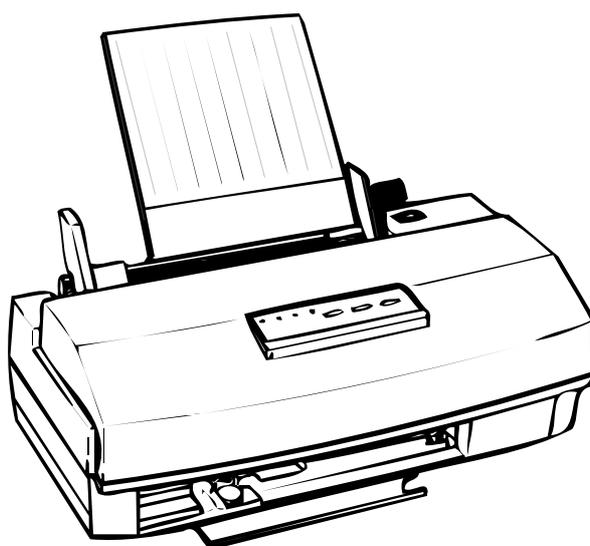


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EPSON TERMINAL PRINTER

Stylus™ COLOR IIs & *Stylus*™ 820

SERVICE MANUAL



EPSON

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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 PROCEDURE.
2. NOWORK 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 DCTATED 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 THATTHE 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 INTERNALCOMPONENTS.
5. REPLACE MALFUNCTIONING COMPONENTS ONLY WITH THOSE COMPONENTS BY THE MANUFACTURE; INTRODUCTION OF SECOND-SOURCE ICs OR OTHER NONAPPROVED COMPONENTS MAY DAMAGE THE PRODUCT AND VOID ANY APPLICABLE EPSON WARRANTY.

PREFACE

This manual describes functions, theory of electrical and mechanical operations, maintenance, and repair of Stylus Color IIs / Stylus 820.

The instructions and procedures included herein are intended for the experience repair technician, 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 product overview, lists specifications, and illustrates the main components of the printer.

CHAPTER 2. OPERATING PRINCIPLES

Describes the theory of printer operation.

CHAPTER 3. DISASSEMBLY AND ASSEMBLY

Includes the step-by-step guide for product disassembly and assembly

CHAPTER 4. ADJUSTMENTS

Includes a step-by-step guide for adjustment.

CHAPTER 5. TROUBLESHOOTING

Provides Epson-approved techniques for adjustment.

CHAPTER 6. MAINTENANCE

Describes preventive maintenance techniques and lists lubricants and adhesives required to service the equipment.

APPENDIX

Describes connector pin assignments, circuit diagrams, circuit board component layout and exploded diagram.

The contents of this manual are subject to change without notice.

REVISION SHEET

Revision	Issue Date	Contents
Rev.-A	August 25,1995	1st issue

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1.1 FEATURES

The Stylus Color IIs printer is a color ink jet dot matrix printer that comes with a 64-nozzle black printhead and a 60-nozzle CMY color printhead, either of which can be installed in the printer. The Stylus 820 version of the same printer comes standard with only the 64-nozzle black printhead; however, the CMY color printhead can be purchased as an optional upgrade. Whenever this manual mentions the Stylus Color IIs, its descriptions are equally applicable to the Stylus 820. The major printer features are:

- ❑ High-quality color print
 - 720 dpi printing
 - 720 dpi printing on plain paper
 - 720, 360 dpi printing on special coated paper
(Use the monochrome head only with plain paper)
 - ❑ High-speed print
 - LQ 125 cps (monochrome head)
 - LQ 170 cps (CMY head, using one-pass printing)
- Note: The CMY head prints 360 dpi printing in three passes.
- ❑ Built-in auto sheet feeder
 - Plain paper (Can be installed up to the hopper guide marker.)
 - Transparency film (Can be installed up to the hopper guide marker.)
 - Glossy paper (1-sheet only)
 - Coated paper (Can be installed up to the hopper guide marker.)
 - Envelopes (30 sheets)
 - Postcards (30 sheets)
 - ❑ Built-in I/F
 - Parallel I/F only (8-bit parallel: IEEE P1284 mode)
 - ❑ Easy setup
 - No DIP switches
 - ❑ 3 scalable fonts and 3 LQ fonts standard
 - Roman T, Sans Serif H, Roman, Sans Serif (scalable)
 - Roman, Sans Serif, Courier, Prestige, Script (LQ, bitmap)
 - ❑ Character tables
 - 9 character tables (standard version)
 - 15 character tables (NLSP version)
 - ❑ Low running cost

The figure below shows the Stylus Color IIs.

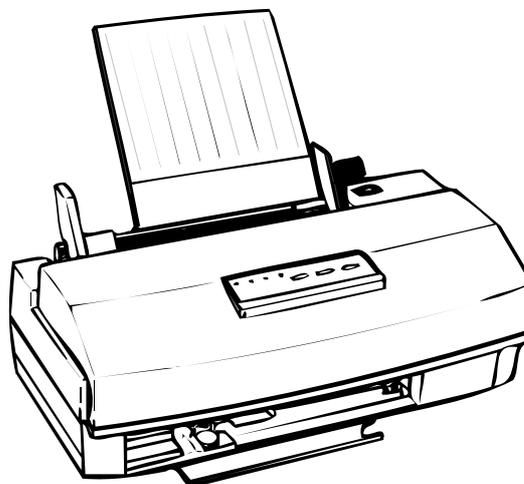


Figure 1-1. Exterior Viewing of Stylus Color IIs(820)

1.2 SPECIFICATIONS

This section provides statistics and other detailed information for the printer.

