

**Diagnostic Utility**

**Quick Start Guide**

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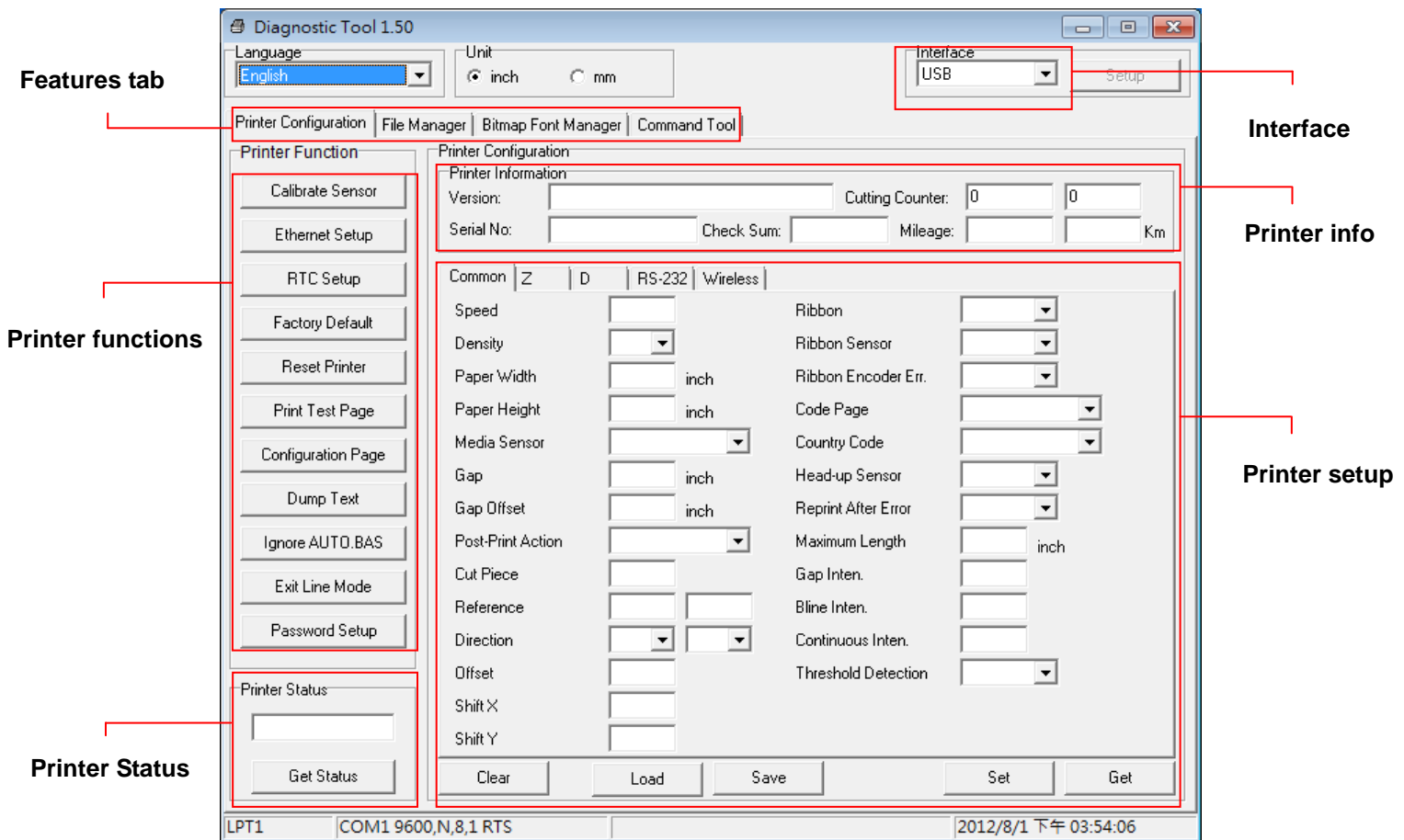
# Diagnostic Utility Quick Start Guide

