SERVICE MANUAL

All-in-one printer, scanner, and copier

EPSON STYLUS Scan 2500

SEIJ99007

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PRECAUTIONS

There are cautionary notes throughout the text to help you avoid personal injury or equipment damage.

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

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

Always observe the measures listed below when performing repair or maintenance procedures.

WARNING

1. Always disconnect the product from both the power source and host computer before performing any maintenance or repair procedure.
2. No work should be performed on the unit by persons unfamiliar with basic safety measures dictated for all electronics technicians in their line of work.
3. In performing testing described in 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 the power supply and other electronic components.

CAUTION

1. Repairs on EPSON products should be performed only by an EPSON-certified repair technician.
2. Make certain that the source voltage 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 the 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. 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 recommended by the manufacturer; introduction of second-source ICs or other nonapproved components may damage the product and void any applicable EPSON warranty.

PREFACE

This manual describes basic functions, theory of electrical and mechanical operations, maintenance and repair procedures of EPSON STYLUS Scan 2500. 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. The chapters are organized as follows:

CHAPTER 1. "Product Description"

Provides a general overview and specifications of the product.

CHAPTER 2. "Operating Principles"

Describes the theory of electrical and mechanical operations of the product.

CHAPTER 3. "Troubleshooting"

Provides step-by-step procedures for troubleshooting.

CHAPTER 4. "Disassembly & Assembly"

Describes 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.

CHAPTER 7. "Appendix"

Provides the following additional information for reference:

- ***EEPROM Address Map***
- ***Connector Pin Assignment***
- ***Schematics***
- ***Circuit Diagrams***

Revision Status

Revision	Issued Date	Description
Revision A	October 5, 1999	First release

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Disassembly & Assembly

Adjustment

Maintenance

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CHAPTER

1

PRODUCT DESCRIPTION

1.1 Features

The following specifications apply to the EPSON Stylus Scan 2500.

- ☐ High quality local copy
  - Three color copy modes Normal, Fine, and Photo
  - "Photo quality copy by Photo paper" enabled
  - Two B/W copy modes Normal, Fine
- ☐ High speed local copy
  - Normal B/W copy mode Max. 2.4 PPM (using "Memo" pattern)
  - Normal color copy mode Max. 1.2 PPM (using "DTP" pattern)
- ☐ Local copy settings from the control panel
  - Enlargement 50~200%
  - Multiple copies 1~20 copies
  - Brightness -2 ~ 2 (five steps)
  - Copy size protection Letter/Half Letter/5 x 8" A4/B5/A6

    (Copy size protection prevents the printhead from firing ink onto the platen in cases where the paper size loaded in the printer does not match the selected paper size.)
- ☐ PC Copy settings (determined from software application)
  - Auto Photo Fine
  - Auto Enlarge
  - Auto Layout
  - Background reduction
- ☐ Installed functions are the same as or equivalent to the EPSON Stylus Color 740 and the GT-7000.
- ☐ Small footprint 212 x 517 x 414 mm (HWD) machine only
  300 x 517 x 575 mm (HWD) parts extended

1.2 General Specifications

1.2.1 Local copy

1. Local copy

Table 1-1. Local Copy Specifications

Mode		Scan res.	Output mode	Print res.	Micro Weave	Dot Size	Head seq.	Media
B/W	Normal	300x300	Gray	360x360	Off	Normal	Bi-D	Normal
	Fine	600x300	Gray	720x720	On	Variable	Bi-D	Normal
Color	Normal	300x300	Full color	360x360	Off	Normal	Bi-D	Normal
	Fine	600x600	Full color	720x720	On	Variable	Bi-D	Normal
	Photo	600x600	Full color	720x720	On	Variable	Uni-D	Photo

Output mode = data from the scanner ASIC to the printer

2. Enlargement: Default 100%
   Enlargement 120, 141, 200%
   Reduction 50, 70, 80, 93%
   (not continuous)
3. Brightness -2 (Darkest) ~ 0 (Default) ~ +2 (Lightest) (increments of one)
4. Multiple Copies 1~20 copies (one page at a time when using the ADF)
5. Copy size
   - Max. copy size 216 x 297mm (8.5 x 11.7inches) (Top, bottom, and both sides need 3mm margins)
   - Copy size protection A4/B5/A6 (A-size version) Letter/Half Letter/5x8" (Letter size version)

6. Printing paper size Normal paper A4/Letter/A5/Executive
Half letter/B5/A6/Index card
5x8”/8 x10”/Post card/Legal
Photo paper A4/ Letter/4x5”/Post card

