Diagnostic	Utility
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**Quick Start Guide** 

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# **Diagnostic Utility Quick Start Guide**

### 1. Getting started with Diagnostic Utility

Diagnostic Utility is an integrated tool incorporating features that enable you to explore a printer's settings/status; change a printer's settings; download graphics, fonts and firmware; create a printer bitmap font; and send additional commands to a printer. With the aid of this powerful tool, you can review printer status and settings in an instant, which makes it much easier to troubleshoot problems and other issues.

#### 1.1 Start the Diagnostic Utility

Double click on the Diagnostic utility icon <sup>B</sup> DiagToolexe</sup> to start the software. There are four features (Printer Configuration, File Manager, Bitmap Font Manager, Command Tool) included in the Diagnostic utility.

	Diagnostic Tool 1.50					
Fastures tob	Language	Unit Oinch Omm		USB	ce Set	
Features tab						
	Printer Configuration   File Ma		Command Tool			Interface
	Printer Function	Printer Configuration				
	Calibrate Sensor	Version:		Cutting Counter:	0 0	
	Ethernet Setup	Serial No:	Check Sum:			Km Printer info
	RTC Setup	Common Z D	RS-232   Wireless			
	Factory Default	Speed		Ribbon	-	
Printer functions	· · · · · · · · · · · · · · · · · · ·	Density	-	Ribbon Sensor	-	
	Reset Printer	Paper Width	inch	Ribbon Encoder Err.	-	
	Print Test Page	Paper Height	inch	Code Page	-	
	Configuration Page	Media Sensor	-	Country Code	-	
		Gap	inch	Head-up Sensor	<b>_</b>	Printer setup
	Dump Text	Gap Offset	inch	Reprint After Error	-	
	Ignore AUTO.BAS	Post-Print Action	•	Maximum Length	inch	
	Exit Line Mode	Cut Piece		Gap Inten.		
		Reference		Bline Inten.		
	Password Setup	Direction		Continuous Inten.		
		Offset		Threshold Detection	-	
	Printer Status	Shift×				
		Shift Y				
Printer Status	Get Status	Clear	Load Save		Set Get	t
	LPT1 COM1 960	D,N,8,1 RTS			2012/8/1 下午 03:54:06	<u>6</u>

#### 1.2 Select the PC interface connected with bar code printer

Interface	
USB 💌	Setup
USB	
COM	
LPT	
ETHERNET	

■ Default setting is USB interface. No further setting is required.

If RS-232 port is selected, further setup is required to select the serial port, baud rate, parity check, data bits, stop bit and flow control.

🖨 RS232 Setup	×
COM Port	COM1 -
Baud Rate	9600 💌
Data Bits	8 🗸
Parity	None
Stop Bit(s)	1 🔹
Hardware Handshaking	RTS 💌
Software Handshaking	None
Set	Cancel

If parallel port is selected, need to further select the parallel port (LPT1, LPT2...) that connected with bar code printer.

🖨 LPT Setup		<b>—</b>
LPT1	Set	Cancel
LPT2 LPT3 LPT4		

Note: Printer parallel interface does not support bi-directional communication. Printer settings and status will not be available by parallel port connection.

■ If Ethernet is selected, need to select the bar code printer.

TCP/IP Setu	р				- 0 -
Printer Name PS-FF0271 PS-001882	MAC 00:1B:82:FF:02:71 00:1B:82:00:1B:82	IP Address 10.0.10.113 10.0.10.150	Model Name DP-G321 TT045-50	Status Ready Ready	IP Setting IP Address/Printer Name 10.0.10.150 Port 9100
Discover Devi	ce Change IP Addr	ess Factory D	efault Web !	Setup	Exit

### 2. Printer information

Once your printer is connected via an USB, RS-232 or Ethernet cable, the DiagTool will read the printer firmware version, serial number, check sum, cutting counter and printing mileage.

Printer Informati Version:   Serial No: Check Sum:	on 	Cutting Counter: Mileage:	0	C Km	Resettable
			Non	-resettable	1

Note:

There are two different mileage counters for cutting counter and printing mileage. One is non-resettable setting, another is resettable setting. The resettable counter setting value can return to zero when replacing new cutter or new print head.

