CipherLab
User Guide

FORGE Batch Application Generator

8000 / 8300 / 8500 Series
Mobile Computers

DOC Version 2.15

CIPHER LAB

RELEASE NOTES

Version	Date	Notes
2.15	Nov. 26, 2008	▶ Applied new GUI screen shots and modified the relative contents.
2.14	July 30, 2008	▶ Modified: sections 6.3 – add "Use Large Font for Data Browsing" for AG8000 and AG8300
		▶ Modified: Appendix II~III support replacement of EAN-128 field separator for all scan engines
2.13	Jun. 26, 2008	▶ Modified: section 1.6 Record – add "remove from lookup" and "save & remove" options
		▶ Modified: section 3.11 Action When the Input Data Has No Match – add "remove from lookup" and "save & remove" options
		▶ Modified: section 4.1.2 RFID Reader – Automatically enabled after initialization (checkbox removed from UI)
		▶ New: Long Range Laser option available for 8300
2.12	Nov. 06, 2007	▶ Modified: section 4.1.2 RFID Reader – RFID tags in proximity will be read automatically by 8300/8500 when RFID reader is enabled
2.11	Oct. 18, 2007	▶ Modified: Features
2.10	Sep. 19, 2007	New Word template applied
2.07	June 20, 2006	▶ Company name changed to CIPHERLAB CO., LTD. since April 2006
		▶ Modified: section 5.3 Barcode & Parameters
2.06	Apr. 14, 2006	▶ Modified: section 1.2.2 – Font_12x12 not supported
		▶ Modified: sections 5.1 & 5.2.6
		▶ Modified: sections 6.2, 6.4 & 6.5
2.05	Apr. 10, 2006	AG for CPT-8500 is included

CONTENTS

INTRODUCTION

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

FORGE 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 Application Generator presents itself as a miniature image of the mobile computer. It simulates the program's running sequences on the actual mobile computer, and therefore, allows you to design a new application on screen in minutes. After having configured and saved your template, download the application template file and lookup file(s) to the mobile computer. When running the AG runtime on the mobile computer, data collection can commence immediately by making use of the template downloaded.

This manual serves to provide comprehensive understanding of FORGE Application Generator for 8000/8300/8500 Series Mobile Computers, and helps define custom template for a specific application. We recommend that you read the document thoroughly before use and keep it at hand for quick reference.

Thank you for choosing CipherLab products!

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
- ▶ Integrated interface for downloading lookup files and uploading data

INSTALLING FROM THE POWER SUITE CD-ROM

Data collection mainly consists of three elements: input (scanning or key-in), data processing, and output (or updating database). FORGE Application Generator for 8000/8300/8500 Series Mobile Computers is specifically designed to deal with the sequences of data processing inside the mobile computers.

1) Install FORGE Application Generator for 8000/8300/8500 Series Mobile Computers from the Power Suite CD-ROM.

    If you did not change to install to a different folder, it will install the application to the default directory "C:\CipherLab\Forge\Batch\".

    ▸ Shortcuts to the AG programs are created and placed in **Start > Programs > CipherLab > Forge > Batch > Application Generator** (see table 1 below).

    ▸ Shortcuts to the AG utilities are created and placed in **Start > Programs > CipherLab > Forge > Batch > Utility** (see table 2 below).

2) Download the AG runtime program (U8*.SHX) and desired font file (.SHX) to the mobile computer via the "Program Load" utility accessible in **Start > Programs > CipherLab > Forge > Batch > Utility** (see table 2 below).

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

Table 1

Shortcut Name of AG Program	AG Program	Applied to
8 Series Batch AG	ForgeAG.exe	8000, 8001, 8020, 8021, 8300, 8500

Table 2

Shortcut Name of Utility	Program	Applied to
AG Load	AG_Load.exe	8000, 8001, 8020, 8021, 8300, 8500
Download Lookup	DLookup.exe	8000, 8001, 8020, 8021, 8300, 8500
Data Read	Data_Read.exe	8000, 8001, 8020, 8021, 8300, 8500
Program Load	ProgLoad.exe	8000, 8001, 8020, 8021, 8300, 8500
MobileLink	MobileLink.exe	8000, 8001, 8020, 8021, 8300, 8500

Note: You may use the Batch AG program and runtime with any wireless mobile computer if wireless connectivity is not desired. Especially, when you use a Bluetooth mobile computer, say 8061, 8330 or 8360, you will be able to choose Bluetooth SPP for download and upload.

GETTING STARTED

1) Run the ForgeAG program (*Forge*AG.exe) on your computer. The ForgeAG UI Frame pops up and the Command Menu appears as shown below.
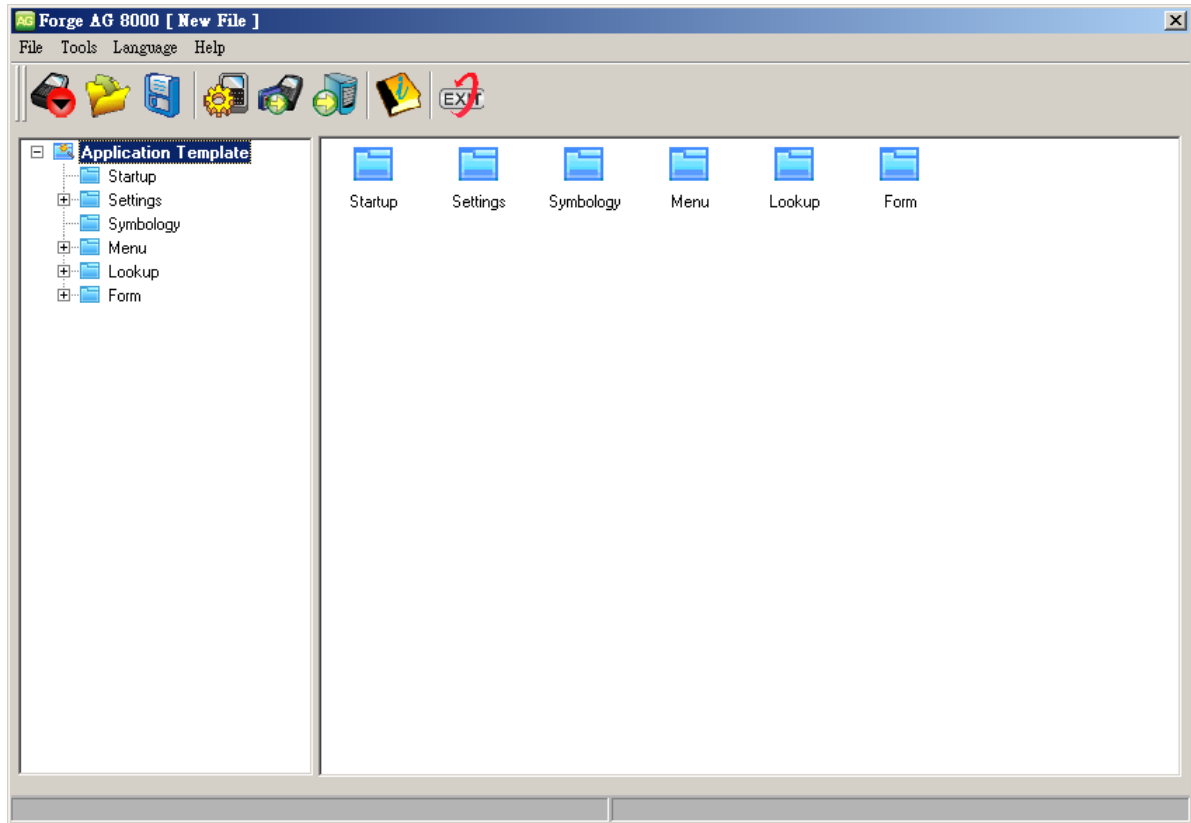
Design Application Template