1.2.2 Scan area

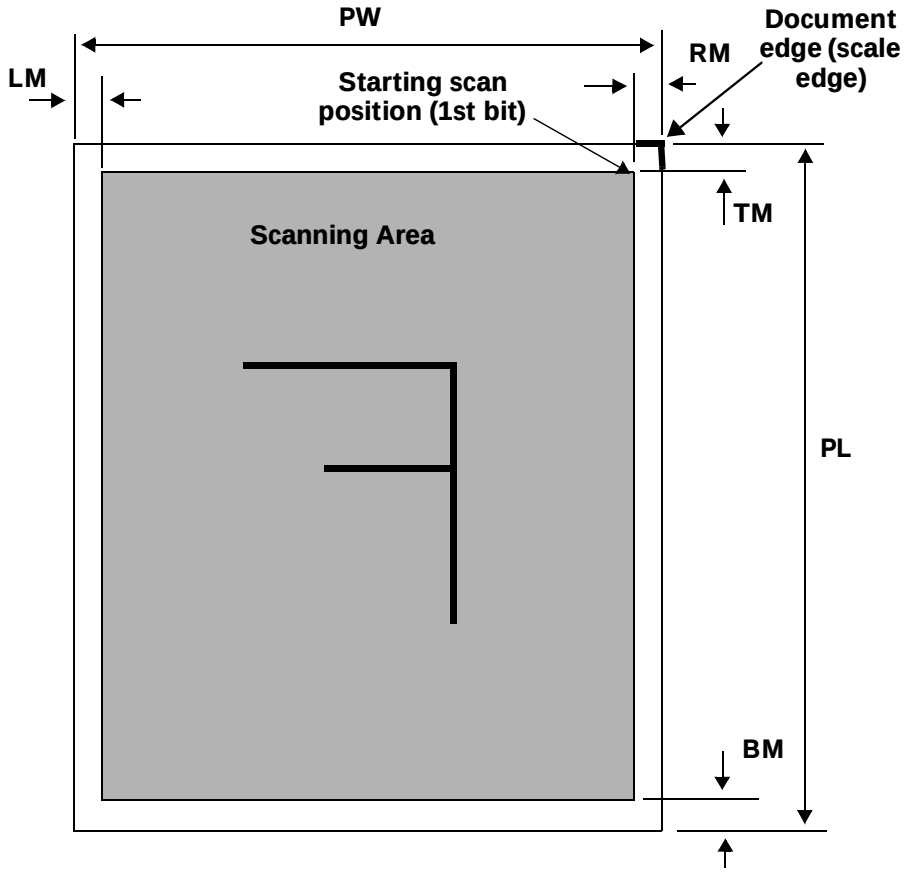

Figure 1-1. Scan Area

Table 1-2. Scan Area

Document size	PW (width)	PL (length)	LM (left)	RM (right)	TM (top)	BM (bottom)
A4	210mm	297mm	at least 3mm	at least 3mm	at least 3mm	at least 3mm
Letter	216mm	279mm	at least 3mm	at least 3mm	at least 3mm	at least 3mm

1.2.3 Print area

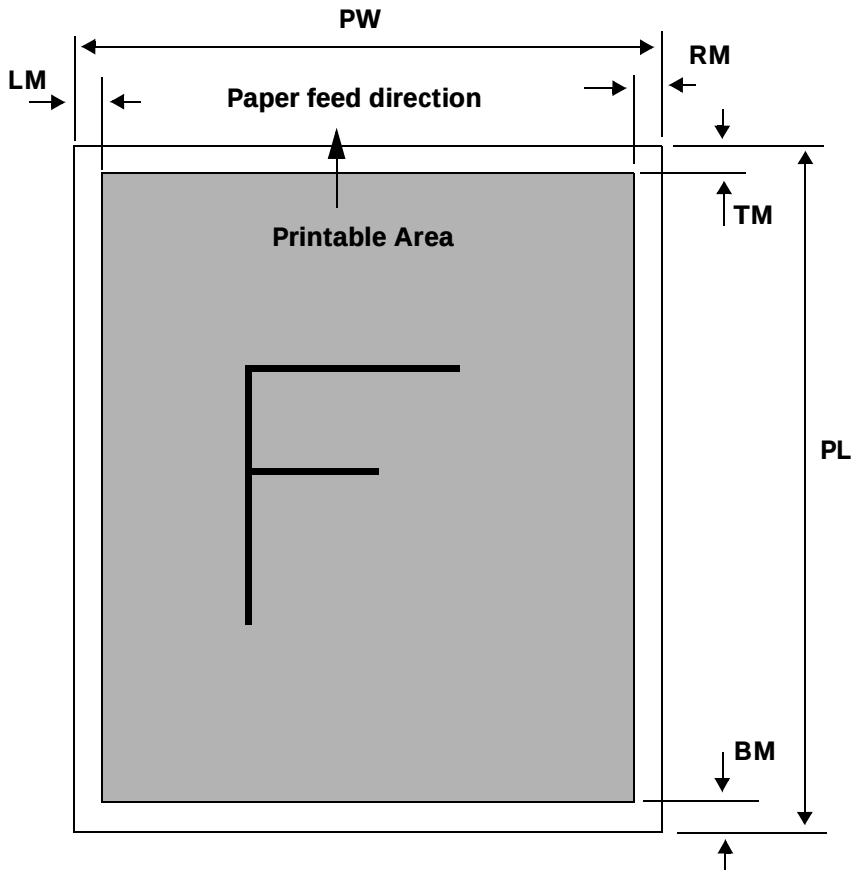

Figure 1-2. Print Area

Table 1-3. Print Area

Document	PW	PL	LM	RM	TM	BM
A4	210mm	297mm	at least 3mm	at least 3mm	at least 3mm	at least 3mm
Letter	216mm	279mm	at least 3mm	at least 3mm	at least 3mm	at least 3mm
B5	182mm	257mm	at least 3mm	at least 3mm	at least 3mm	at least 3mm
Legal	216mm	356mm	at least 3mm	at least 3mm	at least 3mm	at least 3mm

1.2.4 Printing

- ☐ Print method — Drop On Demand ink jet
- ☐ Nozzle configuration — monochrome 144 nozzles (48 x 3 staggered)
color 48 nozzles each (cyan, magenta, yellow)
- ☐ Print direction — Bi-direction with logic seeking
- ☐ Print speed & printable columns

Table 1-4. Character code

Character pitch	Printable columns	LQ speed
10 CPI (Pica)	80	200 CPS

Table 1-5. Raster Graphics mode

Horizontal resolution	Printable area	Available dots	CR speed
180 dpi	8.26 inch	1488	20 IPS
360 dpi	8.26 inch	2976	20 IPS
720 dpi	8.26 inch	5952	20 IPS

