SERVICE MANUAL

Color Large Format Inkjet Printer

EPSON Stylus Pro 4000

EPSON

SEIJ03003

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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 NON-APPROVED 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 the printer. 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.

Manual Configuration

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
Describes the step-by-step procedures for the troubleshooting.

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

CHAPTER 5.ADJUSTMENT
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
- Electrical circuit boards schematics
- Exploded diagram & Parts List

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 NOTE, CAUTION, or WARNING messages.

Indicates an operating or maintenance procedure, practice or condition that is necessary to keep the product's quality.

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.

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

Indicates that a particular task must be carried out according to a certain standard after disassembly and before re-assembly, otherwise the quality of the components in question may be adversely affected.

Revision Status

Revision	Date of Issue	Description
A	Dec. 25, 2003	First release
B	Mar. 25, 2005	Revised Contents [Chapter 1] • Features (Page 10) :Updated • Cut Specification (Page 20) :Updated • Reliability (Page 22) :Updated • Panel Display in Operation (LCD and LED Display) (Page 30) :Updated • Status Printing (Page 55) :Updated • Paper Thickness Detection Pattern (Page 68) :Updated • Gap Adjustment Print Pattern (Page 72) :Updated • Supersonic Cleaning (SSCL) (Page 77) :Updated • Maintenance Tank (Page 114) :Updated [Chapter 2] • Cutter Solenoid/CR Lock Mechanism (Page 132) :Newly added and Corrected errors [Chapter 3] • Check Before Troubleshooting (Page 156) :Updated • Message Table (Page 157) :Updated • Corrective Actions for Displayed Warnings (Page 160) :Updated • Corrective Actions for Error Display (Page 163) :Updated • Page 172 - 191 :Corrected errors • Dot Missing (Page 192) :Corrected errors • Uneven Printing/Poor Resolution (Page 193) :Corrected errors [Chapter 4] Full-fledged revision [Chapter 5] Full-fledged revision [Chapter 6] • Important Maintenance Items During Service Operations (Page 427) :Newly added [Chapter 7] • Exploded Diagrams (Page 442) :Updated • Parts List (Page 457) :Updated

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CHAPTER

1

PRODUCT DESCRIPTION

1.1 Product Description

1.1.1 Features

- Large Format
  - Max. paper width: 451.98mm (17.79"), A2 size supported
- High-Speed Throughput

Table 1-1. Throughput

Ink type	EPSON media	Quality	Dot size	Resolution(dpi)	Mode			Throughput (A2 printing time *print only)
8-color	Plain Paper	Economy	Eco	360 x 360	Bi-D	MF	350cps	1.2min.
		Speed	VSD1	360 x 360	Bi-D	MF	210cps	1.5min.
		Quality	VSD2	720 x 360	Bi-D	FOL	240cps	2.9min.
		High Quality	VSD2	720 x 720	Bi-D	FOL	240cps	5.6min.
	Matte Paper	Speed Super Off	VSD1	360 x 360	Uni-D	MW	210cps	2.4min.
		Speed	VSD1	360 x 720	Bi-D	MW	210cps	3.1min.
		Quality	VSD2	720 x 720	Bi-D	FOL	240cps	5.6min.
		High Quality 1440	VSD3	1440 x 720	Bi-D	4-pass	240cps	8.5min.
		High Quality Super On	VSD3	1440 x 720	Bi-D	8-pass	240cps	14.2min.
	Glossy Photo Paper	Speed	VSD1	360 x 720	Bi-D	MW	210cps	3.1min.
		Quality	VSD2	720 x 720	Bi-D	FOL	240cps	5.6min.
		High Quality 1440	VSD3	1440 x 720	Bi-D	4-pass	240cps	8.5min.
		High Quality 2880	VSD4	2880 x 1440	Bi-D	4-pass	240cps	17.2min.
4-color	Plain Paper	Economy	Eco	360 x 360	Bi-D	Band	350cps	0.7min.
		Speed	VSD1	360 x 360	Bi-D	Band	210cps	0.9min.
		Quality	VSD2	720 x 360	Bi-D	FOL	240cps	1.7min.
		High Quality	VSD3	720 x 720	Bi-D	FOL	240cps	3.4min.
	Matte Paper	Speed Super Off	VSD1	360 x 360	Bi-D	MW	210cps	1.1min.
		Speed	VSD1	360 x 720	Bi-D	MW	210cps	1.9min.
		Quality	VSD2	720 x 720	Bi-D	FOL	240cps	3.4min.
		High Quality 1440	VSD3	1440 x 720	Bi-D	4-pass	240cps	4.6min.
		High Quality Super On	VSD3	1440 x 720	Bi-D	8-pass	240cps	7.3min.

- Max Quality
  High image quality made by various layers of 8-color ink, 2880 x 1440dpi, and minimum of 4pl.
- Low Running Cost
  - Independent for each color and 110ml ink cartridge
- Paper Handling
  - Support various media
  - Automatic roll paper cutter, manual cutter
  - Automatic cut sheet loading (ASF)
  - Borderless print for 4 sides
- Compatibility with Other LFPs
  Commands are upper compatible with following models.
  - Stylus Pro 10000
  - Stylus Pro 10000CF
  - Stylus Pro 9000
  - Stylus Pro 9500
  - Stylus Pro 7000
  - Stylus Pro 7500
  - Stylus Pro 9600
  - Stylus Pro 7600
  - Stylus Pro 10600UC
  - Stylus Pro 10600CF
  - Stylus Pro 10000 Dye
- The latest RIP technology
  CPSI Pro software RIP

1.2 Basic Specifications

1.2.1 Print Specifications

- Printing
  On-demand ink-jet
- Nozzle configuration
  - Pigment 8- color mode
    - Black 540 nozzles
      (Black1, Black2, Black3, 180 nozzles each)
    - Color 900 nozzles
      (Cyan, Magenta, Light cyan, Light magenta, Yellow, 180 nozzles each)
  - Pigment 4- color mode
    - Black-360 nozzles
      (Black x 2 rows, 180 nozzles each)
    - Color-1080 nozzles
      (Cyan x 2 rows, Magenta x 2 rows, Yellow x 2 rows, 180 nozzles each)
  - Nozzle pitch
    0.141mm (1/180 inch) for each color
- Ink Set Configuration

Table 1-2. Ink Set Configuration

Mode Name	1-row	2-row	3-row	4-row	5-row	6-row	7-row	8-row
8-Color Mode	MK	C	M	Y	PK	Lc	Lm	Lk
4-Color Mode	MK	C	M	Y	MK	C	M	Y
					Ink Change			

Note : Rows below are counted from the front left side of the printer.

