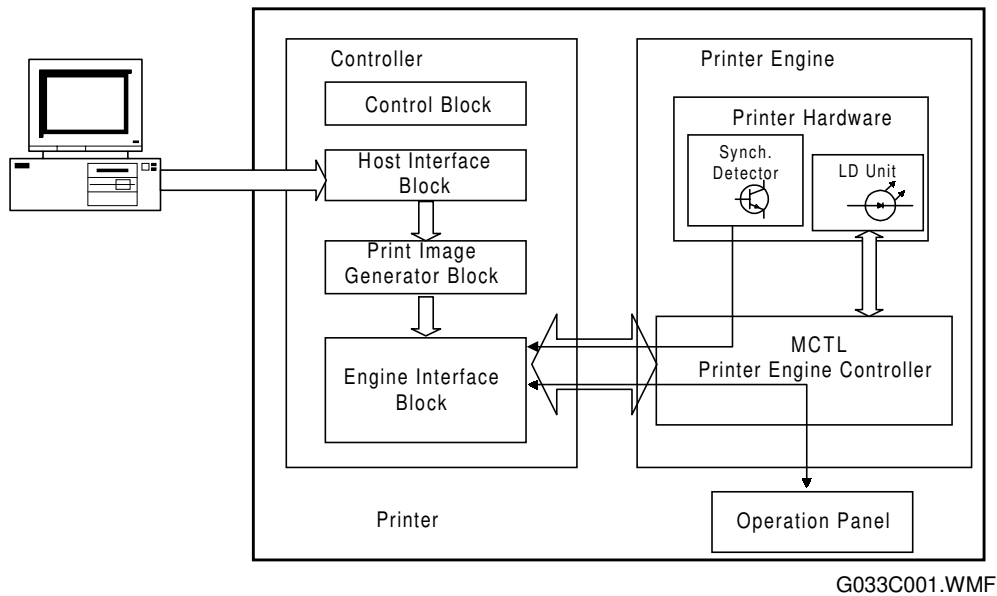


G033M058.WMF

2. DETAILED DESCRIPTIONS

2.1 FUNCTIONAL OVERVIEW

2.1.1 BLOCK DIAGRAM



The functions and characteristics of the various blocks in the controller are described below.

Control Block

1. Controls the controller and operation panel.
2. Sustains the settings (system initial setup items, printer settings, etc.) in NVRAM.

Host Interface Block

1. Receives the print and control data (commands) from the host.
2. The interface settings depend on the controller settings.
3. Can accommodate optional interface boards (one parallel and one network interface).

Print Image Generator Block

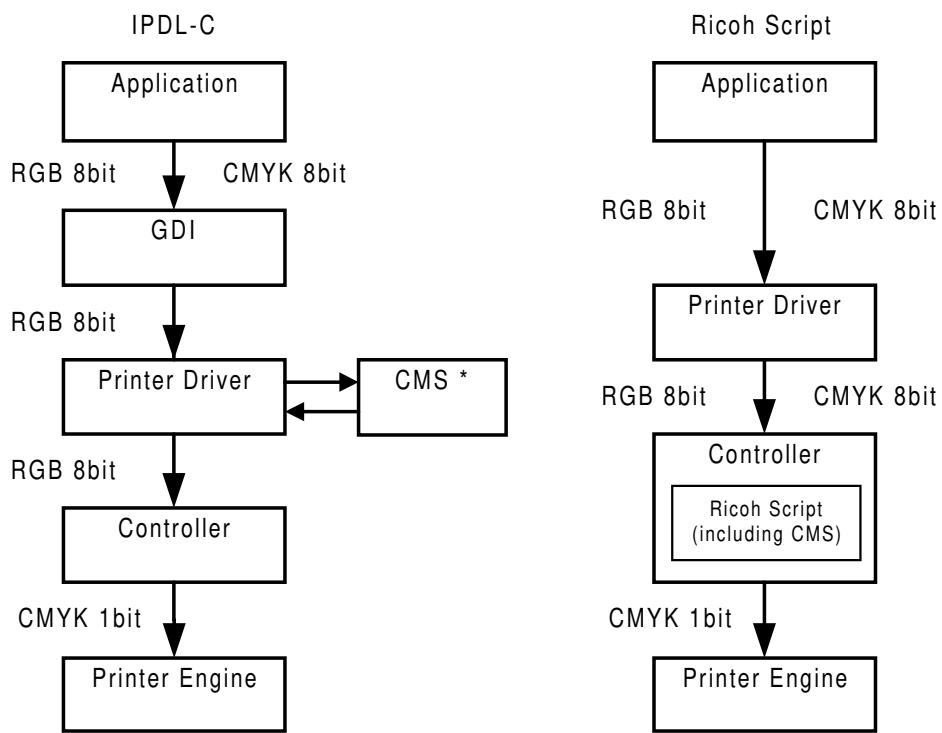
1. Converts the data received from the host into a print image and writes this image into the memory (the image conversion method depends on the controller settings).

Engine Interface Block

- 1. Sends the image data serially on a 1-bit/pixel basis in synchronization with the sync signal and clock from the engine.
- 2. Receives status data from the engine and passes it to the controller.
- 3. Sets up the operating mode for the engine.

2.1.2 PRINT DATA PROCESSING

The diagram below shows the print data processing path. The boxes in the diagram represent function blocks and the text next to the arrows indicates the data type. The diagram is followed by a brief description of color processing by the printer driver.



* CMS: Color Management System

CMS (Color Management System)

CMS adjusts the RGB values of the colors in the application data in preparation for RGB to CMYK conversion, which is done in the controller.

A file known as a 'profile' (filename extension 'prf') is automatically installed in the \windows\system\ folder during printer driver installation. This file contains instructions for CMS on how to convert the colors in the print data produced by the application.

CMS is used whenever the color correction setting in the printer driver is set to any value other than "Off".

Color Adjustment by the Driver

The driver adjusts the following parameters in accordance with the driver settings made by the user: Brightness, Contrast, Saturation, and Color Balance.

The driver does not perform RGB to CMYK color conversion.

Color Conversion, Gamma Conversion, and Dithering by the Controller

The controller performs gamma conversion (see Gamma Correction), RGB-to-CMYK conversion, and dithering.

2.1.3 GAMMA CORRECTION

Gamma correction in this model has two components: controller gamma (non-adjustable) and service gamma (adjustable).

Controller gamma

This gamma is programmed into the flash ROM in the controller. If there has been no service gamma adjustment in the machine so far since installation, the controller gamma is the only gamma that is used (i.e., service gamma = 0).

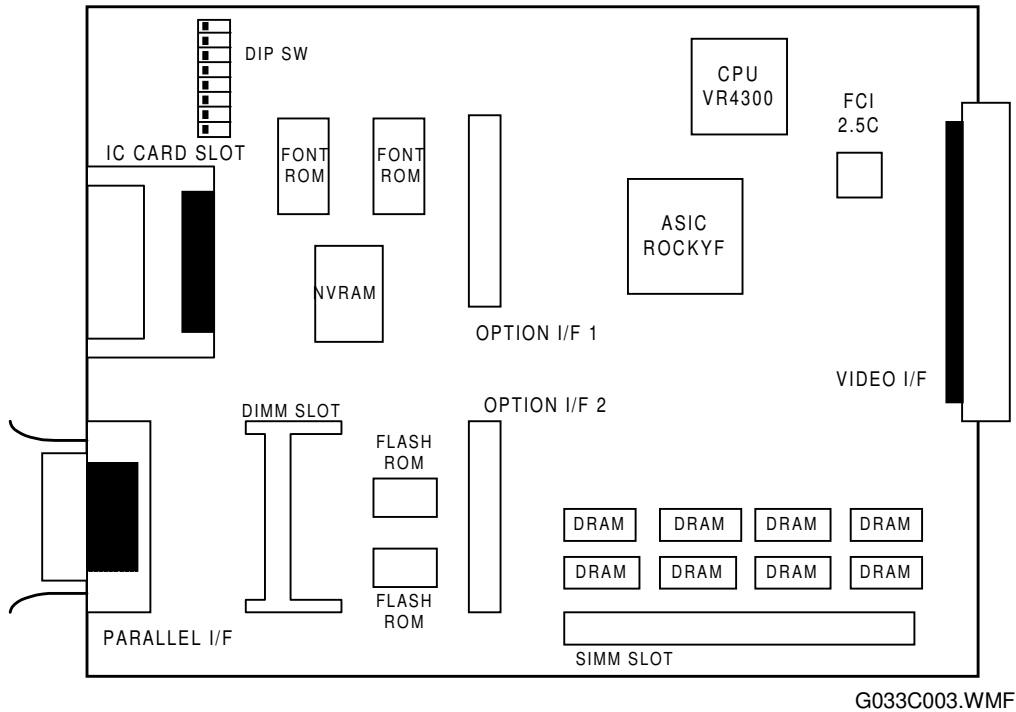
Service gamma

This gamma is stored in the NVRAM in the controller. It can be adjusted using controller SP mode (S7. Gamma Calibration). See "6.Replacement and Adjustment - Service Gamma Adjustment," for the adjustment procedure.

The controller combines the service gamma (the default setting is zero) with the controller gamma when doing gamma correction.

