

USER GUIDE – DP-550 Mobile Label Printer



Dascom Part No. DP-550UG

FCC Part 15 Class B

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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 in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, 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.

This equipment complies with Canadian and FCC radiation exposure limits set forth for an uncontrolled environment. This equipment is in direct contact with the body of the user under normal operating conditions. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Part 15.21 Caution: Changes or modifications not expressly approved by Dascom, Inc. could void the user's authority to operate the equipment.

Bluetooth Equipped Models:

This equipment contains either an OEM Serial Port Adapter from connectBlue with FCC ID: PVH070101 or a Dascom, Inc. Bluetooth module with FCC ID: 0113900444.

Wi-Fi Equipped Models:

This equipment contains an OEM Wireless LAN Node Module from DPAC Technologies with FCC ID: RTTABDB-SEDP. This device has shown compliance with the conducted emissions limits in 15.107, 15.207, or 18.307 adopted under FCC 02-157 (ET Docket 98-80).

Battery Disposal

Only dispose of used batteries according to your local regulations. If you do not know your local regulations, the Rechargeable Battery Recycling Corporation (RBRC) is a non-profit organization created to promote recycling of rechargeable batteries. For more information visit www.rbrc.org.



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This manual is based on printer firmware version 6.1.d. Specifications are subject to change without notice.



Read all setup and operating instructions before proceeding with operation.

Do not operate in an enclosure unless properly ventilated. Make sure no ventilation openings are blocked or obstructed, which may result in the printer overheating.

Do not operate near a heat source.



Lesen Sie vor der Inbetriebnahme die Aufbau- und Bedienungsanleitung.

Betreiben Sie den Drucker nicht in einem kleinen, geschlossenen Raum, es sei denn dieser wird ordnungsgemäß belüftet. Achten Sie darauf, dass die Lüftungen nicht blockiert oder versperrt sind, denn dies kann zum Überhitzen des Druckers führen.

Nehmen Sie den Drucker nicht in der Nähe einer Wärmequelle in Betrieb.



No user-serviceable parts inside. Refer service or repairs to a qualified service professional.

Use of genuine Dascom replacement parts is required to warrant proper, safe operation.

Any alteration or modification of this device voids the user warranty and may make the product unsafe to operate.

The print head and motors get hot during use. Wait until they cool before touching them.

Make certain the printer is disconnected from AC power before removing any covers or performing any required cleaning or maintenance.

Connecting this printer to an ungrounded receptacle can result in electrical shock.

Never place the printer near inflammable or explosive substances. Do not operate near liquid or spill liquid into the printer at any time.



Enthält keine Teile, die vom Bediener instandgesetzt werden können. Bitte wenden Sie sich bei Instandsetzung oder Reparatur an qualifiziertes Kundendienstpersonal.

Die Verwendung von echten Dascom Ersatzteilen ist notwendig, um ordnungsgemäßen, sicheren Betrieb zu gewährleisten.

Änderungen oder Modifikationen dieses Geräts machen die Garantie ungültig und können den sicheren Betrieb des Produkts gefährden.

Während des Druckens werden Druckerkopf und Motoren heiß. Warten Sie, bis sich die Teile abgekühlt haben, bevor Sie sie berühren.

Vergewissern Sie sich, dass der Drucker nicht mehr an die Stromquelle angeschlossen ist, bevor Sie Abdeckungen abnehmen oder das Gerät reinigen bzw. warten.

Schließen Sie diesen Drucker nicht an eine ungeerdete Steckdose an; dies kann zum Elektroschock führen.

Setzen Sie den Drucker niemals in die Nähe von feuer- oder explosionsgefährlichen Stoffen. Betreiben Sie den Drucker nicht in der Nähe von Flüssigkeiten und lassen Sie keine Flüssigkeiten in den Drucker gelangen.

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Printer Operation

Introduction

Thank you for purchasing a Dascom DP-550 Series Mobile Thermal Printer. The DP-550 Series offers a variety of configurations to suit any printing environment.

All models support paper and labels up to 3.12 inches wide and include “black mark” sensing capabilities on the printed side. The DP-550LP also supports rear black mark sensing and label gap sensing. All models are equipped with a serial port which may be used for either RS-232C or USB communications with an optional cable. The printer may also be equipped with an optional IrDA[®], Bluetooth[®], or Wi-Fi[®] interface, or a Magnetic Card Reader for reading credit cards, drivers licenses, etc.

DP-550si and DP-550LPsi models are also available for permanently mounted industrial installations. These models include a ball-type mounting attachment and replace the battery with a Serial Data/Power connector. This power connector accepts an 8-32 VDC input making it ideal for automotive and industrial equipment installations. If your printer is an “si” model, you may ignore all references to batteries and battery charging.

Each printer is shipped with Quick Setup Instructions and one roll of receipt paper. Non “si” models also include a battery and a belt loop system. “si” models include an unterminated data/power cable.

The remainder of this chapter focuses on preparing the printer for initial use and tasks that will be encountered during everyday use. The following chapter, “Maintenance and Troubleshooting”, describes how to maintain the printer for optimal performance and has information on how to diagnose any problems that may occur.

For systems integrators and administrators, appendices contain detailed instructions on how to configure printing characteristics and communications with host systems.

To begin, please refer to Figure 1 to familiarize yourself with the locations of the various features of the printer.

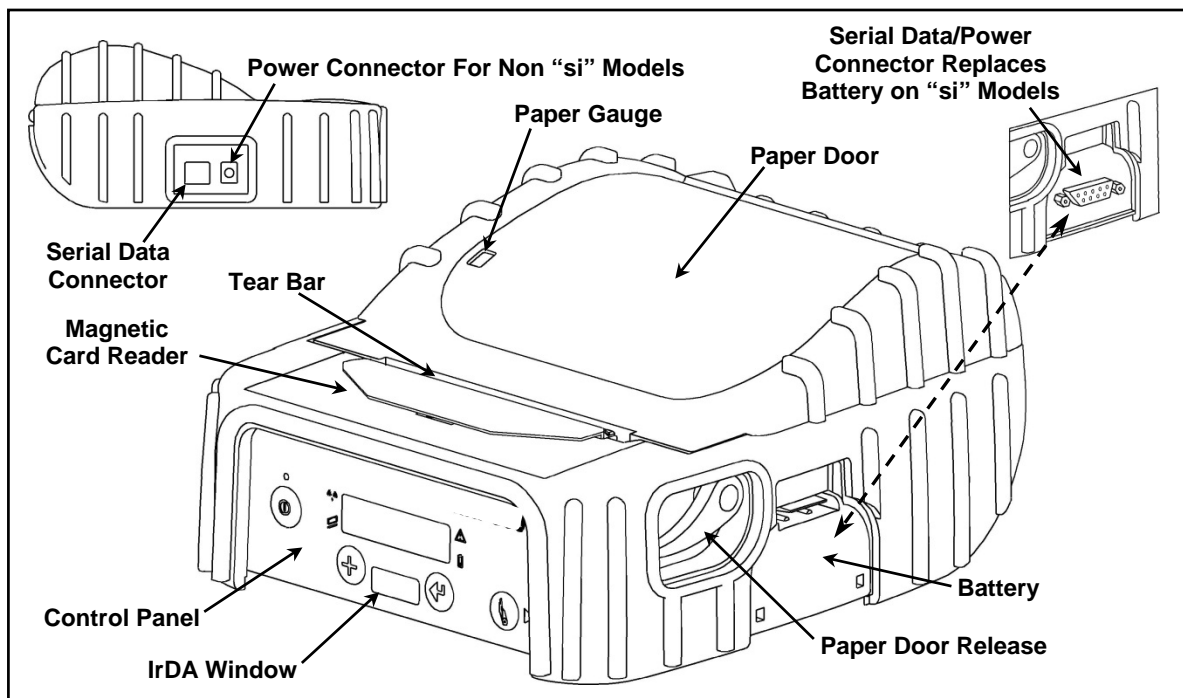


Figure 1 - Printer Features

Battery Installation and Charging

Please refer to Figure 2 and insert the battery by sliding it into the battery compartment until the release lever on the battery “snaps” into place.

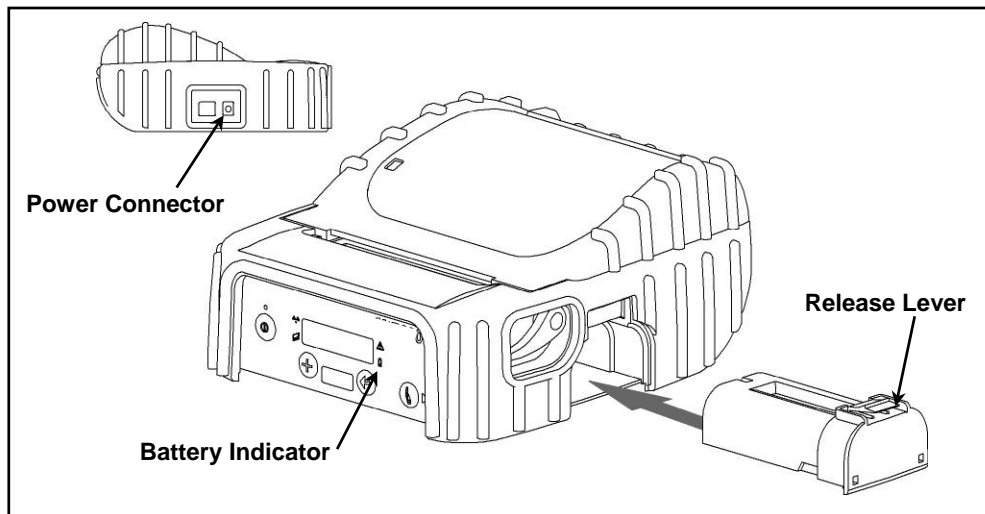




Figure 2 - Battery Installation and Power Connector

The printer contains battery monitoring and charging circuitry so that the battery may be charged in the printer using an optional power adapter. Dascom offers a variety of optional power adapters for use with 100-240VAC/50-60Hz and 12/24VDC for vehicle applications.

Caution: Use only Dascom power adapters designed specifically for your DP-550 printer. Using a different power adapter may cause damage to the printer and will not be covered by the printer's warranty.

Connect a power adapter to the appropriate input source, and then connect the output of the power adapter to the printer's Power Connector. The  Battery Indicator will turn on and remain on until the battery is fully charged. This may take up to 2½ hours. The Battery Indicator will turn off when the battery is fully charged and will flash whenever the battery needs recharging.

Note: New batteries are shipped in an “uncharged” state. The battery must be fully charged prior to first operating the printer on battery power alone. The printer may be used while charging, but this may cause the battery to take longer to reach a full charge. Maximum battery capacity is not reached until after completing a minimum of three complete charge and discharge cycles.

When the power adapter is connected, the printer's charging circuitry will determine if the battery currently requires charging and if so, will turn on the  Battery Indicator until the battery has reached sufficient charge. Depending on the condition of the battery, charging may take up to 2½ hours to complete.

The printer's battery status is displayed in the lower right corner of the front panel LCD Display. The status is displayed as a battery shape which indicates the relative capacity that remains as shown below.

Fully Charged  Discharged

Leaving the adapter connected to the printer will cause the printer to continuously monitor the condition of the battery and keep the battery charged.

Optional external battery chargers are also available so that you can have fully charged batteries "standing by" when needed.

For more information regarding battery charging, battery life, and battery disposal, refer to "Battery Care" on page 14.

Installing Paper

Each printer is supplied with a roll of receipt paper. For your convenience, the printer features a paper supply indicator as shown in Figure 3. The indicator changes from all green to all red as the paper supply is used.

Note: For maximum performance and optimum print quality, use only genuine Dascom receipt paper and labels in your DP-550 Series printer.

To install paper, you must release the paper door by moving the Paper Door Release in the direction shown in Figure 3 and then lift the paper door to expose the paper compartment.

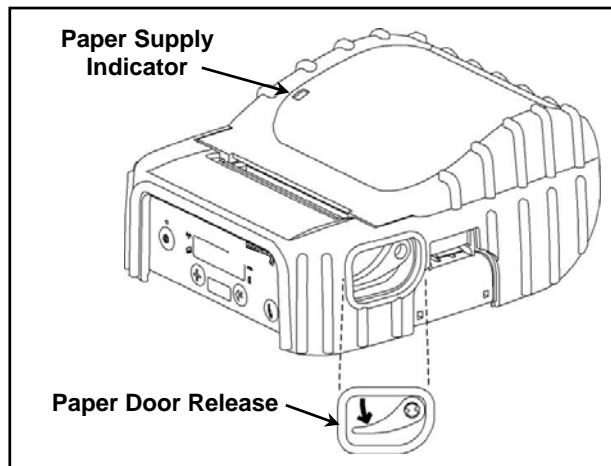


Figure 3 - Opening Paper Door

Refer to Figure 4 and locate the movable paper support. Move the support by pressing in the area indicated by the arrow and then locate the paper between the two supports and release the movable support.

Note: Make sure the roll spins freely on the paper supports.

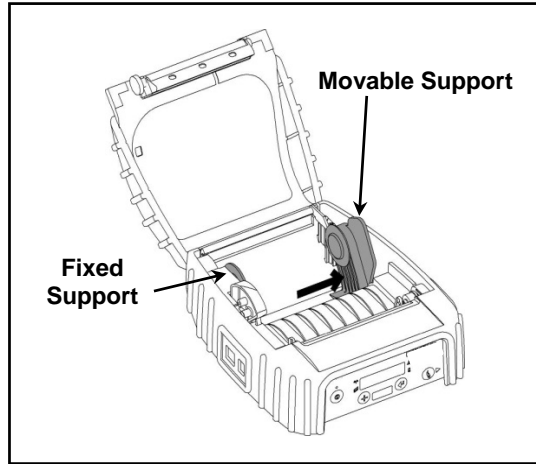


Figure 4 - Paper Support

Refer to Figure 5 and unroll enough paper to allow it to lay through the print head as shown, and close the paper door.