- Printing direction
  Bi-direction with logic seeking (high-speed return, high-speed skip only)
- Printing speed and printable area
  - Alphanumeric characters
    - Character quality : High quality
    - Character pitch : 10cpi
    - Printable area : 167 characters
    - Printing speed : 350 cps max.
  - Graphic Mode

Table 1-3. Graphics Modes

Horizontal resolution (dpi)	Maximum printable area	Maximum number of printable dots	Printing speed
360	437.8mm (17.24")	6,205	350cps
720	437.8mm (17.24")	12,410	240cps
1440	437.8mm (17.24")	24,820	210cps
2880	437.8mm (17.24")	49,641	240cps

Note : Includes left/right margin of 3mm.

1.2.2 Character Specification

- Character tables
  - PC 437 (Alphanumeric characters extension graphics)
  - PC 850 (Multilingual)
- Font
  EPSON original font – Alphanumeric character Courier

1.2.3 Control Code

- Control code
  ESC/P Raster

1.2.4 Paper Feed Specification

- Paper feeding
  Friction feed
- Line spacing
  1/6 inch or programmable at 1440 inch
- Paper path
  - Roll paper
  - Manual (front/back)
  - Automatic sheet feeder
- Feed speed
  6.35mm paper feed: 215 ± 10msec
  (except front rush, back rush, and hold time)

1.2.5 Paper Feeder Specification

- ASF
  Feeds paper automatically by Automatic Sheet Feeder.
- Rear Manual Feed
  Loads automatically from rear manual feed opening.
- Front Manual Feed
  Loads automatically from front manual feed opening.
- Roll Paper Feed

1.2.6 Paper Specification

1.2.6.1 Roll Paper

CONTAINABLE PAPER

The printer accepts following plain paper and EPSON special paper. It is not assured feeding and print quality with any other paper except them.

- ☐ Paper Size
  - ■ 2" core : 203 ~ 432mm (W) x ~ 45m (H) (within roll size)
  - ■ 3" core : 203 ~ 432mm (W) x ~ 202m (H) (within roll size)
- ☐ Roll Size
  - ■ 2" core : Under 103mm ext. diameter for 1 roll setting
  - ■ 3" core : Under 150mm ext. diameter for 1 roll setting
- ☐ Thickness : 0.08 mm ~ 0.50 mm

PLAIN PAPER

It is assured feeding only with following specifications.

- ☐ Paper Size
  - ■ 2" core : 203 ~ 432mm (W) x ~ 45m (H) (within roll size)
  - ■ 3" core : 203 ~ 432mm (W) x ~ 202m (H) (within roll size)
- ☐ Roll Size
  - ■ 2" core : Under 103mm ext. diameter for 1 roll setting
  - ■ 3" core : Under 150mm ext. diameter for 1 roll setting
- ☐ Thickness : 0.08 ~ 0.11mm
- ☐ Weight : 64 ~ 90gf/m^2
- ☐ Type : Plain paper, Recycle paper

BORDERLESS PRINT WIDTH

Borderless print for right and left is assured with following paper width roll paper. But following types are not recommended for borderless printing.

- ■ Single Weight Matte Paper
- ■ Enhanced Matte Paper
- ■ Textured Fine Art Paper

- ☐ Borderless Print Width

Table 1-4. Borderless Print Width

USA/ Europe	8"	210mm (A4)	10"	257mm (B4)	297mm (A3)	300mm	12"	329mm (A3+)	14"	400mm	16"	420mm (A2)	17"

NOTE 1: *Paper should have no wrinkles or tears, and the surface should be smooth.*

2: *The force to remove the end of the roll paper from the core at the beginning of rolling paper should be between 300gf and 2000gf.*

3: *If 3" core is used, a product-exclusive option (roll paper spindle 3") is necessary.*

4: *It is used under normal condition (temperature 15°C ~ 25°C, humidity 40% ~ 60%RH).*

5: *Roll paper can be printed before paper comes out of the core. (Reference: Remaining paper length is 300mm approx. when roll paper come out of the core.)*

6: *Mechanism clips print data out of over-printable area for borderless print.*

7: *For A2 size, spacer is specially needed.*

1.2.6.2 Cut Sheet

CONTAINABLE PAPER

The printer accepts following plain paper and special paper. It is not assured feeding and print quality with any other paper except plain paper and special paper.

☐ Paper Size

Table 1-5. Cut Sheet Size (Containable Paper)

Paper Size	Size (H x W)	Paper Size	Size (H x W)
B3	364mm x 515mm	Letter	8.5" x 11"
B4	257mm x 364mm	8" x 10"	8" x 10"
A2	420mm x 594mm	300mm x 450mm	300mm x 450mm
Super A3/B (A3+)	329mm x 483mm	US C Size	17" x 22"
A3	297mm x 420mm	US B Size	11" x 17"
A4	210mm x 297mm	11" x 14"	11" x 14"
		16" x 20"	16" x 20"

☐ Thickness

- 0.08 ~ 1.50mm (paper length; 279mm ~ 610mm)
- 0.08 ~ 0.50mm (paper length; 728mm ~ 1580mm)

NOTE 1: *Paper should have no wrinkles, tears, or stains and the surface should be smooth.*

2: *0.08 ~ 1.50mm paper thicknesses are supported for long-edge insertion.*

PLAIN PAPER

It is assured feeding only with following specifications.

☐ Paper Size : Identical to *Table 1-5 "Cut Sheet Size (Containable Paper)"(p15)*.

☐ Thickness : 0.08 ~ 0.11mm

☐ Weight : 64 ~ 90 gf/m^2

☐ Type : Plain paper, Recycle paper

BORDERLESS PRINT WIDTH

Borderless print for right and left is assured with following paper width. But following types are not recommended for borderless printing.