2.2 FUNCTIONAL DESCRIPTION

2.2.1 CONTROLLER LAYOUT



2.2.2 FUNCTIONS OF COMPONENTS

Device	Description/Function											
CPU	VR4300 – 133 MHz											
ASIC ROCKY F	- DRAM control - Timeout monitoring - Parallel interface - Timer control - I/O port control - Engine interface serial communications control - Image data decompression - Interrupt control											
FLASH ROM	- For storing programs (2 MB) - Programmable via an IC card.											
NVRAM	- Stores initial setup settings and printer parameters. - Uses a 2 KB EEPROM.											
ASIC FCI2.5C	Toner saving											
FONT ROM	- Uses two 32-Mbit mask ROMs (8 MB total). - Stores internal printer fonts (Japanese fonts only - not used).											
DRAM	Eight 16-Mbit DRAMs are installed as standard (16 MB total).											
DIP SW	1 2 3 4 5 6 7 8 OFF G033C004.WMF <table><tr><th>SW No.</th><th>Setting</th><th>Purpose</th></tr><tr><td rowspan="2">1</td><td>OFF</td><td>The controller boots from the flash ROM on the board (normal setting).</td></tr><tr><td>ON</td><td>The controller boots from the IC card (when upgrading the controller, NIB, or Ricoh-Script 2 software).</td></tr><tr><td>2 to 8</td><td></td><td>Always set to OFF. For designers' use only.</td></tr></table>	SW No.	Setting	Purpose	1	OFF	The controller boots from the flash ROM on the board (normal setting).	ON	The controller boots from the IC card (when upgrading the controller, NIB, or Ricoh-Script 2 software).	2 to 8		Always set to OFF. For designers' use only.
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1	OFF	The controller boots from the flash ROM on the board (normal setting).										
	ON	The controller boots from the IC card (when upgrading the controller, NIB, or Ricoh-Script 2 software).										
2 to 8		Always set to OFF. For designers' use only.										
VIDEO I/F	Interfaces the controller with the printer engine.											
PARALLEL I/F	Provides an interface that connects to a local host (IEEE1284 compliant).											

Device	Description/Function
OPTION I/F 1,2	• Two slots; each can hold either an optional network interface or a parallel interface board. You cannot install two boards of the same type. • The type of optional board can be identified from the unique ID that is built into it.
DIMM SLOT	• A 72-pin slot for accommodating the optional Ricoh-Script 2 emulation module. • The emulation module is a programmable flash ROM.
SIMM SLOT	• A slot for an optional expansion memory board. • SIMM specifications: 16 MB or 32 MB SIMM, 60 ns access speed
IC CARD SLOT	• For accommodating an IC card for upgrading the software.

2.3 POWER-UP SELF-DIAGNOSTICS

2.3.1 OPERATION PANEL DISPLAY DURING POWER-UP SELF-DIAGNOSTICS

The controller starts power-up self-diagnostic tests when the printer power is turned on. It shows the test status on the panel as the self-diagnostics proceed.

Immediately after turning the power on

The controller turns **on** all LEDs and the LCD.

During power-up self-diagnostics

When the controller starts the self-diagnostics, it turns **off** all LEDs except the Power LED, which it causes to blink. It displays the message “Warming UP” on the first line of the LCD.

If the test terminates normally

If an error is not detected during the self-diagnostic test, the controller turns the blinking Power LED **on** and turns **off** all the other LEDs and the LCD. The controller starts the system immediately afterwards.

If an error is detected

Errors are divided broadly into fatal and non-fatal (user) errors. The controller takes different actions and gives different status information for different types of errors.

See section 7 (Troubleshooting) for tables of the different types of errors.

Non-fatal error (user error) detected

The controller causes the blinking Power LED to stay **on**, turns **off** all of the other LEDs and the LCD, and restores the standby display state. Since non-fatal errors do not adversely affect any print operation, the controller starts the system immediately after it takes these actions.

The system turns **on** the Error LED and prints out a list of settings with error descriptions, in monochrome mode (see section 7, Troubleshooting – Controller User Errors for the error codes).

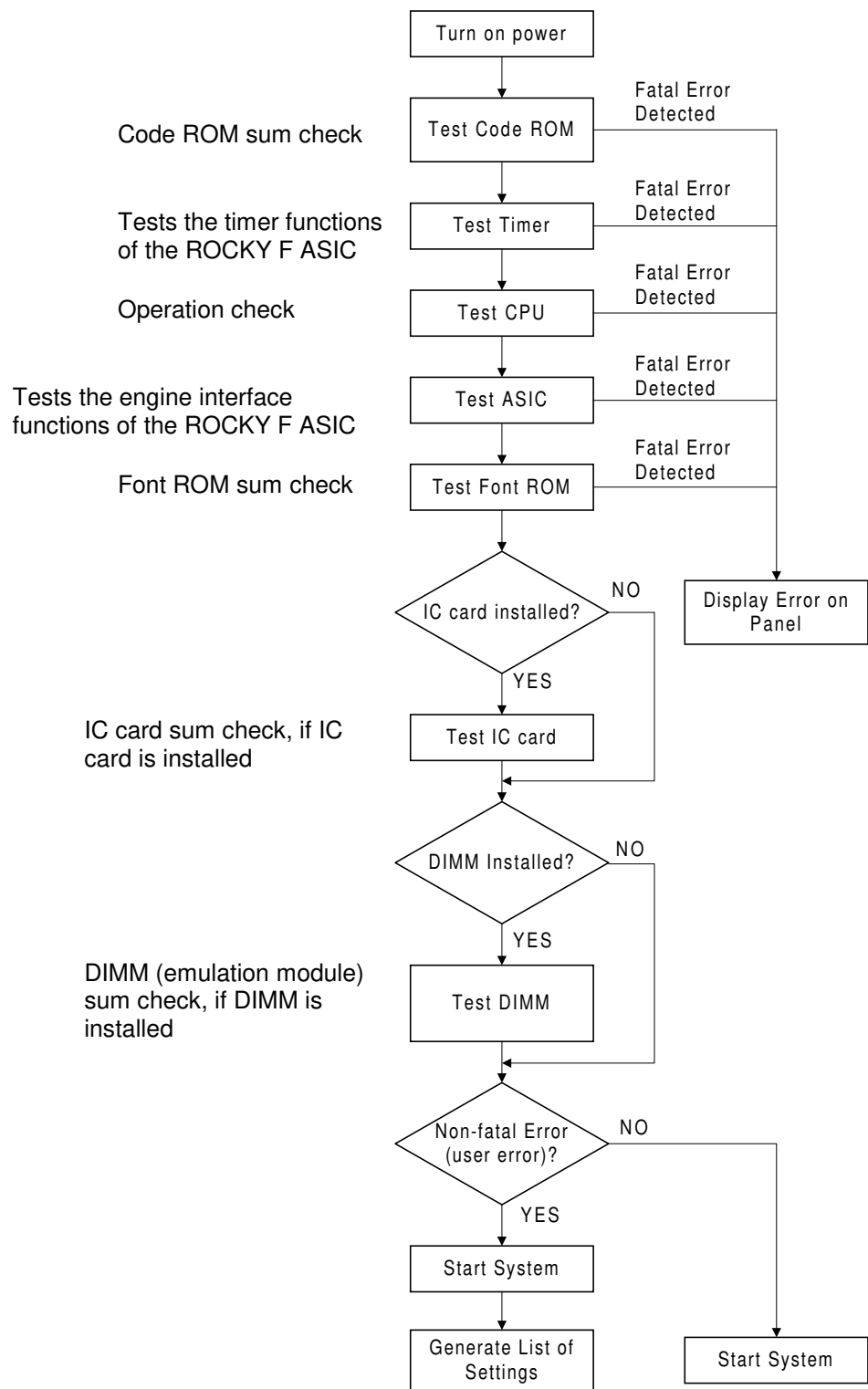
After printing the above list of settings, the system returns to the normal state and enables all devices except the failed device.

Fatal error detected

Since there is no guarantee that the system can generate a list of settings when the error detected is fatal, the system turns **off** the Power LED and turns **on** the Error LED. At the same time, it displays and keeps an error message on the LCD until the power is turned off.

The first line of the LCD contains a 4-digit code that identifies the error. (see section 7, Troubleshooting – Controller Self-diagnostics Errors for a description of the error codes).

2.4 POWER-UP SELF-DIAGNOSTICS FLOW CHART



G033M057.WMF

3. INSTALLATION

Refer to the following materials.

- For the printer: Quick Installation Guide
- For options: Operating Instructions

4. SERVICE TABLES

4.1 SP MODES

4.1.1 OVERVIEW

The printer has two types of SP modes:

- 1. Engine SP modes
- 2. Controller SP modes

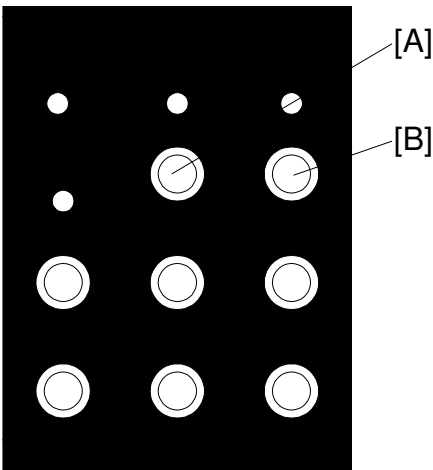
This manual deals with controller SP modes.