## 1. Getting started with Diagnostic Utility

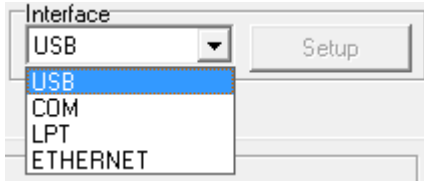
TSC's Diagnostic Utility is an integrated tool incorporating features that enable you to explore a printer's settings/status; change a printer's settings; download graphics, fonts and firmware; create a printer bitmap font; and send additional commands to a printer. With the aid of this powerful tool, 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

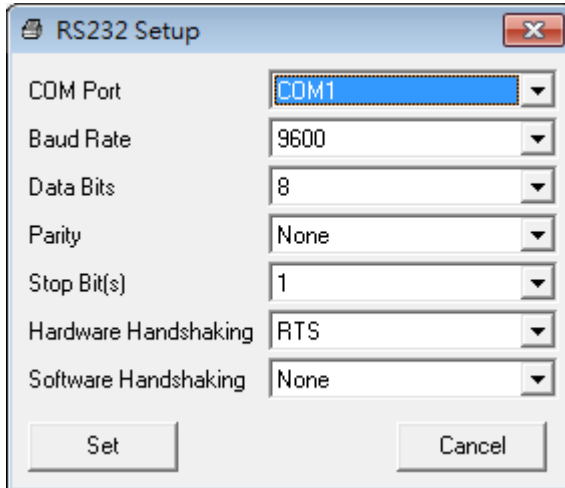
Double click on the Diagnostic utility icon  `DiagTool.exe` to start the software. There are four features (Printer Configuration, File Manager, Bitmap Font Manager, Command Tool) included in the Diagnostic utility.



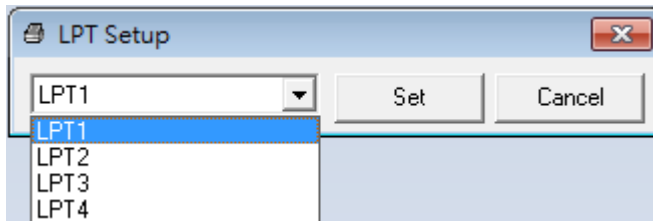
## 1.2 Select the PC interface connected with bar code printer



- 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.

