

# Interceptor 800 Series

## Integrator's Manual



**PRINTEKMOBILE™**

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## FCC Part 15 Class A

This device has been tested and found to comply 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.

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 emits radio frequency energy but the radiated power is far below the FCC radio frequency exposure limits. To meet FCC RF exposure rules; do not co-locate or operate this product in conjunction with another antenna or transmitter and maintain 20 cm distance from body of user.

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

## Canadian Department of Communications Radio Interference Statement

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: 1) this device may not cause interference, 2) this device must accept any interference, including interference that may cause undesired operation of the device. Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication. Maximum power output plus maximum antenna gain of the EUT is:  $4.5W/m^2$ , Limit is  $10W/m^2$ .

*Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement. Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada.*

*Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante. La puissance de sortie maximale plus gain d'antenne maximal du EUT est :  $4.5W/m^2$  Limite est  $10W/m^2$*

### Additional Regulatory Marks

ISO 7637-2-2004 Road Vehicle Transients Conducted on Power Lines  
PITO AES 5 Issue 10  
CE and e-mark  
FCC Part 15, Class A

## 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](http://www.rbrc.org).



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Read all set up and operating instructions before proceeding with operation. Do not operate in an enclosure unless properly ventilated. 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. 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 Printek 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 Printek 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.

**Specifications are subject to change without notice.**

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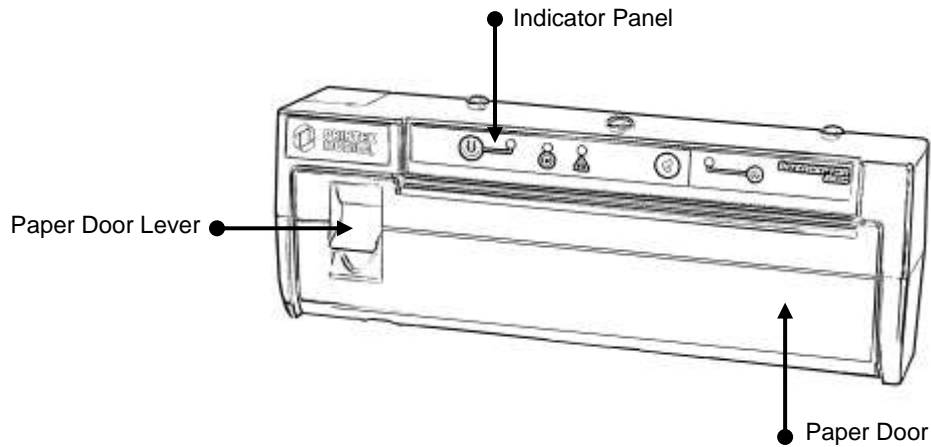
# Introduction

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Thank you for purchasing the Printek Interceptor 800 Series mobile thermal printer, also referred to in this manual as the “1800”. The 1800 prints on special thermal media supplied in roll form up to 8.5 inches wide, and includes “black mark” sensing capabilities. All models are equipped with a USB port which supports cabled, serial communications. All models support an optional internal Bluetooth or Wi-Fi interface. Complete specifications may be found in [Appendix A – Printer Specifications](#). The remainder of this manual focuses on the details of integrating the printer into your application, explaining most possible use cases for the printer. For application scenarios not described in this guide, please contact your dealer or Printek Technical Support.

## Printer Features

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Your Interceptor 800 features:

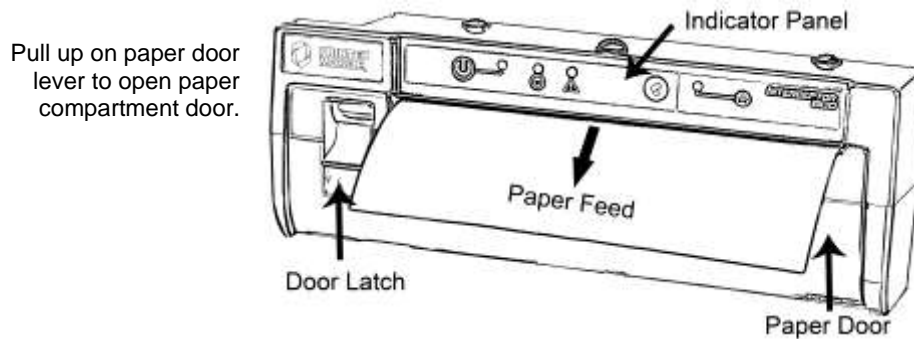
- ✓ 8.5" wide or A4 width paper options with 100' paper roll capacity
- ✓ True drop in paper loading, fully self-contained unit
- ✓ USB Plug-N-Play to Windows computers
- ✓ Wireless options available
- ✓ Fast print speeds up to 2 ips (11 pages per minute)
- ✓ External power input 12 -24 volt DC, or optional internal battery
- ✓ Driver for Windows, Android, and Linux computing hosts
- ✓ Mounting options, in dash, vertical, horizontal, upside down
- ✓ Compact, just 4.3" tall x 2.6" deep

For detailed specifications reference [Appendix A – Printer Specifications](#).

# Quick Start Instructions

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## A. Paper Load



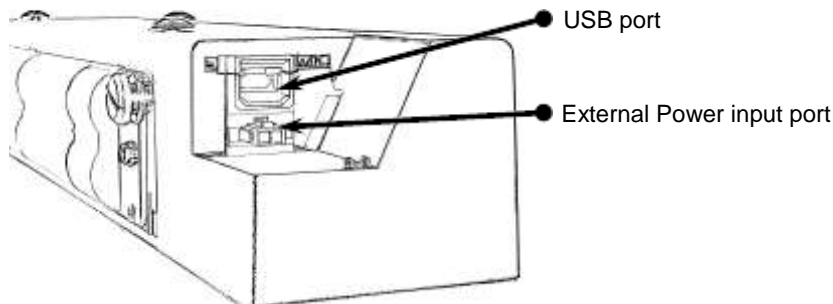
- Drop in paper with leader coming off **top** of roll as shown.
- Extend paper past paper edge and close paper door.
- Tear paper up or down against serrated tear edge.

Each printer comes supplied with a roll of standard media.

**Note:** For maximum performance and optimum print quality, use only genuine Printek media in your I800.

## B. Printer Power

### I800 without Battery – Cable Installation



**Note:** Can be used with either 12V or 24V vehicle systems.

- Snap on port cover after seating connectors for extra strain relief.

### I800 with Optional Battery – Charging & Use





- Charge before use via the printers' USB port using a standard USB Micro-B charger.
- 3 hours charge time via Printek supplied USB wall adapter.
- Approximate Battery Life of 100 pages from a full charge.
- New batteries are shipped in a partially-charged state.
- USB port is also "data in" port in normal cabled use



Charge battery when battery and alert light are flashing indicating low power.

### C. Control Panel



Indicator	Symbol	Type	Function
Power		Button	Turns printer power on or off. The indicator will light when power is on.
Battery		Light	Indicates battery charging (solid) operation and low battery (flashing).
Attention		Light	Indicates paper out, paper jam, or other malfunction.
Paper Feed		Button	Advances paper set amount (configurable).