4.1.2 ENGINE SP MODE

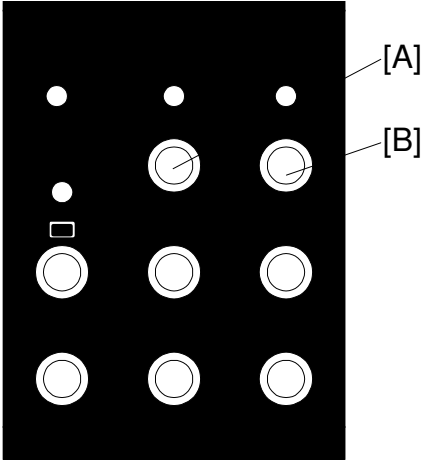
Refer to the service manual for the engine for how enter engine SP mode and use the engine SP modes.

4.1.3 CONTROLLER SP MODE

Entering and Exiting Controller SP Mode



G033V000.WMF



G033V001.WMF

To enter controller SP mode: Turn on the printer while holding down the **[On Line]** [A] and **[Reset]** [B] keys on the operator panel. Hold the keys down until all of the LEDs and the LCD turn on.

To exit controller SP mode: Turn off the unit.

NOTE: Be sure to exit from SP mode when you are finished.

SP Mode Menu Hierarchy

The table below shows the controller menu hierarchy. The menus in the table can be accessed in the controller SP mode. When in SP mode, S1 to S9 are added to the Maintenance menu.



Layer 1	Layer 2	Layer 3	Layer 4
IPDL-C Menu	1.Job Timeout	Off 0 – 999 seconds	
	2.I/O Timeout	0 – 999 seconds	
System Menu	1.Paper Tray	Tray 1 Tray 2	“Tray 2” is selectable if an optional paper feed unit is installed.
	2.I/O Buffer	16 kB 32 kB 64 kB 128 kB 256 kB 512 kB	
	3.Energy Saver	Off 5 minutes 15 minutes 30 minutes 45 minutes 60 minutes	
	4.Transfer	Hi-speed Normal	
	5.Image Memory	Off On	
	6.Parallel 1	ACK inside ACK outside STB down	
	7.Parallel 2	ACK inside ACK outside STB down	
	8.Bi-direction	Original Mode Standard	
	9.Emulation	IPDL-C Option	Emulation name is displayed if an emulation module is installed.
	10.Language	English French German Italian Dutch Japanese	
	32.IP ADDRESS to 39.Active PTL.		Displayed if an optional network interface board is installed.

Layer 1	Layer 2	Layer 3	Layer 4
Maintenance	1.Toner Level	Cyan Magenta Yellow Black	
	2.Reinstall	Fuser Cleaner Photoconductor Unit	
	3.Menu Reset		
	4. Registration	L:Tray 2	
	5. Menu Protect	Off On	It can also be accessed if the [Enter] , [Escape] , and [Menu] keys are pressed in sequence when the printer is on line.
	S1.Maint. Page		
	S2.Color Chart		
	S3.Maint. Clear	Fusing Unit 120k	
	S4.Transfer Bias	Plain paper Thick paper OHP paper	
	S5.Registration	W:Tray 1/2 L:Tray 1	
	S6.Clear All Memo		
	S7.Gamma Calib.	Load Setting	Default Setting-Old Setting-Current
		Mode Setting	1 bit/Photo 1 bit/Text
		Print Setting	
		Gamma Setting	Black Cyan Magenta Yellow Save Settings
	S8.Printer ID		
	S9.Brand	Ricoh Export Savin Nashuatec Rex-Rotary Gestetner Ricoh.Japan	Before installation, this also can be accessed by sales staff by pressing the [▼] , [▲] and [Menu] keys in sequence.
List Print	Config. Page Color Sample		

Controller SP Mode Functions

Controller SP mode adds special menu items to the ‘Maintenance’ user menu.

Additional Maintenance menu

Menu Item	Function/Use
S1. Maint. Page	Directs the controller to read and print the engine firmware version and the following items from the NVRAM on the MCTL: • Process control values related to image density • Registration values • Total counter values • Maintenance counter values
S2. Color Chart	Prints out the image quality check chart (this chart is included in the controller software).
S3. Maint. Clear	Resets the maintenance counters for the fusing unit and 120k kit.
S4. Transfer Bias	Sets the transfer roller voltage for each paper type to correct problems caused by insufficient transfer.
S5. Registration	Adjusts the vertical and horizontal registration for each paper feed cassette.
S6. Clear All Memo	Resets the parameters in the controller NVRAM to their default values.
S7. Gamma Calib.	Performs a service gamma adjustment. It is possible to adjust service gamma in both text and photograph modes for each color.
S8. Printer ID	Sets the printer ID used by Ricoh-Script 2.
S9. Brand	Sets the brand name. This ensures that the LCD display and the configuration page header show the correct model name. This must be done before the printer is passed to a customer.

Controller SP mode adds special menu items to the user menu accessed from the **[Media]** (access by pressing the **[Media]** key, then scroll through the menu on the display).

Accessed with the [Media] key

Menu Item	Function/Use
3. Summary	Displays the currently installed versions of the controller system, emulation modules, and engine (MCTL) firmware, and the amount of memory installed in the controller.

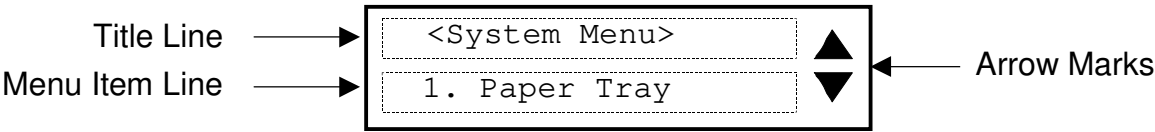
4.1.4 MENUS AND DISPLAY

Navigate through the SP mode menu and operate the SP modes in the same way as for the user menu.

Key manipulation

- [▼]** and **[▲]** keys: Used to scroll through the menu. Pressing these keys for a numeral setup menu item changes the displayed value in minimum increments.
- [Enter]** key: When the selected item has a lower-level menu, use this key to enter the lower-level menu. When scrolling through a set of values, use this key to select the displayed setting.
- [Escape]** key: Used to move to a higher-level menu. When pressed before selecting a value with the **[Enter]** key, the old value remains valid.
- [On Line]** key: Exits the menu and returns to the online mode. This key can be used at any menu level.

LCD display



- Title line: Shows the menu title, indicating your location in the menu hierarchy.
- Menu item line: Shows a menu item. Press the [▼] or [▲] key to scroll through the menu items. When the [▼] or [▲] key is pressed at the last menu item, the display wraps around to the first menu item. When displaying settings, the current setting is identified by an asterisk (*) to its left. When the **[Enter]** key is pressed, the item in the display is selected and the display goes up one level in the menu hierarchy.
- Arrow marks: Scrolls through the menu items. These marks do not appear if the menu has only one menu item.

4.1.5 SP MODE DETAILS

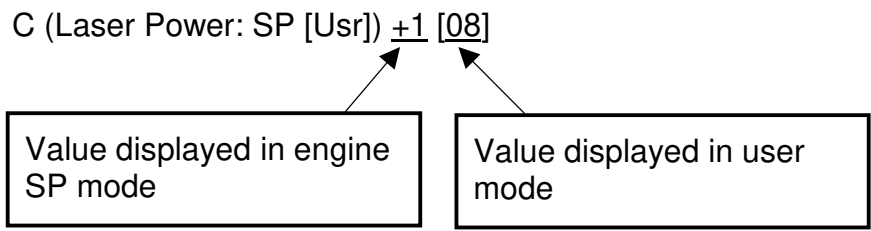
S1. Maintenance Page

The table below explains the contents of the engine maintenance list printout. The controller obtains the data from the engine (MCTL).

Item	Description
MCTL firmware	The MCTL board firmware version number.
Registration setting	For tray 1, the leading edge and left side registrations can be adjusted either with engine SP mode 43 (Margin Adjust) or with controller SP mode 5 (Registration). For tray 2, the leading edge and left side registrations can be adjusted with engine SP mode 43 (Margin Adjust). The left side registration can also be adjusted with a controller user mode (Registration Adjustment), and the leading edge registration can be adjusted with controller SP mode 5 (Registration). For how to use this adjustment, see '4.Service Tables – Adjusting the Leading Edge and Left Side Registrations' in the engine service manual. The registration values can be adjusted in 0.5 mm increments in either the controller or the engine SP mode. Whichever mode is used, the settings are stored in the NVRAM on the MCTL.
Toner density setting	Indicates the following: - LD power setting for each toner color (CMYK) - Transfer roller voltages for plain paper, thick paper, and OHPs - Development bias for each toner cartridge (CMYK) These values can all be adjusted with engine SP mode. LD power can also be changed with the user menu (Density Setup) and the transfer bias values can be changed in controller SP mode (S4. Transfer Bias). See the explanation after this table for more about this part of the printout.
Total counter	Indicates the total number of printouts and the total number of toner images made in each of the CMYK toners. The counter is incremented when the paper exit sensor detects the completion of paper exit (regardless of paper size, type, and mono/color mode).
Maintenance counter	Indicates the following for the fusing cleaning roller, fusing unit, and 120k maintenance parts: - Next life limit counter (expected number of prints remaining) - Current value of the total counter - Lifetime of the part (fixed), divided by 100 to get a % value on the report - Amount of expected life time remaining Indicates the following for the belt cartridge: - Next life limit counter (expected number of images remaining) - Sum of the current values of the CMYK image counters - Lifetime of the part (fixed), divided by 100 - Amount of expected life time remaining The formula used is as follows: (Next Life Limit - Total Counter)/Life Period = Life remaining (%) The values of the next life limit counters, except for 120k maintenance, vary according to the image ratio or the job sizes during the life of the part. For details, see '4.Service Tables – Setting the Next Life Limit Value' in the engine service manual.

