

2. Product Specifications

2.1 Product Overview

38ppm (Ltr. 40ppm)

PCL6, PS3, 1200x1200dpi

400 MHz Processor, 64MB Memory

- 10/100 Base TX
- Opt. 802.11b/g Wireless N/W

ML-4050N



USB 2.0, IEEE1284

20K Toner (10K Standard)

Duplex(Optional)

SCF, Network, Memory, HDD Option

2.2 Specifications

- Product Specifications are subject to change without notice. See below for product specifications.

2.2.1 General

ITEM		ML-4050N	REMARK
Major Features		Default N/W Print	
Technology		Electro-photography	
Dimension(W*D*H)	Net Dimension w/o Option Tray	396*453*353mm (15.6"*17.8"*13.9") (External)	
	Packing Dimension w/o option tray	518*566*568mm (20.4"*22.3"*22.4") (External)	
	Net Dimension with Option Tray	396*453*501mm (15.6"*17.8"*19.7") (External)	
	Toner	314 x 225 x 116 mm	
	Toner Packing	368 x 286 x 169 mm (External)	
Weight	SET with 10K toner cartridge	17.30kg (38.14lb) ()	
	SET w/o toner cartridge	15.46kg (34.06lb) ()	
	Consumable toner cartridge	10K : 1.85kg (4.08lbs), 20K : 2.06kg (4.54 lbs)	
	Set + Consumables	19.15 kg (42.2lb) with 10K toner cart.	
	Packing Weight	22.46kg (49.50lb) ()	

2.2.2 Print Operability

ITEM		ML-4050N	REMARK
Speed	Simplex	Up to 38 ppm in A4 (40 ppm in Letter)	Usable paper sizes (Letter, A4, Folio, Oficio, Legal)
	Duplex	26 ipm in A4 (27 ipm in Letter)	
FPOT	from standby	Less than 9 sec	
	from sleep/power save mode	Less than 40 sec	
	from cold status	Less than 49 sec	
Warm Up Time	from sleep/power save mode	Less than 31 sec	
	from cold status	Less than 40 sec	
Toner save setting unit	SWS	Support	
	PSU.	Support (30%)	
	LUI(Local UI)	Support(UI2.0)	
Duplex Print	Simplex	Support	
	Manual Duplex	N/A	
	Duplex	Optional	

2.2.3 Print Quality

ITEM		ML-4050N	REMARK
Resolution	Normal	Up to 1200 x 1200 dpi effective output	
	Line Width @ 600dpi		
	Line Width @ 1200dpi		
	Dot Diameter @ 600dpi		
	Dot Diameter @ 1200dpi		
	RET	Yes	
	Halftone(Gray Scale)	256 levels	
	Blackness	>1.20	
	Homogeneity of Halftone	ΔOD at five points on page must be ≤0.1	
	Halftone	20 % = 0.17 50 % = 0.49 80 % = 0.91	
Printable Area	Letter	208 x 271 mm	
	A4	200 x 289 mm	
Non-Printable Area	Envelope	10mm(0.4") from edge(Top, Bottom, Left, Right)	
	Other Media	4mm(0.16") from edge(Top, Bottom, Left, Right)	
Toner Fixing (Fuse Grade)	Black (100% Solid)	≥ 80%	
	Halftone	≥ 70%	
Magnification	Horizontal (applied to 177.8mm length)	< 1.0 mm (0.04 ") (0.5 %)	
	Vertical (applied to 241.3mm length)	< 3.0 mm (0.12 ") (1.2 %)	
Printing Skew	MPF	< 1.5 mm (0.06 ") : Simplex & Horizontal < 2.0 mm (0.08 ") : Duplex & Horizontal < 2.0 mm (0.08 ") : Simplex & Vertical < 2.5 mm (0.10 ") : Duplex & Vertical	Horizontal Measurement length 180.5mm Vertical Measurement length 241.3mm
	Tray1	< 1.5 mm (0.06 ") : Simplex & Horizontal < 2.0 mm (0.08 ") : Duplex & Horizontal < 2.0 mm (0.08 ") : Simplex & Vertical < 2.5 mm (0.10 ") : Duplex & Vertical	
	Option Tray	< 2.0 mm (0.08 ") : Simplex & Horizontal < 2.5 mm (0.1 ") : Duplex & Horizontal < 2.5 mm (0.10 ") : Simplex & Vertical < 3.0 mm (0.12 ") : Duplex & Vertical	