**Note:** Wi-Fi and Bluetooth Printers will include an additional button and indicator light for wireless communication.

### D. Performing a Printer Self-Test

1. Turn off printer.

2. Press and hold  &  .

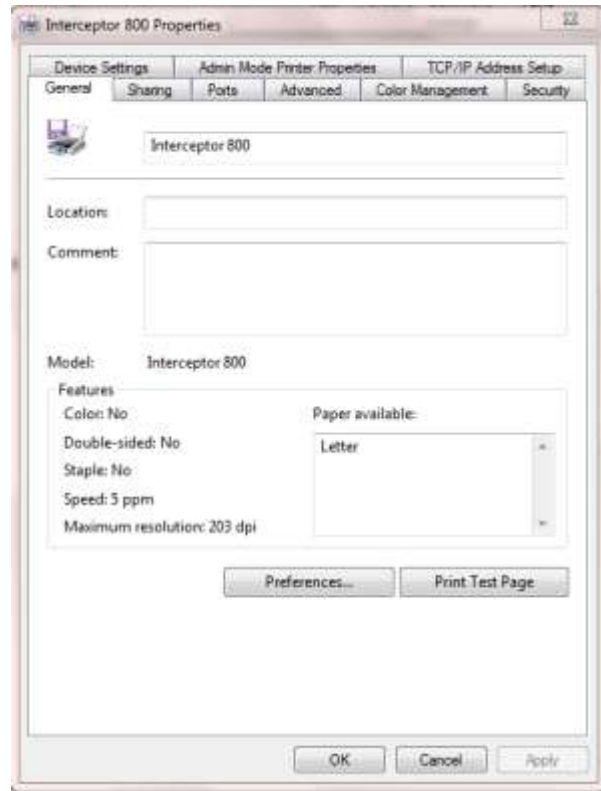
Press and hold the power and paper feed buttons at the same time. Continue to hold until the power LED turns on. In less than 8 seconds, the self-test configuration will print. Release the buttons after the printout starts.



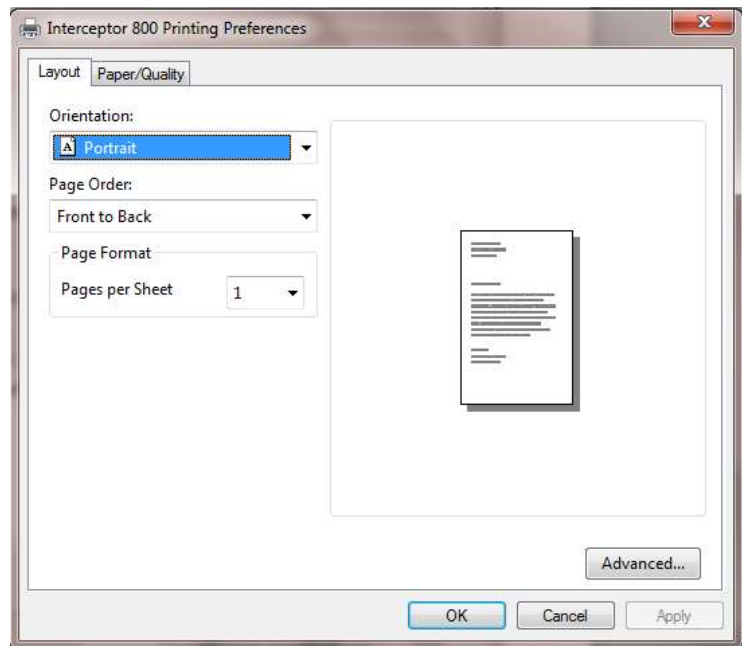
# Configuration and Setup

## A. Device Settings

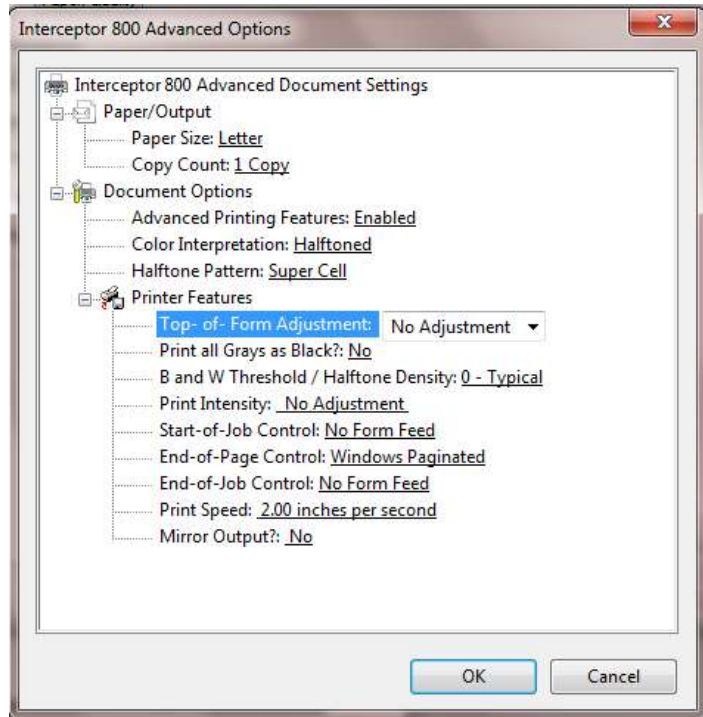
1. All printer configuration is done through the Windows Printer Driver.
2. Open your Devices and Printers folder.
3. Right Click on the Interceptor 800 icon.
4. Select Printer Properties. The Interceptor 800 Properties window will open.
5. Select “Preferences...” under the General tab.



6. Select the “Advanced...” button.



7. This will open the Advanced Options:



### Printer Configurable Features:

#### **Top-of-Form Adjustment: (Default = No Adjustment)**

Values: 0.50 in. higher to .050 in. lower

This setting is used in conjunction with the Start-of-Job Control and End-of-Page Control settings. If one of those settings change from the default value, this setting can be used to fine tune the setting.

#### **Print all Grays as Black?: (Default = No)**

Values: No or Yes

If selecting "Yes" the Color Interpretation setting must be changed to Error Deffusion. Images will be printed in black and white. No grayscale printing.

#### **B and W Threshold / Halftone Density: (Default = 0 – Typical)**

Values: -5 – Lighter to +5 – Darkest

This adjusts the contrast in your graphics printing.

#### **Print Intensity: (Default = No Adjustment)**

Values: 25% Lighter to 25% Darker

Adjusts the darkness of the print.

#### **Start-of-Job Control: (Default = No Form Feed)**

Values: Form Feed, No Form Feed, Feed 1 inch

Form Feed – when using a roll with black marks, the printer will advance paper to the black mark before starting to print.\*

No Form Feed – printer will start printing without advancing paper.

Feed 1 inch – when using a roll with black marks, the printer will advance to the black mark then feed paper 1 inch before starting to print.\*

\* Top-of-Form setting can be used to further align the print to the top of the page.

### End-of-Page Control: (Default = Windows Paginated)

Values: Form Feed, Contiguous, Feed 1 inch, Windows Paginated

Form Feed – when using a roll with black marks, the printer will advance paper to the black mark after page has completed printing.\*

Contiguous – printer will not advance paper after page is printed.

Feed 1 inch – when using a roll with black marks, the printer will advance paper 1 inch pass the black mark after page has completed printing.\*

Windows Paginated – printer will advance paper according to the paper size selected in the Paper Size setting.

\* Top-of-Form setting can be used to further align the paper to the tear bar when using black mark sensing.