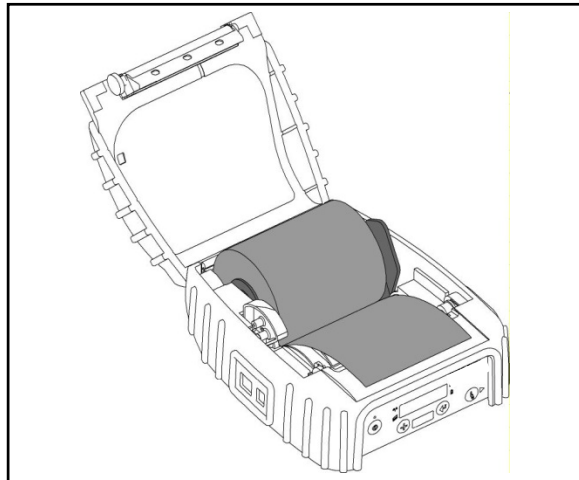



Figure 5 - Paper Laying Through Print Head

If the printer is turned on, you may now press the  Paper Feed Button to advance the paper a few inches and then tear it off in preparation for printing.

Control Panel

The DP-550 Series printers are designed for simple operation with an easy to use control panel. As shown in Figure 6, the control panel consists of an LCD Display, five indicators, and four pushbuttons.

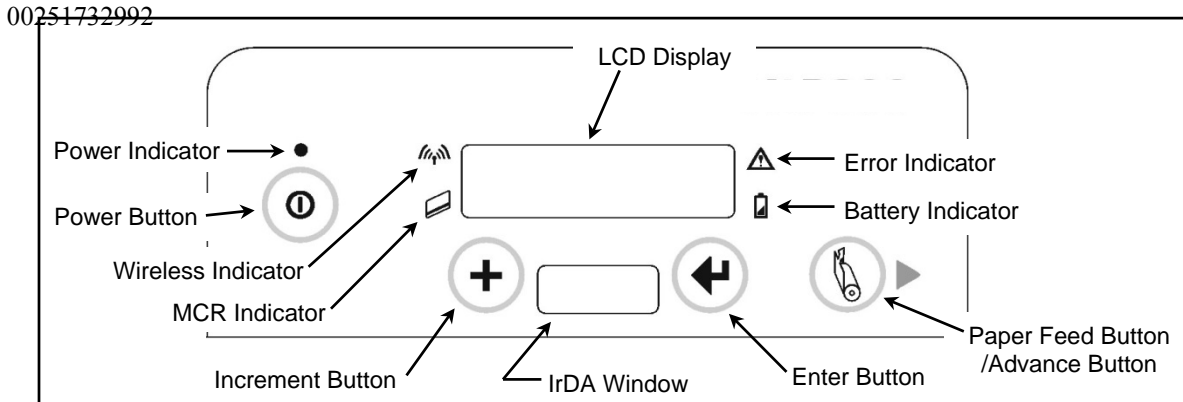














Figure 6 - Control Panel

In normal daily use, most users will only use the  Power Button and Indicator, the  Paper Feed Button, and observe any messages that may appear on the LCD Display. The purpose and functionality of all of the buttons and indicators are listed below.


-  Power Button – Used to turn the printer on or off.
-  Paper Feed /Advance Button – Feeds paper as defined by the Form Feed Control and Form Feed Distance settings in the Device Settings menu. Also used to clear Check Paper error conditions.
-  Increment Button – Used in printer configuration menus to change the value of the currently selected item. (May also be used to access a stored command file – see the *DP-5XX Programmer's Manual* for more information.)
-  Enter Button – Used in printer configuration menus to advance to the next setup item. May also be used to print the settings and connection information for the currently selected interface and/or switch between interfaces.
-  Power Indicator – ON indicates that power is on and operating in the normal power mode. SHORT FLASH indicates the printer has entered the power saving standby mode and will wake upon receipt of data or when the  Power Button or  Paper Feed Button is pressed. SLOW FLASH indicates the printer is in Setup mode and not accepting data.
-  Wireless Indicator – Indicates an optional IrDA[®], Bluetooth[®] or Wi-Fi[®] interface is installed, selected, and is currently connected or receiving data.
-  MCR Indicator – Indicates the optional Magnetic Card Reader has been enabled and is ready for the user to swipe a card.
-  Error Indicator – Indicates an error has occurred as described on the LCD Display.
-  Battery Indicator – ON indicates the battery is currently being charged. FLASHING indicates the battery capacity is low and needs to be recharged. OFF indicates the battery is fully charged or that no power adapter is attached.

Common Error Messages

Check Paper

This message is displayed and the  Error Indicator flashes whenever the printer runs out of paper. This may also occur if there has been a paper jam that prevents paper from feeding into the print head. To clear the error, first clear the jam and/or install a new roll of paper. For information on how to replace the paper supply or to check for a possible jam, please refer to “Installing Paper” on page 3.



Momentarily press the  Paper Feed Button to resume printing.

Note: If the printer has firmware version 2.8 or later, pressing the  Paper Feed Button will cause the printer to perform a Form Feed and then reprint the last partially printed print job. In version 6.0 and later this feature is disabled by default and may be enabled in the Advanced Menu.


If the entire job does not print as expected, the host program may need to be modified to make use of the printer’s buffer commands. Please refer to the *DP-5XX Programmer’s Manual* for more information.

It is also possible that a false paper error may be detected when using “black mark” sensing on preprinted forms. This condition should not occur unless the size of the black mark on the form is larger than the size allowed for in the host application program. Please refer to the *DP-5XX Programmer’s Manual* for more information.

Paper Door Open




This message is displayed and the  Error Indicator flashes when the printer is attempting to print and the Paper Door is not fully closed. To correct this error, make sure that the paper is loaded properly, close the Paper Door, and momentarily press the  Paper Feed Button.

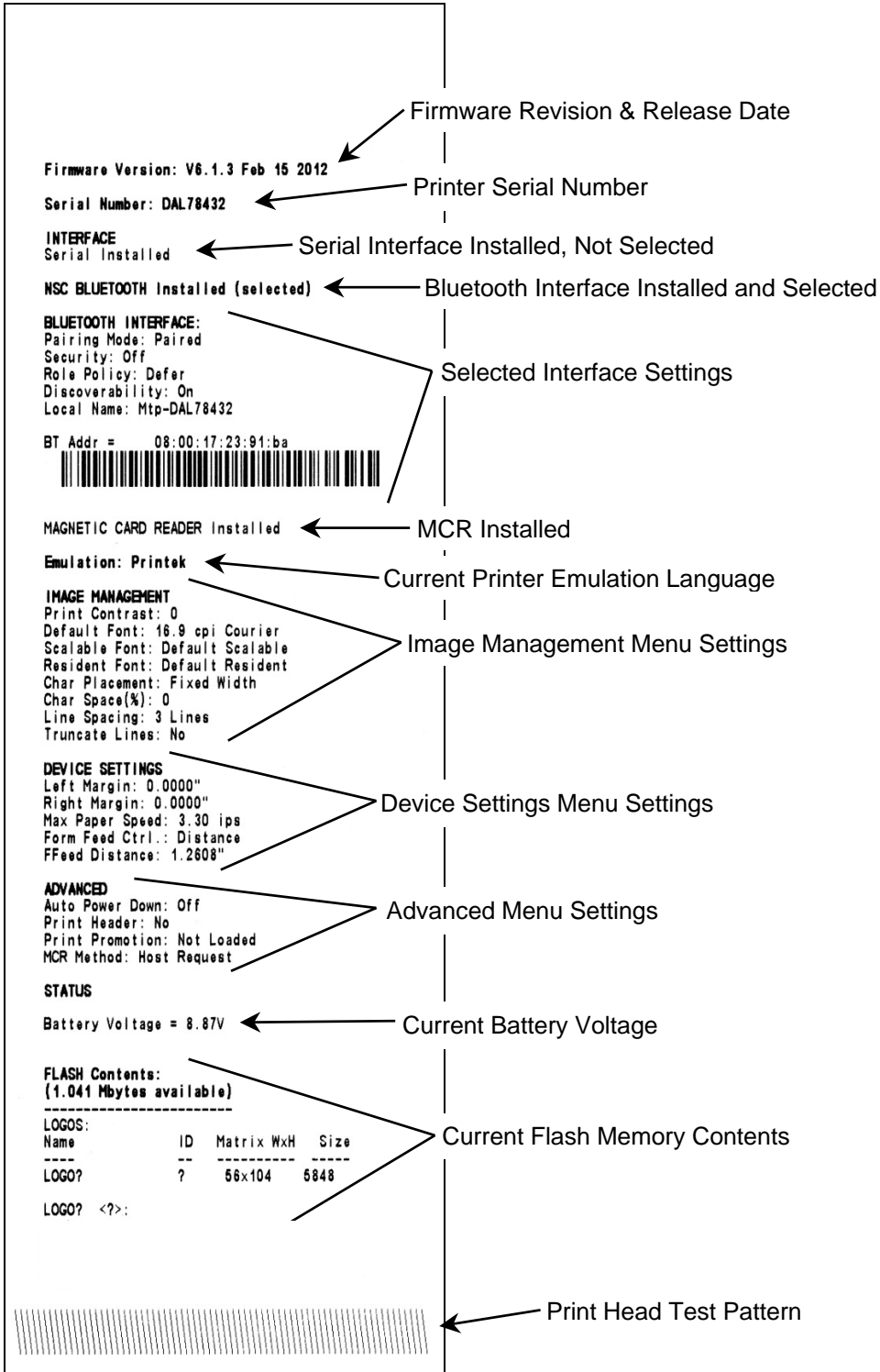
Turning the Printer On and Off

To turn the printer on, simply press the  Power Button. After the button is released, the printer will continue its power up initialization and then display the printer model and the communications options available, with an arrow pointing to the one presently selected. The bottom line will display a battery symbol at the right hand end of the line that indicates the current condition of the battery.


To turn the printer off, press and hold the  Power Button. The printer will display “Printer Off” and then power down after the button is released.

Performing A Printer Self Test

To perform a self test, press and hold the  Paper Feed button while turning the printer on with the  Power Button until the printer displays “Printing Current Menu Values”, and then release the  Paper Feed button. A sample self test printout is shown below.



Removing Printed Output

In most cases, the host application program will issue a Form Feed that will eject the paper so that all the printed information is fed out of the printer and the receipt or label is ready to be torn off. If all the printing is not yet out of the printer and the host has finished sending data to the printer, the paper may be positioned for tearing by simply pressing the  Paper Feed Button.

To tear the paper, pull the paper against the tear bar at a slight angle as shown in Figure 7.

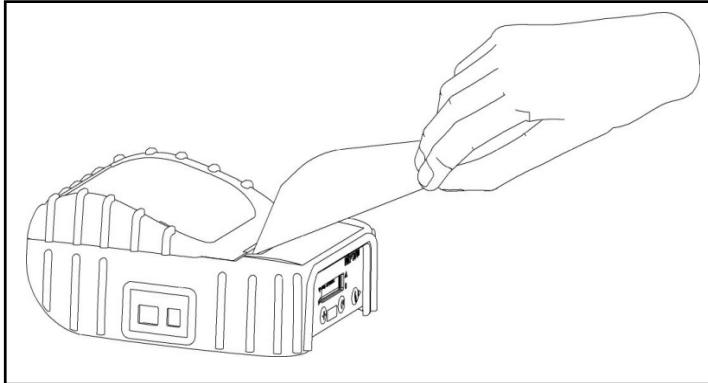



Figure 7 - Tearing Off Printed Output

Using the Magnetic Card Reader

The optional Magnetic Card Reader (MCR) is used by some applications to read information from credit cards, drivers licenses, etc.

The MCR may be used in either the Host Request mode or the Always On mode. When used in the Host Request mode, the host system sends a request to the DP-550 to enable the Magnetic Card Reader. “Swipe Card Now” will be displayed and the  MCR Indicator will flash to indicate that the card may now be passed through the MCR slot, or “swiped”. Refer to Figure 8 for the card orientation.

When used in the Always On mode, the card may be swiped at any time and the data will be immediately sent to the host system.

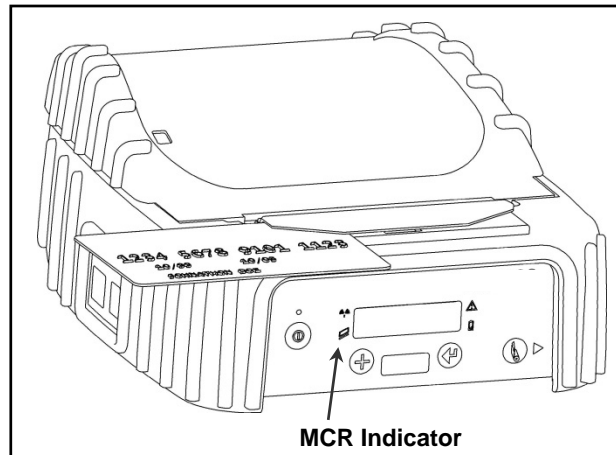





Figure 8 - Using The Magnetic Card Reader

If the card is read successfully, a short beep will sound, “Card Read Ok” will be displayed. If the card is not read successfully, a longer error tone will sound, “Card Not Read” will be displayed and the  Error Indicator will begin to flash. If the read operation is not cancelled by the host application within a few seconds, or if the Always On mode is being used, the  Error Indicator will stop flashing and the printer will return to the “Swipe Card Now” mode. At this time the card may be swiped again to attempt a successful read.