2) Click [Startup] to start with a new or the latest application template.
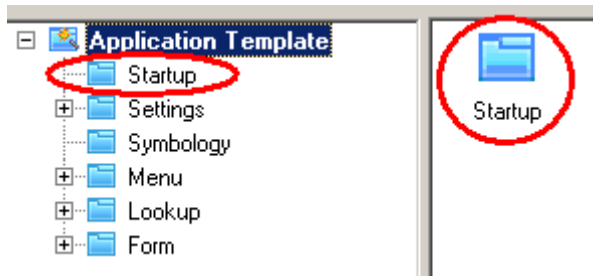
3) Upon completion, click [File > Save] or [File > Save As] to save the current editing template to file (*.AGX for 8000/8300/ 8500) and close the editing window.
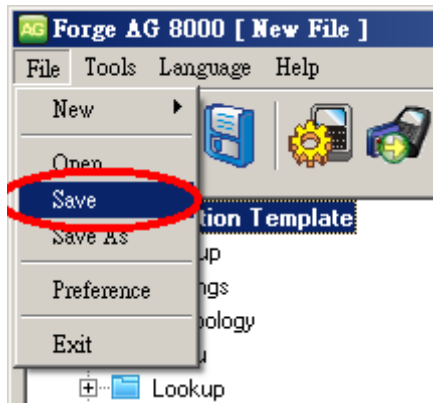
Note: For initial downloading of the application template, you must manually configure the download settings on the mobile computer. Then, the upload and download settings on the mobile computer will be overwritten by the settings of the application template after downloading.

4) Establish a proper connection between your mobile computer and the server.

Download Application Template File

5) Click [Tools > Send Application] to download the template file (*.AGX) to the mobile computer.

On the mobile computer, select [3. Utilities] > [6. Load Application] to download the template file. After downloading, the main menu is displayed.

Warning: In the application template file, the upload and download settings for the mobile computer and PC side must match.

Download Lookup Files

6) If any lookup file is specified in use in the template file, you must download the lookup file(s). Refer to section 1.4 Lookup (File) and 3 Lookup.

Click [Tools > Send Lookup] to download up to three lookup files for use. Alternatively, you may use the "DLookup.exe" utility to download text files for reference purpose.

On the mobile computer, select [3. Utilities] > [8. Load Lookup File] to download the associated lookup file(s). After downloading, the main menu is displayed.

Collect Data

7) On the mobile computer, select [1. Collect Data] to start with the data collection task.

Upload Data

8) Click [Tools > Get File via Direct-Link] or [Tools > Get File via Net] to receive the collected data (.txt) from to the mobile computer.

On the mobile computer, select [2. Upload Data] to send the collected data back to the server.

▸ Data file(s)

‣ Lookup file(s), if any in use

‣ All (one by one)

‣ All (append), that is, all-in-one

Refer to section 1.2.3 Record and 3.3.2 Lookup Data Can Be Uploaded.

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

Manipulate Data

9) On the mobile computer, select the following submenus if you want to edit the collected data –

[3. Utilities] > [2. Browse Data]

[3. Utilities] > [3. Delete Data] (Refer to section 5.1.1 Data Deletion.)

COMMAND BAR

The Command Bar offers the following commands.
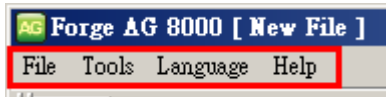
Category	Command	Action…
File	*New*	To create a new application template.
	Open	To open an existing application template. File path needs to be specified.
	Save	To save the current editing template.
	Save As	To save the current editing template to a new file.
	Preference	To configure the software settings.
	Recent File List	To quick launch the recently opened template file.
	Exit	To close the Application Generator.
Tools	*Send Program*	To configure the COM port and language settings.
	Send Application	To download the current application template to the mobile computer.
	Send Lookup	To download associated lookup file(s) to the mobile computer.
	Get File via Direct-Link	To receive data from the mobile computer.
	Get File via Net	To receive data from the Net.
	Simulator	To launch the simulator.
Language		To select a preferred language for the program GUI.
Help	*About Forge AG*	To show information about the Application Generator.

PREFERENCES
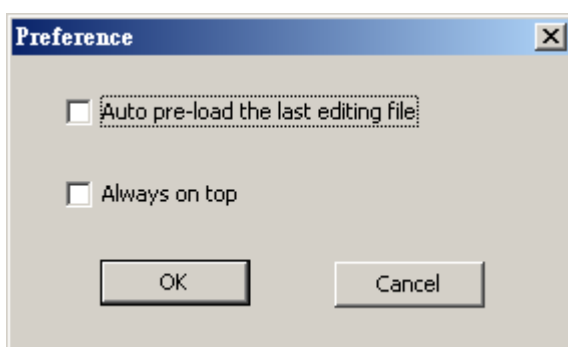
▶ Auto pre-load the last editing file.