1.2.1 Printing Specifications

Print system: On-demand ink jet system
 Nozzle configuration: 64 nozzles (10 × 2 + 11 × 4 standard): monochrome
 60 nozzles (20 × 3 standard): color

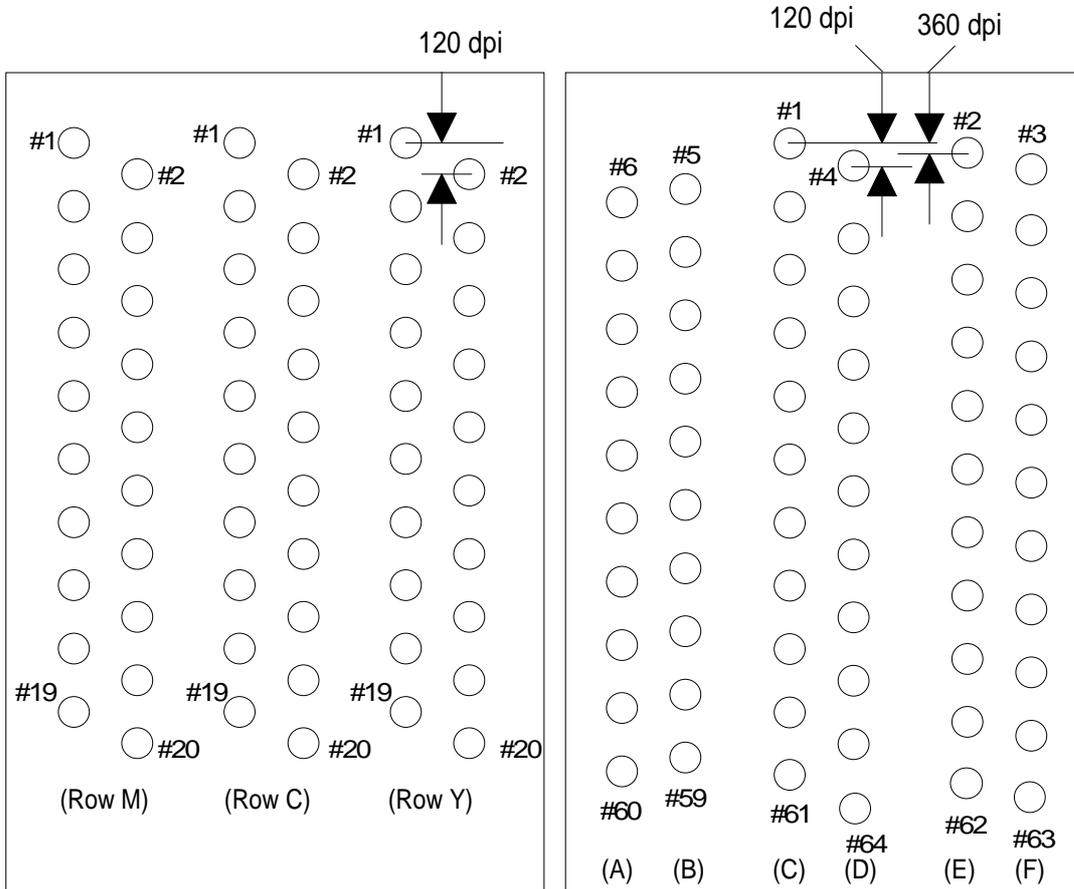


Figure 1-2. Nozzle Configuration

Printing direction: Bidirectional with logic-seeking

Table 1-1. Print Speed and Printable Columns

Character Pitch	Printable Columns	Printing Speed (cps)	
		Monochrome	CMY
10 cpi (Pica)	80	125	170
12 cpi (Elite)	96	150	204
15 cpi	120	188	255
17 cpi (Pica condensed)	136	214	290
20 cpi (Elite condensed)	160	250	340

Character tables: Legal and 14 international sets

Table 1-2. Character Tables

Character Tables		Bitmap Fonts	Scalable Fonts	
		EPSON Roman EPSON Sans Serif EPSON Courier	EPSON Roman EPSON Sans Serif	EPSON Roman T EPSON Sans Serif H
Standard	Italic	Supported	Supported	Supported
	PC437 (U.S./Standard Europe)			
	PC850 (Multilingual)			
	PC860 (Portuguese)			
	PC861 (Icelandic)			
	PC863 (Canadian-French)			
	PC865 (Nordic)			
	Abicomp			
BRASCII				
NLSP	Italic	Supported	Supported	Supported
	PC437 (U.S./Standard Europe)			
	PC850 (Multilingual)			
	PC437 (Greek)	Supported	Supported	Not supported
	PC852 (East Europe)			
	PC853 (Turkish)			
	PC855 (Cyrillic)			
	PC857 (Turkish)			
	PC866 (Russian)			
	PC869 (Greek)			
	MAZOWIA (Poland)			
	Code MJK (Czecho/Slovakia)			
	ISO 8859-7 (Latin/Greek)			
	ISO Latin 1T (Turkish)			
Bulgaria (Bulgaria)				

Fonts:

Bitmap LQ fonts

- EPSON Roman (10 cpi/12 cpi/15 cpi/Proportional)
- EPSON Sans Serif (10/12/15/Proportional)
- EPSON Courier (10/12/15)

Scalable fonts

- EPSON Roman 10.5 points, 8 ~ 32 points (in units of 2 points)
- EPSON Sans Serif 10.5 points, 8 ~ 32 points (in units of 2 points)
- EPSON Roman T 10.5 points, 8 ~ 32 points (in units of 2 points)
- EPSON Sans Serif H 10.5 points, 8 ~ 32 points (in units of 2 points)

Control codes: ESC/P 2 and expanded raster graphics codes

Input data buffer: 0.5KB or 64KB

1.2.2 Paper Handling Specifications

Feeding method: Friction feed paper is fed from the built-in auto sheet feeder (ASF).
 Line spacing: 1/6 inch feed or programmable in 1/360 inch minimum increments.
 Paper path: Cut sheets are fed from the built-in auto sheet feeder (ASF).
 Top in and front out.
 Feeding speed: 102 msec. (at 1/6-inch feed pitch).