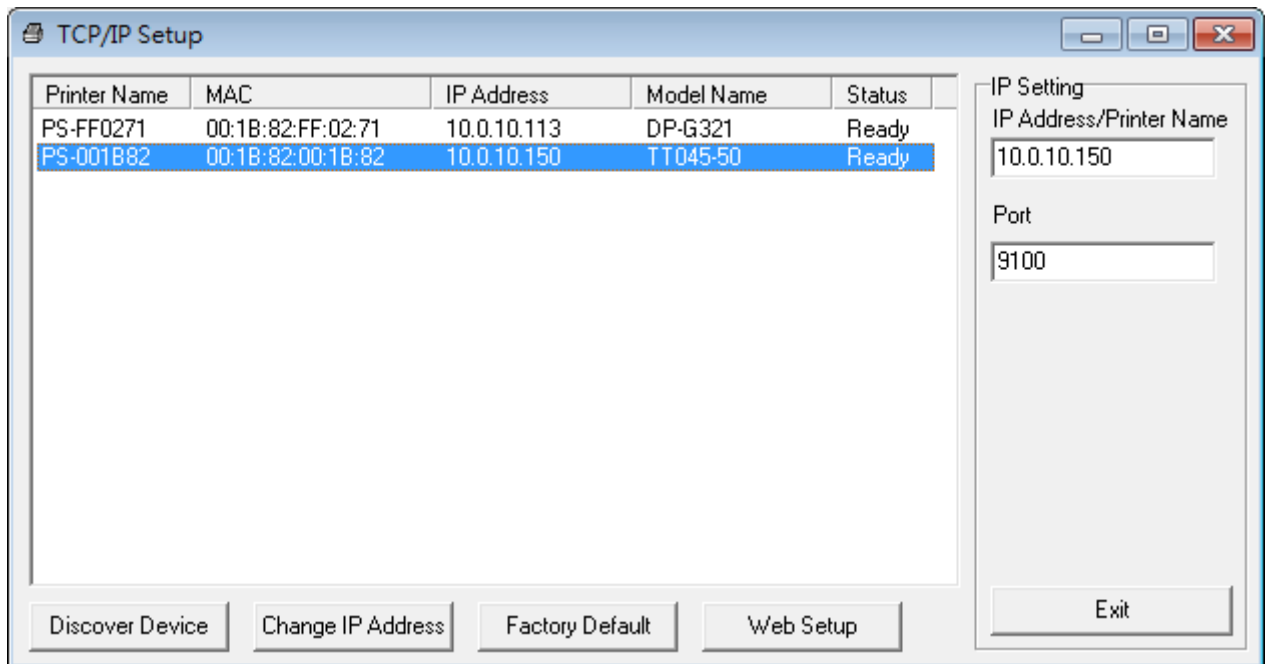


- If parallel port is selected, need to further select the parallel port (LPT1, LPT2...) that connected with bar code printer.



**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.



## 2. Pinter 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 Information

Version:	<input type="text"/>	Cutting Counter:	<input type="text" value="0"/>	<input type="text" value="0"/>	Km
Serial No:	<input type="text"/>	Mileage:	<input type="text"/>	<input type="text"/>	
Check Sum:	<input type="text"/>				

Resettable

Non-resettable

### 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 that commonly used for TSPL/EPL2/ZPL/DPL printer languages.

\* TSPL2 printer language

Common	Z	D	RS-232	Wireless
Speed	<input type="text"/>			
Density	<input type="text"/>			
Paper Width	<input type="text"/>	inch		
Paper Height	<input type="text"/>	inch		
Media Sensor	<input type="text"/>			
Gap	<input type="text"/>	inch		
Gap Offset	<input type="text"/>	inch		
Post-Print Action	<input type="text"/>			
Cut Piece	<input type="text"/>			
Reference	<input type="text"/>	<input type="text"/>		
Direction	<input type="text"/>	<input type="text"/>		
Offset	<input type="text"/>			
Shift X	<input type="text"/>			
Shift Y	<input type="text"/>			
Ribbon	<input type="text"/>			
Ribbon Sensor	<input type="text"/>			
Ribbon Encoder Err.	<input type="text"/>			
Code Page	<input type="text"/>			
Country Code	<input type="text"/>			
Head-up Sensor	<input type="text"/>			
Reprint After Error	<input type="text"/>			
Maximum Length	<input type="text"/>	inch		
Gap Inten.	<input type="text"/>			
Bline Inten.	<input type="text"/>			
Continuous Inten.	<input type="text"/>			
Threshold Detection	<input type="text"/>			

Clear Load Save Set Get

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

Common	Z	D	RS-232	Wireless
Darkness	<input type="text"/>	0 to 30		
Print Speed	<input type="text"/>			
Tear Off	<input type="text"/>	-120 to 120		
Print Mode	<input type="text"/>	▼		
Print Width	<input type="text"/>	inch		
Control Prefix	<input type="text"/>			
Format Prefix	<input type="text"/>			
Delimiter Char	<input type="text"/>			
Media Power Up	<input type="text"/>	▼		
Head Close	<input type="text"/>	▼		
Label Top	<input type="text"/>	-120 to 120		
Left Position	<input type="text"/>	-9999 to 9999		

Clear Load Save Set Get

**Note: The items in the Z tap works with ZPL printer language only.**

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

Common	Z	D	RS-232	Wireless
Heat	<input type="text"/>	0 to 30		
Print Speed	<input type="text"/>			
Label Width	<input type="text"/>	inch		
Present Sensor	<input type="text"/>	▼		
Cutter Equipped	<input type="text"/>	▼		
Control Codes	<input type="text"/>	▼		
Column Offset	<input type="text"/>	inch		
Row Offset	<input type="text"/>	inch		

Clear Load Save Set Get

**Note: The items included in the D tap works 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 | **Wireless**

Device Type

Built-in wireless module  External wireless module

Built-in wireless module

Bluetooth Local Name

Bluetooth PIN Code

WLAN SSID

WLAN Encryption

WLAN Key

WLAN DHCP

WLAN IP Address

WLAN Subnet Mask

WLAN Gateway

Clear Load Save Set Get

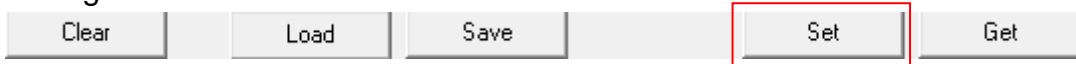
### 3.1 Explore the printer settings

After setup the interface, turn on printer power then click “Get” button to get the printer settings.



