Model K-C3

DDST UNIT TYPE A/B
(Machine Code: B865/B866)

SERVICE MANUAL

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Subject to change

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SPECIFICATIONS

1. INSTALLATION

Please refer to section 1 of the main unit service manual.

2. TROUBLESHOOTING

2.1 CONTROLLER ERRORS

ERROR CODES	INDICATION ON THE OPERATION PANEL
Code ROM error	ROM Error
Resident RAM error	On Board Memory Error
Option RAM error	DIMM has a problem
CPU error	CPU Error
NVRAM error	NV-RAM Error
NIB interface error	Ethernet Board Error
USB error	USB Error

Refer to the main unit service manual for descriptions on SC code.

NOTE: The following error messages only display when you press print buttom

2.2 LED DISPLAY

The controller uses two LEDs to display error status even swhile the LED message is not active.

To see these LEDs, remove the machine's rear cover and the cover of the controller.

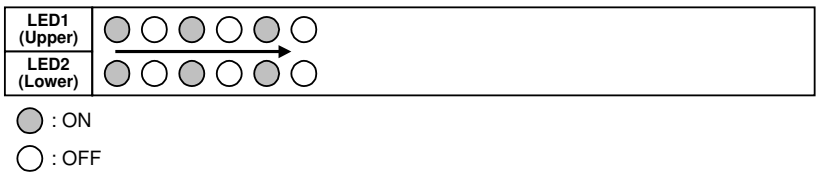
2.2.1 FATAL ERROR

If the controller detected a fatal error during the power-on self-test, it uses 2 LEDs to notify the cause of the error.

If one of the following fatal errors happens, the LED status changes as shown (read from the left of the diagram to the right).

LED1=LED5 on the board (Red)
LED2=LED6 on the board (Yellow)

Code ROM Error



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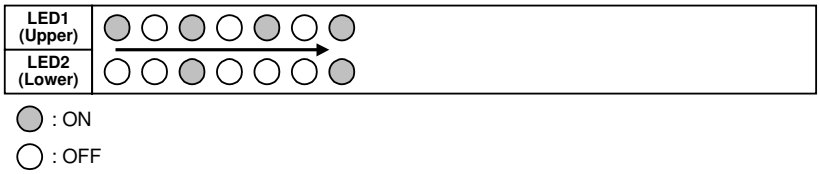
Resident RAM Error



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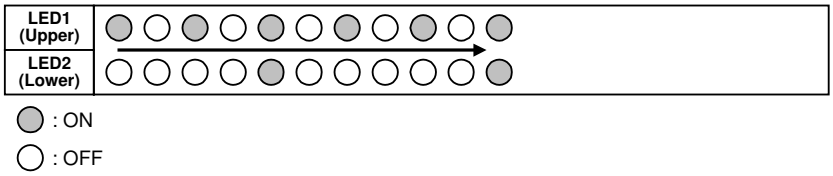
CPU Error



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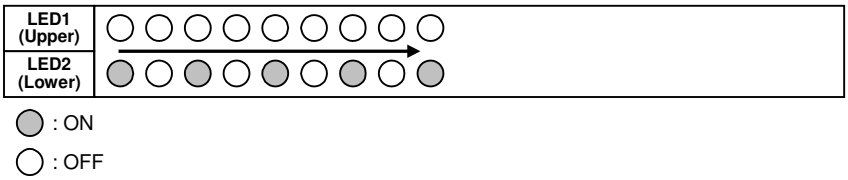
Idel



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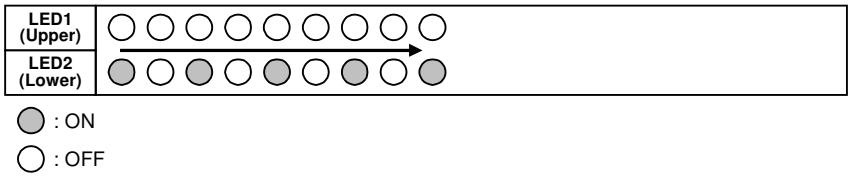
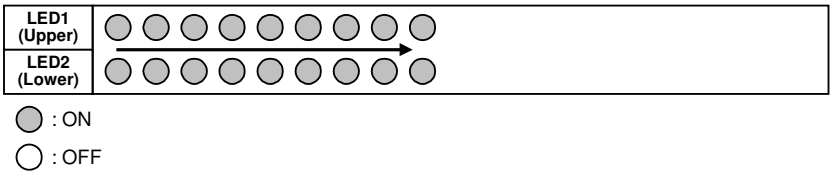
During ROM Downloard



B865T905.WMF

ROM Downloard Completed



B865T906.WMF

Turn off the machine and turn it back on. If the controller detects the same error, Replace the controller.