1.2.3 Paper Specifications

Table 1-3. Paper Specifications

		Cut Sheets			Envelopes	
		Transparencies			No. 10	DL
		A4	Letter	Legal		
PW	Width	210 mm	216 mm	216 mm	240 mm	220 mm
PL	Length	297 mm	279 mm	358 mm	104 mm	110 mm
LM	Left margin	3 mm or more	3 mm or more	3 mm or more	3 mm or more	3 mm or more
RM	Right margin	3 mm or more	3 mm or more	3 mm or more	3 mm or more	3 mm or more
TM	Top margin	3 mm or more	3 mm or more	3 mm or more	3 mm or more	3 mm or more
BM	Bottom margin	14 mm or more	14 mm or more	14 mm or more	14 mm or more	14 mm or more

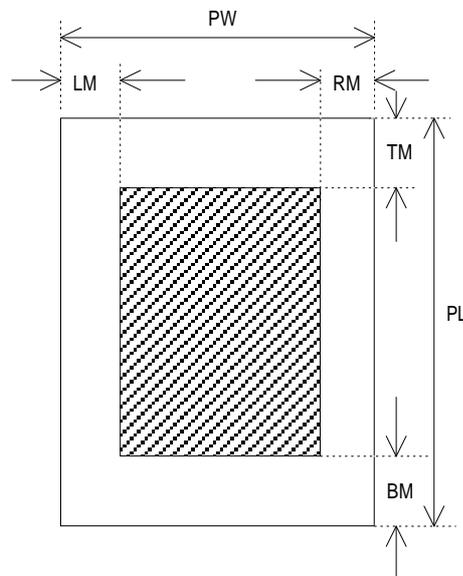


Figure 1-3. Printable Area

The adjust lever on the upper case must be set to the proper position for the paper thickness, as shown in Table 1-4.

Table 1-4. Adjust Lever Settings

Lever Position	Paper	Paper Thickness
Front (0 position)	Normal position	0 mm
Rear (+ position)		0.62 mm

Also the paper select lever on the upper case must be set to the proper position for the paper varieties shown in Table 1-5.

Table 1-5. Paper Select Lever Settings

		Specifications for the Medium	
PF Mode	Lever Position	Cut Sheets	Envelopes Postcards
	ASF Feed		
	Thinner paper (Front)	OK	NO
Manual Feed	Thick paper (Rear)	OK	OK
	Thinner paper (Front)	NO	NO

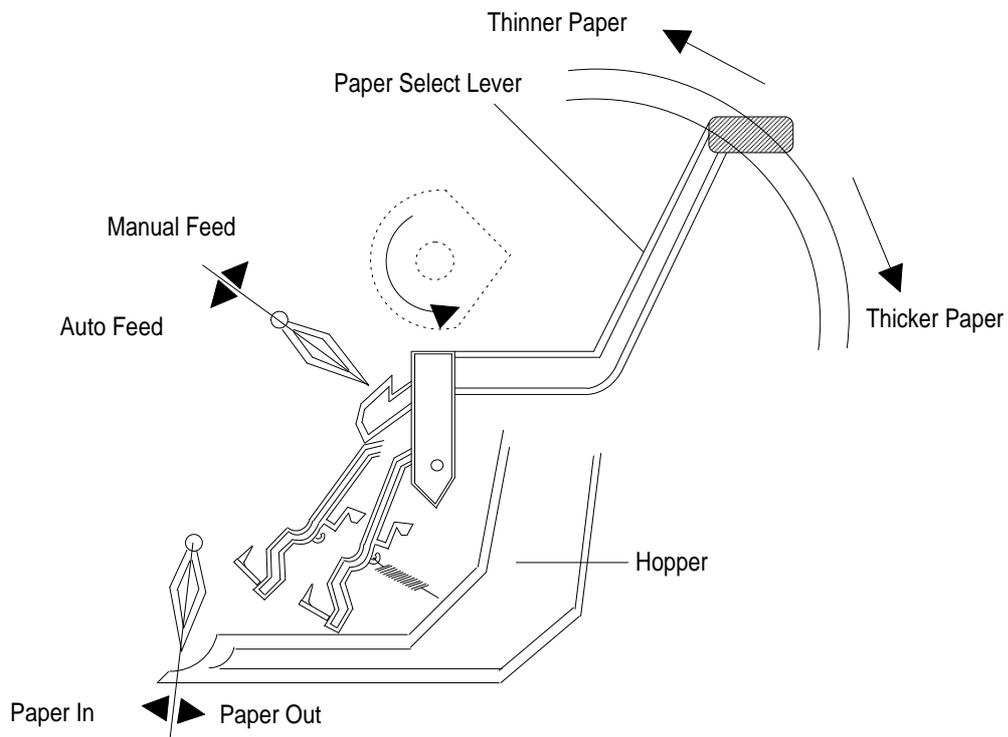


Figure 1-4. Paper Select Lever

Note: “OK” means paper can be used and “NO” means paper cannot.

1.2.4 Ink Cartridge Specifications

Table 1-6. Black I/C Specifications

Item	Specifications
Type	Exclusive cartridge
Color and Weight	Approximately 54 g (internal ink weight is 36 g \pm 0.5 g)
Ink Life	High-quality ink produces 800 thousand characters
Validity	2 years (sealed in package) / 6 months (out of package)
Storage Temperature	<input type="checkbox"/> -30 to 40° C (-22 ~ 104° F) (Storage: a month or less at 40° C (104° F)) <input type="checkbox"/> -20 to 40° C (-15 ~ 104° F) (Transit: a month or less at 40° C (104° F)) <input type="checkbox"/> -30 to 60° C (-22 ~ 140° F) (Transit: 120 hours or less at 60° C (140° F))
Dimensions	30.0 (W) \times 58.0 (D) \times 38.5 \pm 0.3 (H) mm

Table 1-7. Color I/C Specifications

Item	Specifications
Type	Exclusive cartridge
Color and Weight	Approximately 70 g (internal ink weight is 12.8 g \pm 0.5 g)
Ink Life	100% solid pattern: A4 — 16 sheets / each color
Validity	2 years (sealed in package) / 6 months (out of package)
Storage Temperature	<input type="checkbox"/> -30 to 40° C (-22 ~ 104° F) (Storage: a month or less at 40° C (104° F)) <input type="checkbox"/> -20 to 40° C (-15 ~ 104° F) (Transit: a month or less at 40° C (104° F)) <input type="checkbox"/> -30 to 60° C (-22 ~ 140° F) (Transit: 120 hours or less at 60° C (140° F))
Dimensions	42.9 (W) \times 56.5 (D) \times 38.5 \pm 0.3 (H) mm

