2. Product Overview

2.1 Product Summary

High-Speed Single-Path Color A4 MFP
Document Management Center Machine for Mid & Large Workgroup

- 38 / 38 ppm Network-ready CMFP
- 20K/15K Black/Color toner
- 30K CMYK Imaging unit
- 100K ITB
- Machine Life : 1,000K or 5 Years
- Paper handling
  : Maximum 2,720 Sheets Paper Capacity
  : Finisher with stapler and offset stacking
  : 100sh DADF
- 160 GB HDD
- High Performance CCDM
- Easy to install (CRU & Option)
- Color Graphic Touch-Screen LCD
- Low Cost per Page
- Direct USB

Low Operational Cost

- High Performance & Fully Featured CMFP with Competitive TCO

Highly Efficient Features

- Document Management & Workflow Solutions
- Device Administrative & Job Accounting Solutions

Click-Charge Model

- Click Charge Business model for Customers
- Additional Reseller Revenue via Supplies & Service Contract

Ease of Maintenance

- Simple Jam Recovery Features
- Automatic Toner Ordering Systems

Ease of Use

- Color Touch Screen UI
- Easy Installable Set & Options

Durability & Reliability

- Durability better than competitions
- Reliability Comparable to

Enhanced Features – H/W

Digital Copying

- Up to 38 cpm(Color/Mono) in A4
- 1,200 X 1,200 dpi effective output
- 1~999 pages multi copy
- 500 Sheets Cassette Std.
- Max 2,700 Sheets High Capacity
- 100 Sheet Multi Purpose Tray
- 100 Sheet DADF
- 1 Bin Finisher (Offset Stacker / 50 Sheet Stapler)
- 2-bin Finisher (Offset Stacker / 50 Sheet Stapler)
- 4-Bin Stacker

Laser Printing

- Up to 38 ppm(Color/Mono) in A4
- 9600 Digital Image quality
- PCL5ce, PCL6, PS3, PDF1.4
- High Speed USB 2.0 & 10/100/1000 base TX
- Network Print / Duplex Print
- Print Job with HDD(Secure, Delay, Proof, Job Store)

N/W Color Scanning

- 4,800 x 4,800 dpi
- 256 levels gray scale
- Duplex Scan

Fax (Optional)

- 33.6 Kbps modem speed
- 16MB Fax Memory
- Max 100 group dials (Max locations per 1 Group: 200 locations)
- Caller ID
- Color Fax Available

Enhanced Features – S/W

Scan Solution

- Direct Scan to Client
- Scan to Email / FTP / SMB / HDD
- SmarThru Workflow (Option)(Scan to Application, OCR, Printer)

Security

- Authentication (LDAP)
- Secure / Confidential Printing
- IP Address Filtering
- Time / Date / ID Stamp

Storage

- Form Overlay Printing
- e-Form printing
- Font downloading

Document Management

- SmarThru Office & SmarThru Workflow
- Capturing of Stored Document & Distributions of Documents

N/W Management

- SyncThru Web Admin Service
- SyncThru Plug-in Application
- SyncThru Web Service

Job Accounting

- Job Records Information (Print/Copy/Scan/Fax)
- User based History tracking
- SNMP Job Accounting Access from SWAS
- Print/Copy/Scan/Fax log tracking (HDD, Server)

2.2 Specifications

2.2.1 General Print Engine

Item		Description
Engine Speed	Simplex	B&W: Up to 38 ppm in A4 (40 ppm in Letter) Color: Up to 38 ppm in A4 (40 ppm in Letter)
	Duplex	B&W: Up to 33 ppm in A4 (35 ppm in Letter) Color: Up to 33 ppm in A4 (35 ppm in Letter)
FPOT (B&W and Color)	From Ready	Less than 14 sec
	From Idle	Less than 45 sec(depends on ACR, CTD, or Color tuning, maximum 60 sec.)
	From Coldboot	Less than 85 sec
Resolution	Optical	600 x 600 dpi
	Enhanced	Up to 9,600 x 600 dpi effective output
Printer Languages		PCL5C, PCL6, PostScript Level3, PDF 1.4, KS/KSSM(Only for Korea)
Fonts		PCL:45 scalable, 1 bitmap , PS:136
Downloadable Fonts		Yes (PCL & PS3 S/W Font)
Print Job (with HDD)	Secure Printing	Yes(Common for Windows, Linux, Mac)
	Delayed Printing	Yes(Common for Windows, Linux, Mac)
	Proof printing	Yes(Common for Windows, Linux, Mac)
	Spool	Yes(Common for Windows, Linux, Mac)
	Job Store	Yes(Common for Windows, Linux, Mac)
	Form overlays	- Max number of overlays can be stored: Up to 100 Form - Managed in EWS(JMS) - Multi selection (1st overlay in 1st page, 2nd overlay in 2nd page)

2.2.2 Controller & S/W

Item		Description
Processor	MPU	SPGPv4 800Mhz
	Image Processor	SPGPv4 for printing image, CIP6 for scan image, J4e for Engine
DRAM	Std.	1280MB (MAIN 1024MB, FIXED 256MB)
	Max.	2304MB (Option DDR: 1024MB)
Memory Expansion		1 DDR2 SODIMM Slots (Option Memory: 1024MB DDR2)
Storage(Std.)		160GB HDD
Printer driver	Supporting OS	[Windows] - Windows 2000/XP (32/64bit)/2003(32/64bit)/Vista(32/64bit)
		[Linux] - RedHat 8.0 ~ 9.0 - Fedora Core 1~4 - Madrake 9.2 ~ 10.1 - SuSE 8.2 ~ 9.2
		[Mac] - Mac OS X 10.3~10.5
	Default Driver	PCL6 (For Windows), PS (for Mac, Linux)
	Driver feature	[Windows] - Watermark, Overlay, N-up printing, Poster printing - Duplex, Quality, Color mode (Color, Gray scale) - Support Color spec., Device color, color management [Mac/Linux] - N-up printing, Duplex, Quality - Color mode (Color, Gray scale)
	WHQL	Windows 2000/XP(include 64bit)/2003/Vista
	Language Localization	English, French, German, Italian, Spanish, Korean, Russian, Brazilian Portuguese
Scan driver	TWAIN	Yes (N/W and USB)
	WIA	Yes (USB Only)
	Supporting OS	[Windows] - Windows 2000/XP(32/64bit)/2003/Vista(32/64bit)
		[Linux] - RedHat 8 ~ 9 - Fedora Core 1~4 - Madrake 9.2 ~ 10.1 - SuSE 8.2 ~ 9.2
		[Mac] - Mac OS 10.3~10.5

Item		Description
Application	Network Scan (Client)	Yes
	PC-FAX	Yes
	NW-FAX	Yes (Supported through SmarThru Office)
	OCR	ReadIRIS
	Smart Panel	Yes (Install default: Windows, Linux, Mac)
	Network Management	Set IP, SWAS 5.0 & SWS - Job Accounting, Storage management, Cloning, Remote Install * Supported Web Browser: - IE 5.5 or higher - FireFox 1.5 or higher - Safari 1.3 or higher
	HDD File Management S/W	N/A
	SmarThru	Smarthru Office v2.0, SmarThru Workflow v2.0 (Workflow is optional)
Interface	Parallel (IEEE 1284)	No
	USB	High-Speed USB 2.0 Host (1Channel) * Use: - Option enable Key (Jscribe) - Scan to USB - USB direct printing - F/W down load for system upgrade - Card Reader w/ Jscribe
		Hi-Speed USB 2.0 Peripheral (1Channel)
	Wired LAN	Ethernet 10/100/1000 Base TX
	Foreign Device Interface (FDI)	Optional
Network Interface	Network OS	[Windows] - Microsoft Windows 2000/XP(32/64bits)/2003(32/64bits)/Vista(32/64bits) [Mac] - Mac OS 10.3~10.5 [Linux] - RedHat 8 ~ 9 - Fedora Core 1~4 - Madrake 9.2 ~ 10.1 - SuSE 8.2 ~ 9.2 [Novell] - Netware 5.x, 6.x(TCP/IP Only) [Others] - Unix(HP-UX,Solaris,SunOS, SCO)

Item		Description
	Protocol	* TCP/IP : TCP/IPv4, HTTP, SNMPv1/v2c/V3, LDAP, SMTP, SSL/TLS, IPSec
	IP Addressing	Static IP, Auto IP, BOOTP, DHCP
	SNMP/MIB Access	Host Resource MIB(RFC 2790), Printer MIB(RFC 3805) Finisher MIB(RFC(3806), Samsung private MIB, SNMP Trap
User Interface	LCD	800 x 480 7 WVGA Color graphic LCD with Touch-Screen, 16bit color

2.2.3 Scan

Item		Description
Scan method		Color CCDM
Compatibility		TWAIN(USB & N/W), WIA(Only for USB)
Color Mode		Mono / Gray / Color
Scan Speed	B/W (Lineart, Halftone)	35ipm @ 300dpi (Under P2.8GHz, 512M, USB2.0, 300dpi, Letter)
	Gray	35ipm @ 300dpi (Under P2.8GHz, 512M, USB2.0, 300dpi, Letter)
	Color	33ipm @ 300dpi (Under P2.8GHz, 512M, USB2.0, 300dpi, Letter)
Resolution	Optical	600 x 600ppi
	Enhanced	4,800 x 4,800ppi
Halftone		256 levels
Scan Size	Max. Document Width	Max.216mm(8.5)
	Effiective Scan Width	Max 208mm(8.2inch)
	Max. Document Length	Max.356mm (Legal)
Scan Depth	Color	24bits
	Mono	- 1bit for Linearity & Halftone - 8Bits for Gray scale
Scan-to	HDD	Yes
	USB	Yes
	Email	Yes
	Client(NetScan)	Yes
	SMB	Yes *Color Mode : B/W, Gray, Color *Format : PDF(Color,Gray,B/W), Single-Tiff,Multi-Tiff (Color,Gray,B/W), JPEG(Gray,Color) *Resolution : Color(100,200,300), Gray(100,200,300), B/W(100,200,300,400,600)
	FTP	
	HTTP(S)	No

2.2.4 Copy

Item		Description
Copy Speed (DADF)	Single Document Multiple Copy	Color Simplex : up to 38 cpm in A4 (40 cpm in Letter) Mono Simplex: up to 38 cpm in A4 (40 cpm in Letter) Color Duplex : up to 33 cpm in A4 (35 cpm in Letter) Mono Duplex : up to 33 cpm in A4 (35 cpm in Letter)
	Multiple Document Multiple Copy	Color Simplex : up to 33 cpm in A4 (35 cpm in Letter) Mono Simplex: up to 38 cpm in A4 (40 cpm in Letter) Color Duplex : up to 16 cpm in A4 (16 cpm in Letter) Mono Duplex : up to 24 cpm in A4 (25 cpm in Letter)
FCOT (B&W and Color)	From Ready	Less than 13 sec
	From Idle	45 sec ~ 60 sec Max. (depends on ACR, CTD, or Color tuning)
	From Coldboot	Less than 85 sec
Zoom Range		25% ~ 400% in 1% increments (Platen) 25% ~ 100% in 1% increments (DADF)
Multi Copy		1~999
Original Type	Text	Platen: Scan 600x600dpi , Printing 600x600dpi DADF: Scan 300x300dpi, Printing 600x600dpi
	Text/Photo	Platen: Scan 600x600dpi, Printing 600x600dpi DADF: Scan 300x300dpi, Printing 600x600dpi
	Megazine	Platen: Scan 600x600dpi , Printing 600x600dpi DADF: Scan 300x300dpi, Printing 600x600dpi
	Photo	Platen: Scan 600x600dpi, Printing 1200x1200dpi DADF: Scan 300x300dpi, Printing 600x600dpi
Reduce & Enlarge		* Zoom Range : 25% to 400% in Platen, 25% to 200% in ADF * Preset [Original(100%)] [Auto Fit] [A4 → A5(71%)] [LGL→LTR(78%)] [LGL→A4(83%)] [A4→LTR(94%)] [EXE→LTR(104%)] [A5 → A4(141%)] 25%, 50%,150%, 200%, 400% [Custom:25-400%)]

Item	Description
Duplex Copy	Using Platen - 1→1Sided - 1→2Sided Using DADF - 1→1Sided - 1→2Sided Short, - 1→2Sided Long, - 2→1Sided - 2→1Sided, Rotate Side2 - 2→2Sided

2.2.5 FAX

Item		Description
Compatibility		ITU-T G3
Communication System		PSTN/PABX
Modem Speed		33.6Kbps
TX Speed		3sec (Mono/Standard/ECM-MMR, ITU-T G3 No.1 Chart)
Compression		MH/MR/MMR/JBIG/JPEG
Color Fax		Yes
ECM		Yes
Resolution (Mono)	Std	203*98dpi
	Fine	203*196dpi
	S.Fine Photo	300*300dpi
	S.Fine	406*392dpi
Resolution (Color)	Std	200*200dpi
	Fine	200*200dpi
	S.Fine	200*200dpi
Scan speed	Std	1.5sec/LTR
	Fine	4sec/LTR
	S.Fine	Depends on Document

Item		Description
Telephone Features	Handset	No
	On hook Dial	Yes
	Search	Yes(Phone Book)
	Speed Dial	200 locations
	Group Dial	Max. 100 Groups (Max. locations per 1 Group : 200 locations)
	TAD I/F	Yes
	Tone/Pulse	Yes
	Pause	Yes
	Auto Redial	Yes
	Last Number Redial	Yes
	Distinctive Ring	Yes
	Caller ID	Yes (Only for Korea w/ Officeware Available from October)
	External Phone Interface	Yes
Functions	Mail Box	Yes
	Voice Request	No
	TTI	Yes
	RTI	Yes
	Polling	Yes
	Earth/Recall	No
	Auto Reduction	Yes
	SMS	No
	Multi-send	Same as Group Dial Capacity.
	Delayed Send	Yes
	Memory RX	Yes
	Relay Transmission (ITU-T Mail Box)	Yes
	Priority Transmission	Yes
	Batch Transmission	Yes
Report & List Print out	Tx/Rx Journal	Yes
	Confirmation	2 types available (with Image TCR, w/o image TCR,Mono Only)
	Auto Dial List	Yes
	System Data List	List all user setting
Sound Control	Ring Volume	Yes(Off,Low,MED,HIGH)
	Key Volume	Yes(On,Off)
	Speaker	Yes(On,Off)
	Alarm Volume	Yes(On,Off)

Item		Description
Junk Fax barrier		Yes
Security Receive		Yes
Battery Backup		Permanently stored on HDD
Duplex	Send	Yes
	Receive	Yes
Receive Mode		Fax, TEL, Ans/Fax
FAX Memory		HDD Store, 500 Jobs
Fax Forward to FAX		Yes(On/Off), both Sent and Received
Fax Forward to e-mail		Yes
Broadcasting		up to 209 locations
Cover page		No
Fax-to	HDD	Yes
	USB	No
	Fax	Yes
	Email	Yes
	Client	No
	SMB	Yes
	FTP	Yes
	HTTP(S)	No

2.2.6 Paper Handling

Item		Description
Standard Capa.		- Tray 1,2,3 500 multi-page for plain paper 80 g/m2 [20 lb(75 g/m2) bond 520 sheets] - MP tray 100 multi-page for plain paper 80 g/m2 (20 lb bond) - HCF 1,950 multi-page for plain paper 80 g/m2 [20 lb(75 g/m2) bond 2,100 sheets]
Max. Input Capa.	MP + 3 Tray	1,660 sheets @ 75g/㎡
	MP + 1 Tray + HCF	2,720 sheets @ 75g/㎡
Printing	Max. Size	216 x 1,200mm (8.5 x 47.2), Banner zise
	Min. Size	98 x 148 mm (3.85x5.83)
	Margin(T/B/L/R)	4 mm, 4 mm, 4 mm, 4 mm

Item		Description
Bypass Tray	Capacity	Plain paper:100 sheets Transparency:20 sheets Envelopes:10 sheets Labels:10 sheets
	Media sizes	98 x 148 mm (3.85 x 5.83) ~ 216 x 356 mm (8.5 x 14) Banner Size Printing : 216mm x 1,200mm
	Media type	Printer Default, Plain Paper, Thick Paper, Thin Paper, Bond Paper, Color Paper, CardStock, Labels, Transparency, Envelope, Preprinted, Cotton, Recycled Paper, Archive
	Media weight	16~58lb (60 to 220g/㎡)
	Sensing	Paper empty sensor
Standard Cassette Tray	Capacity	500 sheets @ 80g/㎡
	Media sizes	Letter, Legal, Oficio, Folio, A4, JIS B5, ISO B5, Executive, A5, Statement, A6, PostCard 4x6, Envelope B5, Envelope Monarch, Envelope COM-10, Envelope DL, Envelope C5, Envelope C6, Custom
	Media types	Plain Paper, Thin Paper, Bond, Punched, Pre-Printed, Recycled, Envelope, Transparency, Label, CardStock, Letterhead,Thick,Cotton,Colored,Archive
	Media weight	Plain Paper : 60~90g/㎡(16~24 lb) Thick Paper : 90~120 g/㎡ Thin Paper : 60g/㎡(16 lb) Bond : 105~120g/㎡(28~32 lb) Punched : 60~90g/㎡(16~24 lb) Pre-Printed : 60~90g/㎡(16~24 lb) Recycled : 75~90g/㎡(20~24 lb) Envelope : 75~90g/㎡ Transparency : 138~146g/㎡(16~24 lb) Label : 120~150g/㎡ CardStock : 120~163g/㎡ Letterhead : 90g/㎡ cotton paper
	Sensing	H/W Install Detect: Yes Paper Empty & Low Level Detect: Yes Paper Type Detect: No Paper Size Detect: Yes
Optional Cassette Tray(SCF)	Capacity	500 sheets @ 80g/㎡
	Media sizes	Letter, Legal, Oficio, Folio, A4, JIS B5, ISO B5, Executive, A5, Statement, A6, PostCard 4x6, Envelope B5, Envelope Monarch, Envelope COM-10, Envelope DL, Envelope C5, Envelope C6, Custom
	Media types	Plain Paper, Thin Paper, Bond, Punched, Pre-Printed, Recycled, Envelope, Transparency, Label, CardStock, Letterhead,Thick,Cotton,Colored,Archive