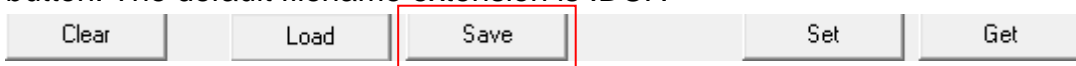
### 3.2 Change the printer settings

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.



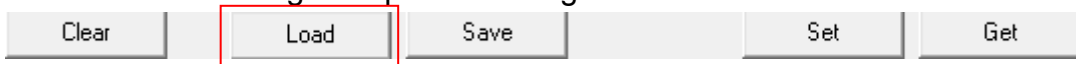
### 3.3 Save the printer settings to a file

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



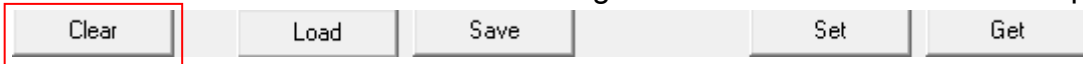
### 3.4 Load the saved printer setting file

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



### 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.

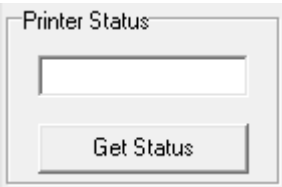


## 4. Individual printer functions

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.

	Functions	Description
Calibrate Sensor	Calibrate Sensor	Calibrate the sensor specified in the Printer Setup group media sensor field
Ethernet Setup	Ethernet Setup	Setup the IP address, subnet mask, gateway for the on board Ethernet
RTC Setup	RTC Time	Synchronize printer Real Time Clock with PC
Factory Default	Factory Default	Initialize the printer and restore the settings to factory default.
Reset Printer	Reset Printer	Reboot printer
Print Test Page	Print Test Page	Print a test page
Configuration Page	Configuration Page	Print printer configuration
Dump Text	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

 <p>The image shows a software dialog box titled "Printer Status". It contains a rectangular area for displaying status information and a button labeled "Get Status" at the bottom.</p>	<p>When connecting printer with USB, RS-232 or Ethernet interface, the “Get Status” button will be visible to polling printer status.</p> <p>Whenever printer is blinking with red, click “Get Status” then the printer status will be indicated.</p>
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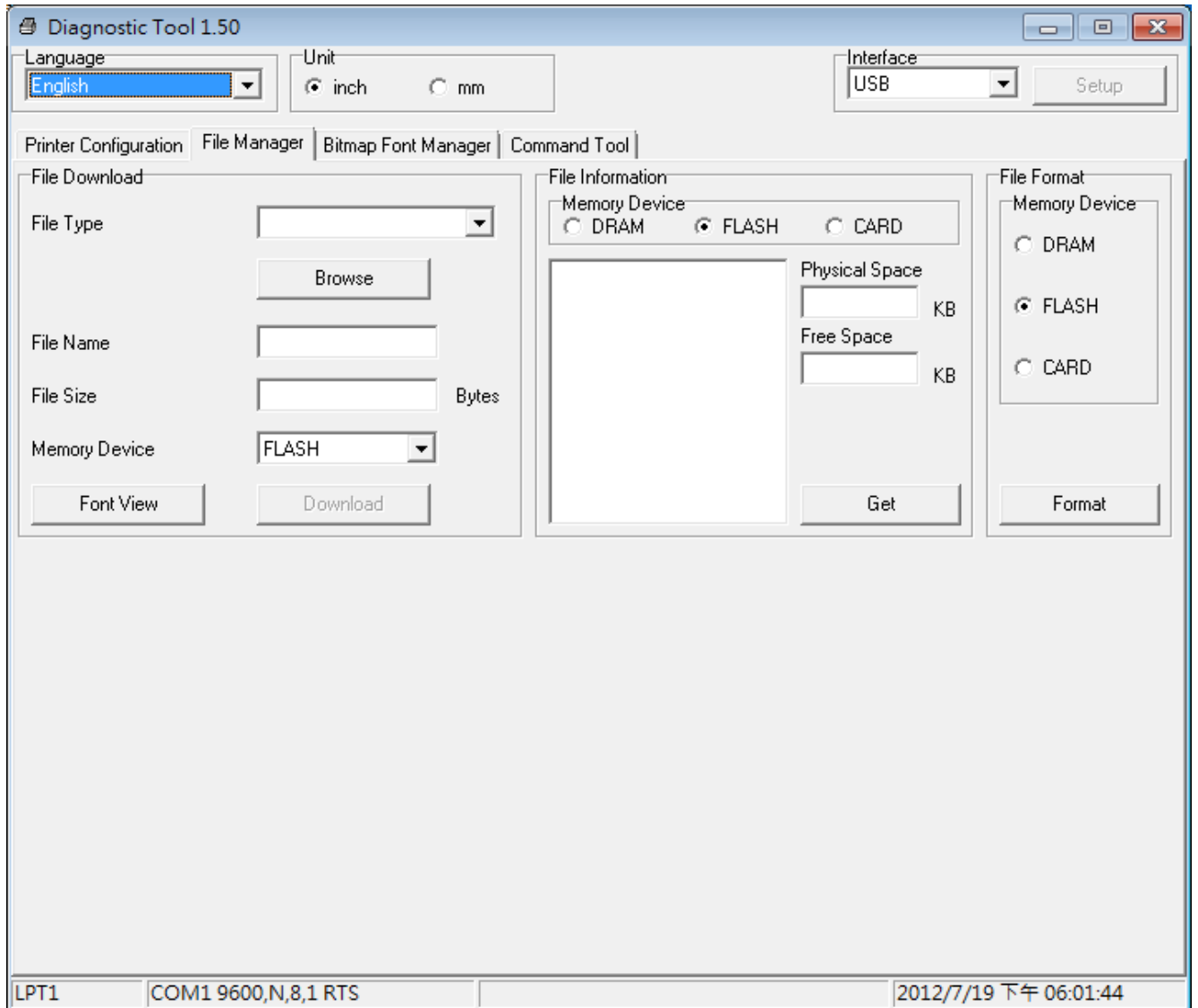
The following status list will appear:

Error message	Solutions
Head Open	<ol style="list-style-type: none"> <li>1. Close the print head.</li> <li>2. Check if the right/left side of print mechanism are latched securely.</li> </ol>
Paper Jam	<ol style="list-style-type: none"> <li>1. Check if any label is stuck in the print mechanism.</li> <li>2. Check the settings of label size and gap/black mark size are identical with printing media.</li> <li>3. Check the sensor type.</li> <li>4. Do sensor calibration again.</li> </ol>
Out of Paper	<ol style="list-style-type: none"> <li>1. Check the gap/black mark sensor position is located on the gap/black mark sensing path.</li> <li>2. Check if the label is empty.</li> <li>3. Do sensor calibration again.</li> </ol>
Ribbon End Error	<ol style="list-style-type: none"> <li>1. Check if printer is run out of ribbon.</li> <li>2. Check if the ribbon is broken between ribbon supply/take up spindle.</li> <li>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)</li> <li>4. Check if ribbon spindle is installed at the wrong direction in the printer.</li> </ol>
Ribbon Encoder Error	<ol style="list-style-type: none"> <li>1. Close the print head. Check right/left sides of print mechanism are latched securely.</li> <li>2. Check if the ribbon is empty.</li> <li>3. Check if the ribbon is broken between ribbon supply/take up spindle.</li> <li>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).</li> </ol>
Pause	<ol style="list-style-type: none"> <li>1. Press the FEED button again to resume printer for printing (for printer models with only one button)</li> <li>2. Press the PAUSE button to resume printer for printing (for printer models with more than one button)</li> </ol>
Printing	N/A
Other Error	<ol style="list-style-type: none"> <li>1. Motor overheat: For TTP-245C series only. Printer status indicator becomes solid red</li> </ol>

