User Manual

SP40 plus

MAN 10239-01

Compuprint Product Information

Thanks for choosing the Compuprint SP40*plus printer.*
Your printer is a reliable working equipment that will be very useful in your daily job.
Our printers have been designed to be compact and respectful of the work environment. They offer a wide range of features and multiple functions that confirm the high technological level reached by Compuprint printers.
To maintain these printing performances unchanged in the long run, Compuprint has developed its own specific branded consumables for each printer type (for example: ribbon cartridges for dot matrix printers, toner and OPC cartridges for laser printers, bubble ink jet cartridges for inkjet printers) that assure an excellent operation with high printing quality level reliability.
Compuprint recommends to use only its original Compuprint branded consumables with original packaging (identified by its holographic label). In this way, a proper use of the printer at quality level stated in the product characteristics can be assured. All typical usage problems related to not certified consumables may be avoided, such as an overall quality print level degradation and, often, the reduction of the product life due to the fact that the proper working conditions for the print heads, OPC cartridge and other printer parts are not assured.
Moreover, Compuprint does not only certify its consumables in terms of working conditions but also carefully controls their compliance with the international standard rules concerning:
no cancerous materials;
no flammability of the plastic materials;
other standards

Compuprint advises the customers not to use products for which the compliance to this safety rules are not warranted. Finally seek your dealer or contact a COMPUPRINT office and be sure that are provided you the original Compuprint branded consumables.

FCC Notes

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help.

A shielded Centronics IEEE1284 compliant bi-directional parallel cable, maximum length 3 meters (10 feet), and a shielded RS-232 serial cable, maximum length 15 meters (50 feet), are necessary for this device to meet the requirements of a Class B digital device pursuant to part 15 of the FCC rules.

The above specified cables are readily available as Personal Computer or Peripheral accessories from multiple retail outlets. Please consult your dealer for details concerning such cables and also for information about FCC rules for digital devices.
Changes or modifications to the device covered by this manual, which are not expressly approved by the party responsible for compliance, could void the user's authority under the FCC rules to operate the equipment.

Canadian D.O.C. Radio Interference Regulation

This digital apparatus complies with the Canadian ICES-003 Class B limits for radio frequency emissions.
Cet appareil numérique est conforme aux limites de Classe B de la norme NMB-003 du Canada.

EEC Regulations

This equipment conforms to the essential requirements of EU Directives 2006/95/EC, 2004/108/EC.
Per the applicable requirements of EU Directive 2006/42/EC (“machines”) sound pressure of this product (measured according to EN27779) does not exceed 70 dBA.
This product is also compliant to the EU directive 2002/95/EC (RoHS) and 2002/96/EC (WEEE).

Table of Contents

Printer Presentation

This dot-matrix printer is a multi-purpose printer for front office applications. Its compact structure is designed for integration in an ergonomic environment. The printer provides a high level of reliability, form-handling accuracy and data integrity.

Its main features are:

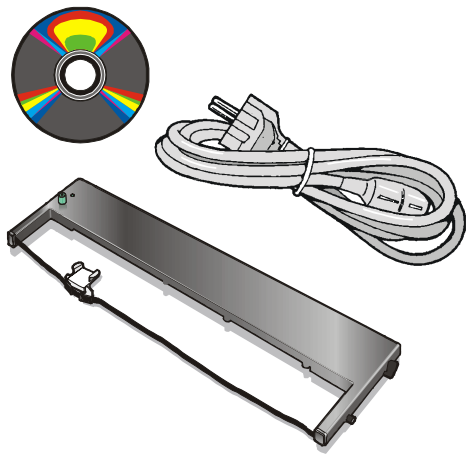
- Printing on a wide range of paper media: different types of cut sheets, multi-parts and passbooks.
- High print pressure for multi-parts documents
- High print quality supplied by a 24 wire print head
- High reliability paper handling
  The straight paper path allows the printing on particular documents such as envelopes, multipart forms and passbooks.
- Automatic paper thickness adjustment
  The print head detects the paper thickness for correct printing on any type of document. This printer can print also on documents with a variable thickness, such as passbooks.
- Easy paper handling
  The operator places the paper on the front table and the printer loads it without any other user intervention. The paper ejection towards the front or the rear of the printer allows an easy access to the printed document.
- Automatic document alignment feature
  The printer checks automatically the alignment of the top margin of the document and adjusts it, if necessary. The printout is therefore performed correctly independently from the paper loading position.
- Standard parallel, serial and USB interface with automatic switch-over function.
- Easy printer setup through an optically managed menu.
- Supported emulations: Epson 570, IBM Proprinter XL24E, XL24E AGM, IBM 2390+, 4722, 9068 and Olivetti PR40+, PR2, 2845.

Unpacking the Printer

Together with the printer the following items are included in the shipment box:

Notify any damage to your supplier.

- Ribbon Cartridge
- Power Cable
- CD-ROM with printer documentation and drivers.
- Quick Reference Guide



Always keep the packing material in a safe place as you must repack the printer into it, when you need to move it.

Printer Parts

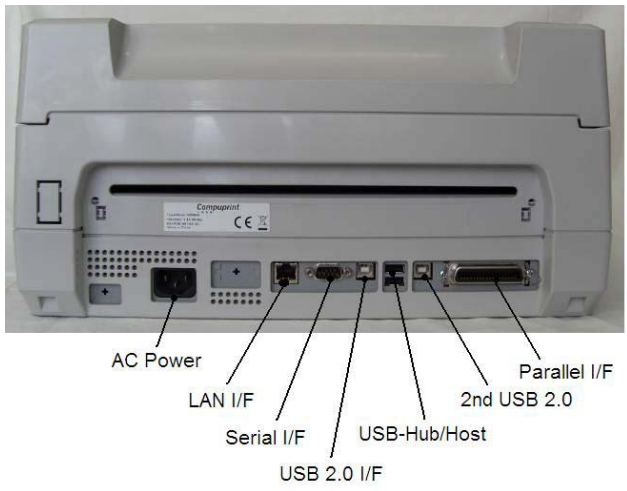
Never remove any printer part unless it is expressly indicated in this manual.

Front View

Model with operator panel without display

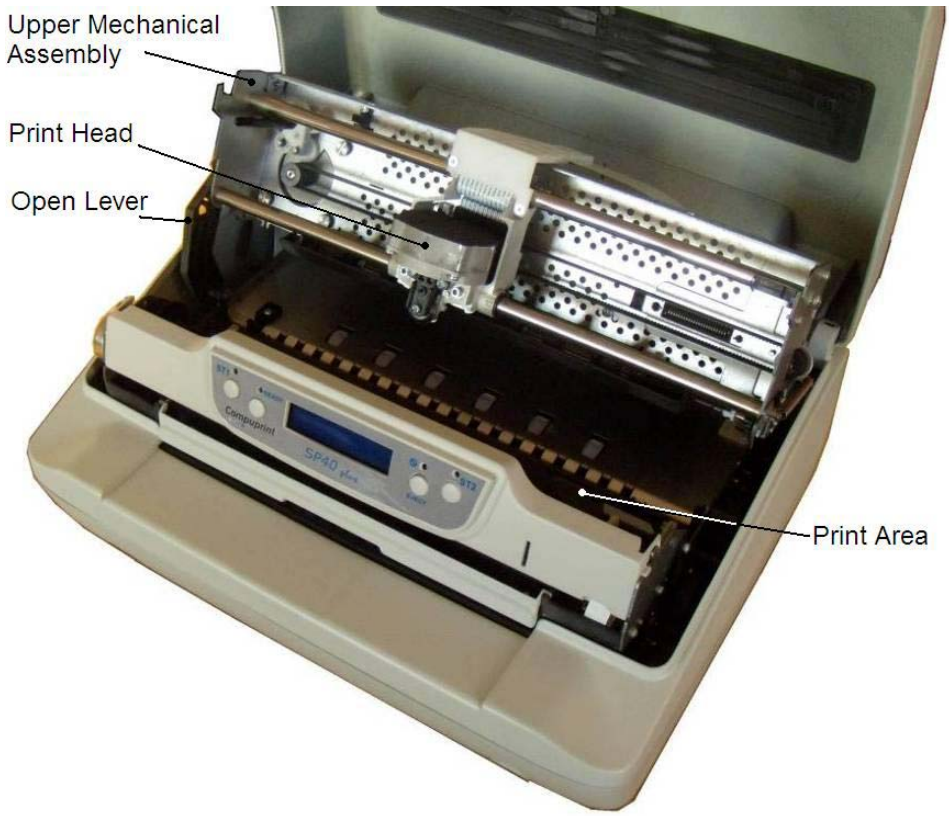
Model with operator panel with display

Rear view



Optional interfaces available (parallel, 2x Serial, USB, 2x USB-Hub, LAN)

Inside view



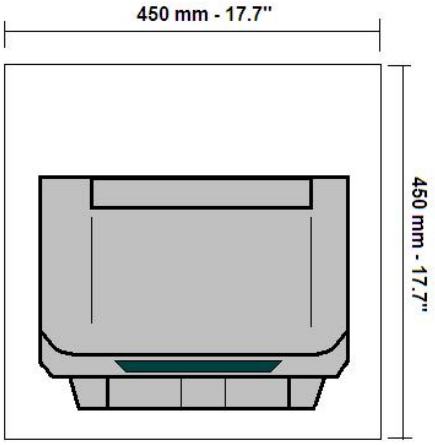
Inside View

Printer Installation

Choosing a Suitable Location

Consider the following points when you choose the location for your printer:
The distance between the printer and the host computer must not exceed the length of the interface cable;
The location must be sturdy, horizontal and stable;
Your printer must not be exposed to direct sunlight, extreme heat, cold, dust or humidity;

When printing on standard paper formats, the paper comes out partially on the rear side of the printer. Make sure that behind the printer there is sufficient clearance to correctly move the paper.



Installing the Power Cable

1. Find the power cable connector and the rating plate on the rear side of the printer.

Always use a grounded outlet

2. Insert the power cable into the connector on the printer and the other end into a convenient mains outlet.

3. Press the ⏻ key on the right side of the printer front to power the printer on.

Installing the Ribbon Cartridge

**In order to avoid damaging the print head or mechanical gearings, this printer accepts only original Compuprint ribbon cartridges.
Therefore, if you install a not original cartridge, the printer may not work.**

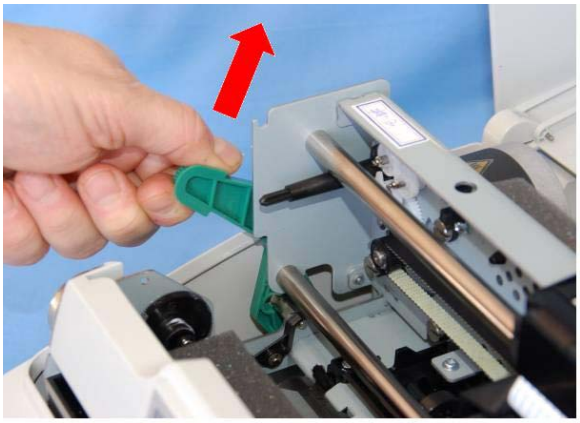
1. Remove the cartridge from its bag.

2. Unhook the green ribbon mask from the cartridge pins.

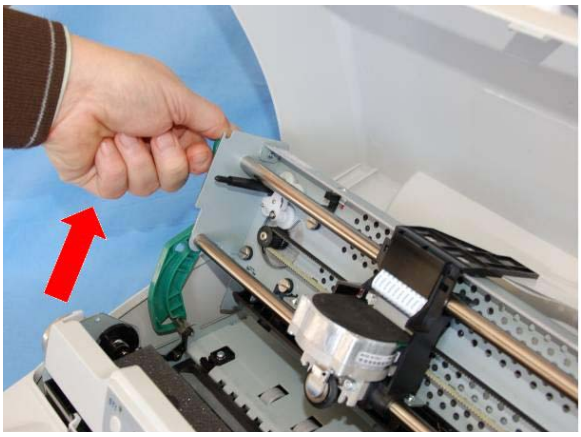
3. Open the printer cover.
   The print head will automatically move in the middle of the printer.

4. Open the upper mechanical frame. Locate the open green lever in the left side of the printer.

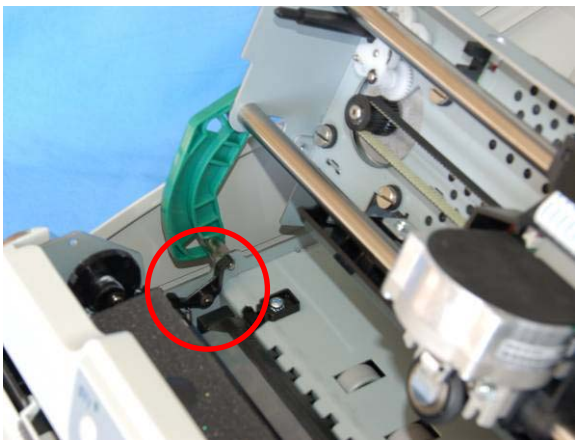
5. Unhook the green lever with the left hand towards the rear of the printer in the open position.



6. Then rise up the lever to its maximum position in order to completely open the head assembly.



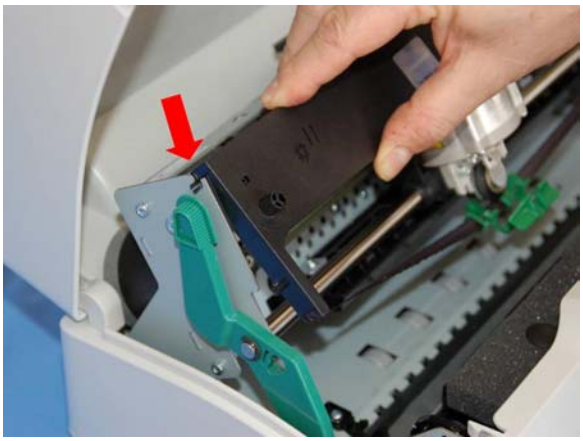
7. Check for the “click” which means the correct open lever position, showed in the inset picture.