### End-of-Job Control: (Default = No Form Feed)

Values: Form Feed, No Form Feed, Feed 1 inch

Form Feed – when using a roll with black marks, the printer will advance paper to the black mark after the print job has completed printing.

No Form Feed – printer will not advance paper after the print job is completed.

Feed 1 inch – when using a roll with black marks, the printer will advance paper 1 inch past the black mark after the print job has completed printing.

### Print Speed: (Default = 2.00 inches per second)

Values: 2.00 inches per second to Plot Mode.

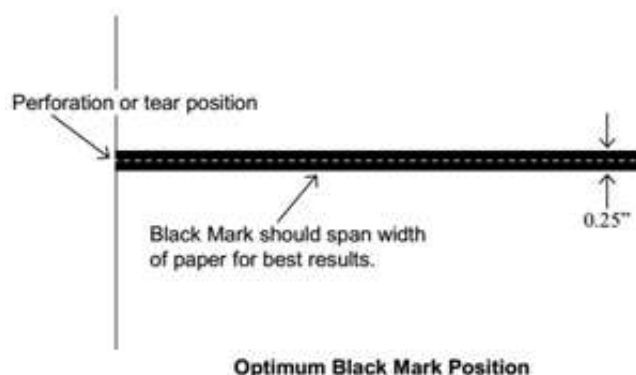
Adjusts the speed paper advances through the printer.

## B. Black Mark Operation

To use the Black Mark Sensing you will need to set the Advance Options in the Windows driver to Form Feed at the end of each page:

1. Right click on the printer icon in your Devices and Printers folder
2. Select Printer Properties
3. Select the General tab
4. Select Preferences
5. Select Advanced
6. Change the End of Page Control to Form Feed

If using media with an appropriate black mark indicator, printer will now automatically advance paper to the next black mark when it finishes a printjob.



# Printing Modes

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There are two fundamental printing modes with mobile printers.

## A. ASCII Based Print Jobs

The host sends the print job as a series of lines of characters, some of which represent the text to be printed, while other portions are command codes which tell the printer which font to use, where to locate the text, what barcodes to use, etc. These text-based files are encoded in a print language specific to the target printer.

The I800 understands ASCII based jobs in its native print language, PCCS. Refer to the Section [Print Language Commands](#) for the description of PCCS and how to use it to create an ASCII text-based printjob.

## B. Graphic Based Print Jobs

The host computer assembles the printed image as a series of dot lines, and transmits this image as a sequence of data bytes that represent the dot patterns assembled. Often these jobs or files have some control characters on the front end and / or rear end of the dot pattern bytes to define their format, help control pagination, etc.

Windows drivers, in particular, encode the image as a graphic based print job for you, before it is passed along to the printer. The difficult act of creating the image, and thus the printjob, is done for you by the driver code.

In addition to accepting graphic jobs from its Windows driver, the I800 can accept and print directly graphic images assembled specifically for it by other host types. This opens up the option to print job images from a variety of devices for which drivers or print utilities don't exist, such as tablets and smartphones. In particular, the virtual printer driver "PrintekPrint" was created for Android and iOS platforms to mimic the functionality found in the Windows desktop world, making printing from your compatible app totally transparent to the user. Below is a sample of screenshots from PrintekPrint for Android.



See the Section on [Demos, SDKs and Print Drivers](#) for further information, and visit our website for information on how to download the software you need.

# Integrating the Printer into your Business Applications

## Step by Step – Creating a Link from Host to Printer

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### A. Windows Desktop Computers

#### Print Drivers

You may download the appropriate Windows driver from our website. Install the printer driver by the standard method for your version of Windows.

Alternatively, install the printer driver by running the installation program Printek Interceptor 800.exe; this will install the driver in the manufacturer listing as “Printek Interceptor 800”.

#### I. USB

- a) Install the printer driver **Printek Interceptor 800.exe** onto your host before connecting the printer. Follow prompts displayed during installation.
- b) Plug the printer into a USB port on your host system using a micro-USB cable.
- c) The printer will appear in the unspecified devices as the drivers are loading. After the USB driver completely loads, the printer will appear as “Printek Interceptor 800” under the “Printers and Faxes”.

#### II. Discover Bluetooth

- a) Turn on printer.
- b) If the wireless LED is not on, push the wireless button to turn on the wireless interface. If the wireless LED is flashing, this indicates the printer is in the discover mode. If the wireless LED is solid, this indicates the printer is connected to a host.
- c) Your host Bluetooth manager may automatically scan for new devices, or you may need to tell it to scan. The discover name of the I800 printer will be “IN-XXXxxxxx”, where XXXxxxxx = the Printer Serial Number.
- d) For Pairing, the default passkey is 123456.

#### III. Bluetooth Windows 7 and above

- a) Open the “Devices and Printers” folder.
- b) Select “Add a Device”. The I800 printer will display using the discover name listed above.
- c) Select the printer from the list of devices.
- d) Select “Enter the Device’s Pairing Code”. The default pairing code is 123456.
- e) A window will display informing you the device was successfully added, and the printer name will appear in the devices list.
- f) Right click on the printer name or icon.
- g) Select Properties. A virtual com port number will be listed under the Services Tab – make note of this. Use this Com Port number when setting up the printer driver, under the “port settings”.

**Note:** Bluetooth host devices pair after discovery, but only **connect** to Bluetooth printers when the host application has asked it to print.

#### IV. Wi-Fi –

This feature and/or specific directions for use were not available as of this printing.

## B. Windows Tablets and Smartphones –

This feature and/or specific directions for use were not available as of this printing.

## C. Android Tablets and Smart phones

### I. Bluetooth

- a) Turn on printer. If the wireless LED is not on, push the wireless button to turn on the wireless interface. If the wireless LED is flashing, this indicates the printer is in the discover mode. If the wireless LED is solid, this indicates the printer is connected to a host.
- b) On Host, Select Settings – Bluetooth – Scan. The printer will be displayed using the discover name "IN-XXXxxxxx", XXXxxxxx = Serial Number. Select the printer and enter the passkey. The default passkey is 123456. The printer should appear in your paired devices list.

**Note:** Bluetooth host devices pair after discovery, but only **connect** to Bluetooth printers when the host application has asked it to print.

## D. Apple Tablets and Smartphones –

This feature and/or specific directions for use were not available as of this printing.

# Print Language Commands – ASCII Text-based Printjobs

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## OVERVIEW

This document describes the Printrex Control Code Standard (PCCS) set of control codes. This control code set is designed to work within a Windows® environment as well as other operating systems.

There are four categories of control codes and they are Configuration codes, Command codes, Custom codes and Manufacturing codes. Refer to the appropriate sections for detail on the specific codes within each category and the usage of those codes.

## NOTATION

Parameters are noted in the form of 'ntt', where 'n' is the parameter number and 'tt' is one of the following parameter types (example, 2sw). The valid range of „tt“ and the meaning of the value is described in the description of the code where used.

Notation	Description
sb	Signed binary byte that can represent any number from -128 to +127.
ub	Unsigned binary byte that can represent any number from 0 to 255
sw	Signed binary word (low byte first) that can represent any number from -32768 to 32767.
uw	Unsigned binary word (low byte first) that can represent any number from 0 to 65535.

## CONFIGURATION PARAMETERS

There are various control codes (Configuration Codes) that modify the printer parameters. These Configuration Codes adjust for media coating characteristics, form characteristics (form size and marker characteristics), DLA and operating system/application specific forms handling (to print continuously over multiple pages).