3. SERVICE TABLES

3.1 SERVICE PROGRAM MODE

⚠CAUTION

Before accessing the service menu, do the following:

Confirm that there is no print data in the printer buffer (the Data In LED must not be lit or blinking).
If there is some data in the buffer, wait until all data has been printed.

⚠CAUTION

Never turn off the main power switch when the power LED is lit or flashing. To avoid damaging the hard disk or memory, press the operation power switch to switch the power off, wait for the power LED to go off, and then switch the main power switch off.

The main power LED (☀①) lights or flashes while the platen cover or ADF/ARDF is open, while the main unit is communicating with the network server (B866 only), or while the machine is accessing the memory for reading or writing data.

3.1.1 ENABLING AND DISABLING SERVICE PROGRAM MODE

Entering the SP mode

⌧	1.	Press the Clear Mode key.
① ⓪ ⑦	2.	Use the keypad to enter “107”.
C/⊗	3.	Hold down Clear/Stop for at least 3 seconds.
	4.	Enter the Service Mode.
Printer SP		Select “Printer SP” to enter printer SP mode.
Scanner SP		Select “Scanner SP” to enter scanner SP mode.

Exiting the Service Mode

Press the cancel key to exit from the service mode.

3.2 PRINTER SERVICE MODE

3.2.1 SERVICE MODE TABLE

SP No.	Description	Function and Setting
1003	Clear Setting	Clear Initialize System
1005	Display Version	Displays the version of the controller firmware.

3.2.2 SP MODES RELATED TO PRINTER CONTROLLER

The following SP modes are located in the copier SP mode. Refer to the main unit service manual.

SP No.	Description	Function and Setting
5104	A3/DLT Double Count	Specifies whether the counter is doubled for A3/DLT. 0: No, 1: Yes If ① is selected, the total counter and the current user code counter count up twice when A3 or DLT paper is used.
5801	Memory All Clear	Resets data for process control and all software counters, and returns all modes and adjustments to their defaults values. ☛ the main unit manual for details.
5907	Plug & Play	Selects the brand name and the production name for Windows Plug & Play. This information is stored in NVRAM.
7832	Detailed Display of Self-Diagnostics	Displays the controller self-diagnostic result. ☛ this manual for details.

3.3 SCANNER SERVICE MODE

3.3.1 SCANNER PROGRAM MODE TABLE

Service Table Key

Notation	What it means
[range / **default** / step]	Example: [-9 ~ +9 / **+3.0** / 0.1 mm step]. The setting can be adjusted in the range ±9, value reset to +3.0 after an NVRAM reset, and the value can be changed in 0.1 mm steps with each key press.
italics	Comments added for your reference.
*	This value is stored in NVRAM. After a RAM reset, the default value (factory setting) is restored.

SP No.	Mode Number		Function and [Setting]
1005*	1	Erase Margin	Creates an erase margin for all edges of the scanned image. *If the machine has scanned the edge of the original, create a margin.* [0 – 5 / **0mm** / 1mm step]

For the settings of the image quality, see the copier SP-mode table.

3.4 FIRMWARE UPDATE PROCEDURE

Firmware updating procedure is described in the copier service manual.

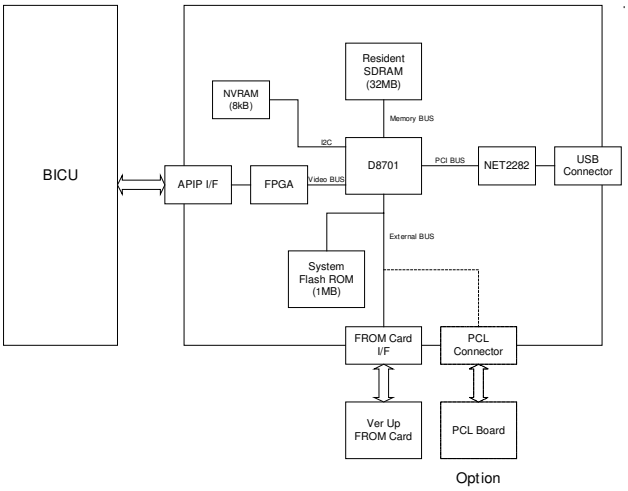
3.5 USER PROGRAM MODE

See the copier Operating Instruction.