8. The printer is now ready to install the ribbon cartridge.

9. Turn the tension knob in the direction of the arrow to tighten the ribbon.

10. Insert the upper cartridge pins onto the corresponding grooves on both sides of the upper mechanical frame.

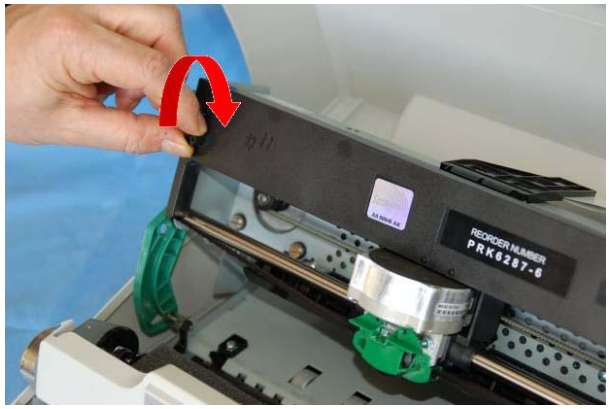


11. Then push the lower cartridge pins into the corresponding lower grooves on both sides of the upper mechanical frame until it clicks into place.

12. Insert the green plastic ribbon mask onto the print head. Pay attention to match the two pins (2) on both sides of the green ribbon mask with the grooves (1) on both sides of the print head.

13. Push the green ribbon mask up until it clicks into place.

14. Turn the tension knob in the direction of the arrow to tighten the ribbon



15. Carefully pull down the green lever following the step 3, 4, and 5 in reverse order in order to securely close the Upper Mechanical Frame.

    If you do not LOCK the Upper Mechanical Frame, the printer does not print correctly.

16. Close the printer cover.

Remark

The printer detects the Ribbon Genuine type and the amount of printed characters and stops in error if appearing.

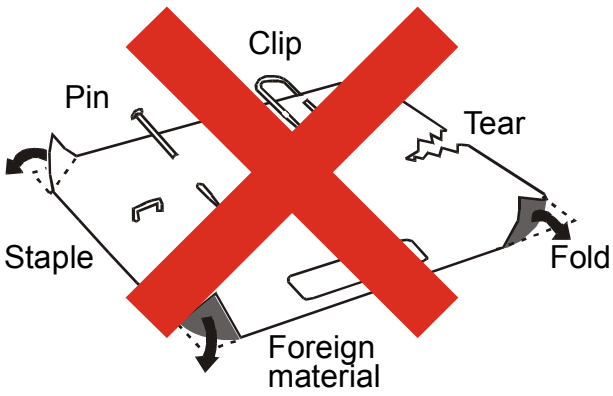
See "Error Message" later in this manual.

Paper Handling

This printer is designed for versatile and reliable paper handling. The flat-bed mechanism allows the *handling of special documents*, such as multiple invoices, postcards, labels, passbooks and tickets.
The print head detects the *paper edges* automatically, the sheet can therefore be inserted in any position within the detection area according to the rules described in the following paragraph.
The *paper alignment sensors* determine the alignment of the upper paper margin, adjusting it if necessary.

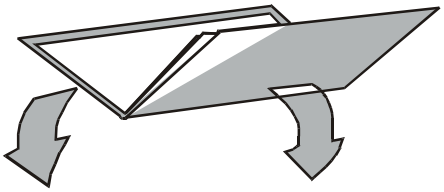
Loading Paper

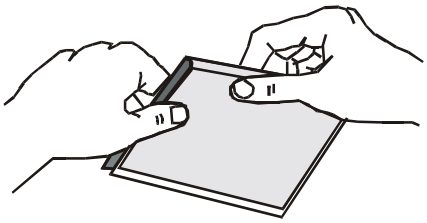
The inserted documents must not have folds, tears, pins, clips, staples or any foreign material.



If you insert damaged documents or paper with foreign material, you can seriously damage the printer.

Before inserting a passbook into the printer, open it and crease it in both directions along the binding stitch, so that the passbook lays flat on the paper stand when it is inserted into the printer.

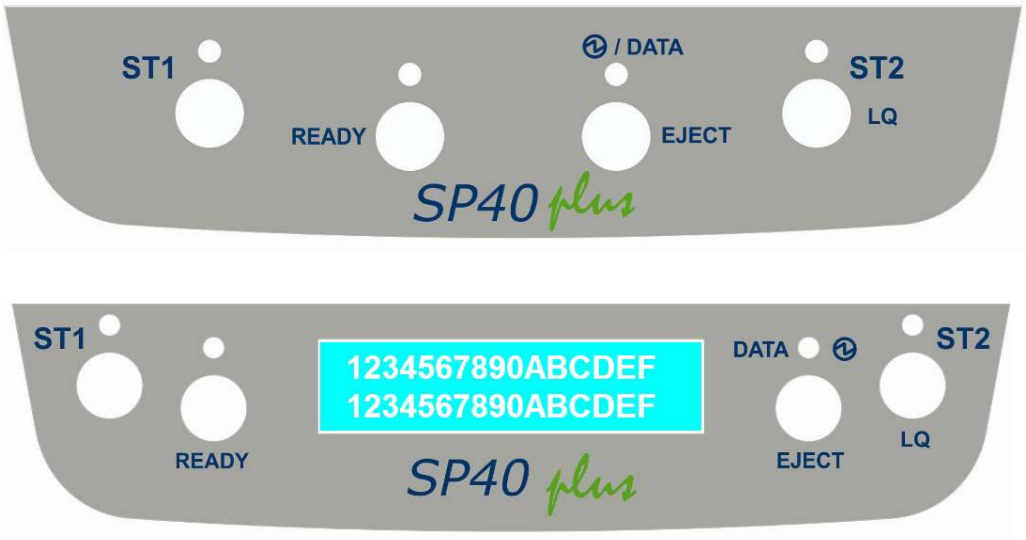




The document may not exceed the limits of the paper stand.

The Operator Panel

The operator panel is located in the middle of the printer cover and is composed of function keys and leds with which you can easily check the printer status and select the functions. Optionally it can be equipped with a wide LCD 2x16 characters display.



Function Keys

KEY	NORMAL MODE	SETUP MODE	SPECIAL MODE
ST1	When using the IBM 4722, IBM 9068 and the Olivetti protocols in two operators (“booking”) mode, the application software determines the function of this key.	When the Printer is in the Printer Setup mode, pressing this key the operator selects the Configuration Page to be printed. See “Printer Setup” later in this manual.	When pressed while powering the printer on with READY key selects the T&D mode (diagnostic). When pressed while powering the printer on with cover open enters in formware upgrading procedure.
READY	Toggles the printer between Ready (on-line) and Local (off-line) status.	If pressed in the Printer Setup mode, the printer prints the Self Test Page. See “Printer Setup” later in this manual.	When pressed while powering the printer on, selects the Printer Setup Mode. When pressed while powering the printer on with READY key select the T&D mode (diagnostic).
EJECT	Pressing this key, when the printer is offline, or when the printer is online and no print data are in the buffer, the printer ejects the paper, if inserted (EJECT function). In the Olivetti protocols, the EJECT function may be performed only if the printer is offline.		
ST2 LQ	When using the IBM 4722, IBM 9068 and the Olivetti protocols in two operators (“booking”) mode, the application software determines the function of this key. When the printer is offline or when the printer is online and no print data are in the buffer, pressing this key, the printer toggles between Letter Quality and Draft printing mode (no Olivetti)	When the Printer is in the Printer Setup mode, pressing this key the Setup Page selected with the ST1 key will be printed. See “Printer Setup” later in this manual.	When pressed while powering the printer on, selects the HEX_DUMP mode. See “Hexdump Mode” later in this manual.

Leds

LED	NORMAL MODE	SETUP MODE	SPECIAL MODE
	Lit if paper presence, Unlit without paper (no Olivetti). When using the IBM 4722, IBM 9068 and the Olivetti protocols in two operators ("booking") mode, the ST1 led is under software control.	If the printer is in Setup Mode, this led indicates which setup page is selected for printing. See "Printer Setup" later in this manual.	Blinks, together with the ST2 led, if a printer error occurs. See "Error Message" later in this manual.
	Lit, when the printer is ready (on line). Unlit, when the printer is in local (off line).	If the printer is in Setup Mode, this led indicates which setup page is selected for printing. See "Printer Setup" later in this manual.	
	On, if the printer is powered on without data. Off, if the printer is powered off. Blinks if the printer has data traffic or data in the buffer.	Blinks if the printer is in Setup Mode. See "Printer Setup" later in this manual.	
	Lit when the Letter Quality print mode is selected. Unlit when the Draft printmode is selected. When using the IBM 4722, IBM 9068 and the Olivetti protocols in two operators ("booking") mode, the S2 led is under software control.	If the printer is in Setup Mode, this led indicates which setup page is selected for printing. See "Printer Setup" later in this manual.	Blinks, together with the ST1 led, if a printer error occurs. See "Error Message" later in this manual.

LCD display messages (only for the model with it)

Upper line message Lower line message	Indication
STARTING UP	The printer initialization phase is starting-up.
..INIT..	The printer initialization phase is ended
SP40plus Rel. xxx	The printer firmware release message
PRINTER READY **PROG1 DRAFT**	The printer is in normal ready status showing the current Program and the current Font.
PRINTER READY **HEX-DUMP MODE**	The printer is in normal ready status in hex dump mode.
PRINTER OFF-LINE **PUSH ON LINE**	The printer is in off-line status.
PAUSE ON PRINT **PUSH ON LINE**	The printer is going in off-line status while data are in the buffer and ready to be printed.
WAITING MEDIA **INSERT MEDIA**	Data are sent to the printer, the printer is waiting for the insertion of the paper.
PRINTER BUSY **EPSON PARALLEL**	The printer is currently printing showing the used Emulation and interface
SET UP	The printer is in Set Up status and is waiting for a blank sheet to be loaded See "Printer Setup" later in this manual.
SETUP PAG=CONF **ST1=PAG ST2=PRT**	The printer is waiting for a Set Up operation selection. See "Printer Setup" later in this manual.
NVM CHANGED	The firmware of the printer has been updated and the NVM values have been resored to the default parameters.

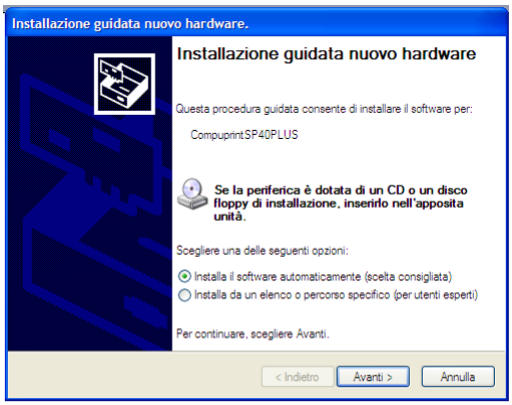
Software Driver Installation

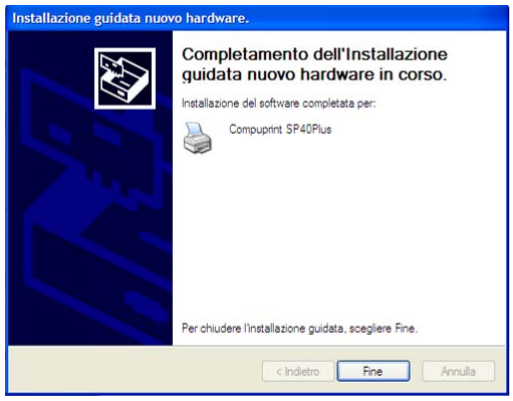
At this point it is necessary to configure your printer for your application package.

The installation procedures depend upon the host environment.

The printer is plug-in-play, therefore when it is connected to a computer under Windows O.S., it automatically discovers the new hardware and it looks in the systems the proper drivers.

For this purpose, together with the printer you receive a CD-ROM containing the printer drivers for the Windows environment. This printer supports the Plug&Play facility in the 2000 / XP / Vista (32 or 64 bits) / Win 7 (32 or 64 bits).
If you want to install the printer in the Windows environment, insert the CD-ROM and follow the given instructions.





The printer drivers of all Compuprint printers can be found on the Company Web Site http://www.compuprint.com

Connection to the Host

This printer can be connected to the host by means of the following available interface ports:

1. Parallel standard Centronics or bi-directional IEEE 1284 type interface
2. Serial RS-232/C interface
3. USB 2.0 full speed interface
4. Other optionally available ports (10/100T Wired LAN, USB 2.0 high speed, dual serial RS232/C)

Proceed as follows:
Make sure that both the host and the printer are turned off.
Identify the connector for the interface you want to plug and firmly insert the cable into it.
Fix the cable by means of the corresponding hooks or screws. on either side of the connector.

Parallel Interface Connection

Serial Interface Connection

USB Interface Connection

Setting the Interface Parameters

Parallel Interface

The parameters set for the parallel interface mainly match of the most common environments and the printer can be used immediately after connection to the host.
In case you need to modify the standard parameters see "Printer Setup" later in this section.

Serial Interface

Because of the great variety of the possible connection configurations, when you use the serial interface you will need to set the parameters accordingly.
To assure a correct functioning of the printer connected through the serial interface, the transmission parameters set for the printer must match the values set for the host.
In case you need to modify the standard parameters see "Printer Setup" later in this section.

USB Interface

Once the Compuprint SP40Plus driver has been correctly installed, printer can be immediately used with USB port.

