

# CipherLab User Guide

## FORGE WLAN Application Generator

For 8 Series Mobile Computers:  
8000 / 8200 / 8300 / 8400 / 8500 / 8600 / 8700

DOC Version 3.05



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# RELEASE NOTES

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Version	Date	Notes
3.05	Jul. 02, 2015	▶ Modified: <b>2.2.1 File Menu</b> – Open WDM/Save As WDM commands added
3.04	Jun. 29, 2015	▶ Modified: <b>1.5.2 Backlight</b> – descriptions for particular LCD backlight setting added for 8600
3.03	Aug. 22, 2014	▶ Modified: <b>1.5.1 Download Method</b> – FastVPort interface added for AG8600 added
3.02	Jun. 30, 2014	▶ Modified: <b>1.5.5 Font File</b> – LATIN (Multilingual Latin I), SLAVIC (Latin II), POLISH (Central European, Latin II), Latin I (CP_1252) languages added ▶ Modified: <b>1.5.5 Font File</b> – Latin(Slovak) & Windows 1250 fonts are not supported for 8600 series
3.01	May 05, 2014	▶ Modified: <b>1.5.5 Font File</b> – Turkish (CP-1254) language added ▶ Modified: <b>Appendix II</b> – add 'Code 39 Security Level', 'EAN8 GTIN-13 format' (the Symbology Settings table) ▶ Modified: <b>Appendix II</b> – add GS1 Formatting (for GS1-128, GS1 DataBar Family) (the Symbolog Settings table) ▶ Modified: <b>Appendix III</b> – add 'Code 39 Security Level', 'EAN8 GTIN-13 format' in the Symbology Settings Table (8700) ▶ Modified: <b>Appendix IV</b> – add 'Read Redundancy', 'Mobile Display Mode' in the Reader Settings Table ▶ Modified: <b>Appendix IV</b> – TLC-39 default changed to 'Disable', GS1 Formatting/Field Separator/Application ID mark added for GS1 DataBar and Composite CC-A/B/C in the Symbology Settings Table

- |      |               |  |
|------|---------------|--|
| 3.00 | Dec. 12, 2013 | <ul style="list-style-type: none"> <li>▶ Modified: <b>Introduction</b> – Download WLAN AG Runtime table updated (8590/8700 removed; 8630 added)</li> <li>▶ Modified: <b>Introduction</b> – Getting Started – AG Program table updated (8590/8700 removed; 8630 added)</li> <li>▶ Modified: <b>1.1 Form</b> – screenshot updated</li> <li>▶ Modified: <b>1.1.1 Name</b> – (form 1 ~ 10 for 8600 only)</li> <li>▶ Modified: <b>1.1.2 Font</b> – updated for 8600</li> <li>▶ Modified: <b>1.1.3 ESC</b> – form 1 ~ 5 (form 1 ~ 10 for 8600 only)</li> <li>▶ Modified: <b>1.1.4 Next</b> – form 1 ~ 5 (form 1 ~ 10 for 8600 only)</li> <li>▶ Modified: <b>1.1.11 Input Source</b> – Bluetooth added (8600 only)</li> <li>▶ Modified: <b>1.2 Menu</b> – Menu tab screenshot updated</li> <li>▶ New: <b>1.2.2 Color Properties (8600 only)</b></li> <li>▶ Modified: <b>1.2.5 Next</b> – form 1 ~ 5 (form 1 ~ 10 for 8600 only)</li> <li>▶ Modified: <b>1.5.1 Download Method</b> - AG8600 added</li> <li>▶ Modified: <b>1.5.4 Wi-Fi Security</b> - *802.11b/g/n for 8600<br/>*8600 supports WPA2</li> <li>▶ Modified: <b>1.6 Startup</b> - Startup tab screenshot updated</li> <li>▶ New: <b>1.6.5 Startup Color Properties</b></li> <li>▶ New: <b>1.6.6 Error Message Color properties</b></li> <li>▶ Modified: <b>Chapter 2 Wireless Database Manager</b> –<br/>*add 8630 to wireless connectivity list<br/>*remove 8590 from wireless connectivity list</li> <li>▶ Modified: <b>Appendix I Scan Engine Settings</b> – reader table updated</li> <li>▶ Modified: <b>Appendix II CCD/LASER Scan Engine</b> – updated for 8600</li> <li>▶ Modified: <b>Appendix IV 2D Scan Engine</b> – tables updated for 8600</li> </ul> |
| 2.16 | Jan. 28, 2013 | <ul style="list-style-type: none"> <li>▶ Modified: <b>“1.1 Form”</b> – screenshot updated</li> <li>▶ Modified: <b>“1.1.2 Font”</b> – Font table updated</li> <li>▶ New: <b>“1.1.6 Record”</b> added</li> <li>▶ Modified: <b>“1.1.8 Data Type”</b> — Passdown option added</li> <li>▶ Modified: <b>“1.2 Menu”</b> – screenshot updated</li> <li>▶ Modified: <b>“1.4 Barcode”</b> – screenshot updated</li> <li>▶ Modified: <b>“1.5 Settings”</b> – screenshot updated</li> <li>▶ New: <b>“1.5.5 Font File”</b> added</li> <li>▶ New: <b>“Appendix III LR/ELR LASER SCAN ENGINE”</b> – Symbology Settings Table (8700) added</li> </ul>  |
| 2.15 | Dec. 14, 2011 | <ul style="list-style-type: none"> <li>▶ New: 8700 support</li> </ul>  |
| 2.14 | May 17, 2011  | <ul style="list-style-type: none"> <li>▶ Modified: Appendix IV — Change MSI to “Disable” by default</li> </ul>   |

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|------|---------------|---|
| 2.13 | Mar. 21, 2011 | <ul style="list-style-type: none"> <li>▶ New: support 8200</li> <li>▶ Modified: Appendix I — Support Code 11 for Long Range Laser (8300 only)</li> <li>▶ Modified: Appendix I~II — Support UPC-E1 for CCD/Laser (8200 only)</li> <li>▶ Modified: Appendix I~II — Support Coop 25 for CCD/Laser (8200 only)</li> <li>▶ Modified: Appendix II — Add Aiming Duration for CCD/Laser (8200 only)</li> <li>▶ Modified: Appendix III — Add Scan Mode options and Time-out for Long Range Laser (8300 only)</li> <li>▶ Modified: Appendix III — Support Code 11 for Long Range Laser (8300 only)</li> <li>▶ Modified: Appendix IV — Add Aiming Duration for 2D (8200 only)</li> <li>▶ Modified: Appendix IV — Change Codabar, Code 93 and MSI to “Enable” by default</li> <li>▶ Modified: Appendix IV — Support GS1-128 Emulation Mode setting for Composite Codes (8200 only)</li> </ul> |
| 2.12 | Dec. 02, 2010 | <ul style="list-style-type: none"> <li>▶ New: System Requirements</li> <li>▶ Modified: 1.5.4 Wi-Fi Security — WEP key</li> <li>▶ Modified: 1.5.4 Wi-Fi Security — input accepts ASCII instead of hex values</li> <li>▶ Modified: Appendix I~IV — add more GS1 DataBar symbologies</li> </ul>  |
| 2.11 | Jun. 04, 2010 | <ul style="list-style-type: none"> <li>▶ Modified: 1.4 Barcode — update screenshot</li> <li>▶ Modified: 2.2.1 File Menu — Preferences</li> <li>▶ Modified: Appendix II~IV — update default values</li> <li>▶ Modified: Appendix IV 2D Scan Engine — add Continuous and Alternate Modes</li> </ul>   |
| 2.10 | Nov. 19, 2009 | <ul style="list-style-type: none"> <li>▶ New: support 8400-2D</li> <li>▶ Modified: Appendix IV — Chinese 25, Matrix 25, Picklist Mode, 1D Inverse, 2D Inverse, UPU FICS Postal and USPS 4CB/One Code/Intelligent Mail</li> </ul>  |
| 2.09 | July 29, 2009 | <ul style="list-style-type: none"> <li>▶ Modified: Update all screenshots</li> <li>▶ Modified: Introduction — Change the installation method from Power suite CD to Product CD</li> </ul>   |
| 2.08 | June 25, 2009 | <ul style="list-style-type: none"> <li>▶ Modified: Appendix II~III support replacement of GS1-128 field separator for all scan engines</li> <li>▶ Modified: 1.5.3 IP — Add “Enable DHCP”</li> </ul>   |
| 2.07 | June 10, 2009 | <ul style="list-style-type: none"> <li>▶ Modified: Descriptions for “Settings” Page are added.</li> <li>▶ Modified: Change barcode prompt RSS to GS1 Databar and EAN-128 to GS1-128</li> </ul>  |
| 2.06 | Jan 16, 2009  | <ul style="list-style-type: none"> <li>▶ Modified: Descriptions and features available for 8400 are added</li> </ul>  |
| 2.05 | July 30, 2008 | <ul style="list-style-type: none"> <li>▶ Modified: Appendix II~III support replacement of EAN-128 field separator for all scan engines</li> </ul>   |
| 2.04 | Jun. 26, 2008 | <ul style="list-style-type: none"> <li>▶ Modified: 1.4.1 RFID Reader — Automatically enabled after initialization (checkbox removed from UI)</li> <li>▶ New: Long Range Laser option available for 8300</li> </ul>  |

- 2.03 Nov. 06, 2007 ▶ Modified: 1.4.1 Reader Type — RFID tags in proximity will be read automatically by 8300/8500 when RFID reader is enabled
- 2.02 Oct. 18, 2007 ▶ Modified: Features
- 2.01 Sep. 20, 2007 ▶ New: AG8300 for 8330
  - ▶ Modified: 1.1.4 Next — RFID for 8300 Series as well
  - ▶ Modified: 1.1.9 Input Source — RFID for 8300 Series as well
- 2.00 Sep. 10, 2007 New Word template applied
  - ▶ Merge documentation of WLAN Application Generator and Wireless Database Manager
- 1.05 June 20, 2006 ▶ Modified: 5.3 Barcode & Parameters
- 1.04 Apr. 14, 2006 ▶ Modified: 1.2.2 — Font\_12x12 not supported
  - ▶ Modified: 5.1 & 5.2.6
- 1.03 Apr. 10, 2006 ▶ RF AG for CPT-8500 is included

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# INTRODUCTION

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Easy-to-use and quick-to-apply, FORGE WLAN Application Generator for 8000/8200/8300/8400/8500/8600/8700 Series Mobile Computers is designed for users to develop custom templates that run with the AG runtime preloaded on the mobile computers. Users are able to define their own data collection templates on any desktop computer without spending time writing any program code.

FORGE WLAN Application Generator is used to develop applications for many purposes, such as —

- ▶ Receiving in Retail
- ▶ Price Check
- ▶ Product labeling & Tracking
- ▶ Shelf Product Replenishment
- ▶ Mobile Point of Sale (POS)
- ▶ Mobile Inventory Management
- ▶ Order Picking & Staging
- ▶ Work-In-Process Tracking
- ▶ Material Flow Control
- ▶ Transportation & Distribution
- ▶ Warehousing
- ▶ Asset Management

FORGE WLAN Application Generator presents itself as a graphic image of the mobile computer. It simulates the program's running sequences on the actual mobile computer, and allows you to design a new application template on your personal computer in minutes. Send the application template file you have designed to the mobile computer so it can commence immediately when the mobile computer starts up.

Two options are provided for the host computer to receive data from the mobile computer in a real-time way – data saved as a text file or directly updated to the database.

This manual provides comprehensive knowledge of FORGE WLAN Application Generator for 8000/8200/8300/8400/8500/8600/8700 Series Mobile Computers to help you define custom templates for certain data collecting applications. We recommend that you read the document thoroughly before use and keep it at hand for quick reference.

Thank you for choosing CipherLab products!

## SYSTEM REQUIREMENTS

To run the program, one of the Windows operating system is required:

- ▶ Windows 2000
- ▶ Windows XP
- ▶ Windows Vista
- ▶ Windows 7

## FEATURES

- ▶ Definition of program flow
- ▶ Editing of screens and data
- ▶ Managing barcode reader and RFID reader
- ▶ Font size options and program localization
- ▶ Simple program simulation for debugging
- ▶ Password-protected user settings to prevent unauthorized user intervention
- ▶ Hot key selection for tasks or user settings' menus
- ▶ Definition of system initial settings for a quick start
- ▶ Easy cloning by downloading the template file
- ▶ Real-time data collection via Wireless Database Manager

## DOWNLOAD WLAN AG RUNTIME

Data collection mainly involves three actions: input (scanning or key-in), data processing, and output (or updating database). FORGE WLAN Application Generator for 8000/8200/8300/8400/8500/8600/8700 Series Mobile Computers is designed to perform data processing inside the mobile computers.

If your mobile computer is not pre-loaded with the WLAN AG runtime program (.SHX), you must transfer a copy of the WLAN AG runtime and your desired font file (.SHX) to the mobile computer via the "Program Load" utility.

On the mobile computer, press [7] + [9] + [Power] simultaneously to enter **System Menu | Load Program**.

Shortcut Name of Utility	AG Runtime Program	Applied to
Program Load (= ProgLoad.exe)	WU8071.SHX	8071
	WU8200.SHX	8230
	WU8300.SHX	8330, 8370
	WU8400.SHX	8470
	WU8500.SHX	8570
	WU8600.SHX	8630
	WU8700.SHX	8770, 8790

## GETTING STARTED

- 1) Run the AG program (*AG8\*.exe*) from the Product CD or copy it to your PC. The graphical image of a certain mobile computer model pops up.

Shortcut Name of AG Program	AG Program	Applied to
AG8000 for WLAN	AG8071WLAN.exe	8071
AG8200 for WLAN	AG8200WLAN.exe	8230
AG8300 for WLAN	AG8300WLAN.exe	8330, 8370
AG8400 for WLAN	AG8400WLAN.exe	8470
AG8500 for WLAN	AG8500WLAN.exe	8570
AG8600 for WLAN	AG8600WLAN.exe	8630
AG8700 for WLAN	AG8700WLAN.exe	8770, 8790

Right-click anywhere on the image or click on the [Power] button on the image.

The Command Menu appears as shown below.

- ▶ Click **Edit** to start with a new or the latest application template, and upon completion, click **OK** to close the editing window.
- ▶ Click **Save** or **Save As** to save the current edited template to a file (\*.ATF).
- ▶ Click **Preferences** to configure the download settings.
- ▶ Click **Download Application** to download the template file (\*.ATF) to the mobile computer.



- 2) Turn on the mobile computer to run the AG runtime program, *WU8\*.SHX*.

On the mobile computer, configure the download settings that are consistent with the configuration on the PC side. Take 8000 Series WLAN AG Runtime menu for example:

- 
- ▶ Select **2. Utilities Menu | 6. Download Port**
  - ▶ Select **2. Utilities Menu | 7. Baud Rate**
- 3) On the mobile computer, select **2. Utilities Menu | 8. Load Application** to download the template file. After downloading, the main menu displays.
  - 4) On the mobile computer, select **2. Utilities Menu | 2. TCPIP Settings**. Configure effective TCP/IP settings to connect to the specified host computer in a real-time way.
  - 5) Run Wireless Database Manager on your computer for real-time data collection via 802.11b/g (802.11b/g/n for 8600).

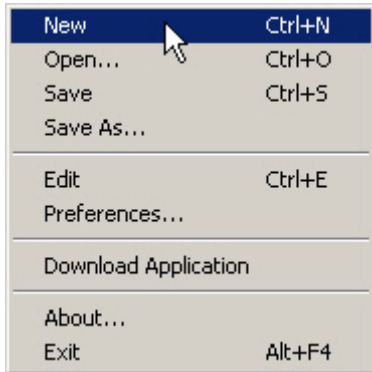
If no lookup files are defined on both the Form and Lookup property pages, you may receive data from the mobile computer over the wireless network via the "WLAN Read" utility.

Program	Applied to
Wireless Database Manager.exe	All series
WLAN_Read.exe	All series

- 6) On the mobile computer, select **1. Take Data** to connect to your computer and start with the data collection task.

## COMMAND MENU

For the first time, the Command Menu appears with commands as the picture shown below.

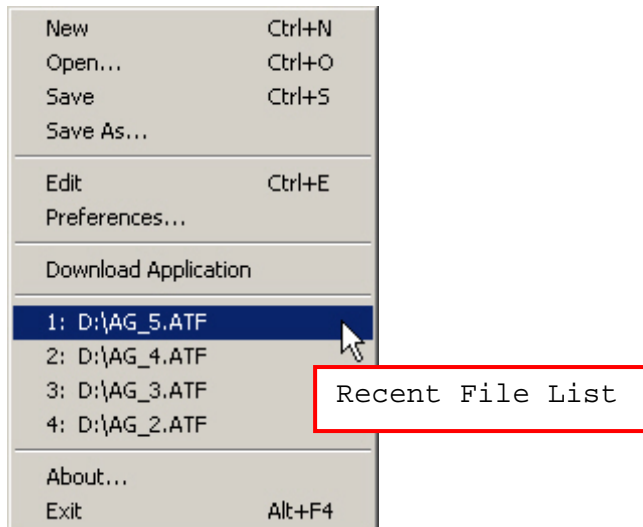


Command	Action...
<i>New</i>	To create a new application template.
<i>Open</i>	To open an existing application template. File path needs to be specified.
<i>Save</i>	To save the current editing template.
<i>Save As</i>	To save the current editing template to a new file.
<i>Edit</i>	To edit a new or the latest application template.
<i>Preferences</i>	To configure the COM port and language settings.
<i>Download Application</i>	To download the current application template to the mobile computer.
<i>About...</i>	To show information about the WLAN Application Generator.
<i>Exit</i>	To close the WLAN Application Generator.



## RECENT FILE LIST

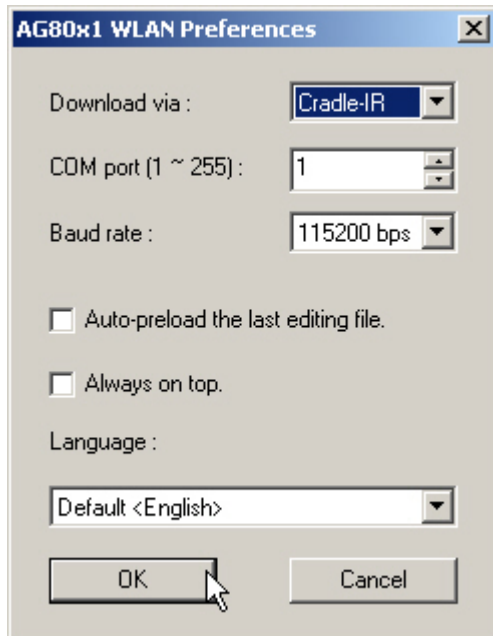
If you ever saved a template, it will be displayed on the Command Menu as well. Up to 4 recent template files are listed for quick access.



- ▶ The first file on the recent file list is the latest template you work on. If you accidentally clicked the Close button or **OK** of the template, simply click the Edit command to re-open it.
- ▶ You may click any of the four files to open the template for editing. It will then be placed on top of the list.

## PREFERENCES

To send the application template customized in the FORGE WLAN AG to the mobile computer, right-click anywhere on the user's interface of the AG or click the power button on the user's interface to display the Command Menu; select "Preference" from the Command Menu to see the [AG8\*\*\*\* WLAN Preferences] dialogue box as the picture shown below:



In this Preference dialog box, make the following settings:

- ▶ Download Settings

Specify the details of the download interface such as the COM port and baud rate. Refer to [Startup](#) property page for communication time-out.

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**Warning:** The download settings on the host computer and the mobile computer must be consistent; otherwise, the downloading will fail.

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- ▶ Auto-preload the last editing file.

Select "Auto-preload the last editing file" to have the FORGE WLAN AG load the last edited template file as soon as it is run.

- ▶ Always on top.

Select "Always on top" to have the FORGE WLAN AG remain on the top of all other windows on Windows desktop.

- ▶ Language

If there is any language file (\*.lng) saved into the folder where FORGE WLAN AG's executable file locates, language options will become available. You will be able to select a preferred language for the GUI of the program. Further details please refer to [Localization](#).

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## LOCALIZATION

If you want to customize the entire application for your local language, you must translate the text used in the user interface into your own language, as well as re-define menus and messages for the runtime.

- 1) On your PC, run the utility "Program Load" to send your desired font file (.SHX) to the mobile computer.

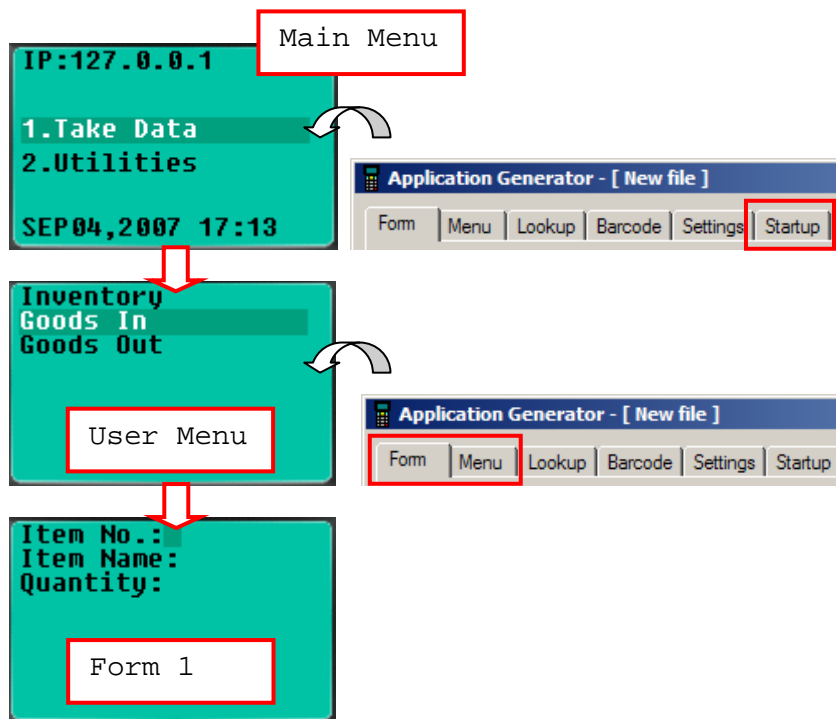
On the mobile computer, press [7] + [9] + [Power] simultaneously to enter **System Menu | Load Program**.

- 2) On your PC, go to the folder where FORGE WLAN AG's executable file locates. In the folder, save the existing language file (\*.lng) as a new one. Translate the text contained in the new file to your local language.
- 3) On your PC, run FORGE WLAN AG. Right-click anywhere on the graphical image of the FORGE WLAN AG or simply click the [Power] button on the graphical image of the FORGE WLAN AG. Command Menu displays. Click **Preferences** from the Command Menu to display [Preferences] dialog box. Under "Language" label, select the new language file that you just created.
- 4) From the Command Menu of the FORGE WLAN AG, select "Edit" to re-define the prompts and messages on the [Startup](#) property page of the application template.
  - ▶ For double-byte languages such as Japanese and Chinese, font size selection on the [Form](#) and [Menu](#) property pages (except 8500 Series) should be set to "large" to display contents properly on the LCD screen. However, the rest of prompts and messages can only be displayed in alphanumeric characters in the current system.
- 5) Click **Download Application** to send the template file (\*.ATF) to the mobile computer.
- 6) Turn on the mobile computer to run the AG runtime program, *WU8\*.SHX*.  
Select **2. Utilities Menu | 8. Load Application** to download the template file.

## PROGRAM SIMULATION

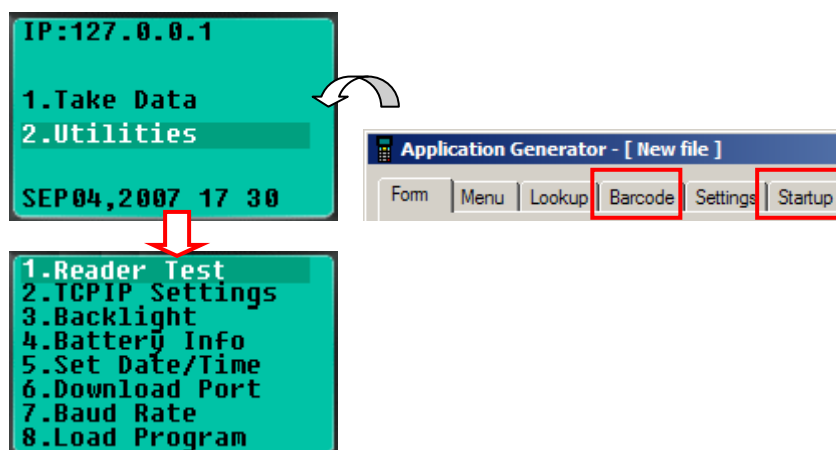
When you complete the entire configuration, send the application template file (\*.ATF) to the mobile computer. However, you may run program simulation beforehand to verify if the program sequences meet your requirements.

### Take Data



### Utilities

Only partial simulation is allowed. TCP/IP settings on the mobile computer must be configured correctly; otherwise, it will fail to connect to the specified computer (Server), and you will not be allowed to take any data! Refer to [Startup](#) property page for communication time-out.