1.2.5 Input data buffer

64Kbytes

1.2.6 Control codes

ESC/P Raster

Epson Remote Command

1.2.7 Paper feed

1.	Feeding method	Friction feed with ASF	
2.	Line spacing	1/6 inch or programmable at 1/360	
3.	Paper path	cut-sheet	ASF (top enter, front out)
4.	Feed speed	2.36 inch/sec. 4.5 inch/sec.	normal/ continuous fast/continuous

1.2.8 Paper

☐ Cut-sheets

size: A4 210(W) x 297mm (L) (8.3 x 11.7”)
Letter 216 x 279mm (8.5 x 11.0”)
B5 182 x 257mm (7.2 x 10.1”)
Legal 216 x 356mm (8.5 x 14.0”)
Statement 139.7 x 215.9mm (5.5 x 8.5”)
Executive 184.2 x 266.7mm (7.25 x 10.5”)
Photo paper 101.6 x 152.4mm (4 x 6”)

thickness: 0.08~0.11mm (0.003~0.004”)

weight: 64g/m^2~90g/m^2 (17~24lb.)

quality: Exclusive paper, bond paper, PPC

☐ OHP sheets, Glossy paper

size: A4 210(W) x 297mm (L) (8.3 x 11.7”)
Letter 216 x 279mm (8.5 x 11.0”)

thickness: 0.075~0.085mm (0.003~0.0033”)

NOTE: *Transparency printing is only supported at normal temperature.*

☐ Envelopes

size: No.10 241(W) x 104.8mm (H) (9.5 x 4.125”)
DL 220 x 110mm (8.7 x 4.3”)
C6 162 x 114mm (6.4 x *4.5*”)

thickness: 0.16~0.52mm (0.006~0.02”)

weight: 45g/m^2~75g/m^2 (12~20lb.)

quality: Plain paper, bond paper, Air mail

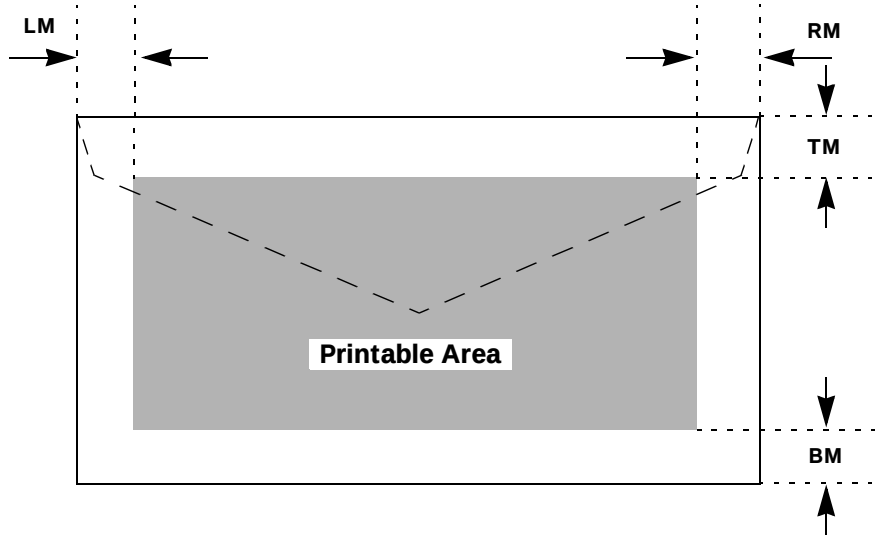

Figure 1-3. Printable Area for Envelopes

Envelope printing is only supported at normal temperature.
Load long edge first.

Table 1-6. Envelope Margin

Size	Left Margin (min.)	Right Margin (min.)	Top Margin (min.)	Bottom Margin (min.)
#10	3 mm (0.12”)	28 mm (1.10”)	3 mm (0.12”)	14 mm (0.55”)
DL	3 mm (0.12”)	7 mm (0.28”)	3 mm (0.12”)	14 mm (0.55”)
C6	3 mm (0.12”)	3 mm (0.12”)	3 mm (0.12”)	14 mm (0.55”)

☐ Index cards

size: A6 index 105(W) x 148mm (L) (4.1 x 5.8”)
A5 index 148 x 210mm (5.8 x 8.3”)
5x8” index 127 x 203mm (5.0 x 8.0”)
10x8” index 254 x 203mm (10.0 x 8.0”)

thickness: less than 0.23mm (0.0091”)

1.2.9 Ink

1. Ink cartridge (black)

Type:	Exclusive cartridge
Color:	Black
Print capacity:	900 pages/A4 (ISO/IEC 10561 Letter pattern 360dpi
Ink life:	Two years from production date
Storage temperature:	-20~40°C (storage, less than a month at 40°C) -30~40°C (packing storage, less than month at 40°C) -30~60°C (transit, within 120 hours at 60°C and within a month at 40°)
Dimensions:	27.8 (W) x 52.7 (D) x 38.5mm (H)

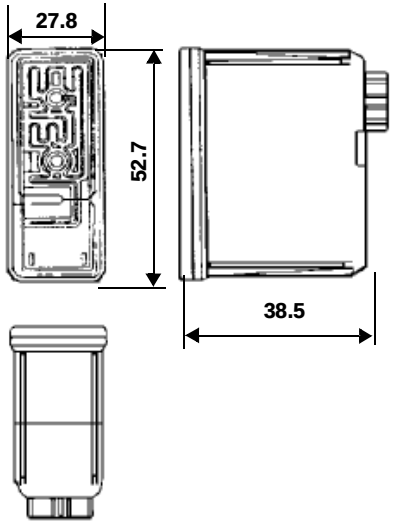

Figure 1-4. Black Ink Cartridge

2. Ink cartridge (color)

Type:	Exclusive cartridge
Colors:	Magenta, cyan, and yellow
Print capacity:	300 pages/A4 (360 dpi, 5% duty each color)
Ink life:	Two years from production date
Storage temperature:	-20~40°C (storage, less than a month at 40°C) -30~40°C (packing storage, less than month at 40°C) -30~60°C (transit, within 120 hours at 60°C and within a month at 40°)
Dimensions:	42.9 (W) x 52.7 (D) x 38.5mm (H)