You may select the check box so that the last editing file will be loaded upon running the AG program (*ForgeAG.exe*).

▶ Always on top.

You may select the check box so that the AG program (*ForgeAG.exe*) always remains on top of all other windows on the desktop.

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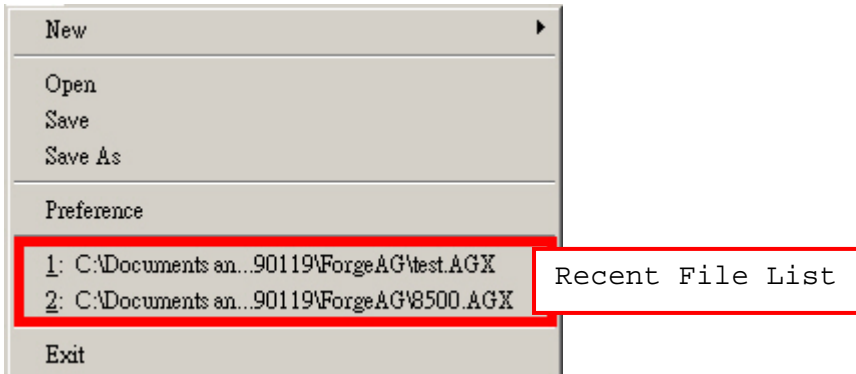
If you ever saved a template, it will be displayed in the Command Menu as well. Up to 4 recent template files are listed for quick access.

▶ 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.

LANGUAGE

If there is any language file (*.lng) saved in the language folder where the AG program is saved, language options will become available. You will be able to select a preferred language for the GUI of the program. Refer to Localization.

TOOLBAR MENU

The toolbar menu offers most of the functions listed in the command bar. Click the Icon on the toolbar for a quick launch.
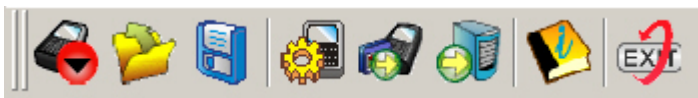
Icons	Command	Description
	New	▶ To create a new application template.
	Open	▶ To open an existing application template. File path needs to be specified.
	Save	▶ To save the current editing template.
	Send Application	▶ To download the current application template to the mobile computer.
	Send Lookup	▶ To download associated lookup file(s) to the mobile computer.
	Get File via Direct-Link	▶ To receive data from the mobile computer.
	About Forge AG	▶ To show information about the Application Generator.
	Exit	▶ To close the Application Generator.

APPLICATION TEMPLATE

To work on a new or existing application template, click the New or Open command.

An application template is composed of six tabs; each is a property page for custom configurations.
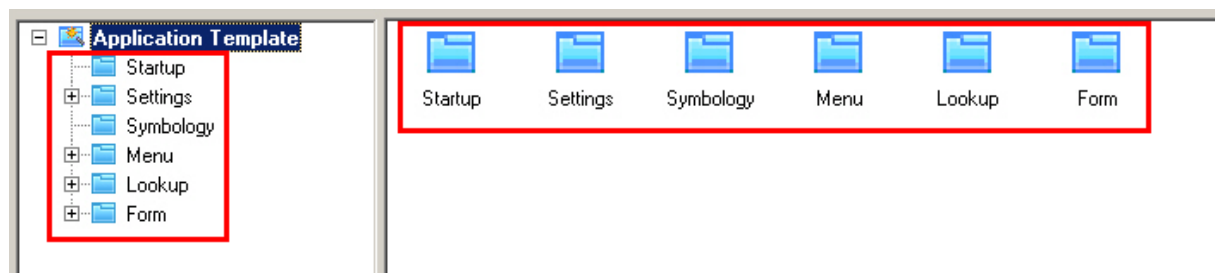
Property Pages

Startup	You may configure program sequences and customize user interface on the mobile computer.
Settings	You may configure system settings so that they will take effect when initialization is done on the mobile computer.
Symbology	You may configure symbologies and barcode parameters.
Menu	Menus are used to provide multi-level options, which may be placed under the main menu, e.g. [1. Collect Data] > Menu 1 > (Menu 2) > Form 1.
Lookup	Data of forms may make reference to one or up to 3 lookup files. You need to specify the data format of a lookup file.
Form	Forms are used to show information and allow for data input, which may be placed under a user menu, e.g. [1. Collect Data] > (Menu 1) > Form 1.

Warning:	On the Symbology tab, you must select the correct barcode reader in the initial setting page 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!

PROGRAM SIMULATION

When you have completed the entire configuration, download the application template file (.AGX) to the mobile computer.