## WLAN APPLICATION GENERATOR

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To work on a new or existing application template, click New, Open, or Edit from the Command Menu. An application template is composed of six tabbed pages for your configuration of the application template. They are:



### Property Pages

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- Form** Forms are used to show information and collect data, which may be placed under a user menu, e.g. **1. Take Data | (Menu 1) | Form 1.**
- Menu** Menus are used to provide multi-level options, which may be placed under the main menu, e.g. **1. Take Data | Menu 1 | (Menu 2) | Form 1.**
- Lookup** Lookup property page enables you to define the data structure of up to 3 lookup files.
- Barcode** You may configure symbologies and barcode parameters.
- Settings** You may configure the mobile computer's Download Method, Backlight, IP and Wi-Fi Security from PC side.
- Startup** You may configure program sequences and customize user interface on the mobile computer.

---

**Warning:** On the Barcode tab, you must select the correct barcode reader even though no modification is made to its settings. Otherwise, it will indicate "wrong reader type" after downloading the template file to the mobile computer and cause the reader to fail!

---

## 1.1 FORM

A “form” means a data collecting form with multiple input fields. Data is transferred to a host computer in a real-time way when all the input fields (lines) of a form are completed. The data will be added to the lookup database or saved as transaction records.

- ▶ Each form allows at most eight input fields (8 lines), or 12 input fields (12 lines) for 8600 only.
- ▶ Five different forms can be defined (10 for 8600).

The attributes on this property page are explained in detail as follows.

Application Generator - [ New file ]

Form | Menu | Lookup | Barcode | Settings | Startup

1 Name : form1 3 Esc : Main men 5 Lookup file : 1st lookup file 8 Color Properties

2 Font size : small (10x20 4 Next : form1 6 Record : update lookup Background : Black

Font file : English 7 No match action : insert to lookup file Foreground : White

Line	Data type	Prompt	Input source	Min length	Max length	Lookup	Properties
#1	text 9	10	both 11	0 12	50 13	nil 14	more... 15
#2	nil		both	0	50	nil	more...
#3	nil		both	0	50	nil	more...
#4	nil		both	0	50	nil	more...
#5	nil		both	0	50	nil	more...
#6	nil		both	0	50	nil	more...
#7	nil		both	0	50	nil	more...
#8	nil		both	0	50	nil	more...
#9	nil		both	0	50	nil	more...
#10	nil		both	0	50	nil	more...
#11	nil		both	0	50	nil	more...
#12	nil		both	0	50	nil	more...

Reset 16

OK Cancel

### 1.1.1 NAME

Select the form you are going to set up. "form 1" is usually the form to start with.

- ▶ form 1 ~ 5 (form 1 ~ 10 for 8600 only)

### 1.1.2 FONT

Click the Font Size drop-down menu to select between small and large options. Large font must be applied to double-byte languages, such as Chinese and Japanese. On the Form and Menu property pages, font size needs to be changed accordingly. Refer to [Localization](#) and [1.2.1 Font](#).

Font File is a read-only text field displaying the language you have specified on the Settings tab page. Refer to [1.5.5 Font File](#).

Mobile Computer		Small (Font 6x8)	Large (Font 8x16)
8000 Series		16 characters by 8 lines (default)	12 characters by 4 lines
8300 Series		20 characters by 8 lines (default)	15 characters by 4 lines

Mobile Computer		Small (Font 10x20)	Large (Font 12x24)
8600 Series	Single-byte	24 characters by 12 lines (default)	20 characters by 12 lines
	Double-byte	12 characters by 12 lines (default)	10 characters by 12 lines

Mobile Computer		Small Font (8x16, 16x16)	Large Font (12x16, 10x20, 20x20)
8200 Series	Single-byte	20 characters by 8 lines (8x16)	13 characters by 8 lines (12x16)
	Double-byte	20 characters by 8 lines (8x16)	16 characters by 7 lines (10x20)
		10 characters by 8 lines (16x16)	8 characters by 7 lines (20x20)
8400 Series	Single-byte	20 characters by 8 lines (8x16)	13 characters by 8 lines (12x16)
	Double-byte	20 characters by 8 lines (8x16)	16 characters by 7 lines (10x20)
		10 characters by 8 lines (16x16)	8 characters by 7 lines (20x20)
8500 Series	Single-byte	20 characters by 8 lines (8x16)	N/A
	Double-byte	20 characters by 8 lines (8x16)	
		10 characters by 8 lines (16x16)	
8700 Series	Single-byte	20 characters by 8 lines (8x16)	13 characters by 8 lines (12x16)
	Double-byte	20 characters by 8 lines (8x16)	16 characters by 7 lines (10x20)
		10 characters by 8 lines (16x16)	8 characters by 7 lines (20x20)

Note: "Font Size" drop-down menu isn't available for 8500 Series which can only display information in small font size.

---

### 1.1.3 ESC

Select a form or menu that displays when the [ESC] key is pressed to the currently edited form when it runs on the mobile computer later. For settings of the user menu, refer to the [Menu](#) property page.

- ▶ Main Menu
- ▶ form 1 ~ 5 (form 1 ~ 10 for 8600 only)
- ▶ user menu

Note: Normally, the [ESC] key is used to return to a previous form or menu.

---

### 1.1.4 NEXT

Select a form or menu that displays when all the input fields of the currently edited form are completed when it runs on the mobile computer later. For settings of the user menu, refer to the [Menu](#) property page.

- ▶ Main Menu
- ▶ form 1 ~ 5 (form 1 ~ 10 for 8600 only)
- ▶ user menu

This action is triggered by sending the key value of [Enter] when you finish with the last input field of a form. And, the setting of [1.1.11 Input Source](#) decides the way to produce the key value of [Enter].

Input Source of the last line	Operation
Reader	Auto ENTER (= "Scan + ENTER") for barcode input must be enabled. Refer to <a href="#">1.1.15 Properties</a> .
Keypad	Press the [Enter] key on the 8000/8200/8300/8400/8500/8600/8700 Series mobile computer.
Both	See the two options above.
RFID	Press the [Enter] key on the 8300/8500/8600/8700 Series mobile computer.
All	See all the options above.

### 1.1.5 LOOKUP FILE

A lookup file is a database. Select if the currently edited form should refer to a lookup file. If a lookup file is selected, the information about its data structure needs to be provided to the [Lookup](#) property page.

---



On [Lookup](#) property page, related settings must be configured.

- ▶ See section [1.1.9 Data Type](#)
- ▶ See section [1.1.14 Lookup \(Field\)](#)

Note: The associated lookup file(s) must be opened in the Wireless Database Manager. If no lookup file is in use, you can collect data directly via the “WLAN Read” utility (WLAN\_Read.exe).

### 1.1.6 RECORD

Options in the Record drop-down menu determine the action to take when all the input fields of a form is completed. The options may vary depending on whether a lookup file is designated in the “Lookup file” drop-down menu.

Options	Action
<i>Update lookup</i>	Updates the lookup file associated with the form (a lookup file designated).
<i>Pass down</i>	Passes down the data to the next form or menu without saving.
<i>Save</i>	Save the data to the .txt file (no lookup file referred).

### 1.1.7 NO MATCH ACTION

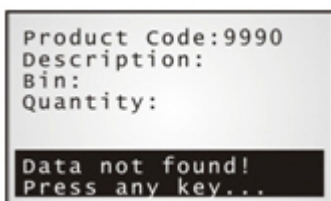
When a form is set to refer to a lookup file, the form must have one input field associated with the key field of the database (lookup file). Refer to [1.3.7 Key Field](#). Choose the appropriate action to take when the input data does not match that of the key field.

#### Insert to Lookup File

The program will proceed to the next input field without showing any message. Such new data will be inserted to the lookup file.

#### Show Warning Message

The program will suspend and prompt a warning message. You will need to clear the input data manually (that is, 9990, in the example below).



#### Insert & Show Warning

The program will suspend and prompt a warning message. Then it will resume allowing data input and insert it to the lookup file.

### 1.1.8 COLOR PROPERTIES (8600 ONLY)

Click the drop-down menus to determine background & foreground colors of the form for 8600 mobile computer.

### 1.1.9 DATA TYPE

A data collecting form generally consists of a series of input fields that are arranged line after line in a data collecting form. To set up an input field, you need to configure its property, which usually covers a variety of elements to be configured. "Data Type" is one of these elements that needs your configuration.

The following table gives an account of the "Data Types" available and how each data type interacts with other elements in an input field. A check mark means an selection that is available:

Data Type	Prompt	Input Source	Length	Lookup	Properties
	<i>on-screen</i>		<i>Min / Max</i>	<i>Field</i>	<i>More...</i>
nil					
text	✓	✓	✓	✓	✓
integer	✓	✓	✓	✓	✓
real	✓	✓	✓	✓	✓
letter	✓	✓	✓	✓	✓
boolean	✓	✓		✓	✓
lookup	✓			✓	✓
prompt	✓				
extension					
pause	✓				
passdown	✓				

---

**Warning:** Data type of each field defined in the Form and Lookup property pages must match.

---

In the following contents of this section, you will be guided through the available "Data Types":

#### Nil

---

No data input is allowed.

- ▶ This is the default setting. Set the data type of an input field to "Nil" to have a blank line on the screen of the mobile computer.

#### Text

---

Set the data type of an input field to “Text” to accept only ASCII characters. Any ASCII character is acceptable. For example, \$1a2b3c=-\*/...

- ▶ If a lookup field is specified, the input value will overwrite the lookup value.

**Integer**

Set the data type of an input field to “Integer” to accept only whole numbers. Any whole number is acceptable such as ... -2, -1, 0, 1, 2 ...

- ▶ When **integer** is selected for the data type of an input field and a lookup file is assigned, the input field will first apply the value in the assigned lookup field. Then you can either press Enter key to accept the data or input other data manually.
- ▶ By setting the data type of an input field to “Integer”, the configuration of another element “Lookup” will become available. The following are three examples that show the arithmetic operations to be performed to the lookup value referred to when positive, negative or no arithmetic sign at all is selected for the “Lookup” element.

```
Product Code:9950
Description:Coke
Bin:A1B01
Quantity:4000
```

Lookup field : field (no sign)

If input value is 5,  
the value saved in transaction record is 5,  
and the value saved to lookup file is 5 too.

```
Product Code:9950
Description:Coke
Bin:A1B01
Quantity:4000
```

Lookup field : +field

If input value is 5,  
the value saved in transaction record is +5,  
and the value saved to lookup file is 4005.

```
Product Code:9950
Description:Coke
Bin:A1B01
Quantity:4000
```

Lookup field : -field

If input value is 5,  
the value saved in transaction record is -5,  
and the value saved to lookup file is 3995.

Lookup (field)	Real-time Data Collection via Wireless Database Manager
<i>field 1 ~ 8</i>	The input value will overwrite the lookup value. No arithmetic operations are performed.
<i>+ field 1 ~ 8</i>	The input value will be added to the lookup value automatically.
<i>- field 1 ~ 8</i>	The input value will be deducted from the lookup value automatically.

**Real**

Set the data type of an input field to “real number” to accept any number with a decimal representation whether rational or irrational. For example, 4.56

- ▶ If a lookup field is specified, the input value will overwrite the lookup value.

**Letter**

Set the data type of an input field to "Letter" to accept only alphabetic characters. Any letter is acceptable, capital or small (Aa ~ Zz).

- ▶ If a lookup field is specified, the input value will overwrite the lookup value.

### Boolean

---

Only one of these sets of values are acceptable – "0 or 1", "Y or N" and "T or F".

- ▶ If a lookup field is specified, the input value will overwrite the lookup value.
- ▶ If you input a value other than the above ones, a message will be displayed on the mobile computer to indicate "Data type is wrong!"

### Lookup

---

No data input is allowed.

- ▶ If a lookup field is specified, the input value will overwrite the lookup value.
- ▶ When data of a previous input field is found matching with the "key field" of a lookup file, data of this input field will be imported from its associated lookup field. Refer to [1.3.7 Key Field](#).

---

Note: The lookup value is imported for reference. No change is allowed.

---

### Prompt

---

No data input is allowed.

- ▶ The prompt string will not be saved.

### Extension

---

No data input is allowed.

- ▶ The line needs to be reserved as an "extension" of the previous line so the whole input data can be displayed on the mobile computer screen.

---

Note: The number of extension lines depends on the maximum length of your data and the screen size of the mobile computer.

---

Take the following for example –

If the screen of the mobile computer allows 20 characters per line for small font,

- ▶ Now the prompt string ("Description :" in line 2) takes 13 characters, and the data length is 15 characters at most.
- ▶ This makes the total length 28 characters at most, which is longer than one line.
- ▶ As a result, the data type of line 3 needs to be set "extension" if you want to display the input data in full.

Line	Data type	Prompt	Input source	Min length	Max length	Variables	Properties
#1	text	Description :	both	1	15	nil	more...
#2	extension		both	0	80	nil	more...

Max. 8 lines

Max. 20 characters

20-13=7  
15-7=8

### Pause

No data input is allowed.

- ▶ The prompt string will not be saved. However, it will be highlighted constantly on the mobile computer to catch your attention.

### Passdown

With “**Passdown**” set as data type, the input field won’t allow users to enter data. It only imports the data collected by the previous form whose **Record** drop-down menu is set to “**Passdown**”.

- ▶ When one single line isn’t enough to display the imported data, the input field needs one or more input fields succeeding it set to “**Extension**”.

## 1.1.10 PROMPT

“Prompt” is yet another element that needs your configuration for an input field. Specify a prompt string for a specific input field, if necessary.

## 1.1.11 INPUT SOURCE

Specify the source that data should be collected from.

- ▶ Reader
- ▶ Keypad
- ▶ Both
- ▶ RFID (only applicable to 8300, 8500, 8600, 8700 Series)
- ▶ Bluetooth (only applicable to 8600)
- ▶ All (only applicable to 8300, 8500, 8600, 8700 Series)

Upon the completion of one input field, it is necessary to press the [Enter] key on the mobile computer. Then the cursor will move either to the next input field, or to the next form or menu.

When the input source is specified to "reader" only, you need to enable "Auto ENTER" for barcode input settings. Refer to [1.1.15 Properties](#).

---

Note: When "RFID" is selected, you may still press the [ESC] or [Enter] key on the mobile computer to cancel or confirm a task. The other keys on the keypad won't work.

---

### 1.1.12 MINIMUM LENGTH

Specify the minimum length of the input data.

- ▶ If the input data is shorter than specified, it is considered unacceptable.

### 1.1.13 MAXIMUM LENGTH

Specify the maximum length of the input data. The value can be 50 at most.

- ▶ If the input data is longer than specified, it is considered unacceptable.

#### Input via Barcode/RFID Reader

---

For data input from the barcode or RFID reader, a warning message will display when the data is too long.

#### Input via Keypad

---

For a data input from the keypad, it is allowed even if gets longer than the screen can display. Take the scenario below for example.

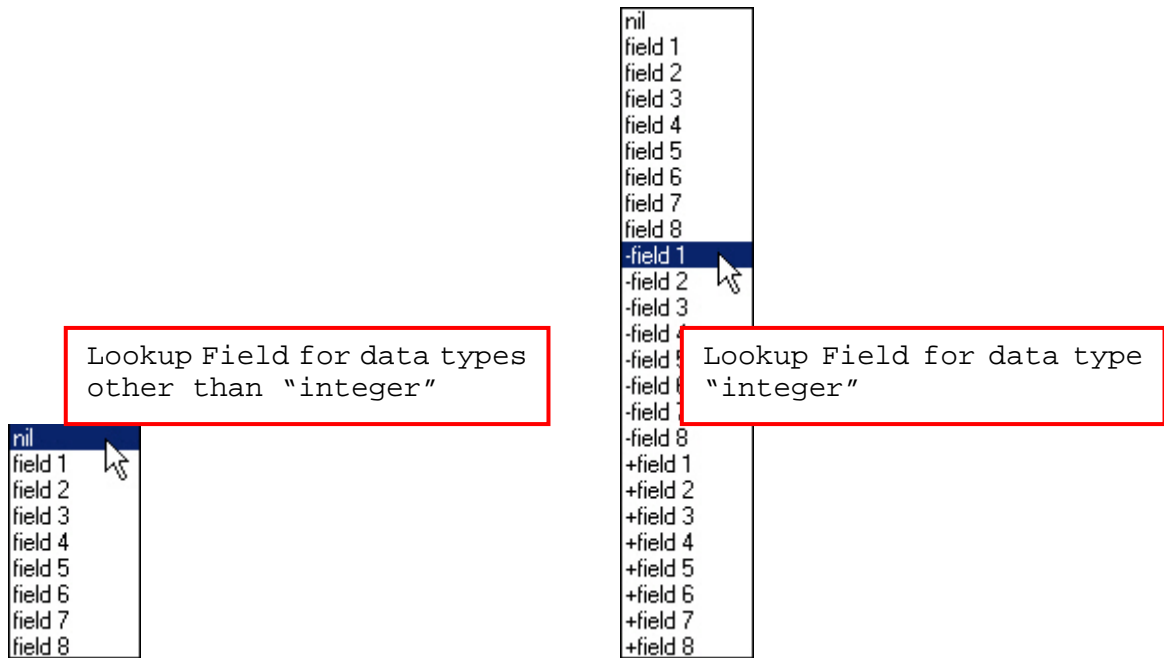
- ▶ The screen of the mobile computer allows 20 characters per line for small font.
- ▶ Each prompt string takes 12 characters.

Line	Input from Keypad	Screen Reading	Transaction Record
#1	12345678	12345678	12345678
	1234567890	34567890	1234567890
	1234567890 <u>ABCDE</u>	3456789E	123456789 <u>E</u>
#3, 4	1234567890 <u>A</u>	123456789 <u>A</u>	123456789 <u>A</u>
#5, 6	1234567890 <u>LEMONADE</u>	1234567890 <u>LEMOE</u>	1234567890 <u>LEMOE</u>
#7, 8	1234567890 <u>ORANGE_JUICE</u>	1234567890 <u>ORANGE_JUICE</u>	1234567890 <u>ORANGE_JUICE</u>

Line	Data type	Prompt	Input source	Min length	Max length	Lookup	Properties
#1	text	Description:	both	1	10	nil	more...
#2	nil		both	0	50	nil	more...
#3	text	Description:	both	1	10	nil	more...
#4	extension		both	0	50	nil	more...
#5	text	Description:	both	1	15	nil	more...
#6	extension		both	0	50	nil	more...
#7	text	Description:	both	1	30	nil	more...
#8	extension		both	0	50	nil	more...

### 1.1.14 LOOKUP (FIELD)

Refer to section [1.1.5 Lookup File](#). If a lookup file is in use, you need to specify the corresponding lookup field line by line. For each lookup file, there will be a key field. Normally, the "[key field](#)" is Field #1. When an input field makes reference to the key field and its input data is found matching, data for its following input fields will be imported from each corresponding lookup fields.



Note: When an arithmetic sign (+, -) is prefixed to the lookup field, the input data will be added or subtracted from the lookup value.

### 1.1.15 PROPERTIES

Specify field properties if necessary.

Form #1                      Line #1

Field data

Initial value or text   

Add prefix code           

Add suffix code            

Barcode input

Read partial barcode

Start position :           

Maximum length :        

Check leading code       

Auto ENTER

OK                              Cancel



---

### Initial Value or Text

Select the check box. An initial value or text, up to 9 characters, specified here will be shown in the input field. It is to be replaced by input data. For example, it can be used to prompt an initial value for quantity.

### Add Prefix Code

Select the check box to prefix a code to the input data. Type one or more codes. For example, a dollar sign (“\$”) can be added to the front of the data input for price.

### Add Suffix Code

Select the check box to suffix a code to the input data. Type one or more codes. Instead of using delimiters in section [1.6.2 Data Field Delimiter](#), you may use prefix and/or suffix codes to separate each entry of input data.

---

Note: You may use prefix/suffix code to wrap the input data.

---

### Read Partial Barcode

By default, it will return the whole barcode that has been decoded. When the check box is selected, it will return partial barcode according to the settings of the start position and maximum length. Below are some examples.

Start position	Max. length	Barcode scanned	Transaction record
2	10	9876543210	876543210
2	3	9876543210	876

### Check Leading Code

The leading code refers to the digit in the start position of a barcode. Select the check box to verify the barcode input. When the leading code is not matching, the barcode will be rejected. Below are some examples.

Leading code	Barcode scanned	Transaction record
9	9876543210	9876543210
2	9876543210	(Error: code not matching)

Read partial code + Check leading code:

Start position	Max. length	Leading Code	Barcode scanned	Transaction record
2	7	8	9876543210	8765432
2	7	9	987654321	(Error)

### Auto ENTER

Normally, it is necessary to press the [Enter] key on the mobile computer upon completion of one input field. Then, it will move either to the next input field, or to the next form/menu specified. This function will automatically add a carriage return after the barcode input (“Scan + ENTER”).

### 1.1.16 RESET

Press this button to load the default settings.

---

Note: The current settings for all forms will be cleared.

---

## 1.2 MENU

A menu is a list of selections that access various forms defined for the mobile computer to perform. Only one user menu can be defined. The items on this tab are 12 for 8600 while 8 for conventional 8 series.

Application Generator - [ New file ]

Form | Menu | Lookup | Barcode | Settings | Startup

1 Font Size : small (10x20) 3 Menu Title :

Font File : Traditional Chinese

2 Color Properties

Background : Black

Foreground : White

Item No.	4 Item Name	5 Next
#1	<input type="text"/>	Main menu
#2	<input type="text"/>	Main menu
#3	<input type="text"/>	Main menu
#4	<input type="text"/>	Main menu
#5	<input type="text"/>	Main menu
#6	<input type="text"/>	Main menu
#7	<input type="text"/>	Main menu
#8	<input type="text"/>	Main menu
#9	<input type="text"/>	Main menu
#10	<input type="text"/>	Main menu
#11	<input type="text"/>	Main menu
#12	<input type="text"/>	Main menu

6 Reset

OK Cancel

## 1.2.1 FONT

Large font must be applied for double-byte languages, such as Chinese and Japanese. On the Form and Menu property pages, font size needs to be changed accordingly (refer to [Localization](#) and [1.1.2 Font](#)). Font File is a read-only text field displaying the language you have specified on the Settings tab page (refer to [1.5.5 Font File](#)).

## 1.2.2 COLOR PROPERTIES (8600 ONLY)

Click the drop-down menus to determine background & foreground colors of the menu for 8600 mobile computer.

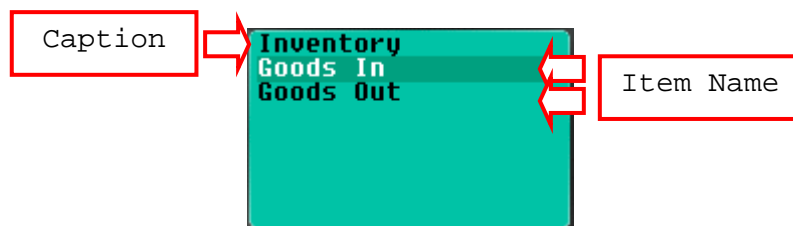
## 1.2.3 MENU TITLE

Select the check box and specify a caption for the user menu if necessary.

## 1.2.4 ITEM NAME

Specify a name for each menu item. It allows up to eight menu items (12 items for 8600). For example, you may specify "1. Goods In" or "Goods In" (see below) in the first field of Item Name.

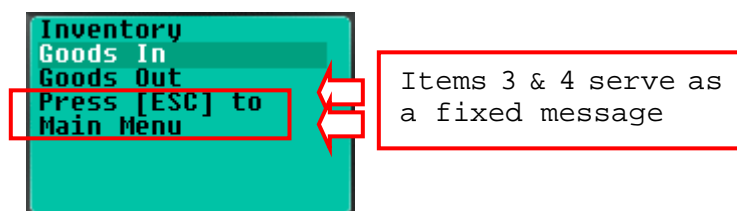
Note: Whether you have included Item No. in the name field, you can press [1] on the mobile computer to enter the "Goods In" menu.



## 1.2.5 NEXT

Select a form or menu that will be displayed when a menu item has been selected.

- ▶ Main Menu
- ▶ form 1 ~ 5 (form 1 ~ 10 for 8600 only)
- ▶ none



---

Note: You may press the [ESC] key to return to the main menu.  
If "none" is selected, the menu item will serve as a fixed message only.

---

This function can be invoked by performing one of the following actions on the mobile computer –

- ▶ Press the shortcut key (Item No.) of a menu item, e.g. press [2] to select the second menu item. The form or menu you specified here will be displayed then.
- ▶ Press the [Up/Down] arrow keys to select a menu item, and then press [Enter].

## 1.2.6 RESET

Click this button to load the default settings.

---

Note: The current settings for the user menu will be cleared.

---

## 1.3 LOOKUP

A lookup file is a database file created for information reference. Up to three lookup files can be defined.

If the lookup parameters are wrongly configured on the Lookup property page, the input fields of a data collecting form may not be able to fetch the corresponding lookup value.