Item		Description
	Media weight	Plain Paper : 60~90g/㎡(16~24 lb) Thick Paper : 90~120 g/㎡ Thin Paper : 60g/㎡(16 lb) Bond : 105~120g/㎡(28~32 lb) Punched : 60~90g/㎡(16~24 lb) Pre-Printed : 60~90g/㎡(16~24 lb) Recycled : 90~108g/㎡(20~24 lb) Envelope : 75~90g/㎡ Transparency : 138~146g/㎡ Label : 120~150g/㎡ CardStock : 120~163g/㎡ Letterhead : 90g/㎡ cotton paper
	Sensing	H/W Install Detect: Yes Paper Empty & Low Level Detect: Yes Paper Type Detect: No Paper Size Detect: Yes
Optional, High-Capacity Feeder (HCF)	Capacity	1950 sheets @ 80g/㎡
	Media sizes	A5, A4 to Legal, Folio, Oficio, Exe
	Media types	Plain Paper, Thin Paper, Bond, Punched, Pre-Printed, Recycled, Letterhead
	Media weight	Plain Paper : 60~90g/㎡(16~24 lb) Thick Paper : 90~105 g/㎡ Thin Paper : 60g/㎡(16 lb) Bond : 105~120g/㎡(28~32 lb) Punched : 60~90g/㎡(16~24 lb) Pre-Printed : 60~90g/㎡(16~24 lb) Recycled : 75~90g/㎡(20~24 lb) Letterhead : 90g/㎡ cotton paper
	Sensing	H/W Install Detect: Yes Paper Level Detect: Yes - Empty, 4 Level Paper Type Detect: No Paper Size Detect: Yes
Output Stacking		500 sheets @ 20lb (80g/㎡)
Output Full sensing		Yes
1 Bin Finisher	Capacity	500 sheets @ 20lb (80g/㎡)
	Offset Stacking	Yes
	Stapling Method	1 Position
	Sensing	Output Full sensing: Yes Cartridge Empty Detect : Yes

Item			Description
2 Bin Finisher	Capacity	FaceUp	N/A
		FaceDown	Main Tray : 500 sheets@20lb (80g/㎡) Top Tray : 100 sheets @20lb (80g /㎡)
	Offset Stacking		Yes
	Stapling Method		1 Position
	Sensing		Output Full sensing : Yes Cartridge Empty Detect : Yes
4 Bin Finisher	Capacity	FaceUp	N/A
		FaceDown	400 sheets @ 20lb (80g /㎡) : 100 sheets/Bin
	Offset Stacking		N/A
	Output Full sensing		Yes
ADF	Capacity		100 sheets (20lb, 75 g/㎡)
	2-sided Document Scanning		Yes (Reversing)
	Document Size		Width : 145 ~ 216mm (5.7~8.5) Length : 145 ~ 356mm (5.7 ~ 14.0) for Single page scan 145 ~ 400mm (5.7 ~ 15.7) for Multi pages scan Bank Check Scan : 69.6mm x 152.4mm
	Document Weight		12.5~28lb

Note : Please use the proper media in the specification table. If not, the print quality problem or the printer jam will occur.

2.2.7 Consumables (CRU : Customer Replacement Unit)

Item		Description
No. of CRUs		K toner : CLX-K8385A C toner : CLX-C8385A M toner : CLX-M8385A Y toner : CLX-Y8385A K Imaging unit : CLX-R8385K C Imaging unit : CLX-R8385C M Imaging unit : CLX-R8385M Y Imaging unit : CLX-R8385Y Waste Toner Box : CLX-W8380A
Toner	Black	Average Continuous Black Cartridge Yield: 20,000* standard pages
	Color	Average Continuous Black Cartridge Yield: 15,000* standard pages
	Key	S-CRUM ver 1.1
	Life detect	Dot count & T/C Sensor
	Replace method	User replacable
Imaging unit (OPC+Deve)	Yield	30,000 pages each CMYK Imaging unit
	Key	S-CRUM ver 1.1
	Sensor	page count
	Replace method	User replacable
Waste Toner Container	Yield	48,000 images
	Key	N/A, Full Sensor

Note

- Declared yield value in accordance with ISO/IEC 19798.
  For ISO/IEC 19798 standard pages, refer to section 3 of chapter 6.
- Image counts are based on one color on each page. If you print documents in full color (Yellow, Magenta, Cyan, Black), the image count will be added by 4 images.
- For more information about the consumables, refer to chapter 3.

2.2.8 Maintenance Parts (FRU : Field Replacement Unit)

Item	Description
No. of FRUs	10 (ITB, Fuser, T2 Roll, Pick-Up, ADF Rubber, DADF Roller, MPF Rubber, and Guide Exit Unit, Duplex Cover Filter)
CARTRIDGE - TRANSFER	100,000 sheets
ELA UNIT - FUSER	100,000 sheets
MEA UNIT - TR (T2)	100,000 sheets
MEA UNIT – ROLLER PU	100,000 sheets
RMO - ADF RUBBER	50,000 sheets
MEA - ADF ROLLER	200,000 sheets
ELA HOU - MP PICK UP	200,000 sheets
MEA UNIT - HOLDER PAD	50,000 sheets
MEA UNIT - EXIT DUPLEX	100,000 sheets
DUPLEX - COVER FILTER	100,000 sheets

Note : If you want to know more information for the consumables, consult the maintenance chapter.

2.2.9 Service & Environment

Item		Description
Recommended Printing Volume(AMPV)		7,000 sheets/month (60% Color ratio)
Max. Monthly Print Volume		16,666 sheets/month
Max Monthly Duty		100,000 sheets/month
MPBF		100,000 sheets
MTTR		60 minutes
SET Life Cycle		1,000,000 printing pages or 5 years, whichever comes first
Temperature	Operating	10~32℃ (50~89.6F)
	Storage	-20~40℃ (-4~104F)
Humidity	Operating	20~80% RH
	Storage	10~90% RH
Input Voltage		Europe : AC 220-240V(-10%~6%)
		USA : AC 110~127V (-10%~6%)
		Korea : AC 220-240V(-10%~6%)
Noise	Printing Simplex / Duplex	54dB (Tray 1 & MP : 54dB / With Optional Tray : 56dB / With Finisher : 58dB)
	Copying Simplex / Duplex	56dB (Tray 1 & MP : 57dB / With Optional Tray : 59dB / With Finisher : 60dB)
	Standby	43dB
	Sleep	35dB

Item		Description
Power Consumption	Ready	< 80 Watt
	AVG.	< 650 Watt
	Max/Peak	< 1100 Watt max. / 1500 Watt peak
	Sleep/Power Off	< 20 Watt / < 1 Watt

2.2.10 Options

Item	Model Name	Remark
Optional Tray (SCF)	SCX-S6555A	2 x 520 sheet Cassette Feeder
Staple	SCX-STP000	3 EA x 5000 Staples / package
Memory	CLP-MEM400	1024 MB
SmarThru workflow	SCX-KIT11S	Optional Document Management Server S/W
Fax kit	SCX-FAX210	Super G3, Analog Fax Kit
Stand	SCX-DSK10S SCX-DSK10T	Short Type Tall Type(w/ Cabinet)
FDI	SCX-KIT20F	Serial Type Foreign Device Interface
Optional Tray (HCF)	SCX-HCF100	2,100 sheets High Capacity Feeder
Jscribe	SCX-KIT10J	JScribe Related S/W Enabler
1Bin Finisher	SCX-FIN11S	Offset Stacking, 50 sheet Stapler, 500 sheet Stacker
2Bin Finisher	SCX-FIN20S	Finisher Standard Feature + Top Tray 125 sheets
4Bin Mailbox	SCX-MBT40S	400 sheets/4bin -> 100 sheets/bin

Note : If you want to know more information for the consumables, consult the Installation chapter.

* Option Compatibility

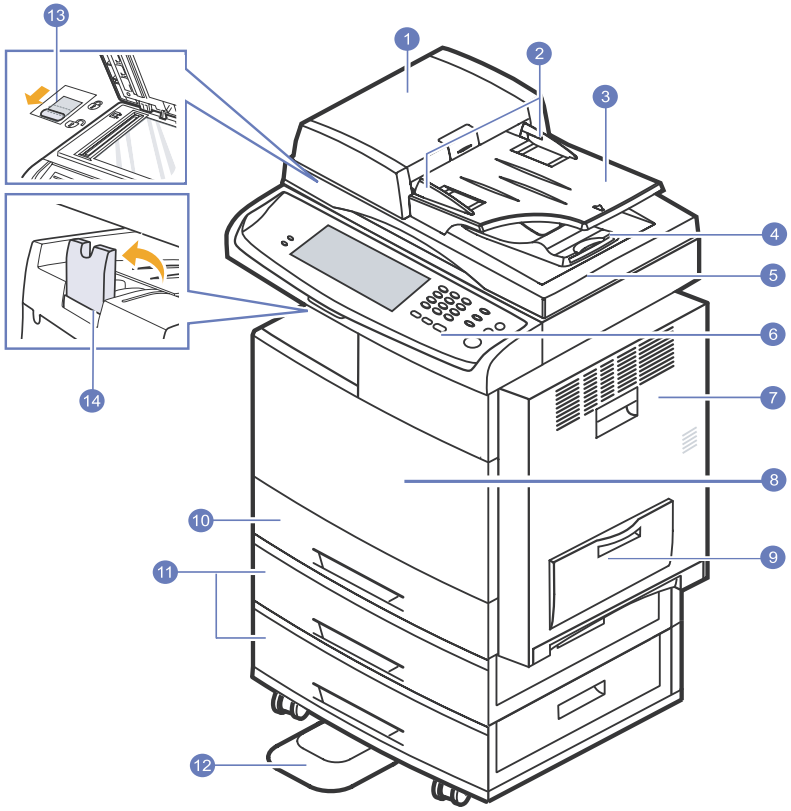
Option \ MFP	SCX-6345N	SCX-6555N	CLX-8380ND	CLX-8385ND
SCX-FIN10S	●			
SCX-FIN11S		●	●	●
SCX-FIN20S	●	●	●	●
SCX-MBT40S	●	●	●	●
SCX-FAX210		●	●	●
SCX-S6555A		●	●	●
SCX-HCF100		●	●	●

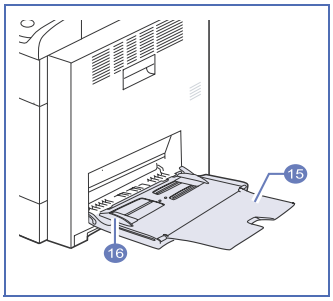
2.2.11 Model Comparison

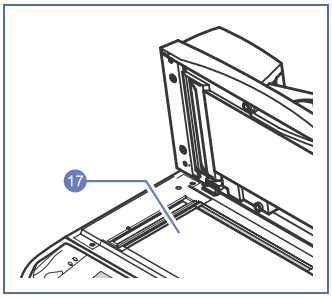
	Samsung CLX-8385ND	HP LJ-4730	Ricoh Aficio MP C2500(A3)	Konica Minolta Bizhub C252(A3)
Model				
Type	A4 Tendem	A4 Tendem	A3 Tendem	A3 Tendem
Speed	38/38ppm(A4)	28/28ppm(A4)	24/24ppm(A4) / 12/12ppm(A3)	24/24ppm(A4) / 12/12ppm(A3)
FCOT(B/C)	14 sec / 14 sec	10sec / 12sec	6.7sec / 9.7sec	8.4sec / 11.7sec
Emulation	PCL6, PS3, PDF1.4	PCL6, PS3, PDF1.4	PCL6, PS3, RPCS	PCL6, PS3
Duplex	Available (Std)			
Scan Res(dpi) / Optical Max	600X600 / 4800x4800	600X600	600X600	600X600
ADF / Capa	DADF /100sht	ADF / 50sht	DADF /50sht	DADF(Opt) /50sht
Paper Capa/ CST	520sh + MP 100sh HCF 2,100sh Max 2,720 sh	500sh x 3 + MP 100sh Max 1,600sh	500sh x2 + MP 100sh LCT 1,000sh x2 Max 3,100sh	500sh+MP 250sh+BP100sh LCT 2,500sh Max 3,350sh
HDD	160GB Std	40GB Std	40GB Std	40GB Std
Memory (Max)	1GB / 2GB	448MB / 512MB	1GB	512MB
Interface	USB 2.0 , N/W	USB 2.0 , N/W	USB 2.0 , N/W	N/W
Rec. Color AMVP	3.6K	5K-9K	4.2K(Expected)	2.1K(Expected)
Mo. Duty Cycle	100K	175K	150K	75K
Toner / Imaging unit	BK 20K, C15K / 30K	B-12K, C-12K / -	B-20K, C-15K / 80K	B20K,C12K / B70K,C45K

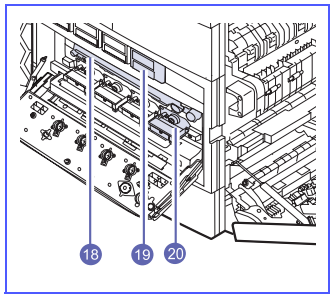
2.3 System Overview

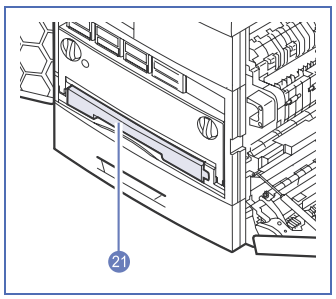
■ Front view







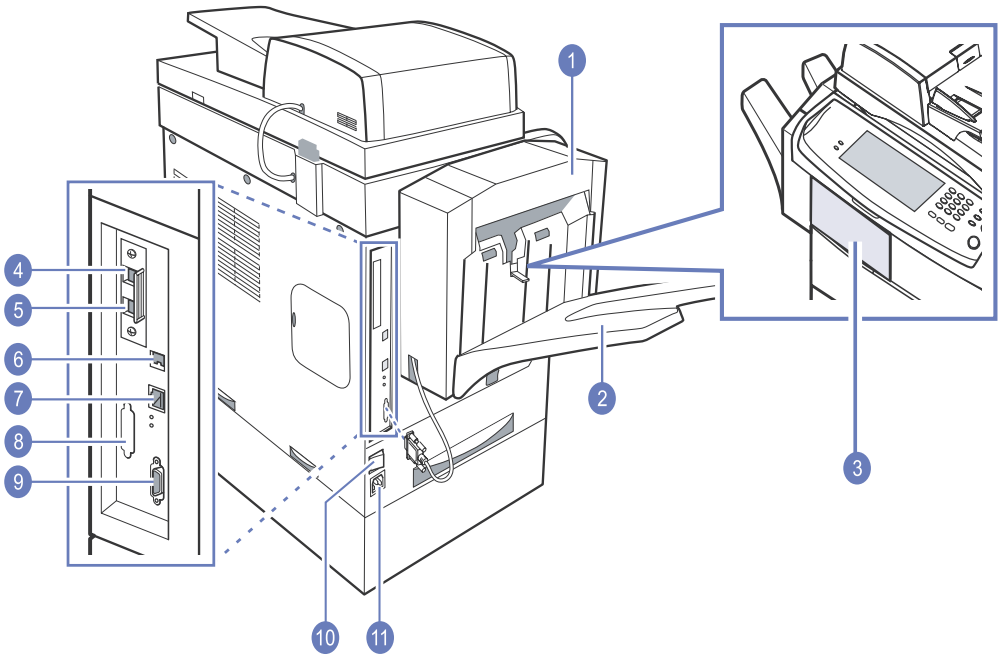




- The symbol * is a mark for the optional device.

1	DADF cover		
2	DADF document width guides		
3	DADF document input tray		
4	DADF document output tray		
5	Scanner lid		
6	Control panel		
7	Side cover		
8	Front cover		
9	Multi-purpose tray		
10	Tray 1		
11	Optional tray*		
12	Stand*	17	Scanner glass
13	CCD Lock	18	Transfer unit
14	Output support	19	Toner cartridge
15	Multi-purpose tray extension	20	Imaging unit
16	Multi-purpose tray paper width guides	21	Waste toner container

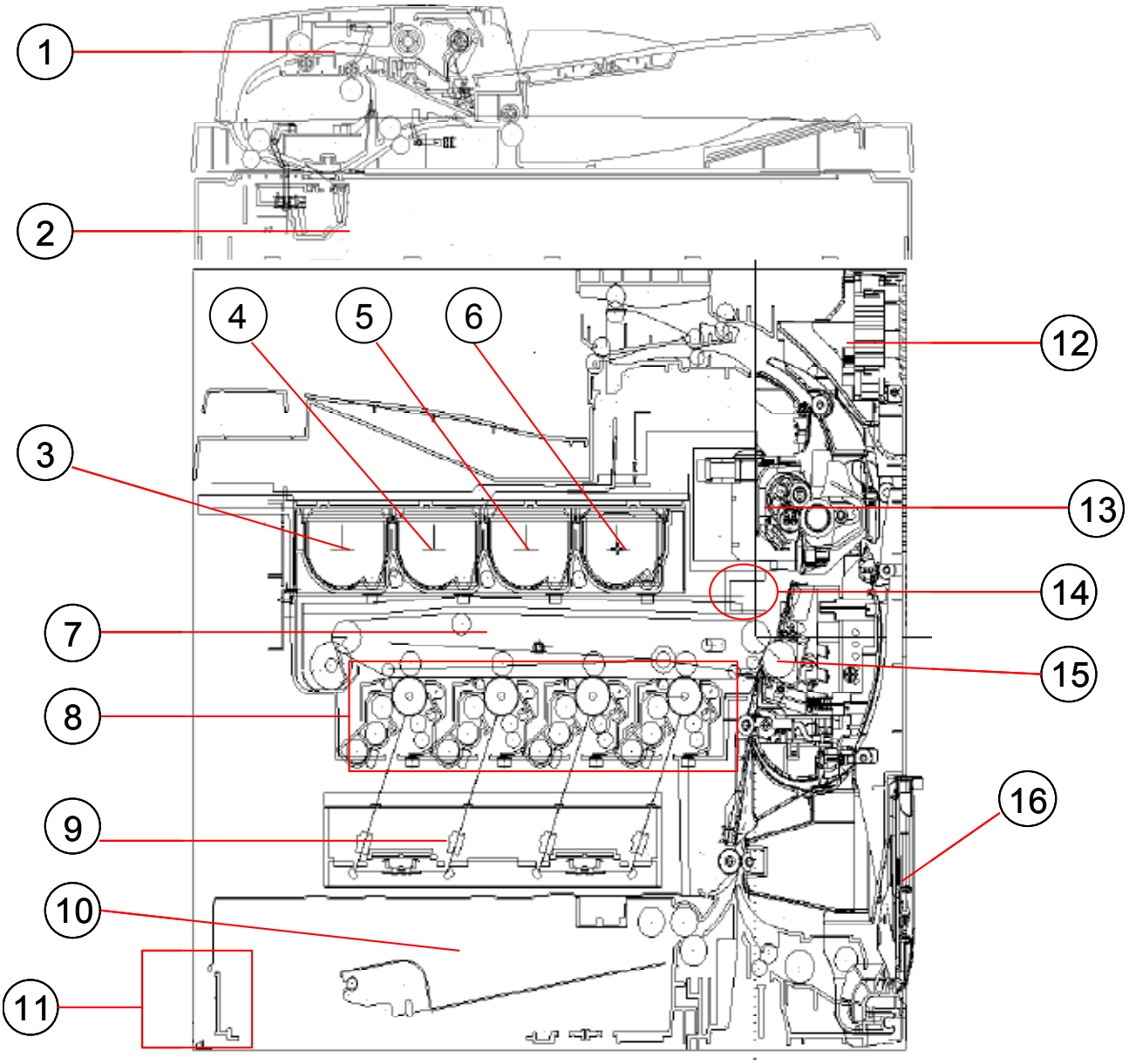
■ Rear view



- The symbol * is a mark for the optional device.