4. DETAILED SECTION DESCRIPTIONS

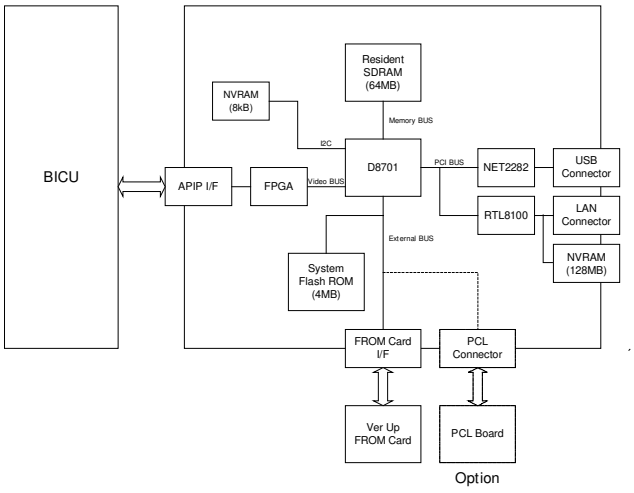
4.1 OVERVIEW

B865 (Without Network Interface Card)



B865D01.WMF

B866 (With Network Interface Card)



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This machine uses the GDI controller to enable the printer features.

Main components:

- CPU: D8701
- Flash ROM: 1MB/4MB
- SDRAM: 32MB/64MB 96MHz
- NVRAM(8KB): Stores the controller setting
- NVRAM(128MB):Store the MAC address
- USB: NET2282

Optional components:

- PCL Board

4.2 CONTROLLER FUNCTIONS

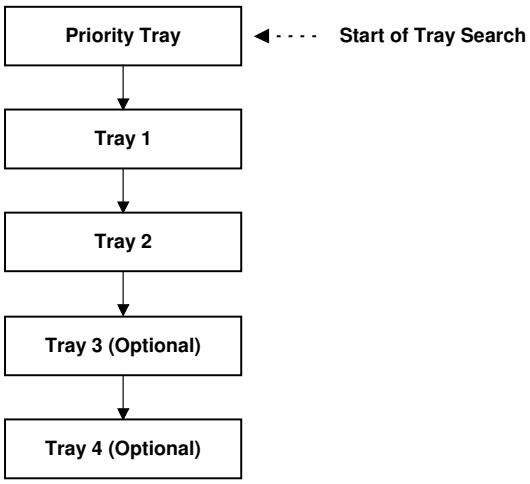
4.2.1 PAPER SOURCE SELECTION

Tray Priority (Auto Tray Select)

The Tray Priority setting determines the start of the tray search when the user selects “Auto Tray Select” with the driver. The machine searches for a paper tray with the specified paper size and type.

When no tray contains paper that matches the paper size and type specified by the driver, the controller stops printing until the user loads the correct paper.

The Tray Priority setting can be specified using the Paper Size Setting in the user tools.
(User Tools/ System Settings/ Paper Size Settings)



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The by-pass tray is not part of the tray search.

Tray Lock

If Tray Lock is enabled for a tray, the controller skips the “locked” tray in the tray search process.

The Tray Lock setting can be specified by selecting “No” for the “Apply Auto Paper Select” setting in the Paper Size Setting screen in the user tools.
(User Tools/ System Settings/ Paper Size Settings)

The by-pass feeder cannot be locked.

Manual Tray Select

If the selected tray does not have the paper size and type specified by the driver, the controller stops printing until the user loads the correct paper.