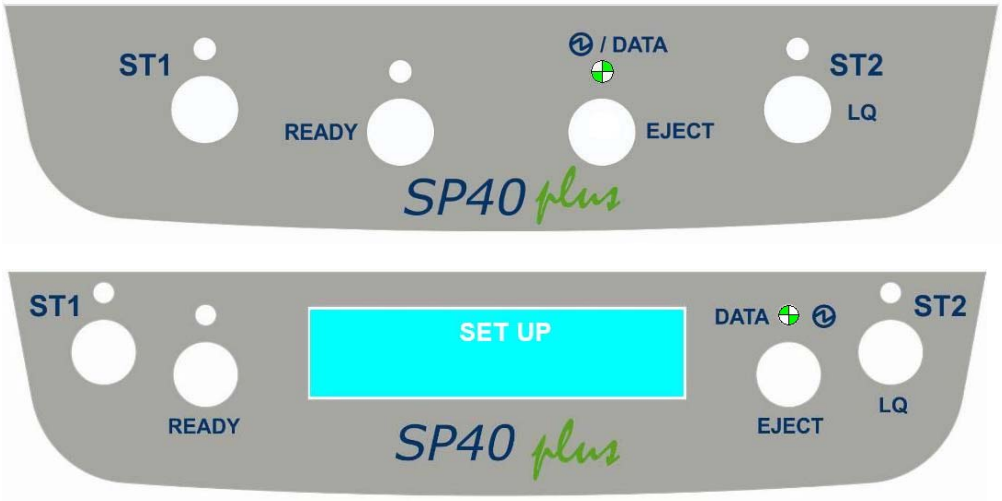
For a complete description of the printer setup procedure see the paragraph "Printer Setup" later in this manual.

Printer Setup

The Printer Setup is used to configure the printer parameters and to print a Self Test page, to check the settings and the printer installation, and to perform the Print Offset Tuning.
The default configuration of this printer matches most of the commonly used environments, but it may be necessary to change some printer parameters.
With this printer you print the forms for the setup, you fill them in, and then you insert them back into the printer for reading.
Once the printer reads the form, the new values are set.
The following is the complete description of the Setup Procedure.

Entering the Printer Setup Mode

To enter the Printer Setup Mode press and hold the READY key pressed for at least 1 second while powering the printer on. The printer enters the Setup Mode.
The leds ST1, ST2 and READY are unlit, the DATA led is flashing.



You can now:

Print the Self Test. See "Printing the Self Test" later in this manual.

Print one of the Printer Setup Forms (Configuration Menu or Program1 – Program2 – Program 3 - Program4 Menu) or the Offset Tuning Form. See "Printing the Printer Setup Forms" later in this manual.

Insert a filled-in Printer Setup Form to set the corresponding Setup values.

Printing the Test Page

The Self Test page is useful to test, if the printer has been correctly installed, and allows to see the current parameter settings.

1. With the printer in the Setup Mode, insert a single sheet in A4 or Letter format.
2. The printer loads the sheet and stops.
3. Press the READY key again.

The printer prints the Self-Test page. Check that the printout is correct. The following printout example shows the Printer Setup default values.
Once the self-test is finished, the printer remains in Setup Mode.

SELF TEST

SP40 PLUS : Code Version xa.06 FMW0xa06 CharGen : 78411902 ver.4.07

CONFIGURATION SETUP

PROGRAM	on interface	BUFFER CONTROL	DTR+SRTS
ERROR BUZZER	enabled	ROBUST XON	enabled
JOB BUZZER	no beep	WORD LENGTH	8 bit
COPIES	yes	BAUD RATE	9600 bps
LOW NOISE	no	PARITY BIT	none
SAFE BOTTOM EDGE	yes	STOP BIT	1
GET EDGE QUOTE	1/4"	USB MODE	2.0
PASSBOOK TYPE	sw control		
	fixed thick		
INTERFACE TYPE	automatic		
IBM FINANCIAL	no		
INPUT BUFFER	8 Kb		
AUTOFEED SIGNAL	disabled		
SLCT-IN SIGNAL	disabled		
IGNORE PE	enabled		
RIBBON LIFE	4109 chars	PRINT HEAD LIFE	4109 chars

PROGRAM SETUP

	PROGRAM 1	PROGRAM 2	PROGRAM 3	PROGRAM 4
PROTOCOL	EPSON 570	OLI. PR2	IBM X24E	OLI. PR2
FONT	Draft	Draft	Draft	Draft
QUALITY MODE	lq	lq	lq	lq
DRAFT MODE	draft	draft	draft	draft
DOWNLINE LOADING	enabled	enabled	enabled	enabled
HORIZONTAL PITCH	10 cpi	10 cpi	10 cpi	10 cpi
VERTICAL PITCH	6 lpi	6 lpi	6 lpi	6 lpi
LOCK	no lock	no lock	no lock	no lock
FORM LENGTH	A4	A4	A4	A4
	70	70	70	70
LEFT MARGIN	0	0	0	0
RIGHT MARGIN	93	93	93	93
TOP MARGIN	0	0	0	0
BOTTOM MARGIN	0	0	0	0
IBM C-SET	IBM set 1	IBM set 1	IBM set 1	IBM set 1
IBM COMPRESS	17.1 cpi	17.1 cpi	17.1 cpi	17.1 cpi
EPSON C-SET	graphic	graphic	graphic	graphic
NATION C-SET	USA	USA	USA	USA
CODE PAGE	CP437	CP437	CP437	CP437
OLIVETTI C-SET	INTERN.	INTERN.	INTERN.	INTERN.
OLIVETTI COMPRES	17.1 cpi	17.1 cpi	17.1 cpi	17.1 cpi
VERT. RESOLUTION	1/240 inch	1/240 inch	1/240 inch	1/240 inch
PRINT DIRECTION	sw control	sw control	sw control	sw control
LINE MODE	LF=LF,CR=CR	LF=LF,CR=CR	LF=LF,CR=CR	LF=LF,CR=CR
WRAP MODE	autowrap	autowrap	autowrap	autowrap
REFERENCE EDGE	left	left	left	left
SLASHED ZERO	no	no	no	no
EJECT ON FF	yes	yes	yes	yes
RESET WITH EJECT	yes	yes	yes	yes
CUT SHEET EJECT	on front	on front	on front	on front
VERT.POS 1/10"	0	0	0	0
VERT.ADJ 1/60"	0	0	0	0
HORIZ.POS 1/10"	0	0	0	0
HORIZ.ADJ 1/60"	0	0	0	0

Printing the Printer Setup Forms

If you already have the preprinted forms for the printer setup, go to "Filling in the Printer Setup Forms" later in this manual.

1. With the printer in Setup Mode, insert a blank sheet in A4 or Letter format.
2. The printer loads the sheet and stops.
3. If you press the ST1 key, the three leds change and you can select the Setup Page you want to print as follows:

○ = unlit ● = lit ◐ = flashing

ST1	READY	/ DATA	ST2	SETUP STATUS
○	○	◐	○	Configuration Page
●	○	◐	○	Program 1 – Setup Page
○	○	◐	●	Program 2 – Setup Page
●	○	◐	●	Program 3 – Setup Page
○	●	◐	○	Program 4 – Setup Page
●	●	◐	○	Offset Tuning Set Up Page

Pressing the ST2 key, the printer prints the selected Setup Page, showed in next pages.
Only the Program 1 Setup Page printout is reported because the other are exactly the same except for the marker.
The printer setup forms contain all printer parameters and the values that can be set. The current value is indicated by an asterisk (*).

For a detailed description of the parameters and the settings see "Setup Parameters" later in this manual.

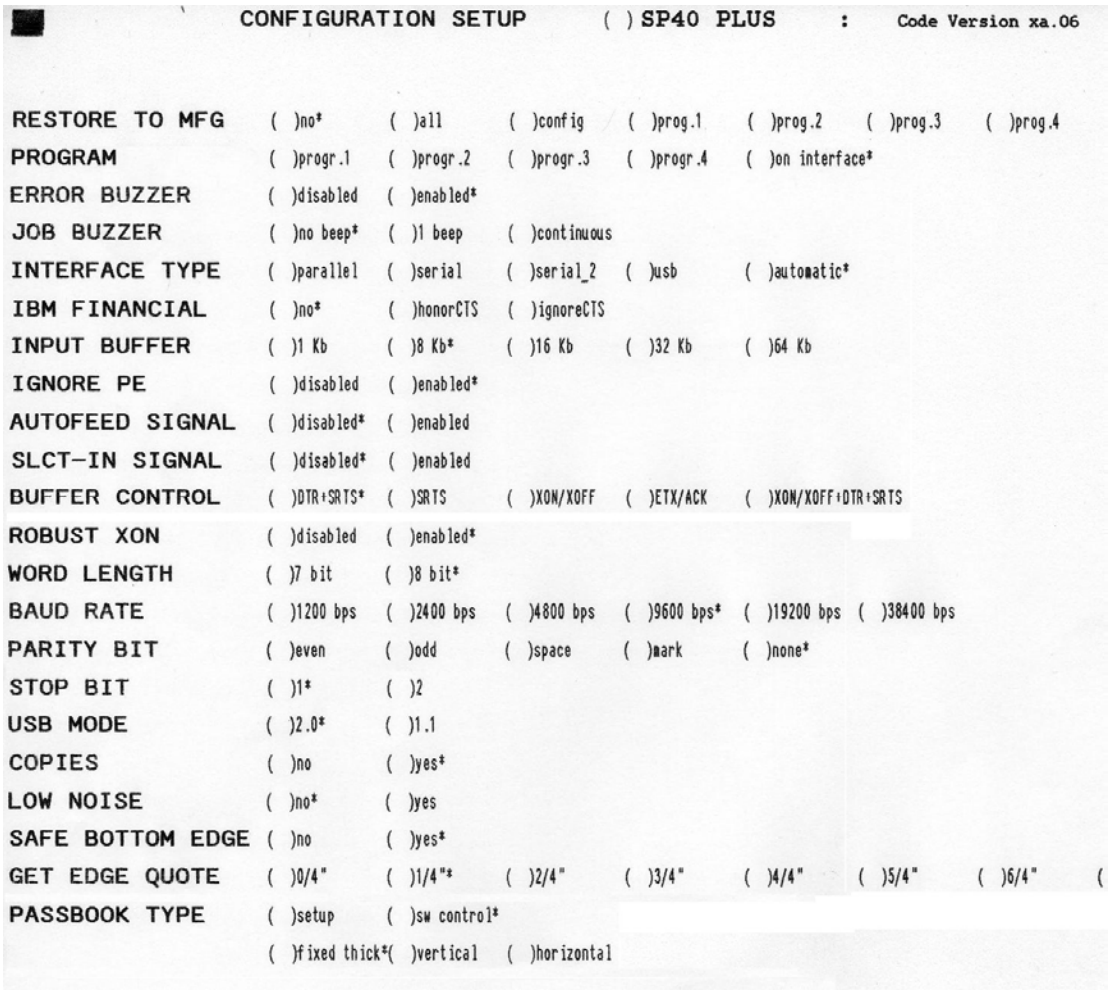
Each Setup form is identified by a marker in the upper left corner of the page as follows:

■	Configuration Setup	( ) SP40plus
■■	Program 1	( ) SP40plus
■■	Program 2	( ) SP40plus
■■	Program 3	( ) SP40plus
■■■	Program 4	( ) SP40plus
■■■■	Offset Tuning Setup	( ) SP40plus

In this line an empty marker ( ) is printed within the printer model and the Code Version to be used for the white calibration check.

Remark: do not fill this empty marker

For the printer with operator panel with LCD, the SETUP operation are directly displayed on the LCD jointly with the above described leds combination.



CONFIGURATION SETUP ( ) SP40 PLUS : Code Version xa.06

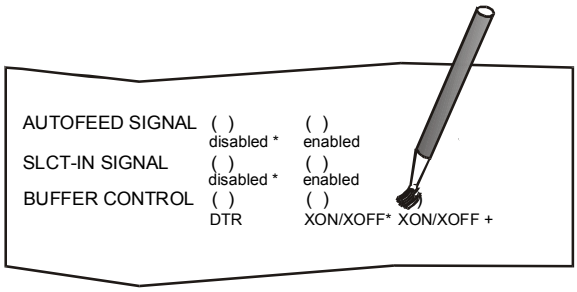
RESTORE TO MFG	( )no*	( )all	( )config	( )prog.1	( )prog.2	( )prog.3	( )prog.4
PROGRAM	( )progr.1	( )progr.2	( )progr.3	( )progr.4	( )on interface*		
ERROR BUZZER	( )disabled	( )enabled*					
JOB BUZZER	( )no beep*	( )1 beep	( )continuous				
INTERFACE TYPE	( )parallel	( )serial	( )serial_2	( )usb	( )automatic*		
IBM FINANCIAL	( )no*	( )honorCTS	( )ignoreCTS				
INPUT BUFFER	( )1 Kb	( )8 Kb*	( )16 Kb	( )32 Kb	( )64 Kb		
IGNORE PE	( )disabled	( )enabled*					
AUTOFEED SIGNAL	( )disabled*	( )enabled					
SLCT-IN SIGNAL	( )disabled*	( )enabled					
BUFFER CONTROL	( )DTR+SRTS*	( )SRTS	( )XON/XOFF	( )ETX/ACK	( )XON/XOFF+DTR+SRTS		
ROBUST XON	( )disabled	( )enabled*					
WORD LENGTH	( )7 bit	( )8 bit*					
BAUD RATE	( )1200 bps	( )2400 bps	( )4800 bps	( )9600 bps*	( )19200 bps	( )38400 bps	
PARITY BIT	( )even	( )odd	( )space	( )mark	( )none*		
STOP BIT	( )1*	( )2					
USB MODE	( )2.0*	( )1.1					
COPIES	( )no	( )yes*					
LOW NOISE	( )no*	( )yes					
SAFE BOTTOM EDGE	( )no	( )yes*					
GET EDGE QUOTE	( )0/4"	( )1/4"*	( )2/4"	( )3/4"	( )4/4"	( )5/4"	( )6/4" (
PASSBOOK TYPE	( )setup	( )sw control*					
	( )fixed thick*	( )vertical	( )horizontal				