NOTE: *300mm, 400mm are supported for Europe.*

☐ Borderless Print Width

Table 1-6. Borderless Print Width

USA/ Europe	LTR 8.5"	210mm (A4)	10"	257mm (B4)	297mm (A3)	300mm	12"	329mm (A3+)	14"	400mm	16"	17"

NOTE 1: *Paper is fed short-edge first.*

2: *Paper should have no wrinkles, tears, or stains and the surface should be smooth.*

3: *It is used under normal condition (temperature 15ºC ~ 25ºC, humidity 40% ~ 60%RH).*

4: *Mechanism clips print data out of over-printable area for borderless print.*

1.2.6.3 Special Paper

☐ Cut Sheet

Table 1-7. Availability with Cut Sheet

Cut Sheet	Media Size													
	PG (mm)	8"x10"	A4	US-A LTR	Arch.A 9"x12"	B4	11"x14"	A3	US-B	Arch.B 12"x18"	Super A3/B	400x600	A2	US-C
Name		203x279	210x297	216x279	229x305	254x364	279x356	297x420	279x432	305x457	329x483	400x600	420x594	432x559
Premium Ink Jet Plain Paper (Xerox 4024)	1.2	–	@	@	@	@	–	@	@	@	–	–	@	@
Premium Ink Jet Plain Paper (Genuine)	1.2	–	@	–	–	–	–	–	–	–	–	–	–	–
Bright White Ink Jet Paper (Recycle paper)	1.2	–	@	–	–	–	–	@	–	–	–	–	–	–
Photo Quality Ink Jet Paper	1.2	–	⊙	⊙	–	–	–	⊙	⊙	–	⊙	–	⊙	⊙
Archival Matte Paper	1.2	–	⊙	⊙	–	–	–	⊙	⊙	–	⊙	–	–	–
Water color paper-Radiant White	1.2	–	–	–	–	–	–	–	–	–	⊙	–	–	–
Smooth Fine Art Paper	1.2	–	–	–	–	–	–	–	–	–	–	⊙	–	⊙
Textured Fine Art Paper	1.2	–	–	–	–	–	–	–	–	–	–	⊙	–	⊙
Premium Glossy Photo Paper	0.7	⊙	⊙	⊙	–	–	⊙	⊙	⊙	–	⊙	–	–	–
Premium Semigloss Photo Paper	0.7	–	⊙	–	–	–	–	⊙	⊙	–	⊙	–	–	–
Premium Luster Photo Paper	0.7	–	⊙	–	–	–	–	⊙	⊙	–	⊙	–	–	–
EPSON Velvet Fine Art	1.2	–	–	⊙	–	–	–	–	–	–	⊙	–	–	–
Proofing Paper Semimatte	0.7	–	–	–	–	–	–	–	–	–	⊙	–	–	–

Note 1: Symbol ⊙: Assured, @: Assured for plain paper only

2: Assured range for image quality 15°C 40%RH ~ 25°C 60%RH

☐ Roll Paper

Table 1-8. Availability with Roll Sheet

Roll Paper				Media Size									
Name	Core" Spindle	PG (mm)	Cutter Auto or Manual	A4	10"	30cm	12"	A3+	14"	40cm	16"	A2	17"
				210	254	300	305	329	356	400	406	420	431.6
Plain Paper	2	1.2	A	–	–	–	–	–	–	–	–	@	⊙
Single weight Matte Paper	2	1.2	A	–	–	–	–	–	–	–	–	–	⊙
Enhanced Matte Paper	3	1.2	A	–	–	–	–	–	–	–	–	–	⊙
Premium Glossy Photo Paper	2	0.7	A	⊙	–	–	–	⊙	–	–	–	–	–
Premium Semigloss Photo Paper	2	0.7	A	⊙	–	–	–	⊙	–	–	–	–	–
Premium Luster Photo Paper	3	0.7	A	⊙	–	–	–	⊙	–	–	–	–	–
Premium Glossy Photo Paper	3	0.7	A	–	–	–	–	–	–	–	⊙	–	–
Premium Semigloss Photo Paper	3	0.7	A	–	–	–	–	–	–	–	⊙	–	–
Premium Semimatte Photo Paper	3	0.7	A	–	–	–	–	–	–	–	⊙	–	–
Premium Luster Photo Paper	3	0.7	A	–	⊙	⊙	–	–	–	⊙	⊙	–	–
Smooth Fine Art Paper	3	1.2	A	–	–	–	–	–	–	–	–	–	⊙
Textured Fine Art Paper	3	1.2	A	–	–	–	–	–	–	–	–	–	⊙
Proofing Paper Semimatte	2	0.7	A	–	–	–	–	⊙	–	–	–	–	⊙
Tracing Paper (M80)	2	1.2	A	–	–	–	–	–	–	–	–	⊙	–

Note 1: Symbol ⊙: Assured, @: Assured for plain paper only

2: Assured range for image quality 15°C 40%RH ~ 25°C 60%RH

1.2.7 Mechanism Specifications

1.2.7.1 Printable Area

Table 1-9. Printable Area

Item	Roll paper / Cut Sheet	Dimension
PW (Paper width)	Roll paper	203mm~432mm (17") *1
	Cut Sheet	
PL (Paper length)	Roll paper	Max. 202m
	Cut Sheet	279mm~594mm
TM (Top margin)	Roll paper	0mm/3mm/15mm
	Cut Sheet	0mm/3mm
BM (Bottom margin)	Roll paper	0mm/3mm/15mm
	Cut Sheet	0mm/3mm/14mm
LM (Left margin)	Roll paper	0mm/3mm/15mm
	Cut Sheet	0mm/3mm
RM (Right margin)	Roll paper	0mm/3mm/15mm
	Cut Sheet	0mm/3mm

Note *1: Max. value is 437.8mm (17.24") for no margin print.