1.2.5 Electrical Specifications

Table 1-8. Rated Electrical Ranges

Specification	120 V Version	220 - 240 V Version
Rated voltage	120 VAC	220 - 240 VAC
Input voltage range	103.5 ~ 132 V	198 ~ 264 V
Rated frequency range	50 ~ 60 Hz	50 ~ 60 Hz
Input frequency range	49.5 ~ 60.5 Hz	49.5 ~ 60.5 Hz
Rated current	0.5 A	0.3 A
Power consumption	Approx. 13 W (self-test with 10-cpi LQ characters)	Approx. 13 W (self-test with 10-cpi LQ characters)
Insulation resistance	10 MΩ, minimum (applying 500 VDC between AC line and chassis)	10 MΩ, minimum (applying 500 VDC between AC line and chassis)
Dielectric strength	1000 VAC rms for 1 minute or 1200 VAC rms for 1 second (between AC line and chassis)	1500 VAC rms for 1 minute (between AC line and chassis)

1.2.6 Environmental Conditions

Table 1-9. Acceptable Environmental Conditions

Condition	Operating	Non Operating
Temperature	10 ~ 35° C (50 ~ 95° F) ^{*1}	-20 ~ 60° C (-4 ~ 122° F) ^{*2}
Humidity	20 ~ 80% RH ^{*1, 3}	5 ~ 85% RH ^{*2, 3}
Shock resistance	1G (within 1 msec.)	2G (within 2 msec.) ^{*2}
Vibration resistance	0.15 G	0.50 G ^{*2}

^{*1} : For printer operation, conditions must be in the range shown in the figure below.

^{*2} : These conditions are applicable when the printer is in its shipping container.

^{*3} : Without condensation.

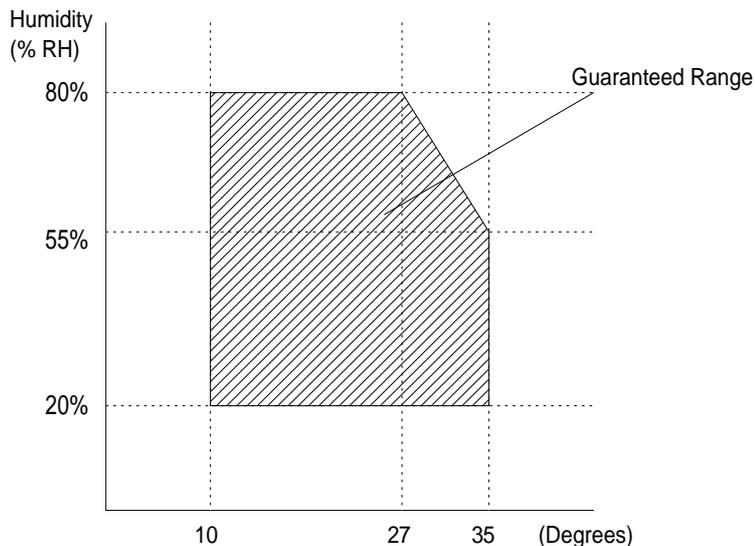


Figure 1-5. Temperature / Humidity Range

1.2.7 Reliability

Total print volume:	25,000 pages (A4, letter)
Printhead life:	500 million dots/nozzle (color and monochrome)

1.2.8 Safety Approvals

Safety standards:	120 V version:	UL1950 with D3, CSA C22.2 # 950 with D3
	220-240 V version:	EN 60950 (TÜV, SEMKO, DEMKO, NEMKO, SETI)
Radio frequency interference (RFI):	120 V version:	FCC Part 15 Subpart B Class B
	220-240 V version:	Vfg.243 (VDE0878 part 3, part 30) EN55022 (CISPR PUB. 22) class B CSA C108.8

1.2.9 Acoustic Noise

Level:	Approximately 45 dB (A) (Per ISO 7779)
--------	--

1.2.10 Physical Specifications

Dimensions (W × D × H):	396.7 mm (W) × 205.6 mm (D) × 144.0 mm (H)
Weight:	About 3.9 kg (8.6 lb.), excluding head and ink cartridge

1.3 INTERFACE SPECIFICATIONS

The Stylus Color IIs is standard-equipped with an 8-bit parallel and serial interface.

1.3.1 Parallel Interface Specifications

Data format:	8-bit parallel
Synchronization:	By <u>STROBE</u> pulse synchronization
Handshaking:	By <u>BUSY</u> and <u>ACKNLG</u> signals
Signal level:	TTL compatible level
Adaptable connector:	36-pin 57-30360 (Amphenol) or equivalent

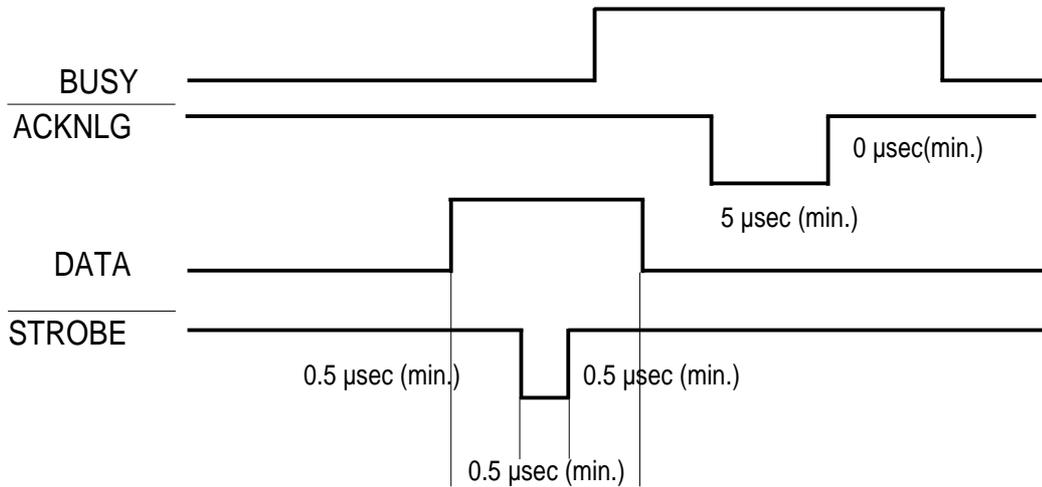


Figure 1-6. Data Transmission Timing

Data transmission timing: See Figure 1-6.