PROGRAM 1 ( ) SP40 PLUS : Code Version xa.06

PROTOCOL	( )EPSON 570* ( )IBM X24E ( )X24E AGM ( )IBM 2390 ( )OLI. PR40+ ( )OLI. PR2 ( )OLI. PR2845 ( )IBM 4722 ( )IBM 9068 ( )HPR 4915
FONT	( )Draft* ( )Courier ( )OCR-B ( )Gothic ( )Prestige ( )Present ( )OCR-A ( )Script ( )Boldface
QUALITY MODE	( )lq* ( )nlq
DRAFT MODE	( )draft* ( )hsd ( )vhsd
DOWNLINE LOADING	( )disabled ( )enabled*
HORIZONTAL PITCH	( )10 cpi* ( )12 cpi ( )15 cpi ( )16.6 cpi ( )17.1 cpi ( )20 cpi
VERTICAL PITCH	( )5 lpi ( )6 lpi* ( )8 lpi
LOCK	( )no lock* ( )font ( )hor.pitch ( )font + hor.pitch
FORM LENGTH	( )#lines ( )A4* ( )letter ( )A5 ( )legal
	100 x ( )0 ( )1 ( )2
	10 x ( )0 ( )1 ( )2 ( )3 ( )4 ( )5 ( )6 ( )7 ( )8 ( )9 Minimum = 1
	1 x ( )0 ( )1 ( )2 ( )3 ( )4 ( )5 ( )6 ( )7 ( )8 ( )9 Maximum = 255 Current = 70
LEFT MARGIN	10 x ( )0 ( )1 ( )2 ( )3 ( )4 ( )5 ( )6 ( )7 ( )8 ( )9 Minimum = 0
	1 x ( )0 ( )1 ( )2 ( )3 ( )4 ( )5 ( )6 ( )7 ( )8 ( )9 Maximum = 90 Current = 0
RIGHT MARGIN	100 x ( )0 ( )1
	10 x ( )0 ( )1 ( )2 ( )3 ( )4 ( )5 ( )6 ( )7 ( )8 ( )9 Minimum = 0
	1 x ( )0 ( )1 ( )2 ( )3 ( )4 ( )5 ( )6 ( )7 ( )8 ( )9 Maximum = 190 Current = 93
TOP MARGIN	10 x ( )0 ( )1 ( )2 ( )3 ( )4 ( )5 ( )6 ( )7 ( )8 ( )9 Minimum = 0
	1 x ( )0 ( )1 ( )2 ( )3 ( )4 ( )5 ( )6 ( )7 ( )8 ( )9 Maximum = 90 Current = 0
BOTTOM MARGIN	10 x ( )0 ( )1 ( )2 ( )3 ( )4 ( )5 ( )6 ( )7 ( )8 ( )9 Minimum = 0
	1 x ( )0 ( )1 ( )2 ( )3 ( )4 ( )5 ( )6 ( )7 ( )8 ( )9 Maximum = 90 Current = 0
IBM C-SET	( )IBM set 1* ( )IBM set 2
IBM COMPRESS	( )17.1 cpi* ( )20 cpi
EPSON C-SET	( )italic ( )graphic*
NATION C-SET	( )USA* ( )FRANCE ( )GERMANY ( )ENGLAND ( )DENMARK1 ( )SWEDEN ( )ITALY ( )SPAIN1 ( )JAPAN ( )NORWAY ( )DENMARK2 ( )SPAIN2 ( )LATIN A1
CODE PAGE	( )CP437* ( )CP437G ( )96GREEK ( )CP850 ( )CP851 ( )CP852 ( )CP853 ( )CP855 ( )CP857 ( )CP858 ( )CP860 ( )CP862 ( )CP863 ( )CP864 ( )CP865 ( )CP866 ( )CP867 ( )CP876 ( )CP877 ( )CP1098 ( )CP1250 ( )CP1251 ( )CP1252 ( )CP1257 ( )GOST ( )TASS ( )MAZOWIA ( )CP437SL ( )UKRAIN ( )KOI8-U ( )8859/1 ( )8859/2 ( )8859/3 ( )8859/4 ( )8859/5 ( )8859/6 ( )8859/7 ( )8859/8 ( )8859/9 ( )8859/15 ( )ROMAN-8 ( )ID 12 ( )CP874 ( )ID 14 ( )ID 17 ( )SANYO ( )KU ( )PHILIP
OLIVETTI C-SET	( )CODE PAGE ( )INTERN.* ( )GERMANY ( )PORTUGAL ( )SPAIN 1 ( )DEN/NORW ( )FRANCE ( )ITALY ( )SWE/FIN ( )SWISS ( )G. BRITAIN ( )USA ASCII ( )GREECE ( )ISRAEL ( )SPAIN 2 ( )JUGOSLAVIA ( )TCV 370 ( )CANADA ( )SDC ( )TURKEY ( )ARABIC ( )CIBC ( )PC-DEN/NORW ( )PC-DEN OPE ( )PC-210 ( )PC-220 ( )OLI-UNIX
OLIVETTI COMPRES	( )17.1 cpi* ( )16.6 cpi
VERT. RESOLUTION	( )1/216 inch ( )1/240 inch*
CUT SHEET EJECT	( )on front* ( )on rear
PRINT DIRECTION	( )unidir. ( )bidir. ( )sw control*
LINE MODE	( )LF=LF,CR=CR* ( )CR=LF+CR ( )LF=LF+CR ( )LF&CR=LF+CR
WRAP MODE	( )truncate ( )autowrap*
REFERENCE EDGE	( )left* ( )right
SLASHED ZERO	( )no* ( )yes
EJECT ON FF	( )no ( )yes*
RESET WITH EJECT	( )no ( )yes*

Filling in the Printer Setup Forms

To change the values of the parameters, fill in the marker ( ) beside the value you want to set with a black or blue ball-point pen or a fiber-pen.
Do not use pencils.



If more than one value is set for a parameter, the printer ignores these parameters and maintains the currently set value.
Do not fill in the marker beside the title of the preprinted form, otherwise the printer will not be able to read that page.

For a detailed description of the parameters and values contained in the Configuration and Program1, Program2, Program3 and Program4 Menus, see "Setup Parameters" later in this manual.
For a detailed description of the Offset Tuning procedure, see "Offset Adjustment" later in this manual.

Setup Parameters

The following is a listing of the setup parameters.

- **Configuration Setup ( ) SP40 PLUS : Code Version xxxx**

Setup Parameter	*Values*	*Description*
RESTORE TO MFG	No* all config prog. 1, prog. 2 prog. 3, prog. 4	The selected values are not set to factory defaults. The values set in all printer setups are reset to factory defaults. The values set in the configuration setup are reset to factory default values
PROGRAM	prog. 1, prog. 2 prog. 3, prog. 4 on interface(*)	Defines the default Program Setup. Selecting prog.1, prog. 2, progr 3 or progr.4 the setup parameters set in the corresponding Program Setup are set. Selecting on interface the printer matches the Program 1 settings with the data arriving on the Centronics interface, the Program 2 settings with the data it receives from the serial interface, Program 3 settings with the data from USB interface and Program 4 setting for any other optional interface. When changing from one interface to the other, the default values are set for the corresponding Program Setup.
ERROR BUZZER	Disable, enable*	Enables or disables the buzzer in case of an error.
JOB BUZZER	no beep*, 1 beep, continuous	Selects the behavior of the buzzer when a new print job starts: no signal (no beep), one beep (1 beep) or a continuous signal (continuous).

Setup Parameter	*Values*	*Description*
INTERFACE TYPE	parallel, serial, opt, usb, automatic*	Selects the interface type. In case of printer with optional interface ports are installed, they are listed to be selected. Choosing 'automatic' the interface type is selected between all the available interface ports depending on data coming from host. Note: opt. can be dual serial, dual USB, LAN according to the currently installed optional interfaces
IBM FINANCIAL	No* honorCTS, ignoreCTS	Disables the Financial protocol if IBM 4722 or IBM 9068 emulation is selected Enables the IBM FINANCIAL for the IBM 4722 and 9068 protocols. Considers (handles) or ignores the CTS signal received from host for the control of the data stream from host
INPUT BUFFER	1 Kb, 8 Kb*, 16 Kb, 32 Kb, 64 Kb	Selects the buffer size. When the 'financial' interface is selected, this setting is ignored.
IGNORE PE	Enabled, disable*	Selects whether the printer signals the paper empty condition (disabled) or not (enabled) on the busy line.
AUTOFEED SIGNAL	Disable*, enabled	The parallel interface uses (enabled) or does not use (disabled) the AUTOFEED signal.
SLCT-IN SIGNAL	Disable*, enabled	The parallel interface uses (enabled) or does not use (disabled) the SELECT-IN signal.
BUFFER CONTROL	DTR+SRTS*, SRTS, XON/XOFF, ETX/ACK, XON/XOFF+DTR+SRTS	Selection of the buffer protocol. When the 'financial' interface is selected, this setting is ignored.
ROBUST XON	Enabled*, disabled	Perform the Robust XON (enabled) or not (disabled).
WORD LENGTH	7 bit, 8 bit*	Sets the number of the data bits. When the 'financial' interface is selected, this value is always set to 8 bits.
BAUD RATE	1200, 2400, 4800, 9600*, 19200, 38400 bps	Sets the data transfer rate.
PARITY BIT	even, odd, space, mark, none*	Selects the parity control for the data.
STOP BIT	1*,2	Selects the number of stop bit.
USB MODE	2.0*, 1.1	Select the USB specification level
COPIES	no, yes*	Selects the printing on normal paper (no) or on multicopy format paper (yes)
LOW NOISE	No*, yes	Disables/enables the low noise function
SAFE BOTTOM EDGE	no, yes*	Distance from the bottom of the last printer line . Yes = 5,8 mm from bottom edge no = 1,5 mm from bottom edge
GET EDGE QUOTE	0/4", 1/4"*, 2/4", 3/4", 4/4", 5/4", 6/4", 7/4	Sets the position in which the left paper edge is checked. If set to 0, the check is performed at the first line. The other values correspond to the physical distance from the first line.
PASSBOOK TYPE	Setup sw control* Fixed thick* Vertical Horizontal	Enables the setting made in the current PASSBOOK TYPE section and the specific Escape command is not actives. Enables the specific ESCape command. Printing a document with fixed thickness. Printing of passbooks with vertical binding . Printing of passbooks with horizontal binding

Setup Parameter	***Values***	***Description***
PROTOCOL	EPSON 570*, IBM X24E* X24E AGM, IBM 2390, OLI. PR40+, OLI. PR2*, OLI. PR2845, IBM 4722, IBM 9068, HPR 4915	Defines the printer protocol. NOTE: For the IBM 4722 and 9068 protocols, if the software driver uses the controlled link of the IBM financial driver, set the IBM FINANCIAL item in the Configuration Menu. The default value is EPSON 570 for Program1, IBM X24E for Program 3, OLI. Pr2 for Program 2 and 4.
FONT	Draft*, Courier, OCR-B, Gothic, Prestige, Present, OCR-A, Script, Boldface	Selects the font.
QUALITY MODE	LQ*, NLQ	Select the level of quality font.
DRAFT MODE	DRAFT*, HSD, VHSD	Select the level of draft font.
DOWNLINE LOADING	disabled, enabled*	Disable or enable the font downloading
HORIZONTAL PITCH	10 cpi*, 12 cpi, 15 cpi, 16.6 cpi, 17.1 cpi, 20 cpi	Selects the character spacing in characters per inch (cpi).
VERTICAL PITCH	5 lpi, 6 lpi*, 8 lpi	Selects the line spacing in lines per inch (lpi).
LOCK	no lock*, font, hor. pitch, font+hor.pitch	The following selections made in the printer setup may be locked: font, horizontal pitch (hor.pitch), or both the font and horizontal pitch (font+hor. pitch). The locked settings cannot be changed via software commands.
FORM LENGTH	# lines, A4*, letter, A5, legal	Sets the page length in number of lines or standard formats A4, Letter, A5 or Legal. If you select # lines, you must indicate the number of lines you want to set in the scheme below this selection. The values range between 0 and 255. To set the values combine the numbers considering that the first line corresponds to the hundreds, the second line to the tens and the third line to the units. See the example below.

Example:
How to set the form length to 82 lines:

FORM LENGTH

■ #lines		( )A4		( )Letter		( )A5		( )Legal		
100x	( )0	( )1	( )2							
10x	( )0	( )1	( )2	( )3	( )4	( )5	( )6	( )7	■ 8	( )9
1x	( )0	( )1	■ 2	( )3	( )4	( )5	( )6	( )7	( )8	( )9

Setup Parameter	*Values*	*Description*
LEFT MARGIN	10 x 1 x	Sets the left margin in number of columns. The values range between 0 and 90. To set the values combine the numbers considering that the first line corresponds to the tens, the second line to the units. See the example below.

Example:
How to set the Left Margin to 20.
LEFT MARGIN

10x ( )0 ( )1 ■2 ( )3 ( )4 ( )5 ( )6 ( )7 ( )8 ( )9

1x ■0 ( )1 ( ) ( )3 ( )4 ( )5 ( )6 ( )7 ( )8 ( )9

Setup Parameter	*Values*	*Description*
RIGHT MARGIN	100 x 10 x 1 x	Sets the right margin in number of columns. The values range between 0 and 190. The physical position of margin depends on the current character spacing. To set the values combine the numbers considering that the first line corresponds to the hundreds, the second line to the tens and the third line to the units. See the example below:

Example:
How to set the Right Margin to 101.
RIGHT MARGIN

100x ( )0 ■1

10x ■0 ( )1 ■2 ( )3 ( )4 ( )5 ( )6 ( )7 ( )8 ( )9

1x ( )0 ■1 ( ) ( )3 ( )4 ( )5 ( )6 ( )7 ( )8 ( )9

Setup Parameter	*Values*	*Description*
TOP MARGIN	10 x 1 x	Sets the top margin in number of lines. The values range between 0 and 90. To set the values combine the numbers considering that the first line corresponds to the tens, the second line to the units. See the example below.

