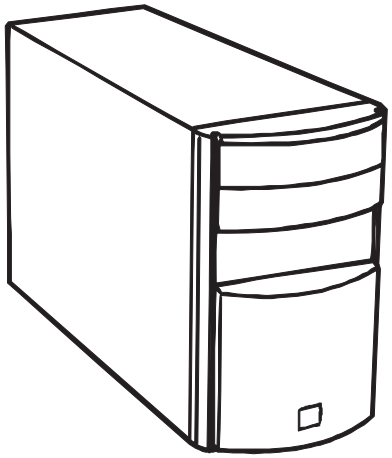
SERVICE MANUAL



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Copy Server

EPSON Color Copy Station 8200

COLOR IMAGING EPSON

EPSON®

SEOT99005

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PRECAUTIONS

Precautionary notations throughout the text are categorized relative to 1)Personal injury and 2) damage to equipment.

DANGER Signals a precaution which, if ignored, could result in serious or fatal personal injury. Great caution should be exercised in performing procedures preceded by DANGER Headings.

WARNING Signals a precaution which, if ignored, could result in damage to equipment.

The precautionary measures itemized below should always be observed when performing repair/maintenance procedures.

DANGER

1. ALWAYS DISCONNECT THE PRODUCT FROM THE POWER SOURCE AND PERIPHERAL DEVICES PERFORMING ANY MAINTENANCE OR REPAIR PROCEDURES.
2. NO WORK SHOULD BE PERFORMED ON THE UNIT BY PERSONS UNFAMILIAR WITH BASIC SAFETY MEASURES AS DICTATED FOR ALL ELECTRONICS TECHNICIANS IN THEIR LINE OF WORK.
3. WHEN PERFORMING TESTING AS DICTATED WITHIN THIS MANUAL, DO NOT CONNECT THE UNIT TO A POWER SOURCE UNTIL INSTRUCTED TO DO SO. WHEN THE POWER SUPPLY CABLE MUST BE CONNECTED, USE EXTREME CAUTION IN WORKING ON POWER SUPPLY AND OTHER ELECTRONIC COMPONENTS.

WARNING

1. REPAIRS ON EPSON PRODUCT SHOULD BE PERFORMED ONLY BY AN EPSON CERTIFIED REPAIR TECHNICIAN.
2. MAKE CERTAIN THAT THE SOURCE VOLTAGES IS THE SAME AS THE RATED VOLTAGE, LISTED ON THE SERIAL NUMBER/ RATING PLATE. IF THE EPSON PRODUCT HAS A PRIMARY AC RATING DIFFERENT FROM AVAILABLE POWER SOURCE, DO NOT CONNECT IT TO THE POWER SOURCE.
3. ALWAYS VERIFY THAT THE EPSON PRODUCT HAS BEEN DISCONNECTED FROM THE POWER SOURCE BEFORE REMOVING OR REPLACING PRINTED CIRCUIT BOARDS AND/OR INDIVIDUAL CHIPS.
4. IN ORDER TO PROTECT SENSITIVE MICROPROCESSORS AND CIRCUITRY, USE STATIC DISCHARGE EQUIPMENT, SUCH AS ANTI-STATIC WRIST STRAPS, WHEN ACCESSING INTERNAL COMPONENTS.
5. REPLACE MALFUNCTIONING COMPONENTS ONLY WITH THOSE COMPONENTS BY THE MANUFACTURE; INTRODUCTION OF SECOND-SOURCE ICs OR OTHER NONAPPROVED COMPONENTS MAY DAMAGE THE PRODUCT AND VOID ANY APPLICABLE EPSON WARRANTY.

About This Manual

This manual describes basic functions, theory of electrical and mechanical operations, maintenance and repair procedures of EPSON Color Copy Station 8200. The instructions and procedures included herein are intended for the experienced repair technicians, and attention should be given to the precautions on the preceding page.

Contents

This manual consists of six chapters and Appendix.

CHAPTER 1. PRODUCT DESCRIPTIONS
Provides a general overview and specifications of the product.

CHAPTER 2. OPERATING PRINCIPLES
Describes the theory of electrical and mechanical operations of the product.

CHAPTER 3. TROUBLESHOOTING
Provides the step-by-step procedures for the troubleshooting.

CHAPTER 4. DISASSEMBLY AND ASSEMBLY
Describes the step-by-step procedures for disassembling and assembling the product.

CHAPTER 5. ADJUSTMENTS
Provides Epson-approved methods for adjustment.

CHAPTER 6. MAINTENANCE
Provides preventive maintenance procedures and the lists of Epson-approved lubricants and adhesives required for servicing the product.

APPENDIX Provides the following additional information for reference:

- Connector pin assignments
- Electric circuit boards components layout
- Exploded diagram
- Electrical circuit boards schematics

Symbols Used in This Manual

Various symbols are used throughout this manual either to provide additional information on a specific topic or to warn of possible danger present during a procedure or an action. Be aware of all symbols when they are used, and always read WARNING, CAUTION or NOTE messages.

Indicates an operating or maintenance procedure, practice or condition that, if not strictly observed, could result in injury or loss of life.

Indicates an operating or maintenance procedure, practice, or condition that, if not strictly observed, could result in damage to, or destruction of, equipment.

May indicate an operating or maintenance procedure, practice or condition that is necessary to accomplish a task efficiently. It may also provide additional information that is related to a specific subject, or comment on the results achieved through a previous action.

Revision Status

Revision	Issued Date	Description
Rev. A	August 4, 1999	First Release

Product Description

Operating Principles

Trouble Shooting

Disassembly and Assembly

Adjustment

Maintenance

Appendix

CHAPTER

1

PRODUCT DESCRIPTION

1.1 Outline

The Color Copy Station 8200 can be connected to EPSON scanner and EPSON color laser printer. It works not only as a stand-alone copier also as network scanner adapter. Further more, it offers some web-based functions to confirm the status of the system, to set the initial parameters, and to update the system firmware.

1.1.1 Features

- Target Scanner and Printer
  - EPSON Color Laser Page Printer: EPL-C8200
  - EPSON A3-size Scanner: GT-10000
- Controller
  - PC/AT architecture
  - CPU: K6-2 300MHz
  - RAM-DIMM 32MB, EEPROM 512B, Flash ROM 12MB
  - IEEE1284 ECP Bi-directional interface for printer
  - Fast SCSI interface for scanner
  - Ethernet 100Base-TX / 10-Base-T interface
  - Special interface for control panel
  - High speed Text-enhancement processing ASIC
  - High speed Moire reduction processing ASIC
  - High speed Edge Sharpening processing ASIC
  - High speed color matching ASIC
- Software
  - Copy mode matching with various kinds of documents
    PHOTO / TEXT / MAGAZINE / MAP / FINE
  - Zoom 25% to 400% in increments of 1%
  - Image Quality Control
    Contrast / Brightness / Sharpness / RGB Balance / Croma / Hue
  - 8 Job memories to save user-defined copy parameters
  - Standard copy protection for bills
  - Network Scanning via network TWAIN driver
  - Useful web-based utilities
    WebStatus / WebAdmin / WebUpgrade
  - Flash-ROM update by Board to Board copy.

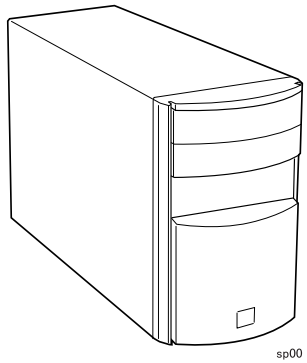


Figure 1-1. Exterior View of CCS 8200

1.1.2 System Diagram

Figure 1-2 shows the color copy system diagram. The 100 base-TX environment is recommended for using Network TWAIN on the Client PC, because the very large amount of data flows on the network and the traffic increases.

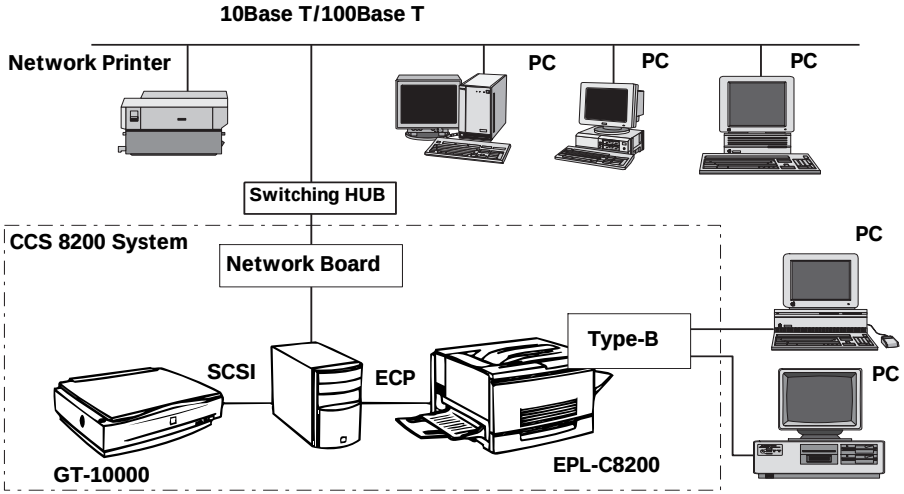


Figure 1-2. System Diagram

1.1.3 About EPL-C8200

Though EPL-C8200 has 64Mbyte memories as a default, the minimum size of memories required for Color Copy System is 160MB. In the case that EPL-C8200 has only the default memories, EPL -C8200 tries to compress the image data to save memories, and coping speed is getting slow as a result. Furthermore, sometimes the compressed image data is so large that the image can't be printed out to EPL-C8200.
CCS 8200 uses ECP mode interface with EPL-C8200. If EPL-C8200 isn't set the ECP mode, CCS 8200 sends the ECP set command to set this mode.

1.2 Basic Specifications

1.2.1 Local Copy Speed

THROUGH PUT

Table 1-1. Copy Speed (local copy)

Copy Mode	Color		Black and White	
	A4/300dpi	A4/600dp	A4/300dpi	A4/600dpi
First Copy	54sec	104sec	26sec	43sec
Multiple Copy	4ppm	4ppm	16ppm	16ppm

Multiple copy: multiple copies on scanner flatbed

Face-up: paper exit

1.2.2 Electric Specifications

Rated Voltage:	AC100-120V / AC 220-240V
Input Voltage:	AC100-120V 10% ± / AC220-240V ± 10%
Rated Current:	1A (Input AC100-120V) / 0.4A (Input AC220-240V)
Rated Frequency Range:	50/60Hz
Input Frequency Range:	49.5-60.5Hz
Power Consumption:	Less than 80W
Insulation resistance:	10Mohms at 500VDC (between AC line and chassis)
Dielectic strength:	AC3.0KV, 1min
Leakage Current:	Less than 3.5mA

1.2.3 Safety, EMC

Low Voltage Directive 73/23/EEC	EN60950
EMC Directive 89/336/EEC	EN55022 Class B
	EN6100-3-2
	EN61000-3-3
	EN50082-1
	IEC801-2
	IEC801-3
	IEC801-4
	AS/NZS3458 Class B
	CNS13438 Class B
	Korean EMC

1.2.4 Mechanical Specifications

Physical dimensions	200x460x355mm (WxDxH)
Weight	Approx. 10kg
The way to connect Panel	connected by shield cable (length 2.0m)

1.2.5 Resistance to Electric Noise

Static electricity	10KV/ 150pF, 150 Ohms

1.2.6 Environment Conditions

- ☐ Operating
  - ■ Temperature
    10 ~ 35 °C
  - ■ Humidity
    20 ~ 80%, no condensation
  - ■ Vibration
    0.2G
- ☐ Storage
  - ■ Temperature
    - 20 ~ 60 °C

- Humidity
  10 ~ 90%, no condensation
- Vibration
  1.0G

1.2.7 Reliability

- MTBF
  10000 hours (not including the EL intensity loss)
- Life
  Approx. 5 years
  (It means the life of battery on Mother Board)

1.2.8 Control Panel Unit

LCD and Touch key with white EL-back-light

Display pixel	320 x 240
Display Area	76.785 x 57.585 (mm)
Pixel pitch	0.24 x 0.24 (mm)
Display pixel pitch	0.225 x 0.225 (mm)
Touch Key	8 x 6 matrix
Special Key	Start, Stop, All Clear, 10-key (set the number)
LED lamp	Power, Ready, Error
LCD contrast adjustment	Volume

1.2.9 Interfaces

1.2.9.1 SCSI

- Connector
  D-Sub 50 pin half pitch (based on ANSI X3. 131-1986)
- Signals

Table 1-2. Connector Pin Alignment

Pin number	Signal name	Pin Number	Signal name
1	GND	26	DB0
2	GND	27	DB1
3	GND	28	DB2
4	GND	29	DB3
5	GND	30	DB4
6	GND	31	DB5
7	GND	32	DB6
8	GND	33	DB7
9	GND	34	DBP
10	GND	35	GND
11	GND	36	GND
12	GND	37	reserve
13	GND	38	TERM POWER
14	GND	39	reserve
15	GND	40	GND
16	GND	41	ATN
17	GND	42	GND
18	GND	43	BSY
19	GND	44	ACK

Table 1-2. Connector Pin Alignment

Pin number	Signal name	Pin Number	Signal name
20	GND	45	RST
21	GND	46	MSG
22	GND	47	SEL
23	GND	48	C/D
24	GND	49	REQ
25	GND	50	I/O

☐ Cable
GTATSCCB3 (recommended)

1.2.9.2 Printer Interface

☐ Connector
D-Sub 25 pin (equivalent to DDK 17LE13250-27)

☐ Signals

Table 1-3. Connector Pin Alignment

Pin number	Signal name	Pin Number	Signal name
1	/STROBE	14	/SUTO FEED
2	DATA0	15	/FAULT
3	DATA1	16	/INIT
4	DATA2	17	/SELECT IN
5	DATA3	18	GND
6	DATA4	19	GND
7	DATA5	20	GND
8	DATA6	21	GND
9	DATA7	22	GND
10	/ACK	23	GND

Table 1-3. Connector Pin Alignment

Pin number	Signal name	Pin Number	Signal name
11	BUSY	24	GND
12	ERROR	25	GND
13	SELECT	-	-

☐ Cable
PRCB4N (recommended)

1.2.9.3 Control Panel Interface

☐ Connector
AMP half-pitch 50pin

☐ Signals

Table 1-4. Connector Pin Alignment

Pin number	Signal name	Pin Number	Signal name
1	GND	26	VDD(+12V)
2	GND	27	VDD(+12V)
3	PAI7 (key-matrix input)	28	VDD(+12V)
4	PAI6 (key-matrix input)	29	GND
5	PAI5 (key-matrix input)	30	GND
6	PAI4 (key-matrix input)	31	DIN (LCD VSYNC)
7	PAI3 (key-matrix input)	32	LP (LCD HSYNC)
8	PAI2 (key-matrix input)	33	XSCL (LCD clock)
9	PAI1 (key-matrix input)	34	DOFF (LCD DIsplay ON/OFF)
10	PAI0 (key-matrix input)	35	ELON (EL ON/OFF)
11	GND	36	GND
12	GND	37	LD0 (LCD Display data)
13	PAO0 (key-matrix output)	38	LD1 (LCD Display data)

Table 1-4. Connector Pin Alignment

Pin number	Signal name	Pin Number	Signal name
14	PAO1 (key-matrix output)	39	LD2 (LCD Display data)
15	PAO2 (key-matrix output)	40	LD3 (LCD Display data)
16	PAO3 (key-matrix output)	41	LD4 (LCD Display data)
17	PAO4 (key-matrix output)	42	LD5 (LCD Display data)
18	PAO5 (key-matrix output)	43	LD6 (LCD Display data)
19	PAO6 (key-matrix output)	44	LD7 (LCD Display data)
20	PAO7 (key-matrix output)	45	GND
21	GND	46	GND
22	GND	47	ERROR (Error LED ON/OFF)
23	VCC (+5V)	48	READY (Ready LED ON/OFF)
24	VCC (+5V)	49	GND
25	VCC (+5V)	50	GND

☐ Cable
Parts Number 202637400 (recommended)

1.3 Functions

1.3.1 Functions Overview

Table 1-5. The Main Functions

No.	Function Name	Description	Target User
1	Local Copy	Copy function using directly connected scanner and printer.	End user
2	Network TWAIN	Scanning function using network TWAIN driver via network.	End User
3	WebStatus	Web-based utility to get the status of scanner, printer, and CCS 8200.	End User
4	WebAdmin	Web-based utility to set the initial parameters to CCS 8200 for administrator.	End User or Field supporter
5	WebUpgrade(*1)	Web-based utility to upgrade CCS 8200 firmware via network.	End User
6	User Configuration	Initial settings for network, Language selection of message to display on the control panel, Retrieving factory settings.	End User
7	Functions for Maintenance	Checking hardware board by board to find hardware error in the manufacturing stage or in the fields.	Field supporter or Manufacturer
8	Temporary IP setting	Starting with the fixed temporary IP address in the manufacturing stage or in the fields.	Field supporter or Manufacturer
9	Firmware Update by Board to Board copy	Copy from Master board to Target board for CCS 8200 firmware version-up.	Field supporter

(*1) This function is not disclosed for end user at first, and not described in the CCS 8200 manual. When the update is required after shipping, firmware ROM file and the manual, in which the operation is described, will be released.

AVAILABLE COMBINATION OF EACH FUNCTION

Table 1-6. Hardware resources required for each function

Hardware Resource	Local Copy	Network TWAIN	Web Admin	Web Status
Printer	○	x	x	x
Scanner	○	○	x	x

○: Required
x: Not required

Note: Even if printer cannot be used, the function using scanner can be kept alive.

Table 1-7. CONCURRENT USE

1st \ 2nd	Local Copy(*1)	Network TWAIN	Web Admin (*2)	Web Status
Local Copy	x	x	x	○
Network TWAIN	x	x	x	○
Web Admin	○	○	x(*3)	○
Web Status	○	○	○	○

○: possible
x: impossible

(*1) Paper Money detection is done only for Local Copy.
(*2) Web Admin can not be used in the middle that CCS 8200 works for other function.

(*3) When more than one Web Admin started, only the first Web Admin can work and the time-out error occurs for the others.

Table 1-8. Scanner and Printer Option

Option \ Function	Local Copy(*1)	Network TWAIN	Web Admin	Web Status
Printer				
Type-B	x	x	x	x
Large Capacity cassette	○	x	x	x
A3W cassette	○	x	x	x
Scanner				
ADF Single Side	○	○	x	x
ADF Double Side	x	○	x	x

○: possible
x: impossible

1.3.2 Local Copy

OPERATIONAL PRINCIPLE

Local copy function is responsible for the image data scanned by GT-1000 to be processed by CCS 8200 and sent to the printer. Before starting copy, user can set some parameters, number of copy, brightness, contrast and so on, on the control panel.

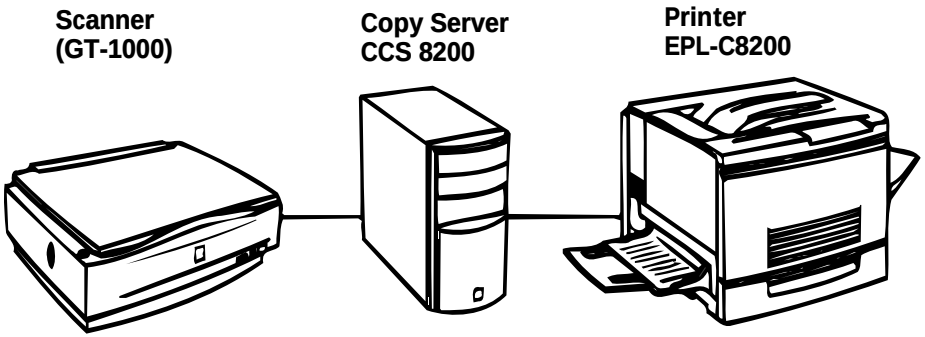


Figure 1-3. Local Copy Data Flow

START COPY

Press the "Start" key on the control panel to start local copy job.

CANCEL COPY

Press the "STOP" key on the control panel to cancel local copy job.

PAPER SIZE

CCS 8200 supports the following paper size.

A3W, Ledger, A3, B4, Legal, Letter (portrait), Letter (landscape), A4 (portrait), A4 (landscape), B5 (portrait), B5 (landscape), Executive (portrait), Executive (landscape)

The printing maximum size shown in Figure 1-4 is exactly the same as the size EPL-C8200 guarantees for printing

The supported paper size doesn't depend on the language, which is set in the user configuration mode, but depends only on the paper size in the printer cassette.