When using the Host Request mode, the length of time allowed before the timeout is specified by the host application program. Once a timeout occurs, the  Error Indicator will turn on momentarily and “MCR Timeout” will be displayed.

Belt Loop System

The belt loop system consists of two parts – a knob located on the bottom of the printer and a belt loop strap.

To use the belt loop system, slide your belt through the strap of the belt loop and then insert the knob located on the bottom of the printer into the slot of the belt loop connector. Pull down on the printer until you hear a click. The printer is now secure and can safely hang down beside your hip.

To release the printer, press in on the two latches on the sides of the belt loop connector and pull the printer and knob up and clear of the slot.

Caution: Do not force or pull the printer from the connector without pressing in on the two latches.

Printer Configuration

Prior to using your printer, several features regarding printing characteristics, communication parameters, and printer operation may need to be configured.

If you are the person who will be using the printer on a daily basis, it is quite likely that the printer has already been configured for your use by your own IT staff or by the company from whom you purchased the printer. However, if you need to configure the printer yourself, please refer to **Appendix A** for instructions on how to do so.

If you have questions regarding what has been, or needs to be, configured, please contact your system administrator.

Unique DP-550 Features

Dascom DP-550 Series printers support many unique features not found in other manufacturer's printers. This includes multiple printer language emulations, generous logo storage capacity, downloadable fonts, and the ability to automatically print headers, footers, and promotional information. A brief description of some of these features follows. For more detailed information, please refer to the *DP-5XX Programmer's Manual*.

Printer Control Language Emulation

In addition to Dascom's own printer control language, DP-550 printers emulate languages supported by many other popular mobile printers. In many cases, this allows the DP-550 to be a drop-in replacement for those other printer models in a variety of applications.

The table below provides examples of various brands of printers and applications, and suggests the printer control language emulation setting that would most likely produce the desired output. To set the emulation chosen, please refer to the appendix that applies to the printer interface that you will be using in your application.

Printer Replaced	Type of Application	Suggested Emulation
Zebra QL Series	Receipt Or Ticket Printing	CPCL
	Label Printing	ZPL-II
Zebra RW Series	Receipt Or Ticket Printing	CPCL
Zebra Cameo Series	Receipt Or Ticket Printing	CPCL
Zebra Encore Series	All	CPCL
Zebra PA/PT Series	Label Printing	ZPL-II
Comtec Printers	All	CPCL
Zebra Desktop (Selected Models)	Label Printing	ZPL-II
O'Neil Microflash Series	ALL	ONeil
Extech (All)	All	Mt3
Intermec (Selected Desktop Models)	Advanced Label Printing	IPL
	Other Label Printing	ESim
Intermec Mobile (Oem O'Neil Models)	All	ONeil
Toshiba Tec Desktop (Selected Models)	Label Printing	TEC
Monarch Desktop (Selected Models)	Label Printing	MPL

Figure 9 - Printer Emulation Application Chart

Abundant Logo Storage

1MB of flash memory is available to store multiple logos and other graphic images permanently in the printer. This speeds up the printing process by allowing these images to be printed as often as needed without having to retransmit the graphic image each time.

Automatic Header and Promo Printing

Graphic images stored in the printer as described above may be set to automatically print at either the beginning or end of each print job. Using the automatic header feature can allow the printer to print a logo at the beginning of each print job without requiring changes to application programs. Promos print at the end of each print job and can be used to print advertising “specials” or to print standard “boilerplate” information. For details on how to use these features, please refer to the *DP-5XX Programmer’s Manual*.

Maintenance and Troubleshooting

Cleaning

In normal environments, the printer should be cleaned after printing a few rolls of paper or if there are voids in the printout. For optimum performance and life, you should clean the Print Head and Platen Roller whenever you load new paper.

To clean the printer areas as described below, use a Thermal Head Cleaning Pen available from Dascom, or you may use cotton swabs moistened with isopropyl alcohol. Please refer to Figure 10 for the following instructions.

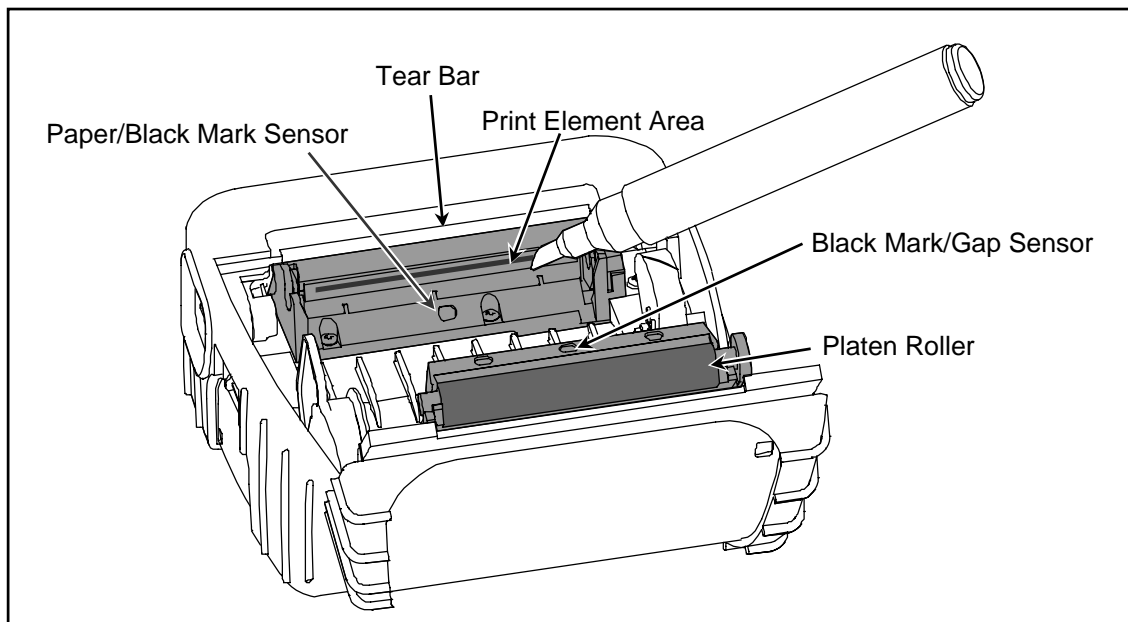


Figure 10 - Printer Cleaning Areas

- Turn the printer off.
- Open the Paper Door and remove the paper.
- Using a Thermal Head Cleaning Pen, clean the Print Element Area on the Print Head.
 - **Caution:** Do not use sharp objects to clean the print head. This may damage the printer and require service. Such damage is not covered under warranty.
- Clean the Paper/Black Mark Sensor in the lower part of the print head.
- Clean the Tear Bar
- Clean the Platen Roller. Turn the platen roller with your finger to clean the entire surface.
- Lubricate the movable paper support slot by rubbing on a small amount of paraffin wax (candle wax).
- If a Magnetic Card Reader is installed, pass an MCR Cleaning Card through the slot to clean the head.
- If your printer is a DP-550LP model, clean the Back Black Mark/Gap Sensor Near the Platen Roller.




You may also experience a build up of paper dust in the printer. This may be removed using a can of compressed air or by vacuuming.

To clean the exterior of the printer, turn the printer off and use a soft cloth moistened with a mild detergent.

Battery Care

Charging the Battery

The printer's battery is charged in the printer using an optional power adapter. Adapters are available for 100-240VAC/50-60Hz and for 12/24VDC vehicle applications. Follow the steps listed below to charge the battery. An optional external four-bay charger is also available.

- Plug the power adapter into a power source appropriate for the adapter being used.
- Plug the power adapter into the power connector on the side of the printer. The printer's  Battery Indicator will illuminate indicating that the battery charging circuitry is analyzing the condition of the battery.
- If the battery is not fully charged, charging will begin and the  Battery Indicator will remain on.
- When the battery is fully charged, the  Battery Indicator will turn off. Charging may take up to 2½ hours depending on the condition of the battery.
- The printer may be used while the battery is charging, but this will extend the time required to fully charge the battery.
- The power adapter may remain connected to the printer to keep the battery fully charged and will not cause damage to the printer or battery.

The printer's battery status is displayed in the lower right corner of the front panel LCD Display. The status is displayed as a battery shape which indicates the relative capacity that remains as indicated below.

Fully Charged  Discharged

Note: The status will display as fully charged whenever a power adapter is attached.







Additional Battery and Safety Information

- All DP-550 Series printers use a 7.4 volt 2200mAH Lithium Ion battery.
- The recommended ambient temperature for charging is 68-77° Fahrenheit (20-25° Centigrade).
- Take the battery out of the printer when storing the printer for long periods of time. The battery storage temperature is 40-104° Fahrenheit (4-40° Centigrade). Do not store a fully charged battery at temperatures above this range for long periods of time or the battery may permanently lose charge capacity.
- Do not disassemble, short circuit, heat above 80°C, or incinerate the battery. The battery may explode.
- Only dispose of used batteries according to your local regulations. If you do not know your local regulations, the Rechargeable Battery Recycling Corporation (RBRC) is a non-profit organization created to promote recycling of rechargeable batteries. For more information visit www.rbrc.org.



Testing the Power Adapter and Battery

To verify that the printer's internal battery charger is functioning properly, perform the following steps.

- Test the power adapter with a voltmeter to verify that its output voltage is 9 VDC.
- Connect the power adapter to a power source and then connect it to the printer.
- Verify that the printer's  Battery Indicator is illuminated. If illuminated, the charging circuit is functioning properly.
 - Note:** If the battery is already fully charged, the  Battery Indicator will turn off after a short time.
- After the battery has been charged for five minutes, disconnect the power adapter.
- Perform a printer Self-Test.
 - Make sure the printer is turned off. The power indicator will be off and the LCD Display will be blank.
 - Press and hold the  Paper Feed Button.
 - Continue holding the  Paper Feed Button and turn the printer on using the  Power Button until "Printing Current Menu Values" is displayed.
- If the printer successfully prints the Self-Test, the battery is functional. If the Self-Test does not complete and the printer turns itself off, repeat this test with a known good battery.
- Once this test has completed successfully, allow the battery to fully charge. At the end of this time the  Battery Indicator will turn off.
 - Note:** If the printer is turned on, the battery status shown in the bottom right corner of the LCD display will always show a fully charged battery whenever the printer is connected to the power adapter.

If the printer and battery do not appear to successfully pass these tests, refer to the Troubleshooting section for possible causes and solutions.


Note: This test only verifies that the power adapter, the internal charging circuit, and the battery are functioning properly. This test does not provide a valid indication of the relative capacity of the battery or how long it may hold a charge.

Troubleshooting

When encountering problems, the cause may be the printer or may sometimes be due to other problems with your system. Please review the following tables to solve common problems you may encounter with your printer. You may also visit www.Dascom.com for additional “FAQ’s” that may assist you.

If you are still unable to solve your problem, please contact the company where you purchased your printer since they are most familiar with your systems. If they are unable to help you, you may contact Dascom Technical Support at (877) 434-1377.



Error Messages

Whenever the printer detects an error condition, the  Error Indicator will either flash or go to a steady on condition. The indicator flashes for errors that can be easily corrected such as Check Paper or Paper Door Open.

The indicator will stay on without flashing for errors that cannot be recovered without loss of data. These are typically caused by interface configuration errors such as serial handshaking, or baud rate, and will require that the printer be turned off to clear the error.

Message	Possible Cause	Solution
Check Paper	Paper supply is empty.	Install new roll.
	Paper/Black Mark sensor is dirty.	Clean the Black Mark sensor. Refer to “Cleaning” on page 13.
Paper Door Open	Paper door not fully closed.	Make sure the door is fully closed by opening the door and closing it again until the door “clicks” closed. Check the platen roller for damage.
Parity Error	Serial I/O not configured correctly.	Verify that the parity selection made in the Interface Menu matches the setting on the host system.
I/O Overflow	Serial I/O not configured correctly.	Verify that the handshaking selections (ETX/ACK, XON/XOFF, RTS/CTS) selections made in the Interface Menu match the settings on the host system. Check cabling for proper, unbroken connections.
I/O Error	Optional interface – IrDA, Bluetooth, or Wi-Fi not responding.	Try turning the printer off and on again. If the error repeats, the printer requires service.

Other Problems

Problem	Possible Cause	Solution
Printer will not turn on.	Battery not installed properly.	Remove and reinstall battery making sure the battery release lever “clicks” when fully installed.
	Discharged battery.	Recharge battery.
Printer turns itself off.	Auto Power Down is enabled.	Change setting in the Advanced menu as described on page 24.
	Battery discharged.	Replace or recharge battery.
	Electrostatic discharge.	May occur in extreme low humidity conditions. Turn printer back on with power button.
❑ Battery Indicator does not light or does not stay lit when power adapter is connected.	Battery already fully charged.	No action required.
	Power adapter not receiving power.	Check building/vehicle circuit breakers/fuses.
	Faulty power adapter.	Check output of power adapter with voltmeter. 9 VDC.
	Battery not installed properly.	Remove and reinstall battery making sure the battery release lever “clicks” when fully installed.
Battery not charging.	Faulty power adapter or battery.	Refer to “Testing the Power Adapter and Battery” on page 15.
Poor print quality.	Low battery.	Check and recharge battery.
	Print head dirty.	Clean print head. Refer to page 13.
	Poor quality or “old” paper.	Verify paper from approved source. Try new roll of paper.
Paper not feeding.	Obstruction in paper path or paper improperly installed.	Check paper path and reinstall paper.
	Poor quality paper.	Verify paper from approved source.
Paper not feeding reliably or print is compressed vertically	Poor quality paper.	Verify paper from approved source.
	Heavy or thick forms or labels. Specialty paper with slick finish.	Lower the Maximum Paper Speed in the Device Settings menu.
Print Garbled.	Low Battery.	Check and recharge battery.
	Improper Serial interface configuration.	Verify printer and host settings match.
Printer will not print.	Low Battery.	Check and recharge battery.
	Paper not loaded correctly.	Check paper path and reinstall paper.
	Improper interface configuration.	Verify printer and host settings match. Print a self test as described on page 7 to verify printer settings and to verify printer is functioning properly.
Cannot print via optional interface,  Wireless Indicator does not light.	Interface not configured correctly.	With printer on, press and hold the  Enter Button to print out current configuration. Make sure the interface is selected and that printer and host configurations match.