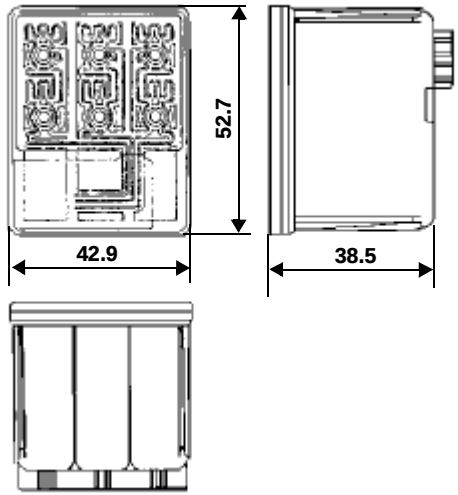

Figure 1-5. Color Ink Cartridge

NOTE: *Ink cartridges are consumable products and cannot by any means be refilled.*
Do not use cartridges that have passed their expiration date.
Ink will freeze at less than -4°C but can be used after thawing for three hours at room temperature.

1.3 Scanner

Product type	Flat-bed color image scanner
Sub scan method	Movement of scan head
Photoelectric device	Color CCD line sensor
Max. scan area	8.5 x 11.7" (216 x 297mm)
Max. effective pixels	5100 x 7020 pixels (600dpi)
Scan resolution	main = 600dpi sub = 1200dpi
Output resolution	50~4800 dpi (1dpi increments) (4800 dpi at 200% reaches the limitation of maximum 16,368 pixels at 9600 dpi for main scan)
Scan speed (600dpi, Draft mode)	Color = 8.1msec/line Monochrome (bi-level) = 2.7msec/line
Color separation	By the CCD color filter
Command level	ESC/I - B7
Zoom	50~200% (1% increments)
Pixel depth	8 bits/pixel/color (input 12 bits/pixel/color, output 8 bits/pixel/color)
Gamma correction	CRT two levels (A,B) PRINTER three levels (A,B,C) User defined = one level
Color correction	Impact-dot printer Thermal printer Ink-jet printer CRT display User defined
Brightness	Seven levels
Line art	Fixed threshold TET
Digital halftoning	AAS Error diffusion three modes (A,B,C)
(Bi-level, Quad-level)	Dither (resident) four modes (A,B,C,D) Dither (user defined) two modes (A,B)
Interface	USB and IEEE1284.4
Light source	White cold cathode fluorescent lamp
Option	TPU (for GT-7000) ADF (for GT-7000)

1.4 Common

1.4.1 Electrical specifications

Rated voltage	AC 100~120V AC 220~240V
Input voltage	AC 100~120V ±10% AC 220~240V ±10%
Rated current	0.7A (AC 100~120V ±10% model) 0.4A (AC 220~240V ±10% model)
Rated frequency range	50~60 Hz
Input frequency range	49.5~60.5 Hz
Power consumption	Approx. 32W during Local-copy printing
Insulation resistance	10MΩ at 500V DC (between AC line and chassis)
Dialectic strength	AC 1.5kV, 1min (between AC line and chassis)

1.4.2 Safety, EMC

Safety	UL1950 (UL) CSA C22.2 No. 950 (CSA) EN60950 (VDE) IEC950 (ROSTEST, PSB)
EMC	FCC Part15 Subpart B Class B CSA C108.8 Class B AS/NZS3548 Class B CISPR Pub22 Class B CNS13438 Class B

CE Marking

Low voltage directive 73/23/EEC	EN60950
EMC Directive 89/336/EEC	EN55022 Class B EN61000-3-2 EN61000-3-3 EN50082-1 IEC 801-2/801-3/801-4

1.4.3 Environmental conditions

Temperature	10~35°C (operating, see figure below) -20~60°C (non-operating, in packaging) One month at 40°C 120 hours at 60°C
Humidity	20~80% RH (operating, without condensation, see figure below) 5~85% RH (non-operating, in packaging without condensation)
Resistance to shock	1 G, within one ms (operating) 2 G, within two ms (non-operating, in packaging)
Resistance to vibration	0.15G (operating) 0.50G (non-operating, in packaging)

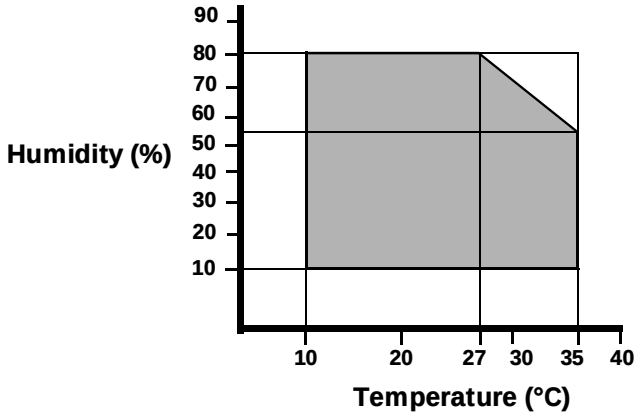

Figure 1-6. Humidity and Temperature

1.4.4 Resistance to electric noise

Static electricity	panel - 10kV metal - 7kV/150pF, 150 Ω

1.4.5 Reliability

Total print volume	60,000 pages (A4, Letter)
Printhead life	4 billion dots/nozzle
Scan head	MCBF 30,000 cycles

1.4.6 Acoustic noise

Level	Approx. 46 dB (local copy with no ADF) Approx. 50 dB (local copy with ADF) (According to ISO7779)

1.5 Interfaces

This section is divided into printer and scanner interface specifications. See the following section for printer interface details or see “Scanner interfaces” on pag e22 for scanner interface details.