2.2.4 CPU and Memory

ITEM		ML-4050N	REMARK
CPU	SPGP V3	400MHz	Samsung 400 MHz
	System Bus	100MHz	
Device Memory	Std.	64 MB	
	Max.	512 MB : 2Slot	
	Type	SDRAM	
	Expand memory slot and type	SDRAM DIMM 2 slot / 32,64,128,256MB	
	Compression Technology	YES	

2.2.5 Power Supply

ITEM		ML-4050N	REMARK
General Spec	Input Voltage	Low Voltage : 110 ~ 127VAC	
		High Voltage : 220 ~ 240VAC	
	Input Frequency	50 / 60Hz(+/- 3Hz)	
	Power Cord Type	CP-2	Black color
Power Consumption	Print	Less than 600W	
	Standby	Less than 130W	
	Sleep/Power Off	Less than 13W / 0W	
	Peak or Max	Less than 700W	
Power save mode etting unit	min	5/10/15/30/60, 120	Off (not assign)
	Default setting	30 min	

2.2.6 Acoustic Noise (Sound Pressure)

ITEM		ML-4050N	REMARK
Printing	Simplex from Tray1	Less than 56.0 dBA	
	Simplex from MP	Less than 56.0 dBA	
	Simplex from SCF	Less than 59.0 dBA	
	Duplex from Tray1	Less than 59.0 dBA	
Standby and etc	Standby	Less than 35.0 dBA	
	Warm up	Less than 50.0 dBA	
	Max.	Less than 60.0 dBA	
	Measurement Basis	Back Ground Level	

2.2.7 Environment

ITEM		ML-4050N	REMARK
Operating Environment	Temperature	10C to 32C	
	Humidity	20% to 80%	
Altitude	Plan	0~1,500m	
	High1	1,500~2,500m	
	High2	2,500~3,500m	
	High3	3,500~4,000m	

2.2.8 Software

ITEM		ML-4050N	REMARK
Printer Languages	PS3	Support	
	PCL6 (PCL6_C)	Support	
	PCL5e (PCL5Ce)	Support	
	SPL (SPL_C)	N/A	
	PCL3	N/A	
	PDF2PS	Support(HDD install)	
	EPSON/IBM	Support	
	KSC5843	Support(only korea)	
	KSC5895	Support(only korea)	
	KSSM	Support(only korea)	
Print Margin(Simplex)	Each side margin(left, right)	Left [0-164]mm:0 *	
	Top Margin	Top [0-250]mm:0 *	
Print Margin(Duplex)	Each side margin(left, right)	Left [0.0-9.9]mm:5.0 *	
	Top Margin	Top [0.0-9.9]mm:5.0 *	
	Short binding	[0-22]mm:0 *	
	long binding	[0-22]mm:0 *	
	Type	Normal, Dark, Light	
Fonts	45 scalable	Support	
	1 bitmap	Support	
	136 PostScript3	Support	
	OCR(A Type, B Type)	Support	
	Barcode	Support (default: unusable)	usable by PJL command
Compatibility	DOS	No	
	Win 3.x	No	
	Win 95	No	
	Win 98	Yes	
	Win ME	Yes	
	Win NT 4.0	Yes	
	Win 2000	Yes	
	Win 2003 Server(32/64bits)	Yes	
	Win XP (32/64bits)	Yes	
	Win Vista	Yes	Post-Launch
	Longhorn?	No	
	Mac OS 8.6~9.2/10.1~10.4	Yes	
	Various Linux OS: - Red Hat 8~9, - Fedora Core 1~4 - Mandrake 9.2~10.1 - SuSE 8.2~9.2	Yes	
HQL	Windows 2000	Yes	
	XP	Yes	
	2003 Server	Yes	
	Window Vista	Yes	Post-Launch