- The printer detects paper width when paper is set (print data is accepted for ASF). (If set paper width detection is OFF, it doesn't detect paper width.)
- It doesn't print the image beyond printable area specified with paper size setting or detected paper width. (It may print on the platen if set paper width detection is OFF.)
- Margins of roll paper can be changed with the panel as following;
  - Top/bottom 15mm, left/right 3mm
  - Top/bottom/left/right 3mm
  - Top/bottom/left/right 15mm

  NOTE: *Under special condition, it is possible to set right and left margin (LM, RM) to 0.*
- For borderless print, right and left margins are 3mm each according to skew detection limit of 3mm.
  If distance from paper edge to platen (sponge width) is less than 3mm, the maximum surplus print quantity not on platen (0mm~3mm) is printable area.
- Conditions for separating into multiple pages for printing cut sheet.
  1. For thick paper, print until the bottom edge reaches to 14mm. Remaining data is invalid and not to be printed.
  2. When error occurred such as releasing paper lever when printing, then print is separated to next page after down margin is printed.

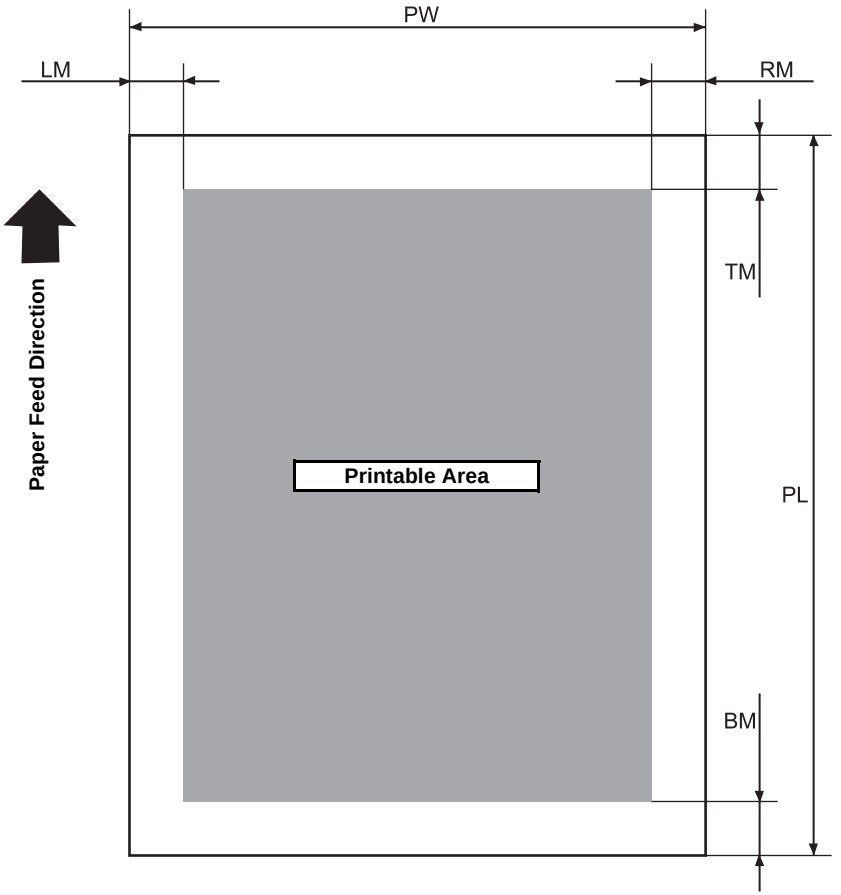


Figure 1-1. Printable Area

1.2.7.2 Borderless Print Specification

By driver's command transmission, supports the following borderless print mode. Supports the following 3 modes.

Table 1-10. Borderless Print Specification mode

Mode	Operation
Right and left borderless (default)	You can set only the right and left margins to zero. At this time, up and down margins are set by roll paper margin setting.
4 sides borderless/1 cut	You can set 4 sides margins to zero. Use the following method for cutting. ☐ Starting of JOB, take minimum cut length for margin and cut while printing. ☐ While JOB, new page has no margin, cut at image border position in continuing print. ☐ End of JOB, cut at the bottom of the image.
4 sides borderless/2 cut	You can set 4 sides margins to zero. Use the following method for cutting. ☐ At the front edge page, take refresh margin length for margin, cut while printing. ☐ At the end of the page, cut at the bottom of the image. ☐ To discard the remaining part of printing after cut, cut the paper after advancing the paper to minimum cut length. *1

Note 1: For 4 sides borderless, after cutting, up and down size of the printing will be smaller by approximately 2mm than the actual printing size.

2: When the roll paper cutter is OFF and page line printing is ON, print the page line at each cutting position including front edge page.

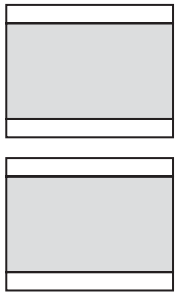
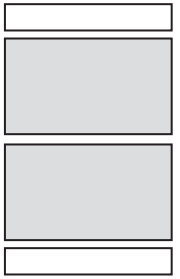
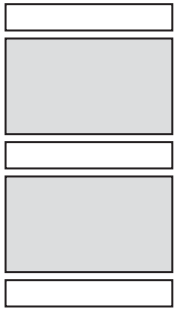
3: In following media, if 1 cut is selected at borderless printing, it is cut as 2 cut to prevent scraping top of paper.

- Premium Glossy Photo Paper
- Premium Semigloss Photo Paper

Note *1: Recommended a borderless length for glossy paper is 60mm, for other paper is 100mm.

☐ Borderless setting method

Table 1-11.

Borderless mode	Right and left borderless	Right and left borderless (for continuous job printing)	4 sides borderless (2 cut)
Printer operation			
Driver setting	Borderless print	Borderless print Single cut	Borderless print Double cut
Note	Default setting	☐ The upper edge cut is performed by interrupting print operation; there is chance of color shading according to data. ☐ By adjusting cutter position, there is chance of data from continuous page remaining in top or bottom edge of the page.	☐ The upper edge cut is performed by interrupting print operation; there is chance of color shading according to data. ☐ To avoid remaining of margin, cut off the top and bottom part of the paper by going inside of image. Therefore the actual size will be about 2mm smaller than the specified print area.

1.2.7.3 Paper Set Lever

Table 1-12. Paper Set Lever

Lever Position	Description
Backward	Position for paper setting (Paper holding is released, and paper can be set.)
Forward	Ready-to-print position (Paper is fixed, and it becomes ready to be printed.)