1.5.1 Printer Interface

PARALLEL

BUSY signal is set high before setting either -ERROR low or PE high, and held high until all these signals return to their inactive state.

BUSY signal is at high level in the following cases:

- During data entry (see data transmission timing)
- When input data buffer is full
- During -INIT signal is at low level or during hardware initialization
- During printer error (see -ERROR signal)
- When the parallel interface is not selected

ERROR signal is at low level when the printer is in one of the following states:

- Printer hardware error (fatal error)
- Paper-out error
- Paper-jam error
- Ink-out error

PE signal is at high level during paper-out error.

1. Specification

Transmission mode	8 bit parallel, IEEE-1284 compatibility/nibble mode
Synchronization	Refer to the IEEE-1284 specification
Handshaking	Refer to the IEEE-1284 specification
Packet	Refer to the IEEE-1284 Standard for Data Delivery and Logical Channels for IEEE Std. 1284.4 Interface (Draft D1.50) Refer to the IEEE-1284 specification
Signal level	TTL compatible level (IEEE-1284 Level 1 device)
Data trans. timing	Refer to the IEEE-1284 specification

2. Connector pin assignment and signals
   Refer to the IEEE-1284 specification
3. Data transmission timing
   Refer to the IEEE-1284 specification
4. Extensibility Request:

   The printer responds affirmatively when the extensibility request values are 00H or 04H, which mean

   - 00H Request nibble mode reverse channel transfer
   - 04H Request Device ID;
     Return data using nibble mode reverse channel transfer

Device ID:

The printer sends the following device ID string when requested.

IEEE 1284.4 is enabled,

[00H][5EH]
MFG:EPSON;
CMD:ESCPL2,BDC,D4,SPC;
MDL:Stylus[SP]Scan[SP]2500;
CLS:PRINTER
DES:EPSON[SP]Stylus[SP]Scan[SP]2500;

Note: (1)[00H] denotes a hexadecimal value of zero
(2)MDL value depends on the EEPROM setting.

USB

Standard :based on
"Universal Serial Bus Specifications Revision 1.0"
"Universal Serial Bus Device Class Definition for Printing Devices Version 1.0"

Bit rate :12Mbps (Full speed device)

Data encoding :NRZI

Adaptable connector :USB series B

Suggested cable length :2 meters

Table 1-7. USB Configuration

Pin no.	Signal name	In/Out	Description
1	VCC	-	Cable power, max. power consumption is 100mA
2	-Data	bi-directional	data
3	+Data	bi-directional	data, pull up to +3.3V via 1.5KΩ resistor
4	Ground	-	Cable ground

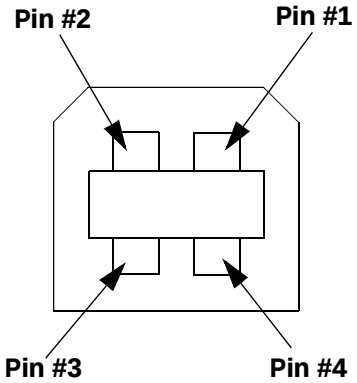

Figure 1-7. USB Pin Configuration

PREVENTING DATA TRANSFER TIME-OUT OF HOSTS

Generally, hosts abandon data transfer to peripherals when a peripheral is continuously in the busy state for dozens of seconds. To prevent hosts from entering this kind of time-out period, the printer slows down the data reception rate to around several bytes per minute, even if the printer is in the busy state. This slowdown starts when the remaining open buffer area decreases to several hundred bytes. The Stylus Scan enters a continuous busy state if the input buffer becomes full.

INTERFACE SELECTION

The Stylus Scan has two built-in interfaces; the USB and parallel interfaces. The interface in use is selected automatically.

- Automatic selection

When the Stylus Scan is turned on, it initializes and then goes into an idle state. During this idle period the printer scans the interfaces for incoming data. The interface that receives data first is selected.

When the host stops transferring data and the printer is in the stand-by state for a certain amount of time, the printer returns to the idle state. As long as the host sends data or the printer interface is in the busy state, the interface selection does not change.

- Interface status and selection

When the parallel interface is not selected, the interface goes into the busy state. When the printer initializes or returns to the idle state, the parallel interface goes into the ready state. Be aware that an interrupt signal such as the -INIT signal only takes affect on the parallel interface when the parallel interface is selected.

IEEE1284.4 PROTOCOL

The packet protocol described by IEEE1284.4 standard allows a device to carry on multiple exchanges or conversations which contain data and/or control information with another device at the same time across a single point-to-point link. The protocol is not, however, a device control language. It does provide basic transport-level flow control and multiplexing services. The multiplexed logical channels are independent of each other and blocking of one has no effect on the others. The protocol operates over IEEE1284.

- ☐ Automatic Selection
  An initial state is compatible interface and starts IEEE1284.4 communication when magic strings (1284.4 synchronous commands) are received.
- ☐ On
  An initial state is IEEE1284.4 communication and data that received it by the time it is able to take synchronization by magic string (1284.4 synchronous commands) is discarded.
- ☐ Off
  An initial state is compatible interface and never starts IEEE1284.4 communication even if magic strings (1284.4 synchronous commands) are received.