Table 1-9. Paper Size and Effective Printing Area (mm)

Paper Type	Size (HxV)	Printing Area (HxV)					
		a1	b	a2	c1	d	c2
A3W	328x453	16.5	297	14.5	5	431	17
A3	297x420	5	287	5	5	410	5
B4	257x364	5	247	5	5	354	5
A4 (Landscape)	297x210	5	287	5	5	200	5
A4 (Portrait)	210x297	5	200	5	5	287	5
B5 (Landscape)	257x182	5	247	5	5	172	5
B5 (Portrait)	182x257	5	172	5	5	247	5
Letter (Landscape)	279.4x215.9	5	269	5	5	205	5
Letter (Portrait)	215.9x279.4	5	205	5	5	269	5
Legal	215.9x355.6	5	205	5	5	345	5
Executive (Portrait)	184.2x266.7	5	173	5	5	256	5
Ledger	279.4x432.0	5	269	5	5	421	5

Note: B4 and B5 are Japanese original paper size

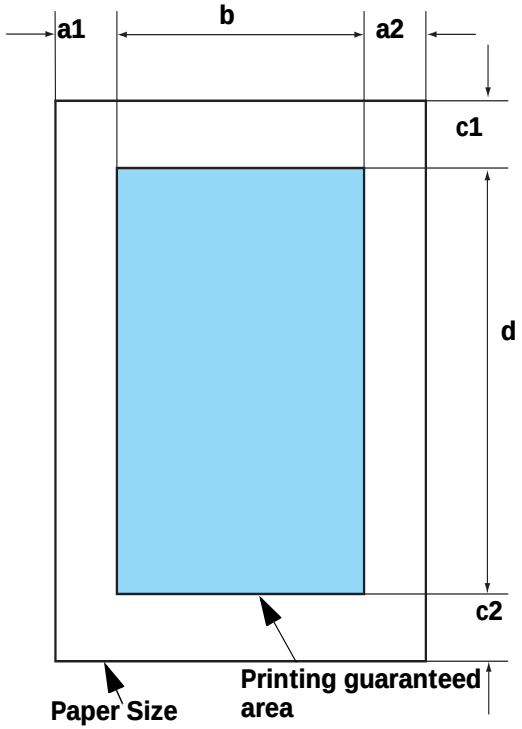


Figure 1-4. Effective Printing Area

PAPER BIN

The user can select either Face-Up or Face-Down as a paper bin on the local copy menu. CCS 8200 supports the paper supply from printer's MP Tray, C1, C2, C3, and C4.

ZOOM

Table 1-10. User-defined and Pre-set Zoom

Zoom	User-Setting	Ratio (%)	Remarks
User-defined Zoom	-	25-400	in increments of 1%
Pre-set Zoom	Ledger→Letter	64	
	A3→A4/B4→B5	70	
	11x15→Letter	78	
	Legal→Letter	78	
	B4→A4	81	
	A3→B4/A4→B5	86	
	100%	100	
	B4→A3/B5→A4	115	
	Legal→Letter	121	
	A4→B4	122	
	Letter→Ledger	129	
	A4→A3/B5→B4	141	
	5.5x8.5→Legal	154	

The scanning area is calculated from output paper size according to the zoom ratio. When scanning area is larger than maximum scan area of the scanner, CCS 8200 scans data to maximum scan area, and printed image will be located at the center of the paper.

For all pre-set zoom, user can select just-fitting copy option by touching the just-fitting button on the control panel. When the just-fitting is valid, whole area of the document (including non-printed area) is scanned and the area is printed so that it is put in the print guaranteed area.

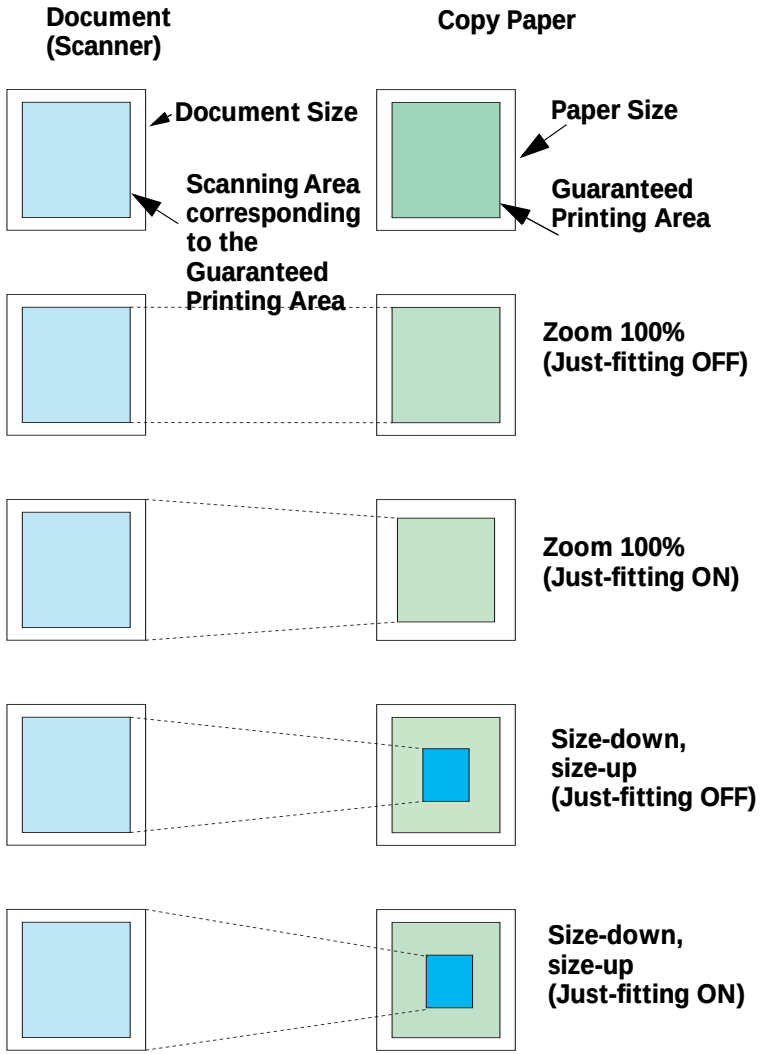


Figure 1-5. Magnification

MULTIPLE COPIES

- Setting Range: 1-99 (default: 1)
  Scanning is done only one time.
  The multiple copy function is accomplished by printer's copy function.

OPTION

If ADF (Auto Document Feeder) is set on the scanner, the CCS 8200 enters to "ADF COPY" mode internally and automatically and starts copying until the paper set on ADF comes to end.

MARGIN FOR BINDING

User can set the top, left, and right margin to keep the white area for binding. This copy option is valid for all zoom ratio including pre-set and user defined zoom.

SPLIT COPY

This function enables to copy individual pages for opened-booklet located on the flat-bed. There are limitations as follows such as paper size must be one of A4, B5, Letter, and Executive. The combinations of copy parameters other than the following are not allowed and not supported by ADF either.

Table 1-11. Split Copy

Paper Size	Scanning Area	Zoom Setting	Document Location	Copy Output
A4 / Letter	A3(A4x2)	100%	(1)	A4x2 pages
	Letter	100%	(3)	Letter x 2 pages
B5 / Executive	B4 (B5x2)	100%	(2)	B5 x 2 pages
	Executive	100%	(4)	Executive x 2 pages

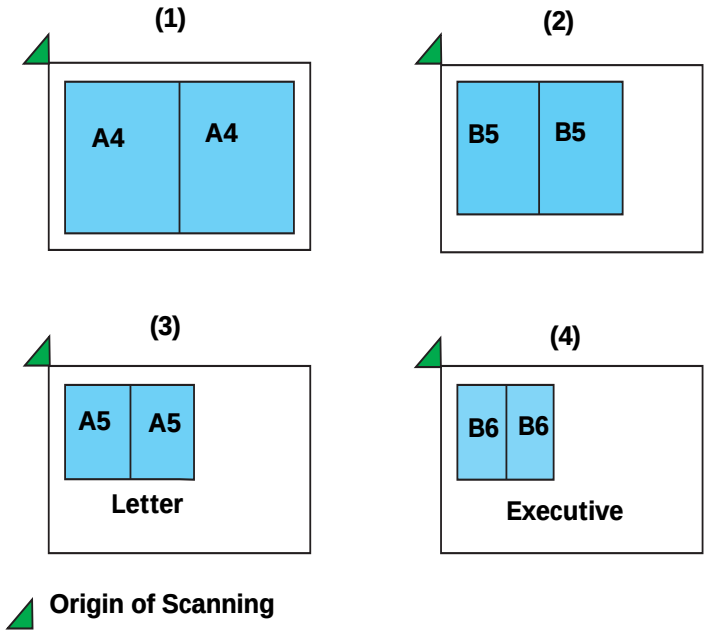


Figure 1-6. Paper Setting (Split Copy)

INTERNAL PROCESSING

Table 1-12. Internal Processing

CCS 8200								Printer		
Color/ B/W	Copy Mode	Media	Scan Resolution	Print Resolution	TET (H/W)[a]	MOIRE (H/W)[b]	Color Matching Table	Mode	RIT	Screen (TBD)
Color	Photo	Fine Paper[c]	300	300	-	-	Photo	CPGI	-	
		Thick Paper	300	300	-	-	Photo	CPGI	-	
		Transparency	300	300	-	-	Photo	CPGI	-	
	Text	Fine Paper	300	300	○	-	Text	CPGI	○	
		Thick Paper	300	300	○	-	Text	CPGI	○	
		Transparency	300	300	○	-	Text	CPGI	○	
	Print	Fine Paper	300	300	○	○	Print	CPGI	-	
		Thick Paper	300	300	○	○	Print	CPGI	-	
		Transparency	300	300	○	○	Print	CPGI	-	
	Map	Fine Paper	300	300	○	-	Map	CPGI	○	
		Thick Paper	300	300	○	-	Map	CPGI	○	
		Transparency	300	300	○	-	Map	CPGI	○	
	Fine	Fine Paper	600	600	-	-	Photo	CPGI	○	
		Thick Paper	600	600	-	-	Photo	CPGI	○	
		Transparency	600	600	-	-	Photo	CPGI	○	

Table 1-12. Internal Processing

CCS 8200								Printer		
Color/ B/W	Copy Mode	Media	Scan Resolution	Print Resolution	TET (H/W)[a]	MOIRE (H/W)[b]	Color Matching Table	Mode	RIT	Screen (TBD)
B/W	Photo	Fine Paper	300	300	-	-	Photo	CPGI	-	
		Thick Paper	300	300	-	-	Photo	CPGI	-	
		Transparency	300	300	-	-	Photo	CPGI	-	
	Text	Fine Paper	300	300	○	-	Text	CPGI	○	
		Thick Paper	300	300	○	-	Text	CPGI	○	
		Transparency	300	300	○	-	Text	CPGI	○	
	Print	Fine Paper	300	300	○	○	Print	CPGI	-	
		Thick Paper	300	300	○	○	Print	CPGI	-	
		Transparency	300	300	○	○	Print	CPGI	-	
	Map	Fine Paper	300	300	○	-	Map	CPGI	○	
		Thick Paper	300	300	○	-	Map	CPGI	○	
		Transparency	300	300	○	-	Map	CPGI	○	
	Fine	Fine Paper	600	600	-	-	Photo	CPGI	○	
		Thick Paper	600	600	-	-	Photo	CPGI	○	
		Transparency	600	600	-	-	Photo	CPGI	○	

a.Fine Paper: Special Paper for Laser Printer
b.TET(H/W):TextEnhancement processing by ASIC
c.MOIRE (H/W): Moire Reduction processing by ASIC
Note: Scanning Condition from scanner is gamma =1, 24bit/pixel (color, RGBx8bit), 8bit/Pixel.

COPY ADJUSTMENT MODE

Table 1-13. Copy Adjustment Mode

Color / B/W	Brightness	Contrast	RGB Adjustment	Saturation	Hue
Color	±3 step	±3 step	±3 step	±3 step	±3 step
B/W	±3 step	±3 step	N/A	N/A	N/A

Default value of each parameter is zero. (Center Value)

JOB MEMORY

CCS 8200 has 8 job memories to save some copy parameters. Parameters can be saved are as follows.

Table 1-14. Job Memory

Item	Value
Number of Copy	1-99 pages
Zoom Ratio	25-400%
Paper Tray	MP Tray, Cassette 1-4
Media	Plain Paper / Thick Paper / Transparency
Copy Mode	Color / Black & White
Brightness	-3 ~ +3
Contrast	-3 ~ +3
R Balance	-3 ~ +3
G Balance	-3 ~ +3
B Balance	-3 ~ +3
Croma	-3 ~ +3
Hue	G+3 ~ R+3
Document Type	TEXT / PHOTO / MAGAZINE / MAP / FINE

Table 1-14. Job Memory

Item	Value
Output Bin	Face-up / Face-down
Split Copy	ON / OFF
Margin for Binding	Normal / Top / Left / Right

STATUS

CCS 8200 can display the status of itself, scanner, and printer on the control panel. Furthermore, user can print the status sheet by pressing the status button on the control panel. The items which can be displayed and printed are as follows respectively.

Table 1-15. Status

Items		Status display	Status print
CCS 8200	Language	NA	A
	Model Name	A	A
	Current Status	A	NA
	IP address	A	A
	Gateway address	NA	A
	Subnet Mask	NA	A
	Mac address	NA	A
	Contents of job memory	NA	A

Table 1-15. Status

Items		Status display	Status print
Printer	Model Name	A	A
	Current status	A	NA
	Tray 1 paper size	A	A
	Tray 2 paper size	A	A
	Tray 3 paper size	A	A
	Tray 4 paper size	A	A
	Toner Balance	A	A
	Oil Roll Balance	A	A
	Status of Waste Toner Box	A	A
	Status of Photoconductor	A	A
	Memory Capacity	A	A
	Output bin	A	A
Scanner	Model Name	A	A

A: available, NA: not available

PRINTER CONTROL

The maximum memories which can be allotted to the printer is 256MB and it is not enough to print some combinations of paper size and copy mode. As shown below, CCS 8200 sends image data to the printer in two different ways; non-compressed and compressed data, according to the paper size and copy mode.

Table 1-16. Printer Control

Copy Mode			Amount of Data* [MB]	Printer Memory [MB]		
Paper Size	Color/ B/W	Resolution		192	224	256
A3W	B&W	300dpi	18	NC	NC	NC
		600dpi	71	NC	NC	NC
	Color	300dpi	54	NC	NC	NC
		600dpi	214	C	C	C
A3	B&W	300dpi	16	NC	NC	NC
		600dpi	66	NC	NC	NC
	Color	300dpi	49	NC	NC	NC
		600dpi	197	C	C	C
A4	B&W	300dpi	8	NC	NC	NC
		600dpi	32	NC	NC	NC
	Color	300dpi	24	NC	NC	NC
		600dpi	96	NC	NC	NC
Letter	B&W	300dpi	8	NC	NC	NC
		600dpi	31	NC	NC	NC
	Color	300dpi	23	NC	NC	NC
		600dpi	93	NC	NC	NC

Table 1-16. Printer Control

Copy Mode			Amount of Data* [MB]	Printer Memory [MB]		
Paper Size	Color/ B/W	Resolution		192	224	256
Legal	B&W	300dpi	10	NC	NC	NC
		600dpi	40	NC	NC	NC
	Color	300dpi	30	NC	NC	NC
		600dpi	119	NC	NC	NC
Legal	B&W	300dpi	16	NC	NC	NC
		600dpi	63	NC	NC	NC
	Color	300dpi	48	NC	NC	NC
		600dpi	190	C	C	C
Legal	B&W	300dpi	6	NC	NC	NC
		600dpi	25	NC	NC	NC
	Color	300dpi	19	NC	NC	NC
		600dpi	75	NC	NC	NC

*: This rough value contains only image data, not control data.
192MB Printer Memory: Minimum memory size to use CCS 8200.

1.3.3 Network TWAIN

Network TWAIN scans image data from scanner connected with CCS 8200 via network. The user interface on network TWAIN driver is just the same as the one on the local TWAIN, and the only difference between local and network TWAIN driver is device interface, namely SCSI for local and TCP/IP for network.

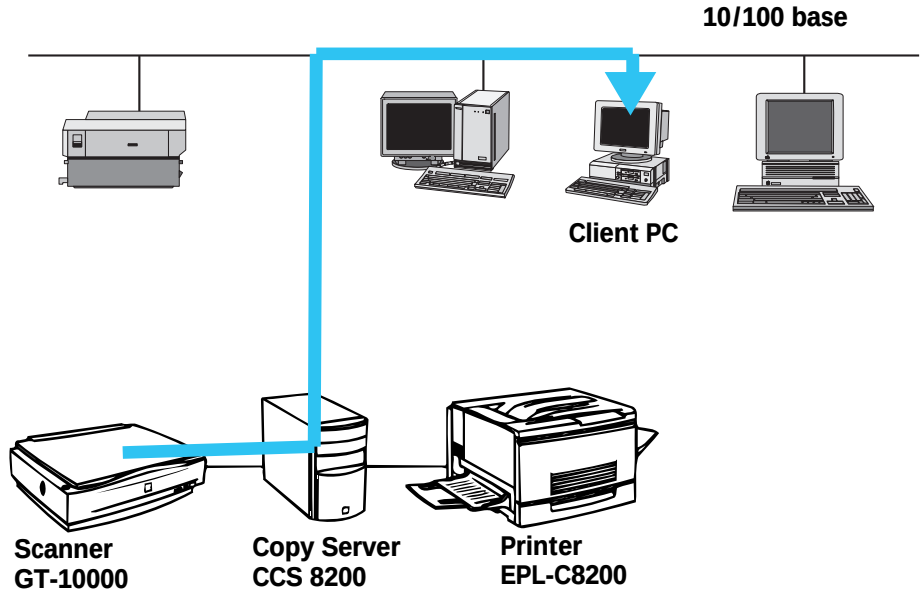


Figure 1-7. Network TWAIN Data Flow

START COPY

Two ways to start scanning:
1) Press the scanning button on the TWAIN at the client PC.
2) Press START key on the control panel of CCS 8200.
In the case of (1), the scanning is processed using the scanning parameters set on the TWAIN driver. Therefore the user must open TWAIN and set the parameters on the client before scanning. In the case of (2), on the other hand, the scanning parameters must be set on the control panel. In this copy system, scan-navi button located on the scanner is not available.

PROTOCOL

EPSON original protocol on TCP/IP (Peer to Peer connection)

CLIENT OS

Table 1-17. Client OS

Software Name	EPSON TWAIN Pro Network	
Client OS	PC/AT Compatible machine	Windows95, Widows98 WindowsNT3.51 Workstation WindowsNT4.0 Workstation

SCANNER OPTION

ADF: Available

TPU: Not Available (Scanner does not support TPU.)

TWAIN FUNCTIONS

Other functions including scanning mode, scanning size are just the same as local TWAIN functions.

TIME OUT

After trying to connect, if no replay comes even after the fixed time passed, the TWAIN driver disconnects the communication with CS-8200. This fixed value is 30 seconds as a default in the initial setting. But the user can change it on the TWAIN environment setting.

LOCALIZATION

TWAIN does not detect the language used on OS and is localized for each language as individual release.

1.3.4 Web Status

OPERATIONAL PRINCIPLES

Web Status functions is the one of three web-based utilities. Web Status module is JAVA applet written by JAVA language and works on the web master. When the user starts WebStatus, browser accesses to CCS 8200, loads WebStatus applet, and executes it. By using this function, the user can get the current status about scanner, printer, and CCS 8200.