Obtaining Service

If service is required for your printer, please contact the company where you purchased your printer. If they are unable to assist you, contact Dascom Customer Service at 877-434-1377 to obtain the name of the nearest Dascom Authorized Service Center.

If you wish to return your printer to Dascom for service, please contact Dascom Customer Service at 877-434-1377 to obtain a Return Authorization Number. Units returned without a Return Authorization will not be accepted.

Appendix A – Printer Configuration

This section describes printer operating features that may be configured to allow DP-550 series printers to communicate and operate properly with your computer and applications. These items are grouped into logical groupings, or menus, as described below.

Two methods are available to change the configuration of the printer. The preferred method is to use the Dascom Mobile Setup Utility, a Windows® Desktop, Windows CE, or Windows Mobile based program described in Appendix H. The other method is to use the built in Control Panel Setup described in Appendix I. Depending on what items need to be changed, you may need to use either one, or both, of these methods. A table at the beginning of the section for each menu describes which method or methods may be used.

Setup Menu Descriptions

- Interface – Contains communication parameters and the printer language emulation. Menu items vary depending upon the interface(s) installed and currently selected as the active interface.
For configuration details for each interface, refer to the appropriate appendix as listed here.
 - Appendix B – Using the Serial/USB Interface
 - Appendix C – Using the IrDA® Interface
 - Appendix D – Using the Bluetooth® Interface
 - Appendix E – Using the Wi-Fi® Interface
- Image Management – Contains items that affect character size and appearance.
For details, refer to the “Image Management” section in this appendix.
- Device Settings – Contains items that affect physical aspects of the printer and how they relate to the paper being used and the positioning of the data to be printed.
For details, refer to the “Device Settings” section in this appendix.
- Advanced – Contains items that affect the operating modes of special printer features. For details, refer to the “Advanced” section in this appendix.

Image Management

The items in the Image Management menu affect character size and appearance.

The table below lists the items available, the values that may be selected, and the factory default value. Which setup method may be used to change values is indicated by a checkmark. Note that some of these settings may be overridden by the host application software. Following the tables are detailed descriptions of each setup item. In the detailed descriptions, an asterisk (*) indicates the factory default value. For more information, please refer to the *DP-5XX Programmer's Manual*.

IMAGE MANAGEMENT

Menu Item	Values	Default Value	Setup Method	
			Control Panel	Setup Utility
Print Contrast	-75 to +125	0	✓	✓
Default Font	SansSerifA at 4.2, 5.5, 10.2, 10.7, 16.9, 18.5, 20.3, 34.0 cpi; Courier at 12.7, 13.5, 14.5, 15.6, 16.9, 18.5, 20.3, 22.6, 25.4, 34.0 cpi; F Gothic 3.0, 4.6, 6.1, 7.8, 11.2, 18.4 cpi; 23x21OCR; ROT OCRA; or Downloaded fonts if present.	16.9 Courier	✓	✓
Scalable Font Set	Default Scalable or Downloaded font sets if available.	Default Scalable	✓	✓
Resident Font Set	Default Resident or Downloaded font sets if available.	Default Resident	✓	✓
Character Placement	Fixed Width, Fixed Space	Fixed Width	✓	✓
Character Space (%)	0 to 100	0	✓	✓
Line Spacing	0 to 10 Lines	3		✓
Long Lines	Wrap, Truncate	Wrap	✓	✓

Print Contrast

Possible Values: -75 ... 0* ... +125 in increments of 5 (+35* for LP Models)

The printer automatically adjusts the amount of energy used in order to maintain constant print quality as the battery discharges during use. The Print Contrast setting modifies the value that is determined to be needed by the printer and may be used to obtain improved print quality on different qualities of thermal paper.

Note: By affecting the relative amount of battery energy that is used when printing, the Print Contrast setting affects both print speed and battery life. Setting a lower value will result in faster printing and will extend normal battery life. Setting a higher value may allow the use of poorer quality paper and will result in slower printing and a shorter battery life.

Default Font

Possible Values: 4.2 cpi SnsSrfA 16.9 cpi SnsSrfA
 5.5 cpi SnsSrfA 16.9 cpi Courier*
 10.2 cpi SnsSrfA 18.5 cpi SnsSrfA
 10.7 cpi SnsSrfA 18.5 cpi Courier
 12.7 cpi Courier 20.3 cpi SnsSrfA
 13.5 cpi Courier 20.3 cpi Courier
 14.5 cpi Courier 22.6 cpi Courier
 15.6 cpi Courier 25.4 cpi Courier
 34.0 cpi SnsSfrA

Downloaded fonts are also displayed.

This item selects the default font and character pitch to be used when the printer receives simple ASCII text or no other font is specified by the host application. The fonts listed above are contained in the printer firmware, but additional bit-mapped fonts may be downloaded. Please refer to the *DP-5XX Programmer's Manual* for more information.

Scalable Font Set

Possible Values: Default Scalable*, Downloaded Font Sets

This item selects the font set to be used when a host application requests that a font be scaled to a larger size. This provides fonts that have a “smoother” appearance when enlarged. For more information on using emulations and downloading fonts, please refer to the *DP-5XX Programmer's Manual*.

Resident Font Set

Possible Values: Default Resident*, Downloaded Font Sets

This item selects the font set to be used in conjunction with the particular printer control language emulation being used. This provides printer output that more closely represents the printer being emulated than might be accomplished with the fonts initially included in the printer firmware. For more information on using emulations and downloading fonts, please refer to the *DP-5XX Programmer's Manual*.

Character Placement

Possible Values: Fixed Width*, Fixed Space

This item selects the horizontal spacing method used between characters. Fixed Width is used when all characters are to take up the same amount of horizontal space regardless of the actual size of the character (mono-space). Fixed Space is used when each character is to take up only enough horizontal space to print the actual character shape (proportional).

Character Space (%)

Possible Values: 0* ... 100 in increments of 5

This item selects the amount of additional horizontal white space to be placed between each character. For Fixed Width Character Placement, start with a value of 0% and make adjustments as needed for the desired output. For Fixed Space Character Placement, start with a value of 20%.

Line Spacing

Possible Values: 0 ... 3* ... 10 Lines

When printing text, this item sets the amount of spacing to be placed between lines. The height of a complete line, or line pitch, is determined by adding the Line Spacing value to the vertical size of the current font. With Line Spacing set to the default value of “3” and using a font that is 23 rows high, the line pitch would be 3 + 23, or 26 dot rows. Since each dot row is 0.125mm, 26 x 0.125 yields a line pitch of 3.25mm. or 7.8 lines per inch. This line pitch value also determines the amount of paper motion performed when an ASCII Line Feed character is received by the printer.

When printing PC Line drawing characters, Line Spacing should be set to “0” to avoid space between rows of characters used to draw vertical lines.

When printing graphic data, Line Spacing has no affect so that multiple lines of graphics may print adjacent to each other.

Long Lines

Possible Values: Wrap*, Truncate

This item specifies what is to be done with data that will not fit within the printable area. The printable area is defined as the printable line length of the print head (approximately 2.84 inches) minus the area specified by the left and right margins.

When printing text, a value of “Wrap” will cause excess data to be “wrapped around” and printed at the beginning of the next line. A value of “Truncate” will cause the excess data to be discarded.

When printing graphics, excess data will always be discarded.

Device Settings

The items in the Device Settings menu affect physical aspects of the printer and how they relate to the paper being used and the positioning of the data to be printed.

The table below lists the items available, the values that may be selected, and the factory default value. Which setup method may be used to change values is indicated by a checkmark. Note that some of these settings may be overridden by the host application software. Following the tables are detailed descriptions of each setup item. In the detailed descriptions, an asterisk (*) indicates the factory default value. For more information, please refer to the *DP-5XX Programmer's Manual*.

DEVICE SETTINGS

Menu Item	Values	Default Value	Setup Method	
			Control Panel	Setup Utility
Left Margin	0 to 1.0244"	0	✓	✓
Right Margin	0 to 1.0244"	0	✓	✓
Maximum Paper Speed	0.07 to 3.30 ips	3.30 ips	✓	✓
Form Feed Control	Front Mark, Back Mark*, Gap, Distance*	Back Mark Distance	✓	✓
Form Feed Distance	0.0394 to 2.5216"	1.2608"	✓	✓
Top of Form Adjust	-0.2955 to 0.2955"	0.0000"	✓	✓
Tear Adjust	-0.2955 to 0.3152"	0.0000"	✓	✓
Mark Sensitivity	-10 to +10	0	✓	✓

Left Margin

Possible Values: 0.0000"* ... 1.0244" in increments of 0.0394"

This item sets the left margin in inches relative to the leftmost printing position. The left margin must be less than the right margin.

Right Margin

Possible Values: 0.0000"* ... 1.2608" in increments of 0.0394"

This item sets the right margin in inches relative to the rightmost printing position.

Text characters that would have printed to the right of the margin will either be "wrapped around" and printed on the next line, or will be discarded based on the setting for "Truncate Lines" in the Image Management menu.

Graphic data that would have printed to the right of the margin will be truncated.

Maximum Paper Speed

Possible Values: 0.07 ... 3.30* ips (2.30* for LP Models)

This item may be used to reduce the maximum paper speed if necessary to allow the printer to use heavier paper or labels, narrow paper or labels, or some coated papers that have a more slippery finish.

Form Feed Control

Possible Values: Front Mark, Back Mark*, Gap, Distance*


***Note:** In non "LP" models, only Front Mark and Distance are available. Distance is the default.
In "LP" models, Back mark is the default.

Mark Sensing is used to identify form or label position marking and must be set to match the paper being used. The use of Black Mark or Gap sensing is associated with the design of the application program that is controlling the printer. For more information on Black Mark or Gap sensing, please refer to the *DP-5XX Programmer's Manual*.

Form Feed Distance

Possible Values: 0.0394” ... 1.2608”* ... 2.5216”

Note: This item is only available when Form Feed Control is set to “Distance”.

This item sets the distance that paper is to be moved whenever the user presses the  Paper Feed Button or a Form Feed character is received from a host system.

Top of Form Adjust

Possible Values: -0.2955 ... 0* ... +0.2955”

Note: This item is not available when Form Feed Control is set to “Distance”.

This feature sets the distance from the black mark to where printing begins. A more positive number will move the print up. A more negative value will move the print down.

Tear Adjust

Possible Values: -0.2955 ... 0* ... +0.3152”

Note: This item is not available when Form Feed Control is set to “Distance”.

This feature is used to set the distance from the tear position on the paper/labels to the black mark. If the tear position is above the black mark, the value is negative. If the tear position is below the black mark, the value is positive.

Mark Sensitivity

Possible Values: -10 ... 0* ... +10

Note: This item is not available when Form Feed Control is set to “Distance”.

This item allows the Black Mark/Paper sensor to be adjusted to allow for variations in paper materials and Black Mark printing methods. The following list will help determine if, and how, the Mark Sensitivity should be adjusted.

- If the printer is not detecting black marks reliably, set the Mark Sensitivity to a lower value.
- If the printer is detecting black marks where none exist, set the Mark Sensitivity to a higher value.
- If the printer is reporting false Check Paper errors, set the Mark Sensitivity to a higher value.

Advanced

The items in the Advanced menu contains items that affect the operating modes of special printer features.

The table below lists the items available, the values that may be selected, and the factory default value. Which setup method may be used to change values is indicated by a checkmark. Note that some of these settings require images to be loaded and/or may be overridden by the host application software. For more information, please refer to the *DP-5XX Programmer's Manual*. Following the tables are detailed descriptions of each setup item. In the detailed descriptions, an asterisk (*) indicates the factory default value.

ADVANCED

Menu Item	Values	Default Value	Setup Method	
			Control Panel	Setup Utility
Auto Power Down	Off, 1-15 Minute Delay	Off	✓	✓
Print Header	No, Yes, Not Loaded	Not Loaded	✓	✓
Print Promotion	No, Yes, Not Loaded	Not Loaded	✓	✓
Reprint Mode	Disabled, Enabled	Disabled		✓
MCR Method	Always On, Host Request	Host Request	✓	✓
MCR Data	1 Track, 2 Track, 3 Track	1 Track	✓	✓

Auto Power Down

Possible Values: Off*, 1 Minute Delay ... 15 Minute Delay

This item sets whether the printer will automatically power down and if so, after what period of time of inactivity. If set to a value other than “Off”, the printer will automatically turn itself off after the specified number of minutes have passed since the printer last received data or last printed, whichever is longer.

Print Header

Possible Values: No, Yes, Not Loaded*

When set to “Yes”, this item causes a previously stored graphic image with an ID value of “?” to be printed at the beginning of each print job.

Please refer to the *DP-5XX Programmer’s Manual* for more information on storing graphics and logos.

Print Promotion

Possible Values: No, Yes, Not Loaded*

Note: This item is only available in firmware version 2.8 or later.

When set to “Yes”, this item causes a previously stored graphic image with an ID value of “\$” to be printed at the end of each print job.

This item may be used to print a special logo or graphic image of a special sales promotion or other event, that also needs to be enabled/disabled by the user in the field.