Toner density setting

The displayed value of the laser power when it is set in engine SP mode differs from when it is set from the user menu. Both values are included in the printout, as shown below. The following is an example for cyan (C).



The table below compares the density settings that are set from the user menu (“Toner level”) with those set in engine SP mode.

As seen from the table, finer adjustments are possible with user mode.

User Mode Display Value	Engine SP Mode Display Value
-1	-4
0	-3
1	-3
2	-2
3	-2
4	-1
5	-1
6	0
7	0
8*	1*
9	1
10	2
11	2
12	3
13	4

*: Default setting

S2. Color Chart

This prints a color test chart, so that the image quality can be tested for all colors at various densities. This chart can be printed on all paper sizes supported by the machine (the layout of the print pattern varies from paper size to paper size).

S3. Maintenance Clear

This mode resets the maintenance counters for the fusing unit replacement or 120k maintenance parts (these counters are in the NVRAM on the MCTL board). Use it after doing the PM required for these units. See '4.Service Tables – Setting the Next Life Limit Value' in the engine service manual for information about how to use this SP mode.

S4. Transfer Bias

This mode adjusts the transfer roller voltages used for the three paper types (plain paper, thick paper and OHP transparency) supported by this unit. For each paper type, you can set the value in 4 increments. The settings are stored in the NVRAM on the MCTL board.

Default value: 0

S5. Registration

This mode adjusts the leading edge registration for trays 1 and 2 and the left side registration for tray 1. You can set each value in ± 7 increments (1 step = 0.5 mm). The values are stored in the NVRAM on the MCTL board. See '4.Service Tables – Adjusting the Leading Edge and Left Side Registrations' in the engine service manual for information about how to use this SP mode.

NOTE: Engine service mode 43 (Margin Adjust) can be used to adjust all of the registrations, whereas controller SP mode S5 can only adjust a few of them.

S6. Clear All Memory

Executing this function resets the following user settings, stored in the NVRAM on the controller, to their initial values:

- Emulation/system initial setup items
- Printer ID
- Printer name on the network
- Gamma calibration

The "Menu Reset" clear function in the user menu only resets the emulation/system initial setup items to their initial values.

S7. Gamma Calibration

This mode adjusts the gamma tables used in text and photograph modes.

NOTE: For problems with color quality and gradation, clean the engine and replace consumables and other parts at first. Use this mode only when the customer insists on further fine adjustments (e.g., matching colors between machines)

See “6.Replacement and Adjustment - Service Gamma Adjustment,” for the adjustment procedure.

S8. Printer ID

The printer ID allows the Ricoh-Script 2 emulation module to identify the printer main unit. It is programmed in the NVRAM on the controller at the factory.

When replacing the controller, it is necessary to use this SP mode to re-input the printer ID since the printer ID for the old controller is required.

Follow the procedure given below to input the printer ID:

1. Select the first digit using the [▼] and [▲] keys.
2. Input the number by pressing the [Enter] key (you can use the [Escape] key to cancel the setting if you input an incorrect number).
3. Repeat these steps until the last digit is entered. Pressing the [Enter] key on the last digit returns you to the “S8. Printer ID” menu.
4. Print a configuration page and verify that the correct printer ID is defined.
5. Turn the power off and on again to exit SP mode.

S9. Brand

Use this mode to specify the brand. This sets up the machine to display the correct model name on the LCD and in the configuration page header.

NOTE: This must be done before delivering the printer to the customer.

4.2 DETAILED SELF-DIAGNOSTICS MODE

Overview

In this mode, the controller tests components that are not tested during the power-up self-diagnostics. These are the memory, standard parallel interface, and options (optional interfaces 1 and 2, SIMM slot, DIMM slot, and IC card slot), if the devices are installed.

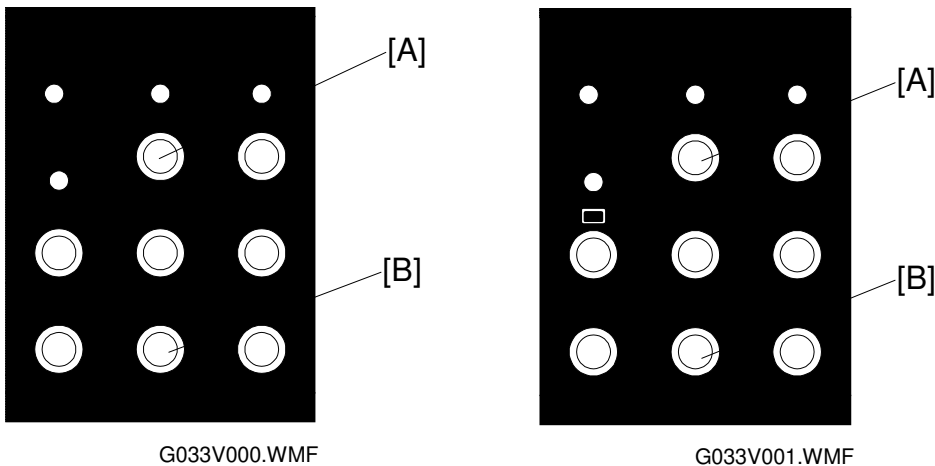
The following special tools are required to execute this mode:

Parallel Interface Loopback Connector

Part No.	Type of Interface	Remarks
G0219350	For the standard parallel interface board	If not used, the controller continues the test to the end, but flags a non-fatal error.
G0109350	For the optional parallel interface board	If an interface board is installed but the loopback connector is not, the controller continues the test to the end, but flags a non-fatal error.

NOTE: A decal with the part number is attached to each connector, to avoid confusing the two types.

Operating Procedure



To enter the detailed self-diagnostics mode, make sure that the devices that you wish to test are installed. Then do the following.

1. Switch off the power.
2. Connect the loopback connector to the parallel port. If the optional additional parallel interface has been installed, connect the loopback connector for this port also.
3. Turn on the power while simultaneously pressing and holding down the **[On Line]** [A] and **[Enter]** [B] keys on the operation panel. Hold the keys down until all of the LEDs and the LCD turn on.

Operation Panel Behaviour during Detailed Self-diagnostics

Immediately after power is turned on

The controller turns on all LEDs and the LCD.

During detailed self-diagnostics

When the controller starts the self-diagnostics, it turns off all LEDs except the Power LED and causes the Power LED to blink. It displays the message “Service diag” on the LCD.

When the tests terminate normally

When an error does not occur during the self-diagnostic test, the controller causes the blinking Power LED to stay on and turns off all the other LEDs and the LCD. The controller starts the system immediately afterward and prints out a list of settings in color mode.

When an error is detected

Errors are divided broadly into non-fatal errors and fatal errors. The controller takes different actions and gives different status information for different types of errors.

- When a non-fatal error (user error) is detected

The controller turns the blinking Power LED on, turns off all of the other LEDs and the LCD, and restores the standby display. Since non-fatal errors do not adversely influence any print operation, the controller starts the system immediately after it takes these actions.

The system turns on the Error LED and prints out a list of settings with error descriptions in monochrome mode (see section 7, Troubleshooting – Controller User Errors for the error codes).

After printing a list of settings, the system returns to the normal state and sets up all devices except the failed device.

- When a fatal error is detected

Since there is no guarantee that the system can generate a list of settings after detecting a fatal error, the system turns off the Power LED and turns on the Error LED. At the same time, it displays an error message on the LCD until the power turns off.

The first line of the LCD contains a 4-digit code that identifies the error and the second line contains an 8-digit code that gives details of the error for designers to debug the error (see section 7, Troubleshooting – Controller Self-diagnostics Errors for a description of the error codes).



Detailed Self-diagnostics Flow Chart

Code ROM sum check

Tests the timer functions of the ROCKY F ASIC

Read/write test

Operation test

Tests the engine interface functions of the ROCKY F ASIC; makes a loopback test on the standard Centronics interface