1.5.2 Scanner interfaces

PARALLEL

1. Specification

Transmission mode	8 bit parallel, IEEE-1284 compatibility/nibble mode
Synchronization	Refer to the IEEE-1284 specification
Handshaking	Refer to the IEEE-1284 specification
Packet	Refer to the IEEE-1284 Standard for Data Delivery and Logical Channels for IEEE Std. 1284.4 Interface (Draft D1.50) Refer to the IEEE-1284 specification
Signal level	TTL compatible level (IEEE-1284 Level 1 device)
Data trans. timing	Refer to the IEEE-1284 specification

2. Connector pin assignment and signals
   Refer to the IEEE-1284 specification
3. Data transmission timing
   Refer to the IEEE-1284 specification

USB

Any items not included in this manual and/or the user's guide shall be in compliance with the Universal Serial Bus Specification Revision 1.0

☐ Configuration - the scanner supports the following configurations

Table 1-8. Scanner Configuration for USB

Element	Description
Device	Full Speed Mode (12Mbit/s) Class: Vendor-specific Subclass: Vendor-specific Protocol: Vendor-specific Vendor ID: 0x04B8 (Seiko Epson Corp.) Product ID: 0x0106 Number of possible configurations: 1
Configuration	Number of interfaces supported by this configuration: 1 Characteristics: Self-powered (Remote wake-up feature not supported) Max. power consumption from VBUS: 2mA (5V)
Interface	No alternate setting Number of endpoints used by this interface (excluding endpoint 0):2 Class: Vendor specific Subclass: Vendor specific Protocol: Vendor specific
Endpoint	Bulk IN transfer Max. data transfer size: 64 bytes
	Bulk OUT transfer Max. data transfer size: 64 bytes
String Descriptor	Language ID: English, US 1: iManufacturer "EPSON" 2: iProduct "Scanner Stylus Scan 2500"

☐ Requests

The scanner must support almost all standard device requests. The scanner does not support vendor specific requests.

1.6 Control Panel

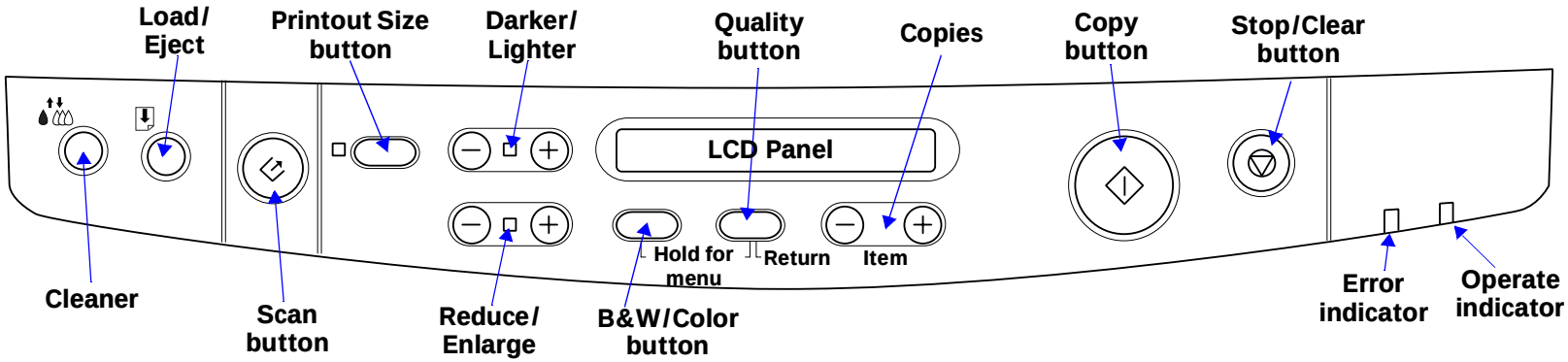

Figure 1-8. Control Panel

1.6.1 Buttons

Table 1-9. Button functions

Button	Function
Load/Eject (pushed within two* seconds)	• Loads or ejects paper • If the carriage is at the ink cartridge installation position, returns the carriage back to the home position.
Load/Eject (pushed for two* seconds)	• Starts the ink cartridge replacement sequence (not available during printing. Shifts the carriage to the ink cartridge replacement position.
Cleaning (pushed for two* seconds)	• Starts the printhead cleaning cycle. • If the printer is in the “Ink Low” or “Ink Out” or “No Ink Cartridge” condition, starts the ink cartridge replacement sequence.
Cleaning (pushed within two* seconds)	• If the carriage is at the ink cartridge replacement position, returns the carriage from the ink cartridge replacement position to the home position.

* The user’s guide states three seconds.

Table 1-10. Power-on functions

Button	Function
Load/Eject	Prints a status sheet that includes firmware version, ink counter, and nozzle check patterns.
Load/Eject + Cleaning	Enters the special-settings mode (see table below), which remains active for three seconds. If neither the Load/Eject nor Cleaning button is pushed in that three seconds, normal initialization begins.

Table 1-11. Special settings mode

Button	Function
Load/Eject	Resets the real-time counter (power-off time) in EEPROM
Cleaning (hold for ten seconds)	Resets the waste ink overflow counter

COPY BUTTON

Before performing a local-copy operation, you should understand how the LCD and control panel buttons work. The LCD displays:

- Copy status
- Copy settings
- Stylus Scan error messages and maintenance status
- Miscellaneous settings not directly related to copying

1. Copy status

   While waiting for a copy job, the current copy settings are displayed.
   Example: (default)

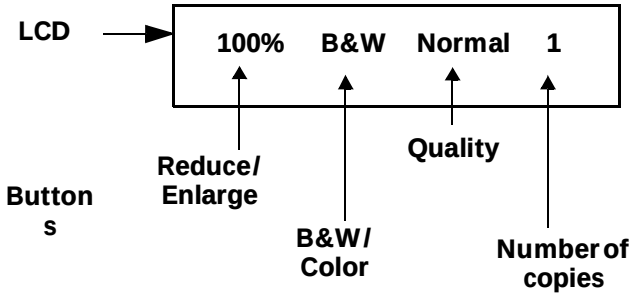

Figure 1-9. LCD and Button Relationship

2. Copy settings

   Allows you to make the following copy settings.