ITEM		ML-4050N	REMARK
Driver : PCL6 & PS	Win 98	Yes	
	Win NT4.0	Yes	
	Win 2000	Yes	
	Win Me	Yes	
	Win XP(32/64bits)	Yes	
	Win Vista	Yes	Post-Launch
	Win 2003 Server(32/64bits)	Yes	
	Linux & Mac (*PS)	Yes	
Application	PSU	Yes(Windows, Mac, Linux)	
	Smart Panel	Yes(Windows, Mac, Linux)	
	DPU	Yes(Windows)	For PDF2PS
	JMS	Yes(Java based, Embedded in SWS)	For HDD Job management
	Job Monitor	Yes(Windows, Included in Smart Panel)	For HDD Job management
	Network Management	SWAS4.0(Synctru Web Admin Service) Built-in 5 Plug-in	
	SetIP	Yes(Windows)	

2.2.9 Network

ITEM		ML-4050N	REMARK
Wired Network	H/W (N/W Card, CPU, ROM)	Main B'D Embedded	
	Type	Ethernet 10/100 Base TX	
	Network Compatibility	IEEE 802.2/3	
	# of LED	2 EA	
	Wired LAN Connector	Plug-Type	
	Protocol	SPX/IPX, TCP/IP, Ethertalk, SNMP, HTTP, IPP, Bonjour	
	Supporting OS	* in98/ME/NT4.0/2000/XP(32/64bits)/2003(32/64bits) * NetWare 4.x, 5.x, 6.x * Mac OS 8.6~9.2, 10.1~10.4 * Various Linux OS including Red Hat 8~9, Fedora Core 1~4, Mandrake 9.2~10.1, and SuSE 8.2~9.2 * Unix HP-UX * SUN Solaris * SCO	
Wireless LAN	Architecture	Yes (Optional)	
	Operating modes	Yes	
	Frequency Band : 802.11a	N/A	
	Frequency Band : 802.11b/g	Yes	
	Supported Transfer Rates : 802.11a	N/A	
	Supported Transfer Rates : 802.11b	Yes	
	Supported Transfer Rates : 802.11g	Yes	

2.2.10 User Interface

ITEM		ML-4050N	REMARK
I/O	Parallel	IEEE 1284	
	USB	Hi-Speed USB 2.0	
	Wired Network	Ethernet 10/100 Base TX (Internal)	
	Wireless Network	Optional	
LCD	1-byte	2 x 16 Character (UI2.0)	
LED	Configuration	2 LED (Status LED, Toner Save Button LED)	
	Paper Jam Place	N/A	
	Paper Jam	N/A	
	Toner Empty/ Drum Replace	N/A	
Key	Configuration	8Key : Menu, ◀,OK(*), ▶,Back,Demo,Stop, Toner Save (UI2.0)	
	Stop/Clear	N/A	
	Copy/Start	N/A	
	Help	N/A	
	Others	N/A	

2.2.11 Language

	ITEM	ML-4050N	REMARK
LCD Language	English	Support	
	German	Support	
	French	Support	
	Italian	Support	
	Spanish	Support	
	Dutch	Support	
	Russian	Support	
	Norwegian	Support	
	Swedish	Support	
	Polish	Support	
	Finnish	Support	
	Danish	Support	
	Turkish	Support	
	Korean	Support	
	S.Chinese	Support	
Network Firmware (SWS) Language	English	Support	
	French	Support	
	German	Support	
	Italian	Support	
	Spanish	Support	
	Polish	Support	
	Russian	Support	
	Turkish	Support	
	Chinese	Support	
	Korean	Support	
Network CD Language	English	Support	
	French	Support	
	German	Support	
	Italian	Support	
	Spanish	Support	
	Polish	Support	
	Russian	Support	
	Turkish	Support	
	Chinese	Support	
	Korean	Support	