Example:
How to set the Top Margin to 15.
TOP MARGIN

10x ( )0 ■1 ( )2 ( )3 ( )4 ( )5 ( )6 ( )7 ( )8 ( )9

1x ( )0 ( )1 ( ) ( )3 ( )4 ■5 ( )6 ( )7 ( )8 ( )9

Setup Parameter	*Values*	*Description*
BOTTOM MARGIN	10 x 1 x	Sets the bottom margin in number of lines. The values range between 0 and 90. To set the values combine the numbers considering that the first line corresponds to the tens, the second line to the units. See the example below.

Example:
How to set the bottom margin to 34 lines:
BOTTOM MARGIN

10x ( )0 ( )1 ( )2 ■3 ( )4 ( )5 ( )6 ( )7 ( )8 ( )9

1x ( )0 ( )1 ( ) ( )3 ■4 ( )5 ( )6 ( )7 ( )8 ( )9

Setup Parameter	*Values*	*Description*
IBM C-SET	IBM set 1*, IBM set 2	Selects the IBM character set.
IBM COMPRESS	17.1 cpi*, 20 cpi	Selects the pitch for the compressed mode printing in IBM emulation.
EPSON C-SET	Italic, graphic*	Selects italic or graphic Epson character set.
NATION C-SET	USA*, FRANCE, GERMANY, ENGLAND, DENMARK1, SWEDEN, ITALY, SPAIN1, JAPAN, NORWAY, DENMARK2, SPAIN2, LATIN A1	Selects the national character sets.

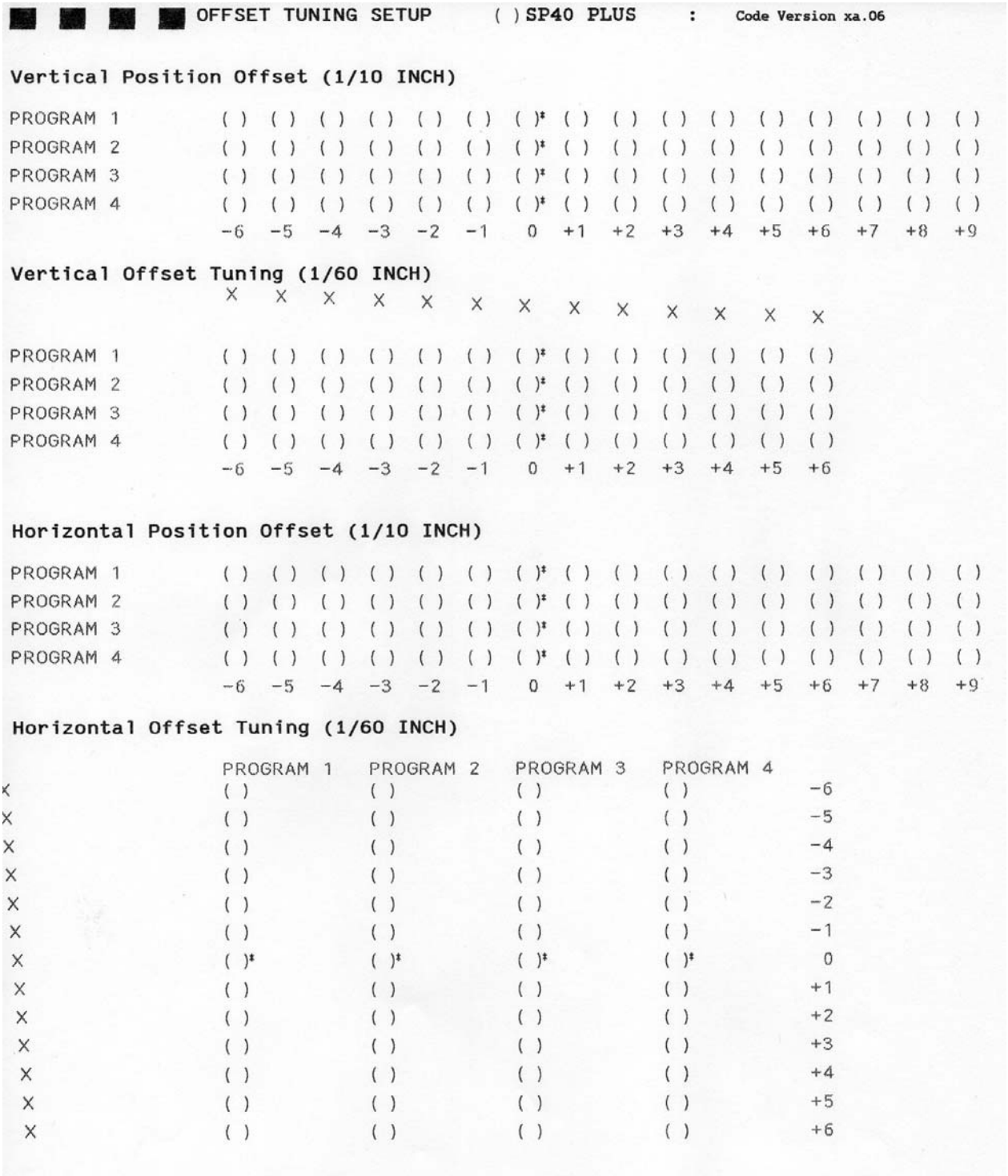
Setup Parameter	*Values*	*Description*
CODE PAGE	CP437*, CP437G, 96GREEK, CP850, CP851, CP852, CP853, CP855, CP857, CP858, CP860, CP862, CP863, CP864, CP865, CP866, CP867, CP876, CP877, CP1098, CP1250, CP1251, CP1252, CP1257, GOST, TASS, MAZOWIA, CP437SL, UKRAIN, KOI8-U, 8859/1, 8859/2, 8859/3, 8859/4, 8859/5, 8859/6, 8859/7, 8859/8, 8859/9, 8859/15, ROMAN-8, ID 12, CP874, ID 14, ID 17, SANYO, KU, PHILIP	Selects the code page for both the IBM and the EPSON emulations.
OLIVETTI C-SET	CODE PAGE, INTERN.*, GERMANY, PORTUGAL, SPAIN1, DEN/NORW, FRANCE, ITALY, SWE/FIN, SWISS, G. BRITAIN, USA ASCII, GREECE, ISRAEL, SPAIN 2, JUGOSLAVIA, TCV 370, CANADA, SDC, TURKEY, CIBC, PC-DEN/NORW, PC-DEN OPE, PC-210, PC-220, OLI-UNIX	Selects the character sets for the OLIVETTI protocol. Selecting CODE PAGE, it is possible to select one of the above Code Pages to be used with the OLIVETTI protocol.
OLIVETTI COMPRES	17.1 cpi*, 16.6 cpi	Selects the compressed pitch in OLIVETTI protocol.
VERT. RESOLUTION	1/216 inch, 1/240 inch*	Sets the vertical character resolution. Setting used for the OLIVETTI protocols.
CUT SHEET EJECT	on front*, on rear	Selects whether the cut sheet loaded into the printer is ejected towards the front or the rear of the printer.
PRINT DIRECTION	unidir., bidir., sw control*	Selects the printing direction of the print head: unidirectional (unidir.), bidirectional (bidir.) or selected via software (sw control).
LINE MODE	LF=LF, CR=CR* CR=LF+CR LF=LF+CR LF&CR=LF+CR	If the printer receives a LF code (LF), it only performs a line feed. If the printer receives a CR code (CR), it only performs a carriage return. If the printer receives a CR code (CR), it performs a carriage return followed by a line feed. If the printer receives a LF code (LF), it performs a line feed. If the printer receives a LF code (LF), it performs a line feed followed by a carriage return. If the printer receives a CR code (CR), it only performs a carriage return. If the printer receives a LF code (LF) or a CR code (CR), it performs both a line feed and a carriage return.
WRAP MODE	truncate, autowrap*	The data exceeding the line length are truncated (truncate) or printed on the following line (autowrap).
REFERENCE EDGE	Left*, right	Document reference on left or right, for software compatibility.

Setup Parameter	Values	Description
SLASHED ZERO	No*, yes	Selects the printing character for zero, with a slash (yes) or without (no).
EJECT ON FF	no, yes*	Performs a form feed according to the selected page format (no) or ejects a cut sheet loaded into the printer (yes).
RESET WITH EJECT	no, yes*	When the printer receives a reset command, if this item is set to yes the paper inserted in the printer is ejected. If the item is set to no the printer performs only the reset command.
CUT SHEET EJECT	On front*, on rear	Selects wheter the cut sheet loaded into the printer is ejected toward the front or the rear of the printer.

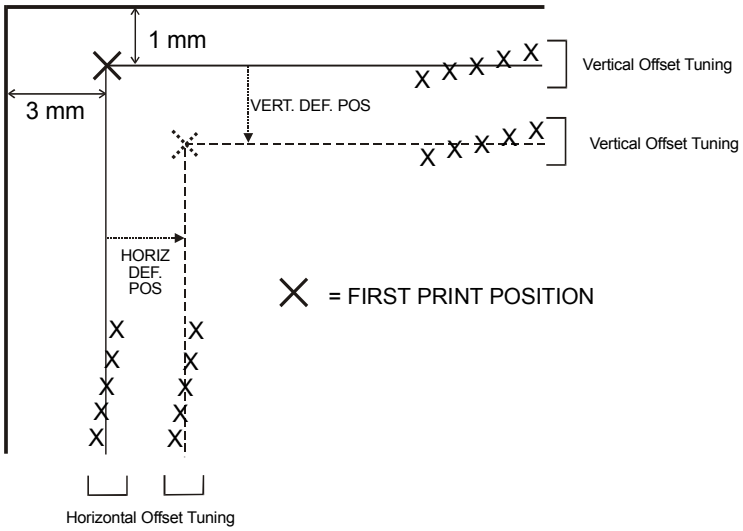
Offset Adjustments

For a precise adjustment of the position of the printed characters on a preprinted form, the printer allows to easily adjust the first line and the first printing column as follows:

1. When the printer is in Setup Mode, insert a blank sheet into the printer press the ST1 key until the leds are in the configuration showed in previous SETUP STATUS table.
2. Press ST2 key, the following sheet will be printed:
3. Fill in the marker corresponding to the value you want to set .



The Vertical Offset Tuning values correspond to 1/60 inches and set the vertical offset of the first print line starting from the default standard position at 1 mm from the upper paper margin.
The Horizontal Offset Tuning values correspond to 1/60 inches and set the horizontal offset of the first print line starting from the default standard position at 3 mm from the left paper margin.
If you need to change the default position of the first print line the vertical offset can be set in the Vertical Position Offset lines and/or the horizontal offset in the Vertical Position Offset lines.
Both these values correspond to 1/10 inch values.



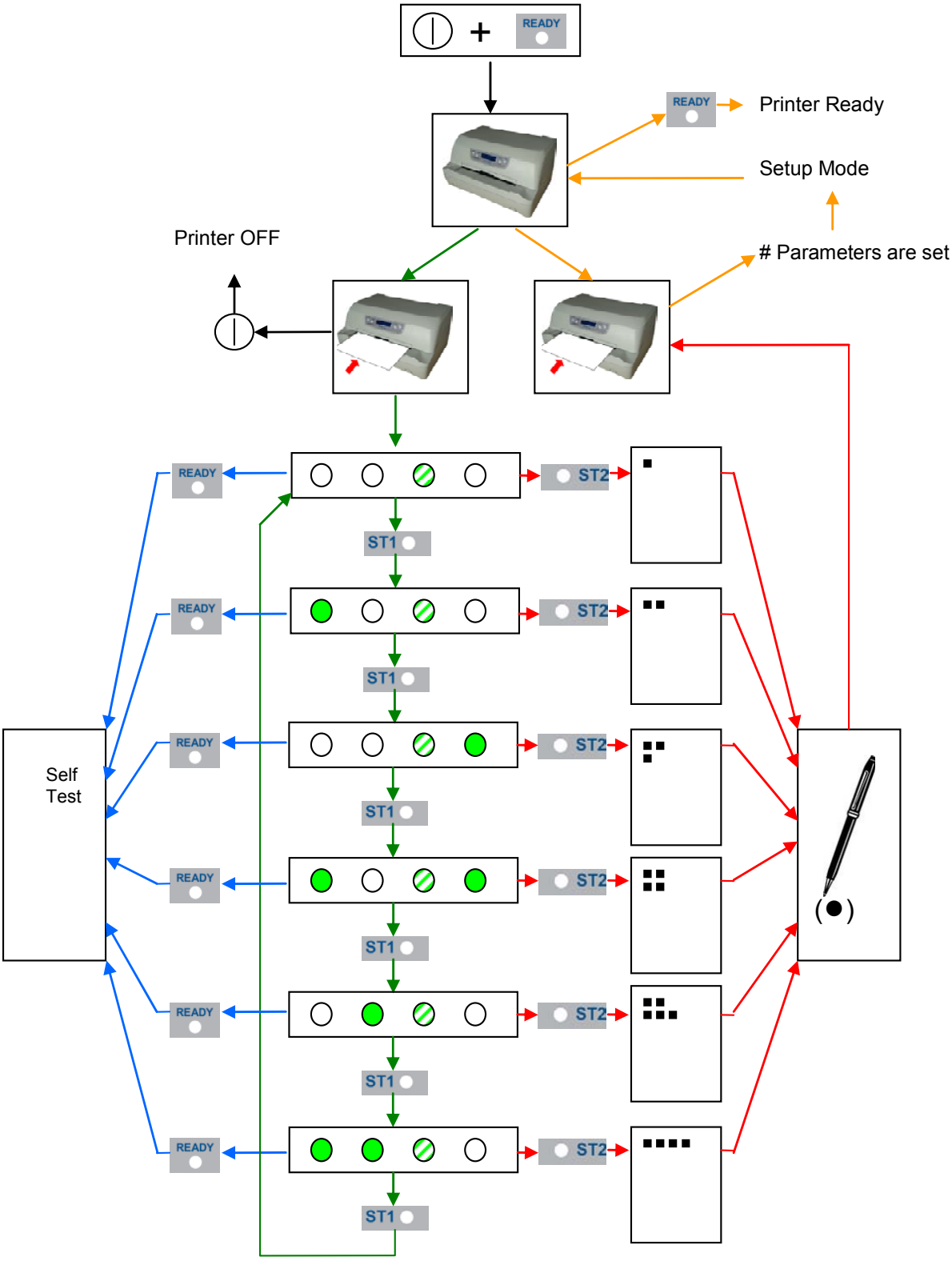
Reading the Preprinted Setup Forms

When the Printer Setup Forms have been filled in, insert them back into the printer, when the printer is in Setup Mode.
The printer is able to recognize the Setup Forms by means of the markers on these pages. The printer reads the values marked for the various parameters and configures the printer accordingly.
The settings are confirmed by a # symbol printed on the left of the corresponding marker.