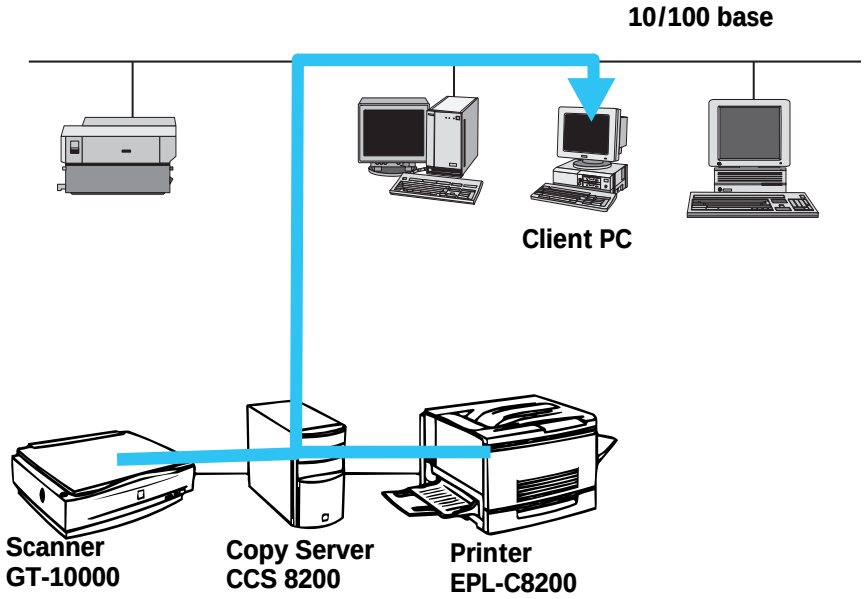


Figure 1-8. Web Status Data Flow

PROTOCOL

HTTP on TCP/IP

CLIENT OS

Table 1-18. Client OS

Software Name	EPSON TWAIN Pro Network	
Client OS	PC/AT Compatible machine	Windows95, Widows98 WindowsNT3.51 Workstation WindowsNT4.0 Workstation

URL

http://<host name>/WebStatus.html
host name: Name of CCS 8200

LOCALIZATION

WebAdmin detects the language used on OS, and uses the language if it is one of the following: German, French, Spanish, Italian, and Portuguese. For the other languages, WebAdmin uses English.

Table 1-19. Localization

Client PC OS Localization	WebAdmin Localization
German	German
French	French
Spanish	Spanish
Italian	Italian
Portuguese	Portuguese
All other local areas	English

STATUS ITEMS

Table 1-20. Status Items

Items		Remarks
CCS 8200	Registered Name	Name registered by WebAdmin
	Division	Division registered by WebAdmin
	IP address	
	Current Status	
Printer	Model Name	
	Current Status	
	Font Card Information	Slot A, Slot B
	Interface Card Information	Slot A, Slot B
	MP Tray Paper Size, Balance	
	C1 Cassette Paper Size, Balance	
	C2 Cassette Paper Size, Balance	
	C3 Cassette Paper Size, Balance	
	C4 Cassette Paper Size, Balance	
	Photo Conductor Life	
	Oil Roll Balance	
	Waste Toner Box status	
Scanner	Model Name	
	Current Status	
	ADF	
	Existence of document on ADF	

STATUS UPDATE TIMING

The status displayed on Web Status is updated at the timing below.
(Web Status doesn't get the status from CCS 8200 periodically by itself)

- When Web Status starts
- When user clicks the icon of registered CCS 8200 on the WebStatus
- When user press the re-load button on the web browser

1.3.5 Web Admin

OPERATIONAL PRINCIPLES

Web Admin function is the one of three web-based utilities for administrator. WebAdmin module is JAVA applet written by JAVA language as is the case of WebStatus. By using this function, the administrator can set some parameters to CCS 8200.

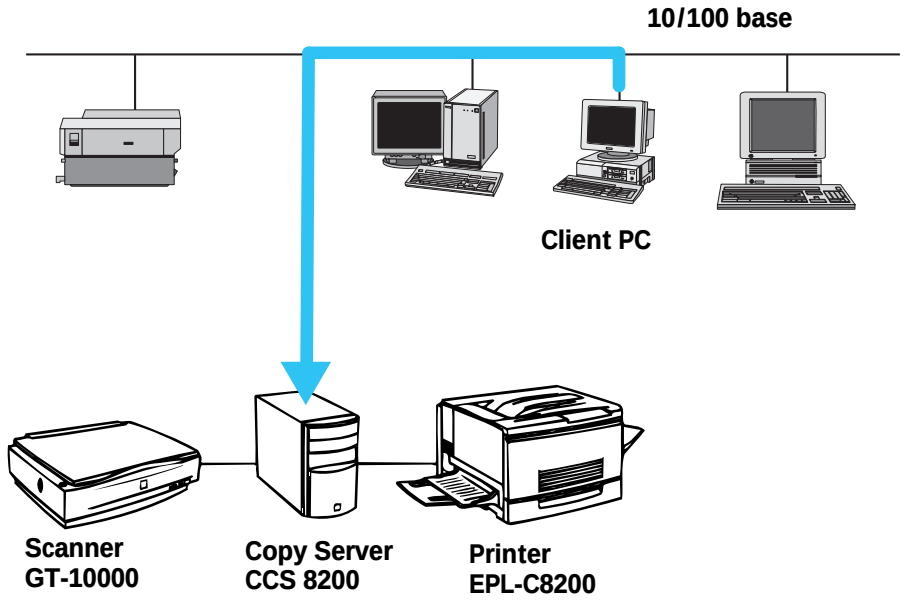


Figure 1-9. Web Admin Data Flow

PROTOCOL

HTTP on TCP/IP

CLIENT OS

Table 1-21. Client OS

Software Name	EPSON TWAIN Pro Network	
Client OS	PC/AT Compatible machine	Windows95, Widows98 WindowsNT4.0 Workstation

URL

http://<host name>/WebStatus.html
host name: Name of CCS 8200

CERTIFICATION

Web Admin is protected by certification mechanism.
The user name and password is fixed as follows as a default.

User Name: Administrator
Default Password: Administrator

LOCALIZATION

Web Admin detects the language used on OS, and uses it for German, French, Spanish, Italian, and Portuguese. For the other languages, WebAdmin uses English.

Table 1-22. Localization

Client PC OS Localization	WebAdmin Localization
German	German
French	French
Spanish	Spanish
Italian	Italian
Portuguese	Portuguese
All other local areas	English

SETTING ITEMS

Table 1-23. Setting Items

Items		Remarks
Main Unit	Name of CCS 8200	possible (necessary)
	Division	possible
	Model Name	impossible
	Memory Capacity of CCS 8200	impossible (32MB fixed)
	Administrator Name	possible
	Administrator Login Name	possible (necessary)
	Administrator Password	possible (necessary)
	Administrator E-mail Address	possible
	Administrator Telephone Number	possible

Table 1-23. Setting Items

Items		Remarks
TCP/IP	IP Address	possible (necessary)
	Subnet Mask	possible (necessary)
	Mac Address	impossible
	Gateway Address	possible
Registration of Machine[a]	Name of Machine	possible (necessary)
	Division	possible
	IP Address	possible (necessary)
	Administrator Name	possible
	Administrator E-mail Address	possible
	Administrator Telephone Number	possible
Printer Initial Settings	Output Tray	possible (Face-up/ Face-down)
	Right Margin	possible(0~15mm, in increments of 1mm)
	Left Margin	possible (0~15mm, in increments of 1mm)
	Upper Margin	possible 80~15mm, in increments of 1mm)

a.The user can confirm the status for the registered machine. The maximum number of machines which can be registered is 8.

DATA VALID TIMING

The parameters are sent to the CCS 8200 after pressing SUBMIT button on the Web Admin. After the CCS 8200 receives them and restarts by itself, those parameters are valid.

1.3.6 Web Upgrade

OPERATIONAL PRINCIPLES

Web Admin function is the one of three web-based utilities for administrator. WebAdmin module is JAVA applet written by JAVA language as well as WebStatus. By using this function, the administrator can set some parameters to CCS 8200.

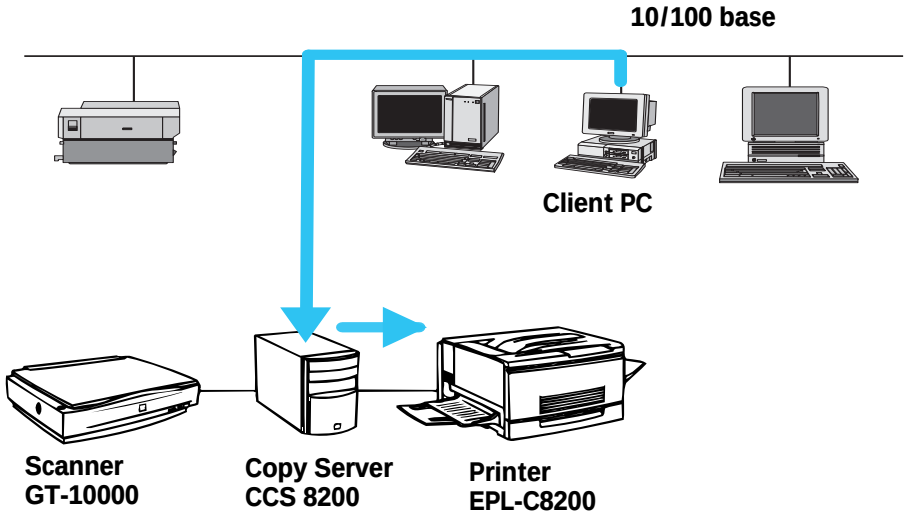


Figure 1-10. Web Admin Data Flow

PROTOCOL

HTTP on TCP/IP

CLIENT OS

Table 1-24. Client OS

Software Name	EPSON TWAIN Pro Network	
Client OS	PC/AT Compatible machine	Windows95, Widows98 WindowsNT4.0 Workstation

URL

http://<host name>/WebStatus.html
host name: Name of CCS 8200

LOCALIZATION

WebUpgrade doesn't detect the language used on OS, and its language is English only. (not localized)

1.3.7 Money Recognition

When CCS 8200 detects the feature of paper money in the scanned image in the middle of local copy job, it cancels the job. Depending on the detection timing, the copy output may be made and the printer outputs the image. But even in this case, its image will not be complete money.
The specification of this function is not open to the public.

1.3.8 User Settings

1.3.8.1 User Settings on the Operational Panel

HOW TO MOVE TO USER SETTING MODE

To enter the user setting mode, turn on the power switch while holding down "start" and "stop" key on the operational panel simultaneously.

ITEMS

In the user setting mode, user can set the following parameters.

- Language
- IP address
- Gateway address
- Subnet mask
- Network Speed (10 base / 100 base)
- Retrieve factory settings

LANGUAGE SELECTION

At the user configuration mode, user can select the language from the ones that CCS 8200 displays. At the same time, localization about operational panel, web utilities, and paper size is determined according to the selected language. The relation between the area and the localization for each function is in the table below.

Table 1-25. Language Selection

Language	Control Panel	Web Status Web Admin[a]	Web Upgrade
English (default)	English	English	English
French	French	French	English
Italy	Italy	Italy	English

Table 1-25. Language Selection

Language	Control Panel	Web Status Web Admin[a]	Web Upgrade
German	German	German	English
Spain	Spain	Spain	English
Portuguese	Portuguese	Portuguese	English

a. These three web utilities detect OS language by itself and changes its language to be used for user interface. For CCS 8200 the languages which are not shown in the upper table, English is selected.

RELATIVE FACTORY SETTING

The menu "Retrieve Factory Settings" initializes all parameters about CCS 8200.

- Language Selection
- Job Memory data
- Parameters used in web-based utilities

Factory settings are shown in the table below.

Table 1-26. Control Panel (No 1)

Parameters	Default Value
Language	English
IP address	000.000.000.000
Subnet Mask	000.000.000.000
Network Negotiation	Automatic
Image Quality Parameters	All 0 (standard settings)
Number of Copy	1
Zoom	100%

Table 1-26. Control Panel (No 1)

Parameters	Default Value
Paper Size	Paper Size of Cassette 1
Copy Mode	Color
Document Type	Magazine
Output Tray	Face Up
Split Copy	OFF
Print Margin	Standard (Top, Left, Right = 100mm)
Forced continuation(*1)	clear
Job memory	clear for all

(*1) CCS 8200 can work even if scanner and /or printer is not connected to CCS 8200. In this case, CCS 8200 doesn't ask user because CCS 8200 remembers the previous setting of the existing scanner and printer. Forced continuation indicates this mark.

Table 1-27. Operational Panel (No.2)

Parameters	Initial Value
Job memory	clear for all

Table 1-28. Web Admin

Parameters	Initial Value
Main Unit - Name	Color Copy Station
Main Unit - Division	clear
Main Unit - Model	CCS 8200
Main Unit - Administrator Name	Clear
Main Unit - Administrator Login Name	Administrator
Main Unit - Administrator Password	Administrator
Main Unit - Administrator E-mail Address	clear
Main Unit - Administrator Telephone	clear

Table 1-28. Web Admin

Parameters	Initial Value
Registered Machine	clear for all registered machines
Output Tray	Face Up
Print Margin	0mm for Upper, Left, Right margin
Server Scan Enable / Disable	disable

1.3.9 Machine Functions

1.3.9.1 H/W Check

This function is used for manufacture and field supporter.

- How to enter this mode
  To enter user setting mode, turn on the power switch while holding down “0”, “.”, and “stop” key on the operational panel simultaneously.
- Items to be checked
  - Panel unit check
  - ISA board check
  - ECP board check
  - Sum check for flash ROM
  - Print out the result of all H/W check

1.3.9.2 Fixed IP Setting

This function is used for manufacturer or field supporter. In this mode, CCS 8200 starts with fixed IP address temporarily and user can use some functions as well as in the normal mode. Once user turns CS-8200 off, the IP address is cleared.

- How to enter this mode
  To move to user setting mode, turn on the power switch with pressing “1”, “2”, and “3” key on the control panel simultaneously.

- Available functions
  - Local Copy
  - Network TWAIN
  - WebStatus
    (WebAdmin and WebUpgrade can not be used in this mode.)

1.3.9.3 Firmware Update by Board to Board Copy

CCS 8200 supports two ways to upgrade the firmware, one is by WebUpgrade, and the other is by Board to Board copy. The board to board copy can execute the copy from master to target board even if target is just brand-new board, but WebUpgrade supports the previous version of firmware is written and runs in the CCS 8200. Please refer to Chapter 4 for details.

UPGRADE SEQUENCE

1. Open the case of CCS 8200, and insert two ISA boards setting the MASTER mode and the Target mode. MASTER or TARGET is set by jumper on the ISA Board as shown below.

Table 1-29. Jumper set on ISA BOARD

Jumper No.	JP20	JP30	JP31	JP32
Master Mode	1-2	1-2	2-3	1-2
Target Mode	1-2	1-2	1-2	2-3

2. Turn on the power switch of CCS 8200.

3. The LED lamp on the Control Panel turns on according to the sequence below.

Table 1-30. Sequence turn on the LED

LED	"Error" LED (Red)	"Ready" LED (Green)	"Power" LED (Green)	meaning
Power ON	●	●	○	Power ON
	●	○	○	Erasing the old firmware
	○	○	○	Reading from MASTER, and writing to TARGET
	●	◎	○	Finished successfully
Time	◎	●	○	Finished by failure

After the data in the flash ROM area is rewritten by executing WebUpgrade, Board to Board, or Retrieve factor settings, the state in the ROM is changed as follows.

Table 1-31. ROM Area after rewritten

Control / ROM Area (*1)	Web Upgrade	Board to Board Copy	Retrieve Factory Settings
Program Area	Overwrite	Overwrite	Keep Previous State
Control Panel No. 1	Keep previous state	Overwrite	Overwrite
Control Panel No. 2	Keep previous state	Keep previous state	Overwrite
Web Admin	Keep previous state	Overwrite	Overwrite

(*1) Refer "User Settings" on page 25

1.4 Appearance

1.4.1 Main Unit

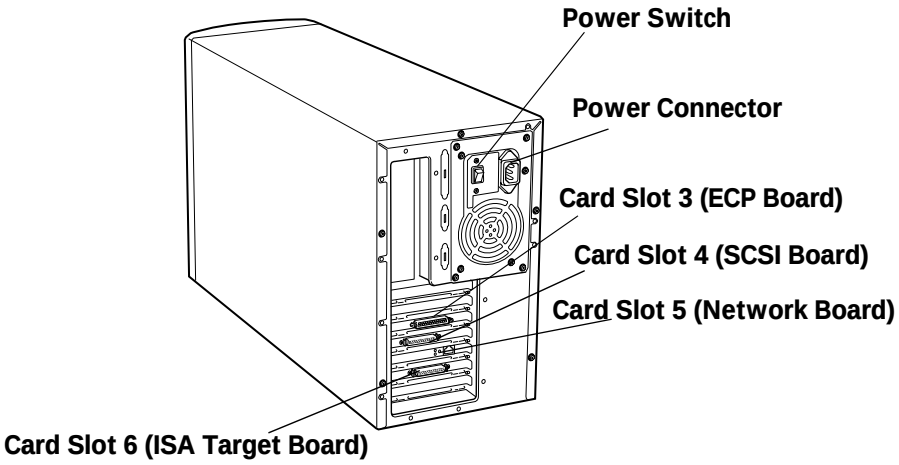


Figure 1-11. CS-6000N Back

Table 1-32. Parts List

Name	Remarks
Power Switch	
AC inlet	
Card Slot 1	(Blank)
Card Slot 2	(Blank)
Card Slot 3	PCI-bus ECP Card
Card Slot 4	PCI-bus SCSI Card
Card Slot 5	PCI-bus Network Card
Card Slot 6	ISA-bus ISA Board (Flash, Panel)
Card Slot 7	ISA-bus (Blank)

Table 1-32. Parts List

Name	Remarks
Printer interface connector	
Scanner interface connector	
Network interface connector	
Control Panel Interface connector	

1.4.2 Control Panel

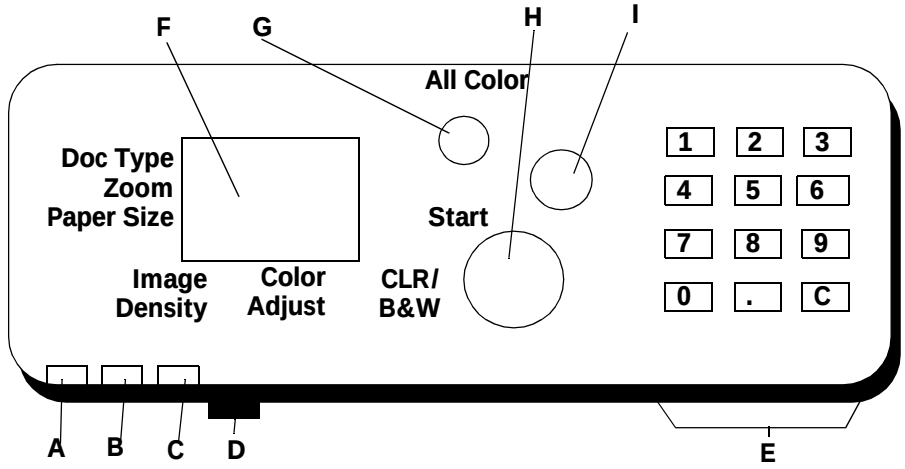


Figure 1-12. Appearance of Operational Panel

(A) Error Lamp (Red)
ON: means the error occurs in scanner, printer, or CCS 8200.
OFF: means no error occurs in scanner, printer, or CCS 8200.

(B) Ready lump (Green)
ON: means the scanner, printer, and CCS 8200 are all standby.
OFF: means one of the scanner, printer, or CCS 8200 is not standby.
BLINK: means CCS 8200 is doing some job.

(C) Power lump (Green)
ON: means CCS 8200 is powered on.
OFF: means CCS 8200 is powered of.

(D) Intensity Adjustment volume
A volume switch to adjust LCD intensity.

(E) Ten key
There are keys to set copy numbers, zoom, and so on.
"C" key is used to clear copy numbers and so on for default.

(F) LCD and Touch key
LCD is 320x240 dot matrix, and Touch key is 8x6 matrix scan sensor. LCD is used to display parameters, and Touch key is used to set parameters.

(G) All Clear key
The parameters for local copy are all cleared by pressing this key.

(H) Start key
Local copy or Network TWAIN starts to copy or scan by pressing this key.

(I) Stop key
Local copy or Network TWAIN stops to copy or scan by pressing this key.

1.5 Accessories

1.5.1 Product Component

The typical configuration contains the following components.

1. CCS 8200
2. Operational Panel
3. Operational Panel Cable
4. EPL-C8200
5. GT-10000
6. Printer Cable
7. Scanner Cable (SCSI Cable)
8. System Rack (2 large capacity paper cassette type)
9. Power Supply Code for System Rack
10. Code Manuals (English Version)
11. Bundled Software CD-ROM

1.5.2 Bundled Software

1. EPSON TWAIN Pro Network for Windows
2. Microsoft Internet Explore for Windows

1.6 Attention for forgery

EPSON Color Copy Station 8200 is a Color Copier, and user can copy all kind of documents. But the administrator must forbid all users from copying bills, securities and so on which are inhibited by law. The system administrator has duty not to make illegal copies.