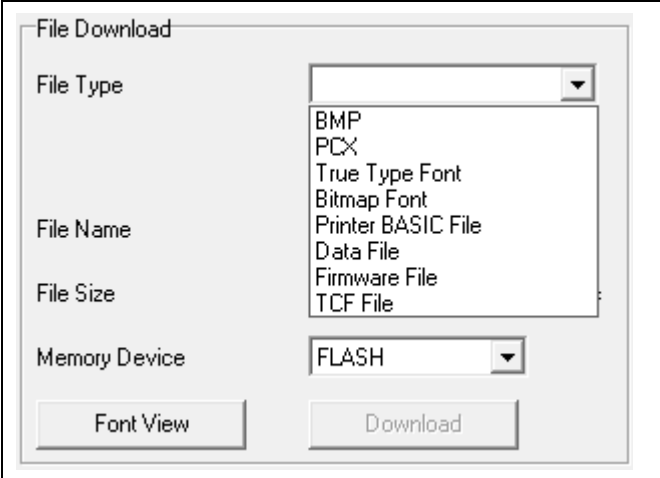
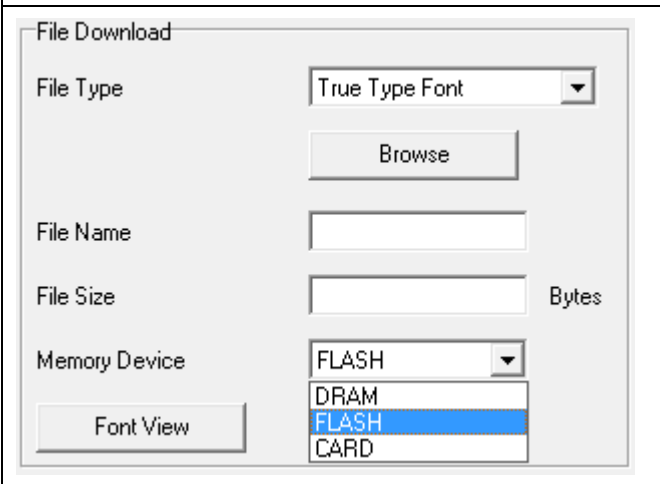
	<p>and printer stops printing. Once motor cools down, printer will resume the printing job.</p> <p>2. Print head overheat: Error indicator becomes solid red and printer stops printing. Once print head cools down, printer will resume the printing job.</p> <p>3. Cutter jam: (1) Remove the jammed media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

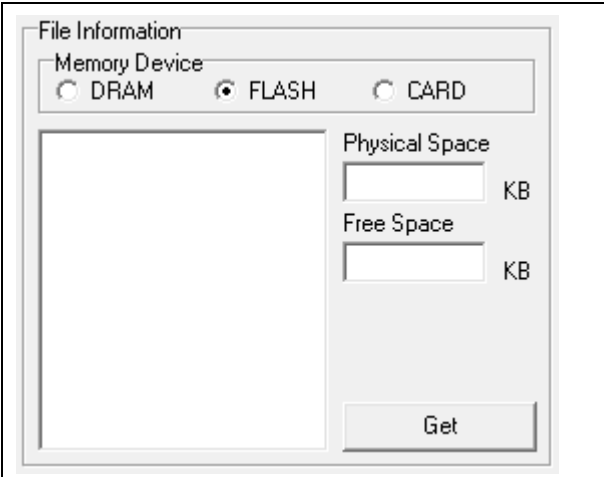
File manager feature is to help users to generate the file header, download the file into printer, explore what files are downloaded in printer memory and delete all files in the memory.




## 6.1 File download group

	<p>Select the file type then click “Browse” button to select the file for download.</p>
	<p>Specify the memory device to download the file.</p> <p>Click “Download” button to start to download the file.</p>