1.2.7.4 Cut Specification

There are two types, auto cut and manual cut for roll paper cutting.

CAUTION

Making cutting action to paper which automatic cutting is prohibited will cause damage to the print head.

AUTOMATIC CUT FOR ROLL PAPER

For paper that automatic cut is admitted, cut the paper using the following method by setting panel setting to "roll paper automatic cut".

- ☐ Mechanic condition
  - ■ Distance between the cutting position and paper setting position
    L0=205.43mm
  - ■ Distance between the cutting position and cutter mark
    L1=27.6mm
  - ■ Minimum cut length
    L2=130mm (default value)

Table 1-13. Cutting Conditions and Cutting Methods

Cut condition	Cutting method
Initial cut (Pressing the lever down when there is paper and pushing the [Paper Source/ Paper Cut (<)] key for 3 sec.)	Deliver size of L1 paper and cut by 2-step with roll paper holding Star Wheel. (100cps) *
Cut when driver ends print.	Cutting method (include Star Wheel holding), cutting pressure, minimum cut length follows to the media table.
Initial cut when printing	Cut while printing is prohibited in this model. (Product specification)
Initial cut in an original standby situation	Deliver size of L1 paper and cut by 2-step with roll paper holding Star Wheel. (100cps)
After printing in automatic cut OFF mode, start initial cut in automatic cut ON mode.	Cut by 2-step with roll paper holding Star Wheel reserving size of L2. (100cps)
Cut when paper width detection is OFF.	Same as paper width detection is ON. (Paper jam is not occurred for 2-step cut.)

Note "*": User need to remove the strip of paper that remains between eject roller and nip roller when executing this operation without L2 reservation.

MANUAL CUT FOR ROLL PAPER

When using paper for which automatic cutting is prohibited, use manual cut with the steps below.

1. Use [Paper Source / Paper Cut] button to select Roll Paper Auto Cut OFF ("  ").
2. Feed the paper by pressing the Paper Feed Switch [↓] in order to cut the paper at the appropriate place.
3. Press the [Pause] button to enter the pause mode.
4. Cut off paper using own scissors.
5. Press the [Pause] button to cancel the pause mode.
6. Press the Paper Feed Switch [↓/↑] to advance the paper to the position where a next page should begin.

CAUTION

Make sure to match the leading edge of paper with the paper loading position.
If you start printing with the leading edge of paper not reached the loading position, top of the image will be printed directly on the platen instead of the paper.

NOTE 1: *Auto cutter supports all genuine roll paper.*

2: *Paper of 3rd party media and generally auto cutter is prohibited.*
- *Fiber-form paper such as cloth.*
- *Rigidity is extremely high paper such as Vinyl (Outdoor type) or Fine Art type.*

1.2.8 Electrical Specification

- ☐ Rated voltage : AC 100 ~ 240V
- ☐ Input voltage range : AC 90 ~ 264V
- ☐ Rated frequency range : 50 ~ 60Hz
- ☐ Input frequency range : 49 ~ 61Hz
- ☐ Rated current : 100-240V ac, 50-60Hz, and 1.0-0.5A
- ☐ Power consumption
  - ■ Less than 59W for operation status
  - ■ Less than 18W for low power status (Shifting time: 15 minutes)
  - ■ Less than 0.1W for Power OFF
- ☐ Insulation resistance : More than 10M ohms (Between AC line and chassis is DC 500V)
- ☐ Dielectric strength : AC 1.0kV rms 1min. or AC1.2kV rms 1 sec. (Between AC line and chassis)
- ☐ Leakage: Less than 0.25mA [Adapts Japan National Electronics Development Incorporated Association "Personal Computer Industry Standard" (PC-11-1988)]
- ☐ Adapted standard regulation
  Adapts International Star Program (Adapts category: measure for harmonic component suppression guideline)
  Adapts VCCI class B

1.2.9 Reliability

PRINTER LIFE

- Approx. 20,000 pages, 2.6million pass (A2, 360 x 360 M/F, Bi-D)

A STANDARD OF PRINT HEAD LIFE

- Monochrome/Color: 28 billion shots / nozzle

STANDARD OF MAINTENANCE TANK LIFE

- 8 color mode: Approx. 2,000 sheets (A2, plain paper, speed mode, continuous printing)
- 4 color mode: Approx. 2,700 sheets (A2, plain paper, speed mode, continuous printing)

AVERAGE CUTTER LIFE

- 17" standard roll paper, Universal cutting mode
  - Coated paper : Approx. 2,000 sheets / A2
  - Film : Approx. 1,000 sheets / A2

1.2.10 Environmental Conditions

1.2.10.1 Temperature/Humidity

Table 1-14. Temperature/Humidity

Condition	Temperature*1	Humidity*2
During operation	10 ~ 35°C	20 ~ 80%
During storage	-20 ~ 40°C	20 ~ 85%
During transport	-20 ~ 60°C	5 ~ 85%

Note *1: Within one month for 40ºC, within 120 hours for 60ºC

*2: No condensation. These values are applicable only within the range as shown below.

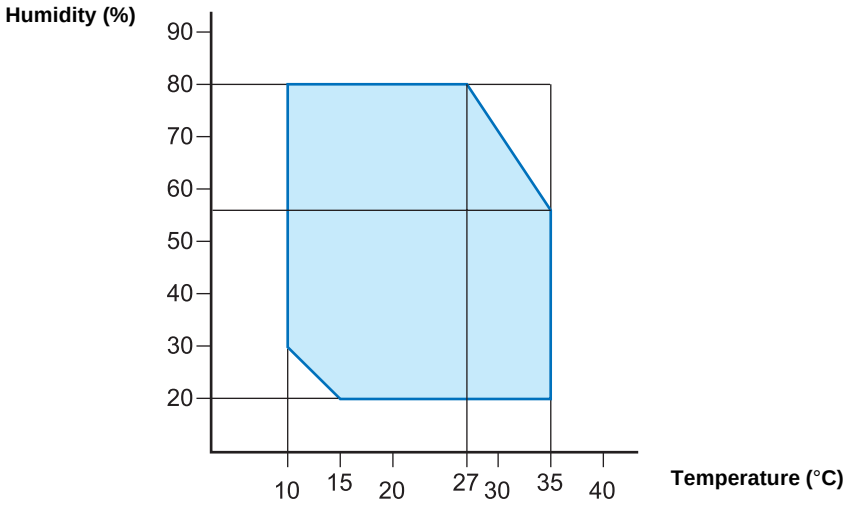


Figure 1-2. Environmental Conditions: Temperature/Humidity

1.2.10.2 Vibration

- ☐ During operation : 0.15G, 10-55Hz X, Y, Z directions
- ☐ During storage : 0.50G, 10-55Hz X, Y, Z directions