Other related settings:

- ▶ section [1.1.5 Lookup File](#)
- ▶ section [1.1.9 Data Type \(Lookup\)](#)
- ▶ section [1.1.14 Lookup \(Field\)](#)

Field	Data type	Field name	Max Length	Key field
#1	text		0	<input checked="" type="radio"/>
#2	text		0	<input type="radio"/>
#3	text		0	<input type="radio"/>
#4	text		0	<input type="radio"/>
#5	text		0	<input type="radio"/>
#6	text		0	<input type="radio"/>
#7	text		0	<input type="radio"/>
#8	text		0	<input type="radio"/>

### 1.3.1 NAME

Select a lookup file you want to define. Up to 3 different lookup files are definable. The "1st lookup file" is usually the file to start with.

### 1.3.2 FIELD PROPERTY

“Field Property” group box functions for users to provide the information about the ASCII character or symbol that indicates the start or end of the data.

#### Fixed Length

If the lookup file referred to isn't a field-delimited file, you need to specify the fixed length of each data field. Proceed to define related settings on the right-hand side –

- ▶ Number of fields
- ▶ Data type
- ▶ Field name
- ▶ Length

#### Delimiter

This is the default setting. A delimiter (ASCII code) is used to separate the data fields.

Proceed to define related settings on the right-hand side –

- ▶ Number of fields
- ▶ Data type
- ▶ Field name
- ▶ Max. Length

### 1.3.3 NUMBER OF FIELDS

It must at least cover the referred fields of the database (lookup file). Refer to [1.1.14 Lookup \(Field\)](#).

### 1.3.4 DATA TYPE

Specify the data type for each lookup field.

- ▶ text
- ▶ integer
- ▶ real
- ▶ letter
- ▶ boolean

### 1.3.5 FIELD NAME

Specify a name for each lookup field.

### 1.3.6 (MAX) LENGTH

#### Fixed Length

---

When the field property is set to **Fixed Length**, specify the length of each data field referred to.

#### Delimiter

---

When the field property is set to **Delimiter**, specify the maximum length of each data field referred to.

---

Note: The maximum length of the input fields on the Form property page must be specified accordingly.

---

### 1.3.7 KEY FIELD

The import of data depends on the key field. Select your key field so an index file can be created for the database (lookup file).

- ▶ When a form makes reference to a lookup file, there must be one input field associated with the key field of the database (lookup file). When the values of the input data and the key field match, data of other input fields referring to a lookup field will be imported accordingly.

If no matching, refer to the settings of [1.1.7 No Match Action](#).

### 1.3.8 DATE STAMP

It may be necessary to join the date information to the updated data records of database.

- ▶ If the format starts with a "+", the date stamp will be added to the end of a record.
- ▶ If the format ends with a "+", the date stamp will be added to the beginning of a record.

### 1.3.9 TIME STAMP

It may be necessary to join the time information to the updated data records of database.

- ▶ If the format starts with a "+", the time stamp will be added to the end of a record.
- ▶ If the format ends with a "+", the time stamp will be added to the beginning of a record.

### 1.3.10 RESET

Click this button to load the default settings.

---

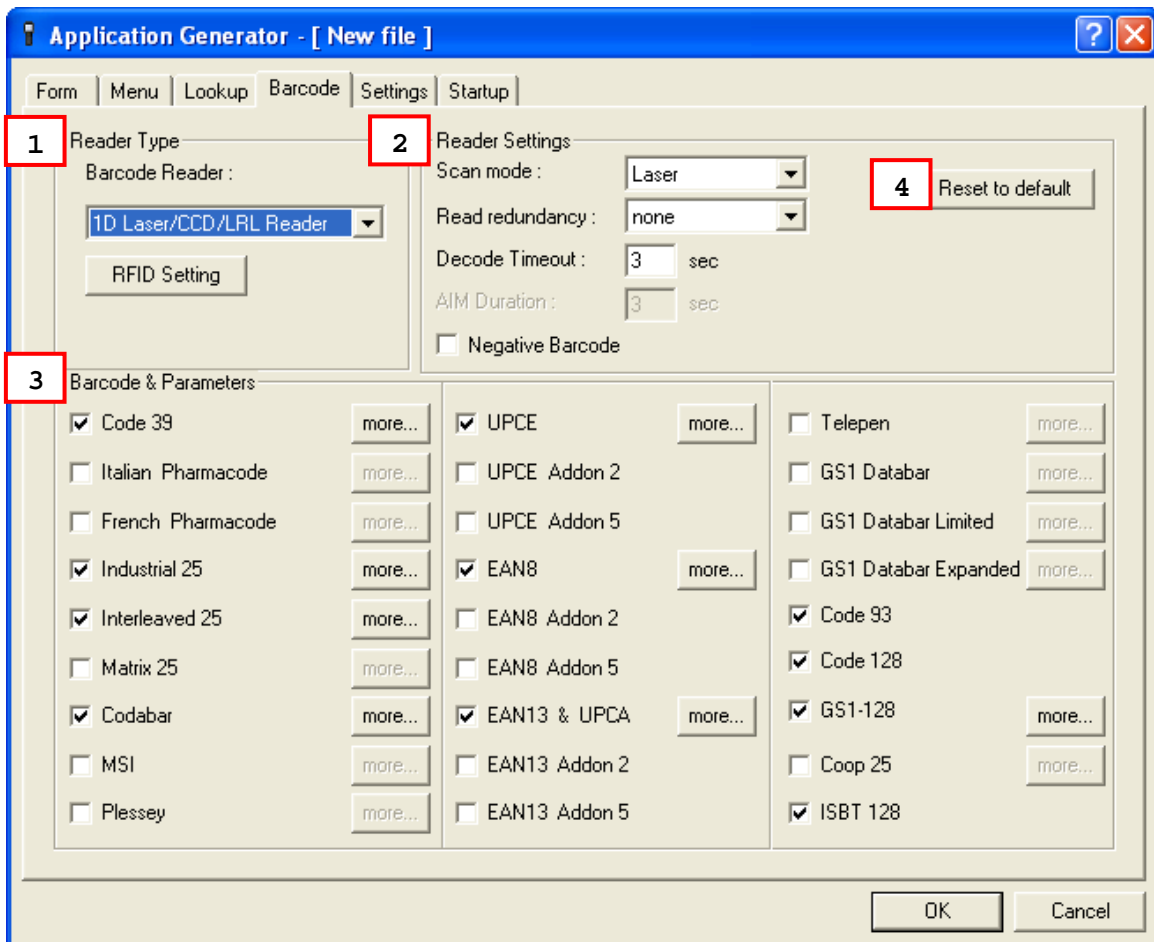
Note: The current settings for all lookup files will be cleared.

---



## 1.4 BARCODE

According to the requirements of a specific application, you may enable or disable any of the barcode symbologies and configure the associated parameters. Supported barcodes depend on the scan engine integrated with the mobile computer.



### 1.4.1 READER TYPE

Refer to [Appendix I – Scan Engine Settings](#) for details.

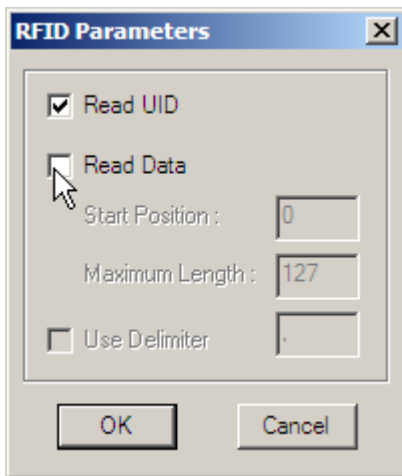
#### Barcode Reader

Click the drop-down menu to select a reader type that matches the hardware configuration of your mobile computer. Then the associated barcode parameters will be displayed accordingly. If there is a **More** button next to the barcode symbology listed, advanced settings are available.

**Note:** In order to initialize the barcode reader, you must select the correct reader type when you first configure a template. Otherwise, a message will be displayed on the mobile computer to indicate "Wrong reader type!" after you download the template file.

### RFID Reader

The RFID reader is automatically enabled after initialization. You can click the RFID Setting button to configure advanced settings as the figure shown below. RFID tags in proximity will be read automatically by 8300/8500/8600/8700 when RFID reader is enabled. You may limit the [Input Source](#) options in Form to prevent from misreading RFID data.



#### Read UID

By default, the RFID reader is set to read UID (Unique Identification).

#### Read Data

- ▶ Select the check box so RFID data can be read.
- ▶ If only partial data is required, specify the start position and maximum length.

#### User Delimiter

Select the check box and specify a delimiter to separate UID from data.

## 1.4.2 READER SETTINGS

Refer to the following appendices for information on barcode reader settings —

- ▶ [Appendix II – CCD/Laser Scan Engine](#) for details.
- ▶ [Appendix III – LR/ELR Laser Scan Engine](#) for details.
- ▶ [Appendix IV – 2D Scan Engine](#) for details.

## 1.4.3 BARCODE & PARAMETERS

Refer to the following appendices for information on symbology settings —

- ▶ [Appendix II – CCD/Laser Scan Engine](#) for details.
- ▶ [Appendix III – LR/ELR Laser Scan Engine](#) for details.
- ▶ [Appendix IV – 2D Scan Engine](#) for details.

## 1.4.4 RESET

Click [Reset] to load the default settings. This applies to the following:

- ▶ section [1.4.1 Reader Type](#)
- ▶ section [1.4.2 Reader Settings](#)
- ▶ section [1.4.3 Barcode & Parameters](#)

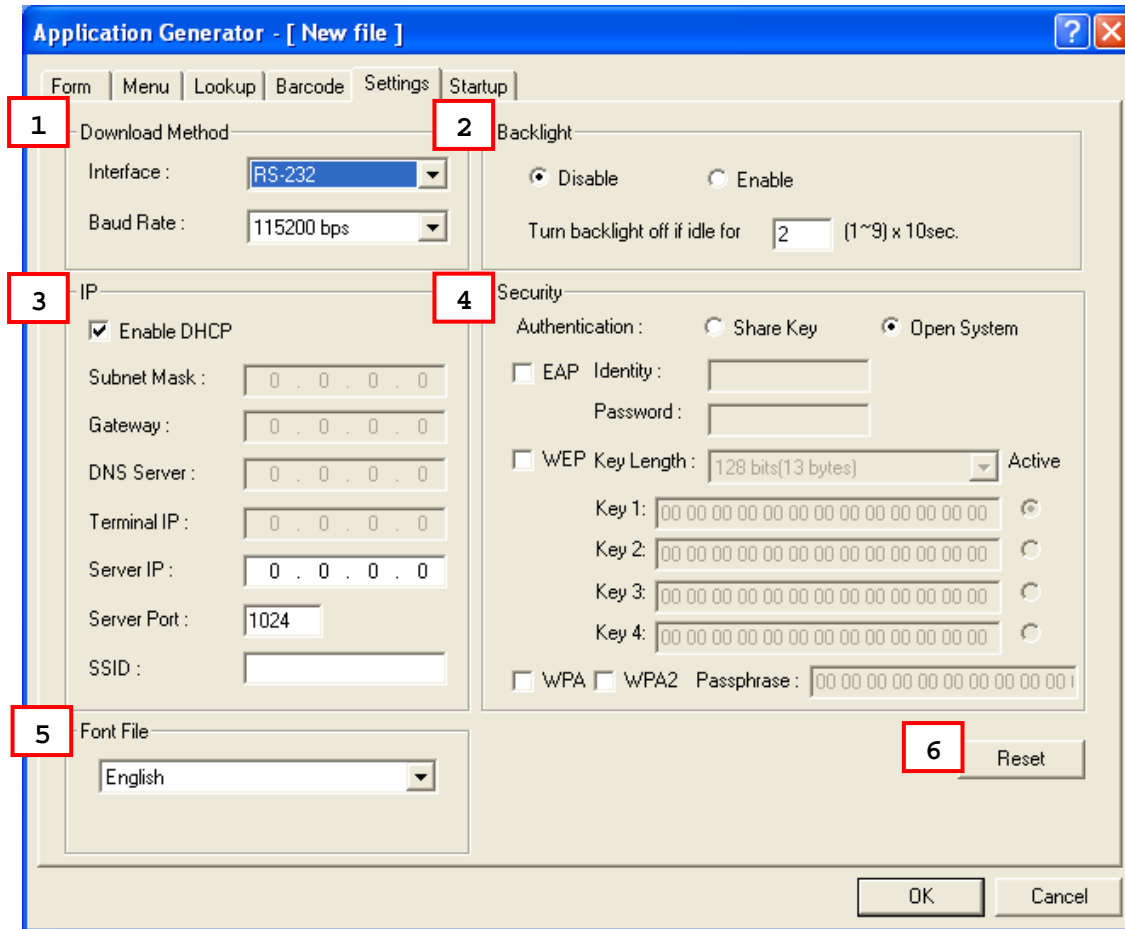
---

Note: The current settings will be cleared.

---

## 1.5 SETTINGS

The [Settings] page allows you to configure terminal's Download Method, Backlight, IP and Wi-Fi Security from your PC.



## 1.5.1 DOWNLOAD METHOD

### Interface

Select a transmission interface for the mobile computer to download data from your PC. The following is a list that gives an account of the transmission interfaces made available for each 8-series model:

Application Generator	Download Interface
AG8071	<ul style="list-style-type: none"> <li>▶ Cradle-IR</li> <li>▶ IrDA</li> </ul>
AG8200	<ul style="list-style-type: none"> <li>▶ RS-232</li> <li>▶ Bluetooth SPP</li> <li>▶ USB VCOM</li> <li>▶ USB VCOM_CDC</li> </ul>
AG8300	<ul style="list-style-type: none"> <li>▶ Direct RS-232</li> <li>▶ Cradle-IR</li> <li>▶ IrDA</li> </ul>
AG8400	<ul style="list-style-type: none"> <li>▶ RS-232</li> <li>▶ Bluetooth SPP</li> <li>▶ USB VCOM</li> </ul>
AG8500	<ul style="list-style-type: none"> <li>▶ Cradle-IR</li> <li>▶ IrDA</li> <li>▶ Bluetooth SPP</li> </ul>
AG8600	<ul style="list-style-type: none"> <li>▶ RS-232</li> <li>▶ Bluetooth SPP</li> <li>▶ USB VCOM</li> <li>▶ USB VCOM_CDC</li> <li>▶ FastVPort</li> </ul>
AG8700	<ul style="list-style-type: none"> <li>▶ RS-232</li> <li>▶ Bluetooth SPP</li> <li>▶ USB VCOM</li> <li>▶ USB VCOM_CDC</li> </ul>

### Baud Rate

By default, the baud rate is set to 115200 bps for the communications via any interface.

## 1.5.2 BACKLIGHT

For 8 series mobile computers except 8600 series, the backlight for the LCD and keypad is disabled by default. Select "Enable" to activate the backlight and specify a time for the backlight to automatically turn off. Such time-out is specified in the range of 1~9, in units of 10 seconds. The default time-out is 20 seconds.

For 8600 series, keypad backlight and LCD backlight are separate controls. The keypad backlight configuration is the same as 8 series. However, the LCD backlight is always on (duration assigned with zero) by default. You can determine the idle duration ranging from 1 to 3 for turning off backlight in 10, 20, or 30 seconds.

## 1.5.3 IP

### Enable DHCP

---

By default, the Enable DHCP checkbox is set to "enabled" and most of the network settings can be obtained from the DHCP server. If Enable DHCP checkbox is not checked, you must manually specify the following information –

- ▶ Subnet Mask
- ▶ Gateway
- ▶ DNS Server
- ▶ Terminal IP

### Server IP

---

Specify the IP address of the server that you wish to access over wireless network.

### Server Port

---

Specify the server port number. Port 1024 is assigned by default.

### SSID

---

This refers to Service Set ID or Identifier, which serves to uniquely identify a group of wireless network devices used in a given "Service Set". For example, you need to specify the same SSID here as is used for access points so the mobile computer can associate to the access points.

---

Note: SSID can be made up of 32 characters maximum.

---

## 1.5.4 WI-FI SECURITY

Authentication and encryption help provide data protection on the 802.11b/g (802.11b/g/n for 8600) network.

### Shared Key/Open System

Two types of network authentication methods are supported: Shared Key and Open System.

Settings	Remarks
<i>Shared Key</i>	<p>By Shared Key Authentication (SKA), when a client computer attempts to connect to a WLAN AP, it sends out an authentication request to that AP. Then a challenge-response handshake by encrypting/decrypting a challenge text using the pre-configured WEP keys is taken place between the client computer and the AP. If the AP finally justifies the challenge text it decrypts, it will send back a positive response to the client computer. Then the client gets to connect to the network.</p> <ul style="list-style-type: none"> <li>▶ Shared Key Authentication requires a static WEP key configured in the mobile computer. The mobile computer's access request can only be granted when it passed the challenge based authentication of the access point.</li> </ul>
<i>Open System</i>	<p>By Open System Authentication (OSA), any wireless device can access any WEP network and receive files that are not encrypted. When a client computer attempts to connect to a WLAN AP, it sends out an authentication request to that AP. The AP authenticates the request and the client gets to connect to the network.</p> <ul style="list-style-type: none"> <li>▶ Open System Authentication allows any device network access. If no encryption is enabled on the network, any device that has the SSID of the access point can gain access to the network.</li> </ul>

Note: If Shared Key is selected, you need to specify an active WEP key.

### EAP

Select the check box to enable 802.1X authentication (using Extensible Authentication Protocol) when implementing WEP. It requires user name and password so the mobile computer can identify itself when associating to an access point.

Settings	Remarks
<i>Identity</i>	Specify a user name.
<i>Password</i>	Specify a password.

### WEP Key

Select the check box to implement Wired Equivalent Privacy or Wireless Encryption Protocol (WEP) for data encryption.

Settings	Remarks
Key Length	Encryption type can be 64 bits (5 bytes) or 128 bits (13 bytes). <ul style="list-style-type: none"> <li>▶ Using 64-bit encryption, the password phrase can be 5 characters long. From the Grid Control, select up to 5 characters (ASCII codes) for the WEP key.</li> <li>▶ For 128-bit encryption, the password phrase can be 13 characters long. From the Grid Control, select up to 13 characters (ASCII codes) for the WEP key.</li> </ul>
Key 1 ~ 4	Key index number. Up to four keys can be configured.
Active	Only one key (the active one) can be used at a time.

Note: You must use the same settings as are configured for other devices on your wireless network, e.g. access points.

### WPA/WPA2 Passphrase

WPA-PSK is supported to enhance security over wireless networks, and this Pre-Shared key mode requires a passphrase to access the network. The passphrase must be 8 to 63 characters (ASCII codes). It is used to generate a WEP key automatically.

Note: WPA2-PSK is supported on AG8200, AG8400, AG8600 and AG8700.

## 1.5.5 FONT FILE

Click the Font File drop-down menu to select a language. After the font language is selected, the display-only Font File fields on Form and Menu property pages will show the information accordingly (refer to [1.1.2 Font](#)). The table below lists the font files supported.

Font File Language	Double-byte	Single-byte	Note
Traditional Chinese	✓		
Simplified Chinese	✓		
Korean	✓		
Japanese	✓		
English (Default)		✓	
Canadian French		✓	
Hebrew		✓	
Latin (Slovak)		✓	Not supported for 8600
Nordic		✓	
Portuguese		✓	
Cyrillic (Russian) (CP-1251)		✓	



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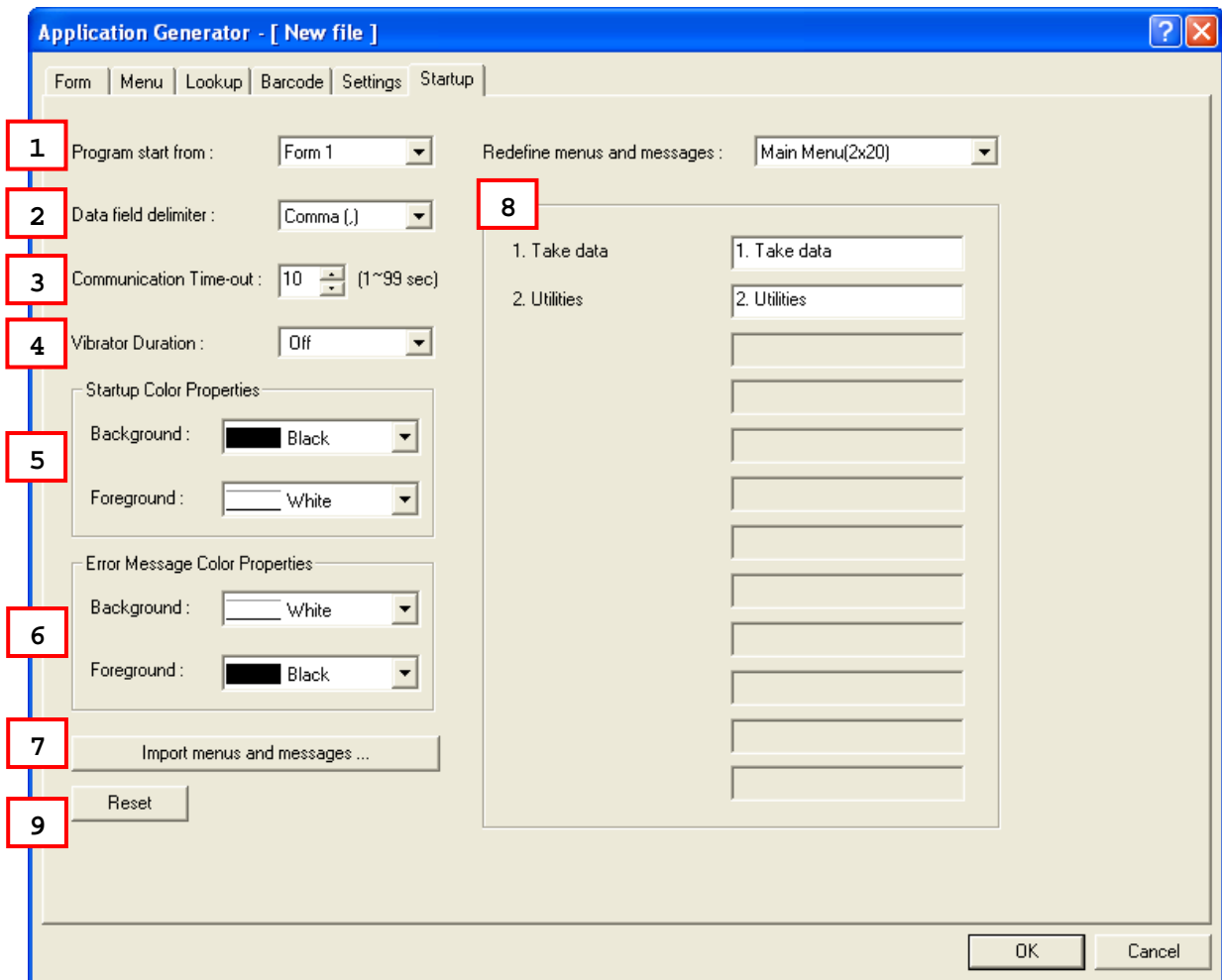
Turkish		✓	
Windows 1250		✓	Not supported for 8600
Greek (CP-737)		✓	
Greek (Windows-1253)		✓	
Turkish (CP-1254)		✓	
Latin (Multilingual Latin I)		✓	
Slavic (Latin II)		✓	
Polish (Central European, Latin II)		✓	
Latin I (CP-1252)		✓	

### 1.5.6 RESET

Click the [Reset] button to load the default settings.

## 1.6 STARTUP

On this property page, startup settings for the application program can be customized.



### 1.6.1 PROGRAM START FROM

Decide where the application program starts as soon as you select [1. Take Data] on the mobile computer.

- ▶ Form 1
- ▶ Menu (= user menu)

### 1.6.2 DATA FIELD DELIMITER

If no lookup file is associated, the input data will be saved as transaction records. Select the delimiter used to separate data fields.

### 1.6.3 COMMUNICATION TIME-OUT

Set the maximum time for the mobile computer to keep trying to connect to the host computer.

- ▶ A time-out is specified in the range of 1~99, in units of second. The default time-out is ten seconds.

#### 1.6.4 VIBRATOR DURATION

This setting is available for 8200/8300/8400/8500/8600/8700.

- ▶ By default, the vibrator is turned off. You may have it turned on for a preset period of time upon decoding a barcode or RFID tag successfully.

#### 1.6.5 STARTUP COLOR PROPERTIES (8600 ONLY)

Click the drop-down menus to determine the startup background & foreground colors for 8600 mobile computer.

#### 1.6.6 ERROR MESSAGE COLOR PROPERTIES (8600 ONLY)

Click the drop-down menus to determine the background & foreground colors of error message for 8600 mobile computer.

#### 1.6.7 IMPORT MENUS AND MESSAGES

If the menus (i.e. prompts of the main menu and submenus) and messages have already been re-defined with an existing template file, simply import the template file. Click the button to bring up a dialog box and locate the application template file (\*.ATF).