The following page shows the printer setup flow-chart.
For further details concerning the parameters that can be set in the Configuration Setup, Program 1, Program 2, Program 3 and Program 2, see "Setup Parameters" before in this manual.

For further details on how to adjust the offset with this printer, see "Offset Adjustments" before in this manual.

Printer Setup Flow Chart



Printer Setup through USB and RS232/C Ports

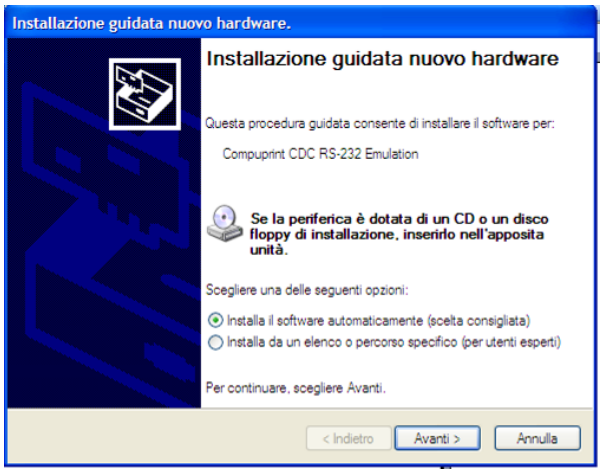
The printer Setup parameters can be changed through normal Setup as described in previous chapter or through USB or Serial 232/C port.

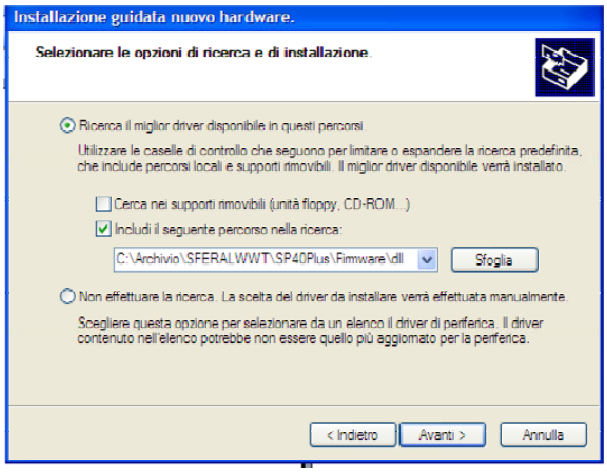
For this purpose is necessary install the ”**Compuprint CDC RS-232 Emulation**” driver creating a virtual serial port and the “**SP40plus Setup”** software, Windows based utility able to configures the printer through USB (directly) or RS232/C Serial connection (directly or via a serial/USB adapter).
This chapter described how to install the driver and the utility.
This utility can be used also for the Firmware downloading, but this features is not covered with this manual

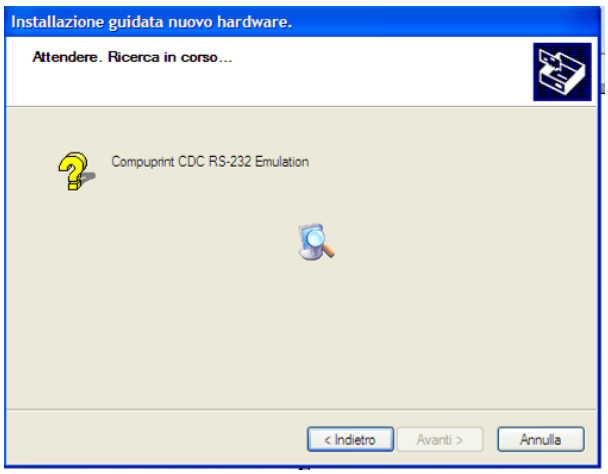
Compuprint CDC RS-232 Emulation Driver installation

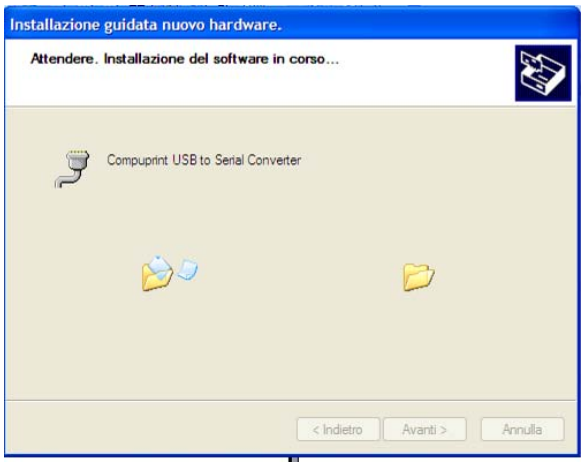
If the printer is connected through the USB interface and the Setup mode is running, the Windows gives a message for “founds a new hardware, Compuprint CDC RS-232 Emulation”.
Follow the steps displayed in the below masks in order to correctly install the driver.

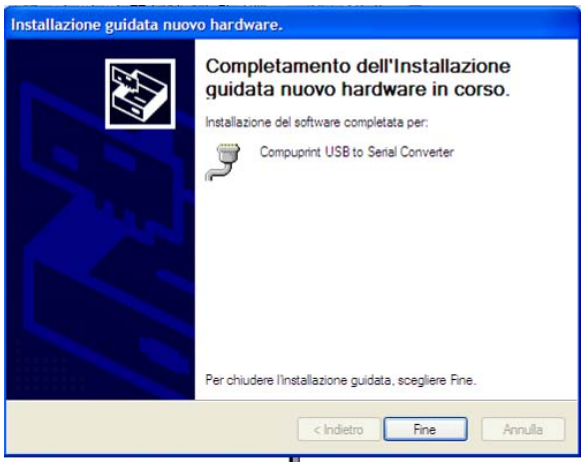
The information file for the driver is : Compuprint-CDC.inf



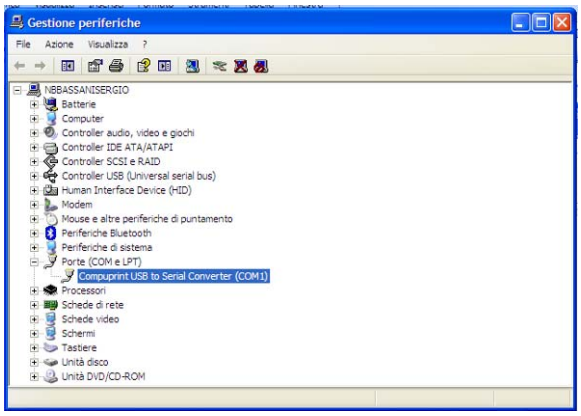






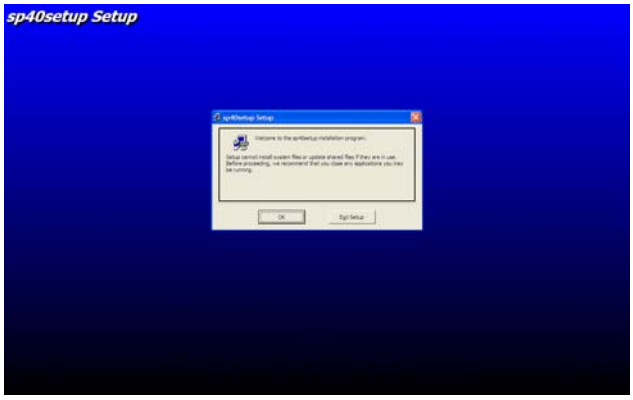


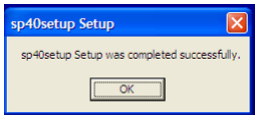
If the installation is positively ended, in the Windows hardware resources a new COMn port will be found.



SP40Setup utility installation

Once the Compuprint CDC RS-232 Emulation driver has been installed, found the Setup.exe file and double click on it.
Follow the steps displayed in the below masks in order to correctly install the utility.
The utility will ask where install the program and choose the program group.

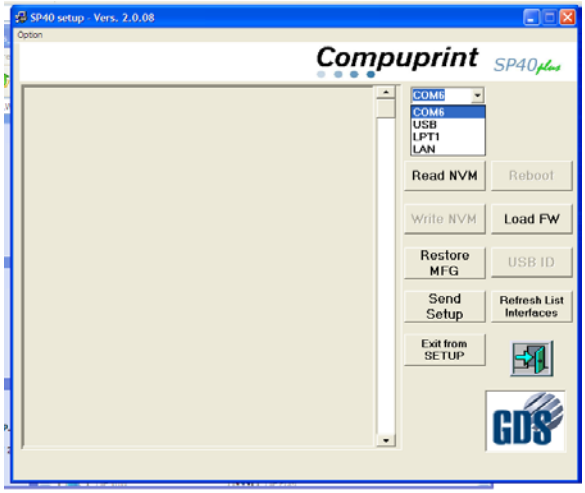




If the installation is positively ended, in the program pop-up window, the SP40Setup icon will appear.
Double click on it and the SP40Setup utility will be run.
See next chapter for details.

Remote Setup

When this utility is running, the following home mask will be displayed.



In the left top side, under Option, there is the choice of the SP40 and SP40plus Program Setup selection.

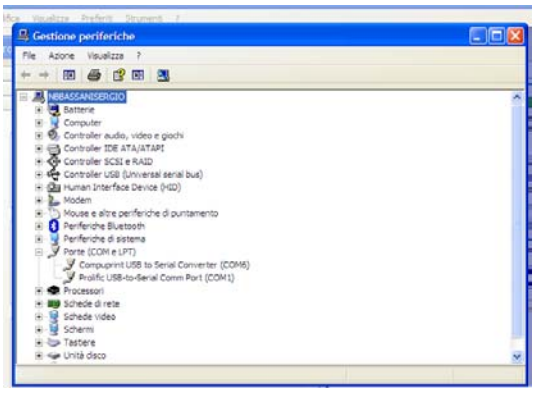
In the right to side there are the following selection window:

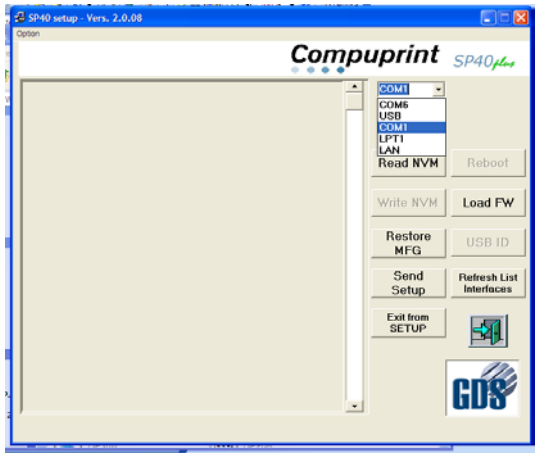
1) port selection choice COM*n* (*)

The following action keys:

2) NVM choices for Read, Write, Send Setup, Restore MFG and Exit from Setup for Setup Parameters
3) Refresh List Interfaces
4) Load FW
5) Other selection keys are currently disables (Reboot and USB ID).

Note (*)
The first available port number used by the Setup utility is taken from the system registry and can be different from the one displayed.
If another Serial-USB adapter is connected to the printer, it will be possible to see another COM port.
In the example below, a Serial-USB adapter is connected to the serial line of the printer; it has been seen by the host as COM1 port and this port will be displayed and selected in the Setup port selection.