2.2.12 Paper Handling

ITEM		ML-4050N	REMARK
Input Size	Max Custom Paper (W*H)	216 x 356 mm (8.5" x 14")	
	Min Custom Paper (W*H)	76 x 127 mm (3.0" x 5.0") (>105g)	
Input Capacity	Standard	500-sheet Cassette Tray, 100-sheet Multi Purpose Tray @75g/ m ²	
	Max.	1,100~2,100 sheets @75g/ m ² ()	
Output Capacity	Face-Down Capacity	250 sheets @ 75g/ m ²	
	Face-Up Capacity	100 sheets @ 75g/ m ²	
	Output Full sensing	Yes (Paper Out Bin Full Sensor)	
	Output path change	Face Up/Down controlled manually by opening rear cover	
Multi-Purpose Tray	Plain Paper Capacity	100 sheets @75g/ m ²	
	Envelope Capacity	10 sheets	
	Card Stork Capacity	10 sheets	
	Labels Capacity	25 sheets	
	Transparencies Capacity	50 sheets	
	Media sizes	A4, A5, A6, Letter, Legal, Oficio, Folio, Executive, ISO B5, JIS B5, 3"x5", Monarch, No.10, DL, C5, C6	
	Media type	Transparencies, Envelopes, Labels, Card stock	
	Media weight	16~43lb (60 to 163g/ m ²)	
	Sensing	Paper empty sensor	
Standard Cassette Tray	Capacity	500 sheets@75g/ m ²	
	Media sizes	A4, A5, Letter, Legal, Executive, Folio, Oficio, ISO B5, JIS B5	
	Media types	Plain paper	
	Media weight	16~28lb (60 to 105g/ m ²)	
	Sensing	Paper empty sensor, Paper Size Sensor	
Optional Cassette Tray	Capacity	500 sheets@75g/ m ²	
	Media sizes	A4, A5, Letter, Legal, Executive, Folio, Oficio, ISO B5, JIS B5	
	Media types	Plain paper	
	Media weight	16~28lb (60 to 105g/ m ²)	
	Sensing	Paper empty sensor	
Duplex	Supporting	Optional	
	Media sizes	A4, Letter, Legal, Folio, Oficio	
	Media types	Plain paper	
	Media weight	20~24lb (75 to 90g/ m ²)	
Jam Rate	Base Line Paper	1/12,000 prints	
	Standard Paper	1/10,000 prints	
	Stress Paper	1/1,500 prints	
Jam 0,1,2 (Plain Paper)	NN and LL	* 1/12,000 (@ Base line Paper) * 1/10,000 (@ Standard Paper) * 1/1,500 (@ Stress paper)	
	HH	* 1/6,000 (@ Base line Paper) * 1/5,000 (@ Standard Paper) * 1/750 (@ Stress paper)	

ITEM		ML-4050N	REMARK
Duplex Jam	NN and LL	* 1/6,000 (@ Base line Paper) * 1/5,000 (@ Standard Paper) * 1/750 (@ Stress paper)	
	HH	* 1/3,000 (@ Base line Paper) * 1/2,500 (@ Standard Paper) * 1/375 (@ Stress paper)	
Miss Feeding	NN / LL / HH	Paper Pick-up	
Multi Feeding	NN and LL	* from MP : 1/3,000 * from CST : 1/6,000	
	HH	* from MP : 1/1,500 * from CST : 1/3,000	
Jam detect	PressureRelease lever used	Yes	
	Fuser Jam cover	Yes	
	Release gear	Yes	
	Pressure Roller and Heat Roller	Yes	
	Fuser Jam remove	Yes	
Output paper scattering	In feeding direction	+/- 9 mm	Baseline/standard paper (Some papers like recycled papers may be out of spec)
	In side direction	+/- 9 mm	
Print Registration : all tray	Side Print Position Accuracy	$\pm 2.5 \text{ mm } (\pm 0.1'')$	
	Lead Print Position Accuracy	$\pm 3.0 \text{ mm } (\pm 0.12'')$	Duplex long binding : $\pm 3.0 \text{ mm}$
Print Magnification	Vertical	$< \pm 3.0 \text{ mm } (\pm 0.12'') (1.2 \%)$	Applied to 241.3 mm length
	Horizontal	$< \pm 1.0 \text{ mm } (\pm 0.04'') (0.5 \%)$	Applied to 177.8 mm length
Bowing	Horizontal	$< \pm 0.5 \text{ mm } (\pm 0.02'')$	Applied to 200mm length