Note: Transition time (rise time and fall time) of every input signal must be less than 0.2 μs.

The Busy signal is active (HIGH) under the following conditions:

- During data reception (See Figure 1-6.)
- When the input buffer is full
- When the INIT input signal is active
- During initialization
- When the ERROR or PE signal is active
- During the self-test mode
- During the demonstration mode
- During the default setting mode
- When a fatal error occurs

The ERROR signal is active (LOW) under the following conditions:

- When a paper-out error occurs
- When a no ink cartridge error occurs
- When a fatal error occurs

The PE signal is active (HIGH) under the following conditions:

- When a paper-out error occurs
- When a fatal error occurs

Table 1-10 shows the connector pin assignments and signal functions of the 8-bit parallel interface.

Table 1-10. Signal and Connector Pin Assignments for Parallel Interface

Pin No.	Signal Name	I/O*	Description
1	$\overline{\text{STROBE}}$	I	The $\overline{\text{STROBE}}$ pulse is used to read data from the host computer. The pulse width must be 0.5 μs or more. Normally, it is HIGH, and data is latched with the rising edge of this signal.
2-9	DATA 1-8	I	DATA 1-8 are parallel data bits. When one of these signals is HIGH, the data bit is 1; when LOW, the data bit is 0. The most significant bit (MSB) is DATA 8. The signal state must be maintained for 0.5 μs on either side of the $\overline{\text{STROBE}}$ signal's active edge.
10	$\overline{\text{ACKNLG}}$	O	$\overline{\text{ACKNLG}}$ is an acknowledge pulse with a width of approximately 10 μs . This signal goes LOW upon the completion of data reception to indicate that the printer is ready to receive further data.
11	BUSY	O	The BUSY signal informs the host computer of the printer's status. When this signal is HIGH, the printer cannot accept any more data.
12	PE	O	This signal indicates whether paper is available in the printer or not. A HIGH level indicates no paper.
13	SLCT	O	Pulled up to +5 V through a 1.0 K Ω resistor in the printer.
14	$\overline{\text{AFXT}}$	I	If this signal is set to LOW, the printer automatically performs one line feed upon receipt of a CR (carriage return) code. The status of this signal is checked only at power on and initialization.
31	$\overline{\text{INIT}}$	I	If this signal goes LOW, the printer is initialized. The pulse width of this signal must be 50 μs or more.
32	$\overline{\text{ERROR}}$	O	This signal goes LOW if the printer has a fatal error or runs out of paper.
35	+5 V	—	Pulled up to +5 V through 1.0 K Ω resistor in the printer.
17	CHASSIS	—	Chassis ground.
16	GND	—	Signal ground.
19-30	—	—	—
33,36	—	—	Not used.
15,18,34	—	—	—

* The I/O column indicates the direction of the signal as viewed from the printer.

1.4 OPERATIONS

This section describes the basic operations of the printer.

1.4.1 Control Panel

The control panel for this printer has 3 non-lock-type push buttons, and 5 LED indicators for easy operation of the various printer functions.

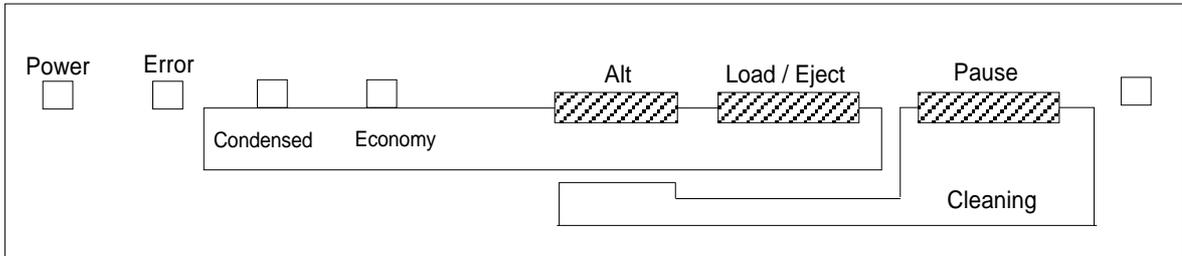


Figure 1-7. Control Panel Appearance

1.4.2 Panel Operation and Built-in Function

You can activate the following modes by doing the procedure in table 1-11 and 1-12.

Table 1-11. Panel Operation

<i>Button</i>	Operations		+
^	Single Button Operations		Combined with Alt Button
^	Pressed and released	Held down 3 seconds	Pressed and released
<i>Alt</i>	No function	I/C or head unit replacement	_____
<i>Load/Eject</i>	Load/Eject	No function	Economy/Condensed
<i>Pause</i>	Pause	Reset	Cleaning

Table 1-12. Built-in Functions on the Panel

<i>Button</i>	Function
<i>Alt</i>	Demonstration printing
<i>Load/Eject</i>	Self-test
<i>Pause</i>	Default setting mode (with printing)
<i>Alt + Load/Eject</i>	Non-smear printing
<i>Load/Eject + Pause</i>	Data dump mode (Hex mode)
<i>Pause + Alt</i>	Default setting mode (without printing)
<i>Pause + Load/Eject + Pause</i>	Reset to the default settings
<i>Other combinations</i>	Not available

Table 1-13. Button Operations in Default Setting Mode

<i>Button</i>	Function
<i>Alt</i>	Move to the next item or menu
<i>Pause</i>	Set item