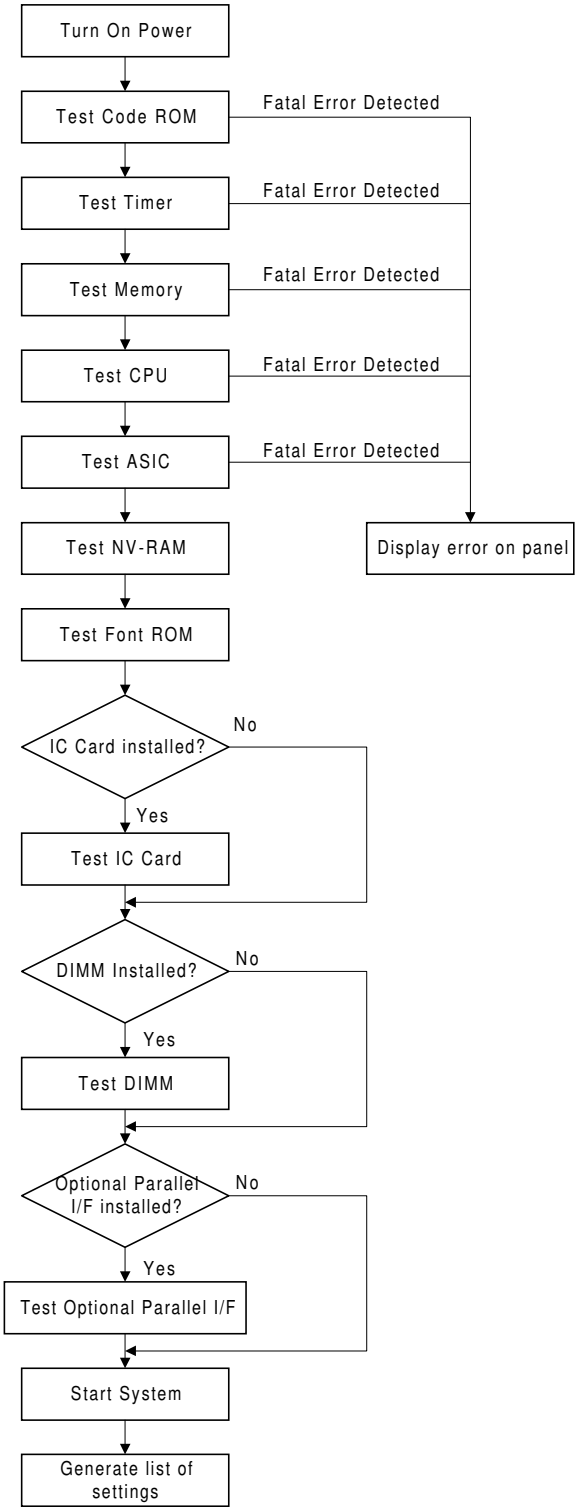
Read/write test

Code ROM sum check

IC card sum check (if card is installed)

DIMM (emulation module) sum check (if DIMM is installed)

Optional parallel interface board loopback test (if board is installed)



Test Results Printout when No Fatal Errors Occur

If a non-fatal error occurred, the report is printed in black and white. The “Error Log” section at the bottom of the printout explains the non-fatal errors that occurred.

If no error occurred, the report is printed in color. The “Error Log” section contains “None”.

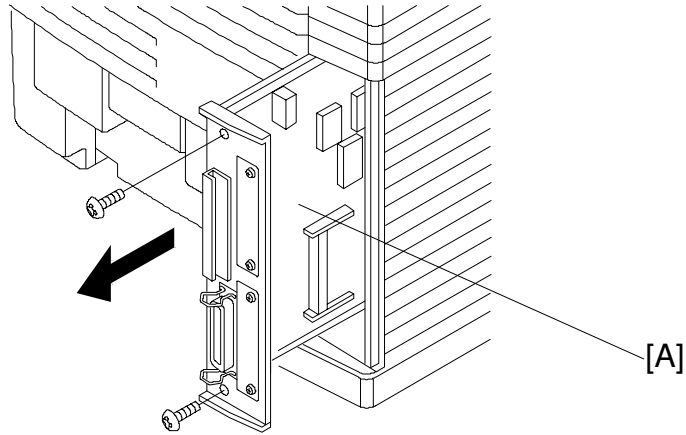
The right side of the sample printout contains gradation patterns in the following colors, from the top, C, M, Y, K, R, G, B, and CMY.

5. PERIODIC MAINTENANCE

Refer to Section 5 Periodic Maintenance in the engine service manual.

6. REPLACEMENT AND ADJUSTMENT

6.1 CONTROLLER BOARD REPLACEMENT



G033T092.WMF

1. Remove the printer controller board [A] (2 screws).

The following must be done after changing the board.

- Store the Printer ID (controller service mode S8)
- Store the network printer name (user mode)
- Do the gamma calibration (controller service mode S7)

6.2 REGISTRATION ADJUSTMENT

You can adjust the registration in the following three ways:

- A. Controller's user menu (Menu → Maintenance → 4. Registration); refer to the operating instructions for more details
- B. Controller's SP mode (S5. Registration)
- C. Engine SP mode (43 Margin Adjust)

For tray 1, the leading edge and left side registrations can be adjusted either with engine SP mode 43 or with controller SP mode S5 (Registration).

For tray 2, leading edge and left side registrations can be adjusted with engine SP mode 43. The left side registration can also be adjusted with the controller user mode, and the leading edge registration can be adjusted with controller SP mode 5 (Registration).

For how to adjust the registration, refer to 'Service Tables – Adjusting the Leading Edge and Left Side Registrations' in the engine service manual.

6.3 IMAGE ADJUSTMENT

6.3.1 OVERVIEW

The table below lists the adjustable image parameters, with their corresponding adjustment procedures.

Item		Procedure
Brightness, Contrast, Saturation, Color Balance		In the Print Quality tab of the Windows printer properties, select the 'Custom' button and click 'Setting'. A range of adjustments is displayed. The results of the adjustments are reflected in the image data processing by the driver and controller.
Density	LD Power	Use either the user menu [Menu] → [Maintenance] → [Toner Level] or engine SP mode 45-1 (LP Tune Up). You can adjust the power for each CMYK color within a range of -1 to +13 with the user menu and in ± 4 steps in engine SP mode. (For the actual procedures, refer to the operating instructions and the engine service manual). See '4.Service tables – SP Mode Details' in this manual for the relationship between the settings in each of these modes. The settings made for this item are transferred to the engine and stored in NVRAM on the MCTL board. Note that the customer is able to adjust this.
	Development Bias	Use engine SP mode 45-3 (DBV Tune Up); refer to the engine service manual. You can adjust the bias for each CMYK color in ± 4 steps. The settings made for this item are transferred to the engine and stored in NVRAM on the MCTL board.
	Transfer Bias	Use either controller SP mode S4 (Transfer Bias) or engine SP mode 45-2 (THV Tune Up). You can adjust in ± 4 steps for plain paper, OHPs, and labels.
Service Gamma		Use controller SP mode S7 (Gamma Calib.). You can adjust each color for both text and photograph modes. The results of the adjustment are reflected in the gamma correction done by the controller (see '2.Detailed Descriptions – Controller Gamma' in this manual for more information on how the controller does this).

6.3.2 SERVICE GAMMA ADJUSTMENT

NOTE: For problems related to color quality and gradation, clean the engine and replace supplies and other parts at first. Use this mode only when the customer insists on further fine adjustments (e.g., matching colors between machines).

Adjustment Menu (Controller SP, S7. Gamma Calibration)

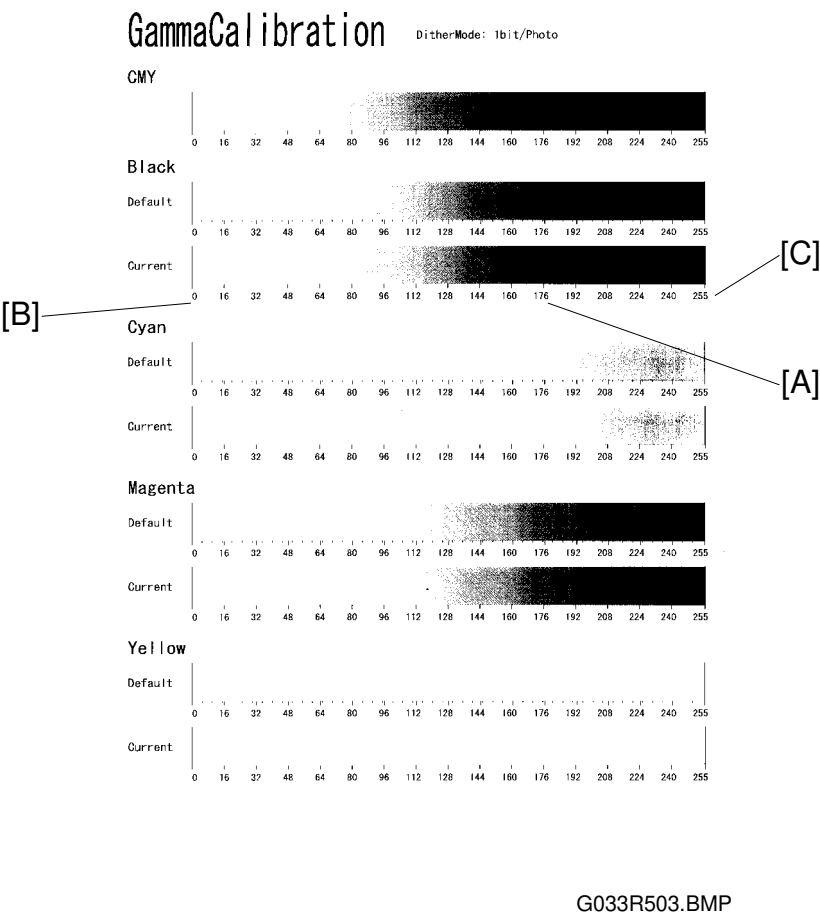
The menu items under Gamma Calibration in controller SP mode are organized as shown below. See “SP Mode Menu Hierarchy,” for instructions on how to access the “S7. Gamma Calib. Color Correction” menu.