2.2.13 Consumables

ITEM		ML-4050N	REMARK
CRUM	CRUM or Crypto CRUM	Crypto CRUM	
Kind	Cartridge	Yes (CRU)	Consumer Replacement Unit
Life	Initial	Average Cartridge Yield 10K standard pages. Declared cartridge yield in accordance with ISO/IEC 19752.	
	High Yield	Average cartridge Yield 20K standard pages. Declared cartridge yield in accordance with ISO/IEC 19752.	
Toner Sensor	Method	S-CRUM	
Unique Key	Alarm Timing	Guage(Remaining Life)	
	Support	Yes	
Drum	Yield	Same as consumables	

2.2.14 Reliability & Service

ITEM		ML-4050N	REMARK
Machin Life	Recommended Monthly Duty Cycle(AMPV)	6,000 sheets / month	
	Max. Monthly Duty	200,000 sheets	
	MPBF	150,000 sheets	
	MTBF	30 min.	
	MTTR	20 min.	
	Product Life Time(Machine life)	500,000 sheets or 5 years (whichever comes first)	
*Periodic Replacing Parts	Pickup Roller	150,000 Pages	
	Pad Unit (Tray)	150,000 Pages	
	Unit Roller Idle (Feed)	150,000 Pages	
	Transfer Roller	150,000 Pages	
	Fuser Unit	150,000 Pages	
RDS	Comm. Mode	YES	
	Operation	YES	
Tech Support	Event Log	Yes	

* Periodic Replacing Parts

No.	Parts	Code	Fig.	Yield (pages)
1	Transfer Roller	JC66-00540B		150,000
2	Pick-up Roller	JC97-02233A		150,000
3	Fuser Unit	JC96-04413A(110V) JC96-04413B(220V)		150,000
4	PAD Unit(Tray)	JC97-02844A		150,000
5	Unit Roller Idle (Feed)	JC96-04016A		150,000

2.2.15 Accessory

ITEM		ML-4050N	REMARK
In-Box	Driver Install CD-ROM	1 EA	
	Power Cable	1 EA	
	USB Cable	Korea/Russia/India/China : Yes, Other : No	
	Quick Install Guide	Yes	
	Warranty Registration Card	Yes	
	User's Manual (PDF File)	Yes	
	Toner Cartridge	1 EA (10K yield ISO 19752 5% coverage)	

2.2.16 Options

ITEM		ML-4050N	REMARK
Memory	32MB	Yes	
	64MB	Yes	
	128MB	Yes	
	256MB	Yes	
Second Cassette Tray	500-sheets	Yes	
Wireless Network	802.11 b/g Wireless LAN (Internal)	Yes	
Hard Disk Diver	40GB	Yes	
Duplex Unit	Optional	Yes	

2.3 Model Comparison Table

	SEC ML-2550	SEC ML-4050	SEC ML-4550	SAMSUNG ML-3560
Image				
Engine	SEC	SEC	SEC	SEC
Speed(ppm)	24ppm	38/40ppm	43/45ppm	33ppm
Processor	266MHz	400MHz	500MHz	400MHz
Resolution	1,200X1,200 dpi	1,200X1,200 dpi	1,200X1,200 dpi	1,200X1,200 dpi
FPOT	12 sec	9 sec	8.5 sec	10 sec
Emulation	PS3, PCL6	PS3, PCL6	PS3, PCL6	PS3, PCL6
Ram(Std.)	32MB(Max. 160MB)	64MB(Max. 512MB)	128MB(Max. 512MB)	32MB(Max. 288MB)
Interface	IEEE1284, USB 2.0	IEEE1284, USB 2.0	IEEE1284, USB 2.0	IEEE1284, USB 2.0
Duplex	Yes	Factory Option	Factory Option	Option
Paper Input (Capa./Type)	550 Cassette, 100 MP	250 Cassette, 100 MP 250 SCF Opt.	250 Cassette, 100 MP 250 SCF Opt.	500 Cassette, 100 MP 500 SCF Option
Os Compatibility	Win 95/98/NT/2000/ Me/XP, Mac	Win 95/98/NT/2000/ Me/XP, Linux	Win 95/98/NT/2000/ Me/XP, Linux	Win 95/98/NT/2000/ Me/XP, Linux
Toner	10K	10K/20K	10K/20K	6K/12 K