### DLA Control

Modified by using code: DLA Control

Different media have different friction characteristics and thickness. There are also minor differences in platen characteristics (diameter and hardness). These factors can create minor changes in the overall vertical resolution of the printer. To compensate for this, a DLA (Dot Line Adjustment) parameter is included in the configuration block. The DLA is given in terms of adjusted raster lines per 6144 raster lines. Plot length increase =  $n/6144$ .

Example, n=63:  $63/6144 = 1.0\%$  length increase

### EOJ Eject Control

Modified by using code: Forms Settings

This control determines if the printer will perform a form advance when an End Job (EOJ) command is received.

### FF Eject Control

Modified by using code: Forms Settings

This control determines if the printer will perform a form advance when a Form Feed (FF) command is received.

### **Form Length**

Modified by using code: Forms Settings

This parameter establishes the length of the form. It is given in fundamental raster line units. This parameter is used to compute the Top-of-Form location when the printer performs a form advance when there are no form markers on the page. It is also used to compute the Top-of-Form location when the distance from the print line to the form marker is greater than the distance from the print line to the form marker sensor. If this value is changed from its previous setting, Top-of-Form is set at the current location.

### **Form Marker Distance**

Modified by using code: Forms Settings

This parameter is used to compute the Top-of-Form location when the printer performs a form advance. It is the distance from the leading edge of the media Top-of-Form (perforation) to the center of the form marker and is given in fundamental raster line units. If this value is changed from its previous setting, Top-of-Form is set at the current location.

### **Form Marker Width**

Modified by using code: Forms Settings

This parameter is used to compute the center of the form marker. It is the distance from the leading edge of the form marker to the trailing edge of the form marker and is given in fundamental raster line units. Markers wider than 254 dot-lines will be ignored.

### **Form Position**

Modified by: Power Up, Door Open, using code Forms Settings

This value represents the current location on the form. It is used to determine when the printer is at the top of the form. The value is forced to the Top-of-Form position at power up, after the door is closed, or when either the Form Marker Distance or Form Length parameters change.

### **Linearity**

Modified by using code: Print Characteristics

This parameter controls the burn energy transfer function between the two set points of White Level and Saturation Level. This parameter is unit-less. A zero value takes on a straight line transfer function between White Level and Saturation Level (a perfectly linear media coating). A maximum value takes on an „S“ shaped transfer function between White Level and Saturation Level (a very non-linear media coating). This parameter is used for tonal printing only and has no effect for bi-modal printing.



## Print Quality

Modified by using code: Print Quality

This parameter controls the print quality. This parameter establishes the interline cool down time and effects the print speed. It is sometimes desirable to greatly reduce the print speed due to interface bandwidth considerations; the range of this control is extended such that a ¼ print speed can be established. It should be noted that print quality may not change appreciably throughout the range of quality values depending on the amount of converted image.

## Saturation Level

Modified by using code: Print Characteristics

This parameter establishes the burn energy required to achieve media saturation (e.g. black level for B&W printing). It is unit-less and a zero value is factory set for a typical media. This parameter can be adjusted up or down to allow for different media saturation levels. This parameter is used for tonal printing and bi-modal printing.

## White Level

Modified by using code: Print Characteristics

This parameter establishes the burn energy required to begin conversion of the media coating. It is unit-less and a zero value is factory set for a typical media. This parameter can be adjusted up or down to allow for different media white levels and should be adjusted to a point just before the beginning of conversion. This parameter is used for tonal printing only and has no effect for bi-modal printing.

## CONFIGURATION CODES

### Printout Characteristics

Code Sequence: Esc\_P 1sb2sb3ub

Used to set parameters: Saturation Level, White Level, and Linearity

Parameter	Description	Range
1sb	Saturation Level <ul style="list-style-type: none"><li>-127 to 127 = Saturation Level setting.</li><li>-128 = Do not modify this setting</li></ul>	-128 to 127
2sb	White Level (affects gray scale printing only): <ul style="list-style-type: none"><li>-127 to 127 = White Level setting.</li><li>-128 = Do not modify this setting</li></ul>	-128 to 127
3ub	Linearity (affects gray scale printing only) <ul style="list-style-type: none"><li>0 to 254 = Linearity setting.</li><li>255 = Do not modify this setting</li></ul>	0 -255

## Forms Settings

Code Sequence: Esc\_F 1ub2ub3ub4uw5uw

Used to set parameters: FF Eject Control, EOJ Eject Control, Form Marker Width, Form Marker Distance and Form Length

Parameter	Description	Range
1ub	FF Eject Control <ul style="list-style-type: none"><li>0 = Disable TOF movement upon a FF command.</li><li>1-254 = Enable TOF movement upon a FF command.</li><li>255 = Do not change the FF Eject control.</li></ul>	0-255
2ub	EOJ Eject Control <ul style="list-style-type: none"><li>0 = Disable TOF movement upon an EOJ command.</li><li>1-254 = Enable TOF movement upon an EOJ command.</li><li>255 = Do not change the EOJ Eject control.</li></ul>	0-255
3ub	Form Marker Width <ul style="list-style-type: none"><li>0-3 Indicates NO form marker, disable marker detection.</li><li>4-254 Indicates presence of marker and width.</li><li>255 = Do not modify the Form Marker Width setting</li></ul>	0-255
4uw	Form Marker Distance <ul style="list-style-type: none"><li>0-65534 = Form Marker Distance</li><li>65535 = Do not modify the Form Marker Distance setting</li></ul>	0-65535
5uw	Form Length <ul style="list-style-type: none"><li>0-65534 = Form Length</li><li>65535 = Do not modify the Form Length setting</li></ul>	0-65535

## Speed Control

Code Sequence: Esc\_Q 1ub

Controls the print speed.

Parameter	Description	Range
1ub	Print Quality <ul style="list-style-type: none"><li>0-254, 0 = 4.0 ips, 254 = 0.25 ips. The values between 0 and 254 interpolate linearly between 4.0 ips and 0.25 ips.</li><li>255 = Do not modify the Print Quality setting</li></ul>	0-255

## DLA Control

Code Sequence: Esc\_D 1sb

Used to set parameter: DLA Adjustment

Parameter	Description	Range
1sb	DLA Adjustment <ul style="list-style-type: none"><li>-127 to 127 = Plot length increase = 1ub/6144 Example, 1ub=63: 63/6144 = 1.0% length increase</li><li>-128 = Do not modify the DLA Adjustment setting</li></ul>	-128 to 127

## COMMAND CODES

### Carriage Return

Code Sequence: CR

Prints any remaining data in the character line buffer while advancing the paper one character line then returns the character pointer to the beginning of the print line. This code is ignored if paired with an LF.

### Line Feed

Code Sequence: LF

Prints any remaining data in the character line buffer while advancing the paper one character line and leaves the character line pointer at its current position. This code is ignored if paired with a CR.

### Form Feed

Code Sequence: FF

This command code works in conjunction with the current FF Eject Control data. The printer will first print any remaining data in the character line buffer then if the FF Eject Control is enabled, will advance to the next Top-of-Form. If the FF Eject Control is disabled, the printer will not perform the ToF advance.

### Raster Graphics

Code Sequence: Esc\_R

This sequence is issued in a larger construct, as explained in detail below.