### 3. Configure the printer settings

There are five setting tabs (Common settings, ZPL settings, DPL settings, RS-232 settings and Wireless settings) included in the printer configuration feature to explore/configure the printer settings. The common setting tab includes the settings commonly used for WPL/EPL2/ZPL/DPL printer languages.

Common Z D	RS-232 Wireless			
Speed		Ribbon	-	
Density	-	Ribbon Sensor	-	
Paper Width	inch	Ribbon Encoder Err.	-	
Paper Height	inch	Code Page		-
Media Sensor	-	Country Code		-
Gap	inch	Head-up Sensor	-	
Gap Offset	inch	Reprint After Error	-	
Post-Print Action	-	Maximum Length	inc	h
Cut Piece		Gap Inten.		
Reference		Bline Inten.		
Direction	<b>•</b>	Continuous Inten.		
Offset		Threshold Detection	-	
Shift×				
Shift Y				
Clear	Load Sav	e	Set	Get

### \* WPL printer language

\* ZPL<sup>®</sup> printer language settings

Common Z D	)   RS-232   W	/ireless		
Darkness		0 to 30		
Print Speed				
Tear Off		-120 to 120		
Print Mode		-		
Print Width		inch		
Control Prefix				
Format Prefix				
Delimiter Char				
Media Power Up		-		
Head Close		-		
Label Top		-120 to 120		
Left Position		-9999 to 9999		
Clear	Load	Save	Set	Get

Note: The items in the Z taV work with ZPL printer language only.

* DPL <sup>®</sup> printe	er language se	ttings		
Common Z	D RS-232 V	Wireless		
Heat		0 to 30		
Print Speed				
Label Width		inch		
Present Sensor	-			
Cutter Equipped	-			
Control Codes		-		
Column Offset		inch		
Row Offset		inch		
Clear	Load	Save	Set	Get

Note: The items included in the D taV work with DPL printer language only.

# \* Printer RS-232 interface settings

Common Z	D	RS-232	Wireless		
Baud Rate			-		
Data Bits			•		
Parity			•		
Stop Bit(s)			•		
Clear		Load	Save	Set	Get

# \* Wireless module settings

Common   Z   D	RS-232 Wirele	225		
Device Type Built-in wireless mod	dule	C External wirele	ss module	
Built-in wireless module				
Bluetooth Local Name Bluetooth PIN Code		WLAN SSID WLAN Encryption WLAN Key WLAN DHCP WLAN IP Address WLAN Subnet Mar WLAN Gateway		
Clear	Load	Save	Set	Get

#### **3.1 Explore the printer settings**

After setting up the interface, turn on printer power then click "Get" button to get the printer settings.

Clear Load	Save	Set	Get
------------	------	-----	-----

#### 3.2 Change the printer settings

After get back the printer settings, the settings can be changed by enter new value in the editor or select different value from the options then click "Set" button to take effect the settings.

Llear Load Save Set Get	
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#### 3.3 Save the printer settings to a file

Once read the printer settings from printer, the settings can be saved by click the "Save" button. The default filename extension is .DCF.

Clear Load	Save	Set	Get	
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#### 3.4 Load the saved printer setting file

The saved printer setting file (.DCF) can be retrieved by clicking on the "Load" then click "Set" button to change the printer settings.

Clear Load Save Set Get	
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#### 3.5 Clear the printer settings in the Diagnostic Utility

Click the "Clear" button to clear the settings in each filed in the Printer Setup group.

Clear Load Save Set Get
-------------------------

### 4. Individual printer functions

In the past, the printer self-test, sensor calibration, initialization, ignore AUTO.BAS ... etc. must be operated by printer power-on utilities. Now these functions are available in the Diagnostic utility without press any printer button. The detail functions in the Printer Function Group are listed as below.