1.2.10.3 Shock

- ☐ During operation : 1G, 1ms max. X, Y, Z directions
- ☐ During storage : 2G, 2ms max. X, Y, Z directions

NOTE 1: *Check that the print head is capped during storage.*

2: *Check that the print head is capped, then remove ink cartridges from the body, and make sure ink cartridge cover is closed during transport.*

3: *If the printer head uncapped, and the ink cartridge is attached, switch the power ON. Switch the power OFF when capping is completed.*

4: *Left out in condition of temperature under -15°C; the ink in the print head and ink cartridge freezes. It takes about 3 hours for the frozen ink to be usable under the condition of 25°C.*

1.2.10.4 Surrounding Space

Provide the printer with an enough surrounding space to ensure proper installation of accessories and replacement of consumables and easy work for daily maintenance.

- ☐ From the front of the printer : 35cm or more
  (When the paper tray is extended.)
- ☐ From the rear of the printer : 40cm or more
  (When cut sheets are set by hand insertion from the front.)
- ☐ From the both sides of the printer : 15cm or more

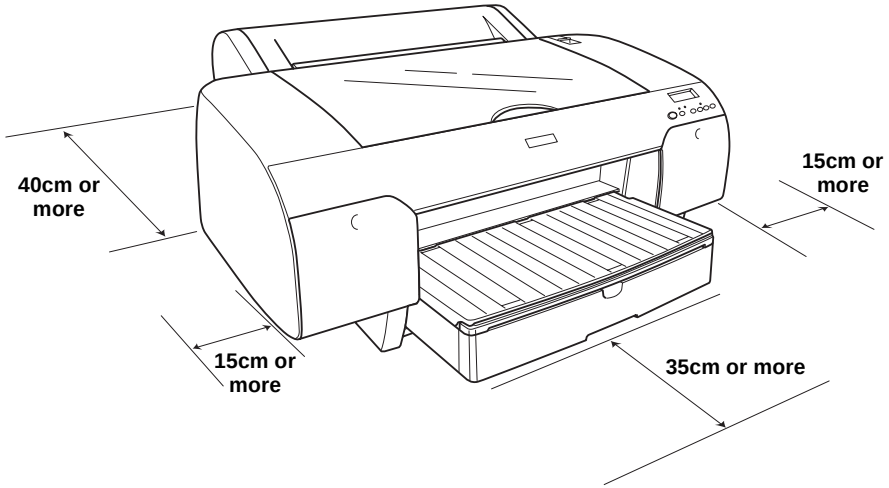


Figure 1-3. Surrounding Space

1.2.11 Overall Dimensions

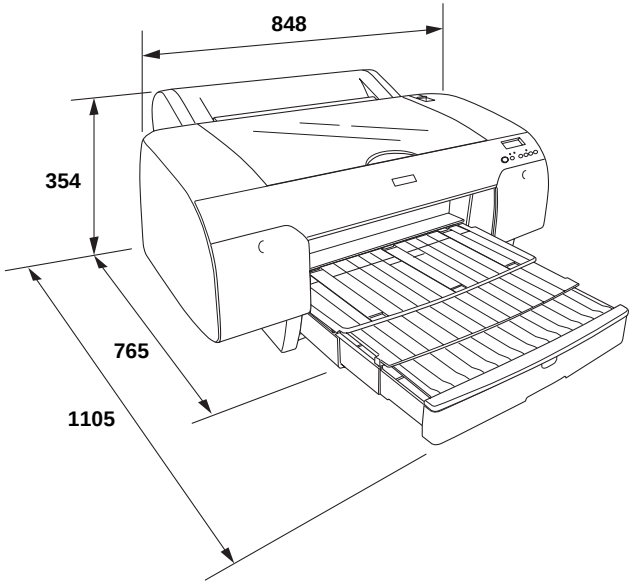


Figure 1-4. Overall Dimensions of Stylus Pro 4000

☐ Dimensions of Unit

Condition	Width (W) x Depth (D) x Height (H) (mm)
When tray is stored	848 x 764 x 354
When tray is extended	848 x 1099 x 354

☐ Weight
Completed product Approx. 40.2kg (ink cartridge and paper is not included)

1.2.12 Accessories

Stylus Pro 4000 accessories and options are shown below.

- Standard Accessories
  - AC Cable
  - Change Plug Adapter 3pin to 2pin
  - Exhaust Port Cover
  - Software CD-ROM
    - Printer Driver
    - EPSON Printer Adjustment Utility 2
  - Spacer for borderless printing 8”/A2 roll paper
  - 17 (2"/3") inch normal tension spindle
  - Ink cartridges (110ml 1 each PK, MK, LK, C, M, LC, LM, Y)
  - Maintenance Tank
  - Guarantee Card
  - Card holder
  - Carton Box
- Special Options
  - High tension spindle 17" <2"/3">
- Special Consumables
  - Ink cartridge (110ml)

Table 1-15. Ink Cartridge

Ink cartridge	Model Number
	110 ml
Photo Black	ICBK24
Cyan	ICC24
Magenta	ICM24
Yellow	ICY24
Light Cyan	ICLC24
Light Magenta	ICLM24
Light Black	ICGY24
Matte Black	ICMB24

  - Special paper (Refer to *"1.2.6 Paper Specification (p.14)"* for paper type and size)
  - Maintenance tank (PXMT1)
- Options Common to Other Printers
  - Auto cutter blade (PXSPB1)
  - Network Interface Card (PRIFNW6)
  - Roll Paper Fixing Holder (ROLLH)