## OVERVIEW

The printer uses a printer independent raster protocol. The protocol is graphic in nature to support the direction of image printing technology.

The general protocol supports Black and White printers, grayscale printers, two color printers, and full color printers (both three and four pen color devices). This is accomplished by incorporating two parameters in the raster packet: number of pens, and resolution per pen. Since the Interceptor 800 series printers are Black and White thermal technology only, the user may disregard references to all other forms of printing in this description.

The protocol is defined in terms of pixels (there are no units). It is required that the raster graphics generator have knowledge of the printer resolution in order to properly scale the image, however there is no constraint on the raster graphics generator output being tied to a specific printer resolution. There is also no constraint on the image or page width. This means that a file generated for an 8 inch 200 dpi printer can be printed on a 2 inch 150 dpi printer.

The Printrex Raster Graphics Protocol is a raster-line based protocol. This means one entire raster line is embodied in a single structured packet. All of the information required for printing the raster line is included within the packet. Submitting multiple raster packets prints an entire image.

The PackBits data compression technique is used to reduce the bandwidth requirements of the physical interface to the printer. These techniques are easily incorporated into Windows drivers and are also simple enough to use in embedded systems (for either compressing/encoding or decompressing/decoding).

## NOTATION

The following notation(s) apply throughout this document.

- Items enclosed in curly braces '{ }' are required
- Items enclosed in braces '[ ]' are optional.
- A range of values are indicated by indicate a range 'a..b', where a and b are the limits of the range, all ranges are integral.
- The symbol '|' indicates an 'OR' condition.

## DEFINITION

**ppir** = {grfx\_ctl\_code}{num\_pen\_pkts}{pen\_res}{pen1\_data}

Printrex Printer Independent Raster: This is the general structure of one raster line of graphic data.

Where:

**grfx\_ctl\_code** = {1Bh 5Fh 52h}

Graphics Control Code: This value is always Esc\_R. This control code indicates that the Printrex raster graphics data structure follows.

**num\_pen\_pkts** = {01h | 02h | 03h | 04h}

Number of Pen Packets: The value indicates the number of sets of packed pen data included in the raster command. This also indicates the number of pens associated with the raster line (01h = 1 pen, the only case that is relevant to the Interceptor 800 printer).

**pen\_res** = {01h | 04h | 08h}

Pen Resolution: This parameter is in bits per pixel. This value is used to apply the unpacked raster pen data to pixels on the page. The values of 01h, 04h and 08h correspond to 1, 4 and 8 bits per pixel respectively.

For multiple bits per pixel, consecutive bits of the unpacked pen raster data are grouped together to formulate the pixel color weighting.

**pen1\_data** = {pkd\_size}{pkd\_bits}

The pen data uses the PackBits compression method. The PackBits method uses a combination of RLE and literal data representation. The basic structure of the pen data is a double-byte (word) defining the number of bytes requiring unpacking, followed by the pen raster data to unpack. This method is detailed as follows:

**pkd\_size** = {0000h..FFFFh} Note: High byte first

Packet Size: This is the number of packed bytes requiring unpacking. This value is an unsigned word, high byte first.

**pkd\_bits** = {flg1, data1, flg2, data2.. flgn, datan}

Packed Bits: The packed bits are a series of flags coupled with data. The flag indicates the nature of the data (literal or run data) as well as an associated count to be used with the data. For literal data, the count identifies the number of bytes of literal data to follow. For run data, the count

identifies the number times the following byte is repeated in a run. The specific interpretations follow:

**flg** = {00h.. FFh} Note: -127 to 127

Flag: The flag is treated as a signed number and indicates the treatment of the following data.

A positive value indicates the following data is literal (un-packed) and there are a number of bytes following the flag. The number of bytes following the flag is defined as:

**flg** + 1 (zero biased)

Example: For flg = 02h, there are 3 bytes of literal data following the flag.

A negative value of the flag (excluding -128 0x80) indicates the following byte is packed and the single byte following the flag should be repeated. The number of times the following byte is to be repeated is given by:

**-flg** +1 (again zero biased)

Example: For flg = FDh, the following byte is packed and should be repeated 4 times.

A value of -128 (0x80) is reserved – do not use.

**data** = {xxh}[xxh]...[xxh]

Data: The data is the raster pixel data to be printed. This raster pixel data is packed in accordance with the flg byte (see above).

The bytes are unpacked from left to right on the page (as the page is viewed for reading) with the high order bit presented leftmost. For multiple bits per pixel, the grouping is sequential from left to right (in groups of nibbles or bytes as the case may be).

## End Job

Code Sequence: Esc\_E

Ends the current print job. This control code causes an advance to next ToF (provided EOJ Eject Control is enabled), then causes the printer to return to the power on default settings.

## Demo Programs, SDKs, and Drivers

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This section is intended to briefly explain the world of collateral computer programs and programming aids that is intimately associated with PrintekMobile Printers.

Unfortunately, most mobile operating systems are not (yet) as powerful or evolved as their older desktop brethren, and they run on processing hardware that presently limits their sophistication. Google Android, Windows CE, and Apple iOS were created at a time and with a purpose that did not anticipate printing from mobile computing devices. As such, the printing paradigm largely used with mobile computing applications has reverted to the original form from the early days of computing; that is, each application that requires a print function has to have a specific code that targets a specific printer brand due to the individual and distinctive differences of the printer languages. Most mobile operating systems do not (yet) have sophisticated means of automatically sharing data among applications they run, and have therefore not yet evolved a common printing interface (the driver) such as is enjoyed on desktop systems.

The collection of collateral computer programs which PrintekMobile supplies is an attempt to get around these shortcomings of mobile operating systems, and are designed to allow easy integration of the printing function into mobile applications which require it. Please contact your dealer for up to date information and a complete list of PrintekMobile integration aids, or visit our website at [www.PrintekMobile.com](http://www.PrintekMobile.com).

### Demo Programs and Apps

Demonstration programs (“Demo” for short) are just what the name implies. We create programs for each host operating system platform, which can be installed on a mobile device by a user and employed to demonstrate the print capability and features of our printers. They are not general purpose, but written specifically for our printers, often using only our printer command language and with the ability to address only printer names (digital addresses) which are associated with our specific printers.

The real intention of these Demos is to give users an ability to see our printers in action, in the absence of another printing application. Many potential users are in the process of evaluating printers before they have finished their own applications. In many cases, they need to select their mobile printer before they finish their application because they need to know which printer language to use in constructing their printjob code (most small business applications only support one, maybe two, printer brands).

We generally try to have Demos for the following mobile operating systems:

- WinMobile / WinCE
- Google Android
- Apple iOS

We do not generally supply Demo programs for Windows Desktop/Laptop systems because, by definition, our Windows driver allows any common Windows application to serve as a “demonstration” program.

## Software Developers Kits (SDKs)

Even programmers need help sometimes. The purpose behind a **S**oftware **D**eveloper's **K**it ("SDK") is to help a programmer tasked with writing a mobile application for a specific platform. SDK is not a hard definition in the industry; it is quite variable and generally means any set of instructions, examples, APIs, or code libraries which are designed to aid a programmer in creating an application. Any company that supplies a platform upon which software applications are dependent usually supplies some form of an SDK. For example, Google supplies an SDK for the Android operating system which describes and illustrates how certain Android functions work; Apple supplies something similar for iOS as well. Many hardware suppliers, such as Printek, have taken to supplying SDKs for people who might need to write programs that use our printers in an application, with the intention being to describe and illustrate for a programmer how to achieve certain primary tasks and use important product features.