Calibrate Sensor	Functions	Description
Ethernet Setup	Calibrate Sensor	Calibrate the sensor specified in the Printer Setup group media sensor field
RTC Setup	Ethernet Setup	Setup the IP address, subnet mask, gateway for the on board Ethernet
Factory Default	RTC Setup	Synchronize printer Real Time Clock with PC
Reset Printer	Factory Default	Initialize the printer and restore the settings to factory default.
Print Test Page	Reset Printer	Reboot printer
Configuration Dates	Print Test Page	Print a test page
Configuration Page	Configuration Page	Print printer configuration
	Dump Text	To activate the printer dump mode
Ignore AUTO.BAS	Ignore AUTO.BAS	Ignore the downloaded AUTO.BAS program
Exit Line Mode	Exit Line Mode	Exit the line mode to page mode
Password Setup	Password Setup	Set the password to protect the settings

# 5. Polling printer status

Printer Status	When connecting printer with USB, RS-232 or Ethernet
	interface, the "Get Status" button will be visible to polling
	printer status.
Get Status	Whenever printer is blinking red, click "Get Status" then
	the printer status will be indicated.

The following status list will appear:

Error message	Solutions	
	1. Close the print head.	
Head Open	2. Check if the right/left side of print mechanism are latched securely.	
	1. Check if any label is stuck in the print mechanism.	
	2. Check the settings of label size and gap/black mark size are identical	
Paper Jam	with printing media.	
	3. Check the sensor type.	
	4. Do sensor calibration again.	
	1. Check the gap/black mark sensor position is located on the gap/black	
Out of Paper	mark sensing path.	
	2. Check if the label is empty.	
	3. Do sensor calibration again.	
	1. Check if printer is out of ribbon.	
	2. Check if the ribbon is broken between ribbon supply/take up spindle.	
Ribbon End Error	3. Check if the paper core is installed on the ribbon take up spindle (for the	
	models that need paper core for ribbon take up spindle)	
	4. Check if ribbon spindle is installed in the wrong direction in the printer	
	1. Close the print head. Check right/left sides of print mechanism are	
Ribbon Encoder Error	latched securely.	
	2. Check if the ribbon is empty.	
	3. Check if the ribbon is broken between ribbon supply/take up spindle.	
	4. Check if the paper core is installed on the ribbon take up spindle (for the	
	models that need paper core for ribbon take up spindle.	
	1. Press the FEED button again to resume printer for printing (for printer	
Pausa	models with only one button)	
Pause	2. Press the PAUSE button to resume printer for printing (for printer	
	models with more than one button)	
Printing	N/A	
Other Error	1. Motor overheat:	
	Printer status indicator becomes solid red	

	and printer stops printing. Once motor cools down, printer will resume
	the printing job.
2	Print head overheat:
	Error indicator becomes solid red and printer stops printing. Once print
	head cools down, printer will resume the printing job.
3	Cutter jam:
	(1) Remove the jammed media in the cutter.
	(2) The media thickness or paper weight is over spec.

# 6. File manager

File manager feature is to help users to generate the file header, download the file into printer, explore what files are downloaded in printer memory and delete all files in the memory.

Diagnostic Tool 1.50					
Language			Interfac		
English	⊖ mm		USB		Setup
Printer Configuration File Manager Bitmap F	ont Manager   Com				
File Download		File Information			File Format Memory Device
File Type	•	Memory Device O DRAM ⓒ FLASH	C CARD		
Browse			Physical Space	-	
File Name	_		l Free Space	КВ	FLASH
File Size	Bytes			КВ	C CARD
Memory Device FLASH	-				
Font View Download			Get		Format
LPT1 COM1 9600,N,8,1 RTS			2	012/7/19	下午 06:01:44

### 6.1 File download group

File Download		Select the file type then click
File Type File Name File Size Memory Device Font View	BMP       PCX       True Type Font       Bitmap Font       Printer BASIC File       Data File       Firmware File       TCF File	"Browse" button to select the file for download.
File Download	True Type Font	Specify the memory device to download the file.
File Name File Size Memory Device Font View	Browse Browse Browse Bytes FLASH CARD	Click "Download" button to start to download the file.

### 6.2 File information group

File Information Memory Device O DRAM  FLASH C CARD Physical Space KB Free Space KB Get	This feature is to list what files are downloaded in the specified memory device. Select the memory device then click "Get" button to list the files saved in the specified memory.
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# 6.3 File format group

File Format Memory Device O DRAM © FLASH	This feature is used to delete all the files for the specified memory device. Select the memory device then click "Format" button to delete all the files in the specified memory.
C CARD	

# 7. Bitmap font manager

Bitmap font manager is used to convert the selected TTF font into printer format bitmap font. Both fixed pitch and variable pitch bitmap font are supported.