Indicators

Power	<i>On when printer is on. Blinks during power on and off.</i>
Error	<i>On when printer encounters an error, such as ink end, paper out, paper jam, etc.</i>
Condensed	<i>On when printer is in the condensed mode (50% or 80%).</i>
Economy	<i>On when printer is in the economy mode.</i>
Pause	<i>On when printer is paused.</i>
LED combinations	<i>See Table 1-14.</i>

Table 1-14. Error Indications

<i>Printer Status</i>	Indicators					+
^	Power	Error	Condensed	Economy	Pause	
<i>Pause</i>	On	—	—	—	On	
<i>Economy</i>	On	—	—	On	—	
<i>Condensed</i>	On	On	On	—	—	
<i>Panel reset accepted</i>	On	Blinks	On	On	On	
<i>Ink low (printable)</i>	On	Blinks (rapidly)	—	—	—	
<i>Ink out (unprintable)</i>	On	On	—	—	On	
<i>Paper out</i>	On	Off	—	—	On	
<i>Paper jam</i>	On	Off	—	Blink	On	
<i>Head, I/C replacement</i>	On	Blinks	—	—	Blinks	
<i>Head, I/C not installed (in replacement mode)</i>	On	Blinks	—	—	Blinks	
<i>Head, I/C not installed</i>	On	Blinks	Off	Off	Blinks	
<i>Carriage control error</i>	On	Blinks	Blinks	Off	Blinks	
<i>Maintenance request</i>	On	Blinks	Blinks	Blinks	Blinks	

1.4.3 Default Settings

The printer can save some printer setting parameters that define its functions at initialization. You can change these parameters using the printer's default setting mode.

1.4.3.1 Default Setting Items

You can use default setting mode to change settings listed in the table below. Activate default-setting mode by holding down the Pause or the Pause and Alt buttons (for default setting mode without printing) while turning on the printer.

Table 1-15. Default Setting Items

Item	Selections		+
<i>Character Tables</i>	Standard Version		+
^	Italic USA Italic France Italic Germany Italic UK	Italic Italy Italic Spain <u>PC437</u> <u>PC850</u>	PC865 PC861 BRASCII Abicomp
^	Italic Denmark	<u>PC860</u>	^
^	Italic Sweden	<u>PC863</u>	^
^	NLSP Version		+
^	Italic USA Italic France Italic Germany Italic UK Italic Denmark Italic Sweden Italic Italy Italic Spain	<u>PC437</u> <u>PC850</u> <u>PC853</u> <u>PC857</u> <u>PC437 Greek</u> <u>PC855</u> <u>PC866</u> <u>PC852</u>	PC869 ISO 8859-7 ISO Latin 1T MAZOWIA Code MJK Bulgaria
<i>Typestyles</i>	Roman Sans Serif <u>Courier</u> <u>Roman T (PS)</u> <u>Sans Serif H (PS)</u>		+
<i>Character Pitches</i>	<u>10 CPI (10 CPI, Condensed off)</u> <u>12 CPI (12 CPI, Condensed off)</u> <u>15 CPI (15 CPI, Condensed off)</u> <u>17.1 CPI (10 CPI, Condensed on)</u> <u>20 CP I(12 CPI, Condensed on)</u> <u>Proportional (PS, Condensed off)</u>		+
<i>Print Direction</i>	<u>Auto</u> <u>Bidirectional</u> <u>Uni-directional</u>		+
<i>Network I/F Mode</i>	<u>Off (Usual environment)</u> <u>On (Network environment)</u>		+

Table 1-15. Default Setting Items (Continued)

<i>Item</i>	Contents
<i>Auto line feed</i>	<u>Off</u> On
<i>Loading position</i>	<u>8.5 mm</u> 3 mm
<i>Thick paper</i>	<u>Envelopes</u> Index card (portrait)

Note: The underlined value is the factory setting.

1.4.3.2 Changing the Default Settings

To change the printer's default settings:

1. Hold down the Pause button and turn on the printer. The printer outputs a sheet that shows the firmware version and describes how to select the language used to print messages. You can select a language by pressing the Alt button, and set it by pressing the Pause button. (See Table 1-16.)

Table 1-16. Language Selection

	Error LED	Condensed LED	Economy LED
<i>English</i>	On	Off	Off
<i>Francias</i>	Off	On	Off
<i>Deutsch</i>	On	On	Off
<i>Italiano</i>	Off	Off	On
<i>Español</i>	On	Off	On

2. Press the Pause button. The printer prints the current settings using the selected language. It also prints a table showing how to change printer settings.
3. Press the Alt button to advance through the setting menus. The current printer settings are indicated by the Error, Condensed, and Economy LEDs. Each time you press the Pause button, you advance to the next setting, and the three font LEDs change according to the selection.
4. After you set all values, turn the printer off to save the new settings.

Table 1-17. Feature Selections

<i>Menu</i>				<i>Setting Value</i>			+
<i>Feature/ Menu</i>	Error LED	Condensed LED	Economy LED	Setting	Error LED	Condensed LED	Economy LED
<i>Character Table</i>	On	Off	Off	See Table 1-18.			+
<i>Print Direction</i>	Off	On	Off	Auto	Blinks	Off	Off
^				Bi-D	Blinks	On	Off
^				Uni-D	Blinks	Off	On
<i>Network I/F Mode</i>	On	On	Off	Off	Blinks	Off	Off
^				On	Blinks	On	Off
<i>Auto Line Feed</i>	Off	Off	On	Off	Blinks	Off	Off
^				On	Blinks	On	Off
<i>Loading Position</i>	On	Off	On	3 mm	Blinks	Off	Off
^				8.5 mm	Blinks	On	Off
<i>Font</i>	Off	On	On	Roman	Blinks	Off	Off
^				Sans serif	Blinks	On	Off
^				Courier	Blinks	Off	On
^				Roman T	Blinks	On	On
^				Sans serif H	Off	Blinks	Off
<i>Pitch</i>	On	On	On	10 CPI	Blinks	Off	Off
^				12 CPI	Blinks	On	Off
^				15 CPI	Blinks	Off	On
^				17.1 CPI	Blinks	On	On
^				20 CPI	Off	Blinks	Off
^				Proportional	On	Blinks	Off
<i>Thick Paper</i>	Off	Off	Off	Envelopes	Blinks	Off	Off
^				Index cards	Blinks	On	Off