COLLECT DATA
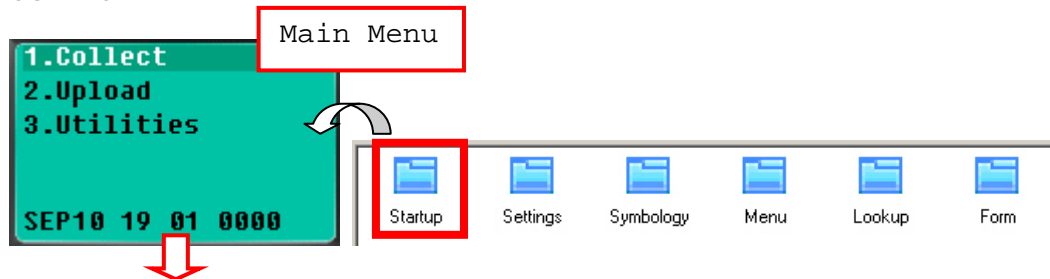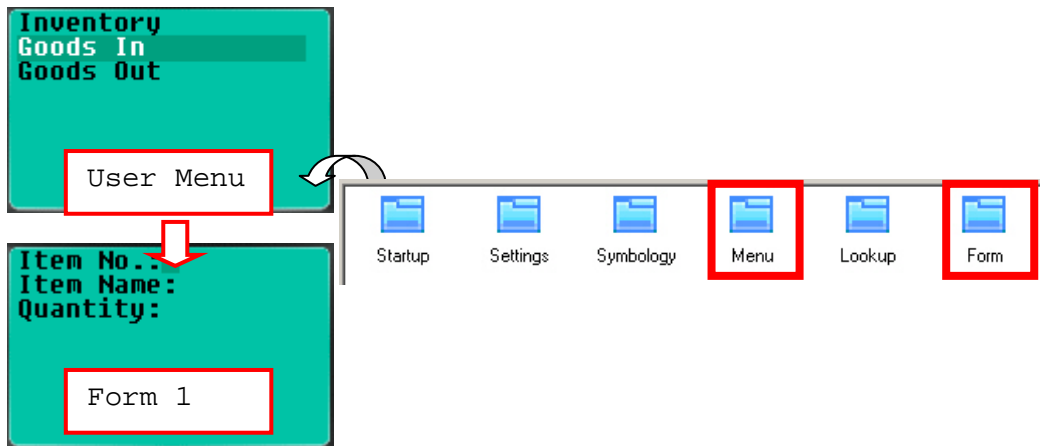
UPLOAD DATA

No simulation.

▸ Refer to section 1.2.3 Record and 3.3.2 Lookup Data Can Be Uploaded. Normally, it will proceed to connect via the selected upload port.

▸ Refer to section 5.1.1 Data Deletion for data manipulation.
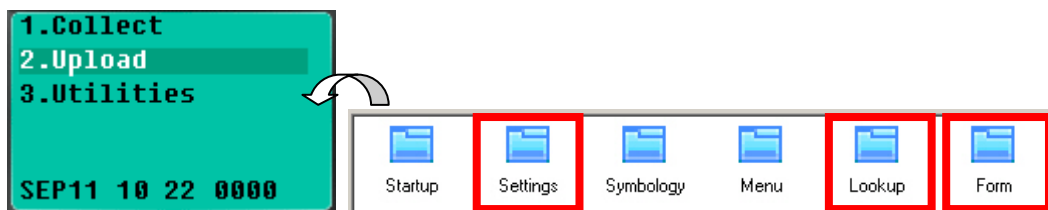
UTILITIES

▸ In the application template file, the upload and download settings for the mobile computer and PC side must match. Refer to the Command Bar: [Tools > Send Application] for the property page.
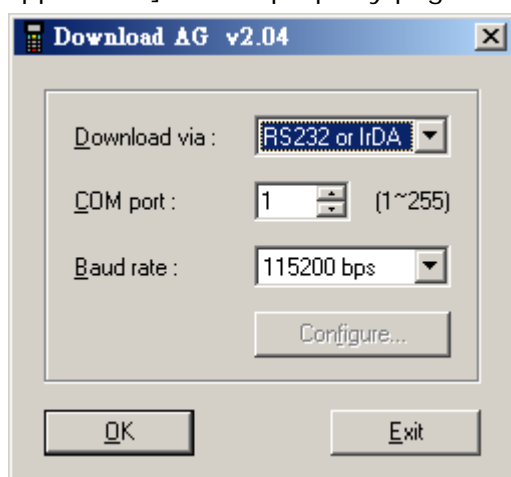
▶ If a lookup file is specified in use on the Lookup property page, [3. Utilities] > [8. Calculator] will be replaced by [3. Utilities] > [8. Load Lookup File] after you download the template file to the mobile computer.
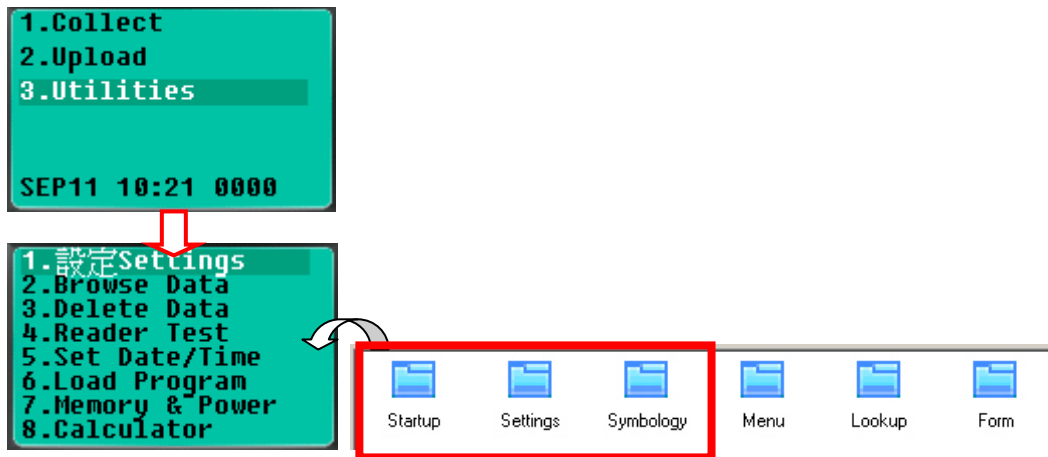
LOCALIZATION

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

1) Download the 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.

2) Save the original language file (.lng) of the AG program as a new file - translate the text of the user interface from English to another language.

3) Click [Language] from the Command Menu and select this new .lng file for the current language.

4) Re-define the template prompts and messages on the Startup property page of the application template.

   ▶ Apply large font on the Form and Menu property pages for double-byte languages such as Japanese, Chinese, etc., so that their contents will be displayed properly on the actual screen. However, the rest of prompts and messages can only be displayed in alphanumeric characters in the current system.

5) Click [Send Application] to download the template file (.AGX) to the mobile computer.

6) Turn on the mobile computer to run the AG runtime program, U8*.SHX.

   Select [3. Utilities] > [6. Load Application] to download the template file.

FORM

A form is a data collection template with input prompts. Data will be kept as a transaction record after the user completes all the input fields (lines) of a form. Then, it can be saved in a transaction file, added to its lookup database, or directly output to a printer, etc.

▸ Each form allows at most eight input fields (8 lines).