Layer 3	Layer 4	Layer 5	Layer 6
Load Setting	Default		
	Setting-Old		
	Setting-Current		
Mode Setting	1 bit/Photo		
	1 bit/Text		
Print Setting			
Gamma Setting	Black	K/01th.[xxx]	K/01th.=xxx/255
		↓	↓
		K/15th.[xxx]	K/15th.=xxx/255
	Cyan	Same as above	Same as above
	Magenta	Same as above	Same as above
	Yellow	Same as above	Same as above
	Save Settings		

Adjustment Overview

To carry out this adjustment, select the print mode to adjust (text or photograph), then print out a color adjustment sheet. Make the gradation scales on the printout smooth from the lowest to the highest density. Adjust the CMY gradation scale at the top of the chart by balancing the density of the C, M, and Y gradation scales – the CMY gray scale should change smoothly from minimum to maximum, and there should be no coloration.

The color adjustment sheet is as follows.



For each color, you can adjust 15 points (example [A]) between 0 (lowest density) [B] and 255 (highest density) [C]. For each point, you can adjust the density within 0 and 255.

The gradation scales marked ‘Default’ are printed according to the default gamma settings in the flash ROM in the controller. The gamma adjustment changes the densities at the adjustable points in the gradation scale. The gradation scale marked “Current” shows the current settings.

During the adjustment procedure, compare the “Current” gradation scale with the ‘Default’. Select the density for each of the 15 adjustable points, excluding points 0 and 255, from the ‘Default’ gradation scale.

The NVRAM holds three controller gamma settings, those saved this time (Setting-Current), those saved in the preceding adjustment (Setting-Old), and the factory settings (Default).

Adjustment Procedure

1. Select "Load Setting" and load the settings that will serve as the base for the adjustment.
2. Select "Mode Setting", and select the print mode that you are going to adjust (text or photograph).
3. To review the image quality for these settings, choose "Print Setting" to print out a color adjustment sheet (Gamma Calibration at the top of the page).
4. Select "Gamma Setting". Then select a color (K, C, Y, or M).
5. Adjust the color density at each of the 15 points.
NOTE: To decide what density value to input, do the following.
 1. Look at the color adjustment sheet.
 2. For the color you are adjusting, look at the gradation scale entitled 'Default'.
 3. Go along the scale until you reach the density that you wish to input.
 4. Read off the value on the scale and store it in the machine.
 5. Do the same for all 15 points.
6. When the density setting is complete for all colors, print out a color adjustment sheet again and make sure that the gradation scale for each printed color is smooth and that the CMY gradation scale is gray. Repeat the adjustment if there is an anomaly (normally, repeat this procedure 3 to 5 times).
7. If the adjustment results prove satisfactory, do the following:
 - 1) Execute "Save Settings".
 - 2) Reset the controller (press the **[Reset]** key when the machine is off line") to use the new settings.

NOTE: The new settings will not be saved in the controller NVRAM unless you reset the controller.

6.3.3 SOFTWARE UPGRADE PROCEDURE

The controller, Ricoh-Script 2, and network interface boards have a flash ROM for storing control software. This allows version upgrades using an IC card.

The engine firmware cannot be upgraded in this way. The MCTL board has to be changed. See the engine service manual for details on how to change this board.

NOTE: Before starting an upgrade procedure, make sure that the software in the IC card is newer than the software in the controller, Ricoh-Script 2, or network interface board.

To check, do one of the following:

- Print out a configuration page (user mode).
- Enter controller SP mode and execute "3. Summary" with the **[Media]** key. The software version is shown on the operation panel LCD.

Follow the procedure shown below to upgrade the software:

1. Turn off the machine, and then unplug all cables from parallel interface boards and network interface board, if connected.
2. Remove the controller board and IC card cover. Then install the upgrade IC card in the card slot.
3. Set DIP switch 1 on the controller board to ON and put the controller board back in the machine.
4. Turn on the machine. The machine automatically copies the software from the IC card to the appropriate flash ROM (controller, Ricoh-Script 2, or network interface board).

CAUTION: 1) Do **not** turn off the machine while the software is being updated. Otherwise, the controller, NIB, or Ricoh-Script 2 module may be damaged.
2) Do **not** turn off the machine until at least 30 seconds after the message "OK!!OK!!" or "DOWNLOAD OK." appears.

For the controller or Ricoh-Script 2:

The LCD display on the operation panel changes as shown below as the rewrite procedure proceeds. ('MELT' is displayed during the software upgrade for Ricoh-Script 2 since it involves a decompression process.)

(MELT ->) ERASE -> WRITE -> VERIFY -> OK!!OK!!

The appearance of the message "OK!!OK!!" indicates that the controller has received the data from the IC card. However, note that it takes about 30 seconds to rewrite the data in the controller or Ricoh-Script 2 after this message is displayed.

The message NG!!NG!!" is displayed if an error occurs during the rewrite process. If this condition occurs, reinstall the IC card and turn the power off and on again.

For the network interface board:

The appearance of the message “DOWNLOAD OK.” indicates that the controller has received the data from the IC card. However, note that it takes about 30 seconds to rewrite the data in the network interface board after this message is displayed.

DOWNLOAD -> ##### -> DOWNLOAD OK.

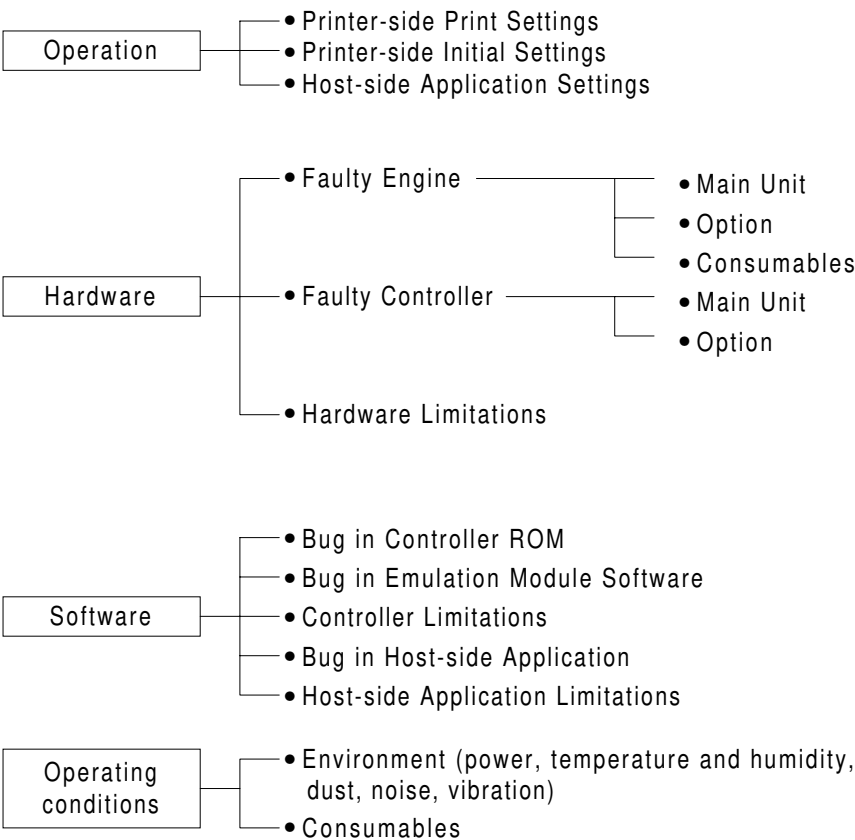
The message “DOWNLOAD NG.” is displayed if an error occurs during the rewrite process. If this condition occurs, reinstall the IC card and turn the power off and on again.

4. When the rewrite ends, turn off the main unit, reset all DIP switches to OFF, and remove the IC card.
5. Replace the IC card cover. Turn the power on again and print the user mode configuration page.
6. Check the new software version and make sure that it matches the version on the IC card.

7. TROUBLESHOOTING

7.1 TYPES OF PROBLEMS

The problems can be classified as follows.



TROUBLE-F.WMF

7.2 TROUBLESHOOTING PROCEDURE

7.2.1 HARDWARE TESTS

1. Power-up self-diagnostics
Turn on the power and check that an error code is not displayed.
After the system starts, check for error messages on the configuration page that is automatically printed.
2. Detailed diagnostic test
See “4.Service Tables - Detailed Self-diagnostics Mode” in this manual for the procedure.
3. Checking the configuration page output.
Print out from the user menu: **[Menu] → [List Print] → [Config. Page]**. If error messages are included, check the relevant part of the machine and replace any defective components.
4. Connectivity test
Make a test print from a computer.
 - Check that the correct cable is used (and connected properly).
 - Check the cable continuity.
 - Check the cable length (is it too long?).
 - Do not connect the printer to the computer through a printer selector switch – connect the printer to the computer directly.
 - If the optional parallel interface is installed, connect the computer to the parallel interface board that is being tested.

7.2.2 OPERATION-RELATED TESTS

Check the print conditions and initial settings.

Check the printer settings against the application settings. Check whether the current settings match the settings on the configuration page that the customer keeps.

NOTE: Ask the customer to print a configuration page at some time when the controller is working normally, and keep it for reference.