Table 1-18. Character Table Selection

<i>Version</i>	Settings	<i>Error LED</i>	<i>Condensed LED</i>	<i>Economy LED</i>
<i>Common</i>	Italic U.S.A.	Blinks	Off	Off
^	Italic France	Blinks	On	Off
^	Italic Germany	Blinks	Off	On
^	Italic U.K.	Blinks	On	On
^	Italic Denmark 1	Off	Blinks	Off
^	Italic Sweden	On	Blinks	Off
^	Italic Italy	Off	Blinks	On
^	Italic Spain 1	On	Blinks	On
^	PC437	Off	Off	Blinks
^	PC850	On	Off	Blinks
<i>Standard</i>	PC860	Off	On	Blinks
^	PC863	On	On	Blinks
^	PC865	Blinks	Blinks	Off
^	PC861	Blinks	Blinks	On
^	BRASCII	Off	Blinks	Blinks
^	Abicomp	On	Blinks	Blinks
<i>NLSP</i>	PC437 Greek	Blinks	Blinks	Off
^	PC853	Off	On	Blinks
^	PC855	Blinks	Blinks	Off
^	PC852	On	Blinks	Blinks
^	PC857	On	On	Blinks
^	PC866	Off	Blinks	Blinks
^	PC869	Blinks	Off	Blinks
^	MAZOWIA	Off	On	On
^	Code MJK	On	On	On
^	ISO 8859-7	Blinks	On	Blinks
^	ISO Latin 1T	Blinks	Blinks	Blinks
^	Bulgaria	Off	Off	Off

1.4.4 Error Conditions

The printer can detect various errors and indicate them with LEDs. Refer to Table 1-14.

1.4.5 Printer Initialization

There are three initialization methods: hardware initialization, software initialization, and panel initialization.

1.4.5.1 Hardware Initialization

Hardware initialization is performed by:

- Turning on the printer.
- Sending the parallel interface the $\overline{\text{INIT}}$ signal.

(If the $\overline{\text{INIT}}$ signal is active when the printer is turned on, hardware initialization is started when the $\overline{\text{INIT}}$ signal becomes inactive.)

When hardware initialization is performed:

- The printer mechanism is initialized.
- Input data buffer is cleared.
- Downloaded character definitions are cleared.
- Print buffer is cleared.
- Default values are set.

1.4.5.2 Software Initialization

Software initialization is performed upon receipt of the control code ESC @.

When software initialization is performed:

- The print buffer is cleared.
- Default values are set.

1.4.5.3 Panel Initialization

Panel initialization is performed by holding down the Alt button for 3 seconds.

When the panel initialization is performed:

- The input data buffer is cleared.
- The print buffer is cleared.
- Default values are set.

1.5 MAIN COMPONENTS

The main components of the Stylus Color IIs are:

- ❑ Printer mechanism (M-4C10)
- ❑ Main control board (C160 MAIN Board)
- ❑ Power supply unit (C160 PSB/PSE Board)
- ❑ Control panel board (C160 I/F Board)
- ❑ Housing

1.5.1 Main Control Board (C160 MAIN Board)

The main control board (C160 MAIN Board) consists of an M37720 16-bit CPU, E05B08 gate array, a program ROM (4M), a PS-RAM (1M), a mask ROM (4M or 8M: If a 4M-bit program ROM is mounted on the board, an 8M-bit CG-ROM is mounted in location IC5, and if an 8M-bit program ROM is mounted on the board, there is no CG-ROM in location IC5.) and a 1K EEPROM. The reset IC (M51955 and PST 592) is equipped with both a logic system and a power system.

Note: During servicing, when you replace the program ROM, always install an 8M-bit program ROM regardless of the components mounted on that particular board. When you do this, the CG-ROM in location IC5 is ignored.