4.2.2 AUTO CONTINUE

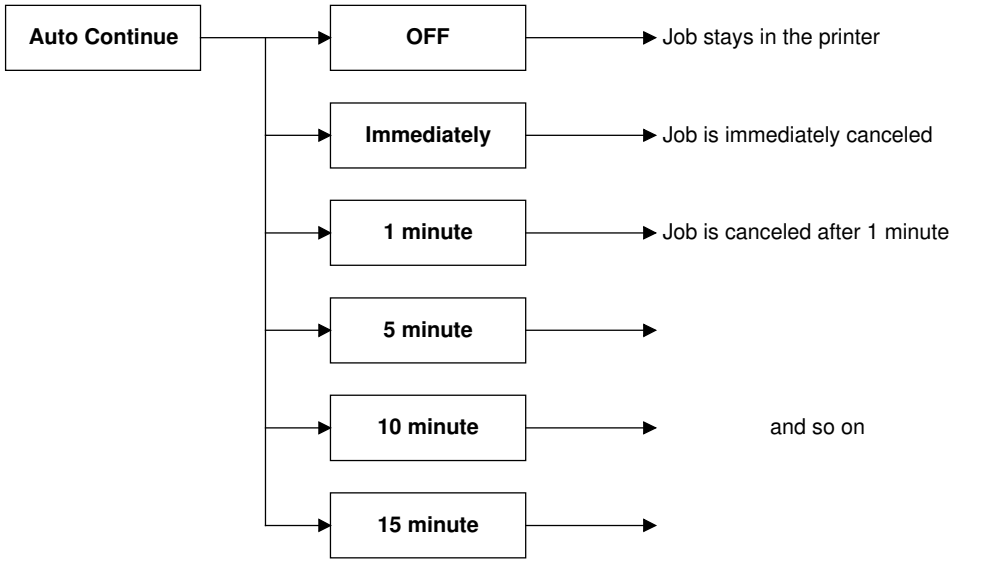
When this function is enabled, the machine stops printing and cancels the print job if there is no paper tray which matches the paper size and paper type specified by the driver.

If Auto Continue is enabled, the machine waits for a specified period (0, 1, 5, 10, 15 minutes) for the correct size paper to be set in the tray, then cancels the print job if the interval expires.

- The interval can set with the Printer Settings in the user tools.
  (User Tools/ Printer Settings/ System/ Auto Continue)

If Auto Continue is disabled, the machine will not print the job, but will not cancel it, so the job stays in the print queue.

If no paper tray matches the paper size and paper type specified by the driver:



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The default setting for Auto Continue is “Off.”

4.2.3 PAPER OUTPUT TRAY (ONLY WHEN 1 BIN-TRAY IS INSTALLED)

The default paper output tray for each application (copy/printer) can be selected using the System Settings menu in the user tools.
(User Tools/ System Settings/ General Features)

If a print job does not specify an output tray or if the driver specifies the default tray, the default paper output tray is used.

Output Tray Selected

- If an output tray is specified by the driver, it overrides the default tray setting in the user tools.
- If the machine cannot print to the selected output tray, it prints to the default paper output tray.

4.2.4 DUPLEX PRINTING

Duplex printing is available with all output bin options but not all paper sizes. If a job specifies duplex printing but the paper size to be used cannot be used by the duplex unit, the job will be printed single-sided.

- When the by-pass feeder is selected as the paper source, duplex printing is automatically disabled.

4.3 SCANNER FUNCTIONS

4.3.1 IMAGE PROCESSING FOR SCANNER MODE

The image processing for scanner mode is done in the IPU chip on the BICU board. The IPU chip chooses the most suitable image processing methods (gamma tables, dither patterns, etc) depending on the settings made in the driver.

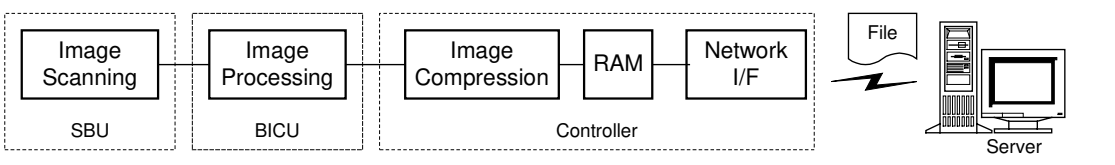
The image compression method can be selected with SP mode (MR/MH/MMR for binary picture processing).

Image Data Path

1. Image Store/Image Delivery Mode

The user can select the following modes from the LCD.

1) Delivery only



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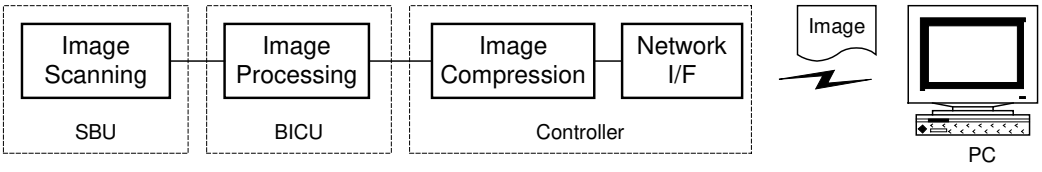
After image processing and image compression, all image data for the job are stored in the printer controller RAM using TIFF file or PDF file format (binary picture processing). The type of TIFF or PDF format used depends on the user's scanner settings.