Not surprisingly, SDKs often take the form of or include sample source code (the written program routines, written in a specific programming language) as a way of easily conveying to a programmer how certain functions work. For instance, Printek supplies demo programs for most popular platforms (as described above), and the corresponding SDK for that platform is often the source code from one of our demo programs. This is particularly useful because the programmer now has an operating demonstration program which prints for him, and the exact program code of the working demo (with comments, along with all of the libraries which go into the compiled executable program) in front of him. This kind of direct correlation makes it easy to add the printing feature into their own application with great confidence; in some cases they can cut and paste the source code snippets they need from our SDK into their application. Because the source code is from a real working demo program, the programmer learns all the fundamental tasks needed to print: opening the communications port, checking printer status, parsing printer language calls, sending a job line by line (or an entire file at once) through the port, housekeeping tasks, closing the communications port, etc. In many cases the Demo / SDK also illustrates some advanced non-printing tasks for that particular platform, such as graphic file conversion, mobile device screen capture, image dithering, etc.

Printek SDKs come in the following forms:

- WinMobile / WinCE >>> typically written in C# or C++
- Google Android >>> typically written in Java
- Apple iOS >>> typically written in Objective C

It is important to note that printer SDKs are not required if the system integrator will use drivers or some other utility to print with. In fact, they are not needed at all if the system integrator or programmer is already comfortable or experienced with writing programs for a particular operating system and/or a specific printer. Remember, they are only an **aid** to the programmer, NOT an absolute requirement. Using the SDKs can save significant time during the application development process.

## Drivers and Virtual Drivers

In the world of desktop and laptop computing systems, drivers are commonplace. When the driver is loaded and printer communication is achieved, users can print from their applications. The sophisticated operating system on PCs do all the hard work: they place the correct driver files and printer information into the proper location on their system, make the printer available (by name) to all applications running on the operating system, call the driver when it is needed, etc. Traditional device drivers form the interface between the computer applications and the device, with the operating system acting as the overall manager of the process. For all operating systems that use the driver

paradigm, the users never have to know any more about printing than to make sure the driver is loaded onto their system. The printer driver performs the relatively complicated task of taking the document or image created by or stored by the computer and translating that document or image into a series of data bits arranged in a format that will be familiar and usable to the printer it is targeting.

Enter mobile devices. As sophisticated as new smartphones and tablets may seem, their operating systems lack much of the complexity and capability of the desktop/laptop systems. Shared data and a common device driver platform have not yet become features in the most popular mobile operating systems, but mobile users have the desire to achieve the same simple printer setup experience as found in the desktop world. That is where mobile print utilities come into play. The Virtual Drivers from Printek are an attempt to mimic the experience one has in setting up a desktop printer at home, yet it is very different in a number of ways. The salient and familiar driver characteristics are:

- Setup and forget. Once you set it up on your mobile device, a compatible application will be able to print to the target PrintekMobile printer at any time, until your mobile device is turned off.
- Similar “feel” to traditional desktop drivers. Configure, then runs in the background, totally transparent to the user.
- Specific to PrintekMobile printers only; *NOT* a general purpose print utility meant for all printers.
- Provides a “what you see is what you get” experience, performing all the sophisticated functions to take documents created or stored on your mobile device and rendering them on paper.

We use the term “virtual driver” instead of just “driver” to denote the significant and important technical differences in how this software works relative to its desktop brethren.

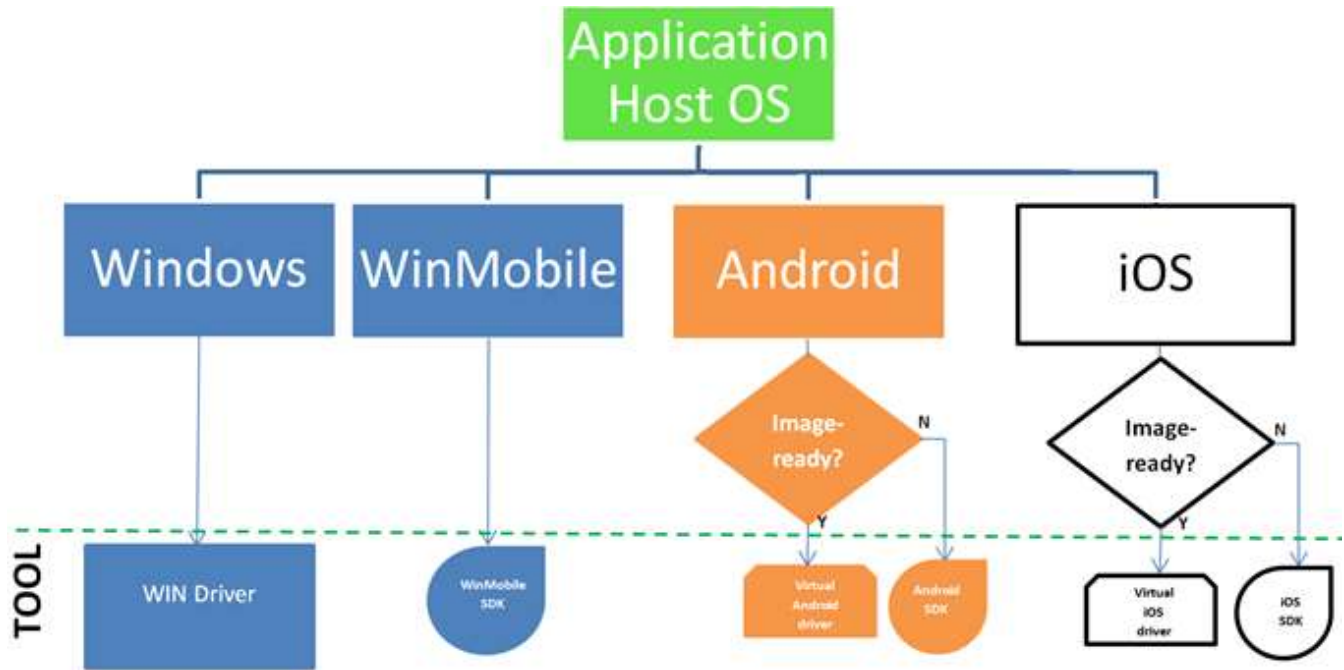
Printek has “real” drivers for its mobile printers for all the various versions of the Windows operating system. It offers “virtual drivers” for the Android and iOS operating systems to provide our users with the best possible overall product experience.

Host Computing Device	Driver	Demonstration Program	Comments
Windows	Windows driver (note OS version)	Any Windows program with print capability	Need both installed for demonstration
Android	Virtual Android driver	PrintekBlue app	Either will allow for suitable demonstration
iOS	Virtual iOS driver	Printek iOS demo app	Either will allow for suitable demonstration
WinMobile	Windows Mobile Driver (coming Q4 2015)	Printek File Sender	Either will allow for suitable demonstration

The integrator (either customer staff or 3<sup>rd</sup> party group) will need to define, test, and document the exact interface between his host software and the PrintekMobile printer. The exact collateral programs required will be dependent on the nature and characteristics of the user’s mobile system.