Note: In firmware version 2.9 and later, multiple graphic images may be stored with the ID values of “!”, “@”, “#”, “\$”, “%”, “^”, “&”, “*”, “(”, and/or “)”. In this case, the printer will automatically cycle through each of these images printing one at the end of each print job.

Please refer to the *DP-5XX Programmer’s Manual* for more information on storing graphics and logos.

Reprint Mode

Possible Values: Disabled*, Enabled

Note: This item is only available when using the Mobile Setup Utility.


This item sets whether the printer will attempt to reprint the current print job after a paper fault is corrected.

MCR Method

Possible Values: Always On, Host Request*

Note: This item is only available when using the Mobile Setup Utility.

This item sets whether the MCR is enabled only when a host request is received, or if it is enabled at all times.

When used in the Host Request mode, the host system sends a request to the DP-550 to enable the Magnetic Card Reader. “Swipe Card Now” will be displayed and the  MCR Indicator will flash to indicate that the card may now be passed through the MCR slot, or “swiped”.

When used in the Always On mode, the card may be swiped at any time and the data will be immediately sent to the host system.

For more information, please refer to the *DP-5XX Programmer’s Manual* for more information.

MCR Data

Possible Values: 1 Track*, 2 Track, 3 Track

Note: This item is only available when using the Mobile Setup Utility.

This item sets the number of data tracks to read when a card is swiped.

Appendix B – Using the Serial/USB Interface

Overview

Every DP-550 is equipped with a Serial Interface. Optional cables are available to provide RS-232C or USB connectivity. The serial interface is provided using an “RJ” type connector located on the left side of the printer. The connector pin assignments are shown below.

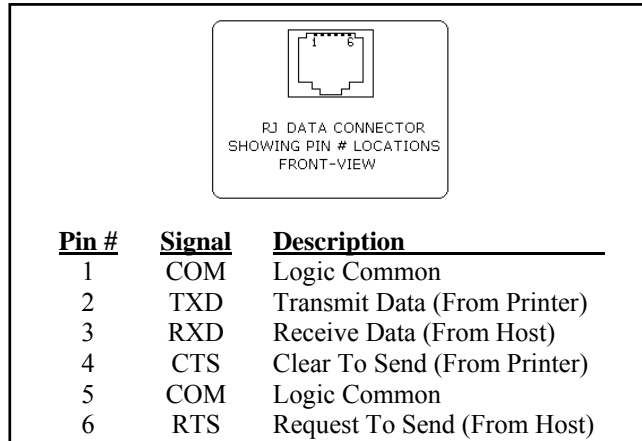


Figure 11 - Serial Interface, RJ Connector

In addition to the connector described above, DP-550si printers have a DB9F Serial Data/Power connector located on the right hand side of the printer. This connector provides connections for power input and contains duplicate signals from the RJ connector. An unterminated cable is provided with each printer and is described in Figure 12.

<u>Pin #</u>	<u>Wire Color</u>	<u>Signal</u>	<u>Description</u>
1	–	NC	
2	White	RXD	Receive Data (From Host)
3	Green	TXD	Transmit Data (From Printer)
4	Brown	NC	
5	Black	COM	Logic Common
6	–	NC	
7	–	NC	
8	Red	Power	+8-32 VDC
9	Shield		Connector Body

Figure 12 – DP-550si Serial Data/Power Cable

Selecting the Serial/USB Interface & Printing the Configuration

In order to use the Serial interface, it must be the currently “selected” interface. If your printer does not have an optional IrDA[®], Bluetooth[®], or Wi-Fi[®] interface installed, the Serial interface will always be selected. If one of the optional interfaces is installed, you may either perform a printer self test as described on page 7, or you may perform the following procedure to determine if Serial is selected and then select it if necessary.

1. Make sure the printer is powered on.
2. Press the ◀Enter Button. If the serial interface is currently selected, the following will be displayed and you may skip the next step.

```
Interface:
Serial
```

3. To select the Serial interface, press and hold the ◀Enter Button until the following is displayed.

```
Interface Now
Serial
```

4. To obtain the current parameter settings for the serial interface, press and hold the ◀Enter Button until the following is displayed. You may ignore any information on the bottom line.

```
Printing Setup:
-----
```

Serial Interface Configuration

When using the Serial Interface for RS-232C communications, the baud rate, data bits, parity, stop bit(s), and handshaking method (XON/XOFF, ETX/ACK, RTS/CTS) must match the settings on the host computer. If these settings do not match, errors and/or lost data may occur.

When using the Serial Interface for USB communications, the printer’s default values of 57,600 Baud, 8 Data Bits, 1 Stop Bit, No Parity, and RTS/CTS=Yes must be used.

The table below lists the menu items available, the values that may be selected, and the factory default value.

Following the table are detailed descriptions of each setup item. In the detailed descriptions an asterisk (*) indicates the factory default value.

The Serial Interface Menu items may be configured using either the Mobile Setup Utility as described in Appendix H or the printer’s internal Control Panel Setup feature as described in Appendix I. Which setup method may be used is indicated in the table below. Before using the Mobile Setup Utility, please read the following note.

Note: In order to use the Mobile Setup Utility, communications must first be established between the host device running the utility and the printer. This may require that you first use the Control Panel Setup to establish communications and then use the Mobile Setup Utility for final configuration or to configure items in other menus, including another interface menu if an optional interface is installed.

INTERFACE MENU – Serial Selected

Menu Item	Values	Default Value	Setup Method	
			Control Panel	Setup Utility
Emulation	Printek, Oneil, ZPL-II, Mt3, CPCL, MPL, IPL, ESim, HexDump	CPCL	✓	✓
Baud Rate	9600, 19200, 38400, 57600	57600	✓	✓
Parity	None, Even, Odd	None	✓	✓
Data Bits	7, 8	8	✓	✓
Stop Bits	1, 2	1	✓	✓
XON/XOFF	On, Off	Off	✓	✓
ETX/ACK	On, Off	Off	✓	✓
RTS/CTS	On, Off	On	✓	✓

Emulation

Possible Values: Dascom*, O’Neil, ZPL-II, Mt3, CPCL, MPL, IPL, ESim, Hex Dump

This item sets the printer control language that may be used by a host application program to control the various capabilities of the printer. The printer will only respond to commands valid for the currently selected emulation. For more information, please refer to the *DP-5XX Programmer’s Manual*.

Baud Rate

Possible Values: 9600, 19200, 38400, 57600*

This item sets the baud rate for the Serial interface. The value must match the setting used on the host system.

Parity

Possible Values: None*, Even, Odd

This item sets the parity checking requirements for the data bits in the serial character frame. The value must match the setting used on the host system.

Data Bits

Possible Values: 7, 8*

This item sets the number of data bits in the serial character frame. The value must match the setting used on the host system.

Stop Bits

Possible Values: 1*, 2

This item sets the number of stop bits included in the serial character frame. The value must match the setting used on the host system.

XON/XOFF

Possible Values: Off*, On

This item enables or disables the XON/XOFF (DC1/DC3) character handshaking method used to control data flow from the host system to the printer. When enabled, an XOFF character will be sent by the printer whenever the printer's input buffer is nearly full. An XON character will be sent whenever the printer's input buffer becomes nearly empty or if the control panel Setup Mode has been exited.

ETX/ACK

Possible Values: Off*, On

This item enables or disables the ETX/ACK character handshaking method used to control data flow from the host system to the printer. When enabled, an ACK character will be sent by the printer after an ETX character has been received and processed out of the input buffer. ETX characters used for handshaking cannot be part of an escape sequence.

RTS/CTS

Possible Values: Off, On*

This item enables or disables the RTS/CTS hardware handshaking method used to control data flow from the host system to the printer. When enabled, the printer will activate the RTS signal whenever the printer's input buffer becomes nearly empty or when the printer's control panel Setup Menus are active. The RTS signal will be deasserted whenever the printer's input buffer becomes nearly empty or Setup Mode has been exited.

Likewise, the printer will not send data to the host system if the host has asserted the CTS signal.


Note: This handshaking method may only be used when using the RJ serial connector on the left side of the printer. These signals are not available on the DB9F connector available on DP-550si models.

Appendix C – Using the IrDA[®] Interface

Overview

In addition to the standard Serial interface, your DP-550 may be equipped with an optional IrDA[®] interface. To determine if this interface is installed in your printer, you may look at the model description on the serial number label on the back of the printer. You may also refer to “Performing A Printer Self Test” on Page 7.

The IrDA interface uses infrared light to provide a cable free, short range interface. Since the communications medium is light, it is “line-of-sight” and requires that the interfaces on the printer and the host device be aligned with, or pointed at, each other. The printer’s transmitter and receiver are located behind an “IrDA Window” as indicated in Figure 13.

Whenever a host computer has established a connection with the printer, the  Wireless Indicator will illuminate.

Note: The printer’s IrDA implementation makes use of IrCOMM rather than IrLPT. As a result, some host systems will require that the printer connection be established using a “COM” port rather than selecting “IrDA”. In most PDA’s this will be “COM3”.

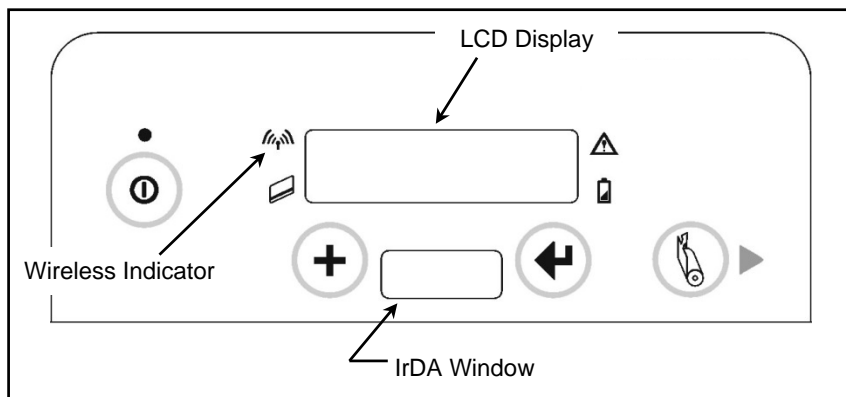



Figure 13 – Wireless Indicator & IrDA Window

Selecting the IrDA[®] Interface

In order to use the IrDA interface, it must be the currently “selected” interface. To determine if the IrDA interface or the Serial interface is selected, you may either perform a printer self test as described on page 7, or you may perform the following procedure to determine if it is selected and then select it if necessary.

1. Make sure the printer is powered on.
2. Press the  Enter Button. If the IrDA interface is currently selected, the following will be displayed and you may skip the next step.

```
Interface:
IrDA
```

3. To select the IrDA interface, press and hold the ◀ Enter Button until the following is displayed.

Interface Now IrDA

4. To obtain the current parameter settings for the IrDA interface, press and hold the ◀ Enter Button until the following is displayed. You may ignore any information on the bottom line.

Printing Setup: -----

IrDA® Interface Configuration

When using IrDA® communications, the only interface setting that is required is the printer emulation language as indicated below.

The emulation may be configured using either the Mobile Setup Utility or the printer’s internal Control Panel Setup feature as described in Appendix I. Before using the Mobile Setup Utility, please read the following note and then refer to Appendix H.

Note: In order to use the Mobile Setup Utility, communications must first be established between the host device running the utility and the printer. This may require that you first use the Control Panel Setup to establish communications and then use the Mobile Setup Utility for final configuration or to configure items in other menus.

INTERFACE MENU – IrDA Selected

Menu Item	Values	Default Value	Setup Method	
			Control Panel	Setup Utility
Emulation	Printek, Oneil, ZPL-II, Mt3, CPCL, MPL, IPL, ESim, HexDump	CPCL	✓	✓

Emulation

Possible Values: Printek, O’Neil, ZPL-II, Mt3, CPCL*, MPL, IPL, ESim, Hex Dump

This item sets the printer control language that may be used by a host application program to control the various capabilities of the printer. The printer will only respond to commands valid for the currently selected emulation. For more information, please refer to the *DP-5XX Programmer’s Manual*.


Appendix D – Using the Bluetooth® Interface

Overview

In addition to the standard Serial interface, your DP-550 may be equipped with an optional Bluetooth® interface. To determine if this interface is installed in your printer, you may look at the model description on the serial number label on the back of the printer. You may also refer to “Performing A Printer Self Test” on page 7.


The DP-550 Bluetooth interface acts as a “serial port adapter” operating as a “server”. Being a serial port adapter means that the printer may appear as a “Serial Device” when discovered, rather than as a “Printer”. Operating as a server, other devices such as a PDA or other host computer may initiate the connection to the printer.

When discovered, the default name that will appear will be “DP-550-*aaannnnn*” where “*aaannnnn*” is the printer’s serial number. To obtain the printer’s Bluetooth name, you may use the printer’s setup menus or you may have the printer print it out.


Whenever a host device has established a connection to the printer, the  Wireless Indicator will be lit. When the host closes the connection, the indicator will turn off. To conserve battery power, application programs should disconnect from the printer whenever possible.

Selecting the Bluetooth® Interface & Printing the Configuration


In order to use the Bluetooth interface, it must be the currently “selected” interface. To determine if the Bluetooth interface or the Serial interface is selected, you may either perform a printer self test as described on page 7, or you may perform the following procedure to determine if it is selected and then select it if necessary.

1. Make sure the printer is powered on.
2. Press the  Enter Button. If the Bluetooth interface is currently selected, the following will be displayed and you may skip the next step.

Interface:
Bluetooth

3. To select the Bluetooth interface, press and hold the  Enter Button until the following is displayed.

Interface Now
Bluetooth

4. To obtain the current parameter settings for the Bluetooth interface, press and hold the  Enter Button until the following is displayed. You may ignore any information on the bottom line.