   - Quality
   - Reduce/Enlarge
   - Paper size
   - Brightness
   - Number of copies

3. Status

   Displays the current Stylus Scan condition.

   Example:

   Scanner lamp is warming up

   Warm up

4. Miscellaneous settings

   Allows users to print or change the following

   Demo pattern

   Status sheet

   Bottom margin

   Paper size category (metric or US)

   Language code

   Set factory default

Table 1-12. Copy button functions

Button	Function	Notes
Operate	• Sets Local Copy Mode as the default; same as printer reset.	
Stop/Clear	• Stops the current copy job and ejects the paper during copying. • Clears number of copies setting (returns to "1") • Clears settings and returns settings to their default values.	
Copy	• Starts copying (default = ***B & W 100% Normal 1)***	
B&W/Color	• Selects Color copy or Black & white copy	

Table 1-12. Copy button functions (cont.)

Button	Function	Notes
Quality	Sets copy quality • B&W **Normal** Fine • Color **Normal** Fine Photo Note: When Photo is selected, the LCD displays "Load Photo Paper".	
Multiple copies	• B&W **1**-20 • Color **1**-20 Increments by "1", and increment speed increases if held for more than one second.	Resets to 1 if Stop/ Clear button is pressed.
Enlarge/ Reduce	• Selects reduce or enlarge • Default = 100% • First press = LED shows current status • Multiple presses (within 5 sec.s) = moves up one setting each time Example First time = Enlarge/Reduce LED only (100%) activated (default) Second or more time = cycles through the following. 93% > 80% > 70% > 50% 200% > 141% > 120%	
Printout Size	Sets the size of the printed paper during Local Copy mode; A size area = **A4**/B5/A6 Letter size area = **Letter**/Half Letter/5x8"	
Brightness	Sets the brightness level from -2>**0**>+2 in increments of "1".	

Table 1-13. Settings Menu

Button	Function	LCD
Quality B&W/ Color	Change modes Copy<-> Settings Menu	Hold Quality + B&W buttons for three seconds **Menu Mode** After two seconds **BottomMargin:14/3mm**
Copies +/-	Change menu in Settings Menu mode	Cycles through the menus below: **BottomMargin:14/3mm** **PaperSize: Metric/US** **Lang: Eng Ger Fr Ital Span Port** **Set Factory Default** **Status Sheet Print**
Copy	Executes menu or selects item	Lang: **Eng** Ger Fr Ital Span Port Press copy to change to next Lang: Eng **Ger** Fr Ital Span Port

1.6.2 Indicators and LCD Display

Table 1-14. LCD display and LED indicators

Status	Scanner Printer Copy	Indicators		Display message
		Operate	Error	
Scanner fatal error	S	-	On	Scanner Error
Printer fatal error	P	-	On	Printer Error
Maintenance request (waste ink pads full)	P	-	On	Call Service
ADF paper jam	S	-	On	ADF Jam
Printer paper jam	P	-	Flashing	Printer Jam
ADF cover open	S	-	Flashing	ADF Cover Open
Printer paper out	P	-	Flashing	Printer Paper Out
Black Ink end/ No ink cartridge	P	-	Flashing	Black Ink Out
Color Ink end/ No ink cartridge	P	-	Flashing	Color Ink Out
Ink cartridge change mode	P	Flashing	-	Replace Cartridge
Maintenance cover open	S	Flashing	-	Maint. Cover Open
Black ink level low	P	-	-	Black Ink Low (displays alternately with regular message)

Table 1-14. LCD display and LED indicators (cont.)

Status	Scanner Printer Copy	Indicators		Display message
		Operate	Error	
Color Ink level low	P	-	-	Color Ink Low (displays alternately with regular message)
Scanner lamp warming up	S	Flashing	-	Warm Up
Ink charging	P	Flashing	-	Warm Up
Scanning	S	Flashing	-	Scanning [xxx] (xxx=I/F)
Printing	P	Flashing	-	Printing [xxx] (xxx=I/F)
Copying	C	Flashing	-	Following messages alternate: A message = (current copy settings) B message = Now Copying x/y (x=current document number, y = total number of copies)
Power on	(all)	On	-	Power on (for two seconds and then changes to Copy Mode (default))
Initialize EEPROM and reset timer IC	P	-	-	EEPROM Reset

This order of items in this table is from high to low priority.

"-" = no change/does not matter

1.6.3 Initialization

PRINTER INITIALIZATION

There are three initialization methods.

1. Power-on (hardware) initialization

   The printer initializes when turned on or when it recognizes the cold-reset command (remote RS command).
   When the printer initializes, the following actions are performed.

   - Initialize printer mechanism
   - Clear input data buffer
   - Clear print buffer
   - Set default values

2. Operator initialization

   The printer initializes when turned on within ten seconds of being turned off, or when the printer recognizes the -INIT signal (negative pulse) from the parallel interface.
   When the printer initializes, the following actions are performed.

   - Cap the printhead
   - Eject paper
   - Clear input data buffer
   - Clear print buffer
   - Set default values

3. Software initialization

   The ESC@ command also initializes the printer.
   When the printer initializes, the following actions are performed.