1	Finisher (Stacker & Stapler)*	7	Network port
2	Finisher output tray (Stacker & Stapler)*	8	Dummy for FDI (Foreign Device Interface)*
3	Finisher cover (Stacker & Stapler)*	9	15-pin Finisher connection (Stacker & Stapler)*
4	Extension telephone socket (EXT)*	10	Power switch
5	Telephone line socket (LINE)*	11	Power receptacle
6	USB port	12	USB memory port

■ System Layout

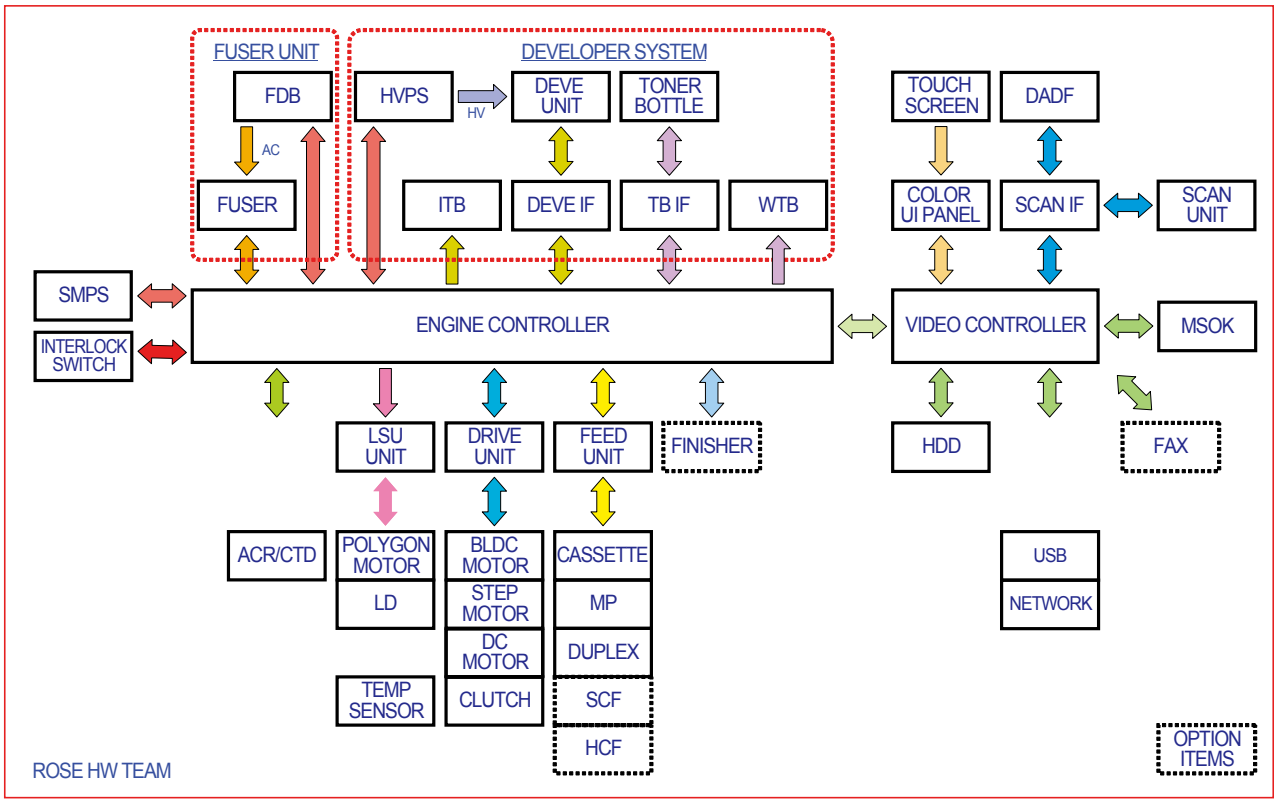


No.	Item	No.	Item
1	DADF Unit	9	LSU Unit
2	Scanner Unit	10	Standard tray
3	Toner-Cartridge (Y)	11	PSU (Power Supply Unit)
4	Toner-Cartridge (M)	12	Duplex Unit
5	Toner-Cartridge (C)	13	Fuser Unit
6	Toner-Cartridge (K)	14	ACR-Sensor
7	Cartridge Transfer Unit (ITB)	15	Roller Transfer
8	Imaging Unit	16	By-pass Feed Table

2.3.1 System Configuration

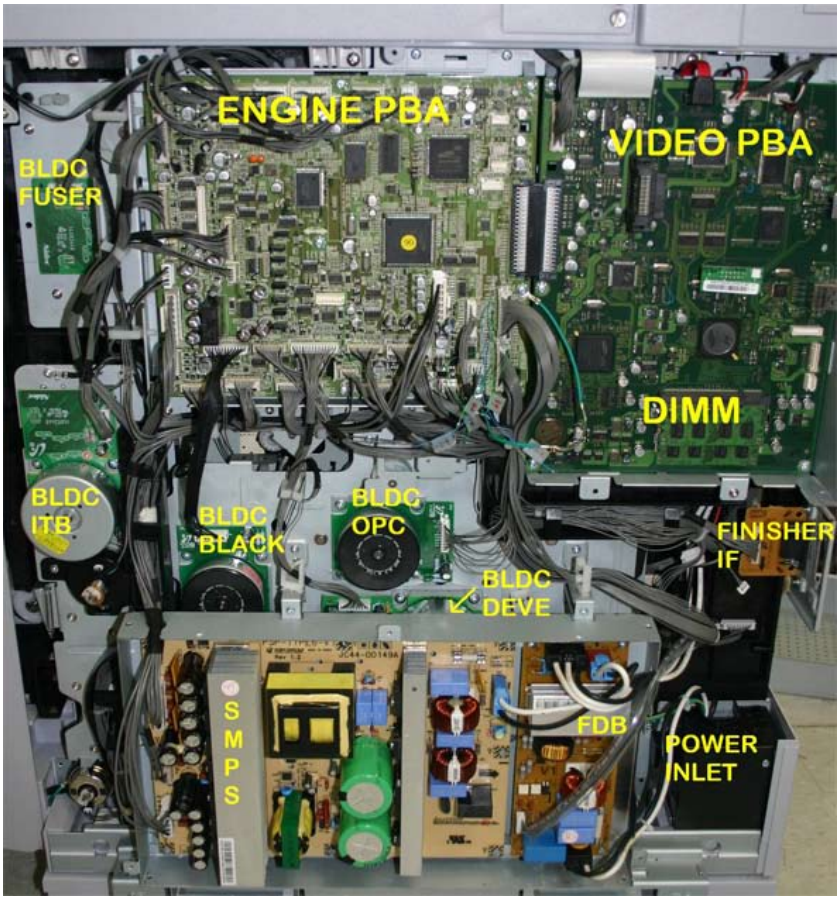
CLX-8385 series consists of Main Control Part, Engine Control Part, Operating Panel Part, Scanner Part, Line Interface Part, Paper Feeding Part, Image Developing Part, Power Supply Part, Network Interface Cards, and Optional DIMM (Dual-In-Memory Module) for Scan-To-Email.

The main controller uses a 800Mhz Fereceon Core(ARM V5TE) and SPGPv4 chip as main processors, which are dedicated for printing & Fax functions and for driving several internal operating blocks through system programs stored in Flash Memory. The engine controller has an independent ARM-based CPU and an engine control SoC, which includes motor drivers, PWM drivers, LSU drivers, sensors, high-voltage drivers, and other driving units for mechanical parts.

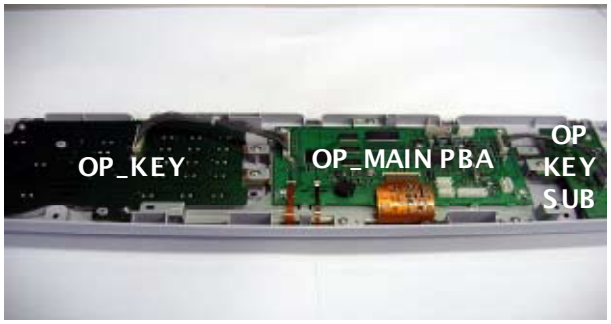


2.3.2 H/W Configuration

■ Rear Side View



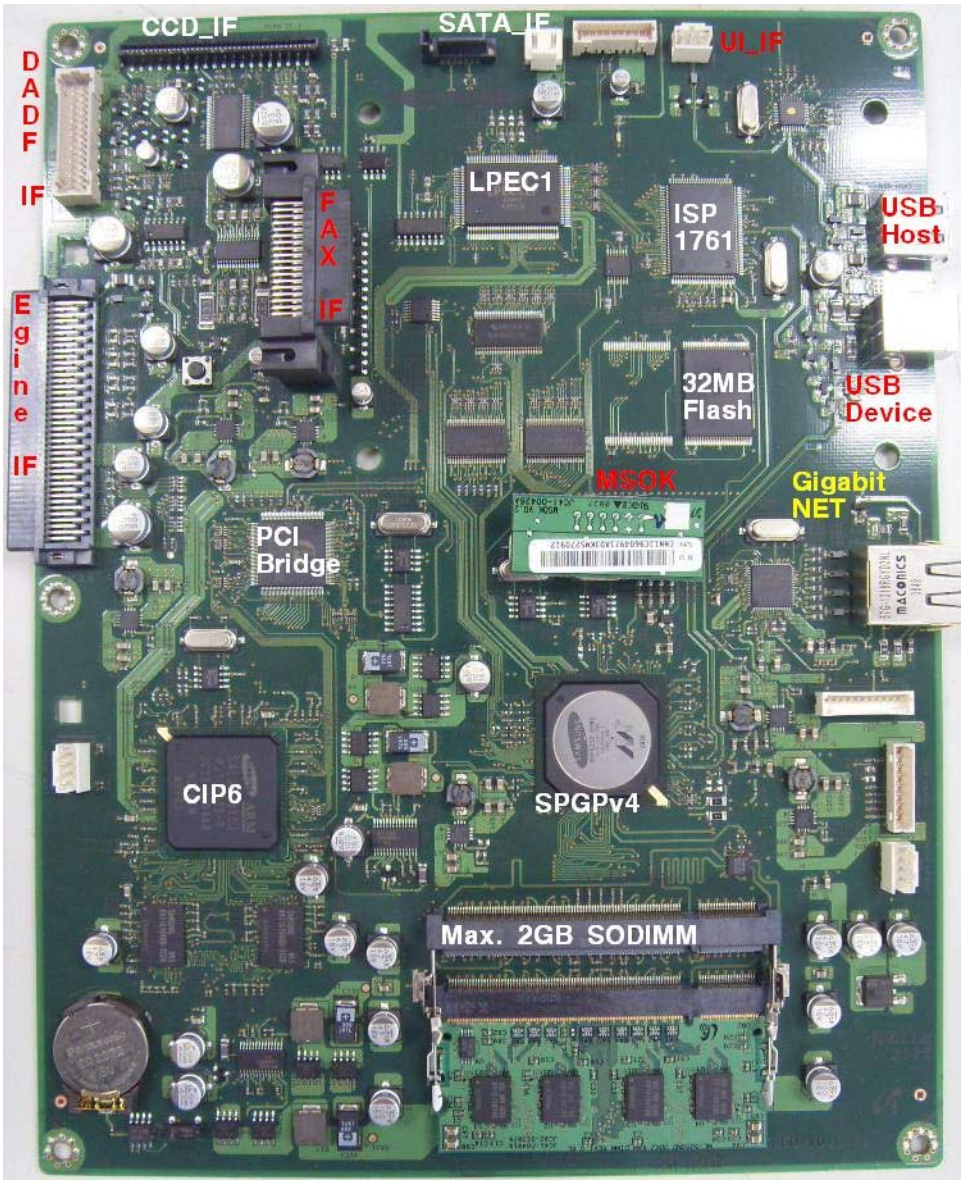
■ Operation Panel View



■ Left Side View

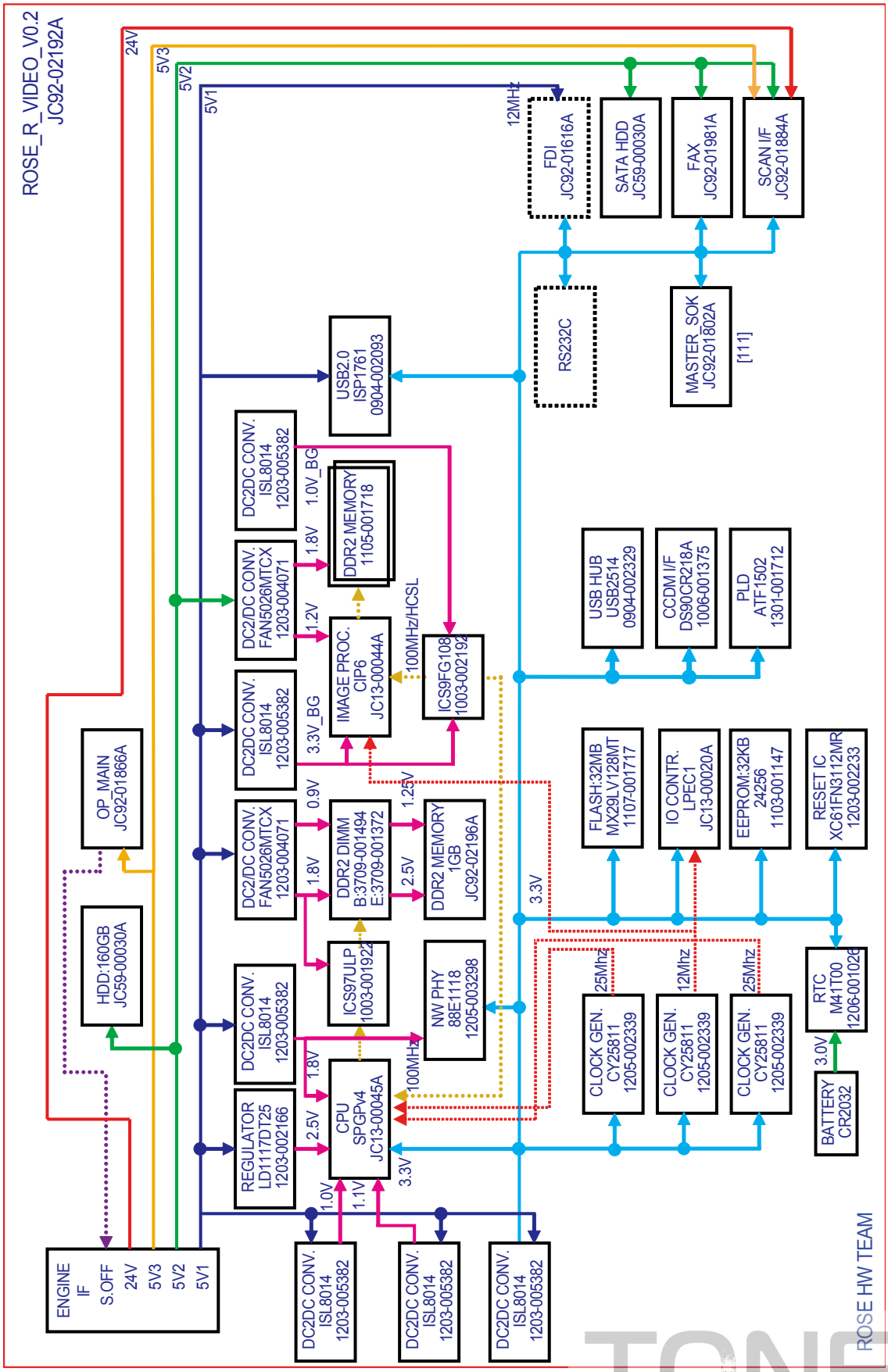
2.3.2.1 Video Controller

The Video Controller which is used to control printing, copying, scaning, FAX functions comprises a 800Mhz Fereceon core (ARM v5TE), a image processor (CIP6) with 256MB SDRAM, 1024MB DDR2 DIMM ,Flash memories, SATA HDD interface. The Video controller includes an embedded network that supports 10/100/1000 Tx speed and also provides USB host 2.0, device. The Video controller connects the Engine PBA with 80 pin and communicates with USB interface and video clock/data. The Scanner Part including DADF & CCD is connected to the Video controller through the Scan Interface PBA.