1.3 External View and Parts Names

EXTERNAL VIEW

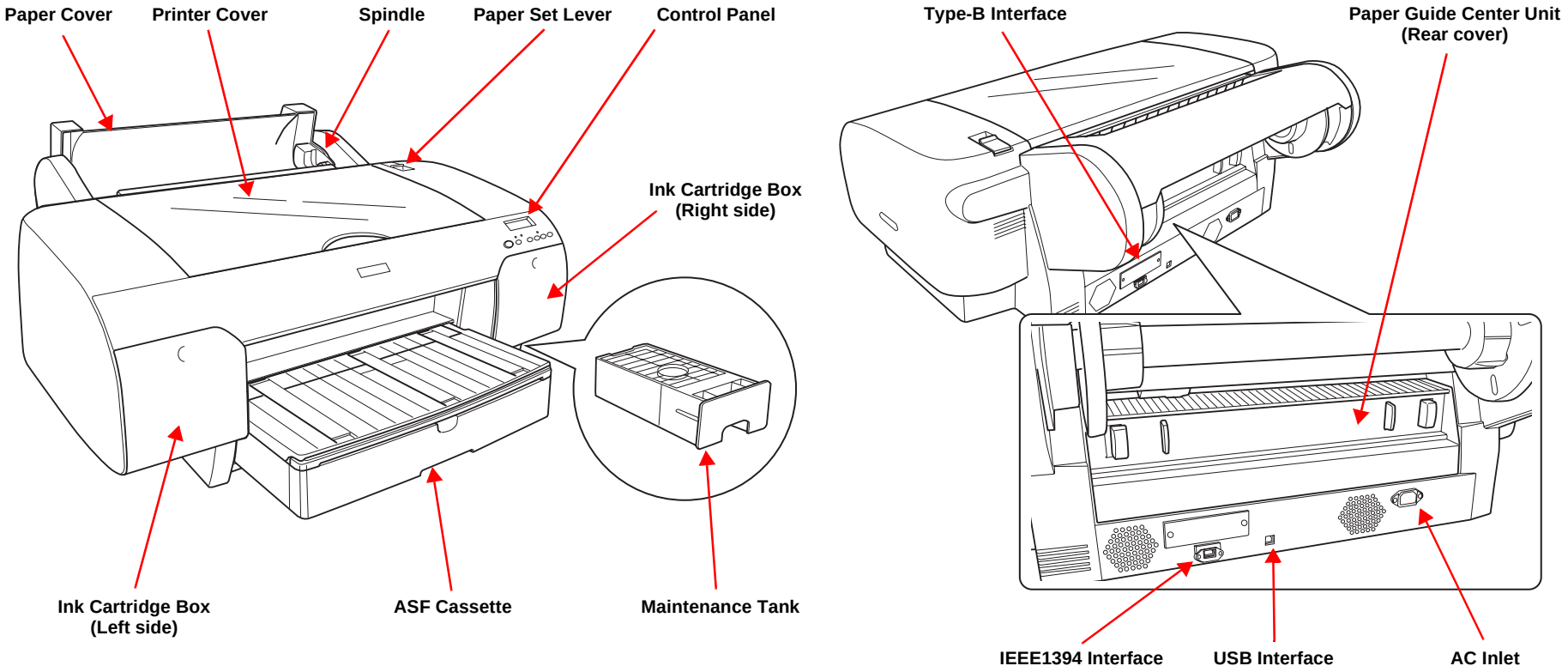


Figure 1-5. External View and Parts Names

1.4 Operating Panel

1.4.1 Buttons and Functions

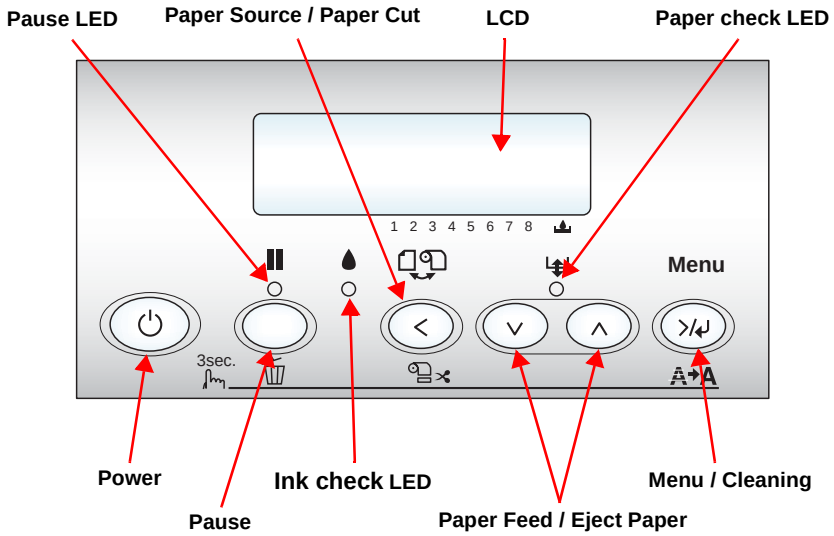
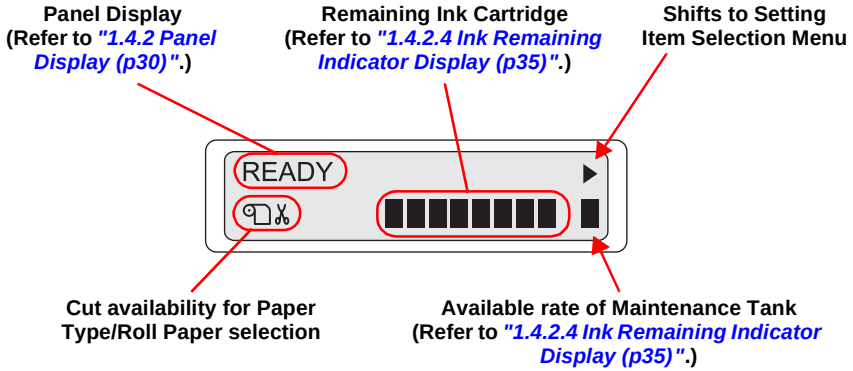


Figure 1-6. Panel Design



1.4.1.1 LED

Panel LED types are the following 3 types. The LEDs indicate printer status as follows.