▸ Ten different forms can be defined.

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

IN THIS CHAPTER

1.1 TO DENOMINATE A FORM

Select a name for the form you work on. Usually start with "form 1".

▶ form 1 ~ 10

1.2 PROPERTIES

1.2.1 ESC

Select a form or menu that will be displayed when you press the [ESC] key on the mobile computer. For settings of user menus, refer to the Menu property page.

▶ Main Menu

▶ form 1 ~ 10

▶ menu 1 ~ 10

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

1.2.2 NEXT

Select a form or menu that will be displayed when the last input field of the current form has been completed. For settings of user menus, refer to the Menu property page.

▶ Main Menu

▶ form 1 ~ 10

▶ menu 1 ~ 10

This function is invoked by sending the key value of [Enter] when you finish with the last input field. And, the setting of section 1.10 Input Type decides the way to produce the key value of [Enter].

Input Source of the last line	Operation
Reader	In section 1.14 More, Auto ENTER for barcode input must be configured as "Scan + ENTER".
Keypad	Press the [Enter] key on the 8000/8300/8500 Series mobile computer.
Both	See the two options above.
RFID	Press the [Enter] key on the 8300/8500 Series mobile computer.
All	See all the options above.

1.2.3 RECORD

Select which action to take as soon as the input fields of a form have been completed.

Options	Action…
Save	To save the record to a sequential data file.
Update lookup	To update the lookup file associated with the form.
Save & update	To save the record to a sequential data file, and update the lookup file.
Pass down	To pass down data to the next form or menu without saving.
Output record	To output the record directly to a printer through COM port instead of saving it to a file.
Output screen	Similar to "output record". To output what is displayed on the screen, such as the prompts and data collected.
Save & output record	To save the record to a sequential data file and output it directly to a printer through COM port.
Save & output screen	To save the record to a sequential data file and output what is displayed on the screen to a printer through COM port.
Remove from lookup	To remove the record from the lookup file.
Save & remove	To save the record to a sequential data file and remove it from the lookup file.

Note: Instead of saving all the collected data to a data file, you may select to save the collected data for each form to separate data files on the Menu property page.

Based on the selected option of **Record** and section 3.3.2 Lookup Data Can Be Uploaded, you can upload data file(s) or lookup file(s), or both files ("All, one by one"), or even merge them to a new file ("All, append").

Note: The uploaded file is a sequential file.

▶ Data file:

This is available only when you have selected "save", "Save & update", "Save & output record", "Save & output screen", or "Save & remove" for **Record**.

▶ Lookup file:

This is available only when you have specified a lookup file in use and allowed it to be uploaded.

On the mobile computer, select [2. Upload Data] after you have completed the data collection task and establish a proper connection with the server.

Warning: If you have selected "output record" or "output screen" for Record, [2. Upload Data] on the mobile computer will become unavailable.

1.3 FONT SIZE

Large font (8x16) must be applied for double-byte languages, such as Chinese, Japanese, etc. On the Form and Menu property pages, font size needs to be changed accordingly. Refer to Localization.

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
8500 Series	N/A	20 characters by 9 lines

Note: This setting is not available for 8500 Series because it must use large font.

1.4 LOOKUP (FILE)

A lookup file is a database. Select whether or not a lookup file is associated with the form.

If a lookup file is used, its data format must be defined on the Lookup property page, especially the member length and number of fields.

On this property page, some related settings must be configured.

▶ section 1.8 Data Type
▶ section 1.4 Lookup (File)

Note: The associated lookup file(s) must be downloaded to the mobile computer.

1.5 DATE & TIME STAMP

This feature actually includes Date and Time stamp. It may be helpful in analyzing data when the date and time information is joined in each record.

▶ Stamp Position

You can select whether or not to enable the stamp function and include the date/time information, either to the beginning or to the end of a record.

▶ Date & Time Format

Select the format of the Date and Time stamps. To stop the use of either stamp, clear all the associated settings.

1.6 BRANCH

Normally, a form is to be followed by either another form or menu. This feature is provided when a form is designed to lead to more than one other form. Also, it allows the linking to another form, which may jump over a number of forms or menus. Up to four branches are provided through the use of function keys.

Take the following illustration for example.
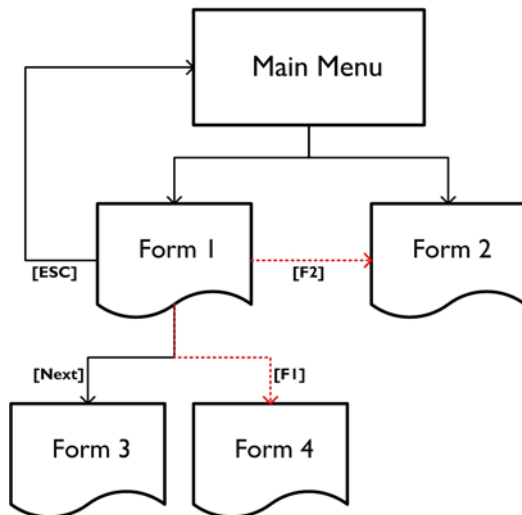
Note: Data cannot be passed down through branches.

1.7 RESET CURRENT FORM

Press this button to reset current form to default.

1.8 DATA TYPE

Specify the data type line by line to address your application requirements.

The associated settings for each data type are marked in the table below.

Data Type	Prompt		Input Source	Length	Lookup	Properties
	on-screen	*saved in record*		*Min / Max*	*Field*	*More…*
nil						
text	✓		✓	✓	✓	✓
letter	✓		✓	✓	✓	✓
alphanumeric	✓		✓	✓	✓	✓
integer	✓		✓	✓	✓	✓
real	✓		✓	✓	✓	✓
auto (+/-)	✓		✓	✓	✓	✓
extension						
pass down	✓					
boolean	✓		✓		✓	✓
lookup	✓	User-definable			✓	✓
fixed data	✓	✓				✓
prompt	✓					
pause	✓					
counter	✓					

1.8.1 NIL

No data input is allowed.

▶ This is the default setting. There will be single line spacing on the mobile computer screen.