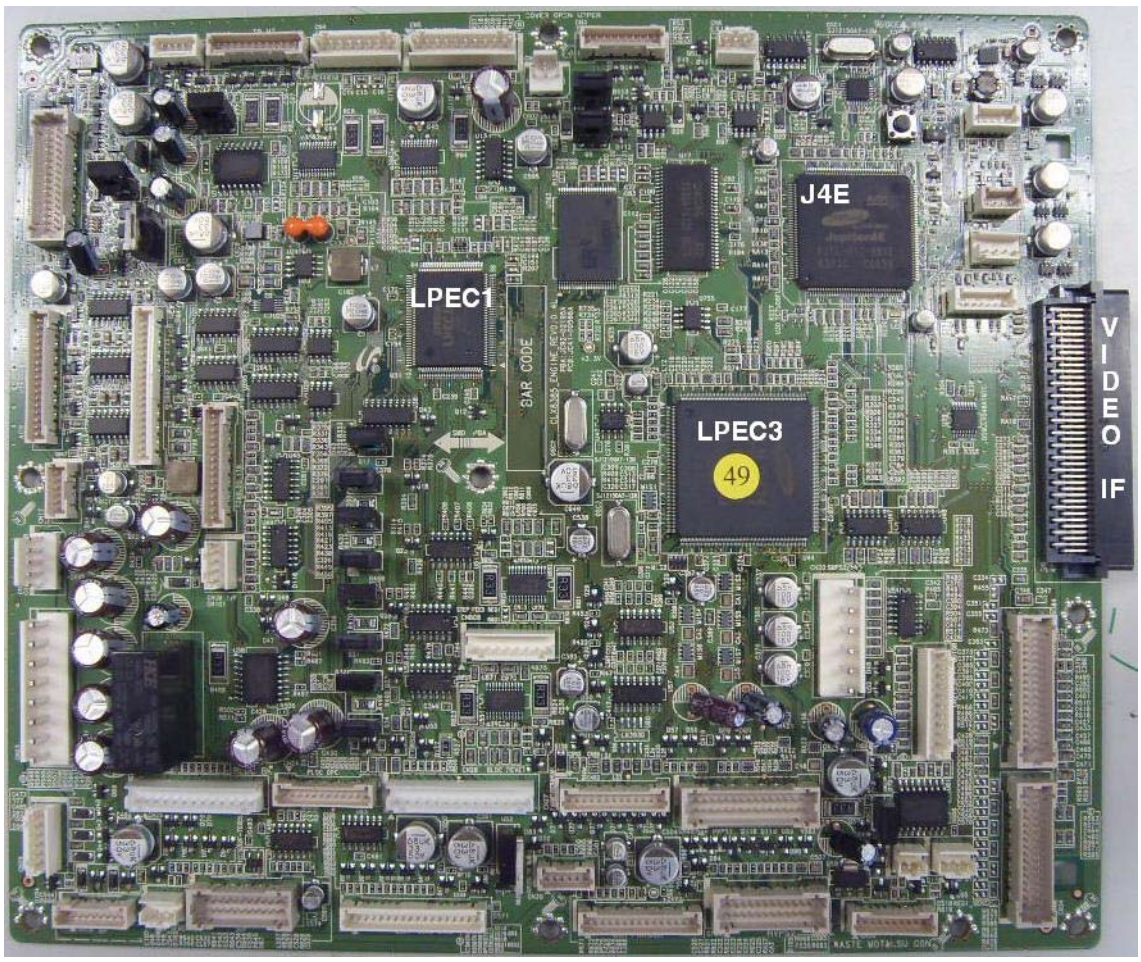
⚠ When replacing the Video controller, you must insert the MSOK on new video controller.

■ Video Controller Power Distribution

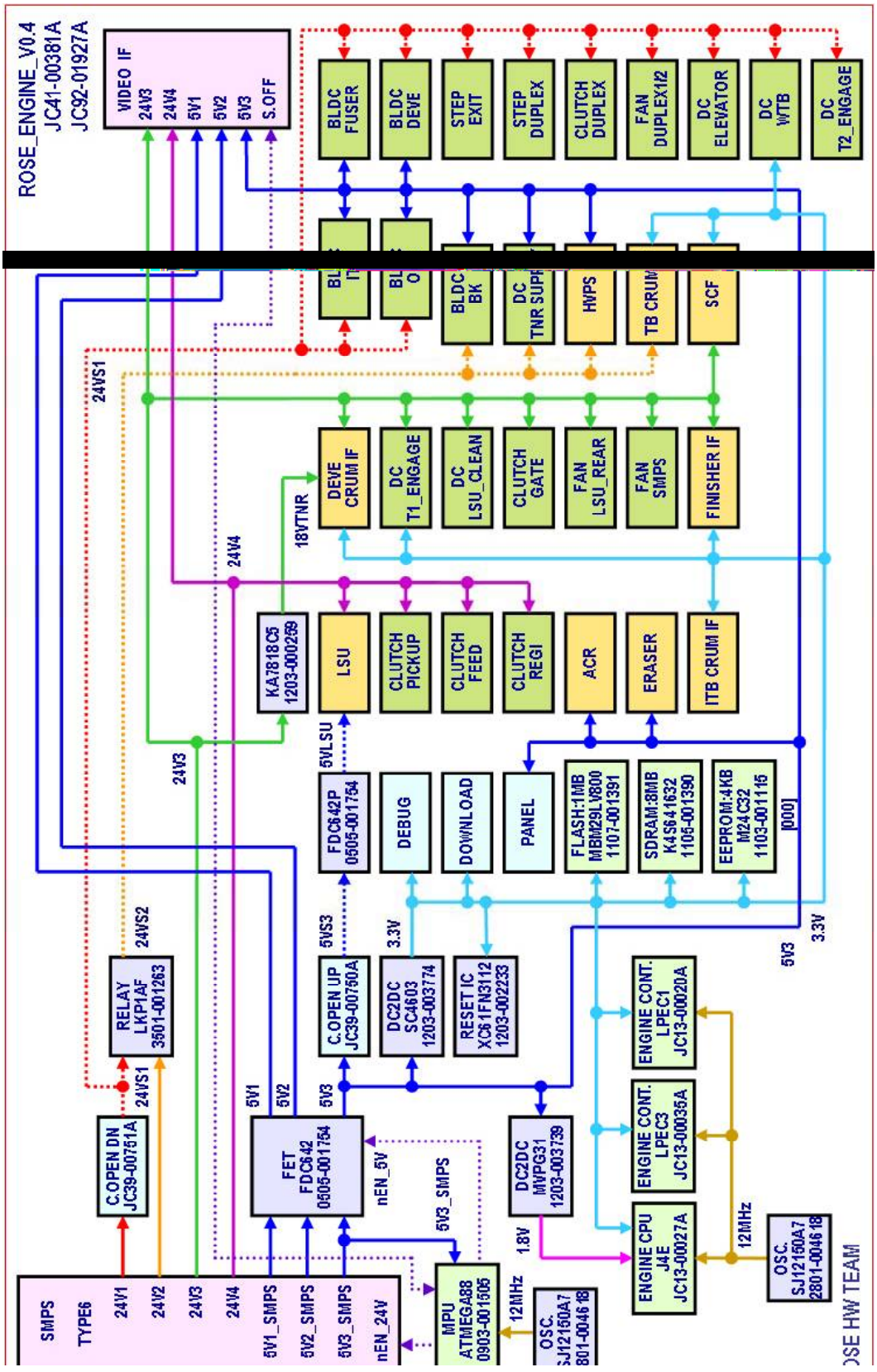


2.3.2.2 Engine Controller

The MAIN-ENGINE PBA of CLX-8385ND comprises an ARM-based CPU (J4E), engine control SoCs (LPEC1 & LPEC3), SDRAM and Flash memories, and other drivers for mechanical elements. The MAIN-ENGINE PBA manages an Electro-photography system, controls the Video Data of printing images from Video Board to LSU, provides PWMs and control signals for high voltages, adjusts temperature in the fusing system, and reads sensor signals. The Engine Controller also includes control units for optional SCF, HCF and Finisher.

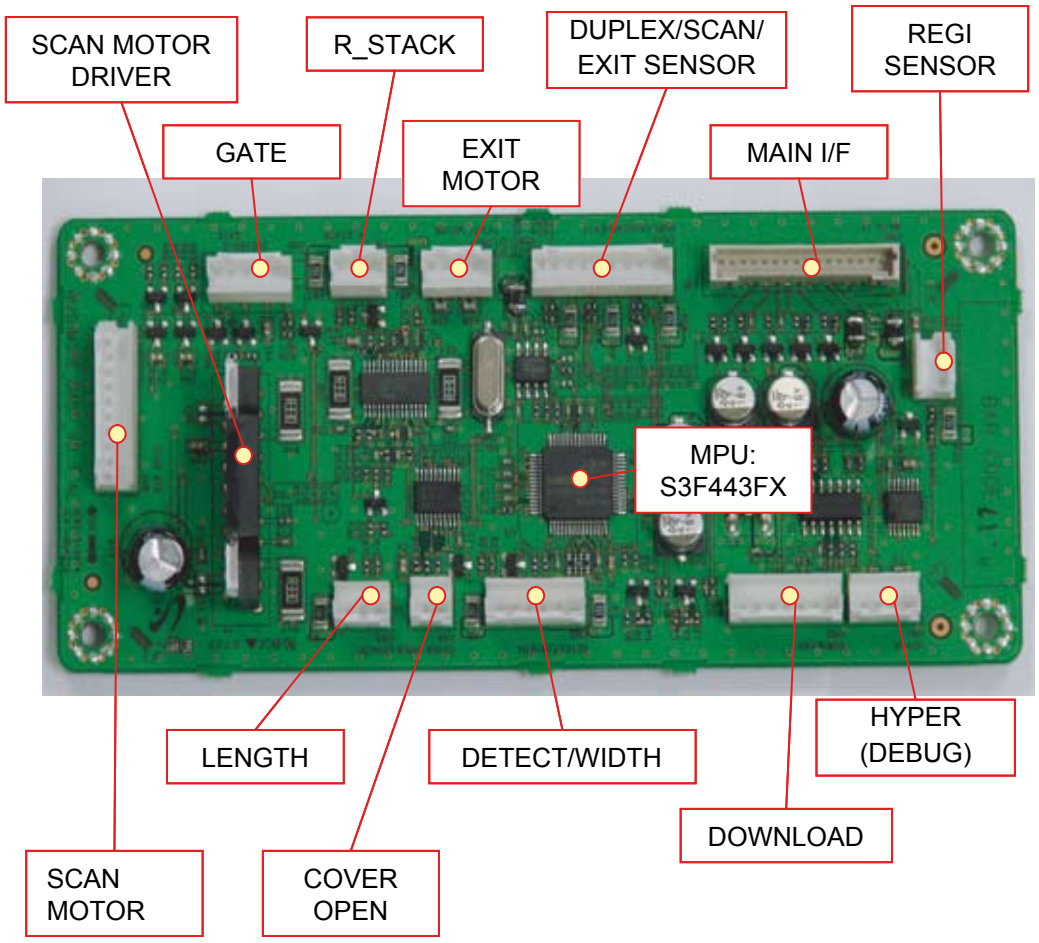


■ Engine Controller Power Distribution

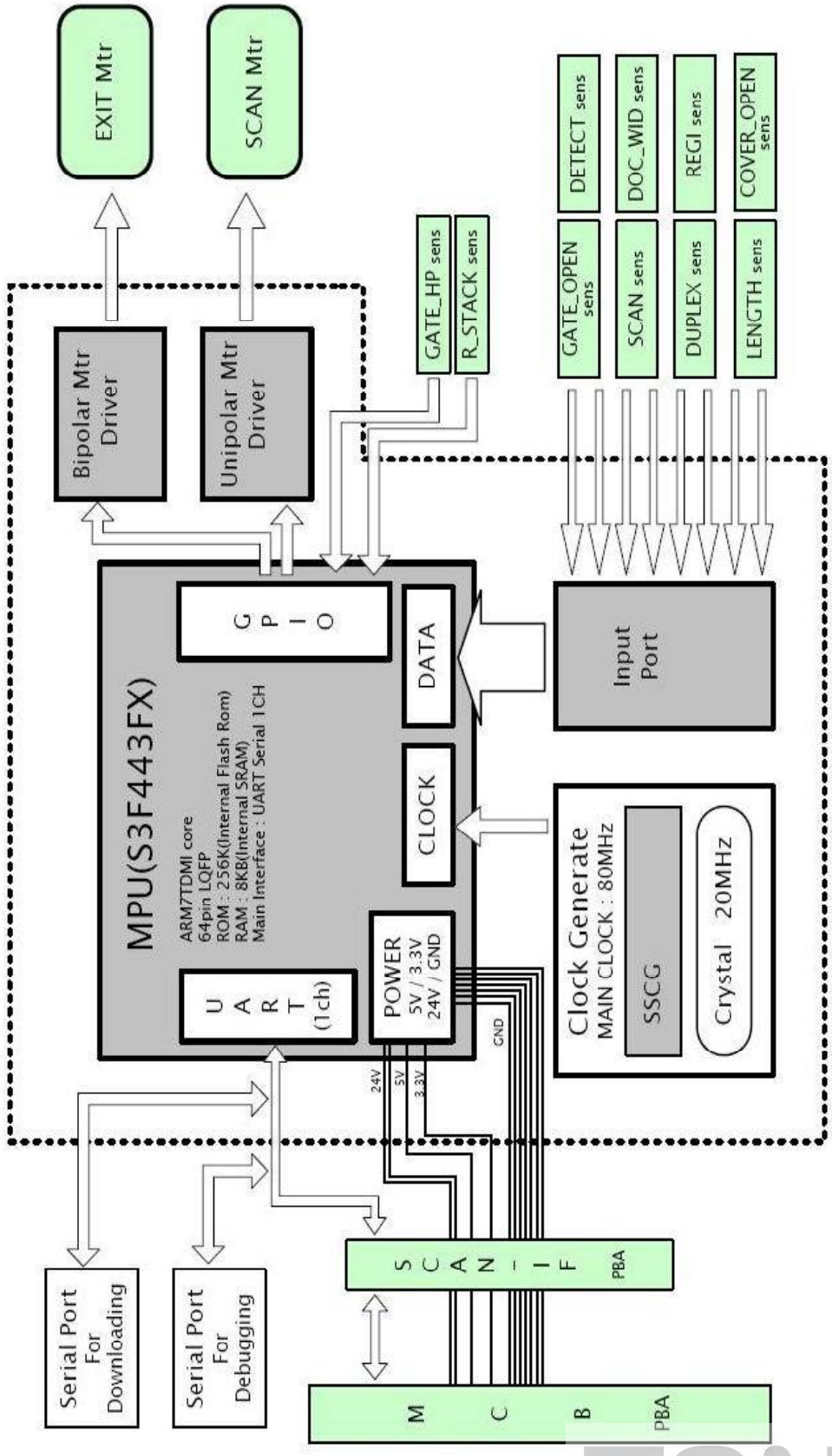


2.3.2.3 DADF Board

The DADF PBA controls the DADF (Duplex Automatic Document Feeder) unit.
A DADF board controls 2 stepping motors, 2 clutches, 1 solenoid,10 sensors. By using CPU(S3F443FX) having 80MHz Core Frequency. A DADF board supports customer to copy Max 100 sheets of documents automatically. Also CLX-8385N's DADF is serving
up to 65% of Duplex speed. And this happens to make one more paper path for high speed paper feeding.

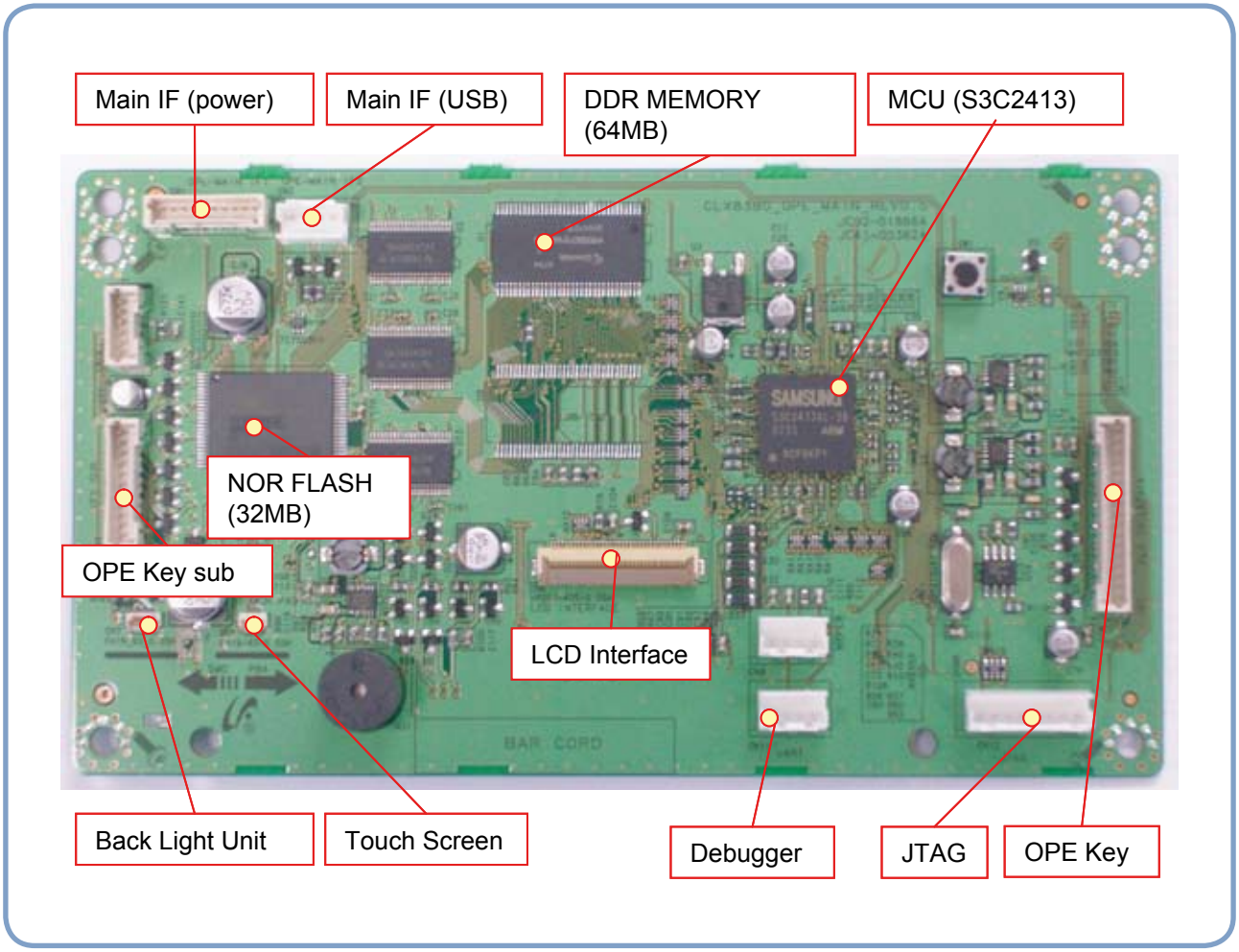


■ DADF Block Diagram



2.3.2.4 OPE_Main Board

The OP_MAIN PBA controls the WVGA(800x600) 7” Color TFT LCD unit, and communicates with Video PBA through USB1.1. The OP_MAIN PBA is connected with Key & Key_Sub PBAs which are used for scan and fax functions.
The OP_MAIN PBA includes an ARM-based CPU (S3C2413C), a 32MB NOR Flash ROM, a 64MB DDR1 SDRAM memory, and a TSP control unit.