#### 1.6.8 REDEFINE MENUS AND MESSAGES

For non-English environment, all the menu prompts and messages need to be re-defined in your local language. In addition, the appropriate font file has to be downloaded to the mobile computer so it can display the prompts and messages in [Form](#) and [Menu](#) (user menu) correctly. Refer to [Localization](#).

#### 1.6.9 RESET

Click this button to load the default settings.

---

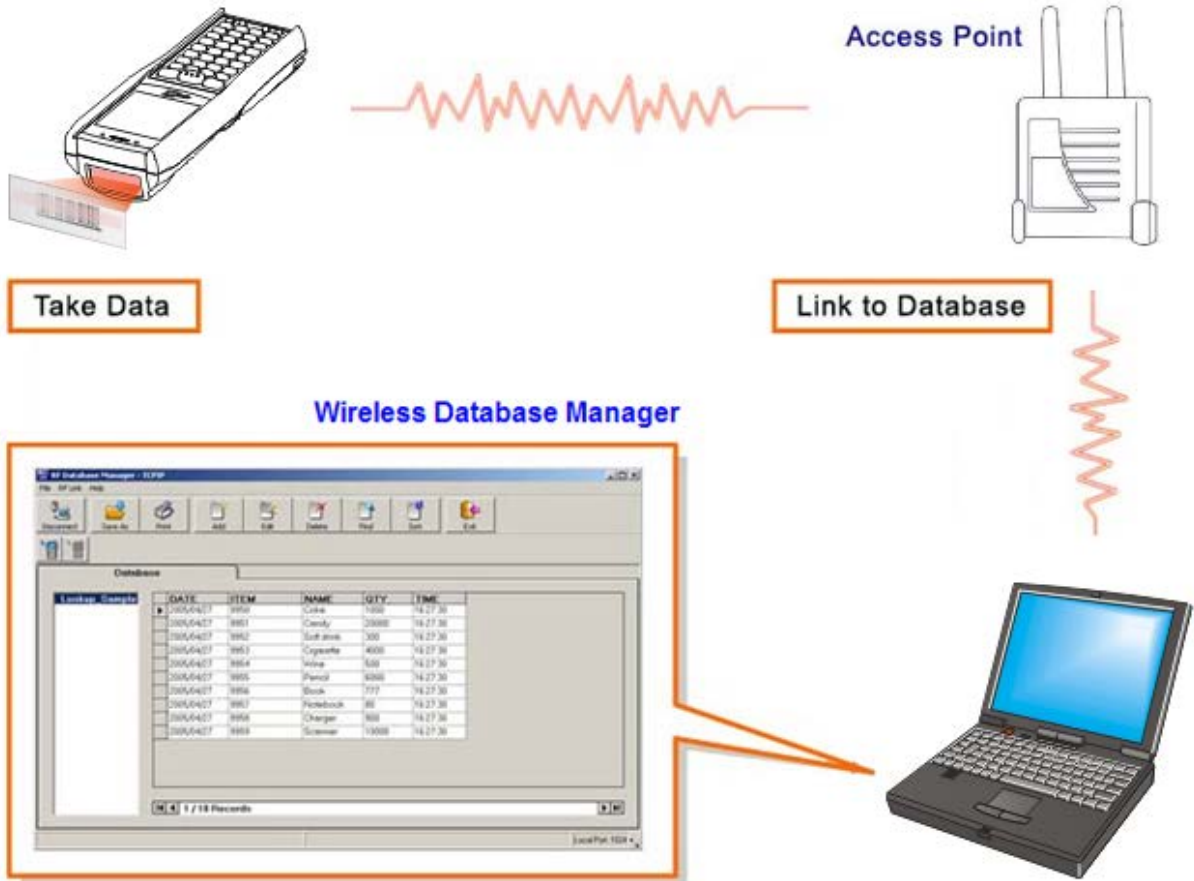
Note: The current settings will be cleared.

---



## WIRELESS DATABASE MANAGER

**Wireless Database Manager** lends itself to real-time data exchange, by updating and/or editing database on the host computer. Working with the 8000/8200/8300/8400/8500/8600/8700 Series mobile computers, it easily creates or links to a back-end database according to the pre-defined properties of lookup file(s).



In order to connect to the host computer running **Wireless Database Manager** or the “WLAN Read” utility, the mobile computers must be capable of 802.11b/g wireless connectivity (or 802.11b/g/n for 8600) –

- ▶ 8071
- ▶ 8230
- ▶ 8330
- ▶ 8370
- ▶ 8470
- ▶ 8570
- ▶ 8630
- ▶ 8770
- ▶ 8790

Sparing your time from the tedious work of writing codes, **Wireless Database Manager** gets your data linked to a number of legacy OLE database easily. If one or more lookup files are associated with the application template, you can update the database (lookup file) at the same time. If no lookup file is in use, you may use the standalone utility **WLAN\_Read.exe** instead.

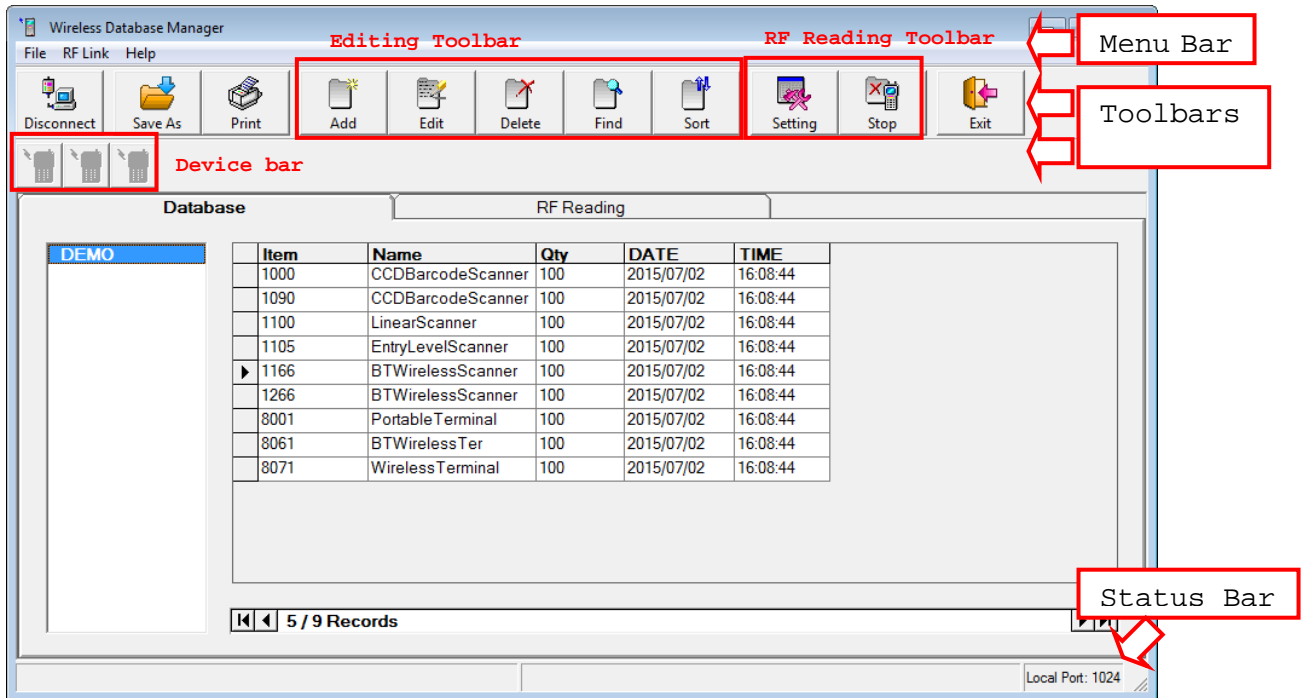
---

Note: The properties of lookup file(s) must be defined using the WLAN Application Generator.

---

## 2.1 MAIN WINDOW

The main window of **Wireless Database Manager** has menus and toolbars on the top, and, the rest of the window displays the database in use or RF Reading section.



Note: The data file tab(s) varies with the lookup file attributes.

- (1) The Database tab will be brought up when the application template contains a data collecting form that is set to refer to a lookup file.
- (2) The RF Reading tab will be brought up when the application template contains a form that doesn't make reference to lookup file(s).

### 2.1.1 DATABASE TAB

When you click on the Database tab, it displays in two panes – title of tables on the left (It can display up to three tables.), and content on the right.

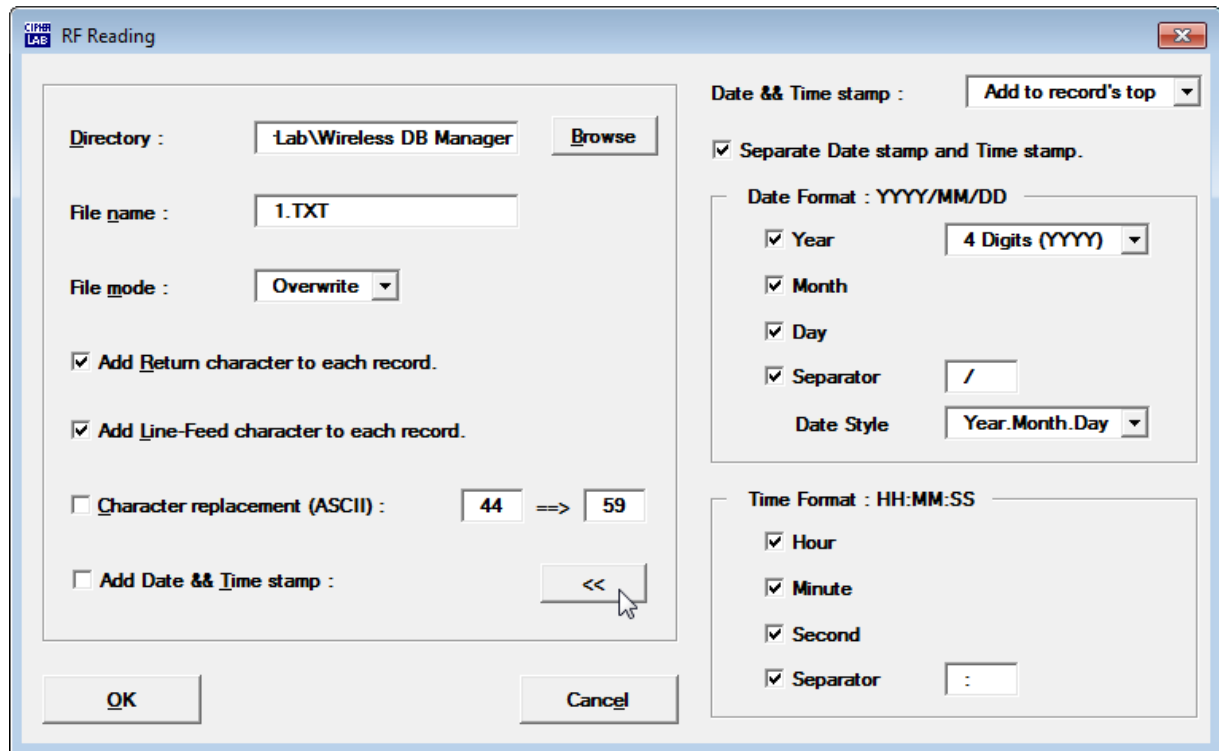
Note: The properties of lookup file(s) must be defined using the WLAN Application Generator.

### 2.1.2 RF READING TAB

When the application template file (ATF) includes a form that doesn't make reference to lookup files, the RF Reading dialog box appears right after executing the Open ATF command.

Note: The data received will be saved in text format (\*.txt).

Sparing your time from the tedious work of writing codes, **Wireless Database Manager** gets your data linked to a number of legacy OLE database easily. If one or more lookup files are associated with the application template, you can update the database (lookup file) at the same time. If no lookup file is in use, you may use the standalone utility **WLAN\_Read.exe** instead.



Option	To Do...
Directory	Specify where the data is to be saved by entering file path or click [Browse] to select a location.
File name	Enter file name.
File mode	Choose file mode: Overwrite, Append or New Name.
Add Return character	When selected, it will add Return character to each record.
Add Line-Feed character	When selected, it will add Line-Feed character to each record.
Character replacement (ASCII)	When selected, it will perform character replacement as specified. [Original value ==> New value]
Add Date & Time stamp	When selected, it will add system date and/or time stamp to each record. Click [>>] to open system date and time settings.

After defining the RF Reading settings, there appears the [RF Reading Toolbar](#) as well as the RF Reading Tab. When you click on the RF Reading tab, it simply displays data received.



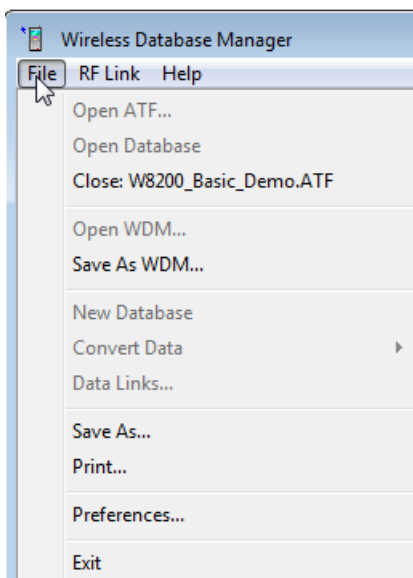
## 2.2 MENU BAR

The Menu Bar contains a number of menus that specify which task you want the system to perform. Each menu contains a list of commands and sometimes sub-menus.

Some of the options carry out commands immediately while the others display a window that requires user's further input of additional information. If a label is followed by [...], it displays a window; otherwise it deals with a command carried out immediately.

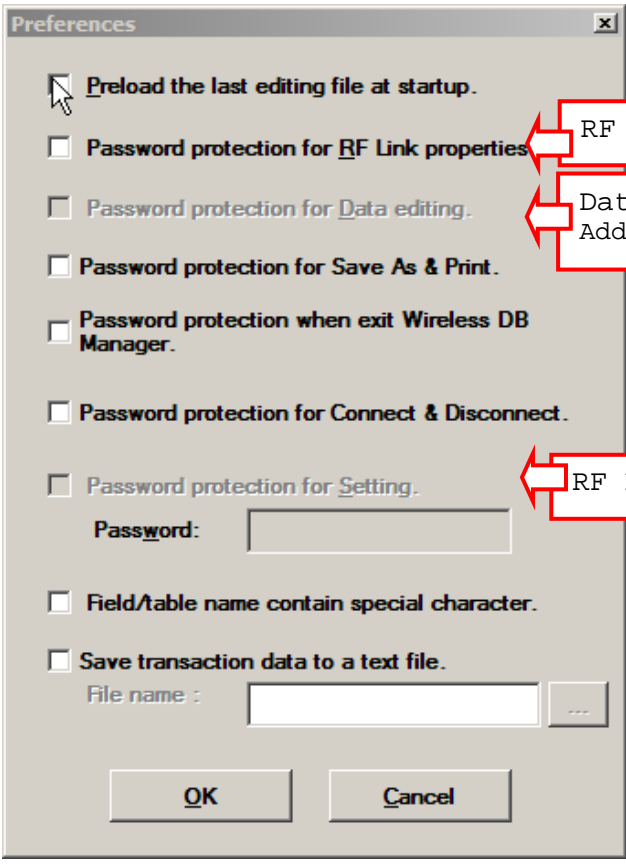
### 2.2.1 FILE MENU

The File Menu contains the commands and submenus that cause the following actions to be carried by the mobile computer:



Command	Action
<i>Open ATF</i>	Open an existing application template file (*.ATF) that was created by the FORGE WLAN Application Generator. ▶ ATF refers to "Application Template File".
<i>Open Database</i> <i>Open RF Reading</i>	If the database has been successfully created earlier, you can directly open it without having to re-open the application template first. ▶ When the previously opened template includes RF Reading only, the command is Open RF Reading. ▶ When it includes Database or Database + RF reading, the command is Open Database.
<i>Close: (ATF file name)</i>	Close the currently opened application template file.
<i>Open WDM</i>	Open an existing .WDM file that was created by Wireless Database Manager.
<i>Save As WDM...</i>	Save the current ATF with Data Link properties as a WDM file.

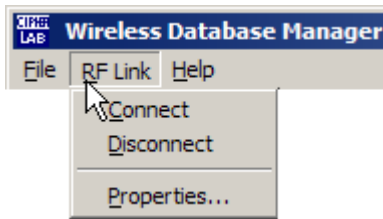
<i>New Database</i>	Create tables in the local database "DBF.mdb" from scratch. Up to three tables are allowed.
<i>Convert Data</i>	Convert the source text data of a lookup file (.txt) and import it to the local database "DBF.mdb". It allows up to three lookup files. <ul style="list-style-type: none"><li>▶ Make sure that all required lookup files have been converted to database completely.</li></ul>
	<ul style="list-style-type: none"><li>▶ If the date/time stamps in the ATF have been defined, a dialog box will prompt to confirm whether the system is to generate the date/time stamp for the records automatically.</li></ul>
<i>Data Links</i>	It supports a variety of database types. Configure the Data Link properties and link to any legacy back-end database.
<i>Save As</i>	Save the current database to a new file either in database format (*.mdb) or in text format (*.txt).
<i>Print</i>	Print out data from the current database.

<p><i>Preferences</i></p>	<p>Configure custom settings for security concerns and others.</p> <ul style="list-style-type: none"> <li>▶ Preload the last editing file at startup enables automatic execution of the command Open ATF or commands Open ATF/Open Database/Connect, depending on the state of the last time when you exit the program.</li> <li>▶ Password protection can only be applied when you give a non-blank password and select at least one from the available options.</li> <li>▶ If your database does not accept SQL commands with field/table name containing special characters, such as spaces, period, etc., make sure you select the check box of [Field/table name contain special character]. As a result, the field/table names will be enclosed in a pair of square brackets when sending SQL commands, for example, <code>SELECT [Field 1], [Field 2] FROM [Table]</code>.</li> </ul> 
<p><i>Exit</i></p>	<p>Close the Wireless Database Manager program.</p>

## 2.2.2 RF LINK MENU

The mobile computers must connect to the host computer through the Access Points (hereinafter "APs"). After a careful site survey, you may decide to have a number of APs on your network.

In this case, the mobile computers connecting to the host computer are called "Client" while the host computer is called "Server".

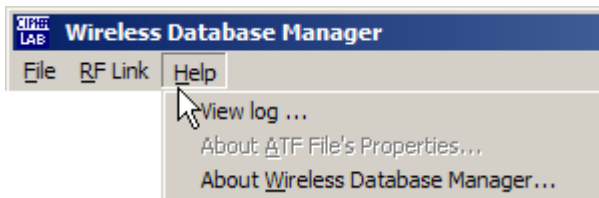


The RF Link Menu contains the following commands that trigger the following actions of the mobile computer:

Command	Action
<i>Connect</i>	Enable the wireless connection between Host PC and the mobile computers through APs.
<i>Disconnect</i>	Disable the wireless connection between Host PC and the mobile computers through APs.
<i>Properties</i>	Configure the COM port settings – <ul style="list-style-type: none"> <li>▶ Assign local port</li> <li>▶ Define the number of supported clients</li> </ul>

Note: The number of the symbolic icons on the Device Bar reveals how many mobile computers are currently connected.

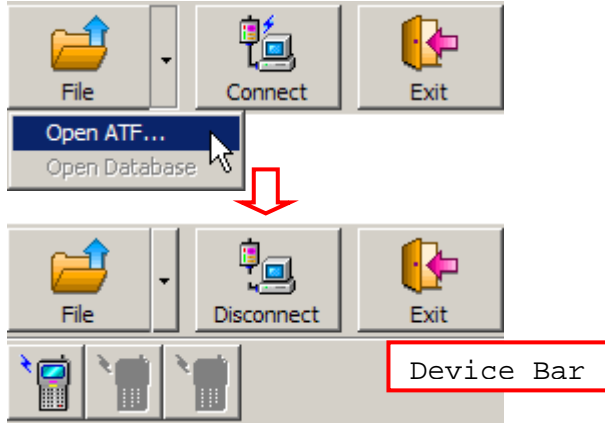
### 2.2.3 HELP MENU



Command	Action
<i>View log</i>	Open the Log Manager to view the activities or events occurred in Wireless Database Manager. <ul style="list-style-type: none"> <li>▶ The system log file is named "Wireless Database Manager.log" that will be over-written every time you re-start Wireless Database Manager.</li> </ul>
<i>About ATF File's Properties</i>	Show properties of the application template file if a lookup file is specified in use and imported or created accordingly.
<i>About Wireless Database Manager</i>	Show information about Wireless Database Manager.

## 2.3 TOOLBARS

The toolbars give you quick access to available commands in the current stage of application.

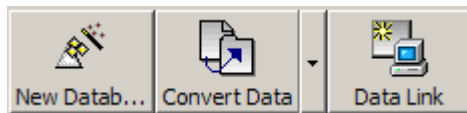


This Button	Does The Same As This
<i>File</i>	File Menu   Open ATF File Menu   Open Database   Open RF Reading
<i>Connect / Disconnect</i>	RF Link Menu   Connect   Disconnect
<i>Exit</i>	File Menu   Exit

Note: Device bar will appear after you first click [Connect].

### 2.3.1 DATABASE TOOLBAR

After opening the application template file, these buttons will appear when at least one form is referred to a lookup file.



This Button	Does The Same As This
<i>New Database</i>	File Menu   New Database
<i>Convert Data</i>	File Menu   Convert Data
<i>Data Link</i>	File Menu   Data Link

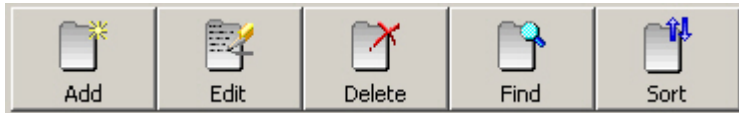
Note: The Convert Data button won't go away as long as there is more data (another lookup file) needs conversion.

After having imported or created a table, these buttons will appear.



This Button	Does The Same As This
Save As	File Menu   Save As
Print	File Menu   Print

You can use the Editing Toolbar to manually manage the received data in the database.



Button	To Do...
Add	Add a record to the database.
Edit	Edit the data of the selected record.
Delete	Delete the selected record.
Find	Search the database according to the specified key field.
Sort	Sort the records based on the specified key field by ascending or descending.

### 2.3.2 RF READING TOOLBAR

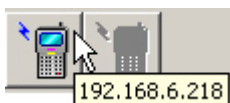
After opening the application template file, these buttons will appear when at least one form is NOT referred to any lookup file.



Button	To Do...
Setting	Click this button if you need to re-define the RF Reading setting.
Stop	Click this button to stop or start the recording of the received data.

### 2.3.3 DEVICE BAR

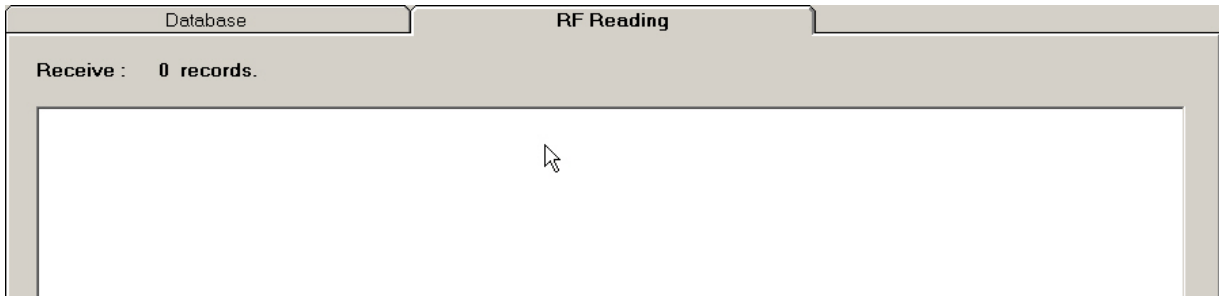
The icons on the Device Bar quickly inform you how many mobile computers are currently connected.



Move your cursor near to a symbolic icon, and the information of its IP address will appear. Click the icon of a mobile computer to view its IP address and COM port number.