CHAPTER

2

OPERATING PRINCIPLES

2.1 Operating Principles

This section explains the operating principles of CCS 8200. Refer to each Service Manual for the operating principles of printer and scanner.

2.1.1 Copy System

Copy system of CCS 8200 is as follows.

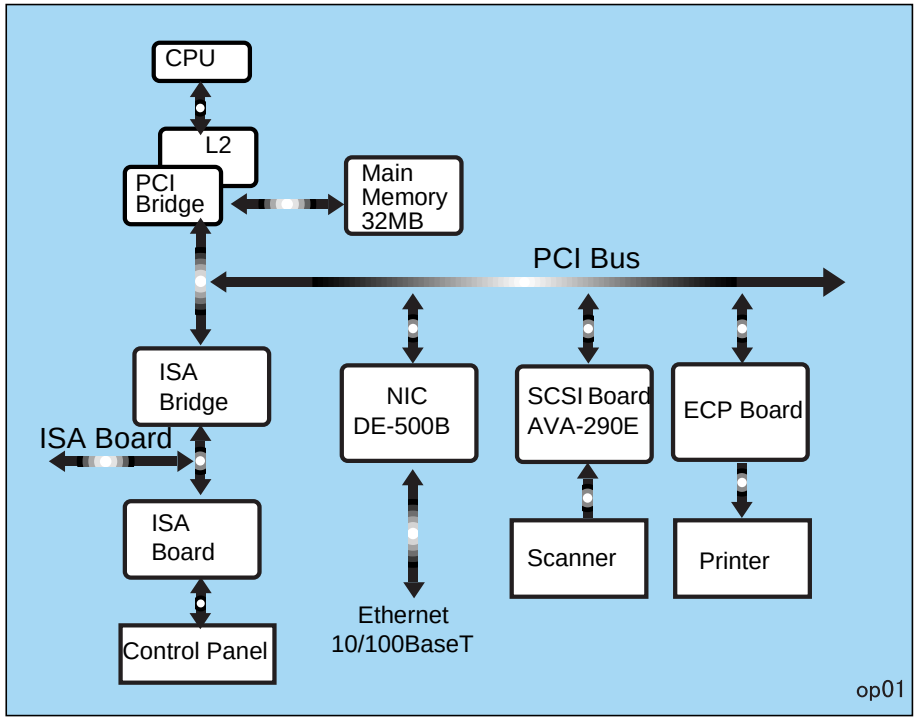


Figure 2-1. System Connection

CCS-8200 connects the network by 10/100 Base Network Interface Board (DE-500B) through the switching pab and operate copy server function. Due to this, each PC on the network can use the common scanner and printer.

2.1.2 Control Circuit

Hardware architecture of this product is PC/AT personal computer, and interfaces of ISA and PCI for extension exist respectively.

CPU adopts AMD K6-2 processor, which is driven by 300 MHz Clock, and has one 32MB RAM-DIMM on the mother board. On the mother board, CMOS, which records the setting values of BIOS, and a lithium battery for backing-up are mounted.

2.1.3 ISA Board

On the ISA Board (C85010 I/F), ASIC E02A27, Flash ROM (8Mbit x 12), EEPROM (AT93C66) and SRAM (256 KB x 1) are mounted. ISA board is connected to the mother board through ISA bus slot. The figure below is ISA board block diagram.

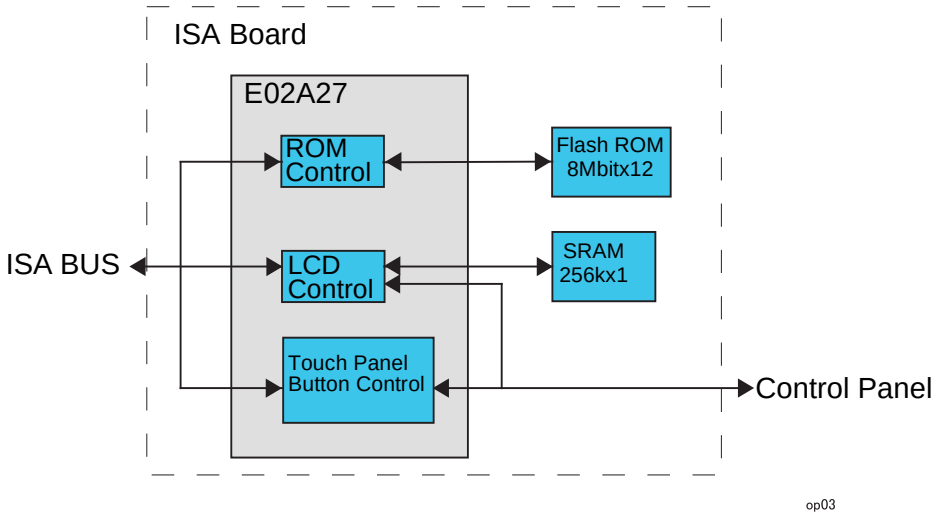


Figure 2-2. ISA Board Block Diagram

- ASIC E02A27:
  Controls I/F of ISA board and ROM (to start the system), LCD of the control panel (panel module), and the touch panel and control bottom on the LCD.
- Flash-ROM:
  Stores firmware, table etc.

  TO update firmware, connect the master ISA board to an open ISA slot. Flash-ROM uses Board to Board copy function, which copies the firmware from the master board to the target board. Also, Flash-ROM can be updated from the Web page.
- SRAM:
  Memory for LCD indicator
- EEPROM:
  Keeps the setting of the ISA board.

2.1.3.1 ECP Board

ECP Board (Image Processing Board, C850101/F-B) connects to the mother board through the PCI bus of Color Copy Station 8200.

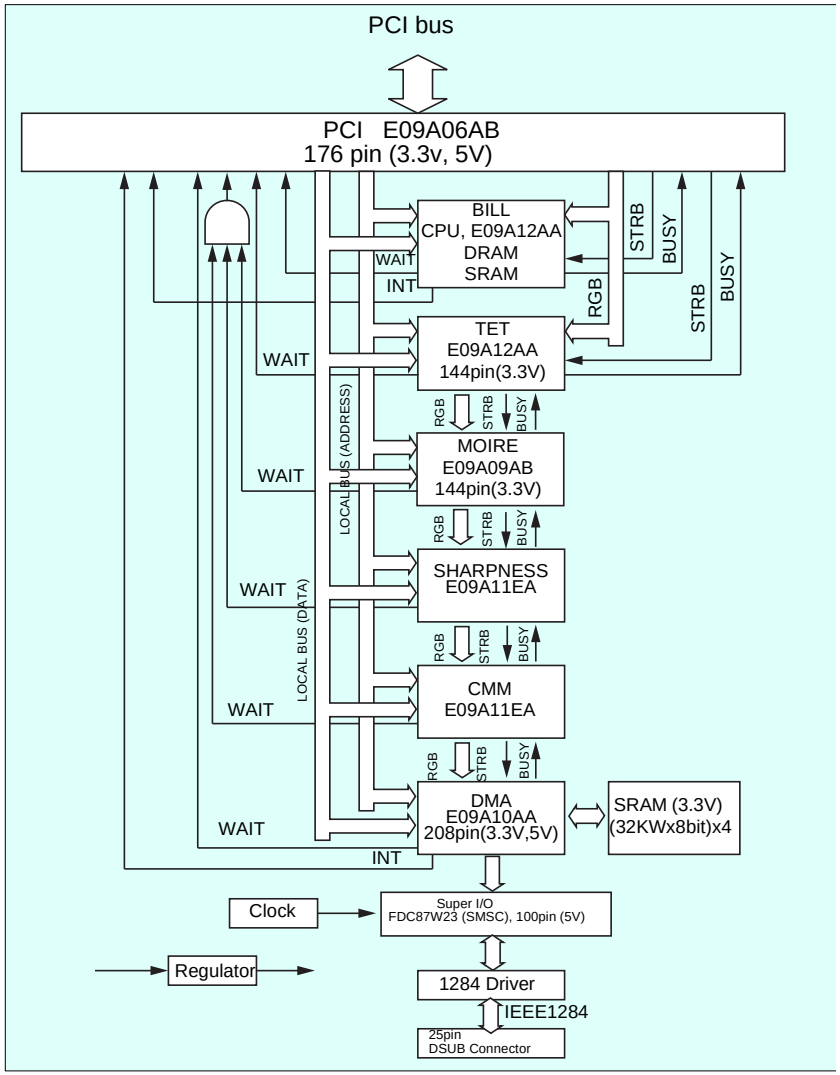


Figure 2-3. ECP Board Block

GENERAL DESCRIPTION OF THE BOARD FUNCTION

- The board processes image data sent through PCI bus, and stores the image processed data to the SRAM (total memory: 1Mbit) mounted on the board. (DMA IN)
- The board sends on the image processed data to the printer through Super I/O. (DMA OUT)

ECP board processes image data by BILL (bill recognition circuit), TET (Text Enhancement Technology), MOIRE (deleting moire), SHARPNESS (emphasizing edges), CMM (changing color). Each treatment does not support all resolution power. The table below shows whether respective treatment is valid at each resolution power.

Table 2-1. Resolution Power of Each Treatment

Resolution Power** (dpi)	BILL	TET	MOIRE	SHARPNESS	CMM
300 x 300	○*	○(○)	○(○)	○(○)	○(○)
600 x 600	○	x*(○)	x(○)	○(○)	○(○)

Note: *○: supported x: Not supported
** Resolution Power: main-scanning x sub-scanning
(): when using processing by-pass

As shown in the table above, when using A3 wide (600 x 600 dpi), the ASIC (TET, MOIRE) treatment on the board are not supported, and therefore it is supported by software. When the software is used to process image data, in order to prevent input of the data processed by TET and MOIRE against BILL (for processed image data cannot be input to BILL), PCI output is provided with two types of strobe signal. When performing this process, the software should alternately transmit one line data processed by TET and MOIRE to PCI.

FUNCTIONAL EXPLANATION

- PCI:
  Controls PCI BUS, LOCAL BUS, and RGB BUS.
- BILL (Bill recognition circuit):
  BILL uses CPU, ASIC, and the program and data stored on the ISA board. When the system started, the programs and data are loaded and stored in the DRAM inside BILL. The image data is input through RGB BUS, and in case BILL recognizes it as a bill, BILL informs this by interrupting into the LOCAL BUS.
- TET (TEXT ENHANCED TECHNOLOGY):
  Performs TET process.
- MOIRE:
  Performs MOIRE clearing process.
- SHARPNESS:
  Performs edge emphasizing treatment.
- CMM:
  Performs color translation process from RGB TO R'G'B'.
- DMA:
  Storing data sent from CMM in SRAM. (DMA IN)
  Four 32Kw x 8bit SRAMs are mounted and total memory amounts to 32Kw x 8bit.

CHAPTER

3

TROUBLE SHOOTING

3.1 Error Message

Color Copy Station 8200 is equipped with a self-error-detection function, and when an error occurs, it is indicated by LCD on the control panel or an error lamp.

3.1.1 Printer Error of Local Copy Mode

Table 3-1. Alert Message

Cause	Copy Server Panel Screen	Printer Panel Screen
A write-enabled ROM module is inserted that is not formatted.	Printer Alert ROM module Press the Stop button Job will Continue	Format Error ROM A or Format Error ROM B
Due to a memory shortage, printing at the specified resolution is not possible, and the printing resolution is lowered..	Printer Alert Insufficient Memory Press the Stop button Job will Continue	Image Optimum
Memory is insufficient during data processing and memory compression and expansion is applied.	Printer Alert Insufficient memory Press the Stop button Job will Continue	Need Memory
Selected paper size is mismatched.	Printer Alert Paper Size Error Press the Stop button Job will Continue	Check Paper Size
Selected paper size is mismatched and printed on a different size of paper.	Printer Alert Paper Size Error Press the Stop button Job will Continue	Check Paper Type

Table 3-1. Alert Message

Cause	Copy Server Panel Screen	Printer Panel Screen
This message appears only if selected paper type is mismatched and printed at different cassette	Printer Alert Paper Size Error Press the Stop button Job will Continue	Outbin Select Error
Informs the user that the photoconductor unit has almost reached the end of its service life.	Printer Alert Photoconductor Press the Stop button Job will Continue	Warning Photoconductr
The Waste Toner Collector is nearly full.	Printer Alert Waste Toner Box Press the Stop button Job will Continue	Waste T Box Nearfull
There is only a little fuser oil remaining.	Printer Alert Oil Roll Press the Stop button Job will Continue	Oil Roll Near Empty
Asigned number of pages are not printed.	Printer Alert Collate disabled Press the Stop button Job will Continue	Collate was disabled
The remaining toner of each color (Y, M, C, K) is low.	Printer Alert Toner Cartridge Press the Stop button Job will Continue	uuuu Toner Low uuuu = CMYK
A warning has been generated which the user cannot resolve.	Printer Alert Service Required Press the Stop button Job will Continue	Maintenance Req hhhh
Paper is prefed, but since the print data is not prepared within the engine's setting time, the paper was forced to be fed without printing.	Printer Alert Pre-feed Error Press the Stop button Job will Continue	Time exceeded

Table 3-2. Auto Recovery Error Message

Cause	Copy Server Panel Screen	Printer Panel Screen	Copy Activity
During the printing procedure, the print data were too complex for image processing to keep up with the printer engine speed.	Printer Error Printer Overrun After Error Recovery Job will Continue	Print Overrun	Continue
Memory was insufficient for a processing task, and operation cannot continue.	Printer Error Insufficient Memory Press the Stop button	Mem Overflow	Cancel
Selected paper size is mismatched.	Printer Error Printer Size Error After Error Recovery Job will Continue	Paper Set sss ttt	Cancel

Table 3-3. Unrecoverable Error Message

Cause	Copy Server Panel Screen	Printer Panel Screen	Copy Activity
The front cover is open.	Printer Error Cover Open After Error Recovery Job will Continue	Front Cover Open	Continue
A ROM module that cannot be used with this printer is inserted in slot.	Printer Error ROM Module After Error Recovery Press the Stop button	Invalid ROM A or Invalid ROM B	Cancel
The write process was not completed successfully, or there is no ROM module inserted in slot.	Printer Error ROM Module After Error Recovery Press the Stop button	Write Error ROM A or Write Error ROM B	Cancel
The appointed cassette does not exist.	Printer Error Paper Out After Error Recovery Job will Continue	Insert sss	Continue

Table 3-3. Unrecoverable Error Message

Cause	Copy Server Panel Screen	Printer Panel Screen	Copy Activity
A paper concurred at the location indicated. (Feed, Fuser, Exit)	Printer Error Paper Jam After Error Recovery Job will Continue	Jam xxxxxxxxxxx xxxxxxxxxxx = Feed, Fuser, Exit	Continue
Printer attempted paper feed but there was no paper in the paper feed unit.	Printer Error Paper Out After Error Recovery Job will Continue	Paper Out sss ttt	Continue
Printer attempted paper feed but there was no paper in the paper feed unit.	Printer Error Paper Size Error After Error Recovery Job will Continue	Manual Feed sss ttt	Continue
The OHP sheet was set upside down and fed into the printer, or an unspecified OHP sheet was fed into the printer.	Printer Error Paper Size Error After Error Recovery Job will Continue	Check OHP Sheet	Continue
An interface card that cannot be used with this printer is inserted.	Printer Error Aux I/F Error After Error Recovery Press the Stop button	Invalid AUX I/F Card	Cancel
The photoconductor unit is not set or it is not set correctly.	Printer Error Photoconductor After Error Recovery Press the Stop button	Insert Photocondctr	Cancel
A Waste Toner Collector is not set.	Printer Error Waste Toner Box After Error Recovery Job will Continue	Insert Waste T Box	Continue
The Fuser Oil Roll is not set.	Printer Error Oil Roll After Error Recovery Job will Continue	Insert Oil Roll	Continue

Table 3-3. Unrecoverable Error Message

Cause	Copy Server Panel Screen	Printer Panel Screen	Copy Activity
The paper output cover is open.	Printer Error Cover Open After Error Recovery Job will Continue	Exit Cover Open	Continue
The Fuser cover is open.	Printer Error Fuser Unit Open After Error Recovery Job will Continue	Fuser Unit Open	Continue
The paper feed unit is open.	Printer Error Paper Unit Open After Error Recovery Job will Continue	Paper Unit Open	Continue
Engine's photoconductor service life is detected to end.	Printer Error Photoconductor After Error Recovery Press the Stop button	Replace Photocondctr	Cancel
The waste toner box is sensed to be full of waste toner from the engine.	Printer Error Waste Toner Box After Error Recovery Job will Continue	Replace Waste T Box	Continue
Toner sensor detects there is no fuser oil..	Printer Error Oil Roll After Error Recovery Job will Continue	Replace Oil Roll	Continue
At the top of paper feed direction, print data with a YMCK total print data density of 280% or greater exits, with a printing high density error occurring.	Printer Error Paper Thickness After Error Recovery Press the Stop button	Irregular Density	Cancel

Table 3-3. Unrecoverable Error Message

Cause	Copy Server Panel Screen	Printer Panel Screen	Copy Activity
The proper Photoconductor Unit is not set.	Printer Error Photoconductor After Error Recovery Press the Stop button	Wrong Photoconductor	Cancel
The Photoconductor Unit is malfunctioning.	Printer Error Photoconductor After Error Recovery Press the Stop button	Photoconductor Trouble	Cancel
The paper feed cover is open.	Printer Error Cover Open After Error Recovery Job will Continue	Feeder Cover Open	Continue
A Toner Cartridge is not set.	Printer Error Toner Cartridge After Error Recovery Job will Continue	uuuu Toner Crtg Out uuuu = CMYK	Continue
It is detected that there is no toner remaining by the toner and sensor for each engine color.	Printer Error Toner Cartridge After Error Recovery Job will Continue	uuuu Toner Out uuuu = CMYK	Continue

Table 3-3. Unrecoverable Error Message

Cause	Copy Server Panel Screen	Printer Panel Screen	Copy Activity
The PostScript card that cannot be used with this printer is inserted.	Printer Error Post Script Error After Error Recovery Press the Stop button	Invalid PS3	Cancel
HDD is in trouble.	Printer Error HDD Error After Error Recovery Press the Stop button	Invalid HDD	Cancel
An Error has been generated which the user cannot resolve.	Printer Error Service Required After Error Recovery Press the Stop button	Service Req effff effff: See the table below	Cancel

Table 3-4. Details of Service Call Error

Error Category e	Error Code ffff	Explanation
E	0003	Fuser Unit Malfunction (Service Life)
E	0008	Engine NVRAM Malfunction
E	0014	Engine Communications Error
E	0020	ADC Sensor Dirty
E	0022	PCDC Defective
E	0023	IBT Cleaner Service Life
E	0024	Second BTR Service Life
E	0025	Spare
E	0030	Fuser Unit Malfunction (Time Out)
E	0031	Fuser Unit Malfunction (no Fuser Unit)

Table 3-4. Details of Service Call Error

Error Category e	Error Code ffff	Explanation
E	0032	Fuser Unit Malfunction (Overheat)
E	0033	Fuser Unit Malfunction (Lamp)
E	0034	Fuser Unit Malfunction (Low Temperature)
E	0035	Large Capacity Paper Unit Malfunction
E	0036	Second BTR Resistance Abnormal
E	0037	Spare
E	0038	Engine Memory Malfunction
E	0039	Thermosensor Malfunction
E	0040	ROS Motor Malfunction
E	0041	Motor 1 Malfunction (IBT Malfunction)
E	0042	Motor 2 Malfunction (P/H Motor malfunction)
E	0043	Toner Density Abnormal (High Density)
E	0044	Toner Density Abnormal (Low Density)
E	0045	Home Position Sensor Malfunction
C	0017	CPU Error (Undefined interrupt occurred)
C	0081	CPU Error (TLB correction exception)
C	0082	CPU Error (TLB miss exception [Load/Fetch])
C	0083	CPU Error (TLB miss exception [Store])
C	0084	CPU Error (Address error exception [Load/Fetch])
C	0085	CPU Error (Address Error exception [Store])
C	0086	CPU Error (Bus Error exception [Load/Fetch])
C	0087	CPU Error (Bus Error exception [Store])
C	0088	CPU Error (SYSCALL exception)
C	0089	CPU Error (Break exception)