Printing Setup:

Bluetooth® Interface Configuration

When using Bluetooth® communications, the interface parameters set in the printer must match settings in the host computer.

The table below lists the menu items available, the values that may be selected, and the factory default value.

Following the table are detailed descriptions of each setup item. In the detailed descriptions an asterisk (*) indicates the factory default value.

The Bluetooth Interface Menu items may be configured using either the Mobile Setup Utility or the printer's internal Control Panel Setup feature as described in Appendix I. Which setup method may be used is indicated in the table below. Before using the Mobile Setup Utility, please read the following note and then refer to Appendix H.

Note: In order to use the Mobile Setup Utility, communications must first be established between the host device running the utility and the printer. This may require that you first use the Control Panel Setup to establish communications and then use the Mobile Setup Utility for final configuration or to configure items in other menus.

INTERFACE MENU – Bluetooth Selected

Menu Item	Values	Default Value	Setup Method	
			Control Panel	Setup Utility
Emulation	Printek, Oneil, ZPL-II, Mt3, CPCL, MPL, IPL, ESim, Hex Dump	CPCL	✓	✓
Pairing Mode	Paired, Unpaired	Paired	✓	✓
Role Policy	Defer, Master	Defer	✓	✓
Discoverability	On, Off	On	✓	✓
Pin	Up to 16 Numeric Characters	0	✓	✓
Security	On, Off	Off	✓	✓
Local Name	Up to 16 Alphanumeric Characters	DP-550-Serial	✓	✓
Address	Twelve digit hexadecimal string	Factory Set		

Emulation

Possible Values: Printek, O'Neil, ZPL-II, Mt3, CPCL*, MPL, IPL, ESim, Hex Dump

This item sets the printer control language that may be used by a host application program to control the various capabilities of the printer. The printer will only respond to commands valid for the currently selected emulation. For more information, please refer to the *DP-5XX Programmer's Manual*.

Pairing Mode

Possible Values: Paired*, Unpaired

This item allows Bluetooth pairing to occur between the printer and the connecting device whenever Security is required by either device. Pairing requires that the PIN on the printer and the connecting exactly match each other.

Role Policy

Possible Values: Defer*, Master

Note that this item is only available in firmware version 2.8 or later.

This item selects the role of the printer's interface in the Bluetooth network.

If the device attempting to communicate with the printer is having trouble discovering the printer, setting the value to Master may correct the problem.

Discoverability

Possible Values: Off, On*

This item is used to set whether the printer may be discovered by other Bluetooth devices.

PIN

Possible Values: 0*, Up to 16 Numeric Characters.

Note that this item is only available if Paring Mode is set to Paired.

To advance through the character positions, press the ► Advance Button. To change the character at the current position, press the + Increment Button. The characters that may be selected are "0123456789" and SPACE. Setting a character to SPACE will terminate the value being set.

Security

Possible Values: Off*, On

Setting Security to On forces the printer and the remote device to use pairing. Setting Security On requires that Pairing is set to Paired and that a PIN has been entered that matches the PIN in the remote device.

Local Name

Possible Values: DP-550-aaannnnn*,

Up to 16 characters of "0" through "9", "A" through "Z", "a" through "z", "-", "_", SPACE

This item sets the name that will be displayed by most host systems when "discovering" the printer. When shipped from the factory, the default value for the Bluetooth Local Name is "DP-550-aaannnnn" where "aaannnnn" is the printer's serial number. This name may be changed to any combination of letters, numbers, dashes, underscores, and SPACES. The name may be up to 16 characters in length.

To advance through the character positions of the name, press the ► Advance Button. To change the character at the current position, press the + Increment Button. The order of characters that may be selected is "0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz - _ SPACE".

Address

Possible Values: Twelve digit hexadecimal string.

This item displays the unique hardware value associated with the particular Bluetooth interface installed in the printer. This value is set by the hardware manufacturer, is guaranteed to be unique for each interface, and may not be changed.


Appendix E – Using the Wi-Fi® Interface

Overview

In addition to the standard Serial interface, your DP-550 may be equipped with an optional Wi-Fi®, IEEE 802.11a/b/g interface. To determine if this interface is installed in your printer, you may look at the model description on the serial number label on the back of the printer. You may also refer to “Performing A Printer Self Test” on Page 7.

The DP-550 Wi-Fi interface acts as a server and will accept connections from any host device such as a PDA, notebook computer, or a network server.


To print out the current Wi-Fi configuration details, follow the instructions below. This is especially useful for obtaining the current IP address when assigning addresses via DHCP. Be sure to wait several seconds after turning the printer on to allow it to establish a connection with the network and be assigned an address.

The  Wireless Indicator will light whenever the printer is receiving a print job.


When operating in Infrastructure mode, the printer will attempt to conserve battery power whenever possible by placing the Wi-Fi interface into a low power mode when not communicating. However, according to the IEEE 802.11b standard, the printer must be granted “permission” from the network’s Access Point before operating in the low power mode. Since different Access Point manufacturers implement this item differently, the amount of power saving actually achieved varies. The actual power saving also varies with the amount of network traffic.

Selecting the Wi-Fi® Interface & Printing the Configuration


In order to use the Wi-Fi interface, it must be the currently “selected” interface. To determine if the Wi-Fi interface or the Serial interface is selected, you may either perform a printer self test as described on page 7, or you may perform the following procedure to determine if the Wi-Fi interface is selected and then select it if necessary.

1. Make sure the printer is powered on.
2. Press the  Enter Button. If the Wi-Fi interface is currently selected, the following will be displayed and you may skip the following step.

```
Interface:
Wi-Fi
```

3. To select the Wi-Fi interface, press and hold the  Enter Button until the following is displayed.

```
Interface Now
Wi-Fi
```

4. To obtain the current parameter settings for the Wi-Fi interface, press and hold the  Enter Button until the following is displayed. You may ignore any information on the bottom line.

```
Printing Setup:
-----
```

Wi-Fi® Interface Configuration

When using Wi-Fi® communications, the interface parameters set in the printer must match settings in the host computer or network access point.

The table below lists the menu items available, the values that may be selected, and the factory default value.

Following the table are detailed descriptions of each setup item. In the detailed descriptions an asterisk (*) indicates the factory default value.

The Wi-Fi Interface menu items may be configured using either the Mobile Setup Utility or the printer's internal Control Panel Setup feature as described in Appendix I. Which setup method may be used is indicated in the table below. Before using the Mobile Setup Utility, please read the following note and then refer to Appendix H.

Note: In order to use the Mobile Setup Utility, communications must first be established between the host device running the utility and the printer. This may require that you first use the Control Panel Setup to establish communications and then use the Mobile Setup Utility for final configuration or to configure items in other menus.

To access the WiFi Printer's Web page, enter the IP address of the printer in the address bar of your browser on any computer on the same network.

You will be immediately presented with a login dialog, enter the username "DPAC" and the password "DPAC".



INTERFACE MENU – Wi-Fi Selected

Menu Item	Values	Default Value	Setup Method		
			Control Panel	Setup Utility	Web Page
Emulation	Printek, O’Neil, ZPL-II, Mt3, CPCL, MPL, IPL, ESim, Hex Dump	CPCL	✓	✓	
Pass Through Mode	On, Off	Off	✓	✓	✓
SSID		Any		✓	✓
Type	Access Point, Ad Hoc	Ad Hoc		✓	✓
Channel		1		✓	✓
Encryption	WEP 64, WEP 128, WPA, Open	Open		✓	✓
Authentication	Open PSK, Shared PSK, PSK, Leap	Open PSK		✓	✓
Auth Protocol	PAP, MS-CHAP v2	PAP		✓	✓
Use WEP Key #		1		✓	✓
IP Method		DHCP		✓	✓
Address		192.0.0.192		✓	✓
Subnet		255.255.255.0		✓	✓
Gateway		192.0.0.1		✓	✓
Printer Server Port		8023		✓	✓
Advanced Features	Contact Dascom Technical Support				✓

Emulation

Possible Values: Printek, O’Neil, ZPL-II, Mt3, CPCL* may be used by a host application program to control the various capabilities of the printer. The printer will only respond to commands valid for the currently selected emulation. For more information, please refer to the *DP-5XX Programmer’s Manual*.

Note: After pressing the **↵** Enter Button to move from Emulation to WLAN Type, the printer will pause and display “Waiting for Wi-Fi” while reading the current configuration from the Bluetooth interface module.

Radio Pass Through

Possible Values: On, Off*

This item will allow direct access to the printer’s Wi-Fi module using a Telnet session. Contact Dascom Technical Support for a list of commands.

Appendix F – Additional Setup Features

An additional security menu is available for system administrators who prefer to “lock out” operator changes to other setup menus. This method of security can be set independently for the each of the menus.

To access the Security menu, you must press and hold the **+** Increment Button (not the **↵** Enter Button) while turning the printer on. Once Setup is entered, press the **↵** Enter Button to advance through the menus that may be controlled as listed in the table below.

When set to “Edit Allowed”, the user is allowed to make changes to any item in the menu specified. When set to “View”, the operator can review the settings, but cannot edit, or change, the values. When set to “Initialize”, the printer will reset all values in that menu to the factory default values and security will be reset to “Edit Allowed”.

Note: When initializing the Interface menu, all items for all interfaces will be reset to factory default values, including the optional IrDA, Bluetooth, and Wi-Fi interfaces. Also, if installed, the optional interface will be set as the currently “selected” interface.

SECURITY

Menu Item	Values	Default Value	Setup Method	
			Control Panel	Setup Utility
Interface	Edit Allowed, View, Initialize	Edit Allowed	✓	✓
Image Management	Edit Allowed, View, Initialize	Edit Allowed	✓	✓
Device Settings	Edit Allowed, View, Initialize	Edit Allowed	✓	✓
Advanced	Edit Allowed, View, Initialize	Edit Allowed	✓	✓

Appendix G – Printer Setup Menu Summary

INTERFACE MENU – Serial Selected

Menu Item	Values	Default Value	Setup Method	
			Control Panel	Setup Utility
Emulation	Printek, Oneil, ZPL-II, Mt3, CPCL, MPL, IPL, ESim, HexDump	CPCL	✓	✓
Baud Rate	9600, 19200, 38400, 57600	57600	✓	✓
Parity	None, Even, Odd	None	✓	✓
Data Bits	7, 8	8	✓	✓
Stop Bits	1, 2	1	✓	✓
XON/XOFF	On, Off	Off	✓	✓
ETX/ACK	On, Off	Off	✓	✓
RTS/CTS	On, Off	On	✓	✓

INTERFACE MENU – IrDA Selected

Menu Item	Values	Default Value	Setup Method	
			Control Panel	Setup Utility
Emulation	Printek, Oneil, ZPL-II, Mt3, CPCL, MPL, IPL, ESim, Hex Dump	CPCL	✓	✓

INTERFACE MENU – Bluetooth Selected

Menu Item	Values	Default Value	Setup Method	
			Control Panel	Setup Utility
Emulation	Printek, Oneil, ZPL-II, Mt3, CPCL, MPL, IPL, ESim, Hex Dump	CPCL	✓	✓
Pairing Mode	Paired, Unpaired	Paired	✓	✓
Role Policy	Defer, Master	Defer	✓	✓
Discoverability	On, Off	On	✓	✓
Pin	Up to 16 Numeric Characters	0	✓	✓
Security	On, Off	Off	✓	✓
Local Name	Up to 16 Alphanumeric Characters	DP-550-Serial	✓	✓
Address	Twelve digit hexadecimal string	Factory Set		

INTERFACE MENU – Wi-Fi Selected

Menu Item	Values	Default Value	Setup Method		
			Control Panel	Setup Utility	Web Page
Emulation	Printek, O’Neil, ZPL-II, Mt3, CPCL, MPL, IPL, ESim, Hex Dump	CPCL	✓	✓	
Pass Through Mode	On, Off	Off	✓	✓	✓
SSID		Any		✓	✓
Type	Access Point, Ad Hoc	Ad Hoc		✓	✓
Channel		1		✓	✓
Encryption	WEP 64, WEP 128, WPA, Open	Open		✓	✓
Authentication	Open PSK, Shared PSK, PSK, Leap	Open PSK		✓	✓
Auth Protocol	PAP, MS-CHAP v2	PAP		✓	✓
Use WEP Key #		1		✓	✓
IP Method		DHCP		✓	✓
Address		192.0.0.192		✓	✓
Subnet		255.255.255.0		✓	✓
Gateway		192.0.0.1		✓	✓
Printer Server Port		8023		✓	✓
Advanced Features	Contact Dascom Technical Support				✓

IMAGE MANAGEMENT

Menu Item	Values	Default Value	Setup Method	
			Control Panel	Setup Utility
Print Contrast	-75 to +125	0	✓	✓
Default Font	SansSerifA at 4.2, 5.5, 10.2, 10.7, 16.9, 18.5, 20.3, 34.0 cpi; Courier at 12.7, 13.5, 14.5, 15.6, 16.9, 18.5, 20.3, 22.6, 25.4, 34.0 cpi; F Gothic 3.0, 4.6, 6.1, 7.8, 11.2, 18.4 cpi; 23x21OCR; ROT OCRA; or Downloaded fonts if present.	16.9 Courier	✓	✓
Scalable Font Set	Default Scalable or Downloaded font sets if available.	Default Scalable	✓	✓
Resident Font Set	Default Resident or Downloaded font sets if available.	Default Resident	✓	✓
Character Placement	Fixed Width, Fixed Space	Fixed Width	✓	✓
Character Space (%)	0 to 100	0	✓	✓
Line Spacing	0 to 10 Lines	3		✓
Long Lines	Wrap, Truncate	Wrap	✓	✓

DEVICE SETTINGS

Menu Item	Values	Default Value	Setup Method	
			Control Panel	Setup Utility
Left Margin	0 to 1.0244"	0	✓	✓
Right Margin	0 to 1.0244"	0	✓	✓
Maximum Paper Speed	0.07 to 3.30 ips	3.30 ips	✓	✓
Form Feed Control	Front Mark, Back Mark*, Gap, Distance*	Back Mark Distance	✓	✓
Form Feed Distance	0.0394 to 2.5216"	1.2608"	✓	✓
Top of Form Adjust	-0.2955 to 0.2955"	0.0000"	✓	✓
Tear Adjust	-0.2955 to 0.3152"	0.0000"	✓	✓
Mark Sensitivity	-10 to +10	0	✓	✓

ADVANCED

Menu Item	Values	Default Value	Setup Method	
			Control Panel	Setup Utility
Auto Power Down	Off, 1-15 Minute Delay	Off	✓	✓
Print Header	No, Yes, Not Loaded	Not Loaded	✓	✓
Print Promotion	No, Yes, Not Loaded	Not Loaded	✓	✓
Reprint Mode	Disabled, Enabled	Disabled		✓
MCR Method	Always On, Host Request	Host Request	✓	✓
MCR Data	1 Track, 2 Track, 3 Track	1 Track	✓	✓

Appendix H – Mobile Setup Utility

This utility should be part of your Developer's CD. It can also be obtained by contacting Dascom Technical Support.