## 2.4 RF READING TAB

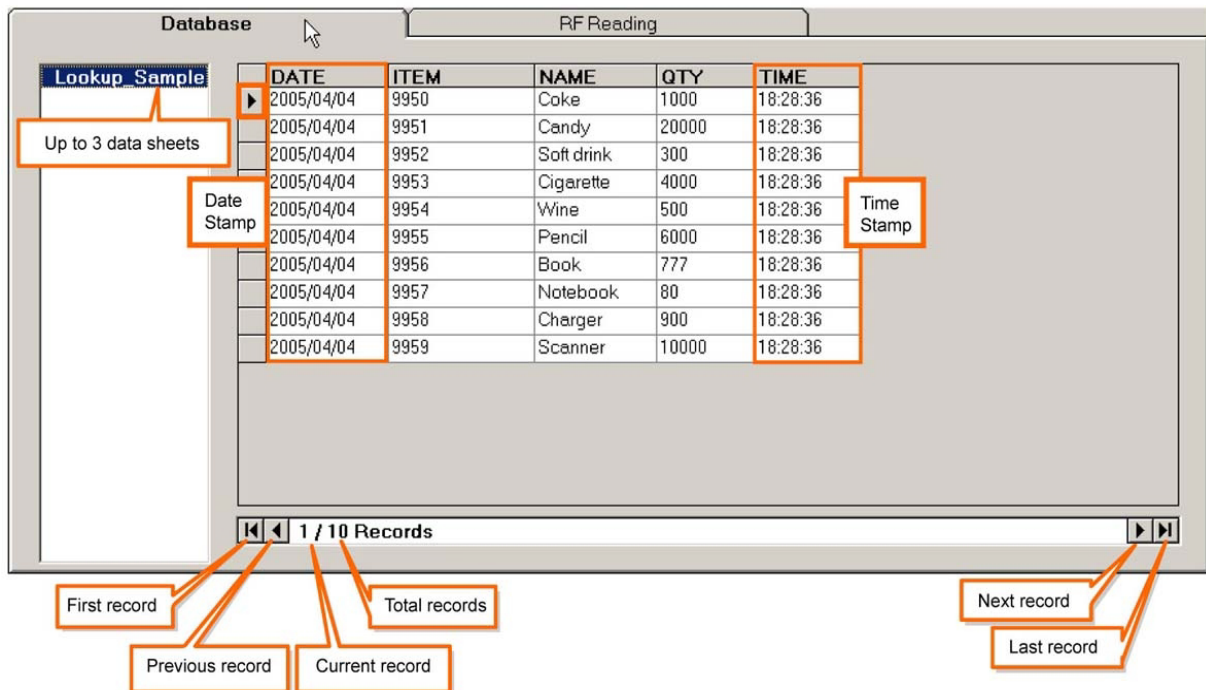
This RF Reading Tab appears after configuring the RF Reading setting. When you click on the RF Reading tab, it simply displays data received.



Note: The Save As and Print commands are not accessible.

## 2.5 DATABASE TAB

The Database tab lists up to three tables. You may click on any record, and then click the editing tools to edit it.



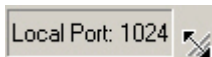
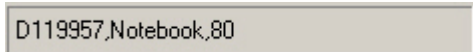
- ▶ On the right pane of the database window, you'll find the triangular indicator (▶) points toward the current entry of record. You may click on any other entry to move the indicator, and then proceed to edit the record.
- ▶ On the bottom of the database content is a horizontal scroll bar. You may use the right/left scroll arrows (◀▶ and ▶▶) to scroll through the list of records.

## 2.6 STATUS BAR

The Status Bar is located at the bottom of the application window. It gives information on the data sending and receiving activities that occur between the host computer and the mobile computers.



### Message Column



### Gives Information On...

Data received from the local port.

Command or data sent out from the local port.

Local COM port properties when it is open. It will show "COM Properties" when the COM port is closed.



## DEMONSTRATION

---

This chapter gives more information on how to use **Wireless Database Manager**.

### 3.1 GETTING STARTED

- 1) Run **Wireless Database Manager**, and the application window pops up.
- 2) For a fresh start, click **File Menu | Open ATF** to start with a new application template.

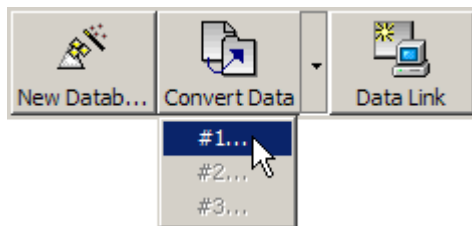
In the template, say, Form 1 refers to "1<sup>st</sup> lookup file" and Form 2 refers to none.

---

Note: The application template file (ATF) has to be defined properly with the WLAN Application Generator before you can make use of it with the Wireless Database Manager.

---

- 3) Configure the RF Reading settings in the RF Reading Dialogue (because Form 2 doesn't refer to a lookup file).
- 4) The RF Reading tab is displayed for receiving data.
- 5) Click [New Database] to create the first table from scratch, or click [Convert Data #1] to import the lookup file (.txt), or click [Data Link] to access a remote database (for Form 1 refers to "1<sup>st</sup> lookup file").



The Database tab is displayed for receiving data.

---

Note: The Convert Data button won't go away as long as there is more data (another lookup file) needs conversion.

---

- 6) Click [Connect] to wait for mobile computers to start a connection. The Device Bar appears to indicate the connection status.

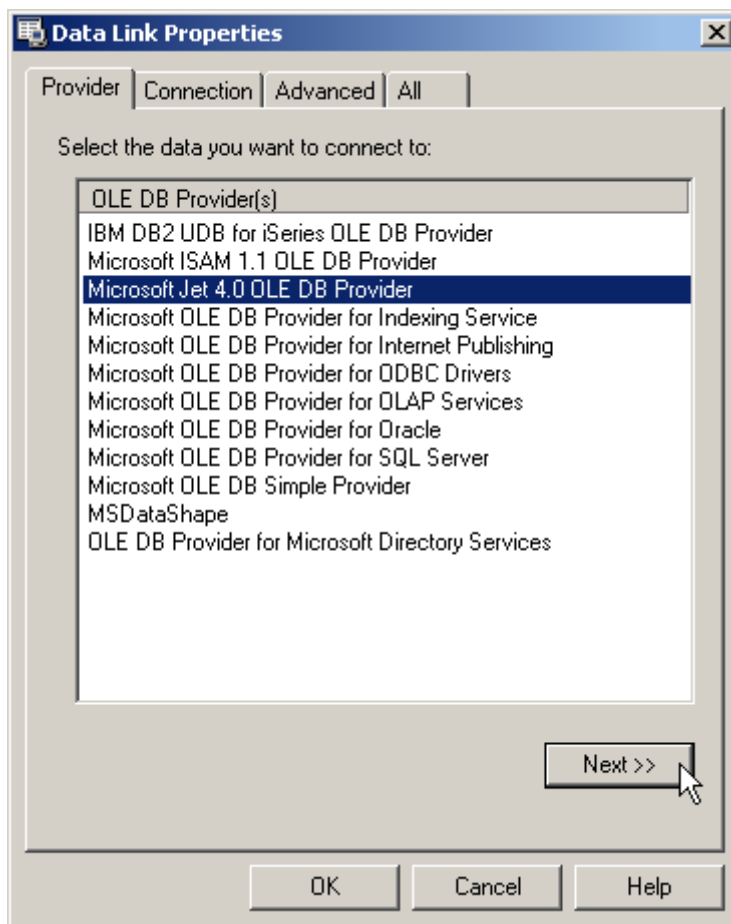


- 7) Turn on your mobile computer and select [1. Take Data] to connect to the server.  
Make sure that you have downloaded the same template file and configured the Server IP and port number correctly.
- 8) Data collected via Form 1 and Form 2 will be displayed on the Database tab and RF Reading tab separately.

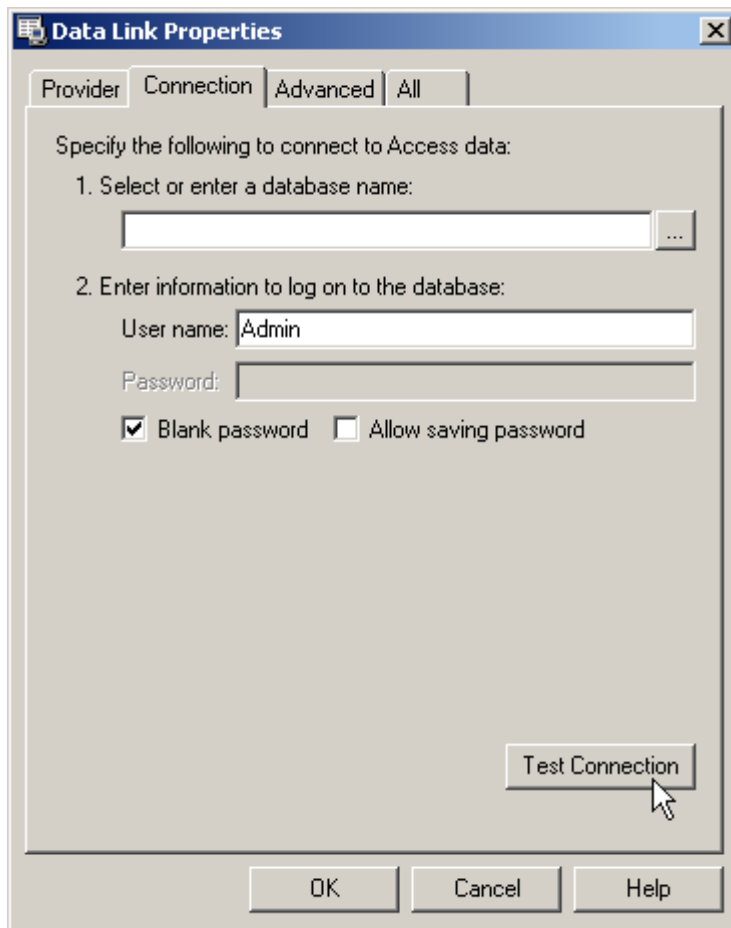
### 3.1.1 CONFIGURE DATA LINK PROPERTIES

Configure the Data Link properties and link to any legacy back-end database. Take the following for example.

- 1) Click [Data Link] from the toolbar to bring up the Properties dialog box.
- 2) In the Provider tab, select [Microsoft Jet 4.0 OLE DB Provider].
- 3) Click [Next >>].

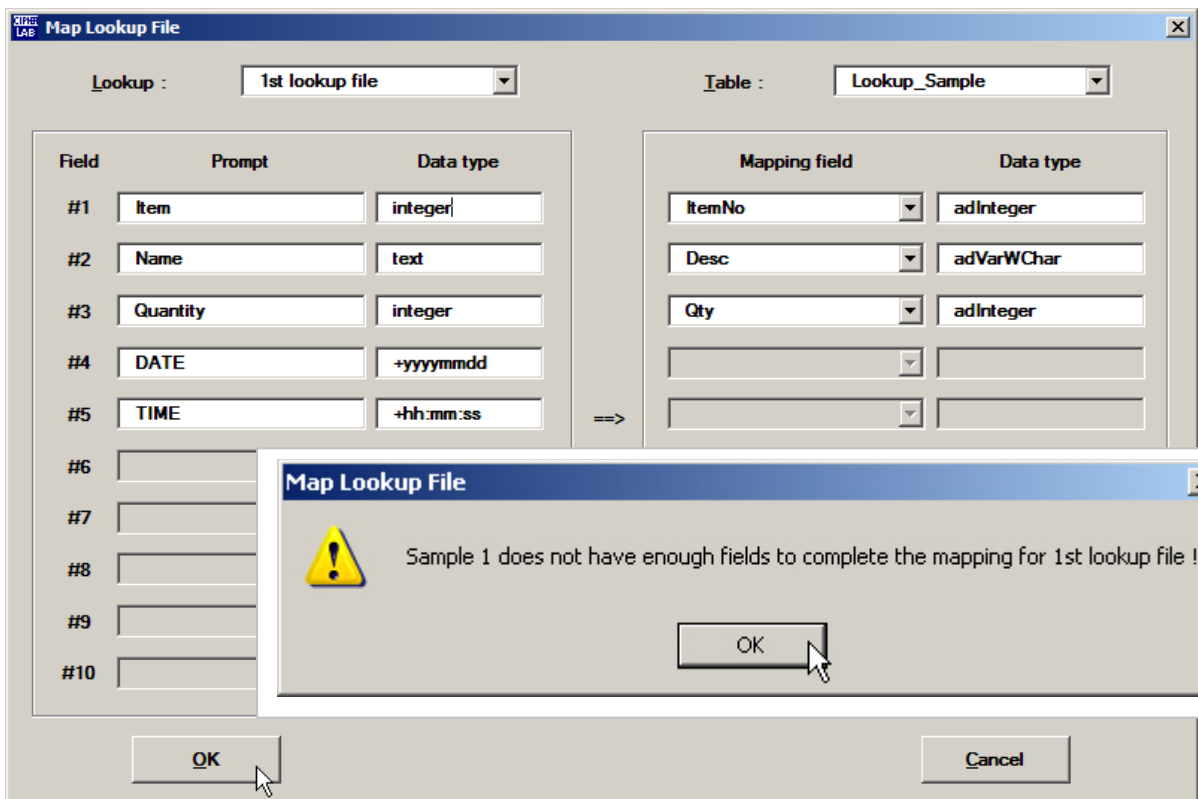
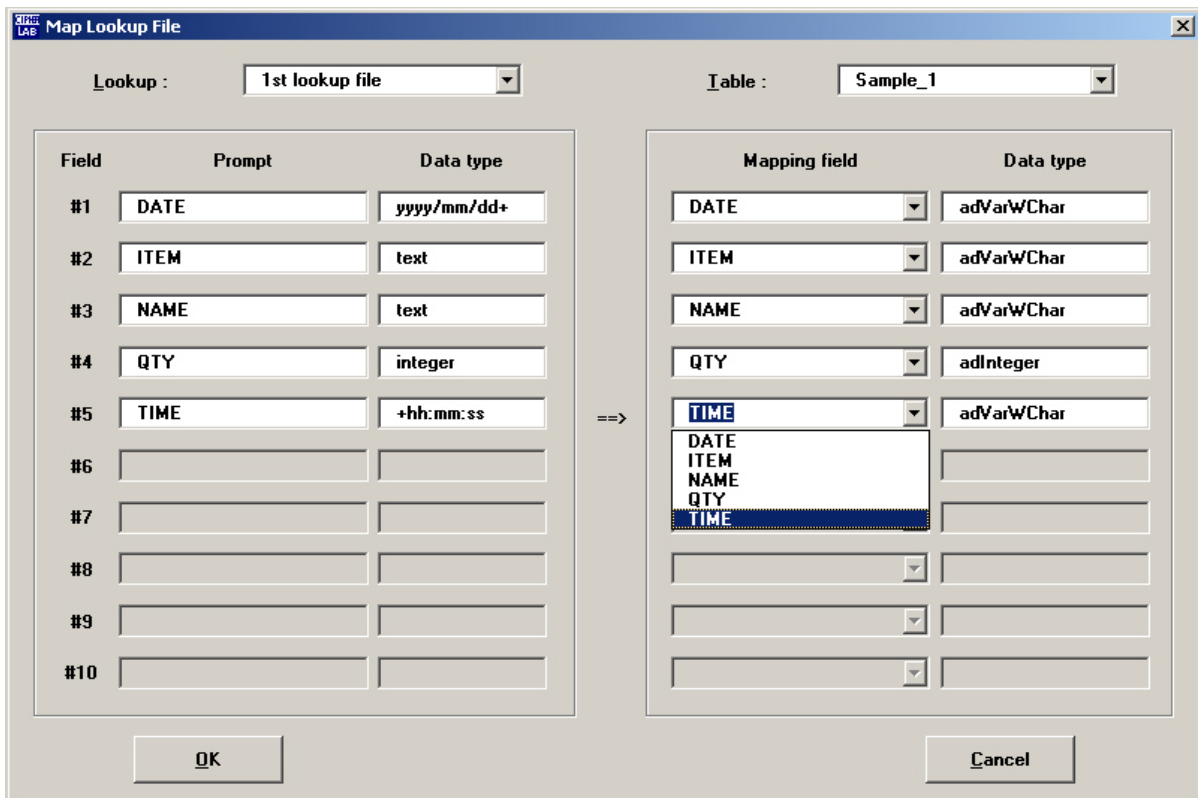


- 4) In the Connection tab, specify the name of target database (Microsoft Access Database: \*.mdb) and provide other required information.
- 5) Click [Test Connection] to verify connection.
- 6) Click [OK] when initial connection is set up successfully.



## MAP LOOKUP FILE

- 1) When the lookup file is connected to database, make sure the mapping between them is correct.
  - ▶ The table (i.e. Sample 1) of database is mapped to the lookup file specified in the application template (ATF).
  - ▶ The database fields are automatically mapped to the data fields of the lookup file.
- 2) If your database file doesn't have as many fields as the lookup file does, a warning message will be displayed as the figure shown below.



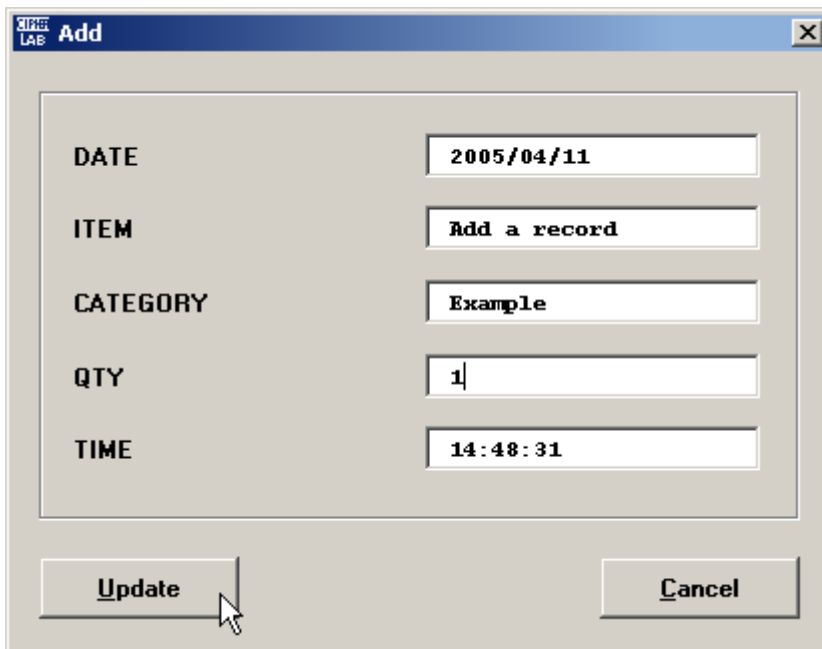
- 3) When data is mapped correctly, click [OK]. Data link to back-end database is set up successfully.

### 3.1.2 EDIT DATA

You can use the Editing Toolbar to manually manage the received data in the database.



### ADD A RECORD

A screenshot of a dialog box titled "Add" with a close button (X) in the top right corner. The dialog box contains five input fields with labels on the left: "DATE" with the value "2005/04/11", "ITEM" with the value "Add a record", "CATEGORY" with the value "Example", "QTY" with the value "1", and "TIME" with the value "14:48:31". At the bottom of the dialog box, there are two buttons: "Update" and "Cancel". A mouse cursor is pointing at the "Update" button.

- 1) Click [Add] on the toolbar.
- 2) The dialog box showing up contains fields of a single record for input.
- 3) When input is completed, click [Update].
- 4) The new record will be added to the bottom of the list.

	DATE	ITEM	CATEGORY	QTY	TIME
	2005/04/11	Coke	Grocery	11	14:33:01
	2005/04/11	Candy	Grocery	20000	11:20:49
	2005/04/11	Soft drink	Grocery	300	11:20:49
	2005/04/11	Cigarette	Grocery	4000	11:20:49
	2005/04/11	Wine	Grocery	500	11:20:49
	2005/04/11	Pencil	Grocery	6000	11:20:49
	2005/04/11	Book	Grocery	777	11:20:49
	2005/04/11	Notebook	Grocery	80	11:20:49
	2005/04/11	Charger	Grocery	900	11:20:49
	2005/04/11	Scanner	Grocery	10000	11:20:49
▶	2005/04/11	Add a record	Example	1	14:48:31

### EDIT A RECORD

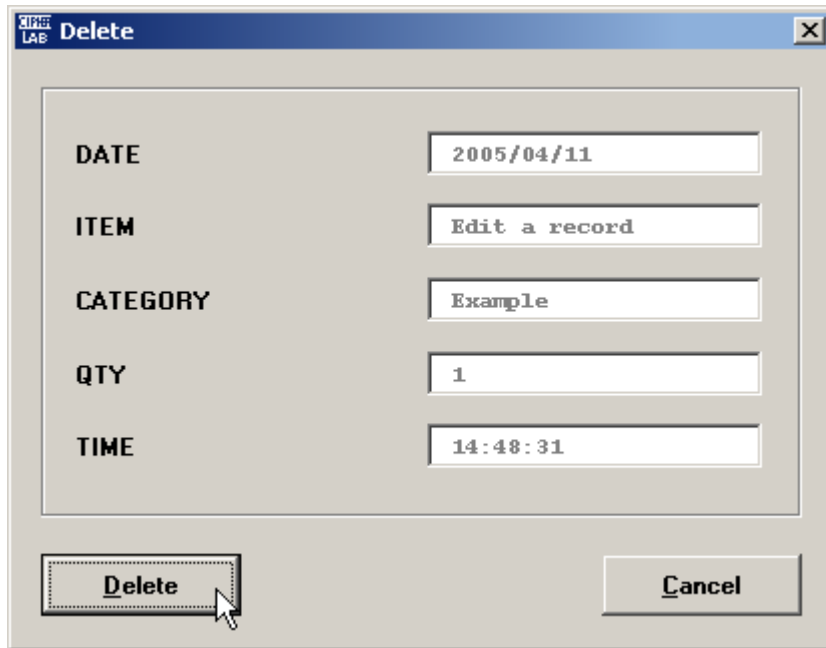
The screenshot shows a dialog box titled "Edit" with a close button (X) in the top right corner. The dialog box contains five input fields, each with a label to its left:

- DATE:** 2005/04/11
- ITEM:** Edit a record
- CATEGORY:** Example
- QTY:** 1
- TIME:** 14:48:31

At the bottom of the dialog box, there are two buttons: "Update" and "Cancel". A mouse cursor is pointing at the "Update" button.

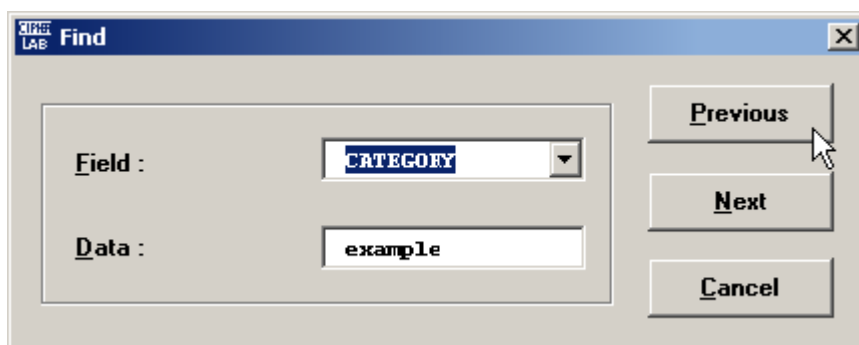
- 1) Click on any part of a record to have the triangular indicator (▶) point to the record.
- 2) Click [Edit] on the toolbar.
- 3) The dialog box showing up contains fields of a the selected record for editing. When input is completed, click [Update].
- 4) The edited field(s) of the original record will be updated with new input.

## DELETE A RECORD



- 1) Click on any part of a record to have the triangular indicator (▶) point to the record.
- 2) Click [Delete] on the toolbar.
- 3) The dialog box contains fields (grayed out) of the selected record. Make sure you want to get rid of the record before clicking [Delete]. The record will be deleted for good.

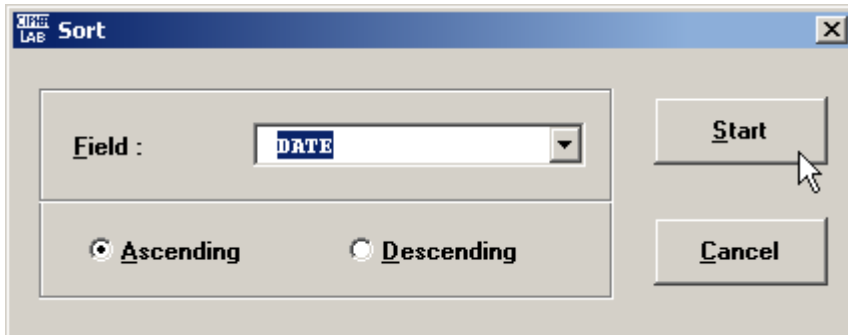
## FIND A RECORD



- 1) If you need to check on something on a long list, click [Find] on the toolbar.
- 2) Click the Field drop-down menu to select among key fields (as many as one record contains) and specify the content of the selected field.
- 3) Click [Previous](records before the current item) or [Next](records after the current item) to start searching.
  - ▶ When a certain record is found, you'll find the triangular indicator (▶) pointing to it.

- ▶ Otherwise, you'll be prompted with a message indicating "Data Not Found!"