Table 3-4. Details of Service Call Error

Error Category e	Error Code ffff	Explanation
C	0090	CPU Error (Reserve Command exception)
C	0091	CPU Error (Coprocessor Not Used exception)
C	0092	CPU Error (FPU exception)
C	0093	CPU Error (TLB exception)
C	0094	CPU Error (XTLB exception)
C	0095	CPU Error (Cache exception)
C	0096	CPU Error (Trap exception)
C	0097	CPU Error (FPU exception)
C	0098	CPU Error (Watch exception)
C	0128-0254	CPU Error (Undefined Trap)
C	0255	CPU Error (NMI exception)
C	0256	CPU Error (Devide by 0)
C	0257	CPU Error (Computation Overflow)
C	0258	CPU Error (Break was generated)
C	0800	IPL Error (Controller defective)
C	1002	Standard ROM Error (When RAM equivalent to the standard size is not installed, etc.)
C	1010	Verify Error
C	1020	RAM Error (slot 0)
C	1021	RAM Error (slot 1)
C	1022	RAM Error (slot 2)
C	1100	ROM Check Sum Error (bit 0-15) (Font)
C	1101	ROM Check Sum Error (bit 16-31) (Font)
C	1120	ROM Check Sum Error (bit 0-7) (Program)
C	1121	ROM Check Sum Error (bit 8-15) (Program))

Table 3-4. Details of Service Call Error

Error Category e	Error Code ffff	Explanation
C	1122	ROM Check Sum Error (bit 16-23) (Program)
C	1123	ROM Check Sum Error (bit 24-31) (Program)
C	1170	Optional Font ROM Check Sum Error
C	1180	Optional ROM Module A Check Sum Error
C	1181	Optional ROM Module B Check Sum Error
C	1182	Optional ROM Module C Check Sum Error
C	1185	Unsupported ROM Module
C	1200	EEPROM Write Error
C	1210	EEPROM Write Count Limit
C	1400	Engine Initialization Malfunction
C	1500	CCNV Hardware Error
C	1550	Compression SRAM Initialization Hardware Error
C	1600	Video Related Hardware Error (including RWM IC calibration)
C	1700	Internal Network Hardware Error
C	1999	Other Hardware Error
C	2000	Software Error

Table 3-5. Other Error Message

Cause	Copy Server Panel Screen	Copy Activity
Network Communication is error	Printer Error Communication Error After Error Recovery Press the Stop button	Cancel
Printer is off-line	Printer Error Off-line After Error Recovery Job will Continue	Continue
Printer is used by other AUX I/F or printer is resetting.	Printer Error Printer Busy Press the Stop button	Cancel
Printer model is not right.	Printer Error Model Error After Error Recovery Press the Stop button	Cancel
Other errors	Printer Error Fatal Error After Error Recovery Press the Stop button	Cancel

3.1.2 Scanner Error of Local Copy Mode

Table 3-6. Scanner Error of Local Copy Mode

Cause	Copy Server Panel Screen	Recovery
Scanner is not connected.	Scanner Error Communication Error After Error Recovery Press the Stop button	Impossible
Scanner ADF is in trouble.	Scanner Error ADF Error After Error Recovery Press the Stop button	Impossible
A paper occurred at the ADF.	Scanner Error Paper Jam After Error Recovery Press the Stop button	Impossible
Scanner cover is open.	Scanner Error Cover Open After Error Recovery Press the Stop button	Impossible
Scanner option is in trouble	Scanner Error Option Error After Error Recovery Press the Stop button	Impossible
Scanner model is different	Scanner Error Model Error After Error Recovery Press the Stop button	Impossible
Other Errors	Scanner Error Fatal Error After Error Recovery Press the Stop button	Impossible

3.1.3 Network TWAIN Error

Table 3-7. Network TWAIN Error

Cause	Copy Server Panel Screen	Recovery
Network Communication is error	Scanner Error Communication Error After Error Recovery Press the Stop button	Impossible

3.1.4 Copy System Error

Table 3-8. Copy System Error

Cause	Copy Server Panel Screen	Recovery
Hardware is in trouble	System Error Internal Error Restart System	Impossible
Manuscript is abnormal	System Error Paper Error Press the Stop button	Impossible
Other Errors	System Error Fatal Error Restart System	Impossible

CHAPTER

4

DISASSEMBLY AND ASSEMBLY

4.1 Overview

This section describes procedures for disassembling the main components of Color Copy Station 8200. Unless otherwise specified, disassembly units or components can be reassembled by reversing disassembly procedure. Precautions for any disassembly or assembly procedures re described under the heading “CAUTION” or “WARNING”. Any adjustments required after disassembling the units are described under the heading “Required Adjustment”. Also, read precautions below before starting.

4.1.1 Precaution

A lithium battery is installed on the other board of this product for backing up the system clock. Since mishandling the battery may cause explosion or short-circuit, read carefully the following precautions.

- **Disconnect the power cable before disassembling or assembling.**
- **A lithium battery is installed on the mother board of this product. Be sure to observe the following instructions when servicing the battery:**

1. **Do not get the battery short-circuit.**
2. **Do not install the battery in the wrong direction.**
3. **Do not heat the battery or put it near fire.**

- **Since the cooling fan inside of this product doesn’t have a cover, do to touch it when it is running.**
- **Handle with care for the electric parts inside of this product, since electrostatic may damage the elements.**

Risque d’explositon sie la pile est remplacée incorrectment.Ne remplacer que par une pile du même type équivalent recommande par le fabricant. Eliminer les piles déchargées selon les lois et les règles de sécurité en vigueur.

4.1.2 Tools

Use only the specified tools to avoid damaging the product.

Table 4-1. Tools

Tool Name	Supplier	Parts No.L
Phillips Screw Driver (no.1)	EPSON	B743800400
Phillips Screw Driver (No.2)	EPSON	B743800200
Nipper	EPSON	B740500100
Tweezers	EPSON	B741000100

4.2 Disassembly and Assembly

This section explains disassembling procedure.

CAUTION

See "Precaution" on page -34 before starting disassembly and assembly procedures.

4.2.1 Upper Case Removal

1. Remove 5 screws (SMH/W#6 X 6N) located back of CCS8200.
2. Remove the upper case.

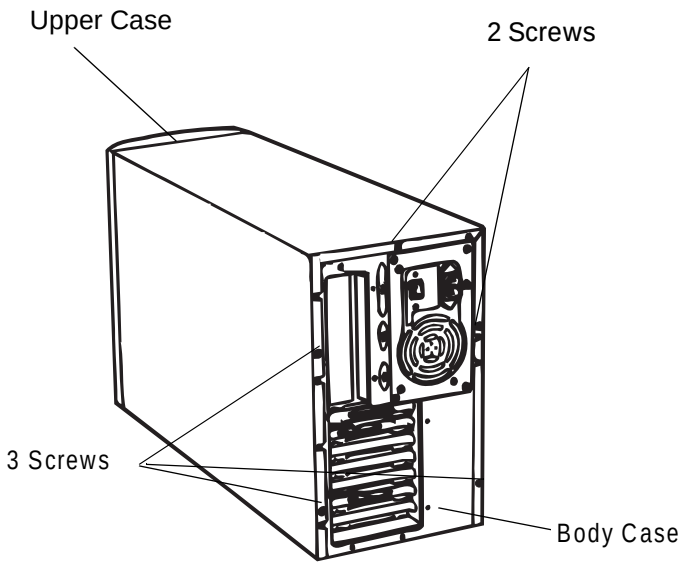


Figure 4-1. Upper Case Removal

NOTE: *Screw tightening tongue: 11 ± 0.5kgf.cm*

4.2.2 Optional Board Removal

4.2.2.1 ISA Board Removal

1. Remove the upper case. ("Upper Case Removal" on page 46)
2. Remove one screw (SMH/W6# X 6N) securing ISA board to the body case
3. Remove ISA board from the slot (SLOT1) of the mother "Disassembly and Assembly" board

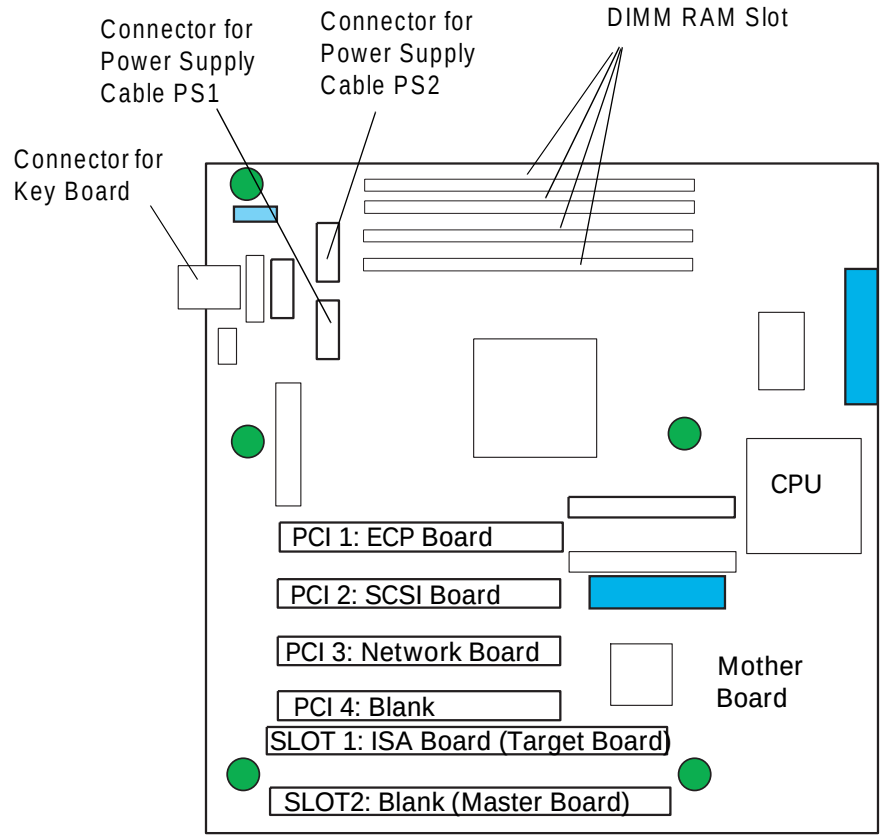


Figure 4-2. Position for Installing the Optional Board

NOTE: *Screw tightening tongue: 11 ± 0.5kgf.cm*

Table 4-2. PCI/ISA Slot, installing board

Slot	Type	Installing Board
PCI1	PCI	ECP Board (for printer interface)
PCI2	PCI	SCSI Board (for scanner interface)
PCI3	PCI	Network Board
PCI4/SLOT1	PCI/ISA	ISA Board
SLOT2	ISA	Blank (for installing ISA Master Board)

NOTE: *Leave SLOT2 available for installing ISA Master Board.*

4.2.2.2 SCSI Board Removal

1. Remove the upper case. (See “Upper Case Removal” on page 46)
2. Remove one screw (SMH/W6#X6N) securing SCSI board to the body case.
3. Remove SCSI board from the slot (PCI2) of the mother board. (See “ISA Board Removal” on page 46)
4. Install the SCSI board to the appointed slot to stabilize operation.

NOTE: *Install SCSI Board to the specified slot for stable movement.*

NOTE: *Screw tightening tongue: 11 ± 0.5kgf.cm*

4.2.2.3 Network Board Removal

1. Remove the upper case. (See “Upper Case Removal” on page 46)
2. Remove one screw (SMH/W6#X6N) securing the Network board to the body case.
3. Remove Network board from the slot (PCI3) of the mother board. (See “ISA Board Removal” on page 46)

NOTE: *Screw tightening tongue: 11 ± 0.5kgf.cm*

4.2.2.4 ECP Board Removal

1. Remove the upper case. (See “Upper Case Removal” on page 46)
2. Remove one screw (SMH/W6#X6N) securing the ECP board to the body case.
3. Remove ECP board from the slot (PCI1) of the mother board. (See “ISA Board Removal” on page 46)

NOTE: *Screw tightening tongue: 11 ± 0.5kgf.cm*

4.2.3 Power Supply Unit Removal

1. Remove the upper case. (See “Upper Case Removal” on page 46)
2. Remove 4 screws (SMH/W6# X 6N) securing the power supply unit to the body case, and pull out the power supply unit toward back of the CCS 8200 until its stoppers touches the body case.
3. Remove the harness PS1, which comes from the power supply unit, from the outside of the connector on the mother board.
4. Remove he harness PS2, which comes from the power supply unit, from the inside of the connector on the mother board.
5. Remove harness, which is connected to 2 cooling fans (CPU cooling fan and fan) from the power supply unit, from the relay connector part.
6. By moving the rear edge of the power supply unit to the right, release the connection between the stopper of the unit and the body case. Then remove the power supply unit.

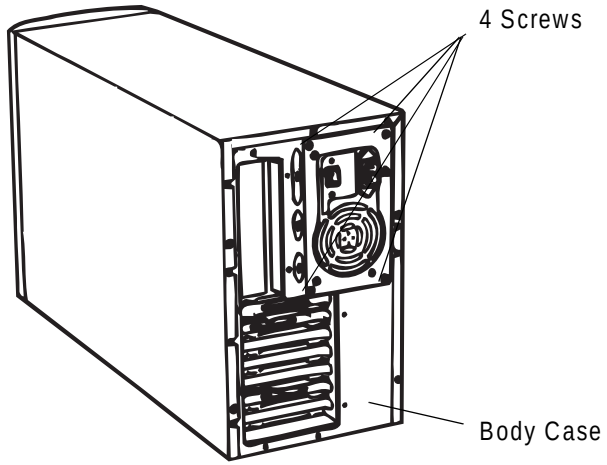


Figure 4-3. Power Supply Unit Removal

NOTE: *Screw tightening tongue: 11 ± 0.5kgf.cm*

4.2.4 Mother Board Removal

1. Remove the upper case. (See “Upper Case Removal” on page 46)
2. Remove the optional board (ISA / SCSI / Network / ECP Board). (See “Optional Board Removal” on page 46)
3. Remove the power supply unit. (See “Power Supply Unit Removal” on page 48)
4. Remove the 5 screws (SMH/W6# X 6N) securing the mother board to the body case. Then, remove the mother board.

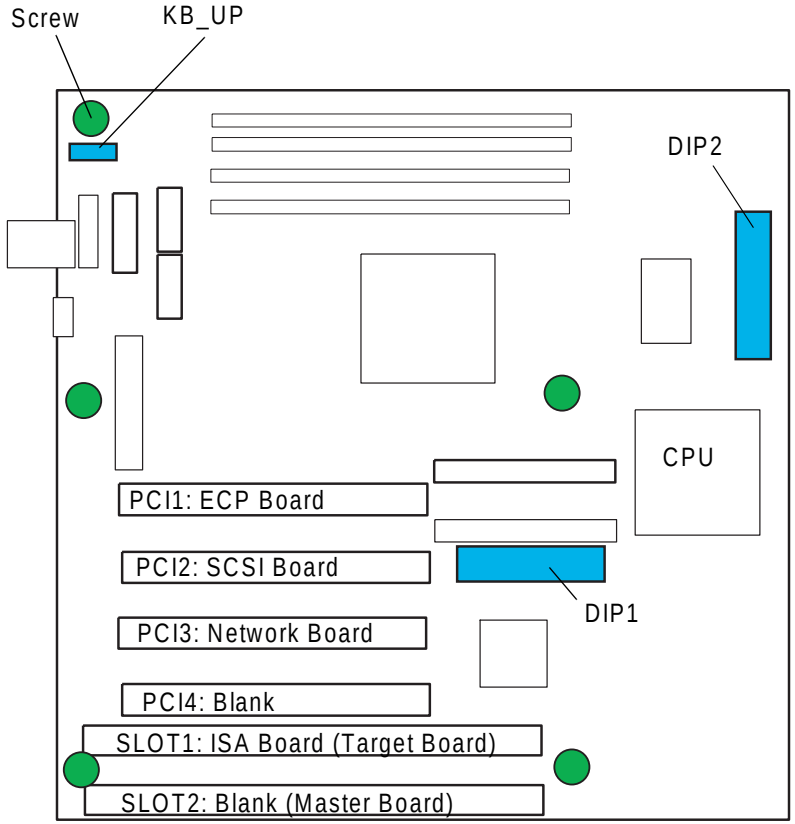


Figure 4-4. Screw positions securing the Mother Board

NOTE: *Screw tightening tongue: 11 ± 0.5kgf.cm*

4.2.5 Panel Board Removal

1. Remove the harness (control panel cable) from the CCS 8200.
2. Remove 8 CPB screws (3x12) securing the upper panel case and lower panel case. Then remove the lower panel case.

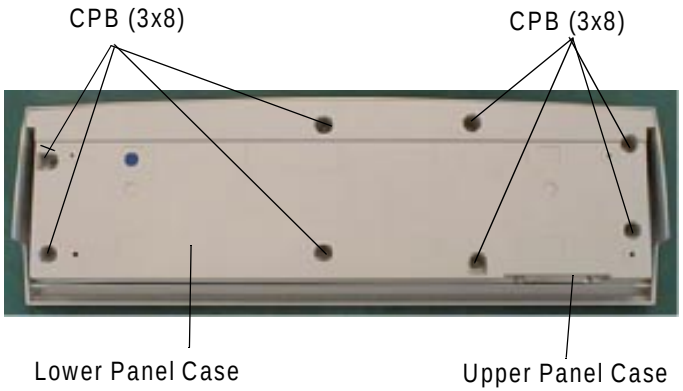


Figure 4-5. Screws for Lower Panel Case

3. Remove 2 plain washers and 2 CPB screws (2x5) securing the panel board to the upper panel case. Then remove the panel board.

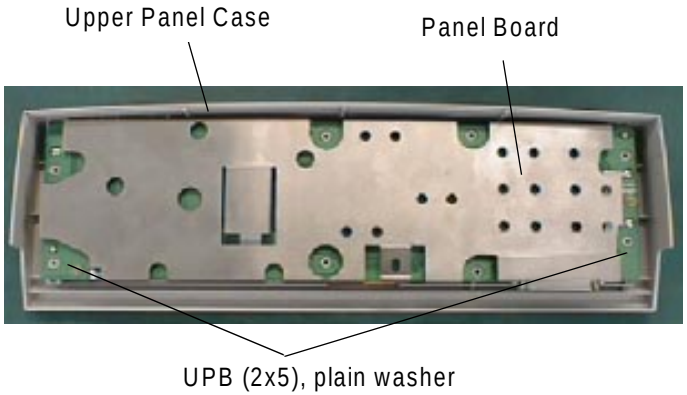
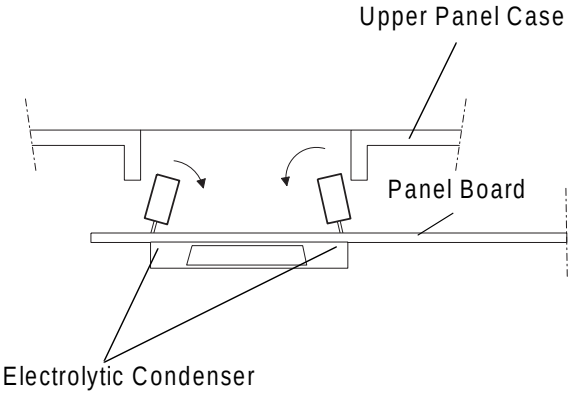


Figure 4-6. Screws securing the Panel Board

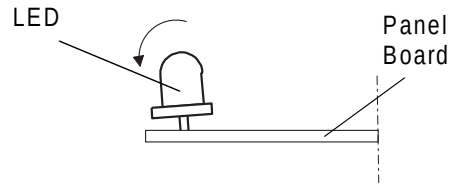
CAUTION

When tightening screws, use a hand in order to avoid loosen screws. Do not use motor driver.

- **When installing the panel board to the upper panel case, electrolytic condensers on the board may touch the upper panel case. Tilt the condenser as it is shown in the figure below so that they do not touch the upper panel case. (See the figure below)**



- **When installing the panel board to the upper panel case, make sure that intensity adjustment volume moves.**
- **When installing the panel board to the upper panel case, tilt the lead part of LED so that the LED on the board comes into the LED lens of the upper panel case. (See the figure below)**



4.3 Firmware Version-Up

Control program, each application, and tables for image processing are stored in the Flash ROM mounted on the ISA board. Therefore, in case of firmware version-up, it is necessary to re-install the program by transferring the firmware form the Master Board to the target board (originally installed in ISA board).