2.3.2.5 SMPS Board

SMPS(Switching Mode Power Supply) Board supplies electric power to a Main Board and other boards through a Main Controller by +5V,+24V from 110V/220V power input. It has safety protection modes for over current and load.

SPECIFICATION

General Input/Output Voltage
1) AC 110V (90V ~ 135V)
2) AC 220V (180V ~ 270V)
3) Input Current: 5.0 [Arms]
4) Output Power: 335W / Max. 450W
DC 5V: 45W ~ 60W
DC 24V: 290W ~ 390W

• Connection

1	INPUT_AC (from Fuser Drive Board)
2	OUTPUT_5V1/2/3 (to Engine PBA)
3	OUTPUT_24V1/2/3/4 (to Engine PBA)
4	SMPS control (from Engine PBA)

◆ Input / Output connector

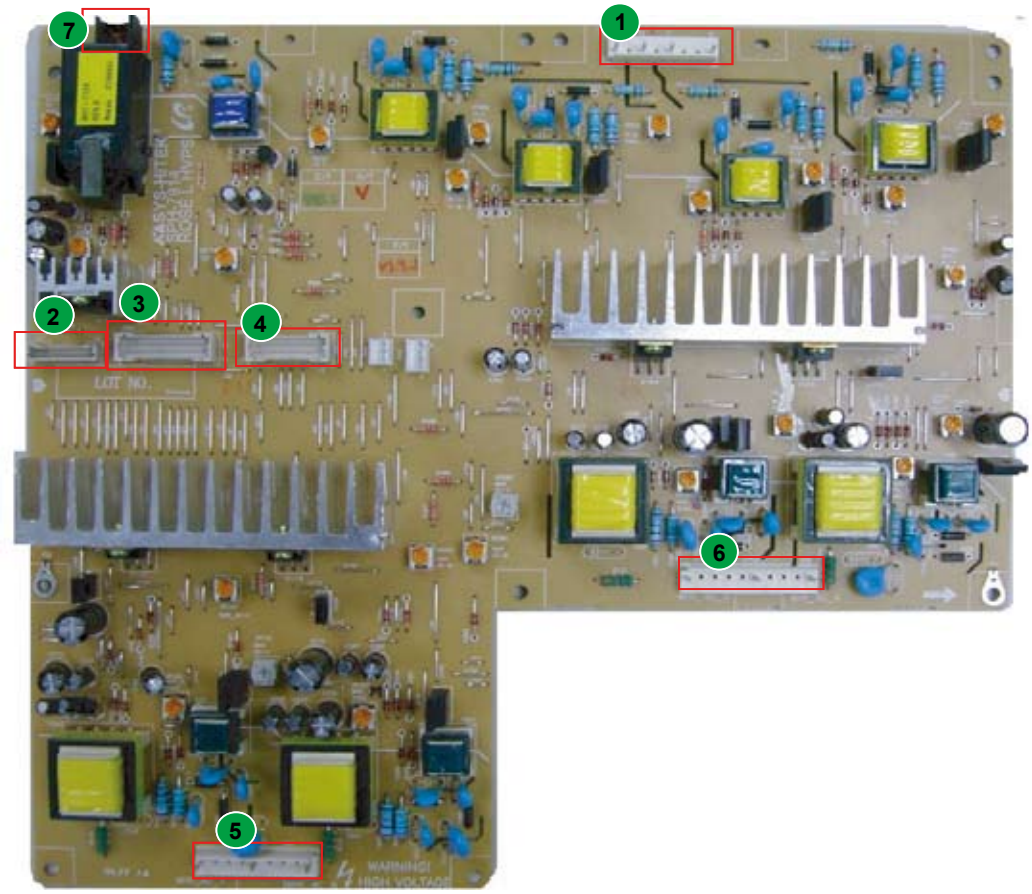
AC Input Connector(CN1)		
PIN ASSIGN	PIN NO	Description
1	AC_L	AC Input
2	AC_N	

DC Output Connector(CN2)					
Description	PIN NO	PIN ASSIGN		PIN NO	Description
Power	+24V1	1	2	+24V1	Power
Power	+24V1	3	4	GND	24V Ground
24V Ground	GND	5	6	GND	24V Ground
Power	+24V2	7	8	+24V2	Power
Power	+24V2	9	10	GND	24V Ground
24V Ground	GND	11	12	GND	24V Ground
Power	+24V3	13	14	+24V3	Power
Power	+24V3	15	16	GND	24V Ground
24V Ground	GND	17	18	GND	24V Ground
Power	+24V4	19	20	+24V4	Power
Power	+24V4	21	22	GND	24V Ground
24V Ground	GND	23	24	GND	24V Ground
Signal	RS24V	25	26	reserved	Signal
(24V Remote Sense)					(Reserved)

DC Output Connector(CN3)					
Description	PIN NO	PIN ASSIGN		PIN NO	Description
Power	+5V1	1	2	+5V1	Power
Power	+5V1	3	4	GND	5V Ground
5V Ground	GND	5	6	GND	5V Ground
Power	+5V2	7	8	+5V2	Power
Power	+5V2	9	10	GND	5V Ground
5V Ground	GND	11	12	GND	5V Ground
Power	+5V3	13	14	+5V3	Power
Power	+5V3	15	16	GND	5V Ground
5V Ground	GND	17	18	GND	5V Ground
Signal	RS5V	19	20	Standby	Signal
(5V Remote Sense)					(Standby Mode)

2.3.2.6 HVPS Board

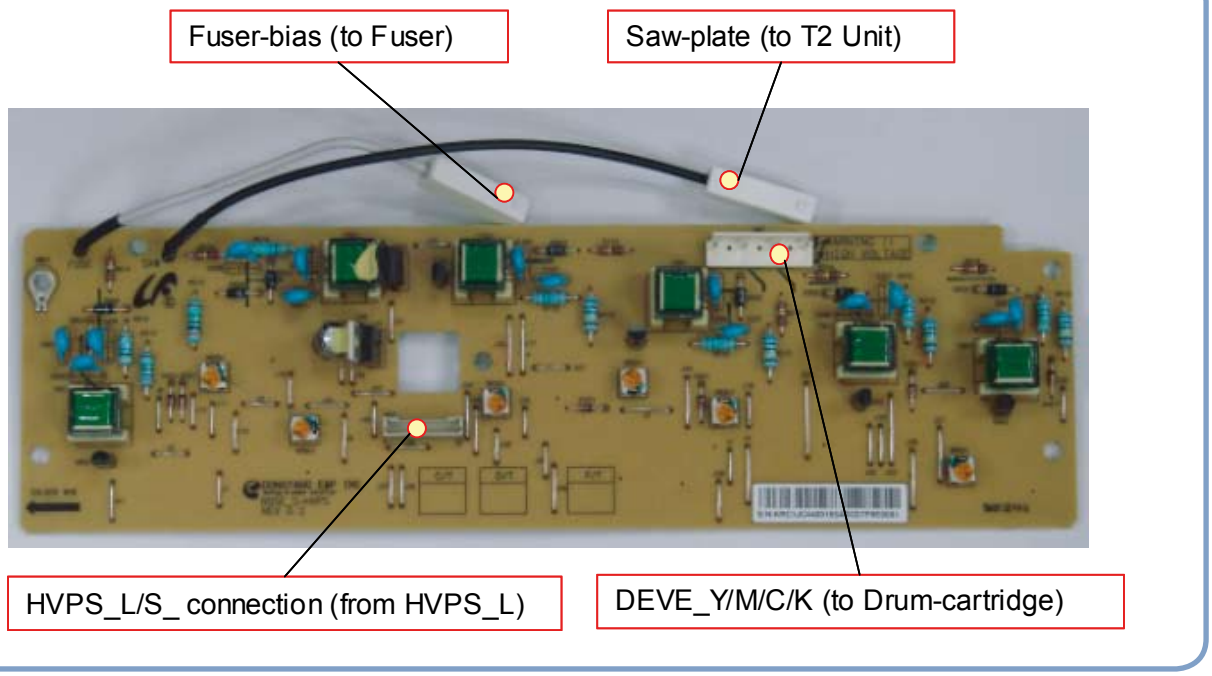
CLX-8385 series has two HVPS(High Voltage Power Supply).
HVPS (High Voltage Power Supply) Unit is divided to Two PBAs, and generates 15 high-voltage channels which includes T1(4), T2, MHV(4), DEVE(4), FB, and SP.
HVPS_L (High Voltage Power Supply_Large) supplies High Voltage power to Drum-cartridge (Charger), ITB, T2-roller (T2-Unit).



• Connection

1	T1_Y/M/C/K (to ITB)
2	HVPS_L/S connection (to HVPS_S)
3	HVPS1 (from Engine PBA)
4	HVPS2 (from Engine PBA)
5	MHV_AC_Y/M (to Drum-cartridge)
6	MHV_AC_C/K (to Drum-cartridge)
7	T2 (to T2_Unit)

HVPS_S (High Voltage Power Supply_Small) supplies High Voltage power to Drum-cartridge (Developer), Fuser, Saw-plate (T2-Unit).



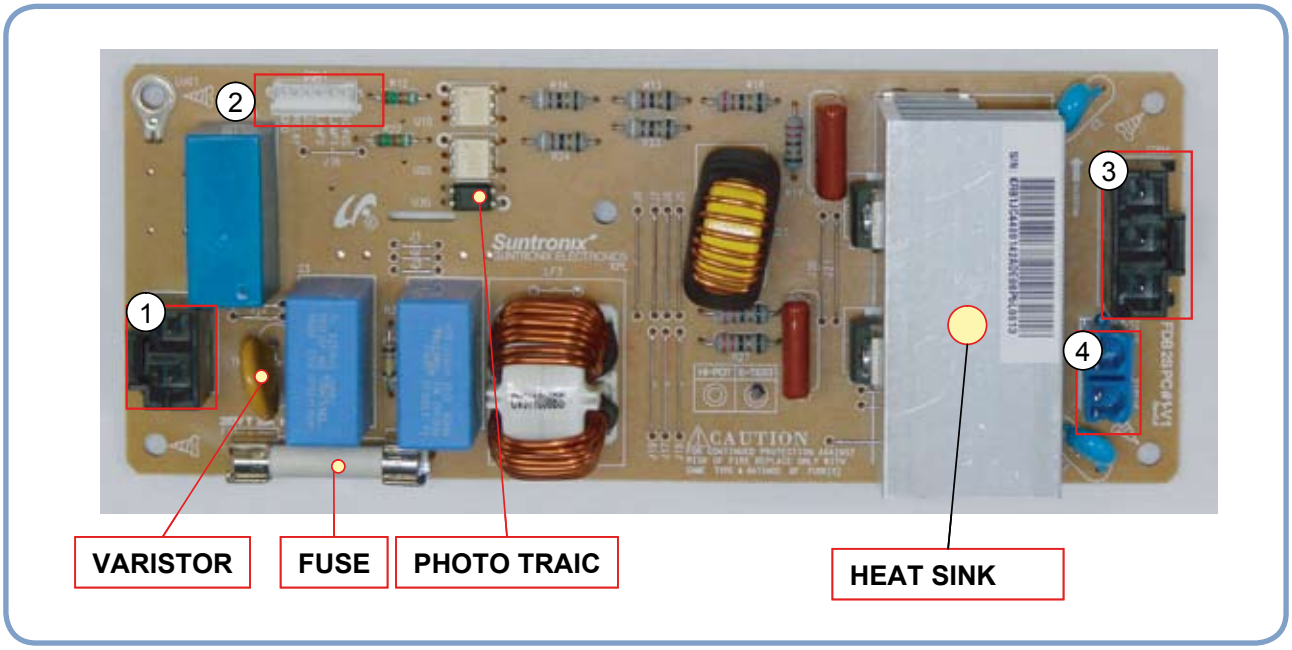
• Specification

Channel	AC/DC	No.	Type	Control	Rated Load	Output	Output Range	Load Range
MHV	DC-	4	Constant-V	PWM Duty	250 pF	-700 V	0 ~ -1800 V	0.1~3 mA
	AC		-	PWM Duty		1.6 KVpp	1.0 ~ 3.2 Vpp	
DEVE	DC-	4	Constant-V	PWM Duty	400 MΩ	-500 V	0 ~ -800 V	0 ~ 30 uA
T1	DC+	4	Constant-I	PWM Duty	90 MΩ	14 uA	0 ~ 40 uA	0 ~ 3.5 KV
T2	DC+	1	Constant-I	PWM Duty	100 MΩ	30 uA	0 ~ 50 uA	0 ~ 6.5 KV
	DC-		Constant-V	Volume	80 MΩ	-1300 V	-	0 ~ 20 uA
Saw Plate	DC-	1	Constant-V	PWM Duty	NO	-1000 V	0 ~ -2.4 KV	0 ~ 40 uA
Fuser Bias	DC+	1	Constant-V	PWM Duty	NO	1000 V	0 ~ 1.5 KV	0 ~ 20 uA

• Constant current outputs in T1/T2 channels.
• Individual T1 channels for each color.
• Alternative DC +/- outputs between image & non-image periods in T2.
• AC + DC MHV Bias.
• Rated loads in all channels could be change according to the environmental conditions.
• All output channels can be adjusted by using volume control components.

2.3.2.7 Fuser Drive Board

The FDB (Fuser Drive Board) controls 2 halogen lamps in the fuser unit using control signals which are provided from the ENGINE PBA and supplies AC power to the SMPS. Both V1/V2 FDBs provide max. 1500W output power.
When the phase signal of AC Power goes to zero, the FDB sends a zero-crossing detect signal to the ENGINE PBA. The zero-crossing output consists an open-collector node.