Table 1-16. LED

LED	Color	Display	Printer Status
Paper check	Red	On	Indicates that the paper is not printable.
		Blink	Indicates error that occurred when feeding / ejecting paper.
Pause	Green	On	Indicates printer pauses operation.
		Blink	Indicates printer is in operation.
Ink check	Red	On	Indicates error regarding ink occurred.
		Blink	Indicates warning status regarding ink.

1.4.1.2 Switch

Table 1-17. Panel Functions and Switch Operation

Switch	Function		Function (In panel setting)	Function (+ Power ON)
	Single	3 sec. push		
Power	Power ON/OFF *1	—	—	—
Pause	☐ Pause / Switch Print ☐ Paper feed operation by backside manual insertion within 3 sec.	Reset	Appear from panel setting	Maintenance mode1
Menu / Cleaning [>/↵]	☐ Printing Printer status menu shift ☐ Except above *3 Panel setting mode shift/decision	☐ Paper thickness detection less than 0.8mm All heads cleaning *2 ☐ Paper thickness detection over 0.8mm All heads cleaning after removing paper ☐ Paper thickness detection over 0.8mm when printing Not in operation.	☐ Item shift (down) ☐ Operation execution ☐ Setting fixed ☐ Memory	
Select paper type / Paper Cut [<]	☐ Paper type select *4 ■ Not in operation when printing ■ Not in operation when the paper is picked up by ASF. 1. Roll paper cut ON 2. Roll paper cut OFF 3. Cut sheet Indicate 1, 2, 3, 1, … by turns.	☐ Paper cut or paper feed *5 Not in operation when printing ■ Roll paper cut ON Move to cut operation after 3 sec. ■ Roll paper cut OFF Not operated. ■ Cut sheet is not operated.	Item shift (up)	
Paper Feed / Eject Paper [∧]	☐ Paper feed for roll paper (reverse) *6 ☐ If cut sheet is not set, paper is fed by ASF.	☐ High speed paper feed (reverse) Roll paper only. (Not in operation for cut sheet.)	Increase setup value, switch over setting	

Continued on next page

Table 1-17. Panel Functions and Switch Operation

Switch	Function		Function (In panel setting)	Function (+ Power ON)
	Single	3 sec. push		
Paper Feed / Eject Paper [∨]	□ Paper feed for roll paper (forward) *7 □ If cut sheet is set, eject sheet □ If cut sheet is not set, paper is fed by ASF.	□ High speed paper feed (forward) Roll paper only. (Not in operation for cut sheet.)	Decrease setup value, switch over setting	
Select paper type / Paper Cut [<] + Paper Feed / Eject Paper [∧] + Paper Feed / Eject Paper [∨]				Maintenance mode 2
Select paper type / Paper Cut [<] + Paper Feed / Eject Paper [∧] + Paper Feed / Eject Paper [∨] + Menu / Cleaning [>/↵]				F/W download

Note *1: Power OFF must be executed regardless of printer status.

*2: Following are the conditions for cleaning.

- Idling (In on-line: Inside the panel menu is not in on-line.)
- Printing

*3: LCD panel display only changes when key is not pressed during the shift from idling status to printer setting menu. Other than this, switch over of display is executed when the key is pushed.

*4: When key is not pressed, LCD icon for paper type is switched over.

*5: During ink drying, ink drying is interrupted and runs the specified operation.

*6: 5cps paper feeding for 2 seconds after the button is pressed. 52cps paper feed if pressed for a further 2 seconds. Maximum reverse feeding is 37cm with one press of the button.

*7: 5cps paper feeding for 2 seconds after the button is pressed. 52cps paper feed if pressed for a further 2 seconds.

1.4.2 Panel Display

1.4.2.1 Panel Display in Operation (LCD and LED Display)

Note : Explanation for signs in LCD display
YES : Function can be executed.
NO : Function cannot be executed.
Release : Release error and pause status
Start : Paper initialization start.
– : Follow LED display of printer status in operations

Table 1-18. Panel Display

Priority	Printer Status	LCD Display	LED Display			Panel key Function					
			Paper Check	Pause	Ink Check	Paper Select	Cut/Eject Paper	Menu Shift	M Cleaning	Pause	Reset
Low	Printable	READY	OFF	OFF	OFF	YES	YES *4	YES	YES *1	YES	YES
	Data processing/ Printing	PRINTING	OFF	Blink	OFF	NO	NO	YES *6	YES *1	YES	YES
	Unable to print *14	UNABLE TO PRINT	—	—	—	—	—	—	—*2	—	
	Maintenance tank near *7	MNT TK NEAR FULL	—	—	Blink	—	—	—	—*2	—	
	Ink low *8	INK LOW	—	—	Blink	—	—	—	—*2	—	
	Maintenance request	MNT REQ nnnn	*5	—	—	—	—	—	—	—	
	Ink drying	PLEASE WAIT nnnnSEC	OFF	Blink	—	NO	YES	YES *6	NO	YES *19	YES
	Panel setting menu (Refer to panel setting)	*"1.4.4 Panel Setting (p.37)"*	OFF	ON	—	NO	NO	NO *3	NO	NO *3	NO *3
	Pause	PAUSE	—	ON	—	YES	YES	NO	YES	Release	YES
	Paper initialization	PLEASE WAIT	OFF	OFF	—	NO	NO	NO	NO	NO	YES
	In hexadecimal dump mode	PRINTING	OFF	Blink	—	NO	NO	NO	YES	YES	YES
	Inner printing	PRINTING	OFF	Blink	—	NO	NO	NO	YES	YES	YES
	Cutter replacing	REPLACE CUTTER	OFF	ON	—	NO	NO	NO	NO	NO	YES
	Manual cutting	PRESS PAUSE BUTTON	OFF	ON	—	NO	NO	NO	NO	Release	YES
	Initial cutting	CUTTING	OFF	Blink	—	NO	NO	NO	NO	NO	YES
	Panel setting	PLEASE WAIT	OFF	ON	—	NO	NO	NO	NO	NO	NO
	Waiting for paper initializing trigger	PRESS PAUSE BUTTON	OFF	ON	—	YES	YES	NO	NO	START	YES

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