   - Clear print buffer
   - Set default values

Table 1-15. Initialization

Operation	Operating	Standby	Controller process	Scanner process	Printer process	Restart
Power on	Valid	Valid	Set the local copy setting to default	H/W initialization	H/W initialization	-
Panel Reset	Valid	Valid		Controller initialization	Panel initialization	-
Initialize by command	Valid	Valid		S/W initialization	S/W initialization	-
STOP	Valid	-	• Stop copying • Setting remains as is	Cancel	Eject paper	Copy button
CLEAR	-	Valid	• Setting mode: default • Copy mode: Multi-copies volume 1			

SCANNER INITIALIZATION

There are three initialization methods.

1. Hardware initialization

   The scanner initializes when turned on.
   When the scanner initializes, the following actions are performed.

   - Initialize scanner mechanism
   - Clear input/output data buffer
   - Set default values

2. Operator initialization

   The scanner initializes when it recognizes the -INIT signal (negative pulse) from the parallel interface.
   When the scanner initializes, the following actions are performed.

   - Clear input/output data buffer
   - Set default values

3. Software initialization

   The ESC@ command also initializes the scanner.
   When the scanner initializes, the following actions are performed.

   - Clear input/output data buffer
   - Set default values

1.7 Settings Menu

Enter the settings menu mode by holding down the Quality and B&W/Color buttons. Settings are saved when the power is turned off.

Table 1-16. Settings Menu

Button	Function	LCD
Quality B&W/ Color	Change modes Copy<-> Settings Menu	Hold Quality + B&W buttons for three seconds **Menu Mode** After two seconds **BottomMargin:14/3mm**
Copies +/-	Change menu in Settings Menu mode	Cycles through the menus below: **BottomMargin:14/3mm** **PaperSize:Metric/US** **Lang:Eng Ger Fr Ital Span Port** **Set Factory Default** **Status Sheet Print**
Copy	Executes menu or selects item	Lang: **Eng** Ger Fr Ital Span Port Press copy to change to next Lang: **Ger** Fr Ital Span Port Eng

MENUS

1. Bottom Margin
   Determines the default bottom margin of 14mm or 3mm.
2. Paper Size category
   Determines which paper size category is enabled; metric or US
   Metric = A4/B5/A6
   US = Letter/Half Letter/5x8”
3. Language
   Determines which language is used to display LCD messages;
   English/German/French/Italian/Spanish/Portuguese
4. Set Factory Default
   Determines parameters for factory default settings.
   Factory default settings:
   Copy mode = Refer to “Buttons” on pag e24
   Settings Menu mode = 14mm bottom margin
   The Paper Size and Language parameters are saved as defaults when power is turned off.
5. Status sheet
   Prints the following settings:
   Bottom margin
   Paper size category
   Language

1.8 Stylus Scan Errors

PRINTER-SPECIFIC ERRORS

Table 1-17. Printer-SPECIFIC errors

Error	Cause	Solution
Ink out	When one or more ink cartridges are almost empty, the printer enters the low-ink state and continues printing. When the cartridge is completely empty, the printer indicates an ink-out error and stops printing.	Install a new ink cartridge.
Paper out	If the printer fails to properly load paper, it indicates a paper-out error.	Load paper and press the Load/Eject button.
Paper jam	If the printer fails to properly eject paper, it indicates a paper jam.	Press the Load/Eject button. If this does not clear the error, remove the paper by hand.
No ink cartridge	If the printer detects that one of the ink cartridges is not installed, it indicates a no-ink-cartridge error.	Install a new ink cartridge.
Call Service	When the total amount of waste ink reaches the limit, the printer indicates a maintenance request and stops printing.	Replace the waste ink pads and reset the waste ink counter with the adjustment program. See Chapter 5 for details.
Fatal error	A carriage control or CG access error has occurred.	Turn off the Stylus Scan and turn it back on. If the error does not clear, service.

NOTE: *Do not re-install used ink cartridges. Doing so confuses the ink-level detection function and may cause a serious problem in the printhead.*

SCANNER-SPECIFIC ERRORS

Table 1-18. Scanner-SPECIFIC errors

Error	Cause	Solution
Fatal error	• The lamp is broken. • Stylus Scan turned on before the transportation screw was removed. • System breakdown.	Turn off the Stylus Scan and turn it back on. If the error does not clear, service. (Disposition) Turn off the lamp and stop operation. Set bit 7 of the status byte.
ADF paper jam	ADF fails to eject the document.	After removing the document, turn the Stylus Scan off and back on, or send the ESC @ command. Parallel I/F init: active pulse (Disposition) Turn off the lamp and stop operation. Set bit 7 of the status byte.
Command error	Unidentified command detected. (Disposition) The scanner sent a NACK signal and is waiting for the next command. If an incorrect command or parameter is received, it is disregarded and the previous value is maintained.	Send a correct command to clear the error.
ADF cover open	ADF cover open	Close the cover.
Maintenance cover open	Maintenance cover open	Close the cover.

1.9 Options

The optional Auto Document Feeder and optional Transparency Unit designed for use with the GT-7000 scanner may also be used with the EPSON Stylus Scan 2500 under the following restrictions.

1.9.1 Local Copy

ADF

If a document is loaded in the ADF tray, the Stylus Scan loads and scans that document.
If a document remains on the document glass, a copy is not produced normally.
Even if multiple copies are selected, the Stylus Scan ignores this setting and produces only one copy per document sheet.

TPU

The TPU cannot be used in Local Copy mode. The Stylus Scan ignores the TPU in this mode.

1.9.2 Scanning

ADF

Same as the GT-7000.

TPU

If the Stylus Scan receives transparency scanning commands, it will turn on the TPU lamp and scan the transparency after the warm-up period. The Stylus Scan ignores the ADF in this mode. After scanning, the TPU lamp remains on until the TPU is turned off or until the Stylus Scan receives reflective document scanning commands.

If the Stylus Scan receives reflective document scanning commands, it will scan the document normally.