• Connection

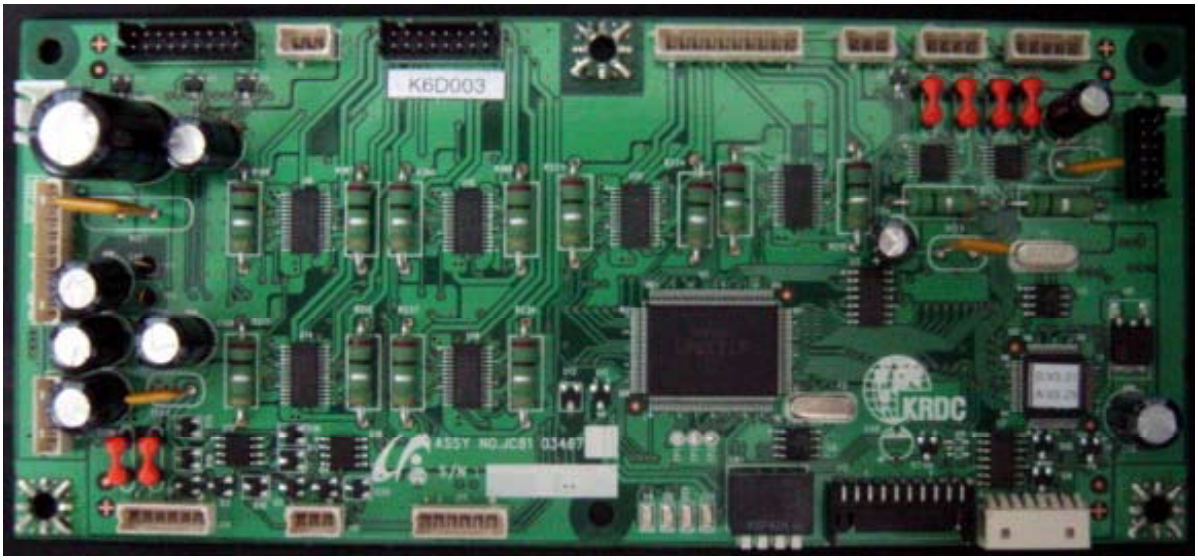
1	INLET AC
2	FUSER CONTROL (from Main board)
3	FUSER AC (to Fuser lamp)
4	SMPS AC (to SMPS)

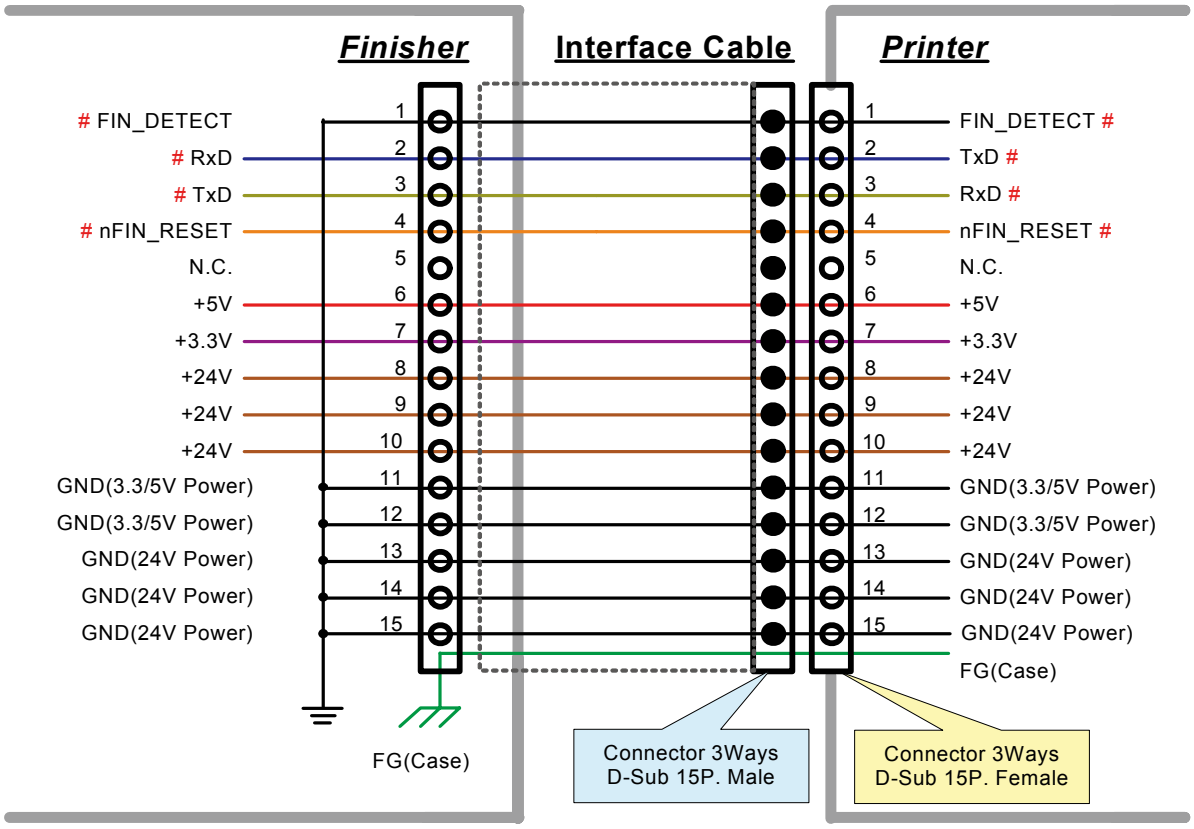
• Specification

	V1	V2
Input Voltage (Range)	AC 110V (90 ~ 135V)	AC 220V (180 ~ 270V)
Input Current	20A	10A
Output Power	Max. 1500W	Max. 1500W
Phase Detect	Zero-Crossing Detect (Open Collector Output)	
Protection	Relay Control Signal	

2.3.2.8 Finisher Board

A Finisher PBA is a Finisher controlling in CLX-8385N for option. It also consists one controller(S3F443FX), two motor drive IC and LPEC1 for expandable I/O IC to control a finisher through UART communication with a Main controller.

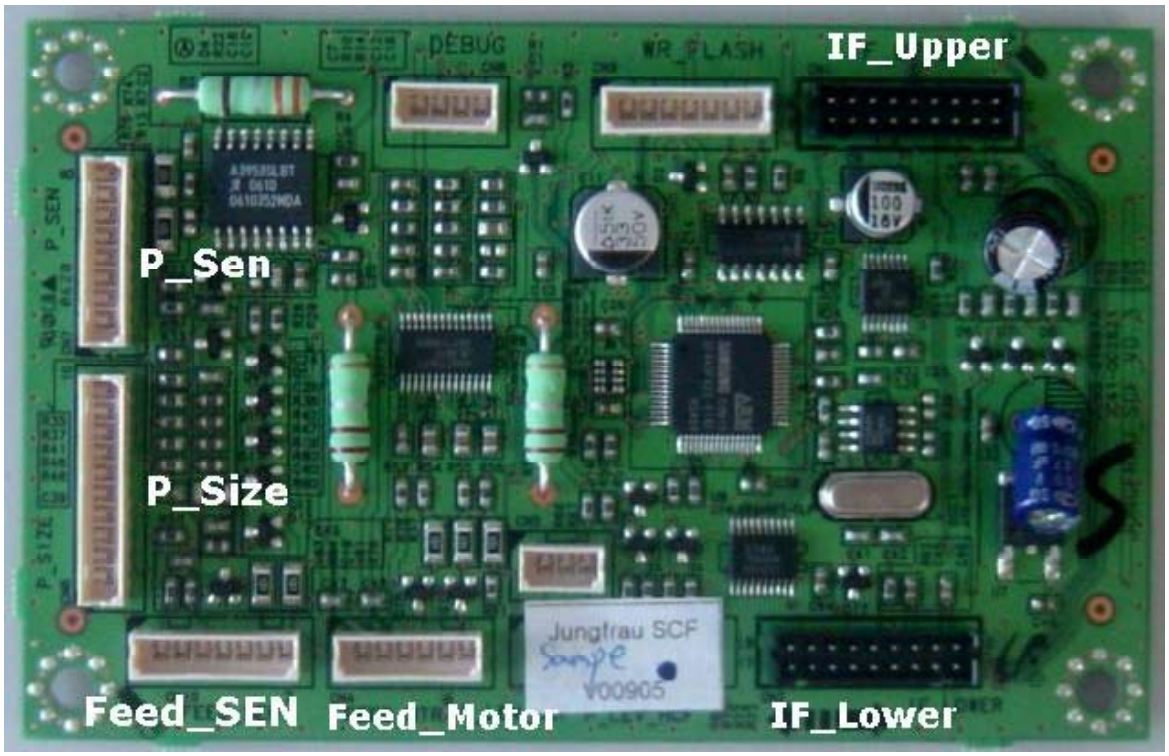




: TTL Level (3.3V)

2.3.2.9 SCF/HCF PBA

A SCF PBA is a option cassette controlling in CLX-8385N. Max. 2 cassettes are connected on a purpose of feeding paper. It consists one controller(S3F443FX) and two motor drive IC to control feeding timing through Uart communication with a Main controller.
This PBA is also used in HCF. Key function is same with SCF and HCF & SCF can be able to be composed together.

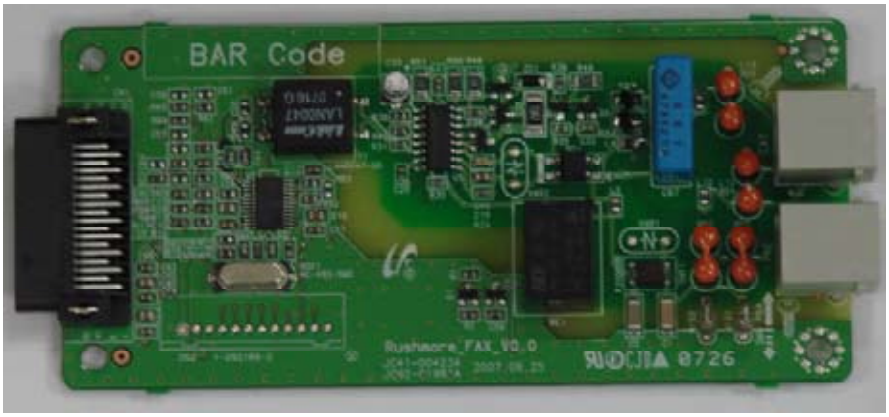


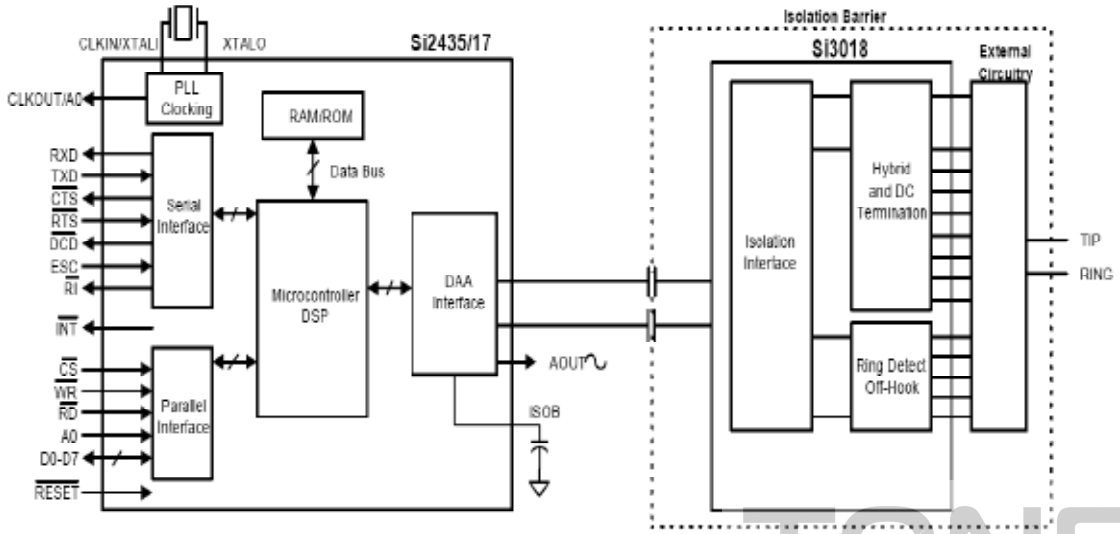
No.	Signal Name	Direction	Active Level	Description
1	24V	POWER	-	+24V Power
2	3.3V	POWER	-	+3.3V Power
3	GND	POWER	-	Signal Ground
4	TxD	OUT	-	Data Transmission
5	RxD	IN	-	Data Receive
6	nBUSY	OUT	LOW	SCF TxD Line Busy
7	nCMDREQ	OUT	LOW	Command Request
8	Reserved1	I/O	LOW	Reserved
9	Reserved2	I/O	LOW	Reserved

2.3.2.10 FAX Board

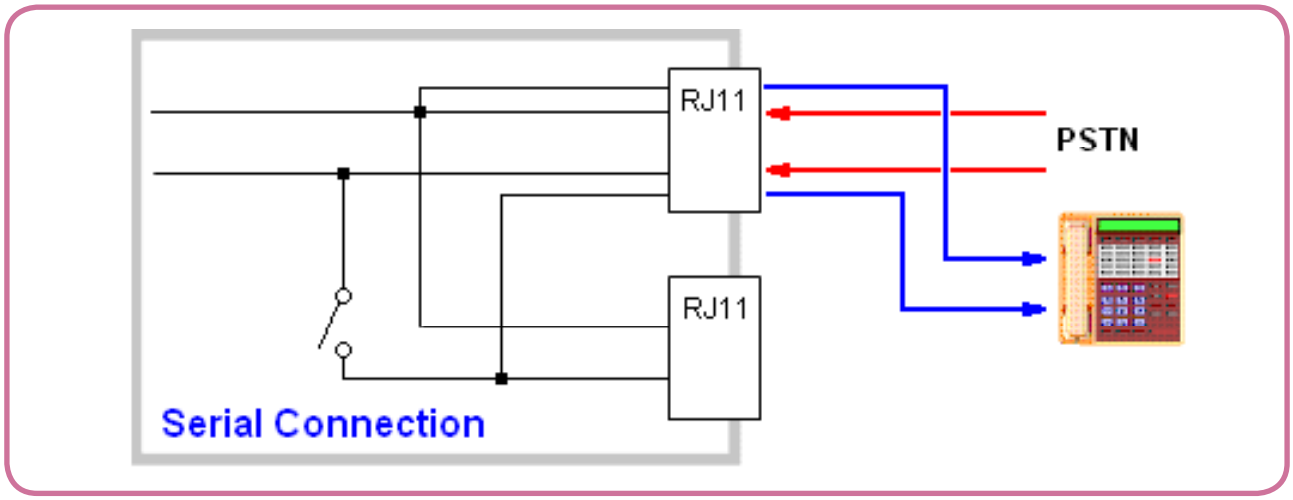
• Specifications

- LINE CONNECTION: PSTN or PABX (RJ-11)
- Compatibility: ITU-T G3, Super G3
- Communication System: PSTN/PABX
- Modem Speed: 33.6Kbps
- TX Speed: 3 sec
  * Standard Resolution, MMR, 33,6Kbps
  * Phase “C” by ITU-T No.1 Chart in Memory transmission with ECM
- Scan Speed
  Platen -> 2 sec / A4
  ADF -> 5.5 sec / A4
  * Scan time: 2 sec/A4 @ 203x98dpi
  * Scan setup time : 3.5 sec
- Receive Mode: Fax, TEL, ANS/FAX
- Compression: MH/MR/MMR/JBIG/JPEG
- ECM: Yes
- Resolution Std: 203*98dpi
  Fine: 203*196dpi
  S.Fine: 203x392dpi, 300*300dpi, 406x392dpi
- Contrast: Adsustable 5 levels
- Fax Memory: 32MB (in HDD)



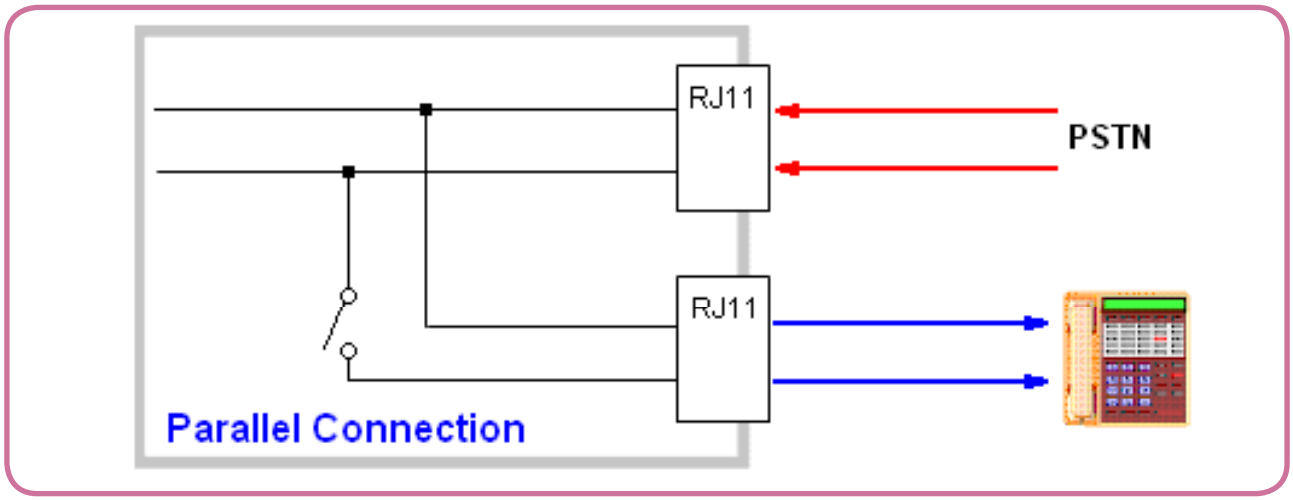


• **Serial & Parallel Types**



How to connect a serial fax first.

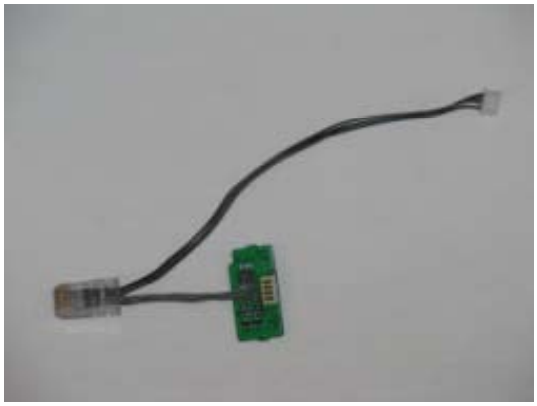
1) connect a line cord into Line RJ11.
2) Connect 2'nd phone by 4 line cord.



How to connect Parallel Fax

1) Connect a line cord into Line RJ11.
2) Just connect a phone to External RJ11.

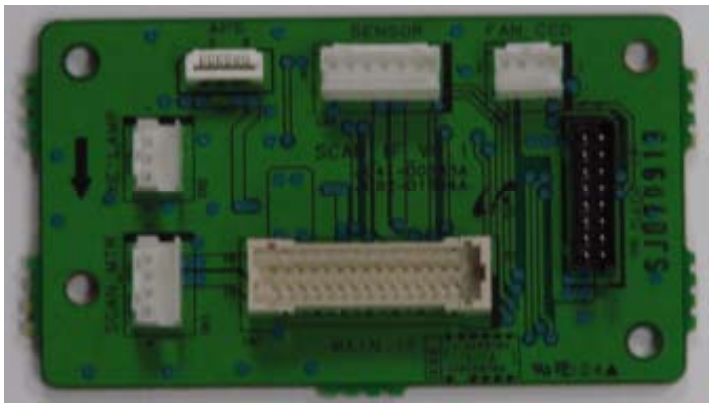
2.3.2.11 Other PBAs



DEVE CRUM PBA

ERASER_LAMP_PBA

Finisher IF PBA



SCAN_IF_PBA

2.3.3 Mechanic Configuration

2.3.3.1 Feeding Section

1) Cassette

It stores and automatically feeds print paper.
Pick-up Roller picks up paper, controls drive, feeds paper, removes static electricity, and so on.