1.8.2 TEXT

ASCII character — any character is acceptable. For example, `$1a2b3c=-*/…`

1.8.3 LETTER

Alphabetic character — any letter is acceptable, capital or small (`Aa ~ Zz`).

1.8.4 ALPHAMERIC

A combination choice of **alphabetic** (1.9.3) and **numeric** (1.9.5); any alphabet or number is acceptable. For example, `ABC123xyz`

1.8.5 INTEGER

Whole number - any number is acceptable, such as … `-2, -1, 0, 1, 2` …

1.8.6 REAL

Read number — any number with a decimal representation is acceptable, rational or irrational. For example, `4.56`

▶ When **integer** or **real** is selected along with lookup field specified, the lookup value will be first displayed in the input field on the mobile computer screen. Then, data input is allowed.

Lookup (field)	If you select "Save & Update" for Record…
Field 1 ~ 8	The input value will overwrite the lookup value. No arithmetic operations are performed.
+Field 1 ~ 8	It will automatically add the input value to the lookup value.
- Field 1 ~ 8	It will automatically subtract the input value to the lookup value.

```
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.

1.8.7 AUTO (+/-)

This is similar to data type **integer**, except that the lookup value is displayed before the input field. There may be an arithmetic sign (+, -) in front of the input field, which depends on the setting of the lookup field.

```
Product Code:9950

Description:Coke

Bin:A1B01

Quantity:1000  ■
```

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:1000 +■
```

Lookup field : +field

If input value is 5,
the value saved in transaction record is 5,
and the value saved to lookup file is 1005.

```
Product Code:9950

Description:Coke

Bin:A1B01

Quantity:1000 -■
```

Lookup field : -field

If input value is 5,
the value saved in transaction record is 5,
and the value saved to lookup file is 995.

1.8.8 EXTENSION

No data input is allowed.

▶ The line needs to be reserved as an "extension" of the previous line so that 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.
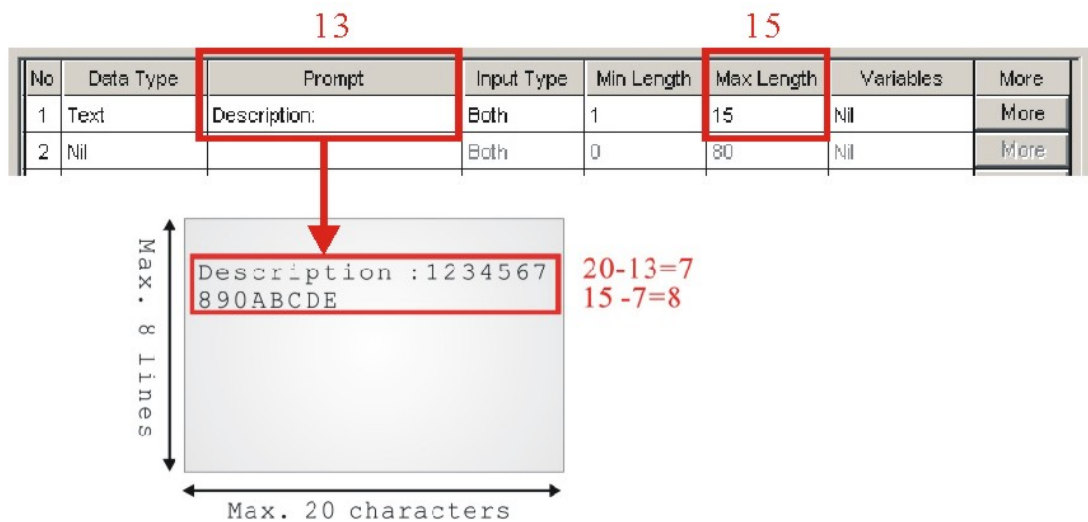
1.8.9 PASS DOWN

No data input is allowed.

▶ Data of this line may be imported from a previous form, of which the setting of **Record** is specified as "pass down". When one line is not enough for displaying the inherited contents, set its following line(s) to be an "extension". Or, it may be imported from a menu, of which the setting of **Data** is specified as "pass down".

Note: This data type is used to combine a number of forms so that they can be saved as one record.

1.8.10 BOOLEAN

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

▶ 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!"

1.8.11 LOOKUP

No data input is allowed.

▶ 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. By default, the imported data will not be saved in the transaction record. In section 1.14 More as shown below, you may select **Save field data**.

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

1.8.12 FIXED DATA

No data input is allowed.

▶ The prompt string will be saved as part of the transaction record.

1.8.13 PROMPT

No data input is allowed.

▶ The prompt string will not be saved.

1.8.14 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.

1.8.15 COUNTER

No data input is allowed.

▶ The current record count will be displayed in five digits, starting from 00000. Refer to section 5.1.1 Entry Options.

Note: When the main menu appears, the record count will be displayed on the bottom of the screen (next to date and time).

1.9 PROMPT

Specify a prompt string for a specific input field, if necessary.

Note: Unless data type of a line is "fixed data", a prompt string will not be saved in a transaction record.

1.10 INPUT TYPE

Specify from which source data can be collected.

▶ Reader
▶ Keypad
▶ Both
▶ RFID   (only applicable to 8300, 8500 Series)
▶ All   (only applicable to 8300, 8500 Series)

Upon completion of one input field, it is necessary to press the [Enter] key on the mobile computer. Then, it 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 in section 1.14 More.

Note: When "RFID" is selected, you may still press the [ESC] or [Enter] key to cancel or confirm a task. The rest keys on the keypad are disabled.

1.11 MINIMUM LENGTH

Specify the minimum length of an input field.

▸ If the input data is shorter than specified, it will be considered unacceptable. A warning message will be displayed to indicate "Data is too short!"

1.12 MAXIMUM LENGTH

Specify the maximum length of an input field. The value can be 80 at most.

You can facilitate data input by showing input marks on the screen. In section 1.14 More, select **Show input mark**. The number of input marks equals to the maximum length specified here.

▸ If the input data is longer than specified, it will be considered unacceptable.

1.12.1 INPUT VIA BARCODE/RFID READER

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

1.12.2 INPUT VIA KEYPAD

For data input from the keypad, it will be allowed even though data has become 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.