## SORT RECORDS



- 1) If you need to sort information on a long list, click [Sort] on the toolbar.
- 2) Click the Field drop-down menu to select among key fields (as many as one record contains) and the sort methods (Ascending or Descending) for specifying your requirements.
- 3) Click [Start].
- 4) Examples:
  - ▶ Sorting by Name/Ascending

	DATE	ITEM	NAME ↓	QTY	TIME
▶	2005/05/03	9956	Book	777	13:47:34
	2005/05/03	9951	Candy	20000	13:47:34
	2005/05/03	9958	Charger	900	13:47:34
	2005/05/03	9953	Cigarette	4000	13:47:34
	2005/05/03	9950	Coke	1000	13:47:34
	2005/05/03	9957	Notebook	80	13:47:34
	2005/05/03	9955	Pencil	6000	13:47:34
	2005/05/03	9959	Scanner	10000	13:47:34
	2005/05/03	9952	Soft drink	300	13:47:34
	2005/05/03	9954	Wine	500	13:47:34

- ▶ Sorting by Quantity/Descending



	DATE	ITEM	NAME	QTY ↓	TIME
▶	2005/05/03	9951	Candy	20000	13:47:34
	2005/05/03	9959	Scanner	10000	13:47:34
	2005/05/03	9955	Pencil	6000	13:47:34
	2005/05/03	9953	Cigarette	4000	13:47:34
	2005/05/03	9950	Coke	1000	13:47:34
	2005/05/03	9958	Charger	900	13:47:34
	2005/05/03	9956	Book	777	13:47:34
	2005/05/03	9954	Wine	500	13:47:34
	2005/05/03	9952	Soft drink	300	13:47:34
	2005/05/03	9957	Notebook	80	13:47:34

## 3.2 PRINT

- 1) Select a table from the Database tab.
- 2) Click **File Menu | Print** or the [Print] button on the toolbar to set properties (see below).
- 3) In the print properties, click [Print] to select printer.

### 3.2.1 PRINT PROPERTIES

Received data displayed on the Database tab can be printed out. Before printing, you may need to configure the layout settings to meet your needs.

Option	Description
<i>Report</i>	<ul style="list-style-type: none"> <li>▶ Title: of the printout, optional</li> <li>▶ Person: who produced the printout, optional</li> </ul>
<i>Space</i>	<ul style="list-style-type: none"> <li>▶ Field: space between fields, in millimeter</li> <li>▶ Line: space between lines or records, in millimeter</li> </ul>
<i>Field</i>	<ul style="list-style-type: none"> <li>▶ Width: of each field, in millimeter</li> <li>▶ Height: of each field, in millimeter</li> </ul>
<i>Margin</i>	<ul style="list-style-type: none"> <li>▶ Top: margin size from top to the edge of paper, in millimeter</li> <li>▶ Bottom: margin size from bottom to the edge of paper, in millimeter</li> <li>▶ Left: margin size from left to the edge of paper, in millimeter</li> <li>▶ Right: margin size from right to the edge of paper, in millimeter</li> </ul>

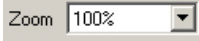


The screenshot shows a 'Print' dialog box with the following fields and values:

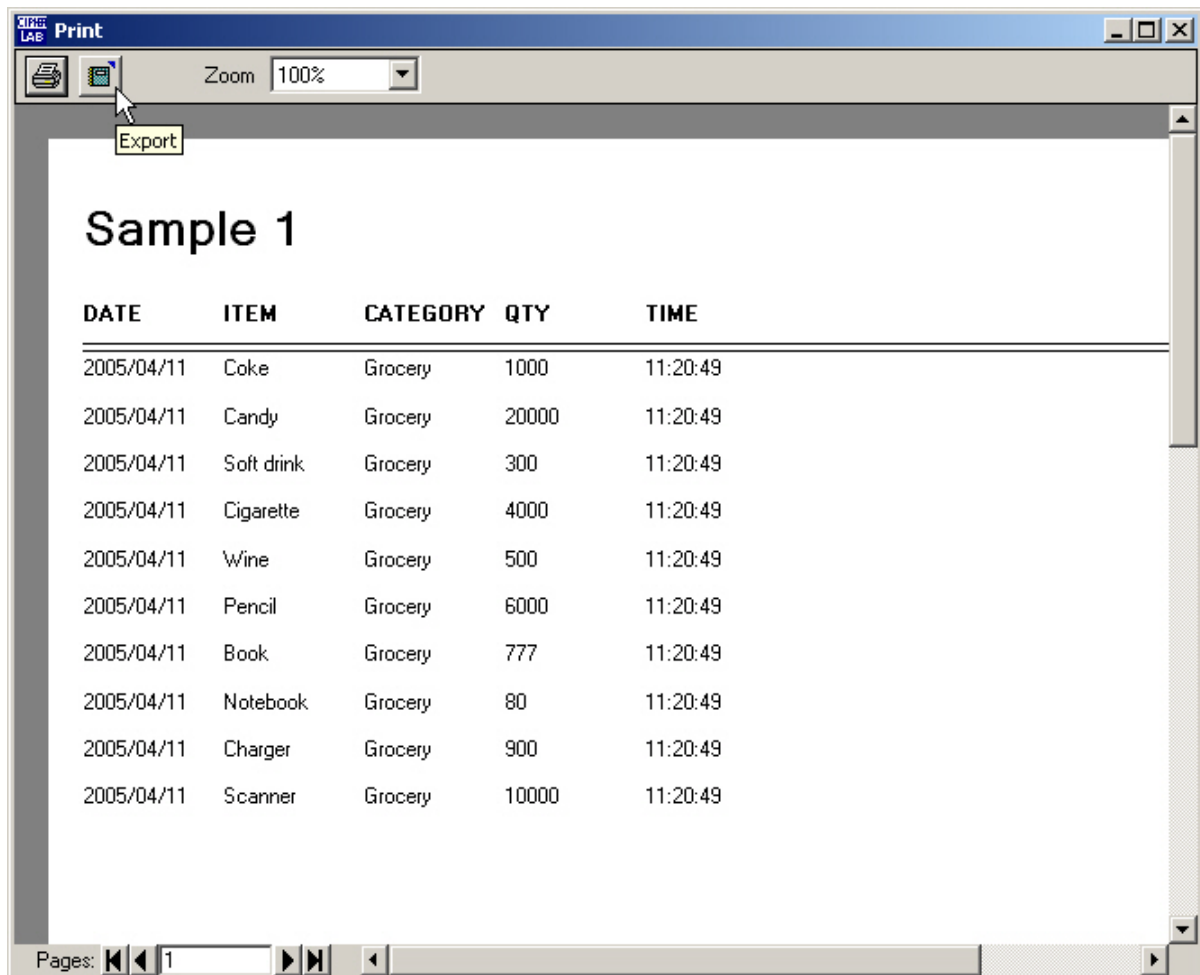
- Report:**
  - Title: Sample 1
  - Person: (empty)
- Space (mm):**
  - Field: 0.35
  - Line: 1.76
- Field (mm):**
  - Width: 20.28
  - Height: 6.08
- Margin (mm):**
  - Top: 3.53
  - Bottom: 7.94
  - Left: 1.76
  - Right: 3

Buttons at the bottom: Preview (with mouse cursor), Print, and Cancel.

### 3.2.2 PREVIEW

You may click [Preview] to take a glance at the printout.

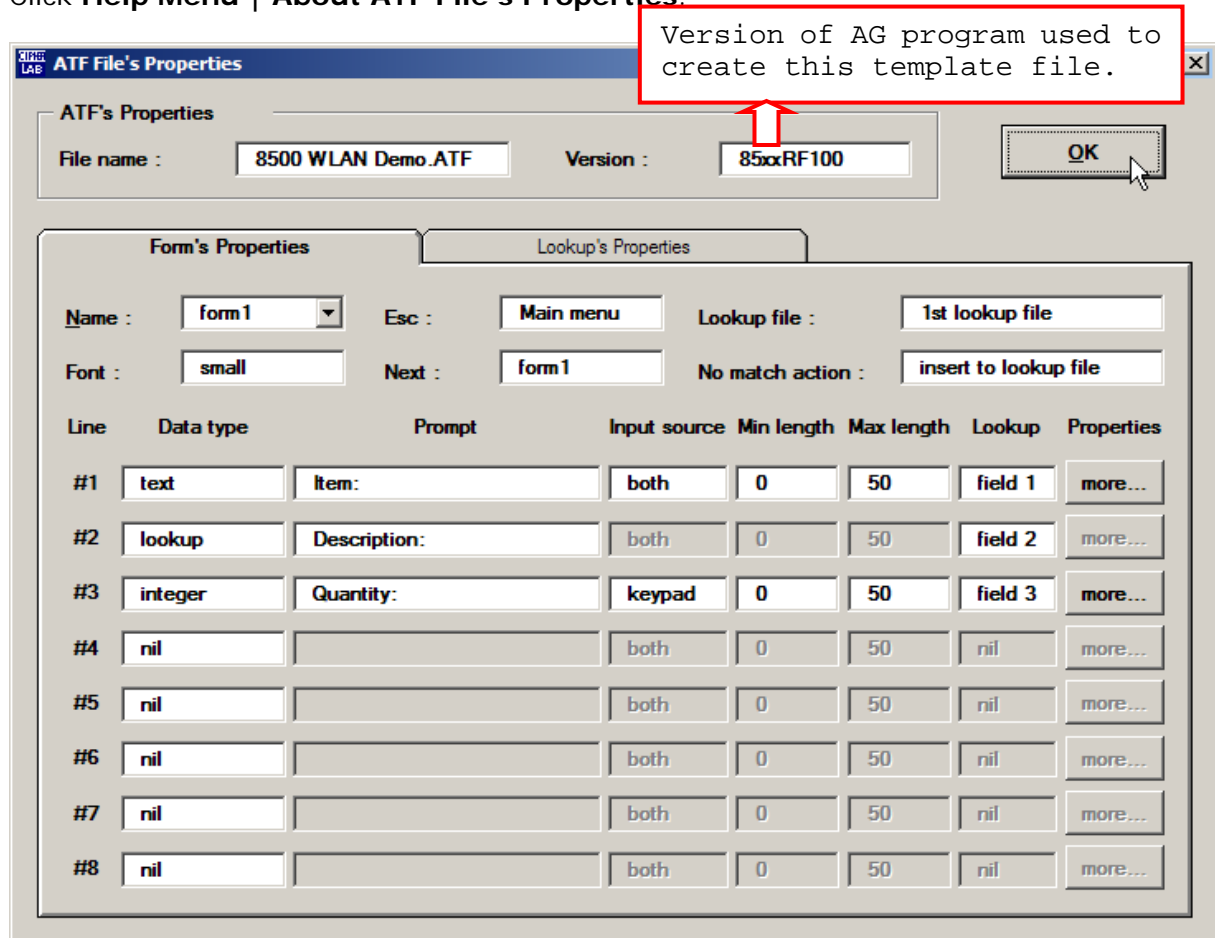
Option	Description
 Zoom 100%	Select an appropriate preview size.
	Export it (all or by page) to different file formats. <ul style="list-style-type: none"> <li>▶ HTML (*.htm; *.html)</li> <li>▶ Text (*.txt)</li> <li>▶ Unicode HTML (UTF-8)(*.htm; *.html)</li> <li>▶ Unicode Text (*.txt)</li> </ul>
	Send to print if the layout satisfies your needs.



### 3.3 VIEW ATF FILE'S PROPERTIES

In **Wireless Database Manager**, you can view the settings of the opened application template if a lookup file is specified in use and imported or created accordingly.

Click **Help Menu | About ATF File's Properties**.



It reveals the relationship between the application template and **Wireless Database Manager**.

**In the Application Generator's template:**

- 1st lookup file
- 2nd lookup file
- 3rd lookup file

**In the Wireless Database Manager:**

- Convert Data #1
- Convert Data #2
- Convert Data #3

Note: The ATF's properties cannot be changed here.

## SCAN ENGINE SETTINGS

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The **FORGE WLAN Application Generator** allows configuring the following reader types, depending on the module equipped on your mobile computer:

	8000	8200	8300	8400	8500	8600	8700
<b>Barcode Reader</b>							
<i>1D CCD Scan Engine</i>	✓	✓	✓	✓	✓	✓	✓
<i>1D Laser Scan Engine</i>	✓	✓	✓	✓	✓	✓	✓
<i>1D Long Range Laser Scan Engine (LR)</i>	✗	✗	✓	✗	✓	✗	✓
<i>1D Extra Long Range Laser Scan Engine (ELR)</i>	✗	✗	✗	✗	✓	✗	✗
<i>2D Scan Engine</i>	✗	✓	✗	✓	✓	✓	✓
<b>RFID Reader</b>							
<i>ACG_RFID Module v0.9</i>	✗	✗	✗	✗	✓	✗	✗
<i>ACG_RFID Module v1.0</i>	✗	✗	✓	✗	✓	✗	✗
<i>HF RFID Multi-ISO v1.2.2</i>	✗	✗	✗	✗	✗	✓	✓

Options of different reader combination are allowed, such as 1D+RFID and 2D+RFID. For each combination, both readers can be initialized and ready for scanning at the same time (dual mode operation). For example, if you press the [Scan] button while running the AG run-time program on the mobile computer, it will read a barcode in position or an RFID tag in proximity depending on which one comes first.

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Note: You cannot have 1D+2D scan engines installed on the mobile computer because they are both barcode readers!

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## SYMBOLOGIES SUPPORTED

Varying by the scan engine installed, the supported symbologies or tag types are listed below. For details on configuring associated settings, please refer to each Appendix separately.

	CCD, Laser	LR, ELR	2D
<b>Codabar</b>	✓	✓	✓
<b>Code 11</b>	✗	(✓) <sup>Note</sup>	✓

Note: Code 11 is supported on Long Range Laser scan engine for 8300 only.

<b>Code 93</b>	✓	✓	✓	
<b>Composite Code</b>	✗	✗	✓	
<b>MSI</b>	✓	✓	✓	
<b>Plessey</b>	✓	✗	✗	
<b>Postal Codes</b>	✗	✗	✓	
<b>Telepen</b>	✓	✗	✗	
<b>Code 128</b>	Code 128	✓	✓	
	GS1-128 (EAN-128)	✓	✓	
	ISBT 128	✓	✓	
<b>Code 2 of 5</b>	Industrial 25 (Discrete 25)	✓	✓	
	Interleaved 25	✓	✓	
	Matrix 25	✓	✗	(✓) <sup>Note</sup>
	Chinese 25	✗	✗	(✓) <sup>Note</sup>
	Coop 25	(✓) <sup>Note</sup>	✗	✗

Note: (1) Matrix 25 and Chinese 25 are supported on 2D scan engine for 8200/8400/8600/8700 only.

(2) Coop 25 is supported on CCD/Laser scan engine for 8200/8600/8700 only.

<b>Code 3 of 9</b>	Code 39	✓	✓	✓
	Trioptic Code 39	✗	✓	✓
	Italian Pharmacode (Code 32)	✓	✓	✓
	French Pharmacode	✓	✗	✗
<b>EAN/UPC</b>	EAN-8	✓	✓	✓
	EAN-13	✓	✓	✓
	Bookland EAN (ISBN)	✓	✓	✓
	UPC-E0	✓	✓	✓
	UPC-E1	(✓) <sup>Note</sup>	✓	✓

	UPC-A	✓	✓	✓
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Note: UPC-E1 is supported on CCD/Laser scan engine for 8200/8600/8700.

<b>GS1 (RSS)</b>	<b>DataBar</b>	GS1 DataBar Omnidirectional (RSS-14)	✓	✓	✓
		GS1 DataBar Truncated	✓	✓	✓
		GS1 DataBar Stacked	✓	✓	✓
		GS1 DataBar Stacked Omnidirectional	✓	✓	✓
		GS1 DataBar Limited (RSS Limited)	✓	✓	✓
		GS1 DataBar Expanded (RSS Expanded)	✓	✓	✓
		GS1 DataBar Expanded Stacked	✓	✓	✓
<b>2D Symbologies</b>		PDF417	x	x	✓
		MicroPDF417	x	x	✓
		Data Matrix	x	x	✓
		Maxicode	x	x	✓
		QR Code	x	x	✓
		MicroQR	x	x	(✓) <sup>Note</sup>
		Aztec	x	x	(✓) <sup>Note</sup>

Note: MicroQR and Aztec are supported on 2D scan engine for 8200/8400/8600/8700 only.

## RFID TAGS SUPPORTED

The RFID reader supports read/write operations depending on the tags. The supported labels include ISO 15693, Icode®, ISO 14443A, and ISO 14443B. Currently, the performance of some tags has been confirmed, and the results are listed below for your reference. The results found may vary in RFID module version.

Note: You should study the specifications of RFID tags before use. The "Write Page" functionality may not be supported.

<b>HF RFID Multi-ISO Version 1.2.2</b>		<b>UID Only</b>	<b>Read Page</b>	<b>Write Page<sup>Note</sup></b>
<b>ISO 14443A</b>	Mifare Standard 1K (Mifare S50)	✓	✓	✓
	Mifare Standard 4K (Mifare S70)	✓	✓	✓
	Jcop 41 only the (Mifare 1K & 4K compatible)	✓	✓	✓
	Mifare Ultralight	✓	✓	✓
	Mifare Ultralight C	✓	✓	✓
	Mifare ProX	✓	✓	✓
	Mifare DESFire	✓	✓	✓

	Mifare Plus	✓	✓	✓
	Mifare Mini (Mifare S20)	✓	✓	✓
	SLE66CLX320P	✓	---	---
	SLE55R04 / 08	✓	---	---
	Smart MX	✓	---	---
	Jewel	✓	✓	✓
	Topaz	✓	✓	✓
<b>ISO 14443B</b>	SLE6666CL160S	✓	---	---
	SR176	✓	✓	✓
	SRIX4K	✓	✓	✓
	SLIX 4K	✓	✓	✓
<b>Dual</b>	ISO 14443A compliant	✓	---	---
	ISO 14443B compliant	✓	---	---
<b>ISO 15693</b>	EM4135	✓	✓	✓
	ICode SLI	✓	✓	✓
	LRI12	✓	✓	✓
	LRI64	✓	✓	✓
	LRI128	✓	✓	✓
	LRI2k	✓	✓	✓
	SRF55VxxP	✓	✓	✓
	SRF55VxxS	✓	✓	✓
	Tag-it HF-I Std	✓	✓	✓
	TempSense	✓	---	---
	ICODE1 with EAS&AFI	✓	✓	✓
	Icode	✓	✓	✓



ACG_RFID Module Version 1.0		UID Only	Read Page	Write Page <sup>Note</sup>
<b>ISO 14443A</b>	Mifare Standard 1K	✓	✓	✓
	Mifare Standard 4K	✓	✓	✓
	Mifare Ultralight	✓	✓	✓
	Mifare DESFire	✓	---	---
	Mifare S50	✓	✓	✓
	SLE44R35	✓	---	---
	SLE66R35	✓	✓	✓
<b>ISO 14443B</b>	SRIX 4K	✓	✓	✓
	SR176	✓	✓	✓
<b>ISO 15693</b>	ICODE SLI	✓	✓	✓
	SRF55V02P	✓	---	---
	SRF55V02S	✓	---	---
	SRF55V10P	✓	---	---
	TI Tag-it HF-I	✓	✓	✓
<b>ICODE® (Phillips)</b>	ICODE	✓	✓	✓

ACG_RFID Module Version 0.9		UID Only	Read Page	Write Page <sup>Note</sup>
<b>ISO 14443A</b>	Mifare Standard 1K	✓	---	---
	Mifare Standard 4K	✓	---	---
	Mifare DESFire	✓	---	---
	Mifare S50	✓	---	---
	SLE44R35	✓	---	---
	SLE66R35	✓	---	---
<b>ISO 15693</b>	ICODE SLI	✓	✓	✓
	SRF55V02P	✓	✓	✓
	SRF55V02S	✓	---	---
	SRF55V10P	✓	✓	✓
	TI Tag-it HF-I	✓	✓	✓
	ST LRI64	✓	✓	✓
	ST LRI512	✓	✓	✓
<b>Tagit®</b>	Tagit	✓	✓	✓
<b>ICODE® (Phillips)</b>	ICODE	✓	✓	✓

## CCD/LASER SCAN ENGINE

The tables below list reader settings as well as symbology settings for the CCD or Laser scan engine.

**READER SETTINGS TABLE**

CCD/Laser Engine	Description	Default
<b>Scan Mode</b>		<b>Laser mode</b>
Continuous Mode	Non-stop scanning <ul style="list-style-type: none"> <li>▶ To decode the same barcode repeatedly, move away the scan beam and target it at the barcode for each scanning.</li> </ul>	
Test Mode	Non-stop scanning <ul style="list-style-type: none"> <li>▶ Capable of decoding the same barcode repeatedly</li> </ul>	
Repeat Mode	Non-stop scanning <ul style="list-style-type: none"> <li>▶ Capable of re-transmitting barcode data if triggering within one second after a successful decoding</li> </ul>	
Momentary Mode	Hold down the scan trigger to start with scanning. <ul style="list-style-type: none"> <li>▶ The scanning won't stop until you release the trigger.</li> </ul>	
Alternate Mode	Press the scan trigger to start with scanning. <ul style="list-style-type: none"> <li>▶ The scanning won't stop until you press the trigger again.</li> </ul>	
Aiming Mode	Press the scan trigger to aim at a barcode. Within one second, press the trigger again to decode the barcode. <ul style="list-style-type: none"> <li>▶ The scanning won't stop until (a) a barcode is decoded, (b) the pre-set timeout expires, or (c) you release the trigger.</li> </ul>	
Laser Mode	Hold down the scan trigger to start with scanning. <ul style="list-style-type: none"> <li>▶ The scanning won't stop until (a) a barcode is read, (b) the preset timeout expires, or (c) you release the trigger.</li> </ul>	
Auto Off Mode	Press the scan trigger to start with scanning. <ul style="list-style-type: none"> <li>▶ The scanning won't stop until (a) a barcode is read or (b) the preset timeout expires.</li> </ul>	
Auto Power Off Mode	Press the scan trigger to start with scanning. <ul style="list-style-type: none"> <li>▶ The scanning won't stop until the preset timeout expires, and, the preset timeout period re-counts after each successful decoding.</li> </ul>	
<b>Read Redundancy</b>		<b>None</b>
None	No redundancy means one successful decoding will make the reading valid and induce the "READER Event".	

One time, Two times, or Three times	<p>The higher the reading security is (that is, the more redundancy the user selects), the slower the reading speed gets.</p> <ul style="list-style-type: none"> <li>▶ If "Three Times" is selected, it will take a total of four consecutive successful decodings of the same barcode to make the reading valid.</li> </ul>	
<b>Time-out</b>		<b>3 sec.</b>
0~255 (second)	<p>Set the maximum time for decoding to continue during a scan attempt. It applies to the following scan modes only –</p> <ul style="list-style-type: none"> <li>▶ Aiming mode</li> <li>▶ Laser mode</li> <li>▶ Auto Off mode</li> <li>▶ Auto Power Off mode</li> </ul>	
<b>Aiming Duration</b>		<b>3 sec.</b>
1~255 (second)	<p>Set the maximum time for decoding to continue during a scan attempt.</p> <ul style="list-style-type: none"> <li>▶ It applies to Aiming mode only.</li> </ul>	

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Note: Aiming Duration is supported on CCD/Laser scan engine for 8000/8200/8300/8400/8500/8600/8700.

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## SYMBOLGY SETTINGS TABLE

CCD/Laser Engine	Description	Default
<b>Codabar</b>		<b>Enable</b>
Transmit Start/Stop Character	Decide whether to include the start/stop characters in the data being transmitted. If "Transmit Start/Stop Characters" is desired, select one set: <ul style="list-style-type: none"> <li>▶ abcd / abcd</li> <li>▶ abcd / tn*e</li> <li>▶ ABCD / ABCD</li> <li>▶ ABCD / TN*E</li> </ul>	No
<b>Code 128</b>		<b>Enable</b>
<b>GS1-128</b>		<b>Enable</b>
Transmit Code ID (for GS1-128)	Decide whether to include Code ID ("]C1") in the data being transmitted.	No
Field Separator Replacement	Decide whether to replace the field separator. If the barcode contains Field Separator "0x1D", it will be changed to the desired Field Separator. For example, type the desired character ";" (semicolon) as the new field separator. Then if the barcode contains Field Separator "0x1D", it will be changed to ";".	No
<b>ISBT 128</b>		<b>Enable</b>

Note: ISBT 128 is supported on 1D scan engine for 8200/8400/8600/8700.

<b>Industrial 25 (= Discrete 25)</b>		<b>Enable</b>
Start/Stop Selection	This decides the readability of all 2 of 5 symbology variants. For example, flight tickets actually use an Industrial 2 of 5 barcode but with Interleaved 2 of 5 start/stop pattern. In order to read this barcode, the start/stop pattern selection parameter of Industrial 2 of 5 should be set to "Interleaved 25".	Industrial 25
Verify Check Digit	Decide whether to verify the check digit. If the check digit is incorrect, the barcode will not be accepted.	No
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.	Yes
Select Length	<ul style="list-style-type: none"> <li>▶ One or two fixed lengths</li> <li>▶ Range</li> </ul>	1~127
<b>Interleaved 25</b>		<b>Enable</b>
Start/Stop Selection	Refer to Industrial 25.	Interleaved 25
Verify Check Digit	Decide whether to verify the check digit. If the check digit is incorrect, the barcode will not be accepted.	No

Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.	Yes
Select Length	<ul style="list-style-type: none"> <li>▶ One or two fixed lengths</li> <li>▶ Range</li> </ul>	1~126
<b>Matrix 25</b>		<b>Disable</b>
Start/Stop Selection	Refer to Industrial 25.	Matrix 25
Verify Check Digit	Decide whether to verify the check digit. If the check digit is incorrect, the barcode will not be accepted.	No
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.	Yes
Select Length	<ul style="list-style-type: none"> <li>▶ One or two fixed lengths</li> <li>▶ Range</li> </ul>	1~127
<b>Coop 25</b>		<b>Disable</b>
Verify Check Digit	Decide whether to verify the check digit. If the check digit is incorrect, the barcode will not be accepted.	No
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.	Yes

Note: Coop 25 is supported on CCD/Laser scan engine for 8200/8600/8700 only.