CAUTION

Before starting the procedure, make sure to turn off the EPSON Color Copy Station 8200 and disconnect the power cable.

1. Remove the upper case. (See “Upper Case Removal” on page 46)
2. Remove one screw securing the cover for an open ISA slot SLOT2, and remove the cover.
3. Install the ISA Master Board to ISA slot SLOT2.,

CAUTION

- **Do not connect the operational panel cable to Master Board, while leaving the operational panel connected to the target board.**
- **Make sure that the settings of the jumper switches of ISA update board are as follows.**

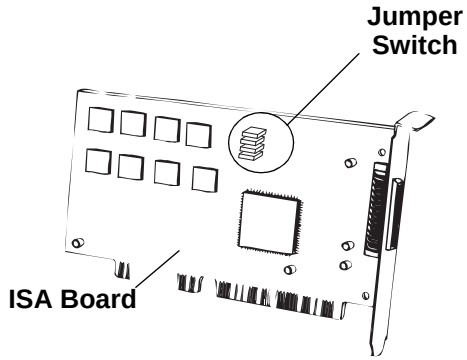
Table 4-3. Settings for the Jumper Switches of ISA Master Board

Jumper No.	JP20	JP30	JP31	JP32
Master Board	1-2	1-2	2-3	2-3
Target Board	1-2	1-2	1-2	2-3

NOTE: *“1-2” in the table above means to connect 1 pin and 2 pin. Same meaning for 2-3.*

CAUTION

- **Target Board can be used the same as Master Board by setting the jumper switches of the target board same way you set the Master Board jumper switches.**
- **However, the Master ISA Board does not function the same way as the target board, so the Master Board cannot operate the CCS 8200. Make sure the settings of the Target board loaded in the Color Copy Station 8200 are set to the Target board.**



4. Turn the Color Copy Station 8200 on. The LED indicators show the update status; refer to the table below for details. Master Board

Table 4-4. Control Panel indicators

Update Process	Error (red)	Ready (green)	Power (green)	Contents
Power ON	●	●	❍	Deleting Target Data
↓	●	❍	❍	Reading from MASTER
	❍	❍	❍	Writing to TARGET
	●	◎	❍	Update Successful
	◎	●	❍	Update Failure

Note:❍: On, ●: Off, ◎: Blink

5. When the version-up is completed successfully, turn off CCS 8200.
6. Remove ISA Master Board and set the cover again.
7. Install the upper cover.

CAUTION

- **Do not turn off CCS 8200 during the version-up procedure.**
- **If an error occurs, turn off the power supply and re-insert each board (mother board, target board) and re-perform from step 4.**

4.4 BIOS Re-Setting

A lithium battery is mounted on the Mother Board of the Color Copy Station 8200 for CMOS RAM, which stores setting values of BIOS. Therefore, if the life of the battery ends, it is necessary to replace it. If the battery is replaced with a new one, the CCS 8200 may not start correctly when the BIOS initializes. Due to this, it is necessary to reset the BIOS. Also, it is necessary to reset the BIOS if the BIOS settings are changed or written over for some reason.

4.4.1 Lithium Battery Volume Check

1. Remove the mother board. (Remove ISA and PCI boards, and connect the power supply unit)
2. Insert the video card (EGA/VGA) into the open slot.
3. Connect the corresponding CRT to the video card.
4. Connect a key board connector to the mother board. Keyboard connector is DIN 5-pin AT type.
5. Turn on the power supply, and if the following message appears on the CRT, replace the battery.

```
CMOS checksum Error - Defaults loaded
CMOS battery failed
```

4.4.2 Lithium Battery Exchange

1. Make sure the power switch is OFF.
2. Remove the upper cover.
3. Replace the lithium battery mounted on the mother board with a new one. Use battery CR2032 (Panasonic, 3V) or equivalents.
4. Perform BIOS Re-setting. (“BIOS Re-Setting” on page 51)

CAUTION

- **When installing the lithium battery, put the printing face up.**

4.4.3 BIOS Re-Setting

1. Remove the mother board. (Remove SCSI, ISA and PCI boards and connect the power supply unit)
2. Install the video card (EGA/VGA) to the open slot.
3. Connect the corresponding CRT to the video card.
4. Connect the keyboard to the keyboard connector on the mother board. (Connector of the keyboard is DIN 5-pin AT type)
5. Turn on the power. When BIOS boots, press **DEL** key on the key board and enter the Set-up screen of BIOS.
6. Select “STANDARD CMOS SETUP”.
7. Check the BIOS setting value by referring the following table.
8. Input “Date” and “Time” and press **ESC** key.
9. Select “SAVE&EXIT SETUP”, and change “N” to “Y” and press **Enter** key.
10. Turn the power OFF and remove the video card and key board, and install the mother board to the CCS 8200 body.

BIOS re-setting is completed and it will operate normally when the power is turned on next time.

Table 4-5. SP97 Mother Board BIOS Setting Value

Setting Item	Setting Value
STANDARD CMOS SETUP	
Date	:mm:dd:yy (Setting Date)
Time	:hh:mm:ss (Setting Time)
HARD DISKS	

Table 4-5. SP97 Mother Board BIOS Setting Value

Setting Item	Setting Value
Primary Master	Auto
Primary Slave	Auto →None
Secondary Master	Auto →None
Secondary Slave	Auto →None
Drive A	1.44M 3.5in
Drive B	None
Floppy 3 Mode Support	Disabled
Video	EGA/VGA
Halt On	All, But Disk/Key
BIOS FEATURE SETUP	
Boot Virus Detection	Disabled
CPU Internal Cache	Enabled
External Cache	Enabled
Quick Power On Self Test	Enabled
HDD Sequence SCSI/IDE First	IDE
Boot Sequence	A,C
Boot Up Floppy Seek	Disabled
Floppy Disk Access Control	R/W
IDE HDD Block Mode Sectors	HDD MAX
HDD S.M.A.R.T Capability	Disabled
PS/2 Mouse Function Control	Auto
OS/2 Onboard Memory > 64M	Disabled
PCI/VGA Pallete Snoop	Disabled
Video BIOS Shadow	Enabled

Table 4-5. SP97 Mother Board BIOS Setting Value

Setting Item	Setting Value
C8000-CBFFF Shadow	Disabled
CC000-CFFFF Shadow	Disabled
D0000-D3FFF Shadow	Disabled
D4000-D7FFF Shadow	Disabled
D8000-DBFFF Shadow	Disabled
DC000-DFFFF Shadow	Disabled
Boot Up NumLock Status	On
Typematic Rate Setting	Disabled
Typematic Rate (Chars/Sec)	6
Typematic Delay (Msec)	250
Security Option	System
CHIPSET FEATURE SETUP	
SDRAM Configuration	by SPD
SDRAM CAS Latency	2T
SDRAM RAS Precharge Time	2T
SDRAM RAS to CAS Delay	2T
ROM Cycle Wait State	4-Wait →1-Wait
16-Bit 1/0 Recovery Time	5 BUSCLK →2 BUSCLK
8-Bit 1/0 Recovery Time	8 BUSCLK →3 BUSCLK
ISA Bus Clock	PCICLK/4 →PCICLK/3
Graphics Aperture Size	64MB
Memory Hole At Address	None
Delayed Transaction	Enabled
VGA Shared Memory Size	4MB

Table 4-5. SP97 Mother Board BIOS Setting Value

Setting Item	Setting Value
Onboard FDC Controller	Enabled
Onboard FDC Swap A&B	No Swap
Onboard Serial Port 1	3F8H/IRQ4
Onboard Serial Port 2	2F8H/IRQ3
Onboard Parallel Port	378H/IRQ7
Parallel Port Mode	ECP+ EPP
ECP DMA Select	3
UART2 Use Infrared	Disabled
Onboard PCI IDE Enable	Both
IDE Ultra DMA Mode	Auto
IDE 0 Master PIO/DMA Mode	Auto
IDE0 Slave PIO/DMA Mode	Auto
IDE1 Master PIO/DMA Mode	Auto
IDE 1 Slave PIO/DMA Mode	Auto
POWER MANAGEMENT SETUP	
Power Management	User Define
Video Off Option	Susp, Stby → off
Video Off Method	DPMS OFF
** PM Timers **	
HDD Power Down	Disable
Doze Mode	Disable
Standby Mode	Disable
Suspend Mode	Disable
** Fan Monitor **	
Chassis Fan Speed	xxxx RPM

Table 4-5. SP97 Mother Board BIOS Setting Value

Setting Item	Setting Value
CPU Fan Speed	xxxx RPM
** Thermal Monitor **	
CPU Temperature	xxC / xxxF
** Voltage Monitor **	
VCORE Voltage	2.2V
+ 3.3V Voltage	3.3V
+5V Voltage	5.0V
+12V Voltage	12.0V
PNP AND PCI SETUP	
PNP OS Installed	No
Slot 1 IRQ	Auto →5
Slot 2 IRQ	Auto →10
Slot 3 IRQ	Auto →9
Slot 4 IRQ	Auto →11
PCI Lately Timer	32 PCI Clock
IRQ 3 Used by ISA	No / ICU
IRQ 4 Used By ISA	No / ICU
IRQ 5 Used by ISA	No / ICU
IRQ 7 Used By ISA	No / ICU
IRQ 9 Used by ISA	No / ICU
IRQ 10 Used By ISA	No / ICU
IRQ 11 Used by ISA	No / ICU
IRQ 12 Used By ISA	No / ICU → Yes
IRQ 14 Used by ISA	No / ICU

Table 4-5. SP97 Mother Board BIOS Setting Value

Setting Item	Setting Value
IRQ 15 Used By ISA	No / ICU
IRQ 1 Used by ISA	No / ICU
IRQ 3 Used By ISA	No / ICU
IRQ 5 Used By ISA	No / ICU
ISA MEM Block BASE	Auto
SYMBIOS SCSI BIOS	Auto
USB Function	Disabled
USB IRQ	Auto
ONB VGA BIOS First	No

4.4.4 Mother Board Jumper Setting

Setting of the jumper switch (KB_UP, DIP1, DIP2) on the mother board is as follows. (See “Mother Board Removal” on page 48)

Table 4-6. Jumper Switch Setting

Jumper	Switch No.									
KB_UP	Between 1-2									
	Short									
DIP1	1	2	3	4	5	6	7	8	9	10
	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF
OFF	1	2	3	4	5	6	7	8	9	10
	ON	ON	OFF	ON	ON	OFF	ON	OFF	OFF	OFF

CHAPTER

5

ADJUSTMENT

5.1 Adjustment

This chapter explains the following adjustments which are required to do for maintenance.

- ☐ Color Calibration Function
- ☐ Mechanical Precision Adjustment
- ☐ Hardware Check

5.1.1 Hardware Check

This function is used to check the hardware of the copy server. This function presupposes to be used for the manufacture inspection and when the servicemen consulting trouble or failure.

CHANGING THE MODE

Turn on the power supply of the copy server with “0”, “.”, and “C” on the control panel is pushed at the same time. The screen changes to the maintenance mode main screen.

```
TEST MODE
[1] PANE_IMOT_CHECK
[2] ISA_BOARD_CHECK
[3] ECP_BOARD_CHECK
[4] FLASH_SUM_CHECK
[5] H/W_CHECK_PRINT
[6] SIZE_CORRECT

        EXCIT STOP BUTTON
```

VARIOUS HARDWARE CHECK

- ☐ LCD panel check
- ☐ ISA board check
- ☐ ECP board check
- ☐ Flash ROM check sum confirmation
- ☐ H/W all check print
- ☐ size collection

5.1.1.1 LCD Panel Check

This hardware check function checks each component of the control panel. On the maintenance mode main screen, if you press the “1” of ten key, the panel unit check main menu appears as shown below.

```
[1] PANEL_UNIT_CHECK
  1. ALL BALCK
  2. GRAY SHADE
  3. DISPLAY ON/OFF
  4. BLACK LIGHT ON/OFF
  5. LED ON/OFF
  6. TEN + SPECIAL KEY
  7. TOUCH KEY
  8. ALL CHECK
  9. MAIN MENU
```

- ☐ ALL BLACK Check

This function makes all the elements on the LCD show black. Due to this, you can check dots missing on the LCD.
Press the “STOP” button and go back to the panel unit check main menu.

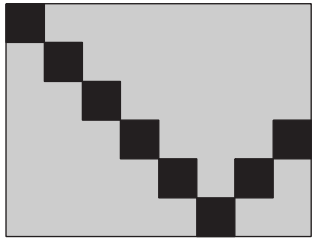
- GRAY SHADE Check
  The LCD is divided into four screens and indicates four graduations. You can check if LCD flickers or not on the graduation display.
  Press “STOP” and go back to the panel unit check main menu.
- DISPLAY Check
  If you start this check, the sub-menu indicator blinks off/on at two-second intervals.
  Press “STOP” button and go back to the panel unit check main menu.
- BACK LIGHT Check
  If you start this check, the back-light of LCD blinks off/on at two-second intervals.
  Press “STOP” button to go back to the panel unit check main menu.
- LED Check
  If you start this check, the ready lamp blinks off/on at two-second intervals.
  Press “STOP” button to go back to the panel unit check main menu.
- TEN KEY + SPECIAL KEY Check
  If you start this check, the LCD indicates as shown below.

[CLEAR]	[1] [2] [3]
[STOP]	[4] [5] [6]
[START]	[7] [8] [9]
	[0] [.] [C]

If you press twelve ten key and three special key, the pressed indicator will disappear.
When all the key pressed, the screen goes back to the panel unit check main menu.

- TOUCH KEY Check

  If you start this check, the LCD indicates as shown below. If you touch the black TOUCH KEY, the black color at the touched position will become the back ground color.
  If you clear all the black panel, the screen goes back to the panel unit check main menu.



- All Check

  This function checks all from ALL BACK Check to TOUCH KEY Check.
  Go to check by “START” button.
  From ALL BLACK Check to TOUCH KEY Check, Press “STOP” button to suspend the process. After TOUCH KEY Check, the process cannot be suspended.
  When all the checks finished, the display goes back to the panel unit check main menu.

5.1.1.2 ISA Board Check

This hardware check function connects and assures the performance of SRAM for ISA board indicator and EEPROM. If you press “2” of ten key, the following panel unit check main menu appears.
If you select this mode, OK / NG is indicated with the following display.

```
[2] ISA_BOARD_CHECK
    a. DISPLAY RAM CHECK
    b. EEPROM CHECK
```

Press “STOP” button to go back to the maintenance main display.

5.1.1.3 ECP Board Check

This hard ware check function conceits and assures performance of various parts of PCI board.
If you press “3” of ten key, the following ECP board check main menu appears.

```
[3] ECP_BOARD_CHECK
    1. RGB CONTROL
    2. B UNIT
    3. MAIN MENU
```

☐ RGB Board Check:
ECP board check main menu. If you press “1” of ten key, the following RGB CONTROL menu appears.

```
[3.1] RGB CONTROL
    1. MEMORY
    2. INTERRUPT
    3. RGB DATA PASS
    4. PRINT B&W
    5. ALL CHECK
    6. MAIN MENU
```

■ **MEMORY Check**

On the RGB CONTROL menu, press “1” of ten key, and this function checks TET, MOIRE, SHARP, CMM, SRAM on the ECP board as shown below.

Based on its check result, the display indicates "OK" if it performs right and indicates ’NG’ if it does not.

```
1. MEMORY
  a. TET      OK
  b. MOIRE    OK
  c. SHARP    OK
  d. CMN      OK
  e. SRAM     OK
```

Press “STOP” to go back to the RGB CONTROL menu.

■ **INTERRUPT Check**

On the RGB CONTROL menu, press “2” of ten key, and this function checks if DMA interrupts rightly.
Based on the check result, the display indicates “OK” if it performs right and indicates “NG” if it does not.

```
2. INTERRUPT
 a.INTERRUPT DATA      OK
```

Press “STOP” to go back to RGB CONTROL menu.

■ **RGB DATA PASS**

On the RGB CONTROL menu, press “3” of ten key, this function performs DMA transfer through ECP board in the following order: ASIC PCI → TET → MOIRE → SHARP → CMN → DMA, and checks BUS.

Based on the check result, the display indicates "OK" if it performs right and indicates “NG” if it does not.

```
3. RGB DATA PASS
  a. PCI → TET              OK
  b. TET → MOIRE            OK
  c. MOIRE → SHARP          OK
  d. SHARP → CMN → DMA      OK
```

Press “STOP” button to go back to RGB CONTROL menu.

■ **PRINT B&W Check**

On the RGB CONTROL menu, press “4” of ten key, and this function sets sample data for direct mono printing in SRAM used for DMA and checks printing.
Based on the check result, the display indicates "OK" if it performs right and indicates “NG” if it does not.
After the process, the display goes back to the maintenance mood main display.

■ **ALL CHECK**

This function checks all, from MEMORY Check to PRINT B&W Check. Press “START” to the next check. Press “STOP” to suspend. After finishing all, the display goes back to the immanencies mood main display.

☐ B UNIT Check
This function checks interruption from bill recognition unit (BILL) and memory and RGB input.
Based on the test result, the display indicates "OK" if it performs right and indicates 'NG' if it does not.

```
[3.2] B UNIT
   a. ROM          OK
   b. RAM          OK
   c. INTERRUPT    OK
   d. RGB1         OK
   e. RGB2         OK
```

Press "STOP" to go back to the maintenance board.

5.1.1.4 Flash ROM Sum Check

This hardware check sum check function checks the firmware check sum housed by Flash ROM on the ECP board.
On the maintenance mood main display, press "4" of ten key, and the Flash ROM sum check screen appears as shown below.

```
[4] FLASH_SUM_CHECK
    SUM CHECK      OK
    SUM            65539
```

Based on the check result, the display indicates "OK" if it performs right and indicates 'NG' if it does not. Also, the display indicates the sum value.
Press "STOP" to go back to the maintenance mood main menu.

5.1.1.5 H/W All Check Printing

On the maintenance mood main view, press "5" of ten key. After the hardware all check done inside, the check result will be printed out. It takes about one minute to check all. The checking items are shown below.

```
1. RGB CONTROL CHECK

  1) Memory
    a. TET
    b. MOIRE
    c. SHARPNESS
    d. CMM
    e. SRAM

  1) Interrupt
    a. DMA

  2) RGB Data Pass
    a. PCI TET
    b. TET MOIRE
    c. MOIRE SHARP
    d. SHARP CMN DMA

2. B UNIT CHECK
    a. ROM
    b. RAM
    c. INTERRUPT
    d. RGB1
    e. RGB2

3. ISA CHECK
    a. DISPLAY RAM
    b. EEPROM

4. FLASH ROM SUM CHECK
    a. SUM CHECK
    b. SUM
```

After all the process finished and the result printed out, the display goes back to the maintenance mood main view. The "STOP" button also let you go back to the maintenance mood main view.

5.1.2 Size Collection (Adjusting the Precision)

This function adjusts the mechanical precision (the individual differences) between the scanner and the printer, and minimizes the measurement gap between the original and the copy result. This function outputs the pulse (the digital rectangle pattern) generated inside of the copy server to the printer, reads these signals with the scanner, calculates the adjustment scale, and reflect the result to the scanning resolution for printing out.
Note that the adjusted value is valid only for printing out. Also, note this function is not open to the end user, presupposing the servicemen use this function for maintenance.

SHIFTING MOOD METHOD

With “0”, “.”, and “C” on the control panel all pressed, turn on the power supply of the copy server to shift to the maintenance mood main view. (See “Hardware Check” on page -57)

MECHANICAL PRECISION ADJUSTMENT PROCEDURE

1. On the maintenance mood main view, press “6” of ten key, and the following screen appears.

```
[6] SIZE_CORRECT

    Load A3, fine paper
    in the MP Tray
    and press START button

    EXIT: STOP BUTTON
```

2. Set the A3, Fine Paper on the paper tray of the printer, and push down the “START” button. The following screen appears.

```
[6] SIZE_CORRECT

    Printing Chart
    Please wait...

    EXIT: STOP BUTTON
```

NOTE: *Use only EPSON Fine Paper.*

3. When the printing of mechanical precision adjustment pattern finished, the following screen appears.

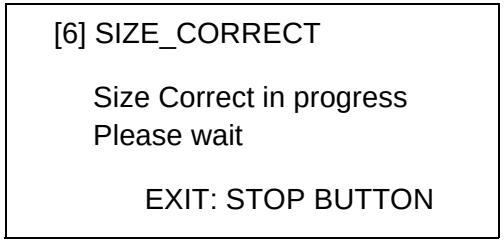
```
[6] SIZE_CORRECT

    Put printed Chart
    on Scanner
    and press START button

    EXIT: STOP BUTTON
```

NOTE: *If an error occurs while printing, the printing will be re-tryed automatically.*

4. Set the printed mechanical precision adjustment pattern on the scanner and push down the “START” button. The scanner scans the data.