No	Data Type	Prompt	Input Type	Min Length	Max Length	Variables	More
1	Text	Description:	Both	1	10	Nil	More
2	Nil		Both	0	80	Nil	More
3	Text	Description:	Both	1	10	Nil	More
4	Extension		Both	0	80	Nil	More
5	Text	Description:	Both	1	15	Nil	More
6	Extension		Both	0	80	Nil	More
7	Text	Description:	Both	1	30	Nil	More
8	Nil		Both	0	80	Nil	More

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

1.13 VARIABLES

If there is no lookup file in use, this feature will be **Variables**. Refer to section 1.4 Lookup (File).

1.13.1 LOOKUP (FIELD)

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.

▶ For those data types other than **integer**, **real**, and **auto (+/-)**, see left below.
▶ For data types **integer**, **real**, and **auto (+/-)**, see right below.

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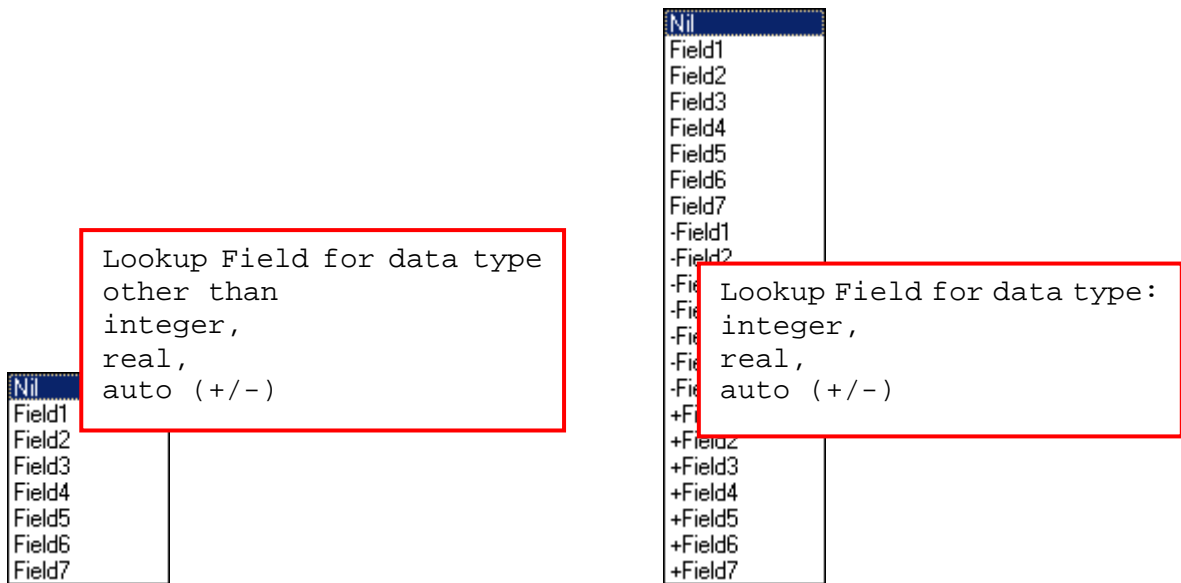
1.13.2 VARIABLES

If there is no lookup file in use, it will provide variables, which can be accessed by different forms.

For example,

▸ Select **set v1** for input field #1 of form 1, and its input data will be saved in the first character array.

▸ Select **get v1** for input field #3 of form 2, and the previous input data will be imported.

▸ Select **get&set v1** for input field #3 of form 2, the previous input data will be imported and then updated.

1.14 MORE

Specify field properties if necessary.

1.14.1 FIELD DATA

FIXED DATA LENGTH

Select the check box. The data length will be fixed to the value specified here.

▸ If the input data is longer, it will be truncated.

▶ If the input data is shorter, "Space" or "0" will be added in front of or to the end of the data based on either "Left" or "Right" alignment.

Below are some examples.

Fixed data length	Alignment	Input data	Transaction record
4	Left aligned / space	123456789	1234,
4	Right aligned / space	123456789	6789,
10	Left aligned / 0	7654321	7654321000
10	Right aligned / 0	7654321	0007654321

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. Click the editing box next to it, and select one or more codes from the Grid Control (ASCII 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. Click the editing box next to it, and select one or more codes from the Grid Control (ASCII codes).

Instead of using delimiters in section 6.3 Data Field Properties, 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.

SHOW INPUT MARK

Select the check box to show input marks, such as underline (_) or asterisk (*), which is to be replaced by input data.

The number of input marks shown on the screen equals to the maximum length of data specified in section 1.12 Maximum Length.

DECIMAL PLACES

A decimal place is the position of a digit to the right of a decimal point. When the data type is **real**, you may need to specify its decimal places.

▸ By default, it is set **variable** to accept all real numbers.

For example, **4** is selected for decimal places, however, there are only 2 decimal places in the input number, say "8.12". To follow this rule, the system will save the input data as "8.1200". If the input number is "8.12345", it will be saved as "8.1234".

1.14.2 BARCODE INPUT

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)

CHECK DIGIT VERIFICATION

The check digit refers to the digit in the end of a barcode, as a one-digit derived checksum digit. Select the check box to verify the barcode input. You may apply different modulus 10 or 11 check digit as provided in the drop-down menu. When the check digit is not matching, the barcode will be rejected.

```
MOD 10  Double-Add-Double (next high)
MOD 10  Add-Double-Add (next high)
MOD 10  Triple-Add-Triple (next high)
MOD 11  Repeat Arithmetic (next high)
MOD 10  Double-Add-Double (next low)
MOD 10  Add-Double-Add (next low)
MOD 10  Triple-Add-Triple (next low)
MOD 11  Repeat Arithmetic (next low)
```
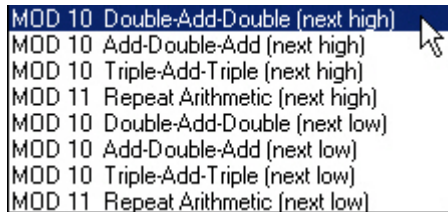
AUTO ENTER

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 in front of or to the end of the barcode input.

▸ For barcode scanning, it proves to be timesaving when **Scan+ENTER** is enabled.