When delivery mode is selected, the controller creates a file which contains the destination and page information, then the controller sends the file to a server.

2. Twain Mode

After image processing and image compression, the data (TIFF or PDF) is sent to the scanner Twain driver directory on the computer.



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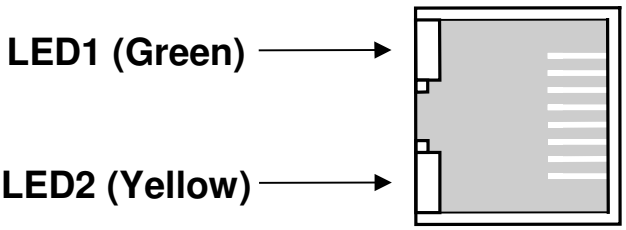
4.4 NETWORK INTERFACE (B866 ONLY)

4.4.1 LED INDICATORS

The LED is on the optional controller box.



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Description	On	Off
LED1 (Green): Link status	Link success	Link failure
LED2 (Yellow): Data rate	100 Mbps	10 Mbps

4.5 USB

4.5.1 SPECIFICATIONS

USB connectivity is provided as an option for this machine.

Interface:	USB 1.1, USB 2.0
Data rates:	480 Mbps (high speed), 12 Mbps (full speed) High speed mode is only supported by USB 2.0.

4.5.2 USB 1.1/2.0

USB (Universal Serial Bus) offers simple connectivity for computers, printers, keyboards, and other peripherals. In a USB environment, terminators, device IDs (like SCSI), and DIP switch settings are not necessary.

USB 1.1 provides the following features:

- Plug & Play. As soon as a new device is connected via USB, the operating system recognizes it, and the appropriate driver is installed for it automatically if the driver is available. If the driver is not available, a message prompts the user for the driver disk for immediate installation.
- Hot swapping (cables can be connected and disconnected while the computer and other devices are switched on)
- No terminator or device ID required
- Data rates of 12 Mbps (full speed)
- Common connectors for different devices
- Bi-directional data communication between device and host computer via a 4-byte header and DEVICE ID.

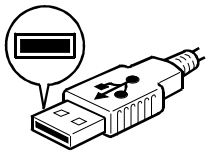
USB 2.0 is an evolution of the USB 1.1 specification. It uses the same cables, connectors, and software interfaces so the user will see no change. It provides an easy-to-use connection to a wide range of products with a maximum data rate of 480 Mbps (high speed).

Up to 127 devices can be connected and 6 cascade connections are allowed. Power is supplied from the computer and the maximum cable length is 5 m.

4.5.3 USB CONNECTORS

USB is a serial protocol and a physical link, which transmits all data on a single pair of wires. Another pair provides power to downstream peripherals. The USB standard specifies two types of connectors, type “A” connectors for upstream connection to the host system, and type “B” connectors for downstream connection to the USB device.

Type “A” connector



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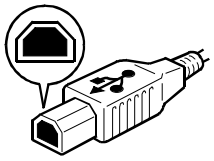
Type “B” connector

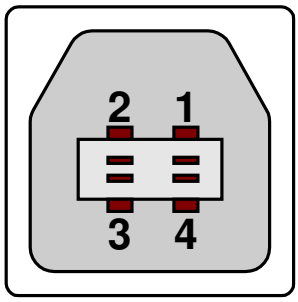


B865D907.WMF

4.5.4 PIN ASSIGNMENT

The controller has a type “B” receptacle.

Pin No.	Signal Description	Wiring Assignment
1	Power	Red
2	Data –	White
3	Data +	Green
4	Power GND	White



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4.5.5 REMARKS ABOUT USB

- The machine does not print reports specifically for USB.
- Only one host computer is allowed for the USB connection.
- After starting a job using USB, do not switch the printer off until the job has been completed. When a user cancels a print job, if data transmitted to the printer has not been printed at the time of cancellation, the job will continue to print up to the page where the print job was cancelled
- When the controller board is replaced, the host computer will recognize the machine as a different device.

Related SP Mode

"USB Settings" in the printer engine service mode. Data rates can be adjusted to full speed fixed (12 Mbps). This switch may be used for troubleshooting if there is a data transfer error using the high speed mode (480 Mbps).

Data rates can also be adjusted using the UP mode "USB Setting" in the Host Interface in the System menu. This mode can be accessed only when the "Enter", "Escape", then "Menu" keys are pressed to enter the UP mode.