<b>French Pharmacode</b>		<b>Disable</b>
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.	Yes
<b>Italian Pharmacode (= Code 32)</b>		<b>Disable</b>
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.	Yes

Note: For French/Italian Pharmacode, "Transmit Start/Stop Character" is not provided in UI but it is controlled by the same setting of Code 39.

<b>Code 39</b>		<b>Enable</b>
Transmit Start/Stop Character	Decide whether to include the start/stop characters "*" in the data being transmitted.	No
Verify Check Digit	Decide whether to verify the check digit. If the check digit is incorrect, the barcode will not be accepted.	No
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.	Yes
Code 39 Full ASCII	Code 39 Full ASCII includes all the alphanumeric and special characters.	Disable
Security Level	<ul style="list-style-type: none"> <li>▶ High</li> <li>▶ Normal</li> </ul>	High
<b>Code 93</b>		<b>Enable</b>

<b>MSI</b>		<b>Disable</b>
Verify Check Digit	Select one of the three calculation formulas to verify the check digit. If the check digit is incorrect, the barcode will not be accepted. <ul style="list-style-type: none"> <li>▶ Single Modulo 10</li> <li>▶ Double Modulo 10</li> <li>▶ Modulo 11 &amp; 10</li> </ul>	Single Modulo 10
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted. <ul style="list-style-type: none"> <li>▶ Last digit not transmitted</li> <li>▶ Both digits transmitted</li> <li>▶ Both digits not transmitted</li> </ul>	Both digits transmitted
Select Length	<ul style="list-style-type: none"> <li>▶ One or two fixed lengths</li> <li>▶ Range</li> </ul>	1~127
<b>Negative Barcode</b>		<b>Disable</b>
<b>Plessey</b>		<b>Disable</b>
Convert to UK Plessey	When applied, each occurrence of the character "A" in the barcode data will be replaced by the character "X".	No
Transmit Check Digit	Decide whether to include the two check digits in the data being transmitted.	Yes
<b>Telepen</b>		<b>Disable</b>
Original Telepen (Numeric)	The original Telepen includes numeric characters.	No
AIM Telepen (Full ASCII)	AIM Telepen (Full ASCII) includes all the alphanumeric and special characters.	Yes
<b>GS1 Databar-14</b>		<b>Disable</b>
GS1 DataBar-14 is short for GS1 DataBar Omnidirectional. This group consists of (1) GS1 DataBar Omnidirectional, (2) GS1 DataBar Truncated, (3) GS1 DataBar Stacked, and (4) GS1 DataBar Stacked Omnidirectional.		
Transmit Code ID	Decide whether to include Code ID ("]e0") will be included in the data being transmitted.	Yes
Transmit Application ID	Decide whether to include the Application ID ("01") in the data being transmitted.	Yes
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.	Yes
<b>GS1 Databar Limited</b>		<b>Disable</b>
Transmit Code ID	Refer to GS1 Databar-14.	Yes
Transmit Application ID	Refer to GS1 Databar-14.	Yes
Transmit Check Digit	Refer to GS1 Databar-14.	Yes

<b>GS1 Databar Expanded</b>		<b>Disable</b>
This group consists of (1) GS1 DataBar Expanded, and (2) GS1 DataBar Expanded Stacked.		
Transmit Code ID	Refer to GS1 Databar-14.	Yes
<b>EAN-8</b>		<b>Enable</b>
Convert to EAN-13	The EAN-8 barcode will be expanded into EAN-13, and the next processing will follow the settings configured for EAN-13. <ul style="list-style-type: none"> <li>▶ After conversion, the data follows EAN-13 format and is affected by EAN-13 programming selections (e.g. Check Digit).</li> </ul>	No
GTIN-13 Format	Decide whether to convert using GTIN-13 format.	No
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.	Yes
Addon 2 / Addon 5	Decide whether to decode EAN-8 with addons.	No
<b>EAN-13 / UPC-A</b>		<b>Enable</b>
ISBN Conversion	The EAN-13 barcode starting with 978 and 979 will be converted to ISBN.	No
ISSN Conversion	The EAN-13 barcode starting with 977 will be converted to ISSN.	No
GTIN for EAN-13	The EAN-13 barcode will be expanded into 14-digit Global Trade Item Number (GTIN).	No
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.	Yes
Addon 2 / Addon 5	Decide whether to decode EAN-13/UPC-A with addons.	No
(UPC-A) Convert to EAN-13	The UPC-A barcode will be expanded into EAN-13, and the next processing will follow the settings configured for EAN-13. <ul style="list-style-type: none"> <li>▶ After conversion, the data follows EAN-13 format and is affected by EAN-13 programming selections (e.g. Check Digit).</li> </ul>	Yes
(UPC-A) Transmit Check Digit	Decide whether to include the UPC-A check digit in the data being transmitted.	Yes
(UPC-A) Transmit System Number	Decide whether to include the UPC-A System Number in the data being transmitted.	Yes
<b>UPC-E</b>		<b>Enable</b>
Convert to UPC-A	The UPC-E barcode will be expanded into UPC-A, and the next processing will follow the settings configured for UPC-A. <ul style="list-style-type: none"> <li>▶ After conversion, the data follows UPC-A format and is affected by UPC-A programming selections (e.g. System Number, Check Digit).</li> </ul>	No
Transmit Check Digit	Decide whether to include the UPC-E check digit in the data being transmitted.	Yes



Transmit System Number	Decide whether to include the UPC-E System Number in the data being transmitted.	No
Enable UPC-E1	Decide whether to decode both UPC-E0 and UPC-E1 barcodes. <ul style="list-style-type: none"> <li>▶ By default, it decodes the UPC-E0 barcodes only.</li> </ul>	No
Enable UPC-E1 Triple Check	Decide whether to apply read redundancy to the UPC-E1 barcode. <ul style="list-style-type: none"> <li>▶ When applied, the same UPC-E1 barcode has to be read three times to make a valid reading. This is helpful when the barcode is defaced and requires more attempts to read it successfully.</li> </ul>	No
Addon 2 / Addon 5	Decide whether to decode UPC-E with addons.	No
<b>GS1 Formatting</b>		---
GS1-128 (EAN128)	Decide whether to enable GS1 formatting for GS1-128.	Disable
GS1 DataBar Family	Decide whether to enable GS1 formatting for GS1 DataBar Family.	Disable
Field Separator	Specify the field separator.	No
Application ID Mark	Specify the application ID mark character.	No

Note: UPC-E1 is supported on CCD/Laser scan engine for 8200/8600/8700 only.



## LR/ELR LASER SCAN ENGINE

The tables below list reader settings as well as symbology settings for the Long Range Laser (LR) or Extra Long Range Laser (ELR) scan engine.

**READER SETTINGS TABLE**

LR/ELR Engine	Description	Default
<b>Scan Mode</b>		<b>Laser mode</b>
Continuous Mode	Non-stop scanning ▶ To decode the same barcode repeatedly, move away the scan beam and target it at the barcode for each scanning.	
Test Mode	Non-stop scanning ▶ Capable of decoding the same barcode repeatedly	
Alternate Mode	Press the scan trigger to start with scanning. ▶ The scanning won't stop until you press the trigger again.	
Aiming Mode	Press the scan trigger to aim at a barcode. Within one second, press the trigger again to decode the barcode. ▶ The scanning won't stop until (a) a barcode is decoded, (b) the pre-set timeout expires, or (c) you release the trigger.	
Laser Mode	Hold down the scan trigger to start with scanning. ▶ The scanning won't stop until (a) a barcode is read, (b) the preset timeout expires, or (c) you release the trigger.	
Auto Off Mode	Press the scan trigger to start with scanning. ▶ The scanning won't stop until (a) a barcode is read or (b) the preset timeout expires.	
<b>Time-out</b>		<b>3 sec.</b>
0~255 (second)	Set the maximum time for decoding to continue during a scan attempt. It applies to the following scan modes only – ▶ Aiming mode ▶ Laser mode ▶ Auto Off mode	
<b>Aiming Duration</b>		<b>3 sec.</b>
1~255 (second)	Set the maximum time for decoding to continue during a scan attempt. ▶ It applies to Aiming mode only.	

Note: Long Range Laser scan engine are supported on 8300/8500 only.

**SYMBOLGY SETTINGS TABLE (8300/8500)**

LR/ELR Engine	Description	Default
<b>Codabar</b>		<b>Disable</b>
Transmit Start/Stop Character	Decide whether to include the start/stop characters in the data being transmitted.	No
Select Length	<ul style="list-style-type: none"> <li>▶ Any Length</li> <li>▶ One or two fixed lengths</li> <li>▶ Range (1~55)</li> </ul>	Any Length
<b>Code 128</b>		<b>Enable</b>
<b>GS1-128</b>		<b>Enable</b>
Field Separator Replacement	Decide whether to replace the field separator. If the barcode contains Field Separator "0x1D", it will be changed to the desired Field Separator. For example, type the desired character ";" (semicolon) as the new field separator. Then if the barcode contains Field Separator "0x1D", it will be changed to ";".	No
<b>ISBT 128</b>		<b>Enable</b>
<b>Industrial 25 (= Discrete 25)</b>		<b>Enable</b>
Select Length	<ul style="list-style-type: none"> <li>▶ Any Length</li> <li>▶ One or two fixed lengths</li> <li>▶ Range (1~55)</li> </ul>	Any Length
<b>Interleaved 25</b>		<b>Enable</b>
Convert to EAN-13	Convert a 14-character barcode into EAN-13 if the following requirements are met: <ul style="list-style-type: none"> <li>▶ The barcode must have a leading 0 and a valid EAN-13 check digit.</li> </ul>	No
Verify Check Digit	Decide whether to verify the check digit. If desired, select one of the algorithms below. If the check digit is incorrect, the barcode will not be accepted. <ul style="list-style-type: none"> <li>▶ No</li> <li>▶ USS algorithm</li> <li>▶ OPCC algorithm</li> </ul>	No
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.	No
Select Length	<ul style="list-style-type: none"> <li>▶ Any Length</li> <li>▶ One or two fixed lengths</li> <li>▶ Range (1~55)</li> </ul>	Any Length
<b>Code 39</b>		<b>Enable</b>
Convert to Code 32	Convert to Italian Pharmacode.	No
Verify Check Digit	Decide whether to verify the check digit. If the check digit is incorrect, the barcode will not be accepted.	No

Transmit Check Digit	Decide whether to include the check digit in the data being transmitted. <ul style="list-style-type: none"> <li>▶ "Verify Check Digit" must be enabled so the check digit can be left out (= "Transmit Check Digit" disabled).</li> </ul>	No						
Code 39 Full ASCII	Code 39 Full ASCII includes all the alphanumeric and special characters.	Disable						
Trioptic Code 39	Decide whether to decode Trioptic Code 39. <ul style="list-style-type: none"> <li>▶ Trioptic Code 39 is a variant of Code 39 used in the marking of computer tape cartridges. It always contains six characters.</li> </ul>	Disable						
Select Length	<ul style="list-style-type: none"> <li>▶ Any Length</li> <li>▶ One or two fixed lengths</li> <li>▶ Range (1~55)</li> </ul>	Any Length						
<b>Code 93</b>		<b>Disable</b>						
Select Length	<ul style="list-style-type: none"> <li>▶ Any Length</li> <li>▶ One or two fixed lengths</li> <li>▶ Range (1~55)</li> </ul>	Any Length						
<b>MSI</b>		<b>Disable</b>						
Verify Check Digit	If Two Check Digits option is selected, an additional verification is required to ensure integrity. Select one of the algorithms below. If the check digit is incorrect, the barcode will not be accepted. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Check Digit</th> <th style="text-align: left;">Algorithm</th> </tr> </thead> <tbody> <tr> <td>One Check Digit</td> <td>Single Modulo 10</td> </tr> <tr> <td>Two Check Digits</td> <td> <ul style="list-style-type: none"> <li>▶ Mod 10/Mod 11</li> <li>▶ Mod 10/Mod 10</li> </ul> </td> </tr> </tbody> </table>	Check Digit	Algorithm	One Check Digit	Single Modulo 10	Two Check Digits	<ul style="list-style-type: none"> <li>▶ Mod 10/Mod 11</li> <li>▶ Mod 10/Mod 10</li> </ul>	Single Modulo 10
Check Digit	Algorithm							
One Check Digit	Single Modulo 10							
Two Check Digits	<ul style="list-style-type: none"> <li>▶ Mod 10/Mod 11</li> <li>▶ Mod 10/Mod 10</li> </ul>							
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.	No						
Select Length	<ul style="list-style-type: none"> <li>▶ Any Length</li> <li>▶ One or two fixed lengths</li> <li>▶ Range (1~55)</li> </ul>	Any Length						
<b>GS1 Databar</b>		<b>---</b>						
GS1 Databar-14	GS1 DataBar-14 is short for GS1 DataBar Omnidirectional. This group consists of (1) GS1 DataBar Omnidirectional, (2) GS1 DataBar Truncated, (3) GS1 DataBar Stacked, and (4) GS1 DataBar Stacked Omnidirectional.	Enable						
GS1 Databar Limited		Enable						
GS1 Databar Expanded	This group consists of (1) GS1 DataBar Expanded, and (2) GS1 DataBar Expanded Stacked.	Enable						

Convert GS1 Databar to UPC/EAN	<p>"Convert to UPC/EAN" only applies to GS1 Databar-14 and GS1 Databar Limited barcodes not decoded as part of a Composite barcode.</p> <table border="1"> <tr> <td><b>Convert to EAN-13</b></td> </tr> <tr> <td>Strip the leading "010" from barcodes. ▶ "01" is the Application ID and must be followed by a single zero (the first digit encoded)</td> </tr> <tr> <td><b>Convert to UPC-A</b></td> </tr> <tr> <td>Strip the leading "0100" from barcodes. ▶ "01" is the Application ID and must be followed by two or more zeros (but not six zeros)</td> </tr> </table>	<b>Convert to EAN-13</b>	Strip the leading "010" from barcodes. ▶ "01" is the Application ID and must be followed by a single zero (the first digit encoded)	<b>Convert to UPC-A</b>	Strip the leading "0100" from barcodes. ▶ "01" is the Application ID and must be followed by two or more zeros (but not six zeros)	No
<b>Convert to EAN-13</b>						
Strip the leading "010" from barcodes. ▶ "01" is the Application ID and must be followed by a single zero (the first digit encoded)						
<b>Convert to UPC-A</b>						
Strip the leading "0100" from barcodes. ▶ "01" is the Application ID and must be followed by two or more zeros (but not six zeros)						
<b>EAN-8</b>		<b>Enable</b>				
Convert to EAN-13	The EAN-8 barcode will be expanded into EAN-13, and the next processing will follow the settings configured for EAN-13.	No				
Addon 2 / Addon 5	Refer to UPC/EAN Addon setting.					
<b>EAN-13</b>		<b>Enable</b>				
Addon 2 / Addon 5	Refer to UPC/EAN Addon setting.					
Bookland EAN (= Bookland ISBN-10)	<p>The EAN-13 barcode starting with 978 will be converted to ISBN.</p> <p>▶ Data starting with 979 is not considered Bookland in this mode.</p>	No				
<b>UPC-A</b>		<b>Enable</b>				
Transmit Check Digit	Decide whether to include the UPC-A check digit in the data being transmitted.	Yes				
Transmit Preamble	Decide whether to include the UPC-A preamble System Number (and Country Code) in the data being transmitted.	System Number				
Addon 2 / Addon 5	Refer to UPC/EAN Addon setting.					
<b>UPC-E0</b>		<b>Enable</b>				
Transmit Check Digit	Decide whether to include the UPC-E0 check digit in the data being transmitted.	Yes				
Transmit Preamble	Decide whether to include the UPC-E0 preamble System Number (and Country Code) in the data being transmitted.	System Number				
Addon 2 / Addon 5	Refer to UPC/EAN Addon setting.					
Convert to UPC-A	The UPC-E0 barcode will be expanded into UPC-A, and the next processing will follow the settings configured for UPC-A.	No				
<b>UPC-E1</b>		<b>Disable</b>				
Transmit Check Digit	Decide whether to include the UPC-E1 check digit in the data being transmitted.	Yes				
Transmit Preamble	Decide whether to include the UPC-E1 preamble System Number (and Country Code) in the data being transmitted.	System Number				

Addon 2 / Addon 5	Refer to UPC/EAN Addon setting.	
Convert to UPC-A	The UPC-E1 barcode will be expanded into UPC-A, and the next processing will follow the settings configured for UPC-A.	No
<b>UCC Coupon Extended Code</b>		<b>Disable</b>
Read UPC-A barcodes starting with digit "5", EAN-13 barcodes starting with digits "99", and UPC-A/GS1-128 Coupon Codes. ▶ UPC-A, EAN-13, and GS1-128 must be enabled first!		
<b>UPC/EAN Addon</b>		---
Addon 2 / Addon 5	Decide whether to decode EAN-8, EAN-13, UPC-E0, UPC-E1, UPC-A with addons. ▶ Ignore Addons ▶ Decode Only With Addons ▶ Decode With Addons (= Auto-discriminate)	Ignore...
<b>Code 11</b>		<b>Enable</b>
Verify Check Digit	Decide whether to verify the check digit. If the check digit is incorrect, the barcode will not be accepted. ▶ No verification ▶ One Check Digit ▶ Two Check Digits	No
Select Length	▶ Any Length ▶ One or two fixed lengths ▶ Range (1~55)	Any Length

Note: Code 11 is supported on Long Range Laser scan engine for 8300 only.

**SYMBOLGY SETTINGS TABLE (8700)**

LR/ELR Engine	Description	Default
<b>Codabar</b>		<b>Enable</b>
Transmit Start/Stop Character	Decide whether to include the start/stop characters in the data being transmitted.  If "Transmit Start/Stop Characters" is desired, select one set: <ul style="list-style-type: none"> <li>▶ abcd / abcd</li> <li>▶ abcd / tn*e</li> <li>▶ ABCD / ABCD</li> <li>▶ ABCD / TN*E</li> </ul>	No
<b>Code 128</b>		<b>Enable</b>
<b>GS1-128</b>		<b>Enable</b>
Transmit Code ID (for GS1-128)	Decide whether to include Code ID ("]C1") in the data being transmitted.	No
Field Separator Replacement	Decide whether to replace the field separator. If the barcode contains Field Separator "0x1D", it will be changed to the desired Field Separator. For example, type the desired character ";" (semicolon) as the new field separator. Then if the barcode contains Field Separator "0x1D", it will be changed to ";".	No
<b>ISBT 128</b>		<b>Enable</b>
<b>Industrial 25 (= Discrete 25)</b>		<b>Enable</b>
Start/Stop Selection	This decides the readability of all 2 of 5 symbology variants. For example, flight tickets actually use an Industrial 2 of 5 barcode but with Interleaved 2 of 5 start/stop pattern. In order to read this barcode, the start/stop pattern selection parameter of Industrial 2 of 5 should be set to "Interleaved 25".	Industrial 25
Verify Check Digit	Decide whether to verify the check digit. If the check digit is incorrect, the barcode will not be accepted.	No
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.	Yes
Select Length	<ul style="list-style-type: none"> <li>▶ One or two fixed lengths</li> <li>▶ Range</li> </ul>	1~127
<b>Interleaved 25</b>		<b>Enable</b>
Start/Stop Selection	Refer to Industrial 25.	Interleaved 25
Verify Check Digit	Decide whether to verify the check digit. If the check digit is incorrect, the barcode will not be accepted.	No
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.	Yes



Select Length	<ul style="list-style-type: none"> <li>▶ One or two fixed lengths</li> <li>▶ Range</li> </ul>	1~126
<b>Matrix 25</b>		<b>Disable</b>
Start/Stop Selection	Refer to Industrial 25.	Matrix 25
Verify Check Digit	Decide whether to verify the check digit. If the check digit is incorrect, the barcode will not be accepted.	No
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.	Yes
Select Length	<ul style="list-style-type: none"> <li>▶ One or two fixed lengths</li> <li>▶ Range</li> </ul>	1~127
<b>Coop 25</b>		<b>Disable</b>
Verify Check Digit	Decide whether to verify the check digit. If the check digit is incorrect, the barcode will not be accepted.	No
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.	Yes
<b>French Pharmacode</b>		<b>Disable</b>
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.	Yes
<b>Italian Pharmacode (= Code 32)</b>		<b>Disable</b>
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.	Yes

Note: For French/Italian Pharmacode, "Transmit Start/Stop Character" is not provided in UI but it is controlled by the same setting of Code 39.

<b>Code 39</b>		<b>Enable</b>
Transmit Start/Stop Character	Decide whether to include the start/stop characters "*" in the data being transmitted.	No
Verify Check Digit	Decide whether to verify the check digit. If the check digit is incorrect, the barcode will not be accepted.	No
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.	Yes
Code 39 Full ASCII	Code 39 Full ASCII includes all the alphanumeric and special characters.	Disable
Security Level	<ul style="list-style-type: none"> <li>▶ High</li> <li>▶ Normal</li> </ul>	High
<b>Code 93</b>		<b>Enable</b>
<b>MSI</b>		<b>Disable</b>

Verify Check Digit	Select one of the three calculation formulas to verify the check digit. If the check digit is incorrect, the barcode will not be accepted. <ul style="list-style-type: none"> <li>▶ Single Modulo 10</li> <li>▶ Double Modulo 10</li> <li>▶ Modulo 11 &amp; 10</li> </ul>	Single Modulo 10
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted. <ul style="list-style-type: none"> <li>▶ Last digit not transmitted</li> <li>▶ Both digits transmitted</li> <li>▶ Both digits not transmitted</li> </ul>	Both digits transmitted
Select Length	<ul style="list-style-type: none"> <li>▶ One or two fixed lengths</li> <li>▶ Range</li> </ul>	1~127
<b>Plessey</b>		<b>Disable</b>
Convert to UK Plessey	When applied, each occurrence of the character "A" in the barcode data will be replaced by the character "X".	No
Transmit Check Digit	Decide whether to include the two check digits in the data being transmitted.	Yes
<b>Telepen</b>		<b>Disable</b>
Original Telepen (Numeric)	The original Telepen includes numeric characters.	No
AIM Telepen (Full ASCII)	AIM Telepen (Full ASCII) includes all the alphanumeric and special characters.	Yes
<b>GS1 Databar</b>		<b>Disable</b>
GS1 DataBar is short for GS1 DataBar Omnidirectional. This group consists of (1) GS1 DataBar Omnidirectional, (2) GS1 DataBar Truncated, (3) GS1 DataBar Stacked, and (4) GS1 DataBar Stacked Omnidirectional.		
Transmit Code ID	Decide whether to include Code ID ("]e0") will be included in the data being transmitted.	Yes
Transmit Application ID	Decide whether to include the Application ID ("01") in the data being transmitted.	Yes
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.	Yes
<b>GS1 Databar Limited</b>		<b>Disable</b>
Transmit Code ID	Refer to GS1 Databar.	Yes
Transmit Application ID	Refer to GS1 Databar.	Yes
Transmit Check Digit	Refer to GS1 Databar.	Yes
<b>GS1 Databar Expanded</b>		<b>Disable</b>
This group consists of (1) GS1 DataBar Expanded, and (2) GS1 DataBar Expanded Stacked.		
Transmit Code ID	Refer to GS1 Databar.	Yes
<b>EAN-8</b>		<b>Enable</b>

Convert to EAN-13	The EAN-8 barcode will be expanded into EAN-13, and the next processing will follow the settings configured for EAN-13.  ▶ After conversion, the data follows EAN-13 format and is affected by EAN-13 programming selections (e.g. Check Digit).	No
GTIN-13 Format	Decide whether to convert using GTIN-13 format.	No
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.	Yes
Addon 2 / Addon 5	Decide whether to decode EAN-8 with addons.	No
<b>EAN-13 / UPC-A</b>		<b>Enable</b>
ISBN Conversion	The EAN-13 barcode starting with 978 and 979 will be converted to ISBN.	No
ISSN Conversion	The EAN-13 barcode starting with 977 will be converted to ISSN.	No
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.	Yes
(UPC-A) Transmit System Number	Decide whether to include the UPC-A System Number in the data being transmitted.	Yes
(UPC-A) Transmit Check Digit	Decide whether to include the UPC-A check digit in the data being transmitted.	Yes
(UPC-A) Convert to EAN-13	The UPC-A barcode will be expanded into EAN-13, and the next processing will follow the settings configured for EAN-13.  ▶ After conversion, the data follows EAN-13 format and is affected by EAN-13 programming selections (e.g. Check Digit).	Yes
GTIN for EAN-13	The EAN-13 barcode will be expanded into 14-digit Global Trade Item Number (GTIN).	No
Addon 2 / Addon 5	Decide whether to decode EAN-13/UPC-A with addons.	No
<b>UPC-E</b>		<b>Enable</b>
Convert to UPC-A	The UPC-E barcode will be expanded into UPC-A, and the next processing will follow the settings configured for UPC-A.  ▶ After conversion, the data follows UPC-A format and is affected by UPC-A programming selections (e.g. System Number, Check Digit).	No
Transmit System Number	Decide whether to include the UPC-E System Number in the data being transmitted.	No
Transmit Check Digit	Decide whether to include the UPC-E check digit in the data being transmitted.	Yes
Enable UPC-E1	Decide whether to decode both UPC-E0 and UPC-E1 barcodes.  ▶ By default, it decodes the UPC-E0 barcodes only.	No

Enable UPC-E1 Triple Check	Decide whether to apply read redundancy to the UPC-E1 barcode. <ul style="list-style-type: none"> <li>▶ When applied, the same UPC-E1 barcode has to be read three times to make a valid reading. This is helpful when the barcode is defaced and requires more attempts to read it successfully.</li> </ul>	No
Addon 2 / Addon 5	Decide whether to decode UPC-E with addons.	No
<b>GS1 Formatting</b>		---
GS1-128 (EAN128)	Decide whether to enable GS1 formatting for GS1-128.	Disable
GS1 DataBar Family	Decide whether to enable GS1 formatting for GS1 DataBar Family.	Disable
Field Separator	Specify the field separator.	No
Application ID Mark	Specify the application ID mark character.	No

## 2D SCAN ENGINE

The tables below list reader settings as well as symbology settings for the 2D scan engine.