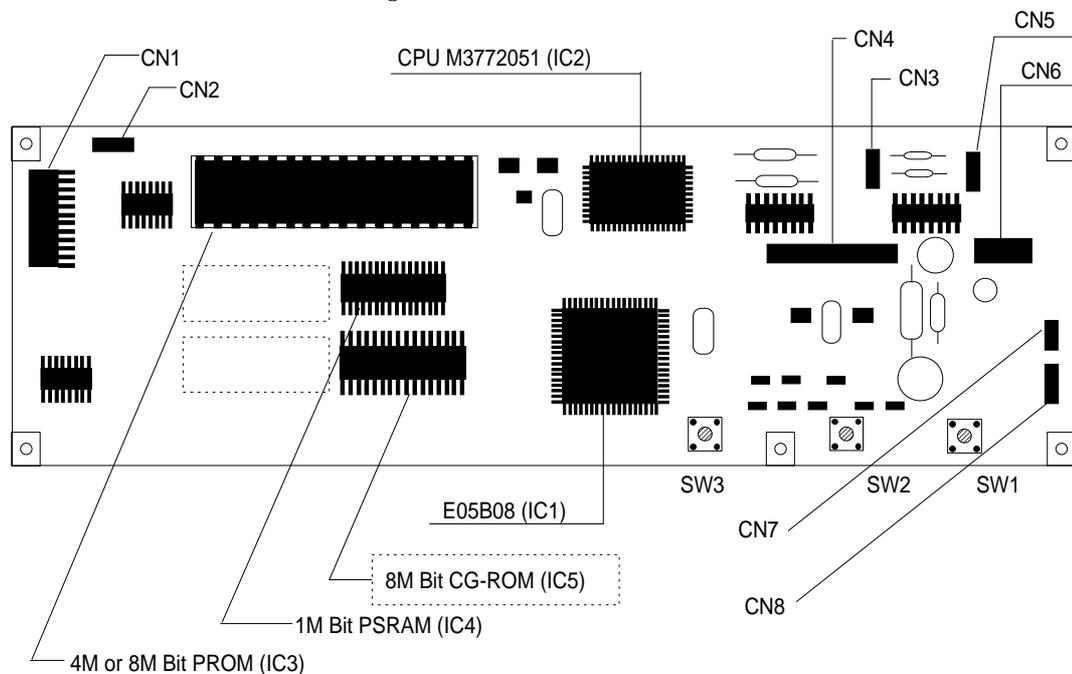


Figure 1-8. C160 Main Control Board Component Layout

1.5.2 Power Supply Board (C160 PSB/PSE Board)

The power supply board (C160 PSB/PSE Board) consists of an RCC switching regulator circuit. This board does not have a power switch connected to the secondary circuit like the Stylus Color series. Thus, if the printer is turned off, it cannot continue to operate in order to perform the head capping operation.

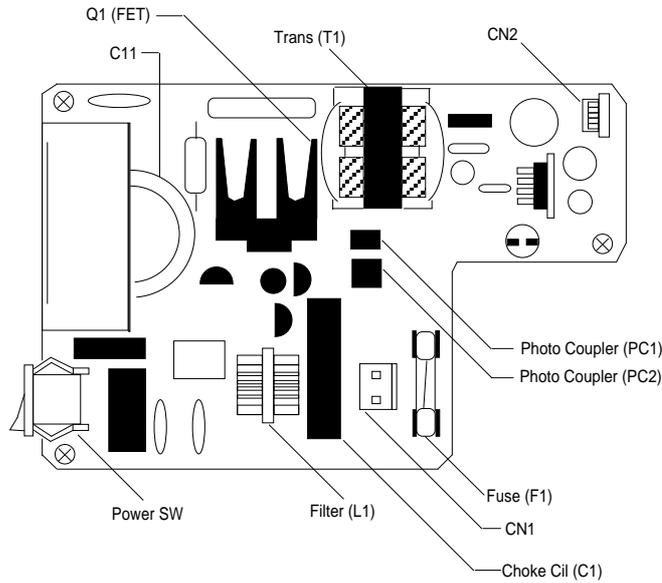


Figure 1-9. C160 PSB/PSE Board Component Layout

1.5.3 Interface Board (C160 I/F Board)

There is an exclusive interface board to receive/transmit print data between the host computer and printer.

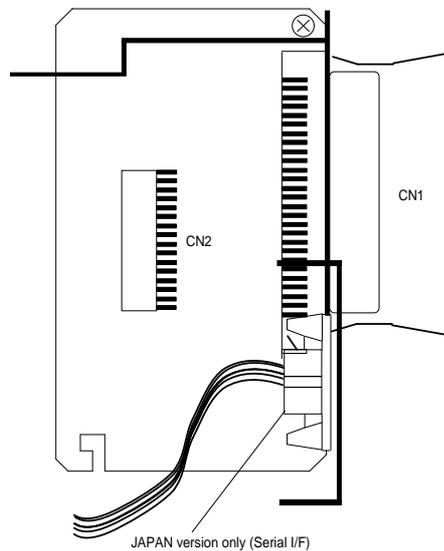


Figure 1-10. C160 I/F Board Component Layout

1.5.4 Printer Mechanism (M-4C10)

The M-4C10 printer mechanism is equipped with a replaceable 64-nozzle black printhead and 60-nozzle color (CMY) printhead, and it can print at a high resolution (720 dpi) using the special coated paper.

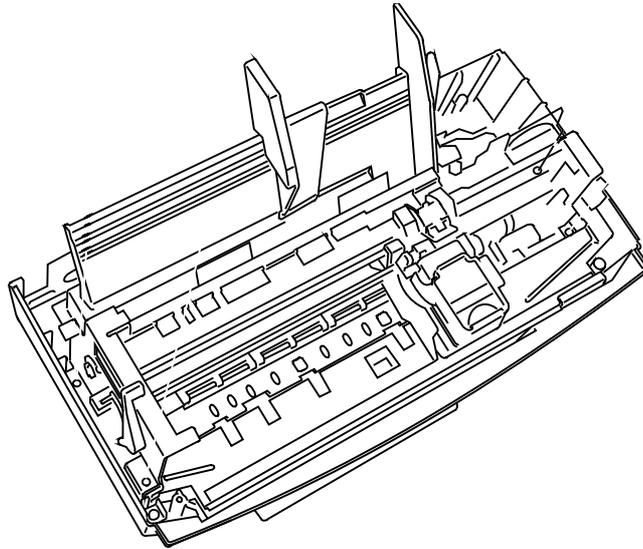


Figure 1-11. M-4C10 Printer Mechanism

1.5.5 Housing

The Stylus Color IIs housing consists of the printer cover, upper case, and lower case. Attached to the housing are the front paper support and ejected paper support with paper separator.

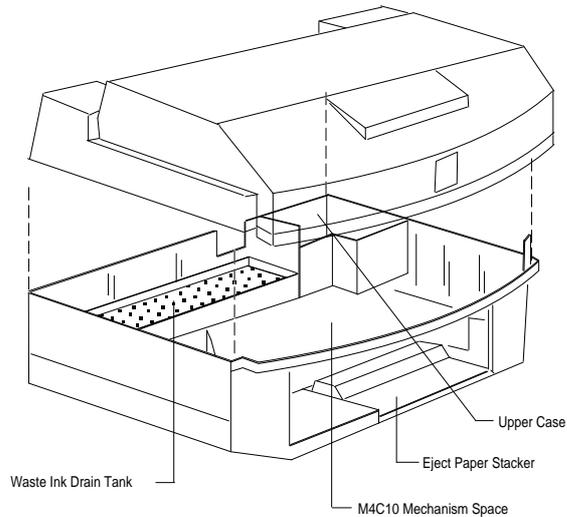


Figure 1-12. Housing Component Layout

Chapter 2. Operating Principles

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