4.6 NVRAM ON THE GDI CONTROLLER

- Socket type
- When the GDI controller is replaced, remove the NVRAM from the old GDI controller and install it on the new GDI controller. NVRAM keeps machine-specific data (IP address and controller setting).

SPECIFICATIONS

1. GENERAL SPECIFICATIONS

1.1 PRINTER

Printing Speed:	Maximum 20 ppm (A4/LT LEF): B269/B277 model Maximum 16 ppm (A4/LT LEF): B268/B276 model
Printer Languages:	DDST PCL6/PCL5e (option)
Resolution:	600 dpi (DDST/PCL 6/PCL5e) 300 dpi (PCL 6/PCL5e)
Resident Fonts:	PCL: 35 Intellifonts 10 True Type fonts
Host Interfaces:	Ethernet (100 Base-TX/10 Base-T) (B866only) USB2.0
Network Protocols:	TCP/IP
Memory:	32/64 MB
Supported Paper Size	See the copier service manual.

1.2 SCANNER

Standard Scanner Resolution:	Main scan/Sub scan 600 dpi
Available scanning Resolution Range:	Twain Mode: 100 ~ 600 dpi
Scanning	25 spm for TWAIN
Interface:	Ethernet (100 Base-TX/10 Base-T for TCP/IP)(B866only) USB2.0

2. SOFTWARE ACCESSORIES

2.1 PRINTER

The printer drivers and utility software are provided on one CD-ROM. An auto-run installer allows you to select which components to install.

PRINTER DRIVERS

Printer Language	Windows 98SE/ME	Windows NT4.0	Windows 2000	Macintosh
DDST	Yes	Yes	Yes	No
PCL 6 (option)	Yes	Yes	Yes	No
PCL 5e (option)	Yes	Yes	Yes	No

NOTE: 1) The printer drivers for Windows NT 4.0 are only for the Intel x86 platform. There is no Windows NT 4.0 printer driver for the PowerPC, Alpha, or MIPS platforms.

UTILITY SOFTWARE

Software	Description
Agfa Font Manager (Win 98SE/ME, NT4, 2000)	A font management utility with screen fonts for the printer.
Smart DeviceMonitor for Admin (Win 98SE/ME, NT4, 2000)	A printer management utility for network administrators. NIB setup utilities are also available.
DeskTopBinder (Win 98SE/ME, NT4, 2000)	A printer management utility for client users. Peer-to-peer printing utility and parallel/recovery printing functions are included.
DeskTopBinder Lite (Win 98SE/ME, NT4, 2000)	A utility for document management
Printer Utility for Mac	This software provides several convenient functions for printing from Macintosh clients.

2.2 SCANNER

The scanner driver and utility software are provided on one CD-ROM.

SCANNER DRIVER

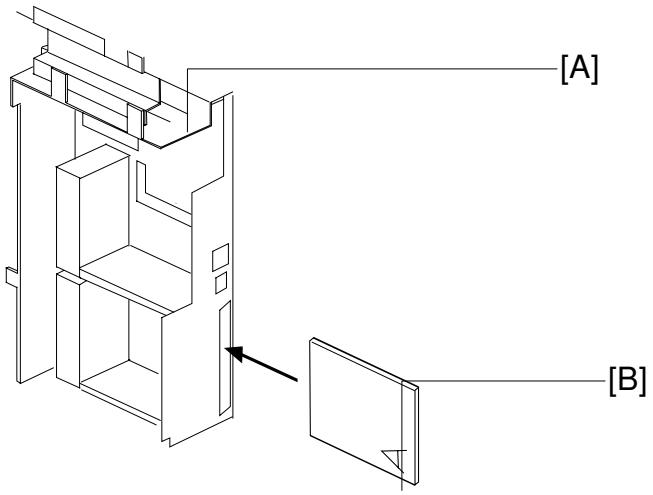
- Network Twain Driver for Win98SE/ME/NT3.51/NT4.0/2000

SCANNER UTILITIES

- Scan Router V2 Lite (Cherry-Lite) for Win98SE/ME/NT4.0/2000
- Desk Top Binder V2 Lite (Plumeria-Lite) for Win98SE/ME/NT4.0/2000

3. MACHINE CONFIGURATION

3.1 SYSTEM COMPONENTS



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Item	Machine Code		Remarks
Controller Box	B865/866	[A]	Required to install the printer/scanner unit
PCL option	-	[B]	Only installing PCL driver