**READER SETTINGS TABLE**

2D Engine	Description	Default
<b>Scan Mode</b>		<b>Laser mode</b>
Continuous Mode	Non-stop scanning <ul style="list-style-type: none"> <li>▶ To decode the same barcode repeatedly, move away the scan beam and target it at the barcode for each scanning.</li> </ul>	
Test Mode	Non-stop scanning <ul style="list-style-type: none"> <li>▶ Capable of decoding the same barcode repeatedly</li> </ul>	
Alternate Mode	Press the scan trigger to start with scanning. <ul style="list-style-type: none"> <li>▶ The scanning won't stop until you press the trigger again.</li> </ul>	
Aiming Mode	Press the scan trigger to aim at a barcode. Within one second, press the trigger again to decode the barcode. <ul style="list-style-type: none"> <li>▶ The scanning won't stop until (a) a barcode is decoded, (b) the pre-set timeout expires, or (c) you release the trigger.</li> </ul>	
Laser Mode	Hold down the scan trigger to start with scanning. <ul style="list-style-type: none"> <li>▶ The scanning won't stop until (a) a barcode is read, (b) the preset timeout expires, or (c) you release the trigger.</li> </ul>	
Auto Off Mode	Press the scan trigger to start with scanning. <ul style="list-style-type: none"> <li>▶ The scanning won't stop until (a) a barcode is read or (b) the preset timeout expires.</li> </ul>	
<b>Decode Illumination</b>	Decide whether to flash illumination on every barcode capture to aid decoding. <ul style="list-style-type: none"> <li>▶ Turn On (Internal LED)</li> <li>▶ Turn Off</li> </ul>	<b>On</b>
<b>Aiming Pattern</b>	Decide whether to project the aiming pattern during barcode capture. <ul style="list-style-type: none"> <li>▶ Turn On</li> <li>▶ Turn Off</li> </ul>	<b>On</b>

<b>Time-out</b>		<b>3 sec.</b>
0~255 (second)	Set the maximum time for decoding to continue during a scan attempt. It applies to the following scan modes only – <ul style="list-style-type: none"> <li>▶ Aiming mode</li> <li>▶ Laser mode</li> <li>▶ Auto Off mode</li> </ul>	
<b>Picklist Mode</b>	Picklist mode enables the decoder to decode only barcodes aligned under the center of the laser aiming pattern. <ul style="list-style-type: none"> <li>▶ Enable</li> <li>▶ Disable</li> </ul>	<b>Disable</b>
<b>1D Inverse Decode</b>	1D Inverse Decoder: <ul style="list-style-type: none"> <li>▶ Decode regular 1D barcode only</li> <li>▶ Decode inverse 1D barcode only</li> <li>▶ Decode both regular and inverse</li> </ul>	<b>Decode regular 1D barcode only</b>
<b>Aiming Duration (8200/8600/8700 only)</b>		<b>3 sec.</b>
1~255 (second)	Set the maximum time for decoding to continue during a scan attempt. <ul style="list-style-type: none"> <li>▶ It applies to Aiming mode only.</li> </ul>	
<b>Read Redundancy</b>		<b>None</b>
None	No redundancy means one successful decoding will make the reading valid and induce the "READER Event".	
One time or Two times	The higher the reading security is (that is, the more redundancy the user selects), the slower the reading speed gets. <ul style="list-style-type: none"> <li>▶ If "Two Times" is selected, it will take a total of three consecutive successful decodings of the same barcode to make the reading valid.</li> </ul>	
<b>Mobile Display Mode</b>	Decide whether to enable mobile phone display. <ul style="list-style-type: none"> <li>▶ Enable</li> <li>▶ Disable</li> </ul>	<b>Disable</b>

Note: [Reader Settings] are supported on 2D scan engine for 8200/8400/8600/8700.

## SYMBOLGY SETTINGS TABLE

### 1D SYMBOLOGIES

2D Engine	Description	Default
<b>Codabar</b>		<b>Enable</b>
Transmit Start/Stop Character	Decide whether to include the start/stop characters in the data being transmitted.	No
Select Length	<ul style="list-style-type: none"> <li>▶ Any Length</li> <li>▶ One or two fixed lengths</li> <li>▶ Range (1~55)</li> </ul>	Any Length
<b>Code 128</b>		<b>Enable</b>
<b>GS1-128</b>		<b>Enable</b>
Field Separator Replacement	Decide whether to replace the field separator. If the barcode contains Field Separator "0x1D", it will be changed to the desired Field Separator. For example, type the desired character ";" (semicolon) as the new field separator. Then if the barcode contains Field Separator "0x1D", it will be changed to ";".	No
<b>ISBT 128</b>		<b>Enable</b>
<b>Industrial 25 (= Discrete 25)</b>		<b>Enable</b>
Select Length	<ul style="list-style-type: none"> <li>▶ Any Length</li> <li>▶ One or two fixed lengths</li> <li>▶ Range (1~55)</li> </ul>	Any Length
<b>Interleaved 25</b>		<b>Enable</b>
Convert to EAN-13	Convert a 14-character barcode into EAN-13 if the following requirements are met: <ul style="list-style-type: none"> <li>▶ The barcode must have a leading 0 and a valid EAN-13 check digit.</li> </ul>	No
Verify Check Digit	Decide whether to verify the check digit. If desired, select one of the algorithms below. If the check digit is incorrect, the barcode will not be accepted. <ul style="list-style-type: none"> <li>▶ No</li> <li>▶ USS algorithm</li> <li>▶ OPCC algorithm</li> </ul>	No
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.	No
Select Length	<ul style="list-style-type: none"> <li>▶ Any Length</li> <li>▶ One or two fixed lengths</li> <li>▶ Range (1~55)</li> </ul>	Any Length

<b>Matrix 25</b>		<b>Disable</b>
Verify Check Digit	Decide whether to verify the check digit. If the check digit is incorrect, the barcode will not be accepted.	No
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.	No
Select Length	<ul style="list-style-type: none"> <li>▶ Any Length</li> <li>▶ One or two fixed lengths</li> <li>▶ Range (1~55)</li> </ul>	Any Length
<b>Chinese 25</b>		<b>Disable</b>

Note: Matrix 25 and Chinese 25 are supported on 2D scan engine for 8200/8400/8600/8700.

<b>Code 39</b>		<b>Enable</b>
Convert to Code 32	Convert to Italian Pharmacode.	No
Verify Check Digit	Decide whether to verify the check digit. If the check digit is incorrect, the barcode will not be accepted.	No
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted. <ul style="list-style-type: none"> <li>▶ "Verify Check Digit" must be enabled so the check digit can be left out (= "Transmit Check Digit" disabled).</li> </ul>	No
Code 39 Full ASCII	Code 39 Full ASCII includes all the alphanumeric and special characters.	No
Trioptic Code 39	Decide whether to decode Trioptic Code 39. <ul style="list-style-type: none"> <li>▶ Trioptic Code 39 is a variant of Code 39 used in the marking of computer tape cartridges. It always contains six characters.</li> </ul>	No
Select Length	<ul style="list-style-type: none"> <li>▶ Any Length</li> <li>▶ One or two fixed lengths</li> <li>▶ Range (1~55)</li> </ul>	Any Length
<b>Code 93</b>		<b>Enable</b>
Select Length	<ul style="list-style-type: none"> <li>▶ Any Length</li> <li>▶ One or two fixed lengths</li> <li>▶ Range (1~55)</li> </ul>	Any Length
<b>MSI</b>		<b>Disable</b>
Verify Check Digit	If Two Check Digits option is selected, an additional verification is required to ensure integrity. Select one of the algorithms below. If the check digit is incorrect, the barcode will not be accepted.	Single Modulo 10



	<b>Check Digit</b>	<b>Algorithm</b>			
	One Check Digit	Single Modulo 10			
	Two Check Digits	<ul style="list-style-type: none"> <li>▶ Mod 10/Mod 11</li> <li>▶ Mod 10/Mod 10</li> </ul>			
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.		No		
Select Length	<ul style="list-style-type: none"> <li>▶ Any Length</li> <li>▶ One or two fixed lengths</li> <li>▶ Range (1~55)</li> </ul>		Any Length		
<b>GS1 Databar</b>			---		
GS1 Databar Omnidirectional	GS1 DataBar-14 is short for GS1 DataBar Omnidirectional. This group consists of (1) GS1 DataBar Omnidirectional, (2) GS1 DataBar Truncated, (3) GS1 DataBar Stacked, and (4) GS1 DataBar Stacked Omnidirectional.		Enable		
GS1 Databar Limited			Enable		
GS1 Databar Expanded	This group consists of (1) GS1 DataBar Expanded, and (2) GS1 DataBar Expanded Stacked.		Enable		
Convert GS1 Databar to UPC/EAN	<p>"Convert to UPC/EAN" only applies to GS1 Databar-14 and GS1 Databar Limited barcodes not decoded as part of a Composite barcode.</p> <table border="1" style="width: 100%;"> <tr> <td> <p><b>Convert to EAN-13</b></p> <p>Strip the leading "010" from barcodes.</p> <ul style="list-style-type: none"> <li>▶ "01" is the Application ID and must be followed by a single zero (the first digit encoded)</li> </ul> </td> </tr> <tr> <td> <p><b>Convert to UPC-A</b></p> <p>Strip the leading "0100" from barcodes.</p> <ul style="list-style-type: none"> <li>▶ "01" is the Application ID and must be followed by two or more zeros (but not six zeros)</li> </ul> </td> </tr> </table>		<p><b>Convert to EAN-13</b></p> <p>Strip the leading "010" from barcodes.</p> <ul style="list-style-type: none"> <li>▶ "01" is the Application ID and must be followed by a single zero (the first digit encoded)</li> </ul>	<p><b>Convert to UPC-A</b></p> <p>Strip the leading "0100" from barcodes.</p> <ul style="list-style-type: none"> <li>▶ "01" is the Application ID and must be followed by two or more zeros (but not six zeros)</li> </ul>	No
<p><b>Convert to EAN-13</b></p> <p>Strip the leading "010" from barcodes.</p> <ul style="list-style-type: none"> <li>▶ "01" is the Application ID and must be followed by a single zero (the first digit encoded)</li> </ul>					
<p><b>Convert to UPC-A</b></p> <p>Strip the leading "0100" from barcodes.</p> <ul style="list-style-type: none"> <li>▶ "01" is the Application ID and must be followed by two or more zeros (but not six zeros)</li> </ul>					
<b>EAN-8</b>			<b>Enable</b>		
Convert to EAN-13	The EAN-8 barcode will be expanded into EAN-13, and the next processing will follow the settings configured for EAN-13.		No		
Addon 2 / Addon 5	Refer to UPC/EAN Addon setting.				
<b>EAN-13</b>			<b>Enable</b>		
Addon 2 / Addon 5	Refer to UPC/EAN Addon setting.				
Bookland EAN (= Bookland ISBN-10)	<p>The EAN-13 barcode starting with 978 will be converted to ISBN.</p> <ul style="list-style-type: none"> <li>▶ Data starting with 979 is not considered Bookland in this mode.</li> </ul>		No		

Bookland ISBN-13	Barcode data, starting with either 978 or 979, will be reported in 13-digit format to meet the 2007 ISBN-13 protocol.	No
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Note: Bookland ISBN-13 is supported on 2D scan engine for 8200/8400/8600/8700.

<b>UPC-A</b>		<b>Enable</b>
Transmit Check Digit	Decide whether to include the UPC-A check digit in the data being transmitted.	Yes
Transmit Preamble	Decide whether to include the UPC-A preamble System Number (and Country Code) in the data being transmitted.	System Number
Addon 2 / Addon 5	Refer to UPC/EAN Addon setting.	
<b>UPC-E0</b>		<b>Enable</b>
Transmit Check Digit	Decide whether to include the UPC-E0 check digit in the data being transmitted.	Yes
Transmit Preamble	Decide whether to include the UPC-E0 preamble System Number (and Country Code) in the data being transmitted.	System Number
Addon 2 / Addon 5	Refer to UPC/EAN Addon setting.	
Convert to UPC-A	The UPC-E0 barcode will be expanded into UPC-A, and the next processing will follow the settings configured for UPC-A.	No
<b>UPC-E1</b>		<b>Disable</b>
Transmit Check Digit	Decide whether to include the UPC-E1 check digit in the data being transmitted.	Yes
Transmit Preamble	Decide whether to include the UPC-E1 preamble System Number (and Country Code) in the data being transmitted.	System Number
Addon 2 / Addon 5	Refer to UPC/EAN Addon setting.	
Convert to UPC-A	The UPC-E1 barcode will be expanded into UPC-A, and the next processing will follow the settings configured for UPC-A.	No
<b>UCC Coupon Extended Code</b>		<b>Disable</b>
Read UPC-A barcodes starting with digit "5", EAN-13 barcodes starting with digits "99", and UPC-A/GS1-128 Coupon Codes. ▶ UPC-A, EAN-13, and GS1-128 must be enabled first!		
<b>UPC/EAN Addon</b>		---
Addon 2 / Addon 5	Decide whether to decode EAN-8, EAN-13, UPC-E0, UPC-E1, UPC-A with addons. ▶ Ignore Addons ▶ Decode Only With Addons ▶ Decode With Addons (= Auto-discriminate)	Ignore...
<b>Code 11</b>		<b>Disable</b>

Verify Check Digit	Decide whether to verify the check digit. If the check digit is incorrect, the barcode will not be accepted. <ul style="list-style-type: none"> <li>▶ No verification</li> <li>▶ One Check Digit</li> <li>▶ Two Check Digits</li> </ul>	No
Select Length	<ul style="list-style-type: none"> <li>▶ Any Length</li> <li>▶ One or two fixed lengths</li> <li>▶ Range (1~55)</li> </ul>	Any Length
<b>Postal Codes</b>		---
US Postnet		Enable
US Planet		Enable
Transmit US Postal Check Digit	US Postnet or US Planet must be enabled first!	Enable
UK Postal		Enable
Transmit UK Postal Check Digit	UK Postal must be enabled first!	Enable
Japan Postal		Enable
Australian Postal		Enable
Dutch Postal		Enable
UPU FICS Postal		Disable
USPS 4CB/One Code/ Intelligent Mail		Disable

Note: UPU FICS Postal and USPS 4CB/One Code/ Intelligent Mail are supported on 2D scan engine for 8200/8400/8600/8700.

<b>Composite Codes</b>		---
Composite CC-C		Disable
Composite CC-A/B		Disable
Composite TLC-39		Disable
GS1-128 Emulation Mode for UCC/EAN Composite Codes	Transmit UCC/EAN Composite Code data as if it was encoded in GS1-128 barcodes.	Disable
UPC Composite Mode	UPC barcodes can be "linked" with a 2D barcode during transmission as if they were one barcode.	UPC Always Linked
	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <p><b>UPC Never Linked</b></p> </div> Transmit UPC barcodes regardless of whether a 2D barcode is detected.	

	<p><b>UPC Always Linked</b></p> <p>Transmit UPC barcodes and the 2D portion. If the 2D portion is not detected, the UPC barcode will not be transmitted.</p> <p>▶ CC-A/B or CC-C must be enabled!</p>	
	<p><b>Auto-discriminate UPC Composites</b></p> <p>Transmit UPC barcodes as well as the 2D portion if present.</p>	
<b>GS1 Formatting</b>		---
GS1-128 (EAN128)	Decide whether to enable GS1 formatting for GS1-128.	Disable
GS1 DataBar Omnidirectional	Decide whether to enable GS1 formatting for GS1 DataBar Omnidirectional.	Disable
GS1 DataBar Limited	Decide whether to enable GS1 formatting for GS1 DataBar Limited.	Disable
GS1 DataBar Expanded	Decide whether to enable GS1 formatting for GS1 DataBar Expanded.	Disable
Composite CC- A/B	Decide whether to enable GS1 formatting for Composite CC-A/B	Disable
Composite CC-C	Decide whether to enable GS1 formatting for Composite CC-C.	Disable
Field Separator	Specify the field separator.	No
Application ID Mark	Specify the application ID mark character.	No

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Note: GS1-128 Emulation Mode is supported on 2D scan engine for 8200/8600/8700.

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## 2D SYMBOLOGIES

2D Engine	Description	Default						
<b>2D Symbologies</b>		---						
PDF417		Enable						
MicroPDF417		Enable						
Data Matrix		Enable						
Data Matrix Inverse	Decide whether to decode Data Matrix Inverse. <table border="1"> <tr> <td><b>Regular Only</b></td> </tr> <tr> <td>Decode regular Data Matrix barcodes only.</td> </tr> <tr> <td><b>Inverse Only</b></td> </tr> <tr> <td>Decode inverse Data Matrix barcodes only.</td> </tr> <tr> <td><b>Inverse Autodetect</b></td> </tr> <tr> <td>Decode both regular and inverse Data Matrix barcodes.</td> </tr> </table>	<b>Regular Only</b>	Decode regular Data Matrix barcodes only.	<b>Inverse Only</b>	Decode inverse Data Matrix barcodes only.	<b>Inverse Autodetect</b>	Decode both regular and inverse Data Matrix barcodes.	Regular Only
<b>Regular Only</b>								
Decode regular Data Matrix barcodes only.								
<b>Inverse Only</b>								
Decode inverse Data Matrix barcodes only.								
<b>Inverse Autodetect</b>								
Decode both regular and inverse Data Matrix barcodes.								
Mirror Image (for Data Matrix)	Decide whether to decode mirror image Data Matrix barcodes. <table border="1"> <tr> <td><b>Never</b></td> </tr> <tr> <td>Do not decode Data Matrix barcodes that are mirror images.</td> </tr> <tr> <td><b>Always</b></td> </tr> <tr> <td>Decode only Data Matrix barcodes that are mirror images.</td> </tr> <tr> <td><b>Auto</b></td> </tr> <tr> <td>Decode both mirrored and unmirrored Data Matrix barcodes.</td> </tr> </table>	<b>Never</b>	Do not decode Data Matrix barcodes that are mirror images.	<b>Always</b>	Decode only Data Matrix barcodes that are mirror images.	<b>Auto</b>	Decode both mirrored and unmirrored Data Matrix barcodes.	Never
<b>Never</b>								
Do not decode Data Matrix barcodes that are mirror images.								
<b>Always</b>								
Decode only Data Matrix barcodes that are mirror images.								
<b>Auto</b>								
Decode both mirrored and unmirrored Data Matrix barcodes.								
Maxicode		Enable						
QR Code		Enable						
QR Code Inverse	Decide whether to decode QR Code Inverse. <table border="1"> <tr> <td><b>Regular Only</b></td> </tr> <tr> <td>Decode regular QR Code only.</td> </tr> <tr> <td><b>Inverse Only</b></td> </tr> <tr> <td>Decode inverse QR Code only.</td> </tr> <tr> <td><b>Inverse Autodetect</b></td> </tr> <tr> <td>Decode both regular and inverse QR Code.</td> </tr> </table>	<b>Regular Only</b>	Decode regular QR Code only.	<b>Inverse Only</b>	Decode inverse QR Code only.	<b>Inverse Autodetect</b>	Decode both regular and inverse QR Code.	Regular Only
<b>Regular Only</b>								
Decode regular QR Code only.								
<b>Inverse Only</b>								
Decode inverse QR Code only.								
<b>Inverse Autodetect</b>								
Decode both regular and inverse QR Code.								

MicroQR		Enable						
Aztec		Enable						
Aztec Inverse	<p>Decide whether to decode Aztec Inverse.</p> <table border="1"> <tr> <td><b>Regular Only</b></td> </tr> <tr> <td>Decode regular Aztec barcodes only.</td> </tr> <tr> <td><b>Inverse Only</b></td> </tr> <tr> <td>Decode inverse Aztec barcodes only.</td> </tr> <tr> <td><b>Inverse Autodetect</b></td> </tr> <tr> <td>Decode both regular and inverse Aztec barcodes.</td> </tr> </table>	<b>Regular Only</b>	Decode regular Aztec barcodes only.	<b>Inverse Only</b>	Decode inverse Aztec barcodes only.	<b>Inverse Autodetect</b>	Decode both regular and inverse Aztec barcodes.	Regular Only
<b>Regular Only</b>								
Decode regular Aztec barcodes only.								
<b>Inverse Only</b>								
Decode inverse Aztec barcodes only.								
<b>Inverse Autodetect</b>								
Decode both regular and inverse Aztec barcodes.								

Note: Data Matrix Mirror, MicroQR, Aztec, and 2D Inverse are supported on 2D scan engine for 8200/8400/8600/8700.

<b>2D Symbologies - Macro PDF</b>		---						
Macro PDF is a special feature for concatenating multiple PDF barcodes into one file, known as Macro PDF417 or Macro MicroPDF417.								
Transmit/Decode Mode	<p>Decide how to handle Macro PDF decoding.</p> <table border="1"> <tr> <td><b>Buffer All Symbols / Transmit Macro PDF When Complete</b></td> </tr> <tr> <td>Transmit all decoded data from an entire Macro PDF sequence only when the entire sequence is scanned and decoded. If the decoded data exceeds the limit of 50 symbols, no transmission because the entire sequence was not scanned!</td> </tr> <tr> <td><b>Transmit Any Symbol in Set / No Particular Order</b></td> </tr> <tr> <td>Transmit data from each Macro PDF symbol as decoded, regardless of the sequence.</td> </tr> <tr> <td><b>Passthrough All Symbols</b></td> </tr> <tr> <td>Transmit and decode all Macro PDF symbols and perform no processing. In this mode, the host is responsible for detecting and parsing the Macro PDF sequences.</td> </tr> </table>	<b>Buffer All Symbols / Transmit Macro PDF When Complete</b>	Transmit all decoded data from an entire Macro PDF sequence only when the entire sequence is scanned and decoded. If the decoded data exceeds the limit of 50 symbols, no transmission because the entire sequence was not scanned!	<b>Transmit Any Symbol in Set / No Particular Order</b>	Transmit data from each Macro PDF symbol as decoded, regardless of the sequence.	<b>Passthrough All Symbols</b>	Transmit and decode all Macro PDF symbols and perform no processing. In this mode, the host is responsible for detecting and parsing the Macro PDF sequences.	Passthrough All Symbols
<b>Buffer All Symbols / Transmit Macro PDF When Complete</b>								
Transmit all decoded data from an entire Macro PDF sequence only when the entire sequence is scanned and decoded. If the decoded data exceeds the limit of 50 symbols, no transmission because the entire sequence was not scanned!								
<b>Transmit Any Symbol in Set / No Particular Order</b>								
Transmit data from each Macro PDF symbol as decoded, regardless of the sequence.								
<b>Passthrough All Symbols</b>								
Transmit and decode all Macro PDF symbols and perform no processing. In this mode, the host is responsible for detecting and parsing the Macro PDF sequences.								
ESC Characters	When enabled, it uses the backslash "\" as an Escape character for systems that can process transmissions containing special data sequences. It will format special data according to the Global Label Identifier (GLI) protocol, which only affects the data portion of a Macro PDF symbol transmission. The Control Header, if enabled, is always sent with GLI formatting.	None						

Note: When printing barcodes, keep each Macro PDF sequence separate, as each has a unique identifier. Do not mix barcodes from several Macro PDF sequences, even if they encode the same data. When you scan Macro PDF sequences, scan the entire Macro PDF sequence without interruption!

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