> Spec.
* Feeding Method : Cassette Type
* Feeding Standard : Center Loading
* Feeding Capacity : Cassette 250 Sheets
  (75g/ , 20lb Paper Standard) Manual Feeder
* Paper Detecting Sensor : Photo Sensor
  (Empty, Registration, Exit)
* Paper Size Sensor : None
* Paper type
  : Plain (60~90 g/㎡), envelope (75~90 g/㎡),
  Label (120~150 g/㎡), Cardstock (120~130 g/㎡),
  transparency (138~146 g/㎡) , Thick (90~120 g/㎡)

2) SCF (Second Cassette Feeder) / HCF (High Capacity Feeder)

This additionally stores and automatically feeds printing paper. Its function is the same as the FCT (First Cassette Tray)

> Spec.
* Paper Direction : FISO (Front-in, Side-Out)
* Cassette Type : A4, Ltr
* Paper Discharge : Separation Claw
* Capacity
  SCF : 500 Sheets (Standard paper 75g/㎡ 20lb)
  HCF : 2100 Sheets (Standard paper 75g/㎡ 20lb)
* Paper Size : A4, Letter
* Paper Weight (average) : 60~90g/㎡ (16~24lbs)
* Additional Function : Paper Empty Sensor
  Paper Registration Sensor
  Paper Exit Sensor

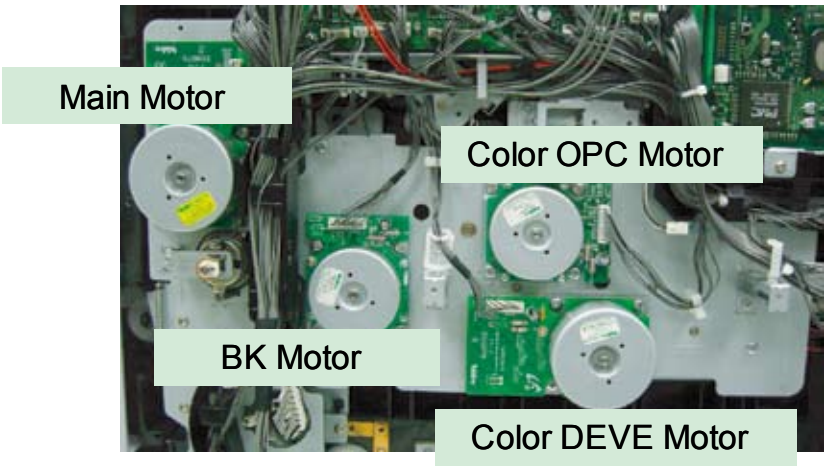
HCF

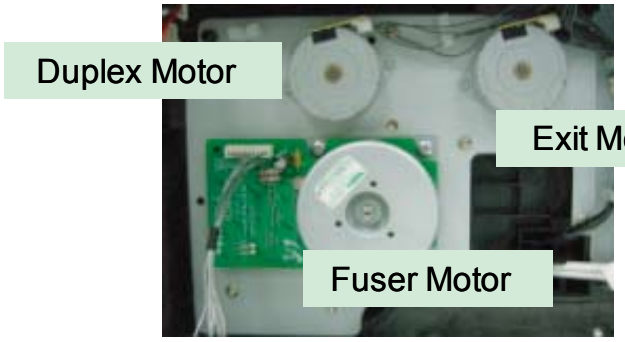
* Paper Type
  - SCF : Plain (60~90 g/㎡), envelope (75~90 g/㎡), Label (120~150 g/㎡), Cardstock (120~130 g/㎡), transparency (138~146 g/㎡), Thick (90~120 g/㎡)
  - HCF : Plain (60~90 g/㎡), Thick (90~120 g/㎡)

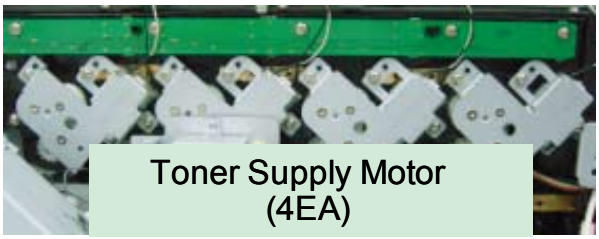
2.3.3.2 Drive Unit

There are many motors in this machine. Each motor is used for image process.

- Main Motor is for Paper path(Pick-up, Feed, Registration and MPF) and Cartridge Transfer Unit.
- BK Motor is for Black OPC and Black DEVE
- Color OPC Motor is for Color OPC rotation (Yellow, Magenta, Cyan)
- Color DEVE Motor is for Color DEVE (Yellow, Magenta, Cyan)
- Fuser Motor is for Fuser and Exit roller
- Duplex Motor is for Duplex feeding
- Exit Motor is for stable stacking
- Toner Supply Motor is for toner supply

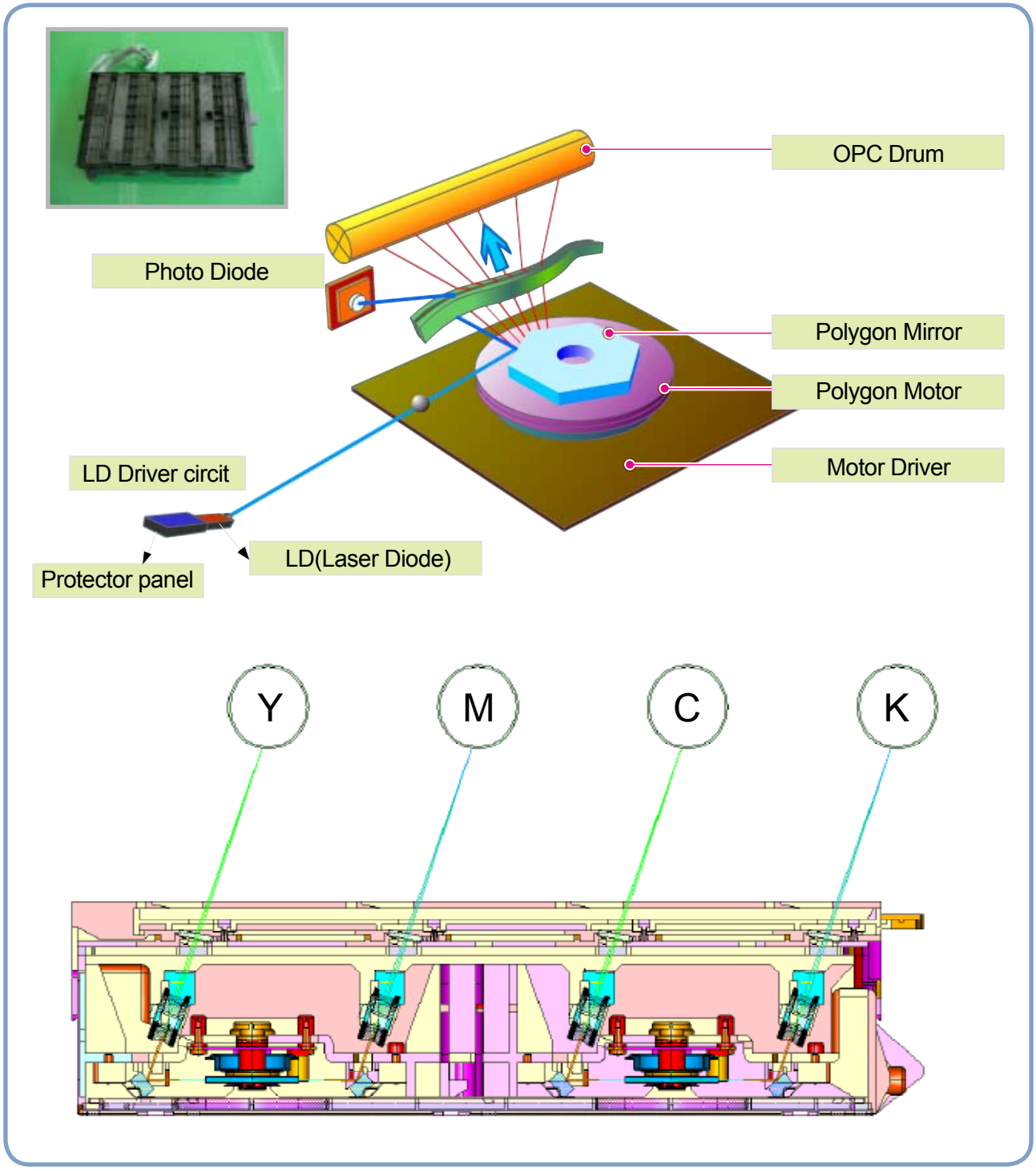






2.3.3.3 LSU (Laser scanning unit)

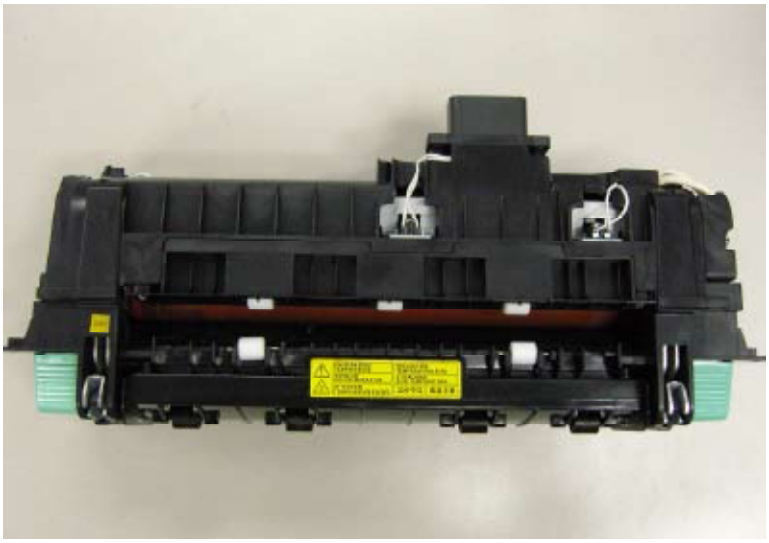
LSU consists of LD(Laser Diode) and polygon motor control. For realizing Color Image, it is controled by 4 LD. When the controller generate the printing signal, LD will turn on and Polygon motor starts.If the receiving part in LSU detect the beam , Hsync is generated. When the rotation of polygon motor is steady, it is time of LSU ready status for printing. If either of two condition is not satisfied, LSU error is expected.



2.3.3.4 Fuser Unit

This unit consists of IH-HEAT ROLLER, Thermostats and a Thermistor. It melts and fuses the toner, transferred by the transfer roller onto the paper, by applying pressure and high temperature to complete printing job.

- Fusing Type : [Dual Lamp Heating, 700W/500W]
- Heat Roller :[ø18]
- Pressure Roller : [ø29 electrically conductive]
- Thermistor – Temperature Detecting Sensor
  contact thermistor 2EA
- Thermostat – Overheat Protection Device
- Fuser Bias : 700V(HH), 500V(LL,NN)on the P/R tube



① **Thermostat**
When a heat lamp is overheated, a Thermostat cuts off the main power to prevent over-heating.
- Non-Cotact type Thermostat

② **Heat roller**
The heat roller transfers the heat from the lamp to apply a heat on the paper. The surface of a heat roller is coated with Teflon, so toner does not stick to the surface.

③ **Pressure roller**
A pressure roller mounted under a heat roller is made of a silicon resin, and the surface also is coated with Teflon. When a paper passes between a heat roller and a pressure roller, toner adheres to the surface of a paper permanently.

- Fuser Error

	OPEN Heat	LOW Heat	OVER Heat
Warm-Up	Less than 60℃ at more than 20 seconds	- Less than Warm Up Ref. Temp-10℃ & for more than 20 seconds in Warm Up end time (Not checking in case that motor start temp(100℃) is not arrived)- In case that the tempature is not rising for 6 sec (Check at WarmUp Ref Temp-30℃)	Higher than 230℃(240℃) &For continuous 30 seconds (5 sec)
Stand-Byor Recoverable Error State for Over Heat only	N/A	Less than Stand-By Ref. Temp-40℃ & For more than 10 seconds	- Higher than 230℃(240℃) & For continuous 30 seconds(5 sec) - StandBy Ref Temp+10℃& for more than 3 min.
Printing	N/A	Less than Printing Ref. Temp-20℃ & For more than 10 seconds.	- Higher than 220℃(230℃) & For continuous 20 seconds(3 sec)
Power Save	N/A	N/A	- Higher than 220℃(230℃) & For continuous 20 seconds(3 sec) - StandBy Ref Temp+10℃& for more than 3 min.
Low Power	N/A	N/A	- Higher than 220℃(230℃) & For continuous 20 seconds(3 sec) - StandBy Ref Temp+10℃& for more than 3 min.
Other	N/A	N/A	Higher than 220℃(230℃) & For continuous 20 seconds(3 sec)

2.3.3.5 Scanner

2.3.3.5.1 Scanning Technology

1) Color Separation : Single-Pass color separation
Color separation is done with transmissive color filters put over the CCD elements themselves as part of CCD manufacturing process. The CCD used in CLX-8385ND Series has three rows of imaging elements. Each row has a color filter directly over the CCD elements, one row red, one green, and one blue.

2) Image Signal Input :
The output signal of CCD is designed for being ADC in S4L9335X through Bypass-Cap, and then processing through the Signal which is defined between S4L9335X and CIP4.
It uses CDS (Correlated Double Sampling) which implement double Sampling for black level and image by using signal of CIP4E, when AFE receives each pixels.

3) Image Processor :
It reads pixel data of CCD (Charge Coupled Device) by 600dpi Line, and in accordance with the mode set from CIP4, said data is experiencing Error Diffusion Algorithm in mode or stored at Scan Buffer through DMA without Halftoning Algorithm in PC Scan mode. At this time, both above modes conduct processing after Shading Correction and Gamma Correction.

4) Optical System: Lens Reduction type All-In-One(Scanning Lamp + Lens + CCD Image sensor)

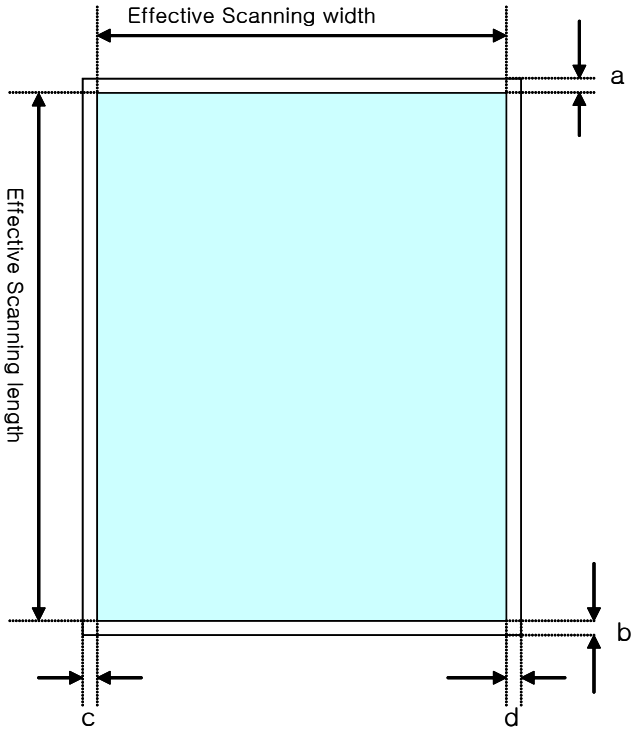
5) Light Source : Xenon Lamp

6) Scanning method
- Platen : Optical Moving
- DADF: Document Moving

2.3.3.5.2 Scanning Area

Maximum Document Width : 216mm
Effective Scanning Width: 208mm
Minimum Scan Width : 1” (25.4mm)
Minimum Scan Length : 1” (25.4mm)

a	b	c	d
2mm ± 2mm	2mm ± 2mm	3mm ± 1mm	3mm ± 1mm



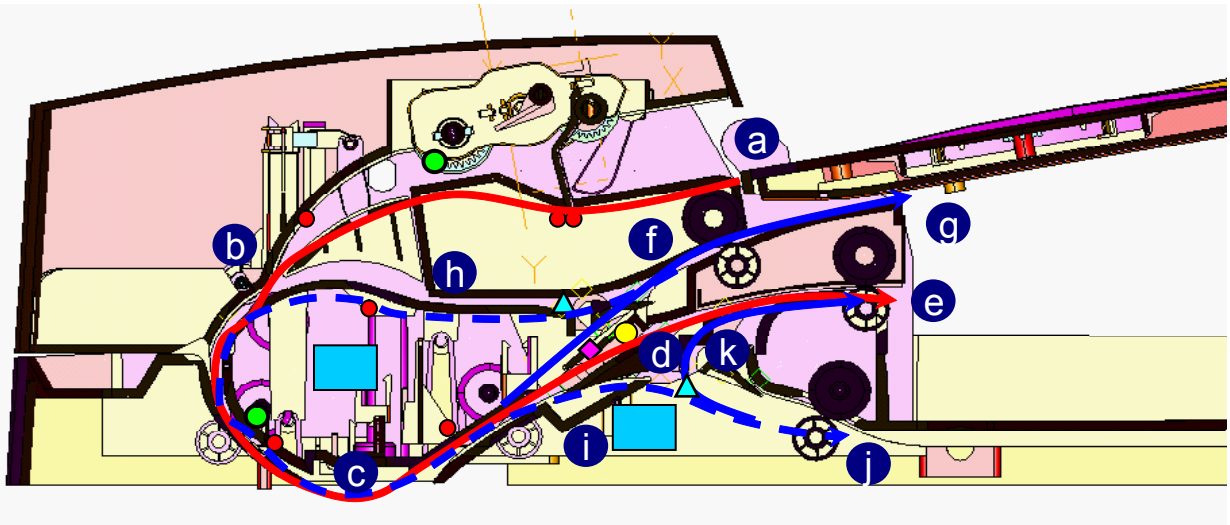
2.3.3.5.3 Source Document Specification (DADF)

The machine with this feature scans both sides of a paper.