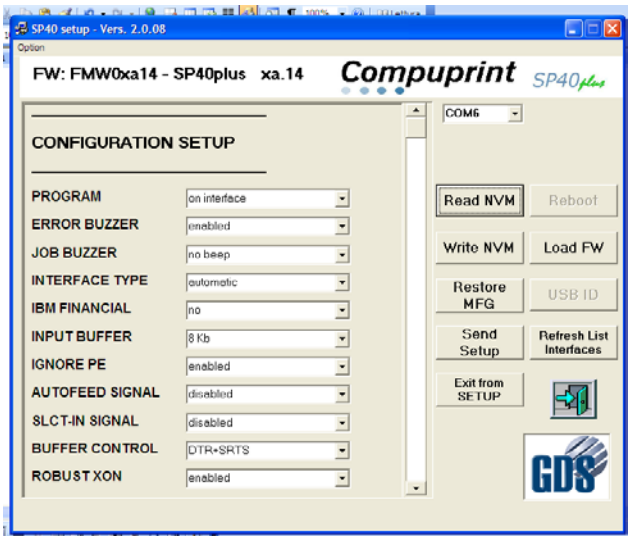
When the Read/Write/Restore MFG action will be run, the following message will be displayed by the operator panel LCD :

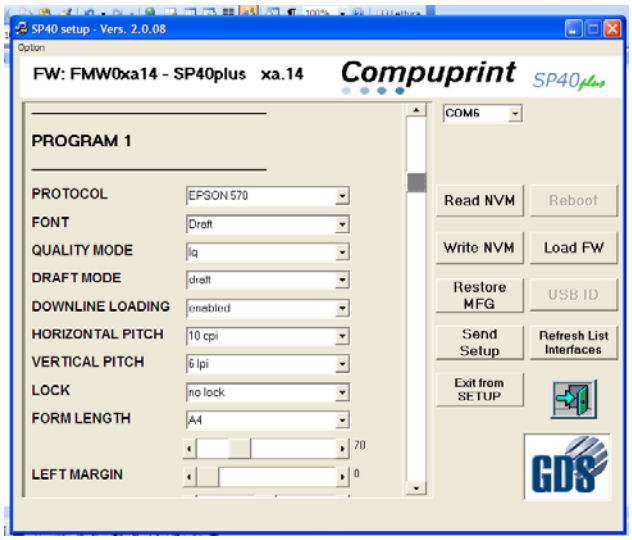
```
REMOTE      SETUP
FROM:         USB
```

```
REMOTE      SETUP
FROM:      SERIAL
```

Read NVM

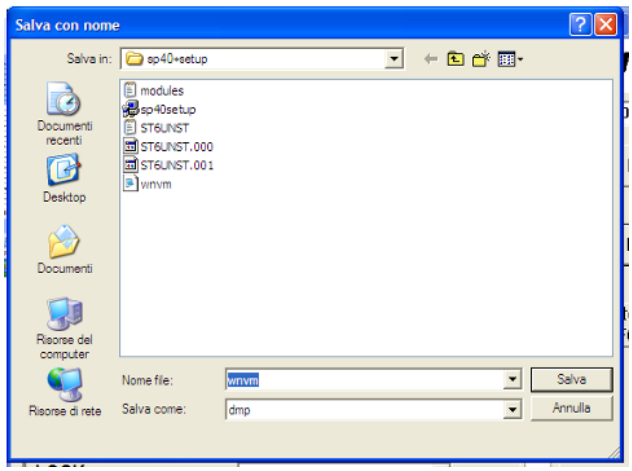
In the left part are displayed the current Setup parameters when the Read NVM selection are done.
The parametes are read from the selected port.
Through the vertical cursor it is possible to change each of them for all the Setup selection pages (Configuration, Program 1 to 4, Offset Tuning) and write using the selected port.





Write NVM

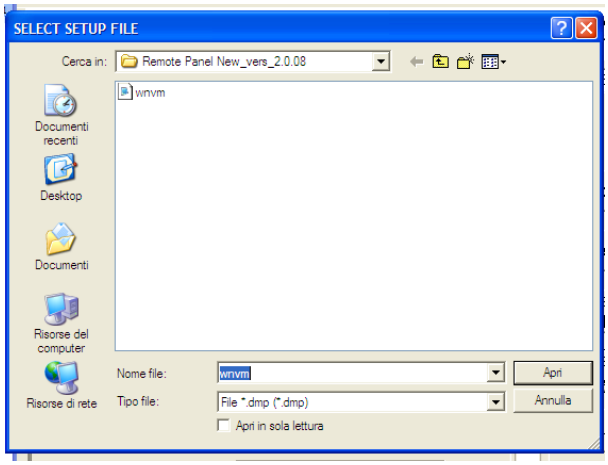
After reading the configuration, it is possible to do all the possible changes simply select the new values.
When all modification are done, the new configuration can be stored in the printer NVM pressing the **Write NVM** action key.
The utility will show the “save as name” mask.
The new configuration can be saved in a specific file and path (default name is ***wnvm.dmp*** and default path is where the SP40Setup utility is stored) to be used for future configuration with a simply copy file action.
After that the printer will reboot.



The configuration ***file.dmp*** can be simply used to duplicate the same configuration on more printers.
SP40plus unit has to be powered on in normal mode, connected to the PC through any active interface (Centronics or Serial port) and prompt:
copy *file.dmp* lpt1: /b command from a DOS shell,
After that the printer will reboot.

Send Setup

When **Send Setup** action key is activated, the host will displayed the stored configuration ***files.dmp***; select one and then click on open to immediate send it to the printer.
After that the printer will reboot.



Restore MFG

If the restore of the manufacturing values must be done, press the proper key: all the parameters will be set immediately to the default values.
After that the printer will reboot.

Troubleshooting

Paper Problems

The straight paper path of this printer is designed for trouble-free handling of a great variety of documents.

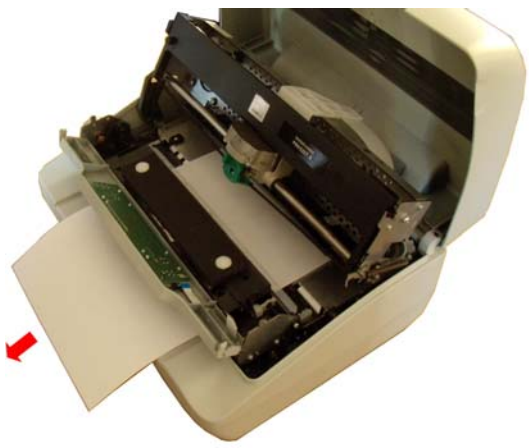
Paper Jam

In case a paper jam condition occurs, proceed as follows:

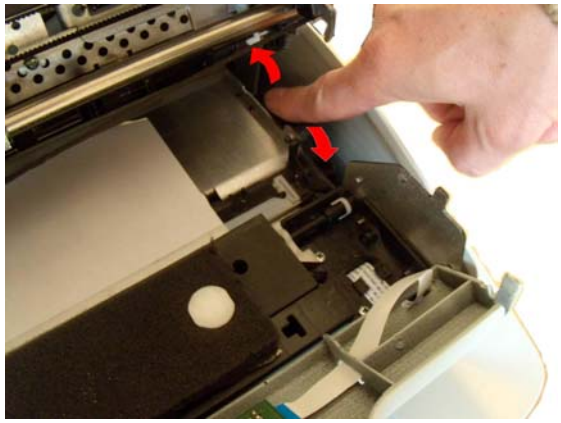
1. Open the printer cover. And rise the upper mechanical frame as explained in the chapter: Installing the Ribbon Cartridge, page 5.

2. Remove the jammed paper, pulling it towards the front of the printer.

3. To have an even better access to the paper path, unlock and rotate down the Operator Panel Group



4. In case it is not possible to remove the jammed paper because you cannot reach it with your hand or it is embedded so that you cannot move it, rotate the paper belt to free the paper.



5. Carefully pull down the green lever following the step 3, 4, and 5 in reverse order in order to securely close the Upper Mechanical Frame.If you do not close the Upper Mechanical Frame, the printer does not print correctly.
6. Close the printer cover.

Paper Damaged after Printing

If the paper is damaged after printing, it probably does not correspond to the specifications given in this manual or was not loaded according to the indications given.

Verify that the paper corresponds to the specifications (see "Paper Specifications" later in this manual) and has been loaded according to the indications given (see "Paper Handling" before in this manual).

Hexadecimal Dump

The hexadecimal dump function is activated when the ST2 key is press at power-on.
The printer enters in this functions and remains until it is powered-off.
The hexedecimal-dump shows all the characters sent by the host to the printer, even the not-printable ones as well as escape commands or line terminator.

Error Handling

There are two types of error:

- Recoverable errors
- Not-recoverable errors

Recoverable errors

When an error of this kind occurs:

1. The printer is disabled with the ST1 and ST2 led flashing and the printer sounds a beeps.
2. With operator panel with display, the following messages will be displayed; the first line indicates the error, while the second line gives more details concerning the error conditions.

Press always the READY key to reset the error condition

Recoverable error message description

Upper line message Lower line message	Indication	Solution
RIBBON BROKEN **REPLACE RIBBON**	The ribbon cartridge installed is not genuine or it is wrongly installed.	Verify if the ribbon cartridge is a Compuprint genuine one. Check that the ribbon is correctly inserted See "Installing the Ribbon Cartridge".
RIBBON NEAR END	The ribbon cartridge installed is near its end of life (500.000 characters to be printed)	Prepare a new Compuprint genuine ribbon cartridge. See "Installing the Ribbon Cartridge".
RIBBON EXHAUST. **REPLACE RIBBON**	The ribbon cartridge installed has reached the 105% of the its nominal life.	Install a new Compuprint genuine ribbon cartridge. See "Installing the Ribbon Cartridge".
CARRIAGE ERROR	The carriage movement has been stopped during printing causing print integrity.	Check for carriage free movement.
PAPER JAM **REMOVE PAPER**	A paper jam error condition occurs in the paper path.	Check the paper path and remove the jammed paper.
RS232 FAILURE **DATA LOST**	A buffer overflow condition occurred for the serial interface.	Check the RS232 parameters. Check the interface cable.
RS232 FAILURE **DSR SIGNAL FLT**	The DSR signal is not connected to the printer and is not ready for data transfer.	Check the interface cable connection.
RS232 FAILURE **GENERIC ERROR**	A generic error on the serial interface.	Check the RS232 parameters. Check the interface cable. Check the interface cable connection.

Not-Recoverable errors

When an error of this kind occurs:

1. The printer is halted with all the four leds flashing.
2. With operator panel with display, the following messages will be displayed; the first line indicates the error, while the second line gives more details concerning the error conditions.

Power-off and Power-on the printer.
It the problem remains contact the service.

Not-Recoverable error messages description

Upper line message Lower line message	Indication	Solution
ENGINE FAULT	The software of the printer detects an engine failure during the initialization phase.	The problem may depends by the home carriage or paper sensor initialization errors. Check for paper inside the paper path. Check for the carriage free movement.
SOFTWARE FAULT ****SUPERVISOR****	The software of the printer detects a failure during the displayed phase.	The problem may depends by an internal software routine error.
SOFTWARE FAULT ****PARSER****	The software of the printer detects a failure during the displayed phase.	The problem may depends by an internal software routine error.
SOFTWARE FAULT ***PRINT MANAGER***	The software of the printer detects a failure during the displayed phase.	The problem may depends by an internal software routine error.
SOFTWARE FAULT ****ENGINE****	The software of the printer detects a failure during the displayed phase.	The problem may depends by an internal software routine error.
SOFTWARE FAULT ****LAN****	The software of the printer detects a failure during the displayed phase.	The problem may depends by an internal software routine error (only with LAN interface)

Ribbon Cartridge Problems

The following table is useful to identify and solve print quality problems.

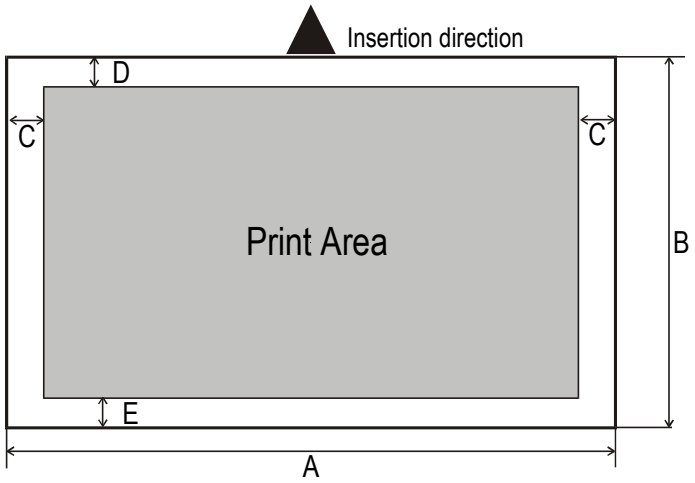
Problem	Cause	Solution
Fading print	The ribbon is not fed	Check that the ribbon is correctly inserted (see "Installing the Ribbon Cartridge". Turn the ribbon tension knob to verify, that the ribbon is not blocked. If the problem is not solved, change the ribbon cartridge.
	The ribbon is used up or torn	Change the ribbon cartridge. NOTE: Compuprint Sp40plus printer can signal with a specific display message or by means of a blinking led configuration when original Compuprint ribbon near to be replace ("Installing the Ribbon Cartridge".
The printer does not print	The ribbon cartridge is not an original Compuprint cartridge or it is an exhausted cartridge.	The printer checks the inserted cartridge, to avoid damaging the print head assembly due to incorrect ribbon feeding. Insert or replace with an original Compuprint ribbon cartridge.

Paper Specifications

The documents must all guarantee the following characteristics:

- Use paper matching the *indicated characteristics*.
- They must have well defined top and left *edges*, with a square *angle tolerance* of 0.1° on all edges.
- Paper with *holes, perforations, folds or tears* anywhere within the print area of the document cannot be feeded from the front input chute, but could be eventually managed by the rear tractor requesting the specific Compuprint SP40plus model.
- The *radius on a corner* of the form must be within 9.5 mm from the left or right edge.
- The form to be printed must not contain *foreign material*.
- Form *opacity* must be at least 75%. Forms with a lower opacity may cause feed errors.
- Never print on documents with *metallic or hard plastic fasteners or staples*, they may damage the printer. Use only *sewn* passbooks.
- To get the maximum *print contrast* you should print on white or light colored paper. You may overstrike to improve the low contrasting paper.
- It is preferable to use single and multiple documents with the *fibre* running in the insertion direction of the printing unit.
- *Recycled* paper is permitted on principle.
- It is preferable to print on multiple forms with *a narrow glue strip or top-gluing*. The gluing must not cause waving in the set of forms.