NOTE: *If an error occurs while scanning, re-try function works.*

5. The adjusting measure is automatically calculated, and when the process finishes, the display goes back to the maintenance mood main view.
   Also, “STOP” button can be used to go back to the maintenance mood main view from any view.

NOTE: *The adjusted measures are valid from the next printing.*

CHAPTER

6

MAINTENANCE

6.1 Maintenance

For outer cases, wipe stain off with a clean and dry soft cloth. To remove sever stain, use neutral detergent. For inner parts, use the vacuum cleaner to remove dust or foreign objects.

Do not use chemical solvents, such as thinner and benzine for cleaning. These chemicals may damage the plastic and rubber parts.

CHAPTER

7

APPENDIX

7.1 Unit Connection

CCS-8200 unit connection is as follows.

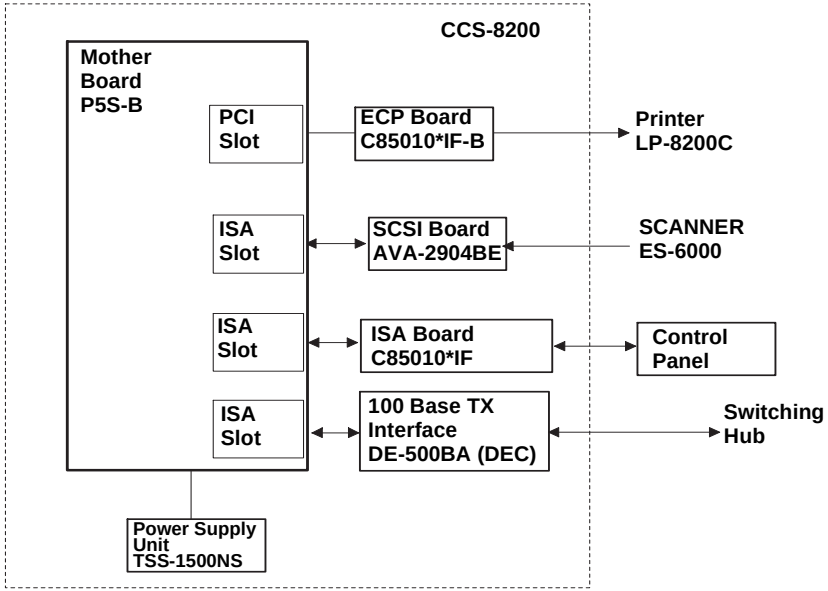


Figure 7-1. CCS-8200 Unit Connection

7.2 Component Layout

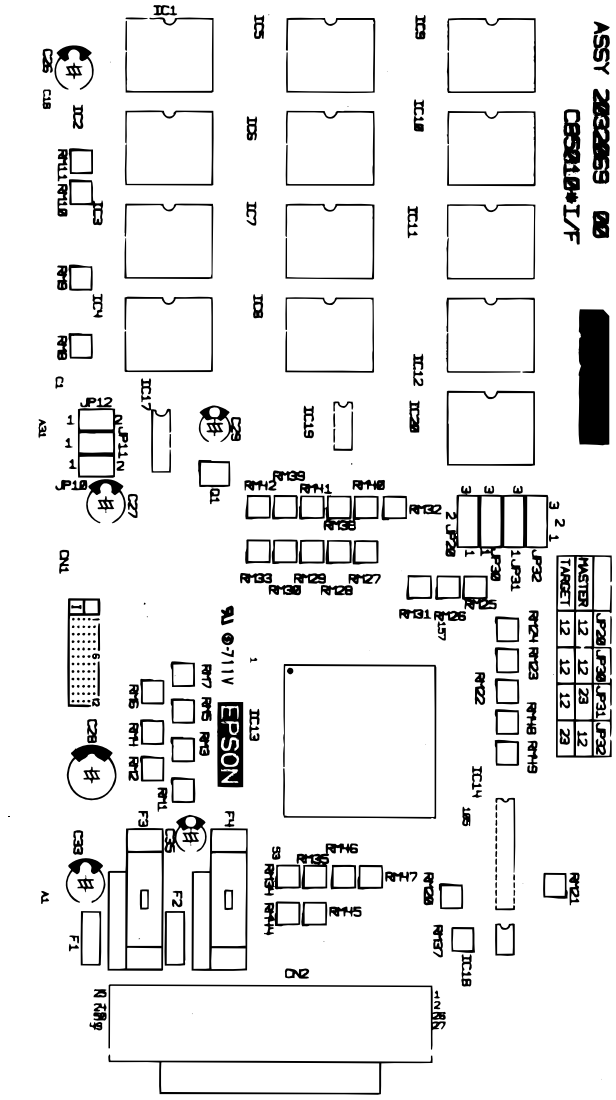


Figure 7-2. C85010 I/F (ISA Board) Component Layout (1)

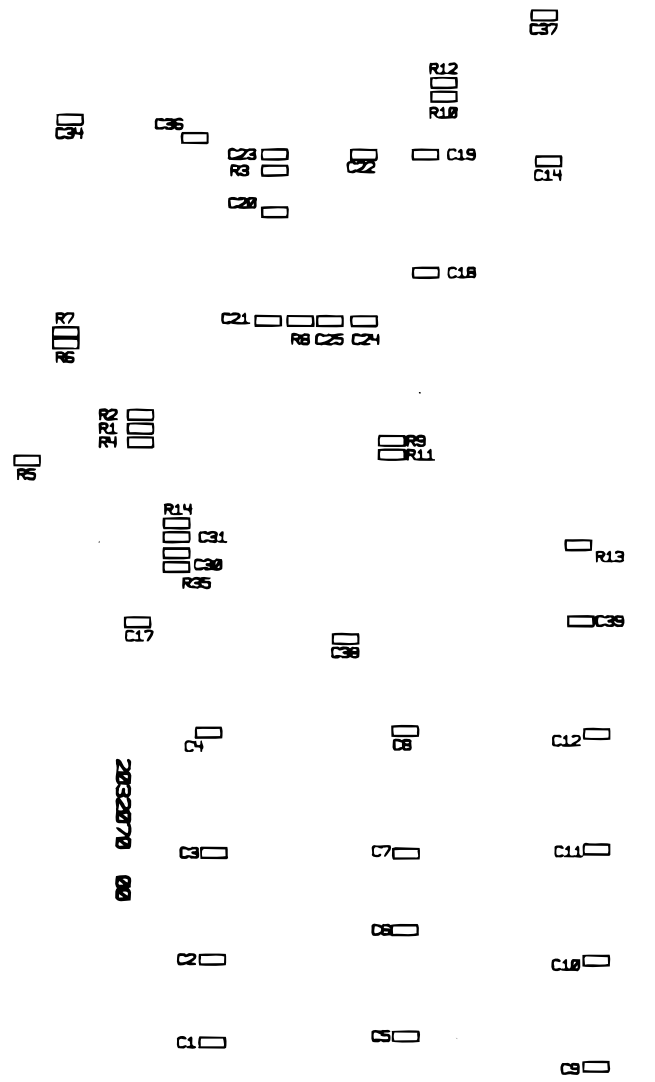


Figure 7-3. C85010 I/F (ISA Board) Component Layout (2)

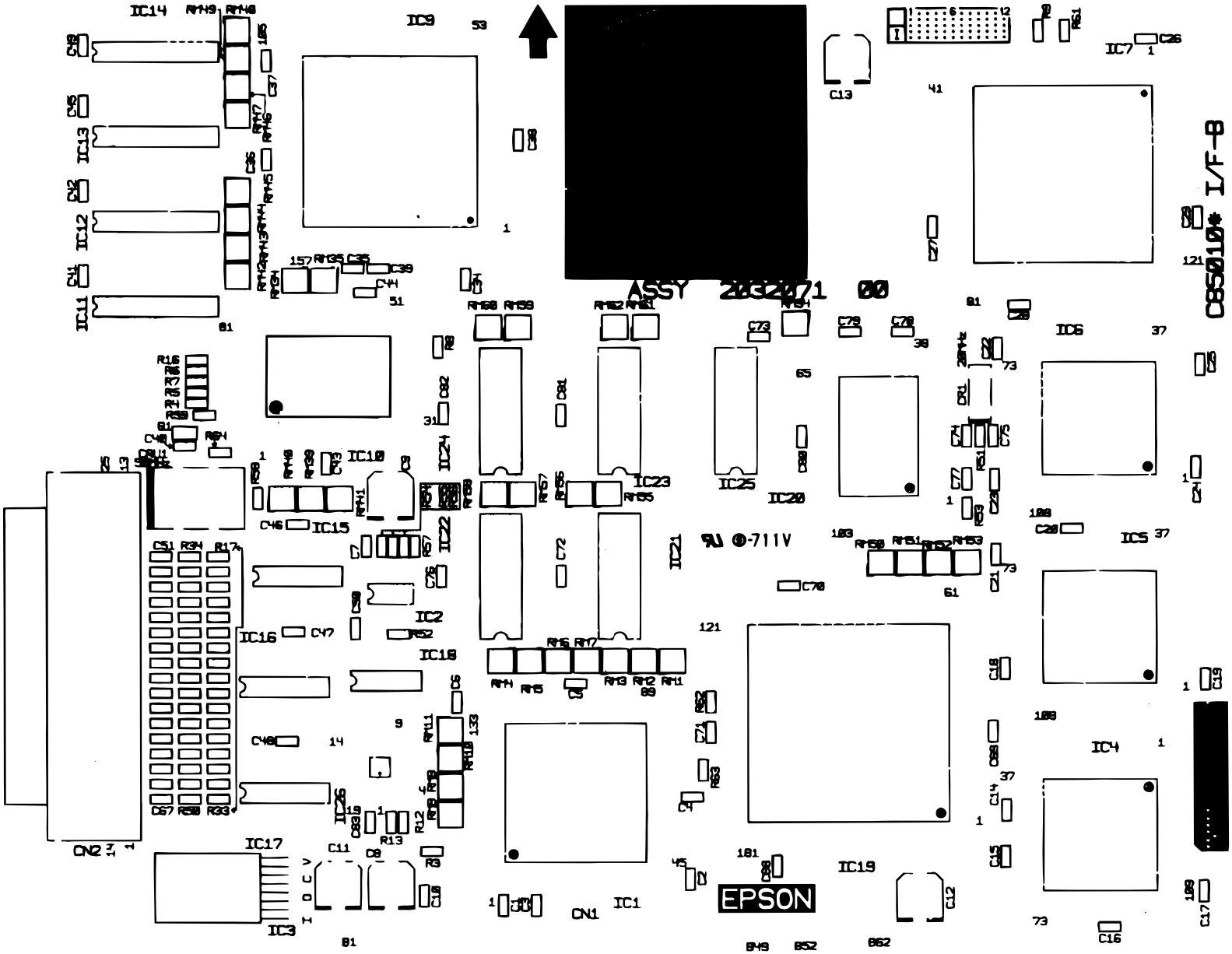


Figure 7-4. C85010 I/F-B (ECP Board) Component Layout

7.3 Exploded Diagram

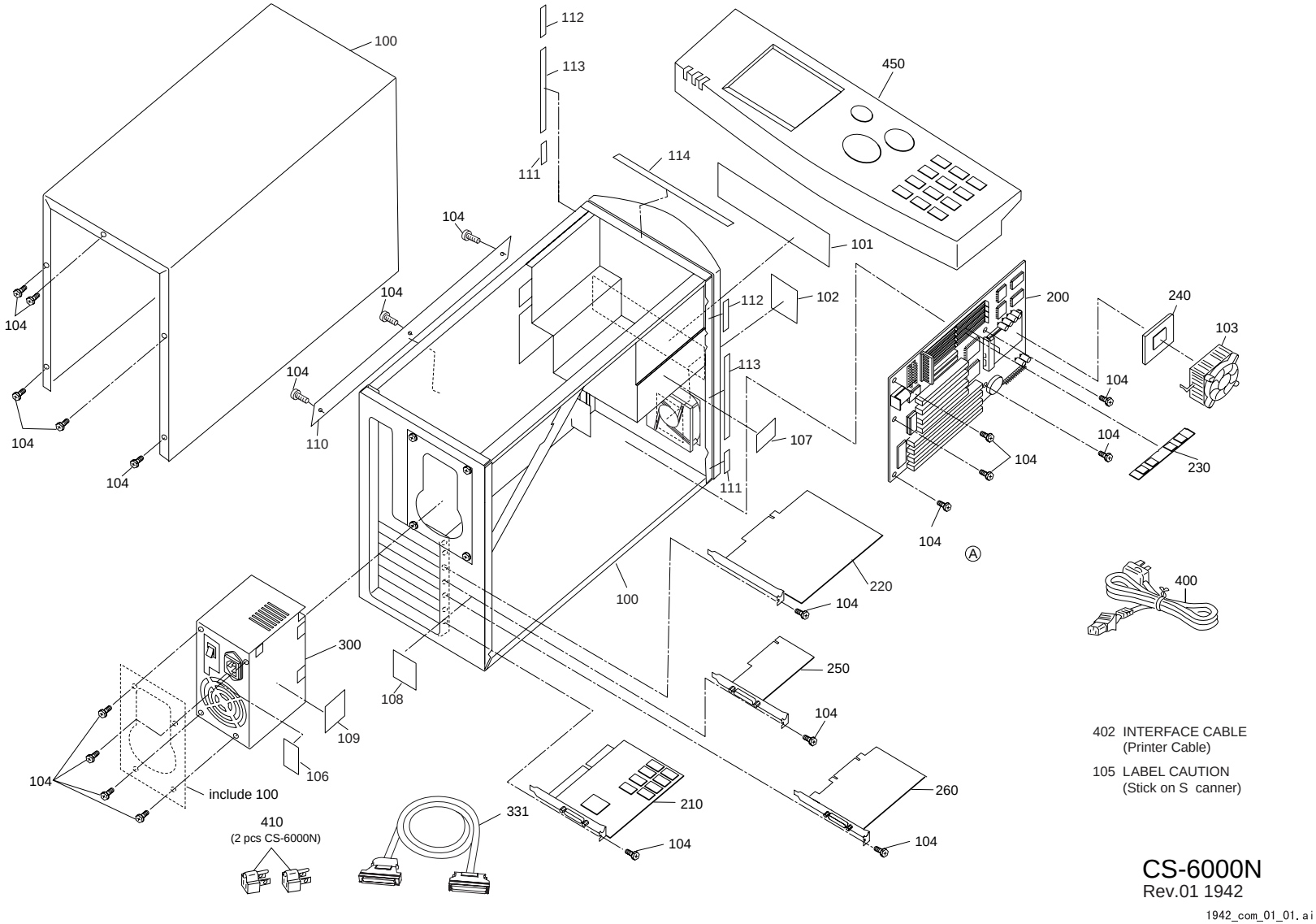
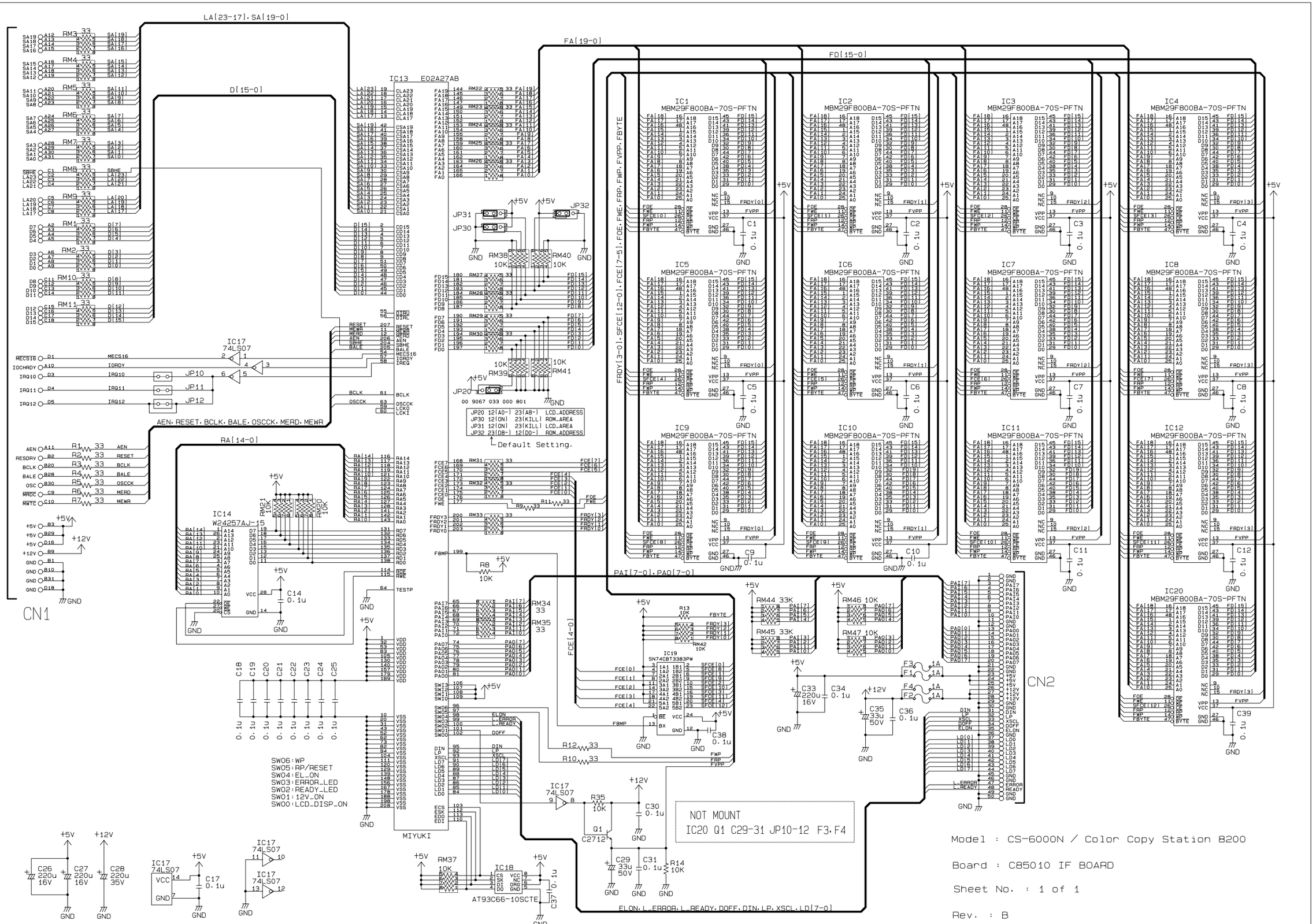


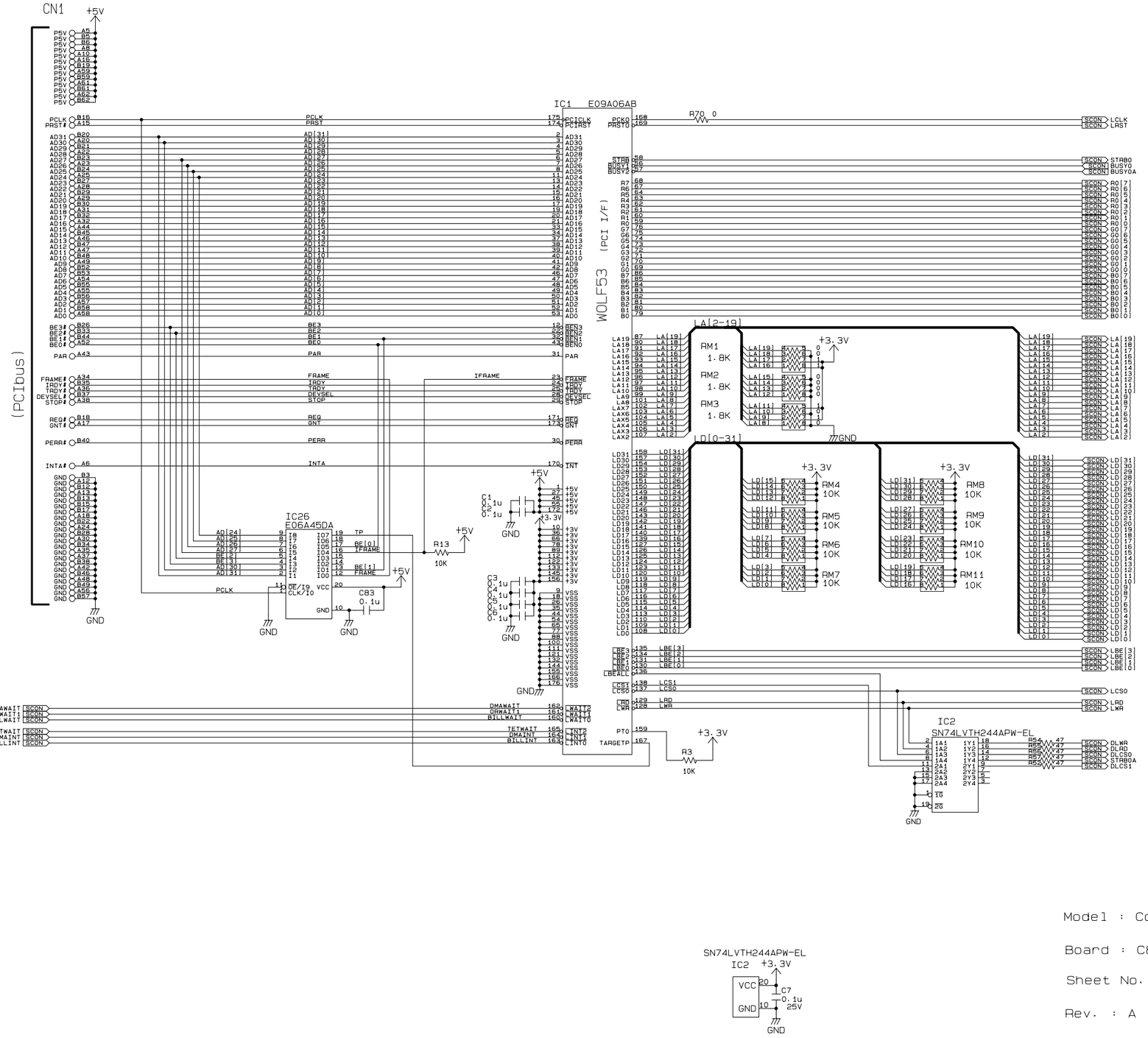
Figure 7-5. Exploded DIagram

7.4 Electric Circuit Diagrams

Refer to the corresponding pages for the Electric Circuit Diagrams listed below.