The diagram below leads you to the correct tool for the integrator given their particular application:



## Printek Technical Support

For application scenarios not described in this guide, or if you need further assistance, please contact your dealer, or alternatively contact Printek Technical Support ([www.printekmobile.com](http://www.printekmobile.com) or phone 800-368-4636).

# Troubleshooting

Problem	Possible Cause	Solution
<b>Alert light and battery light flashing</b>	Low power	Charge Battery
<b>Printer will not power on</b>	Battery not installed properly	Remove and reinstall battery making sure contacts aligned
	AC Adapter not working	Use only Printek supplied AC Adapters.
	Battery discharged	Recharge battery
<b>Printer turns itself off</b>	Electrostatic discharge	May occur in extreme low humidity conditions. Turn printer back on with power button
	Battery discharged	Recharge or replace battery
<b>Battery indicator does not light or does not stay lit when USB power adapter is connected</b>	Battery already fully charged	No action required
	Power adapter not receiving power	Check USB connection at host
	Battery not installed properly	Remove and reinstall battery
<b>Battery not charging</b>	Faulty USB connection or battery	Check USB connections, replace battery
<b>Poor Print Quality</b>	Low Battery	Recharge battery
	Print head dirty	Clean print head
	Poor quality or old paper	Verify paper from approved source, try new roll
<b>Paper not feeding</b>	Obstruction in paper path or paper improperly installed	Check paper path and reinstall paper <a href="#">Paper Load</a>
	Poor quality paper	Verify paper from approved source
	Paper door not fully closed	Check and close paper door
<b>Paper does not advance to black mark reliably</b>	Dirty black mark/paper sensor	Clean sensor
	Black mark density/contrast	Adjust Mark sensitivity <a href="#">Black Mark Sensing</a>
<b>Paper not feeding reliably or Print is compressed vertically</b>	Poor quality paper	Verify paper from approved source
	Heavy or thick forms; specialty paper with click finish	Lower the Max paper speed
	Paper door is not fully closed	Check and close paper door
<b>Print Garbled</b>	Low Battery	Check and recharge battery
	Improper USB interface configuration	Connect printer to different USB port.
	Paper door not fully closed.	Check and close paper door
<b>Printer will not print</b>	Low battery	Recharge battery
	Paper not loaded correctly	Check paper path and reinstall paper. <a href="#">Paper Load</a>
<b>Cannot print via optional interface</b>	Interface not configured correctly	Print a self-test to verify printer settings. Make sure the interface is selected and make sure printer and host set ups match. <a href="#">Performing A Printer Self-Test</a>

# Appendix

## A. Appendix A – Printer Specifications

### Printing Specifications

Printing Method: Direct thermal.  
Printing Resolution: 203 dpi (8 dots per mm).  
Printing Speed: Up to 2 ips (11 pages per minute).  
Printing Width: Up to 8.27 inches (210mm).

### Fonts/Characters/Bar Codes

Graphic printing via Windows driver.  
Internal 12 pitch character set.  
6.125 character lines per inch.

### Connectivity

Standard (All Units): USB (PNP).  
Wireless Options:  
- Bluetooth®  
- Complete Bluetooth® 4.0 Stack including:  
- Protocols: L2CAP, RFCOMM, SDP  
- Profiles: GAP, SDAP, SPP, BTLE  
- Class 2 Operation  
- RFC2217 & EN60601 compliant.  
- Wi-Fi 802.11b/g/n compatible.

### Print Media (use Printek media for best results)

Paper Type: Direct Thermal Roll.  
Roll Size: Maximum roll diameter 2.125" (54 mm),  
Roll widths from A4 to 8.5" (up to 210 mm).  
Roll Capacity: Approx. 100' (30 m), approx. 100 11.5" long sheets (with 2.0 mil thick media).  
Core Size: 0.5" (13 mm).

### Software

Drivers and Utilities: Drivers for WIN XP, 7, 8.  
Compatible with Windows CE/Pocket PC, Windows Mobile, Apple iOS, Android. Print utilities and SDKs for all platforms.

Native App and Web printing.

Robust internal printer language. Firmware can be upgraded as new features become available.

### Power Management

Optional Battery: Rechargeable LiFeP04.  
Endurance: Over 1,200 printed inches per charge (at 25% density).  
Recharging: 2 hours via universal USB Micro-B wall adapter  
Std. Input Power: 100-240 VAC wall adapter, or 12-24 VDC in-vehicle power adapter.

### Physical Specifications

D x W x H: 2.6" x 12.3" x 4.3" (66 x 312 x 109 mm).  
Weight: 3 lbs. (1.4 kg).

### Environmental Specifications

Operating Temp: 14° to 122°F (-10° to 50°C).  
Storage Temp: -40° to 140°F (-40° to 60°C).  
Humidity: 20% to 95% RH (non-condensing).  
Dust, Splash and Spray: IP54 rating.

### Operator Controls and Indicators

4 LED indicators for general fault, wireless connection, power and battery status indication. Buttons for power, paper feed, and optional wireless activation.  
Sensors for paper out, black mark detection.

### Memory Capacity

256 kB Flash, 64 kB SRAM. Standard memory supports large and graphic intensive print jobs.

### Durability and Reliability

Vibration  
Mil-STD-810F method 514.5, Fig. 514.5C1 EN  
1789:2007 Medical vehicles and their equipment;  
Road Ambulances  
- Section 6.3.4 Mechanical Strength  
- Section 6.3.5 Fixation of Devices  
Shock  
Shock: 20g peak 1/2 sine wave @ 11 ms, x30  
Shock crash hazard - 75 g, 6ms per MIL -STD-810F method 516.5, procedure V.  
MTBF: 20,000 hours in normal use.

### Regulatory Approvals

ISO 7637-2-2004 Road Vehicle Transients conducted on power lines. PITO AES 5 issues 10  
CE and e-mark.  
Automotive EMC directive 2004/104/EC and 2006/28/EC for e-marking.  
RoHS, WEEE, and REACH compliant.  
FCC Part 15, Class A.

### Warranty

One-year printer warranty on the entire printer—case, battery, and print head included.

### Options and Accessories

- AC Wall Adapter, 100 to 240 VAC.
- In-vehicle Power Adapter, 12 to 24 VDC.
- Shoulder Strap
- Battery
- Data Cables: USB
- Spare Batteries in Multi-packs.

## B. Appendix B – Supplies and Accessories

### Part # ACCESSORIES for 800 Printer without Battery

93078	AC Adapter - North America, 100-240VAC 50/60Hz
93287	In-Vehicle Adapter – Cigarette Plug
93206	In-Vehicle Adapter Unterminated
93065	USB Cable

### Part # Accessories for 800 Printer with Battery

93065	USB Cable
93207	In-Vehicle Adapter USB
93208	AC charging adapter USB

### Part # SUPPLIES

93107	Interceptor Battery
93108	Interceptor Battery - 5 pack
93109	Interceptor Battery - 20 Pack
93228	Interceptor 800 Wall Mount
93290	Interceptor 800 -812 Mount adapter kit
91393	Thermal Print head Cleaning Pen (12/box)

## C. Appendix C – Media

Part#	Grade	Type	Qty
93088	STANDARD	8.5" W, 100 FT PER ROLL	6 ROLLS
93102	STANDARD	8.5" W, 100 FT PER ROLL	36 ROLLS
93222	STANDARD	8.5" W, BLK MRK 11", 100 FT PER ROLL	6 ROLLS
93223	STANDARD	8.5" W, BLK MRK 11", 100 FT PER ROLL	36 ROLLS
93089	STANDARD	8.5" w, PERFORATED 11", 100 FT PER ROLL	6 ROLLS
93103	STANDARD	8.5" W, PERFORATED 11", 100 FT PER ROLL	36 ROLLS
93209	PREMIUM	8.5" W, 80 FT PER ROLL	6 ROLLS
93210	PREMIUM	8.5" W, 80 FT PER ROLL	36 ROLLS
93224	PREMIUM	8.5" W, BLK MRK 11", 80 FT PER ROLL	6 ROLLS
93225	PREMIUM	8.5" W, BLK MRK 11", 80 FT PER ROLL	36 ROLLS
93211	PREMIUM	8.5" W, PERFORATED 11", 86 SHTS PER ROLL	6 ROLLS
93212	PREMIUM	8.5" W, PERFORATED 11", 86 SHTS PER ROLL	36 ROLLS

Please contact your Printek sales representative for price and availability.