Cuts Sheets

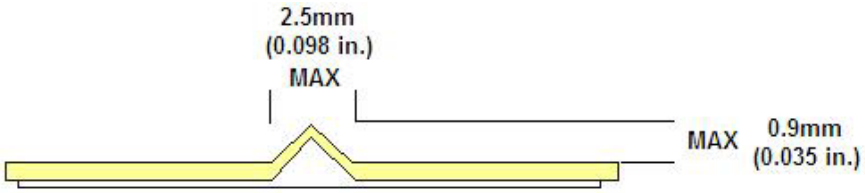


	Dimensions	Maximum	Minimum
A	Form width	244 mm (9,606 in.)	65 mm (2,559 in.)
B	Form length	470 mm (18,50 in.)	65 mm (2.559 in.)
C	Distance between dot position and left or right paper edge	-	3.0 mm (0,1181 in.)
D	Distance between top of the first printed line and top margin of the document	-	1 mm (0.0394 in.)
E	Distance between the lower margin and the lower part of the last printed line	-	5.8 mm (0..2283 in.) Reduced to 1.5 mm (0.0591 in.) with item SAFE BOTTOM EDGE = no
	Weight (original)	200 g/m^2	40 g/m^2 With paper <60 g/m^2 set the item PASSBOOK TYPE = horizontal
	Weight (original + 1 to 6 copies)	1st 75 g/m^2 other 75 g/m^2 carbon 35 g/m^2	1st 55 g/m^2 other 45 g/m^2 carbon 14 g/m^2
	Thickness	Single form media up to 0,65 mm (0.0256 in.)	
		Multi form media up to 0.65 mm (0.0256 in.). Overall thicker than 0,35 mm (0.0138 in.) may cause print quality degradation in last copy.	

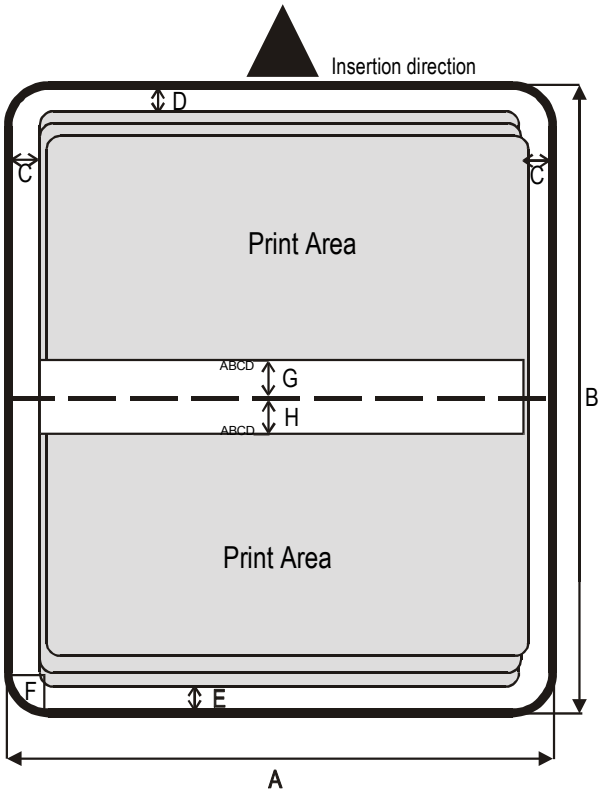
Passbooks

			Minimum	Maximum
Paper Weight			75 g/m^2	120 g/m^2
Thickness	(overall, within cover spine)			2.7 mm (0.106 in.)
	Multiple Page Passbooks (except cover spine)			
		Horizontal/vertical Fold	0.28 mm (0.011 in.)	1.80 mm (0.071 in.)
	Thickness difference across the fold of an open passbook			
		Horizontal/Vertical Fold	-	1.52 mm (0.059 in.)
	Single Page Passbook or Ledger Cards		0.18 mm (0.0071 in.)	0.28 mm (0.011 in.)
	Covers		0.18 mm (0.0071 in.)	0.46 mm (0.018 in.)

- Passbooks with torn, folded, creased, incomplete or warped pages or covers should not be used.
- Printing on or across holes, edges, cut outs or folds is not permitted.
- Passbook covers must be of uniform thickness under the printing area.
- The fold of all pages and the stitching must coincide with the cover fold. The stitches should be spaced at 6 to 10 stitches per inch.
- Fiber flow on the inner sheets should be parallel to the center fold.
- The cover bulge and stitches (spine) must not exceed the following dimensions:

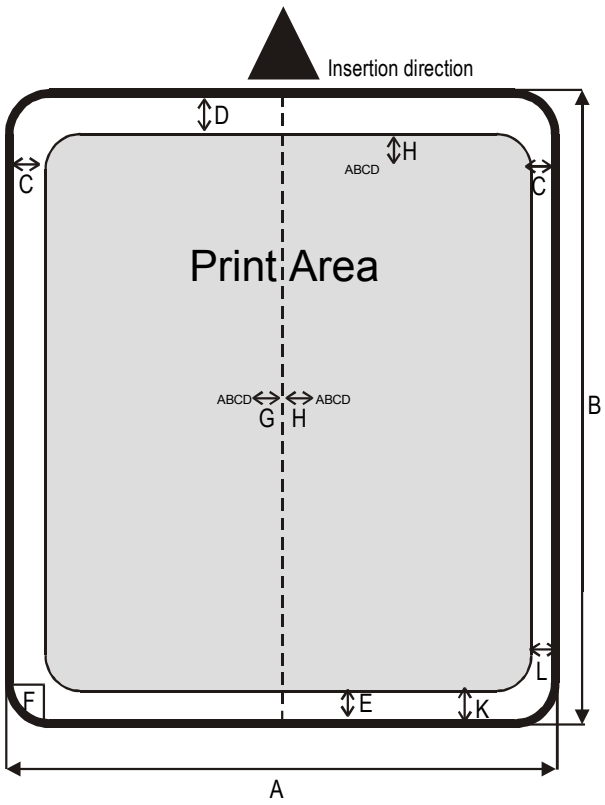


Passbooks with Horizontal Fold



	Dimension	Maximum	Minimum
A	Passbook width	241 mm (9.488 in.)	110 mm (4.33 in.)
B	Passbook length	220 mm (8.66 in.)	130 mm (5.12 in.)
C	Distance between print character position and left or right edge	-	3.0 mm (0.118 in.)
D	Distance between top edge of the document and top edge of first printed line	-	1 mm (0.0394 in.)
E	Distance between bottom of last printed line and bottom edge of the document	-	6.6 mm (0.26 in.)
F	Outer corner radius	9.35 mm (0.368 in.)	-
G	Distance from fold to bottom of the first printed line above the fold.	-	3.5 mm (0.138 in.)
H	Distance from fold to top of the first printed line below the fold.	-	3.5 mm (0.138 in.)

Passbooks with Vertical Fold

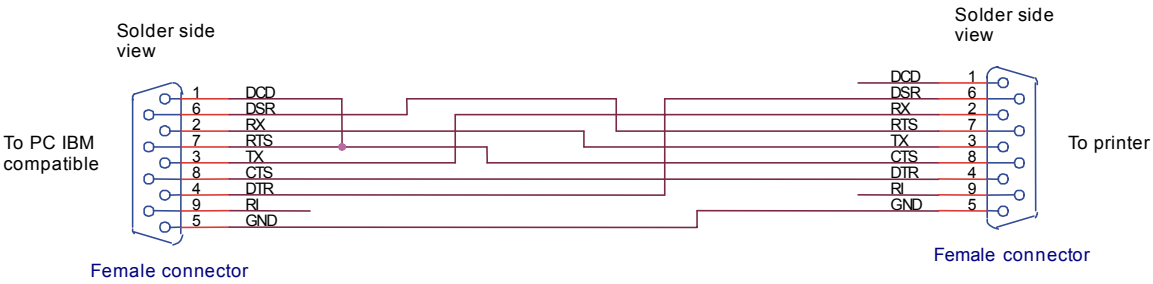


	Dimension	Maximum	Minimum
A	Passbook width	241 mm (9.488 in.)	110 mm (4.33 in.)
B	Passbook length	220 mm (8.66 in.)	85 mm (3.34 in.)
C	Distance for the dot position nearest to the left or right edge	-	3,0 mm (0.118 in.)
D	Distance from the top edge of the document to the top edge of the first printed line	-	1 mm (0.0394 in.)
E	Distance from the bottom of the last printed line to the bottom edge of the document	-	6,6 mm (0.26 in.)
F	Outer corner radius	9,35 mm (0.3681 in.)	-
G	Distance from the fold to the first character position beside the fold.	-	3.5 mm (0.138 in.)
H	Distance from the fold to the first character position beside the fold.	-	3.5 mm (0.138 in.)
K-L	Short Page Offset	-	0,0 mm

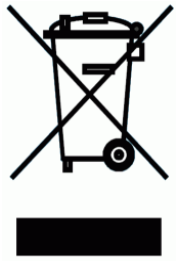
Technical Specifications

Printing Technology	24 pin serial dot matrix printer (needle diameter 0,25 mm)
Printing Speed (@10 cpi)	HSD 520 cps
	Draft 400 cps
	NLQ 200 cps
	LQ 133 cps
Line Length	94 columns @10 cpi – 112 columns @ 12 cpi – 141 columns @ 15 cpi
Paper Handling	Single Sheet, envelopes, labels, ID cards (paper weight from 40gr/m^2 to 200 gr/m^2) Passbook (horizontal and vertical): max thickness 2.7 mm (while open) Cut Sheet max thickness: up to 0.65mm Single Sheet Width: 64 – 244 mm Single sheet Length: 65 – 470 mm
Copies	1 + 6
Special Functions	Automatic Gap Adjustment (AGA), Auto Alignment, Auto Border Recognition, Optical Mark reading, Horizontal and Vertical Passbook Handling, Automatic Set-up (automatic recognition of marked values)
Graphic resolution (dpi)	60, 120, 180, 240, 360 (horizontal) 72, 90, 180, 216, 360 (vertical)
Vartical spacing	6-8-12- lines/inch, 3-4-6-8-12-lines/30mm, n/60, n/72, n/180, n/216, n/360 per inch
Barcodes	UPC/A, UPC/E, EAN8, EAN13, Code 39, Code 128, Postnet, Codabar, ADD-ON 2, ADD-ON 5, Code 11, Code 93, BCD, MSI, 2/5 Interleaved, 2/5 Matrix, 2/5 Industrial
Character set (IBM and Epson)	PC standard set (CS1-CS2) - 13 National Epson sets - CP437 (USA) - CP437G (Greek) - CP437 Slavic - CP850 (Multilanguage) – CP851 (Greek) – CP852 (Latin 2) - CP853 (Turkish) - CP855 (Russian) - CP857 (Turkish) - CP 858 (Euro) - CP860 (Portuguese) - CP862 (Hebrew) - CP863 (French/Canadian) - CP864 (Arabic) - CP865 (Norwegian) – CP866 (Cyrillic) - CP867 (Turkish) – CP876 (OCRA) - CP877 (OCRB) – CP1098 (Farsi Arabic) - CP1250 (Central Europe) – CP1251 (Cyrillic) – CP1252 (Windows Latin1 Ansi) – Gost - Tass – Mazowia – ISO 8859/1/2/3/4/5/6/7/8/9/15 - 96GREEK- Ukrainian - ID 12 - ID 14 - ID 17 - Roman-8 – Sanyo – Ku – Philip
Character set (Olivetti)	CS000 – CS010 International, CS020 Germany, CS030 Portugal, CS040 Spain1, CS050 Denmark/Norway, CS060 France, CS070 Italy, CS080 Sweden/Finland, CS090 Switzerland, CS100 Great Britain, CS110 USA ASCII, CS140 Greece, CS150 Israel, CS170 Spain 2, CS200 Jugoslavia, CS410 Olivetti TCV 370, CS510 SDC, CS520 Turkey, CS540 CIBC, CS680 OLI-UNIX, CS701 PC-220 Spain2, CS711 PC-Denmark/Norway, CS712 PC-Denmark OPE, CS771 PC-210 Greek
Resident Fonts	Draft, Courier, Gothic, Prestige, Presentor, Script, OCR-A, OCR-B, Boldface
Resident Emulations	IBM ® Personal Printer 2390+, Proprinter XL24E, Proprinter XL24AGM, IBM ® 4722, Epson ® LQ2550/LQ1170 and Olivetti ® PR40 PLUS/PR2/PR2845, IBM 9068, HPR 4915
Interfaces	Parallel IEEE 1284 bidirectional, Serial RS232C, USB 2.0 Full Speed Automatic Interface Switching
	Optional: 2nd RS232, Ethernet 10/100 LAN, 2nd USB 2.0 High Speed, up to 3 USB ports Hub/Hosts for external devices Input Buffer up to 64 Kbytes Plug&Play – Drivers Windows 2000, XP, VISTA (32/64 bits), Windows 7 (32/64 bits)
Memory	4 MByte Non Volatile Flash Memory - 16 MByte SDRAM
Reliability	> 10.000 hours MTBF (mean time between failure)
Print Head Life	>400 Million characters or > Billion strokes/wire
Consumables	Type: black ribbon cartridge Life: > 10 Million characters
Noise Level<54 dbA	<54 dbA
Power Supply	Universal from 100 to 230 V Frequency: 50 / 60 Hz
Power consumption:	45 W max. (printing DIN letter) - < 3 W (standby – 0 W (switched off)
Physical Dimensions & Weight	8 Kg (9.2 Kg packed)

Serial Interface Connection



User Information according to European Directive 2002/95/EC and 2003/108/EC



This unit must be recycled or discarded according to applicable local and national regulations.

The symbol shown above, applied to the product or on its packing, indicates that, at end of life, the product is not to be thrown away, or disposed as unsorted municipal waste, but separately collected.

GDS Compuprint srl encourages owners of information technology (IT) equipment to responsibly recycle their equipment when it is no longer needed.

Customer that needs to dispose this equipment must contact the produce and follow the collection framework available locally for the return, recycling and recovery of WEEE.

Customer participation to the separate collection is important to minimize any potential effects on the environment and human health, due to the potential presence of hazardous substances in the equipment, and aids the reuse and recycle of the materials by which the equipment is made.

Uncorrect disposal of the product by the customer will be punished according to the local regulations and Laws.

COMPUPRINT s.r.l.
Via Lombardore, 282
10040 Leinì (TO)
ITALY