How to use:

First, you must configure your communication parameters by clicking the 'Help and Options' button.

Navigate using the arrow keys (on a keyboard), or the directional-pad (on a Windows Mobile Device).

Most settings can be incremented or decremented using the Left and Right keys.

Some settings require a line of text, which can be entered in by pressing the Enter (keyboard) or Center (D-pad) key. When you are done typing, hit the Enter key again.

You can return to the main menu by pressing the Escape (keyboard) key.

NOTE:

If Dascom printer driver is used for TCP/IP printing, it may block access to the TCP socket. Please set the printer driver as "Use Printer Offline" in the Windows printer list. This will open the socket and allow Mobile Setup to connect to the printer.

System Requirements:

Printer firmware version 6.00 or later.

The Utility can be installed on any machine meeting the following requirements.

Windows PC:

Microsoft .Net Framework version 2.0 or later.

Windows Mobile device:

Microsoft .Net Compact Framework version 2.0 or later. (Windows CE 5.0+ and Windows Mobile 5.0+ should be already compatible.)

Blackberry Smartphone – please call Dascom Technical Support.

Appendix I – Control Panel Setup

Control Panel Setup allows the user to configure most features of the DP-550. Some items may require using the Dascom Mobile Setup Utility described in Appendix H.

The list below describes where in this manual you may find detailed information for each of the setup menus. Each section begins with a summary table which describes which setup method(s) may be used.

<u>Menu</u>	<u>Appendix</u>	<u>Page</u>
Interface – Serial/USB	Appendix B	27
Interface – IrDA	Appendix C	31
Interface – Bluetooth	Appendix D	33
Interface – Wi-Fi	Appendix E	37
Image Management	Appendix A	20
Device Settings	Appendix A	22
Advanced	Appendix A	24

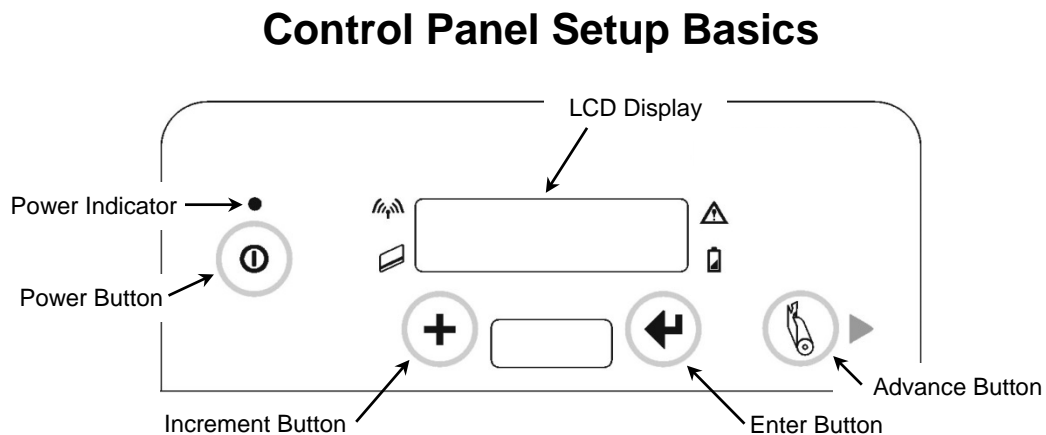


Figure 14 - DP-550 Control Panel

When in Setup, the top line of the LCD Display shows the name of the menu or the name of an “item” within the menu. The bottom line of the display shows the current value that is set to be used for the item displayed on the top line.

The Setup menus operate as a “What You See Is What You Get” system. This means that whenever you view or change any of the menu choices available, the value showing when you proceed to the next item or exit Setup is the value the printer will use after you exit Setup. Note that when exiting Setup, you may elect to discard any changes.

Entering Setup

To enter Setup, press and hold the ◀ Enter Button while turning on the printer with the Ⓞ Power Button. Continue to hold the Enter Button until “Menus Active” appears on the LCD Display. After releasing the ◀ Enter Button, “Entering Setup Menus” will be displayed momentarily before advancing to the “FORMAT MENU”. While in Setup Mode, the power indicator will blink slowly.

Selecting Menus

Once Setup Mode has been successfully entered, the “INTERFACE” menu is the first menu displayed. Note that while in Setup Mode, the 📄 Paper Feed Button now operates as an ▶ Advance Button. To advance to the “IMAGE MANAGEMENT”, “DEVICE SETTINGS”, “ADVANCED”, or “STATUS” menus, or to “Exit Setup”, press the ▶ Advance Button until the desired menu is displayed. With a few exceptions which are described where appropriate, pressing the ▶ Advance Button will always advance you to the next menu.

Exiting Setup

Setup may be exited by pressing the ▶ Advance Button until “Exit Setup” is displayed on the top line of the LCD Display, and “Save Changes” is displayed on the bottom line. To save any changes you have made and exit Setup press the ◀ Enter Button. “Exiting Menus Saving Changes” will be displayed.

If you do not want to save the changes you have made, press the + Increment Button to display “Discard Changes” on the bottom line and then press the ◀ Enter Button. “Exiting Menus No Changes” will be displayed.

After Setup is exited and any changes saved, the printer will reset and reinitialize itself to adopt any changes that may have been made. Note that when this reset occurs, any data that may have been in the input buffer will be discarded.

Control Panel Setup Examples

The following examples provide step-by-step instructions for changing parameters from the factory default values.

Example: Changing Print Contrast and the Default Font

This example shows the steps required to change the print contrast from 0 to +10, and then continue on to change the font selection from 16.9 cpi Courier to 18.5 cpi Courier.

Note that either of these values may be overridden by your software application. When this occurs, selecting a different value in Setup will not change the output printed by your application. This may also apply to some other items within the Format Menu.

1. Make sure the printer is turned off.

2. Hold the ↵ Enter Button and turn the printer on with the ⏻ Power Button. Hold the ↵ Enter Button until “Menus Active” is displayed.	Menus Active
3. After releasing the ↵ Enter Button, the printer will display “Entering Setup Menus” and will then proceed to “Interface” and will display the currently active interface on the bottom line.	<div data-bbox="1128 882 1425 951">Entering Setup Menus</div> <div data-bbox="1128 972 1425 1035">INTERFACE Current 1/0</div>
4. Press the ▶ Advance Button to proceed to the “Image Management” menu.	IMAGE MANAGEMENT
5. Press the ↵ Enter Button to enter Image Management. The first item displayed is “Print Contrast” with the current value of “0”.	Print Contrast: 0
6. Press the + Increment Button two times to advance the value to “10”.	<div data-bbox="1128 1245 1425 1314">Print Contrast: + 5</div> <div data-bbox="1128 1335 1425 1398">Print Contrast: + 10</div>
7. Press the ↵ Enter Button to leave Print Contrast set to +10 and move to “Default Font:”. The current value, “16.9 cpi Courier”, is displayed.	Default Font: 16.9 cpi Courier
8. Press the + Increment Button two times to advance the value to “18.5 cpi Courier”.	<div data-bbox="1128 1518 1425 1587">Default Font: 18.5 cpi SnsSrfA</div> <div data-bbox="1128 1608 1425 1671">Default Font: 18.5 cpi Courier</div>
9. Press the ▶ Advance Button until “Exit Setup Save Changes” is displayed.	Exit Setup Save Changes
10. Press the ↵ Enter Button to exit Setup. The printer will indicate that it is saving the changes, will perform an internal reset, and then be ready for use with the new values that were entered.	Exi ti ng Menus Savi ng Changes

Example: Changing the Serial Interface Baud Rate

This example shows the steps required to change the serial baud rate from 57600 to 38400.


1. Make sure the printer is turned off.	
2. Hold the ↵ Enter Button and turn the printer on with the ⏻ Power Button. Hold the ↵ Enter Button until “Menu Active” is displayed.	Menu Active
3. After releasing the ↵ Enter Button, the printer will display “Entering Setup Menu” and will then proceed to “Interface” and will display the currently active interface on the bottom line. Note: If “Serial” is not displayed, please refer to “Appendix B – Using the Serial/USB Interface” for instructions on how to make Serial the currently selected interface.	Entering Setup Menu INTERFACE Serial
4. Press the ↵ Enter Button to enter “Interface”, and continue to press the ↵ Enter Button until “Baud Rate: 57600” is displayed.	Emulation Dascom Baud Rate 57600*
5. Press the + Increment Button three times to advance the value to “38400”.	Baud Rate 9600 Baud Rate 19200 Baud Rate 38400
6. Press the ▶ Advance Button until “Exit Setup Save Changes” is displayed.	Exit Setup Save Changes
7. Press the ↵ Enter Button to exit Setup. The printer will indicate that it is saving the changes, will perform an internal reset, and then be ready for use with the new values that were entered.	Exiting Menu Saving Changes

Appendix J - Power Considerations

DP-550 printers are designed to provide superior output using as little power as necessary. This provides the longest possible battery life. The printers may also be operated from an external power adapter when used in a more permanent installation in a vehicle or office. The following discussions indicate how the printer accomplishes this power conservation using items such as Standby and Auto Power Down. For more information on battery charging, please refer to “Charging the Battery” on page 14.


Note: DP-550si models do not use an internal battery. However, Standby Operation is still functional and the Auto Power Down feature is still available.

Standby Operation

When operating on battery power, the printer automatically enters a Standby mode one minute after last receiving data, printing, a front panel button is pressed, or a magnetic card reader swipe operation. When in Standby, the printer will briefly flash the  Power Indicator and the LCD display will be blank.

While in Standby the printer turns off as many power consuming components as possible. However, the printer remains fully capable of receiving data or responding to a control panel button. The printer will automatically “wake up” when it begins to receive data from a host system, or when any front panel Button is pressed.

Auto Power Down

To conserve even more battery power, the printer may also be configured to turn itself off after a specified number of minutes of inactivity. When the printer powers down, this is equivalent to turning the printer off using the  Power Button and the printer will no longer respond to incoming data.

To enable Auto Power Down, please refer to the Advanced menu settings on page 24.

Operation Without A Battery

DP-550si models do not have an internal battery and must be powered from an external 8-32 VDC supply. This makes these printers ideal for automotive applications and for use with industrial equipment such as forklifts.

DP-550 printers (non “si” models) may also be operated without their internal battery by using an optional power adapter. Power adapters are available for use with 100-240VAC/50-60Hz with the correct plug for several countries, and for 12/24VDC vehicle applications.

Caution: Use only Dascom power addapters designed specifically for your DP-550 printer. Using a different power adapter may cause damage to the printer and will not be covered by the printer’s warranty.