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218	┌
219	▀
220	▁

221	▀
222	▁
223	▂
224	α
225	β
226	Γ
227	π
228	Σ
229	σ
230	μ
231	τ
232	Φ
233	Θ
234	Ω
235	δ
236	∞
237	∅
238	€
239	∩
240	≡
241	±
242	≥
243	≤
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245	└

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## E. Appendix E – ASCII Character Tables

### ASCII Control Code Definitions

The following table is provided as a reference to the control character descriptions as provided by the ASCII definition. Not all of these definitions are supported by Printek printers and some are emulation dependent. For more information consult the appropriate chapter for the emulation being used.

Control Code	Hexadecimal Value	Description
NUL	00	Null
SOH	01	Start of Heading
STX	02	Start of Text
ETX	03	End of Text
EOT	04	End of Transmission
ENQ	05	Enquiry
ACK	06	Acknowledge
BEL	07	Bell
BS	08	Backspace
HT	09	Horizontal Tabulation
LF	0A	Line Feed
VT	0B	Vertical Tabulation
FF	0C	Form Feed
CR	0D	Carriage Return
SO	0E	Shift Out
SI	0F	Shift In
DLE	10	Data Link Escape
DC1	11	Device Control 1 (XON)
DC2	12	Device Control 2
DC3	13	Device Control 3 (XOFF)
DC4	14	Device Control 4
NAK	15	Negative Acknowledge
SYN	16	Synchronous Idle
ETB	17	End of Transmission Block
CAN	18	Cancel
EM	19	End of Medium
SUB	1A	Substitute
ESC	1B	Escape
FS	1C	File Separator
GS	1D	Group Separator
RS	1E	Record Separator
US	1F	Unit Separator

## Decimal to Hexadecimal TO ASCII Conversion Table

<u>Dec</u>	<u>Hex</u>	<u>ASCII</u>	<u>Dec</u>	<u>Hex</u>	<u>ASCII</u>	<u>Dec</u>	<u>Hex</u>	<u>Dec</u>	<u>Hex</u>
0	00	NUL	64	40	@	128	80	192	C0
1	01	SOH	65	41	A	129	81	193	C1
2	02	STX	66	42	B	130	82	194	C2
3	03	ETX	67	43	C	131	83	195	C3
4	04	EOT	68	44	D	132	84	196	C4
5	05	ENQ	69	45	E	133	85	197	C5
6	06	ACK	70	46	F	134	86	198	C6
7	07	BEL	71	47	G	135	87	199	C7
8	08	BS	72	48	H	136	88	200	C8
9	09	HT	73	49	I	137	89	201	C9
10	0A	LF	74	4A	J	138	8A	202	CA
11	0B	VT	75	4B	K	139	8B	203	CB
12	0C	FF	76	4C	L	140	8C	204	CC
13	0D	CR	77	4D	M	141	8D	205	CD
14	0E	SO	78	4E	N	142	8E	206	CE
15	0F	SI	79	4F	O	143	8F	207	CF
16	10	DLE	80	50	P	144	90	208	D0
17	11	XON	81	51	Q	145	91	209	D1
18	12	DC2	82	52	R	146	92	210	D2
19	13	XOFF	83	53	S	147	93	211	D3
20	14	DC4	84	54	T	148	94	212	D4
21	15	NAK	85	55	U	149	95	213	D5
22	16	SYN	86	56	V	150	96	214	D6
23	17	ETB	87	57	W	151	97	215	D7
24	18	CAN	88	58	X	152	98	216	D8
25	19	EM	89	59	Y	153	99	217	D9
26	1A	SUB	90	5A	Z	154	9A	218	DA
27	1B	ESC	91	5B	[	155	9B	219	DB
28	1C	FS	92	5C	\	156	9C	220	DC
29	1D	GS	93	5D	]	157	9D	221	DD
30	1E	RS	94	5E	^	158	9E	222	DE
31	1F	US	95	5F	~	159	9F	223	DF
32	20	SP	96	60		160	A0	224	E0
33	21	!	97	61	a	161	A1	225	E1
34	22	"	98	62	b	162	A2	226	E2
35	23	#	99	63	c	163	A3	227	E3
36	24	\$	100	64	d	164	A4	228	E4
37	25	%	101	65	e	165	A5	229	E5
38	26	&	102	66	f	166	A6	230	E6
39	27	'	103	67	g	167	A7	231	E7
40	28	(	104	68	h	168	A8	232	E8
41	29	)	105	69	i	169	A9	233	E9
42	2A	*	106	6A	j	170	AA	234	EA
43	2B	+	107	6B	k	171	AB	235	EB
44	2C	,	108	6C	l	172	AC	236	EC
45	2D	-	109	6D	m	173	AD	237	ED
46	2E	.	110	6E	n	174	AE	238	EE
47	2F	/	111	6F	o	175	AF	239	EF
48	30	0	112	70	p	176	B0	240	F0
49	31	1	113	71	q	177	B1	241	F1
50	32	2	114	72	r	178	B2	242	F2
51	33	3	115	73	s	179	B3	243	F3
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59	3B	;	123	7B	{	187	BB	251	FB
60	3C	<	124	7C		188	BC	252	FC
61	3D	=	125	7D	}	189	BD	253	FD
62	3E	>	126	7E	~	190	BE	254	FE
63	3F	?	127	7F	DEL	191	BF	255	FF



## Glossary of Terms

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802.11	Wireless networking communication standards created by IEEE.
Ad-Hoc	A Wi-Fi network consisting of only stations (no access point). Same as Peer-to-Peer.
authentication	The process a Wi-Fi station uses to identify itself to another station.
baud rate	The rate at which characters are transmitted over a serial interface. This is also often referred to as bits per second.
Bluetooth	A definition for short range radio frequency communications.
client	Any node on a network that requests services from another node (server).
character pitch	The horizontal spacing of characters. Measured in cpi.
cpi	Characters per inch.
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.
font	A group of characters of a given shape or style.
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.
LED	Light emitting diode.
lpi	Lines per inch.
margin	An area along any edge of a form where data may not be printed.
Peer-to-Peer	A network consisting of only stations (no access point or central server). Same as Ad-Hoc.

reset	Initialization of various operating features of the printer to the value or state assumed when the printer is powered on.
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.
USB	Universal Serial Bus.
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.

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