Language       Unit       Interface         English       Inch       mm         Piriter Configuration       File Manager       Bitmap Font Manager       Command Tool         Font Select       Standard Encode       Image: Standard Encode       Image: Standard Encode         Font Select       Font Name       File Manager       Standard Encode         Font Nume       FLASH       Image: Standard Mapping       Character Start ASCII       32         Windows Font Name       Arial       Character End ASCII       127         ABCD       Select Font       Character End ASCII       127         ABCD       Select Font       Character End ASCII       127         Printer Font Name       FONT001       Character Start ASCII       127         Printer Font Name       FONT001       Character Start ASCII       127         Printer Font Name       FONT001       Font Height       16         Italic Width       13       Save Font       Save Font         Load       Save       Download Font         Load       Save       Download Font	Diagnostic Tool 1.50		
Printer Configuration       File Manager       Bitmap Font Manager       Command Tool         Font Select       Font Encode       Standard Encode       Font Mapping       Standard Mapping         Font Pitch       Variable Pitch       Image: Command Tool       Standard Encode       Font Mapping       Standard Mapping         Printer Device       FLASH       Image: Command Scill       32       Image: Command Scill       Scienter Science         Windows Font Name       Arial       Image: Command Chinese       Scienter Encode       Scienter Science       Scienter Science         ABCD       Select Font       Preview Font       Image: Command Chinese       Imag			
Font Select         Font Encode         Font Pitch         Variable Pitch         Printer Device         FLASH         Windows Font Name         ABCD         Select Font         Printer Font Name         Pointer Font Name         Font Size         10         Select Font         Preview Font         Printer Font Name         Font Tot Name         Font Name         Font Name         Printer Font Name         Font Width         13         Font Height         16         Italic Width         0         Load       Save         Download Font	English 🔄 🤨 inch Omr	n JUSI	B Setup
Printer Font Name FONT001   Font Width 13   Font Height 16   Italic Width 0     Save Font     Load     Save Font     Download Font	Font Select         Font Encode       Standard Encode         Font Pitch       Variable Pitch         Printer Device       FLASH         Windows Font Name       Arial         Font Size       10	Standard Encode         Font Mapping       Standard Mapping         Character Start ASCII       32         Character End ASCII       127         Asian Font Encode       © Traditional Chinese         © Simplified Chinese       Simplified Chinese	
Load Save Download Font	Preview Font       Printer Font Name       FONT001       Font Width       13       Font Height	Encode by Table	
LPT1 COM1 9600,N,8,1 RTS 2012/7/19 下午 06:02:23		Load Save	
	LPT1 COM1 9600,N,8,1 RTS		2012/7/19下午 06:02:23

Font Select		Select "Standard Encode",
Font Encode	Standard Encode 📃 💌	"Variable pitch" font. Specify the
Font Pitch	Standard Encode Asian Font Encode	destination memory to save the
Printer Device	Encode by Table Encode by Table (Asian)	bitmap font, font name and specify
		the font height then click
Windows Font Name	Arial	"Download Font" button to
Font Size	10	download the converted bitmap
ABCD	Select Font	font into printer memory.
	Preview Font	The converted bitmap font can also
		save to a file by clicking "Save
		Font" button.

### 8. Command Tool

The additional features that are not yet supported in the Diagnostic Utility can be achieved by sending out printer commands to printer from the Command Tool.

Select the interface. Specify the editor and enter the commands in the editor. Please be reminded to hit the PC keyboard Enter key at the end of each command line. Click the "Send" button to send out the commands in the specified editor to printer. You can also send a command file by clicking "Send File" button.

Click "Save" button to save the commands in the specified editor.

You can also open the file to the editor by clicking "Load" button then click "Send" button to send the data to printer.

🖶 Diagnostic Tool 1.50	- • •
	USB Setup
English	USB Setup
Printer Configuration   File Manager   Bitmap Font Manager   Command Tool	
Editor	
• 1	
C 2	
C 3	
C 4	
C 5	
C 6	
C 7	
C 8	
C 9	
C 10	
C 11	
C 12	
Send File Send	Load Save
LPT1 COM1 9600,N,8,1 RTS	2012/7/19 下午 06:02:37