- ☐ C85010*I/F :ISA Board
- ☐ C85010*I/F-B :ECP Board (1~5)


LA[23-17],SA[19-0]
D[15-0]
FA[19-0]
FD[15-0]
FRDY[3-0],SFCE[12-0],FCE[7-5],FOE,FWE,FRP,FWP,FVPP,FBYTE
PAI[7-0],PAO[7-0]
FCE[4-0]
AEN,RESET,BCLK,BALE,OSCCK,MERD,MEWR
RA[14-0]
ELON,L_ERROR,L_READY,DOFF,DIN,LP,XSCL,LD[7-0]
IC13 E02A27AB
IC1 MBM29F800BA-70S-PFTN
IC2 MBM29F800BA-70S-PFTN
IC3 MBM29F800BA-70S-PFTN
IC4 MBM29F800BA-70S-PFTN
IC5 MBM29F800BA-70S-PFTN
IC6 MBM29F800BA-70S-PFTN
IC7 MBM29F800BA-70S-PFTN
IC8 MBM29F800BA-70S-PFTN
IC9 MBM29F800BA-70S-PFTN
IC10 MBM29F800BA-70S-PFTN
IC11 MBM29F800BA-70S-PFTN
IC12 MBM29F800BA-70S-PFTN
IC20 MBM29F800BA-70S-PFTN
IC14 W24257AJ-15
IC17 74LS07
IC18 AT93C66-10SCTE
IC19 SN74CBT3383PW
JP10
JP11
JP12
JP20
JP30
JP31
JP32
JP20 12(A0-) 23(A8-) LCD_ADDRESS
JP30 12(ON) 23(KILL) ROM_AREA
JP31 12(ON) 23(KILL) LCD_AREA
JP32 23(D8-) 12(D0-) ROM_ADDRESS
Default Setting.
CN1
CN2
MIYUKI
SW06:WP
SW05:AP/RESET
SW04:EL_ON
SW03:ERROR_LED
SW02:READY_LED
SW01:12V_ON
SW00:LCD_DISP_ON
NOT MOUNT
IC20 Q1 C29-31 JP10-12 F3,F4
Model : CS-6000N / Color Copy Station 8200
Board : C85010 IF BOARD
Sheet No. : 1 of 1
Rev. : B



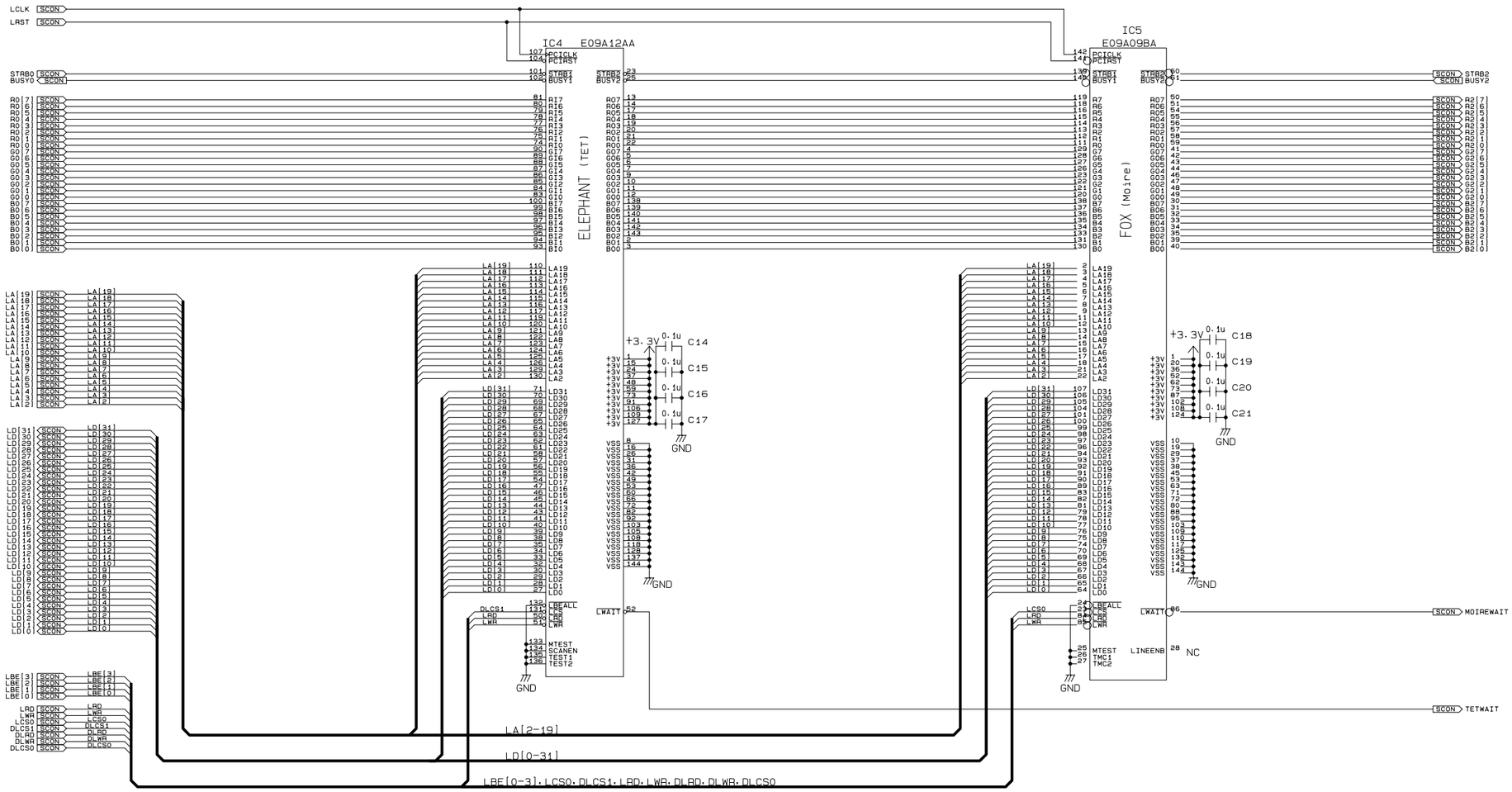
SN74LVTH244APW-EL
IC2 +3.3V

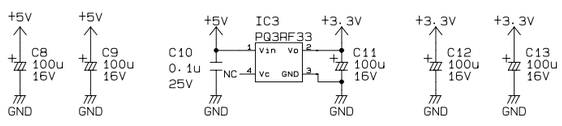
Model : Color Copy Station 8200

Board : C85010* IF-C BOARD

Sheet No. : 1 of 5

Rev. : A



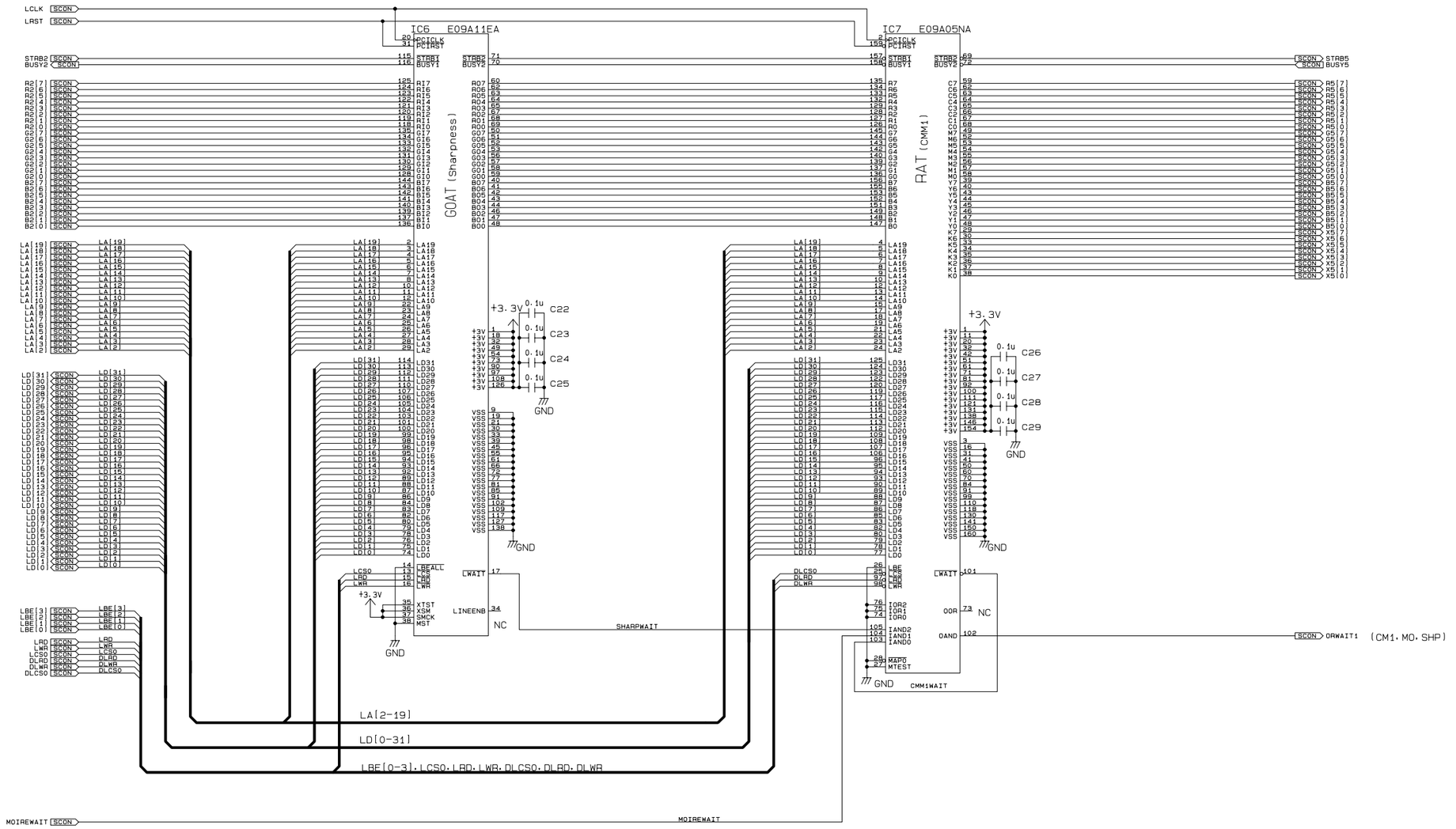


Model : Color Copy Station 8200

Board : C85010* IF-C BOARD

Sheet No. : 2 of 5

Rev. : A

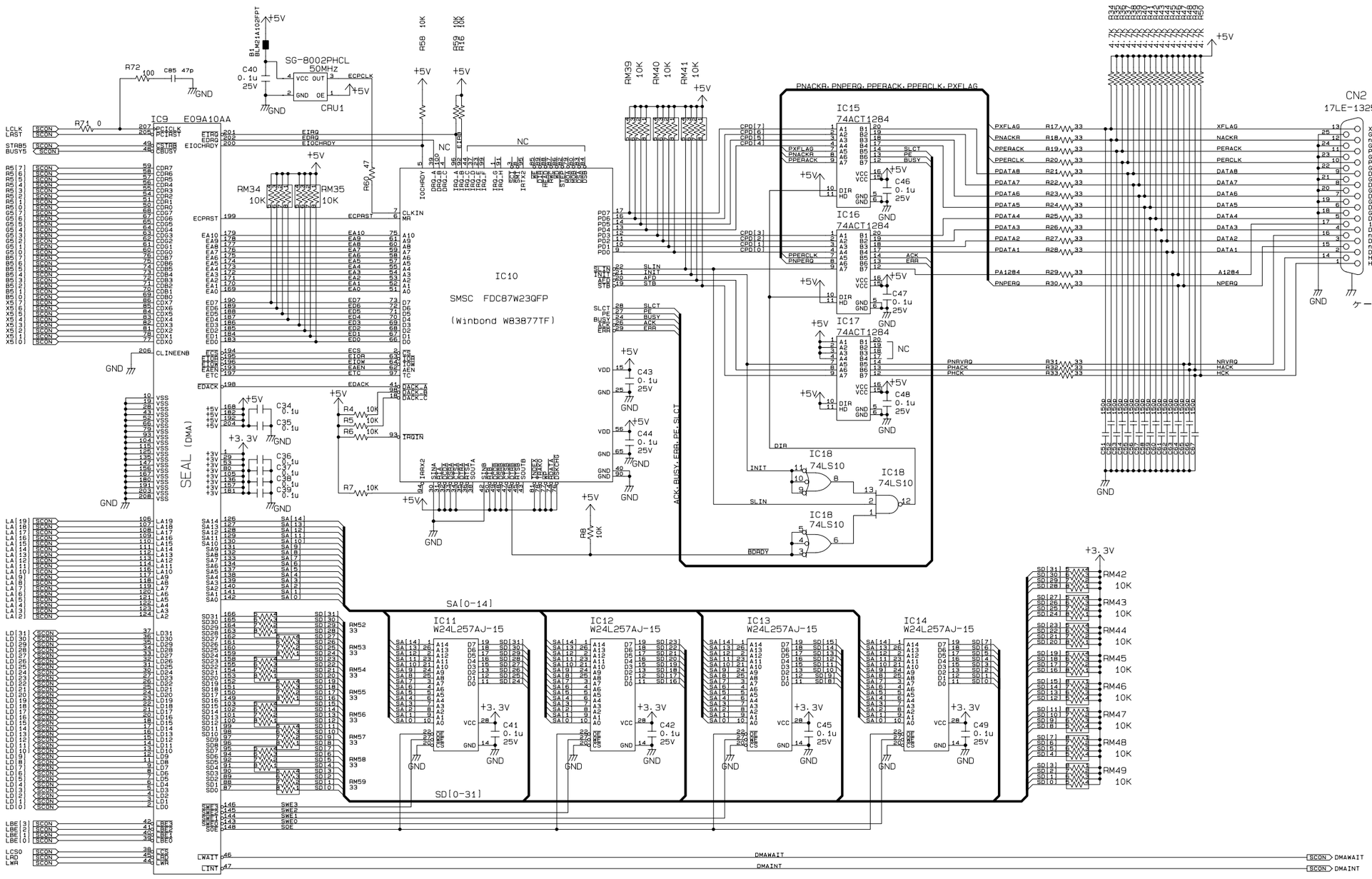


Model : Color Copy Station 8200

Board : C85010* IF-C BOARD

Sheet No. : 3 of 5

Rev. : A

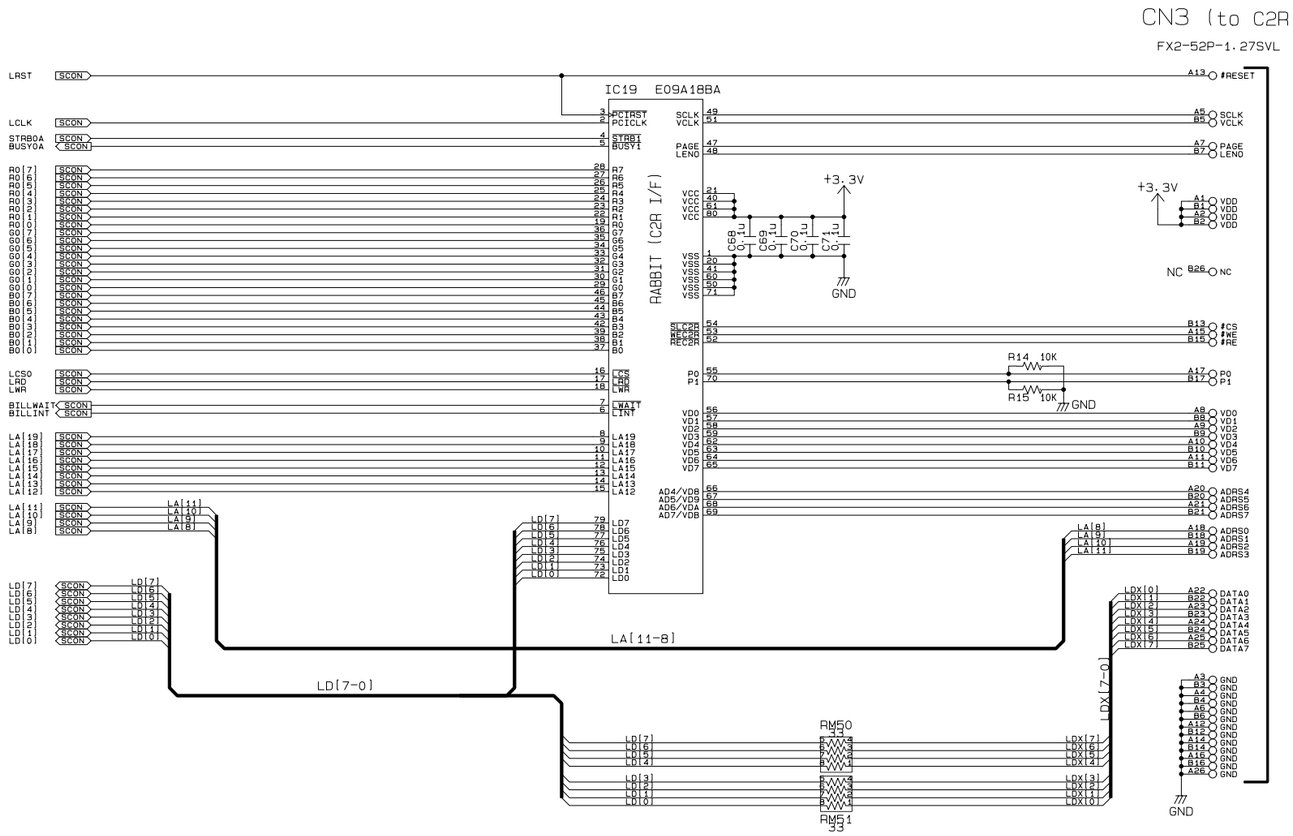


Model : Color Copy Station 8200

Board : C85010* IF-C BOARD

Sheet No. : 4 of 5

Rev. : A



Model : Color Copy Station 8200

Board : C85010* IF-C BOARD

Sheet No. : 5 of 5

Rev. : A