## 6.2 File information group

	<p>This feature is to list what files are downloaded in the specified memory device.</p> <p>Select the memory device then click “Get” button to list the files saved in the specified memory.</p>
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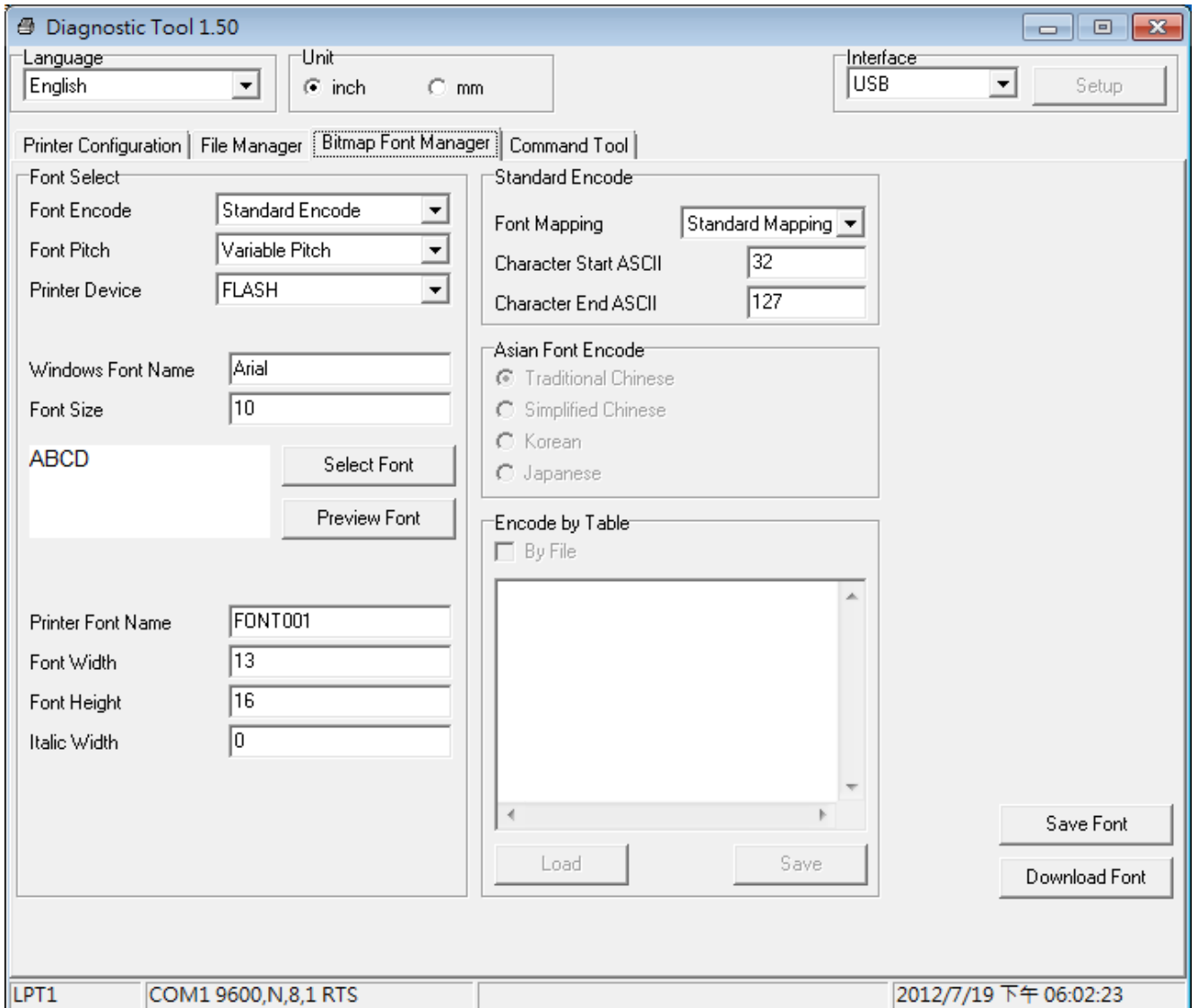
### 6.3 File format group

 <p>File Format</p> <p>Memory Device</p> <p><input type="radio"/> DRAM</p> <p><input checked="" type="radio"/> FLASH</p> <p><input type="radio"/> CARD</p> <p>Format</p>	<p>This feature is used to delete all the files for the specified memory device.</p> <p>Select the memory device then click “Format” button to delete all the files in the specified memory.</p>
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## 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.



<p>The close-up shows the 'Font Select' section with the 'Font Encode' dropdown menu open. The menu items are 'Standard Encode', 'Asian Font Encode', 'Encode by Table' (highlighted in blue), and 'Encode by Table (Asian)'. Below the dropdown are the 'Windows Font Name' (Arial) and 'Font Size' (10) fields, and the 'ABCD' preview area with 'Select Font' and 'Preview Font' buttons.</p>	<p>Select "Standard Encode", "Variable pitch" font. Specify the destination memory to save the bitmap font, font name and specify the font height then click "Download Font" button to download the converted bitmap font into printer memory. The converted bitmap font can also save to a file by clicking "Save Font" button.</p>
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## 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.