7.2.3 SOFTWARE-RELATED TESTS

Obtain information about the following:

- PC model
- OS type and version
- Configuration page
- Application software used, and the version
- Data file being printed when the problem occurred (if obtainable)
- Ricoh-Script 2 data file when the problem occurred
- Sample printouts when the error occurred and when the printer is normal
- Detailed operating procedure
- Controller system and emulation module version
- Engine firmware version

7.3 ERROR MESSAGES

7.3.1 OVERVIEW

The error messages that this unit can issue are classified as follows:

1. **Controller Self-diagnostics Errors**
Errors detected while the unit performs power-up self-diagnostics/detailed self-diagnostics on the controller hardware.
2. **Controller User Errors**
Errors caused because the controller software cannot process the job because of, for example, insufficient memory.
3. **Internal Errors**
Errors caused because the controller's control function fails to function normally.
4. **Engine User Errors (Cautionary)**
Errors that do not require user intervention to continue printing (the printer can still communicate with the PC over the interface). However, for the best printing quality, the user should correct the problem as soon as possible.
5. **Engine User Errors**
Severe errors that cause the unit to stop printing, requiring the user to fix the problem before printing again.
6. **Engine Service Codes (SCs)**
Severe errors that cause the unit to stop printing, requiring a technician to fix the problem before printing again.

Only one error message can be displayed at once. There is an order of priority for displaying the errors. This is as follows, starting with the highest priority: Internal Errors, Controller Self-diagnostics Errors, Engine Service Codes (SCs), Engine User Errors, Engine User Errors (Cautionary), Controller User Errors.

7.3.2 CONTROLLER SELF-DIAGNOSTICS ERRORS

When a controller self-diagnostics error occurs, the error code is displayed on the first line of the operation panel LCD.

The second line contains an 8-digit code that gives details of the error for designers to debug the error. For a memory error, the second line of the LCD indicates the address in which the error occurred. For errors other than memory errors, the second line always reads “FFFFFFF”.

Code	Description	Location
00XX	Exception processing error	Controller
0101	Flash ROM sum check error	Controller
0201	Standard memory read/write error	Controller
0301/0401	Optional memory read/write error Non-fatal error (printed as B0 in the error log.)	Optional memory
060X	CPU exception self-diagnostics error	Controller
0D0X	ASIC timer error	Controller
0F0X	ASIC engine interface error	MCTL/Controller
11XX	ASIC Centronics interface error Non-fatal error (printed as B1 in the error log.)	Controller
1401	NVRAM error	Controller
1601	Font ROM error	Controller
170X	IC card error 1703 represents a non-fatal error (printed as B4 in the error log.)	IC card/Controller
1B0X	Optional Interface 1 Error	Controller
1C0X	Optional Interface 2 Error	Controller
1D0X	Optional parallel interface board Non-fatal error (printed as B6 in the error log.)	Optional parallel interface board
250X	Optional emulation module error Non-fatal error (printed as B5 in the error log.)	Emulation module/Controller
400X	FPU error	Controller
450X	ASIC compression/decompression error	Controller

7.3.3 CONTROLLER USER ERRORS

Display	Description	Location/action
85: Error	Graphics environment initialization error	Optional memory/Controller
86: Error	Invalid control code parameter	Incorrect printer driver or incorrect cable installed
91: Error	Font/image environment initialization error	Install additional memory.
94: Error	Download data error	Incorrect 'total memory size' setting in the driver
A3: Error	Receive buffer overflow	Increase the I/O buffer size using the system menu (user mode)
A6: Error	Overflow during compression	Install additional memory.
A7: Error	Error during drawing processing	Use a smaller font size or a less complex font, or replace the controller
A8: Error	Error during library drawing	Switch the machine off/on. If that does not work, replace the controller.
AB: Error	Print overrun	Install additional memory.
B0: Error	Optional memory error	Reinstall/replace optional memory.
B1: Error	Standard parallel interface error	Interface cable/controller
B3: Error	Invalid initial setup setting	Reset the printer settings using 'Menu reset' in the Maintenance menu (user mode).
B4: Error	IC card slot error	Controller/IC card
B5: Error	Optional emulation module error	Reset/replace emulation module.
B6: Error	Optional parallel interface board error	Reset/replace optional parallel interface board
B7: Error	Optional network interface board error	Reinstall/replace network interface board

7.3.4 INTERNAL ERRORS

When an internal error occurs, the message “Err Power Off/On” is displayed on the first line of the operation panel LCD. The internal error code is on the second line in the format “Error XYY-ZZZZZZZ” (“XX” denotes a classification code; “YY” denotes a process number, and “ZZZZZZZ” indicates the program address where the error occurred).

The classification code portions (XX) and their descriptions are shown below. The “YY” and “ZZZZZZZ” portions are for designer use only (for debugging).

Code (XX)	Description
00	Error in the TLB user area.
01	CPU TLB update exception
02	CPU mismatch exception (load or fetch)
03	CPU mismatch exception (store)
04	CPU address error exception (load or fetch)
05	CPU address error exception (store)
06	CPU bus error exception (load or fetch)
07	CPU bus error exception (store)
08	CPU system call exception
09	CPU break point exception
10	CPU reserved instruction exception
11	CPU coprocessor disabled exception
12	CPU operation overflow exception
13	CPU trap exception
14	Coherency (instruction) error
15	CPU floating-point operation exception
16	CPU timer interrupt
17	ROCKY level 4 interrupt (ART or Tim)
18	ROCKY level 3 interrupt (CP)
19	ROCKY level 2 interrupt (XINT1 or XINT0)
20	ROCKY level 1 interrupt (CBE, DBE, Dtc0, Verr, Fin, Vdte, Fout)
21	ROCKY level 0 interrupt (Debug)
22	Software interrupt
23	Software interrupt
24	Other CPU exceptions
25	Memory allocation error
26	Overflow error
27	Frame allocation error
28	Card eject error
29	Printer engine error
30	Option board error
31	Session-to-network interface board communications error

Trouble-
shooting

7.3.5 ENGINE USER ERRORS (CAUTIONARY)

The unit can continue printing even when one of the messages listed below is encountered.

Display	Description	Number of sheets until warning state
Low on: XXX	Toner near end XXX denotes the color name (CMYK or their combination).	500 at a 5% image ratio (300 sheets for Black).
Chg. Cleaner	Fusing cleaner replacement time arrived	1,000 at a 5% image ratio
Fusing Oil	Fusing oil near end	30
Change PCU	Photoconductor unit replacement time arrived	Information only
Change 120K	120k maintenance requested	Information only
Change Fuser	Fusing unit replacement time arrived.	Information only

7.3.6 ENGINE USER ERRORS

The unit can no longer continue printing when one of the following messages is displayed:

Display	Description
Add Toner XXX	Toner end (XXX: Cyan, magenta, yellow, or black)
Waste Toner is Full	Waste toner bottle full
Fusing Oil	Fusing oil end
Paper Size Error	Paper size error
Change Fuser Cleaner	Fusing cleaner needs replacement.
Paper Type Error	Media mismatch
Load YYY tray XXX	Paper end (XXX denotes a tray name and YYY a paper size.)
Reset Paper Tray Correctly	No tray
Close Top Cover	Paper exit cover open
Close Front Cover	Front cover open
Reset XXX Toner Correctly	No toner cartridge (XXX denotes a color name.)
Close Rear Cover	Rear cover open
Reset Fusing Unit Correctly	No fusing unit
Reset PCU Correctly	No photoconductor unit
Reset Cleaning Roller Correctly	No fusing cleaner
Remove Misfeed from Tray XXX	Paper jammed

7.3.7 ENGINE SERVICE CODES

When an engine service call (SC) error occurs, an error message is displayed on the operation panel LCD in the format “Call Service SC: XX” where XX denotes an error code. The engine SC error codes and their descriptions are shown below. For the troubleshooting procedures, refer to the engine service manual.

Display	Description
SC: EC	Engine communication error
SC: 22	Development motor error
SC: 23	Main motor error
SC: 24	Polygon mirror motor error
SC: 25	Charge corona voltage (CHV) error
SC: 31	Fusing thermistor error
SC: 33	Fusing temperature error (warming-up time error)
SC: 34	Fusing temperature error (temperature too low)
SC: 35	Fusing temperature error (temperature too high)
SC: 41	Beam sensor error
SC: 42	Laser power error
SC: 43	NVRAM error (MCTL)
SC: 44	Engine controller MCTL hardware error
SC: 45	Process timing clock error (main motor clock error)
SC: 51	Quenching lamp error
SC: 52	Toner end sensor error
SC: 53	Control fan error
SC: 54	Ozone fan error
SC: 55	Fusing fan error
SC: 61	Yellow development clutch error
SC: 62	Magenta development clutch error
SC: 63	Cyan development clutch error
SC: 64	Black development clutch error
SC: 65	HPSI signal error (retraction error for the black and yellow toner cartridges)
SC: 66	HPSI signal error (retraction error for the cyan and magenta toner cartridges)
SC: 71	Transfer drum rotational error
SC: 72	Transfer roller contact solenoid error
SC: 73	Cleaner contact solenoid error
SC: 74	Cleaner clutch error
SC: 75	Fusing unit clutch error
SC: 76	Belt sensor error