• Spec
Capacity : Up to 50 sheets 75 g/m²
Copy speed : simplex 38cpm(LTR)/ duplex 25cpm(LTR)
Document Size : Width : 148 to 216 mm
Length : 145 to 356 mm for single page scan
145 to 400 mm for multi pages scan

Document Size Sensing	Yes	Extendible tray for long documents	Yes
Adjustable Paper Guide	Yes	DADF Ready Indicator	None
Labels w/graphics	None	Book copying with DADF open	Yes
Wear out items (rolls) easily replaceable w/o tools	No	Wear out items (rolls) should be serviced.	DADF Pad & Feed Roller

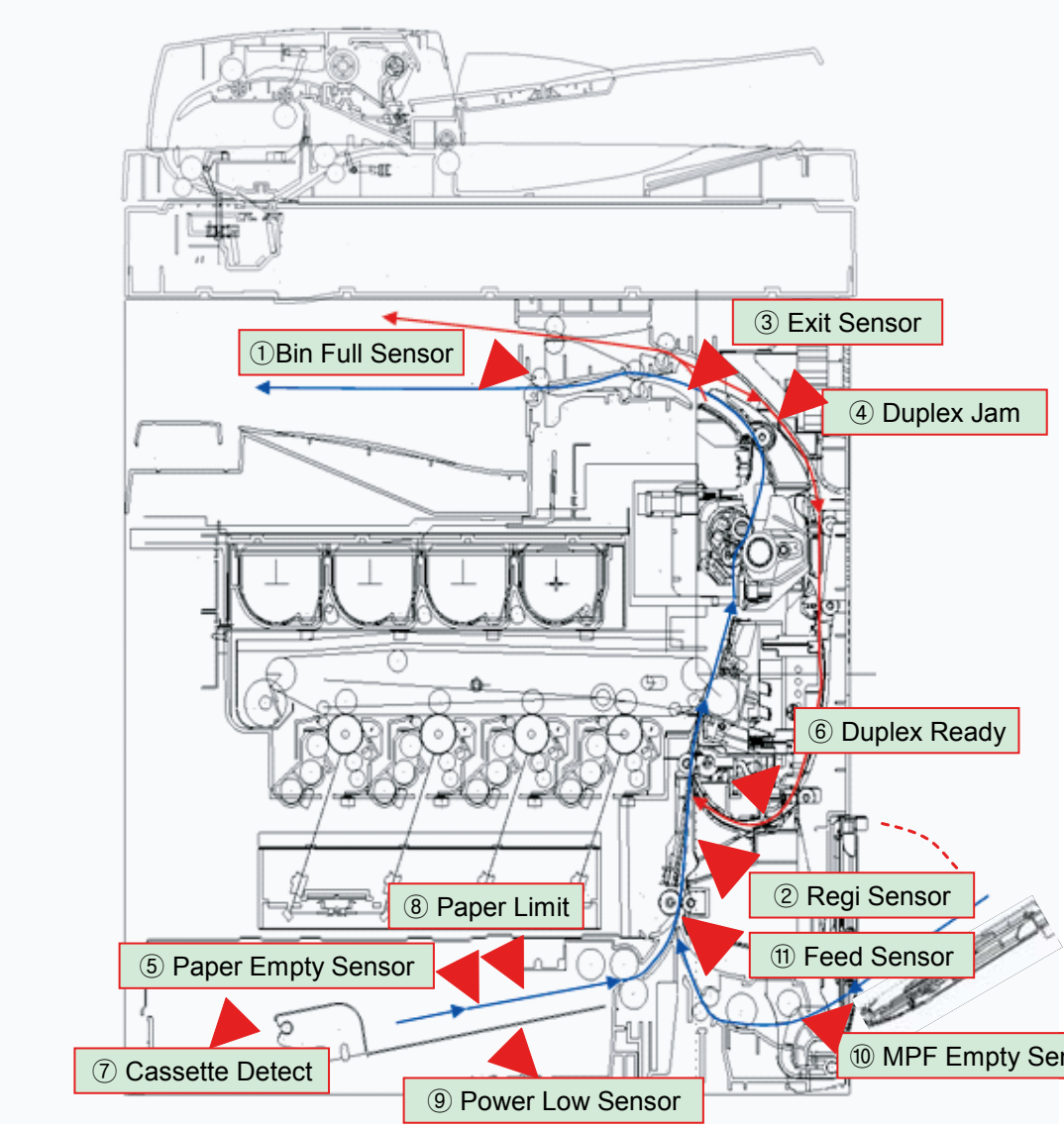
• **Layout**



INDEX	Description	Qty	Remark
■	MOTOR	2	
●	ELECTRONIC CLUTCH	2	
●	SOLENOID	1	
●	PHOTO SENSOR	7	To detect Paper size
▲	GATE	2	
◆	3 steps GATE	1	

	Document Path
SIMPLEX	ⓐ → ⓑ → ⓒ → ⓓ → ⓔ
DUPLEX	ⓐ → ⓑ → ⓒ → ⓕ → ⓖ → ⓗ → ⓒ → ⓘ → ⓙ → ⓚ→ ⓔ

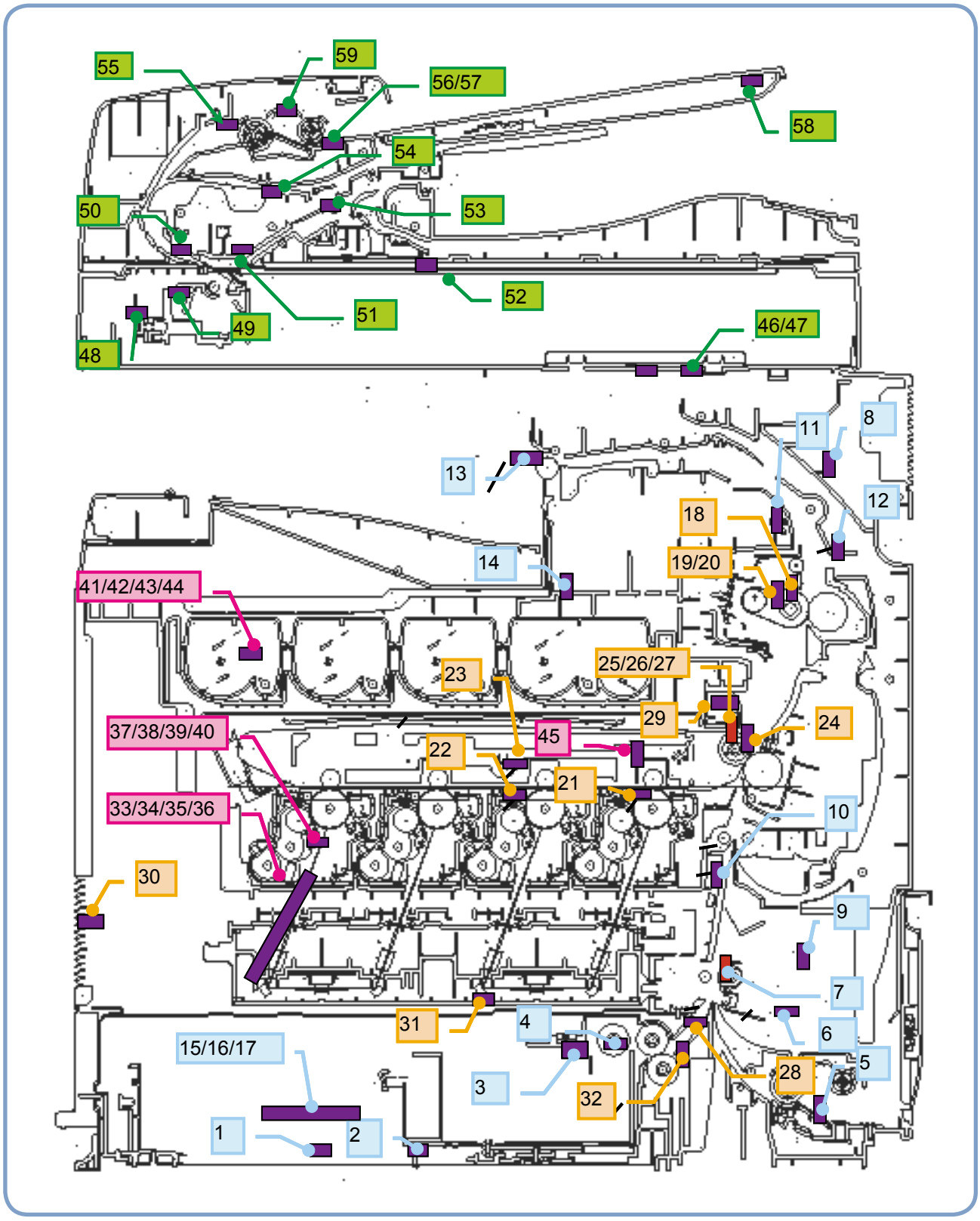
2.3.3.6 Sensor



■ DESCRIPTION

① **Bin Full Sensor :** Check overflowing of Paper on Stacker
② **Regi Sensor :** Two Regi Sensor for checking precise paper position
③ **Exit Sensor :** Check paper position on Fuser
④ **Duplex Jam :** Check paper position on Duplex path1
⑤ **Paper Empty Sensor :** Check Paper empty on a cassette
⑥ **Duplex Ready :** Check paper ready on Duplex path
⑦ **Cassette Detect :** Check cassette insertion
⑧ **Paper Limit :** Check raising paper up to feeding position
⑨ **Paper Low Sensor :** Check the number of paper below 100 pages
⑩ **MPF Empty Sensor :** Check paper empty on MPF

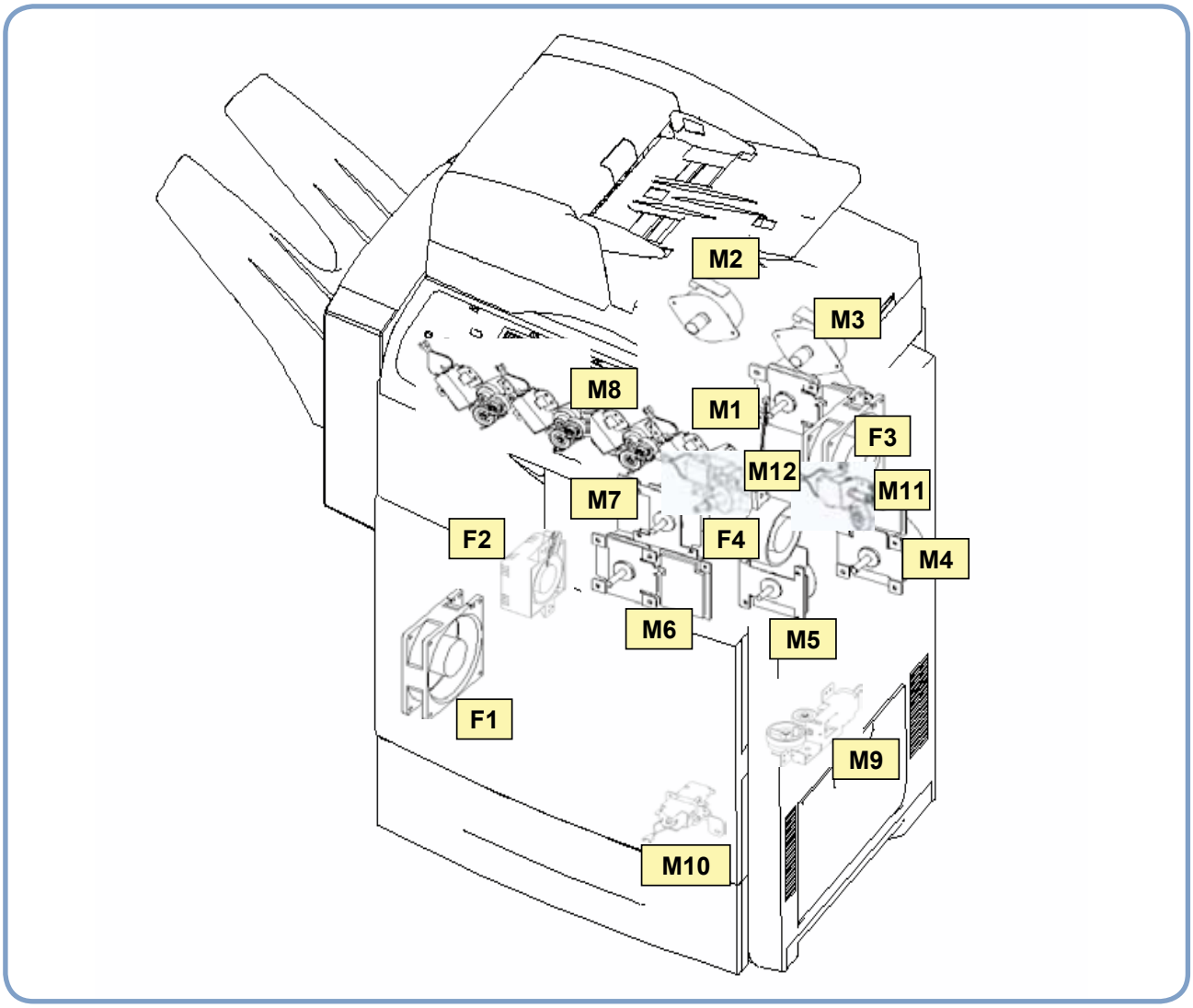
2.3.3.7 Sensor (Expansion)



No	Sensor Name	Unit	SEC Code	Sensor Type
1	CASSETTE_DETECT	BASE_FRAME	0604-001095	Photo Interrupter
2	PAPER_NEAR_END	BASE_FRAME	0604-001095	Photo Interrupter
3	PAPER_UP_LIMIT	BASE_FRAME	0604-001096	Photo Interrupter
4	CASSETTE_EMPTY	BASE_FRAME	0604-001095	Photo Interrupter
5	MP_EMPTY	BASE_FRAME	0604-001095	Photo Interrupter
6	SENS_DUPLEX_READY	FRAME	0604-001095	Photo Interrupter
7	SENS_FEED	FRAME	0604-001230	Reflective Photo Interrupter
8	SENS_COVER OPEN	FRAME	JC39-00750A	interlock s/w
9	SENS_COVER OPEN	FRAME	JC39-00751A	interlock s/w
10	SENS_REGI	FRAME	0604-001230	Reflective Photo Interrupter
11	SENS_PAPER_EXIT	FRAME	0604-001095	Photo Interrupter
12	SENS_DUPLEX_JAM	SIDE	0604-001095	Photo Interrupter
13	OUTBIN_FULL	FRAME	0604-001095	Photo Interrupter
14	FINISHER_DETECT	FRAME	0604-001095	Photo Interrupter
15/16/17	PAPER_SIZE1(2/3)	CASSETTE	JC92-01913A	TACT SWITCH
18	THERMOSTAT	FUSER	4712-001028	SPST, NORMALLY CLOSED TYPE
19/20	FUSER_THERM1(2)	FUSER	1404-001355	THERMISTOR
21	OPC_BK_HOME	FRAME	0604-001095	Photo Interrupter
22	OPC_CR_HOME	FRAME	0604-001095	Photo Interrupter
23	SENS_T1_ENGAGE	FRAME	0604-001095	Photo Interrupter
24	SENS_T2_ENGAGE	FRAME	0604-001095	Photo Interrupter
25	SENS_CTD	FRAME	JC32-00006A	ACR/CTD SENSOR
26/27	SENS_ACR1(2)	FRAME	JC32-00006A	ACR/CTD SENSOR
28	SENS_LSU_CLN	FRAME	0604-001095	Photo Interrupter
29	INNER_TEMP	FRAME	1404-001417	THERMISTOR
30	OUT_TEMP HUMIDITY S	FRAME	JC32-00005A	Temp/Humidity sensor
31	WASTE_FULL	FRAME	JC96-04546A	Beam Sensor
32	SENS_WTB_MOT	FRAME	JC92-02005A	Photo Interrupter
33/34/35/36	SENS_TC_Y(M/C/K)	DEVE	JC32-00008A	
37/38/39/40	CRUM_DEVE_Y(M/C/K)	DEVE	JC92-02032A	S-CRUM
41/42/43/44	CRUM_TB_Y(M/C/K)	TB	JC92-02032B	S-CRUM
45	CRUM_ITB	ITB	JC92-01857A	S-CRUM
46/47	AUTO_PAPER_SIZE(2)	SCAN	0604-001370	Multi Beam Sensor
48	CCD HOME SENSOR	SCAN	0604-001095	Photo Interrupter
49	PLATEN_COVER_OPEN	SCAN	0604-001095	Photo Interrupter
50	SENS_DOC_SCAN	DADF	0604-001095	Photo Interrupter
51	SENS_DOC_GATE	DADF	0604-001095	Photo Interrupter
52	SENS_R_STACK	DADF	0604-001095	Photo Interrupter
53	SENS_GATE_HP	DADF	0604-001095	Photo Interrupter
54	SENS_DOC_DUPLEX	DADF	0604-001095	Photo Interrupter
55	SENS_DOC_REGI	DADF	0604-001095	Photo Interrupter
56	SENS_DOC_WIDTH	DADF	0604-001095	Photo Interrupter
57	SENS_DOC_DETECT	DADF	0604-001095	Photo Interrupter
58	SENS_DOC_LENGTH	DADF	0604-001095	Photo Interrupter
59	DADF_COVER_OPEN	DADF	0604-001095	Photo Interrupter

2.3.3.8 Motor & Fan

The printer has ten motors and four fans. The figure below shows the locations of the motors and fans.



NAME	FUNCTION	NAME	FUNCTION
M1	FUSER DRIVE BLDC MOTOR	M9	LSU CLEANING DC MOTOR
M2	EXIT DRIVE STEPPING MOTOR	M10	WASTE TONER BOTTLE DRIVE DC MOTOR
M3	DUPLEX DRIVE STEPPING MOTOR	M11	
M4	MAIN DRIVE BLDC MOTOR	M12	
M5	BLACK OPC & DEVE DRIVE BLDC MOTOR	F1	FAN-DC : HVPS
M6	COLOR DEVE DRIVE BLDC MOTOR	F2	FAN DC INVERTER : SMPS
M7	COLOR OPC DRIVE BLDC MOTOR	F3	FAN DC : DUPLEX
M8	TONER SUPPLY DRIVE DC MOTOR	F4	FAN DC : DUPLEX