Appendix K – Print & Font Samples

Print Samples

Sans Serif
5.5 cpi
0 1 2 3 4 5 ABCDEF
abc def

Sans Serif 10.2 cpi
0 1 2 3 4 5 ABCDEF abc def

Sans Serif 10.7 cpi
0 1 2 3 4 5 ABCDEF abc def

Courier 12.7 cpi
0 1 2 3 4 5 ABCDEF abc def

Courier 13.5 cpi
0 1 2 3 4 5 ABCDEF abc def

Courier 14.5 cpi
0 1 2 3 4 5 ABCDEF abc def

Courier 15.6 cpi
0 1 2 3 4 5 ABCDEF abc def

Courier 16.9 cpi
0 1 2 3 4 5 ABCDEF abc def

Courier 18.5 cpi
0 1 2 3 4 5 ABCDEF abc def

Courier 20.3 cpi
0 1 2 3 4 5 ABCDEF abc def

Courier 22.3 cpi
0 1 2 3 4 5 ABCDEF abc def

Courier 25.4 cpi
0 1 2 3 4 5 ABCDEF abc def

Courier 12.7 cpi

Courier 12.7 cpi **Emphasized**

Courier 12.7 cpi 2xHigh

Courier 12.7 cpi 2xHigh & **Emphasized**

Courier Font With International Extended Character Set

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
2	!	"	#	\$	%	&	'	()	*	+	,	-	.	/	
3	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
4	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
5	P	Q	R	S	T	U	V	W	X	Y	Z	[\]	^	_
6	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
7	p	q	r	s	t	u	v	w	x	y	z	{		}	~	
8	ç	ü	é	â	ä	à	á	ç	ê	ë	è	í	î	ì	ñ	ñ
9	è	æ	å	ô	ö	ò	ó	ù	ý	ö	ü	ø	é	ø	x	f
A	á	í	ó	ú	ñ	Ñ	æ	ø	¿	↓	½	¼	¡	«	»	
B	ç	ş	ô	ö	ï	â	â	â	0	1	Γ	Δ	Ε	¥	Π	
C	φ	ψ	κ	γ	ó	ε	ä	ñ	ζ	η	θ	x	λ	ξ	σ	ς
D	τ	ν	Ê	Ë	È	Ψ	Í	Î	Ï	Ω	Á	É	Í	Ó	Ì	□
E	ó	β	ô	ò	ö	ö	μ	ρ	√	·	0	ù	ç	ý	ú	
F	±	θ	∞	Ω	Σ	π	f	v	♦	♣	♠	†	█			

Courier Font PC Line Drawing Extended Character Set

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
8	ç	ü	é	â	ä	à	á	ç	ê	ë	è	í	î	ì	ñ	ñ
9	è	æ	å	ô	ö	ò	ó	ù	ý	ö	ü	ø	é	ø	x	f
A	á	í	ó	ú	ñ	Ñ	æ	ø	¿	↓	½	¼	¡	«	»	
B	ç	ş	ô		┌	┐	└	┘	┌	┐	└	┘	┌	┐	└	┘
C	┌	┐	└	┘	┌	┐	└	┘	┌	┐	└	┘	┌	┐	└	┘
D	┌	┐	└	┘	┌	┐	└	┘	┌	┐	└	┘	┌	┐	└	┘
E	ó	β	ô	ò	ö	ö	μ	ρ	√	·	0	ù	ç	ý	ú	
F	±	θ	∞	Ω	Σ	π	f	v	♦	♣	♠	†	█			

Sans Serif Font

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
2	!	"	#	\$	%	&	'	()	*	+	,	-	.	/	
3	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
4	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
5	P	Q	R	S	T	U	V	W	X	Y	Z	[\]	^	_
6	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
7	p	q	r	s	t	u	v	w	x	y	z	{		}	~	□
8	€	□	,	f	„	…	†	‡	^	%	Š	◁	Œ	□	Ž	□
9	□	'	'	“	”	•	—	~	™	š	›	œ	□	ž	ÿ	
A	ı	ç	£	¤	¥	¦	§	¨	©	ª	«	¬	-	®	¯	
B	°	±	²	³	´	µ	¶	·	,	¹	º	»	¼	½	¾	¿
C	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï
D	Ð	Ñ	Ò	Ó	Ô	Õ	Ö	×	Ø	Ù	Ú	Û	Ü	Ý	Þ	ß
E	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï
F	ð	ñ	ò	ó	ô	õ	ö	÷	ø	ù	ú	û	ü	ý	þ	

Appendix L – Specifications

Printer Specifications

Printing Specifications

Printing Method: Direct Thermal, Up To 3.3 Inches Per Second (2.3 ips in LP models)
Printing Resolution: 203 dots per inch (8 dots per mm)
Printing Width: 576 Printing Elements for up to 2.84" (7.21 cm)

Fonts/Characters/Bar codes

Fonts: A wide range of font types and sizes, from ~ 6 cpi to 34 cpi plus scaling depending on emulation chosen
International Characters: An expanding catalog available for download
Bar Codes: Code 39, Code 128, Interleaved 2 of 5, EAN08 & 13, PDF-417 and UPC depending on emulation chosen
Downloads: Downloadable fonts, graphics, logos, and additional bar codes

Connectivity

Serial: RS-232C, USB (Standard, Optional Cable Required)
Wireless Options: IrDA
Bluetooth: Complete Bluetooth® 2.0 Stack Including:
Protocols: L2CAP, RFCOMM, SDP
Profiles: GAP, SDAP, SPP
Class 2 Operation
Bluetooth® SIG QD ID: B012394
RFC2217 & EN60601 Compliant
Wi-Fi: 802.11b/g Compatible
Software Available: Drivers for Windows 98/2000/XP/7/8,
Compatible with WindowsCE/Pocket PC and Palm OS Print Utilities and SDK's
Mobile Setup utility provides convenient configuration via a Windows, Windows
CE, or Windows Mobile device.
Emulations: Emulates many popular printer brands and languages including O'Neil, Zebra
CPCL and ZPL-II, Extech, IPL, MPL, E-Sim, TEC, EPOS, and Dascom Mt3. Can
be upgraded as new emulations become available.

Data Input

Magnetic Card Reader: 3 Track, Simultaneous Read (Option)

Appendix L – Specifications

Power Management

Battery:	7.4 V, 2200mAH rechargeable 2 cell Lithium Ion (Not in DP-550si models)
Endurance:	500 pages or more than 3500 printed inches per charge (except Wi-Fi)
Internal Charging:	2 hours (requires optional power adapter). Printer may be used while charging.
Battery Free Operation:	DP-550 models may be used with only optional external power adapter, 100-240VAC 50/60Hz, or 12-24 VDC vehicle adapter. DP-550si models require external 8-32 VDC supply and have over voltage protection to 80VDC for up to one hour and failsafe protection to 180VDC.

Physical Specifications

Size:	7.0 x 5.8 x 3.3 inches, 17.8 x 14.8 x 8.4 cm (L x W x H) (Does not include ball mount on DP-550si models)
Weight:	DP-550 = 1.75 lbs. (0.79 kg) including battery DP-550si = 1.75 lbs. (0.79 kg)

Environmental Specifications

Operating Temp:	-4° to 122°F (-20° to 50°C) (-40° to 185°F (-40° to 85°C) on DP-550si models)
Storage Temp:	-4° to 140°F (-20° to 60°C)
Humidity:	10% to 90% RH (non-condensing)
Rating:	IP54 per IEC 529
Chemical Resistance:	Chemical resistant case per SAEJ1455

Operator Controls and Indicators

Display:	2 line x 16 character LCD
Indicators:	Power, Wireless Connection, Magnetic Card Reader Ready, Battery Status, Fault
Controls:	Power, Paper Feed, and two Configuration Buttons
Sensors:	Paper, Paper Door Open, Black Mark Detection, and Label Gap Detection (LP Models Only)

Memory Capacity

Flash:	2MB
SRAM:	1MB

Durability and Reliability

Drop Test:	Survives multiple 4 foot drops to concrete (each face), conforms to IEC 68-2
MTBF:	10,000 hours in normal use
Vibration Resistance:	9.8 Grms, 24 to 2000 Hz (DP-550si models only)

Regulatory Approvals

Approvals/Markings: FCC Class B
CE Mark
UL listed AC Adapters
E-mark on In-Vehicle Adapters
RoHS Compliant

Warranty

Printer: One year including print head and battery.

Paper Specifications

Receipt Paper

General Specifications: 0.0022 to 0.0065” (0.056 to 0.089mm) Thick
Black Mark Sensing On Printed Side
2.00 to 3.12” (50.8 to 79.25mm)Wide
0.75”/1.00” (19/25mm) Inside Diameter Core
2.625” (66.68mm) Maximum Outside Diameter
(Black Mark Sensing On Back Side and Gap Sensing On DP-550LP Models)

Approved Vendors: Kansaki: P300, P310, P350, P354, P390*, P530UV, TO281CA,
OP200, TO381N, F180, F380, F550
Jujo: TF-50KS-E2C
Honshu: FH65BV-3
*Standard Dascom Offering

Labels

DP-550: 0.0022 to 0.0065” (0.056 to 0.089mm) Thick
0.75”/1.00” (19/25mm) Inside Diameter Core
Black Mark Sensing On Printed Side
2.625” Maximum Outside Diameter
3.12” Maximum Width (carrier)

DP-550LP: 0.0022 to 0.0065” (0.056 to 0.089mm) Thick
0.75”/1.00” (19/25mm) Inside Diameter Core
Black Mark Sensing On Printed Side Or Back Side
Gap Sensing Between Labels
2.625” Maximum Outside Diameter
3.12” Maximum Width (carrier)

Black Mark Position

The vertical position of a Black Mark is dependent on the application program that will be used to search for and print relative to the mark. The following diagram shows the optimum position when seeking the Black Mark at the beginning of a print job and will require little, if any, reverse paper motion.

The Black Mark must be printed on the front side of the paper for the DP-550. It may optionally be printed on the back side of the paper for use with the DP-550LP models

0

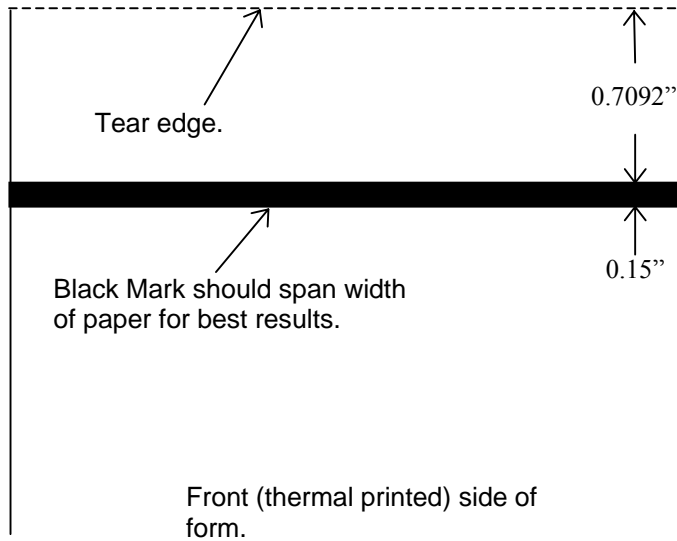


Figure 15 - Black Mark Position

Gap Sensing Specifications

Gap Sensing is only available for DP-550LP models. The minimum gap between labels is 0.125" (3.2mm).

Supplies and Accessories

Supplies

- Battery: 7.4V, 2200 mAH Li-Ion
Available separately or in 5 or 20 packs.
- Receipt Paper: 3.125" Width *
Available in cases of 36.

* Other sizes available on request.

Accessories

- Power Supplies: 100-240VAC/50-60Hz Wall Adapter
Available for: North America, South Africa/India, Korea, Continental Europe
United Kingdom/Ireland, Australia/New Zealand
12/24VDC Vehicle Adapter
- Battery Charger: Four Bay Fast Charger
- Carrying Options: Shoulder Strap
- Cables: Coiled 90° RJ11 to DB9
Coiled 90° RJ11 pigtail (unterminated)
Coiled Straight RJ11 to DB9
Uncoiled Straight RJ11 to DB9
USB Cable
DB9 pigtail (unterminated) power/data for DP-550si models only

Glossary of Terms

802.11	Wireless networking communication standards created by IEEE.
access point	An interface between a wireless network and a wired network.
Ad-Hoc	A Wi-Fi network consisting of only stations (no access point). Same as Peer-to-Peer.
ASCII	American Standard Code for Information Interchange.
authentication	The process a Wi-Fi station uses to identify itself to another station.
bandwidth	The amount of data that be transferred in a given period of time.
baud rate	The rate at which characters are transmitted over a serial interface. This is also often referred to as bits per second.
binary	Base two numbering system. Digits are represented by the characters 0 and 1.
bit	A single binary digit.
Bluetooth	A definition for short range radio frequency communications.
client	Any node on a network that requests services from another node (server).
control code	A single, non-printing character which is used to control the configuration or operation of the printer.
character pitch	The horizontal spacing of characters. Measured in cpi.
cpi	Characters per inch.
current line	The line upon which the next character will be printed.
current print position	The column on the current line where the next character will be printed.
default	Value or configuration assumed when the printer is powered on or reset.
DHCP	Dynamic Host Configuration Protocol. A method used to centrally control the assignment of IP addresses on a network.
dpi	Dots per inch. Generally used to refer to graphics density or resolution.
escape sequence	String of characters beginning with the escape (ESC) character which is used to control the configuration or operation of the printer. The characters which are part of this string are not printed.
font	A group of characters of a given shape or style.
hexadecimal	Base sixteen numbering system. Digits are represented by the characters 0 through 9 and a through f.
IEEE	Institute of Electrical and Electronic Engineers
infrastructure	A Wi-Fi network consisting of stations connecting to a wired network or other stations via an access point.
interface	The connection between the printer and the host computer.

IP	Internet Protocol. A specification for packets, or datagrams, of data and an addressing method to allow the exchange of data with another system. Must be combined with another protocol such as TCP to create a complete connection with the other system.
LAN	Local Area Network.
LCD	Liquid crystal display.
LED	Light emitting diode.
line pitch	The vertical spacing of rows of characters. Measured in lpi.
lpi	Lines per inch.
margin	An area along any edge of a form where data may not be printed.
MSB	Most significant bit. In a character, this refers to bit seven (of 0 to 7).
node	Any device connected to a network.
parity	A method used for detecting errors within a single character transmitted or received via an interface.
Peer-to-Peer	A network consisting of only stations (no access point or central server). Same as Ad-Hoc.
reset	Initialization of various operating parameters of the printer to the value or state assumed when the printer is powered on.
RS-232C	An EIA standard for serial data transmission.
server	Any node on a network that provides services to another node (client).
SSID	Service Set Identifier. An identifier attached to packets on a Wi-Fi network that identify the particular network the packets are intended for.
TCP	Transmission Control Protocol. A specification that controls the connection between systems on a network.
top of form	The vertical position where the first line is printed on the paper. Also the position the paper is advanced to when a form feed (FF) character is received from the host or the Form Feed button is pressed on the printer's control panel.
WAN	Wide Area Network. Refers to connections that allow one LAN to communicate with another LAN(s).
WEP	Wired Equivalent Privacy. A security protocol for wireless LANs designed to provide data security similar to a wired LAN.
Wi-Fi	Refers to any of the IEEE 802.11 standards.
WLAN	Wireless Local Area Network. A LAN made up of wireless nodes.