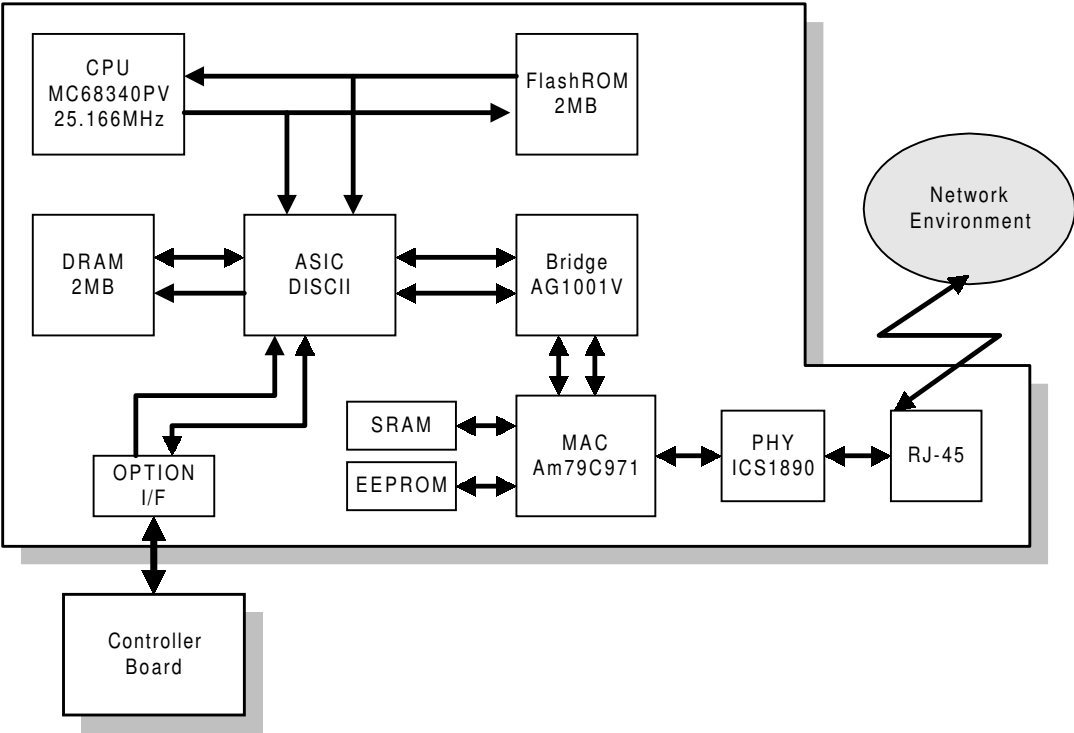
8. NETWORK INTERFACE BOARD

8.1 OVERVIEW

8.1.1 SPECIFICATIONS

- Configuration: Embedded type
- LAN Interface: 100BASE-TX/10BASE-T
- Frame Type: Ethernet II (*1), IEEE802.3, IEEE802.2, SNAP
*1: Only Ethernet II for TCP/IP
- Protocol: TCP/IP, AppleTalk (*2), NetWare
*2: Only possible when equipped with RICOH-SCRIPT2.
- SNMP Support: IP and IPX SNMP support of MIB-II

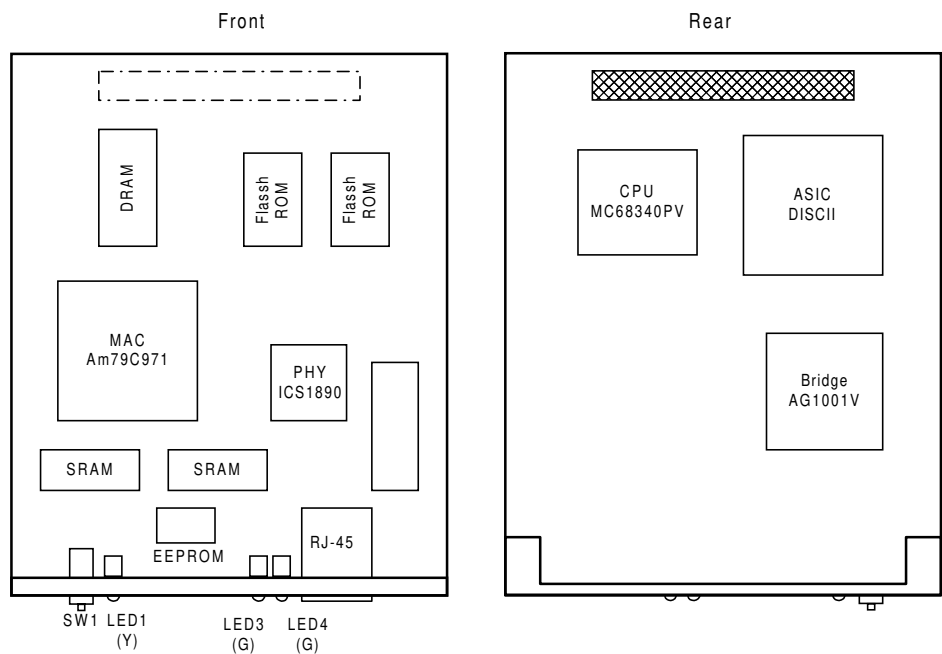
8.1.2 BLOCK DIAGRAM



G033C005.WMF

8.2 COMPONENT LAYOUT

8.2.1 NETWORK INTERFACE BOARD DIAGRAM



G033C006.WMF

8.2.2 DEVICES

Device	Description
CPU	MC68340PV25 (25.166MHz)
Memory	Flash ROM MBM29F800B-90PFTN (1 MB x 2)
DRAM	TC5118160AJ-60 (2 MB x 1)
SRAM	CY7C199 (256kbit x 2)
EEPROM	ST93C46CB1 (1kbit x 1)
ASIC	Gate array MBCG24243 (DISCII)
Bridge	AG1001V
MAC	Am79C971KC "PCnet-FAST"
PHY	ICS1890

8.3 BASIC OPERATIONS

8.3.1 OVERVIEW

This network interface board can manage both 100BASE-TX and 10BASE-T. It has a maximum data transfer speed of 100Mbps.

The auto-negotiation function automatically switches the communication speed.

The controller board supplies the power source (+5V) and provides the reset signal. The controller board communicates with the network interface board through the option I/F connectors.

8.3.2 LED FUNCTIONS

The LEDs on the network interface board show the operating state.

1. LED1: Displays the operating status.
 - On: Ready
 - Off: Busy

This LED blinks while the firmware is downloading.
2. LED2: Not used.
3. LED3: Displays the LAN type.
 - On: 100BASE-TX
 - Off: 10BASE-T
4. LED4: Displays the link status.
 - On: Link safe
 - Off: Link failure or link disabled

8.3.3 SWITCH FUNCTION

SW1 resets the NVRAM on the network interface board.

NOTE: This board has the hardware to execute a "Summary Printout". However, it does not function on this printer due to controller specifications.

NVRAM Reset Procedure

This procedure resets all the network settings to the defaults.

- IP address, Subnet Mask, Default Gateway Address, Access Control Mask, Network Boot, Frame Type (NetWare), Active Protocol, and so on
1. Turn on the main switch while pressing SW1. Keep pressing SW1 for 15 seconds.
 2. Release SW1 for 3 seconds, press it again for 3 seconds, and then release it.
 3. Turn the main switch off/on to complete the NVRAM reset procedure.
NOTE: There is a margin of less than 1 second for error. Use a watch to measure the time periods as accurately as possible.
 4. Print out the configuration page, and then check the settings. If the procedure failed, the previous settings remain. Repeat the above procedure until the old settings have been cleared.

8.3.4 NETWORK SETTING INFORMATION

```

Reference
    Firmware Version      GeOLaser AP204 v1.0 (1.4)
                          RTR_CW6W1-1.042
                          RoundstoneZRRPS 2991.08
                          A9000C05
    Printer ID            19AB8
    Total installed RAM    Parallel Not Installed
                           Ethernet: Installed

Printer Information
    Type1                 AIR
    Type2                 AIR
    Pages Printed          0000033333
    Printer Error          None

Status List
    Job Timeout           OFF
    Paper Timeout         30min
    System
        Paper Tray        1234567
        C/B/E/M/Y         OK
        Ink Level Mode     OK
        Transfer Rate      Hi Speed
        Memory             OK
        Parallel 1          ACK Outside On Busy
        Parallel 2          ACK Cr by 1st
        Bidirection         Original Mode
        Emulation           IBM
        Labeling            OK
        Endless = continuous setting.

Network
    Vendor                ELANORIS 0.2.2 (0x0c) 9-tuple
    IP address             133.100.100.128
    Subnet mask             255.255.255.0
    Default gateway address 202.000.000.002
    DNS server              202.000.000.002
    Access control method  Off
    Network Card            Off
    Frame type(Network)     Net
    Access protocol         All
    Modem address           00-20-7A-42-79-3A
    Port Address            Air
    Remote name(Network)     RNEP723JA
    Host name (name(Network)) RNEP723JA
    File server name(Network) Not Defined
    NFS context name(Network) Not Defined
    Workgroup name(NetBIOS) WORKGROUP
    User _path name(NetBIOS) USER32333333@AP204

```

G033C007.BMP

Default emulation	RPS
Language	English
	*Indicates a non-default setting.
Network	
Version	ELAND98 0.2.2 (0003)- 0.10p0
IP address	133.100.100.128
Subnet mask	000.000.000.000
Default Gateway address	000.000.000.000
Access control address	000.000.000.000
Access control mask	000.000.000.000
Network Boot	None
Frame type(NetWare)	Auto Select
Active protocol	All Active
Mac address	00-00-74-62-73-3A
Operation mode(NetWare)	Print server
Printer name(NetWare)	RNP62733A
Print server name(NetWare)	RNP62733A
File server name(NetWare)	Not Defined
NDS context name(NetWare)	Not Defined
Workgroups name(NetBEUI)	WORKGROUP
Network path name(NetBEUI)	\\RNP62733A\COLOR_AP204
Error Log	

G033C007.BMP

Since the controller does not support the "Summary Printout" function for the network interface board, check the network setting information by printing out a user mode configuration page.