▸ For a typical application of continuous scanning, it is efficient by making use of **ENTER+Scan**.

MENU

A menu is a list of selection items. Up to ten different menus can be defined.

Below are the settings for each field of a menu.
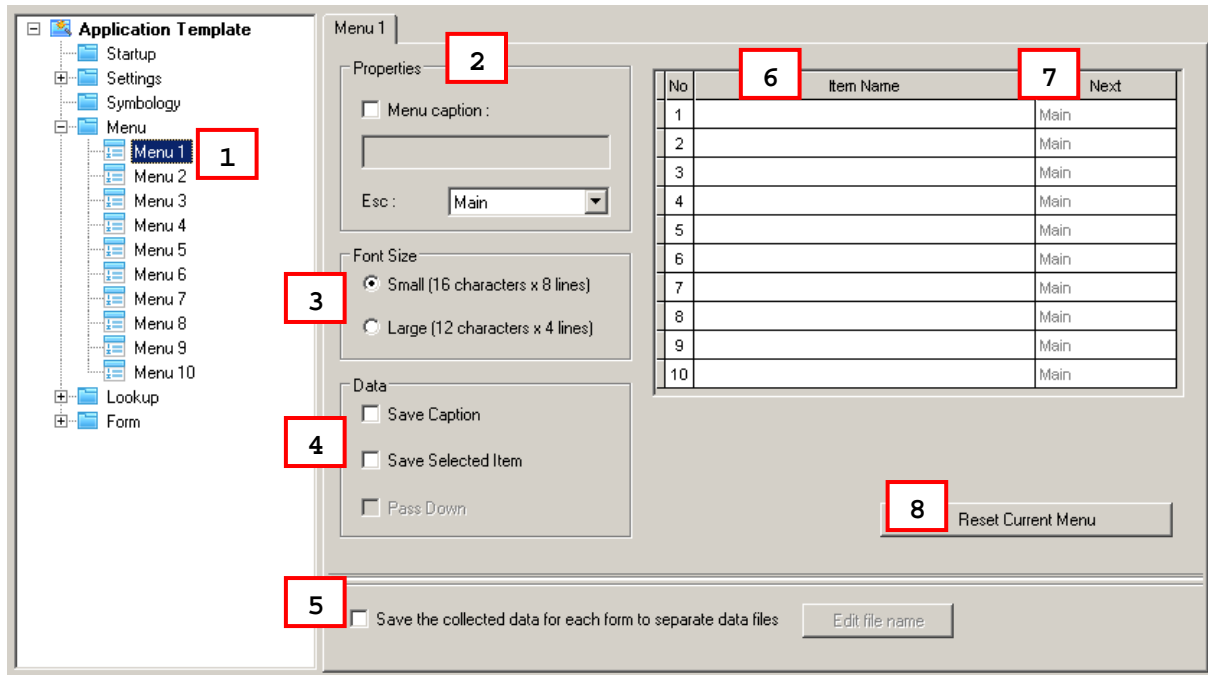
IN THIS CHAPTER

2.1 TO DENOMINATE THE MENU

Select a name for the current menu you work on. Usually start with "menu 1".

▶ menu 1 ~ 10

2.2 PROPERTIES

2.2.1 MENU CAPTION

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

2.2.2 ESC

Select a form or menu that will be displayed when you press the [ESC] key on the mobile computer.

- ▶ Main Menu
- ▶ form 1 ~ 10
- ▶ menu 1 ~ 10

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

2.3 FONT SIZE

Large font (8x16) must be applied for double-byte languages, such as Chinese, Japanese, etc. On the Form and Menu property pages, font size needs to be changed accordingly.

Refer to Localization and section 1.3 Font Size.

2.4 DATA

Specify how to proceed when a menu item has been selected.

2.4.1 SAVE CAPTION

Save the menu caption to the transaction record if this menu is running.

2.4.2 SAVE SELECTED ITEM

Save the selected menu item to the transaction record if this menu applies.

2.4.3 PASS DOWN

If you have selected to save any of the above items, decide whether or not to pass it to the next menu or form. (No menu caption or item saved to the transaction record.)

- ▶ Save caption & pass down
- ▶ Save selected item & pass down
- ▶ Save both & pass down

Note: The selected option(s) will be passed down to an associated form or menu.

2.5 SAVE THE COLLECTED DATA FOR EACH FORM TO SEPARATE FILES

When a menu leads to more than one form, you may select the check box to save the data collected from each form to individual files.

The check box of "Pass down" for **Data** will automatically be selected. That is, the menu caption or selected item name will be saved together with separate forms if you have selected the check box for each.

2.6 ITEM NAME

Specify a name for each menu item. It allows up to ten menu items.

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.

2.7 NEXT

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

‣ Main Menu
‣ form 1 ~ 10
‣ menu 1 ~ 10

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].

2.8 RESET CURRENT MENU

Click this button to load the default settings.

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

LOOKUP

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

If settings on this property page are specified improperly, it may go wrong when an input field makes reference to its corresponding lookup field.

If the default settings remain unchanged for the following items in the AG template file that has been downloaded to your mobile computer, [3. Utilities] > [8. Load Lookup File] will be unavailable.

▶ section 1.4 Lookup (File)
▶ section 3 Lookup

Other related settings:

▶ section 1.8.11 Lookup (Data Type)
▶ section 1.13.1 Lookup (Field)

IN THIS CHAPTER

3.1 TO DENOMINATE A LOOKUP FILE

Select a lookup file you want to define its settings. Up to 3 different lookup files can be specified. Usually start with the "1st lookup file".

3.2 FIELD PROPERTY

Specify the settings of data field of the database (lookup file).

3.2.1 NUMBER OF FIELDS

It must at least cover the referred fields of the database (lookup file).

Refer to section 1.13.1 Lookup (Field).

3.2.2 FIXED LENGTH

This is the default setting. Proceed to define related settings -

- ▶ Member length
- ▶ Number of fields
- ▶ Field Name (if there is)
- ▶ Offset
- ▶ Length

3.2.3 DELIMITER

You may use a delimiter (ASCII code) to separate the data fields. Proceed to define related settings -

- ▶ Number of fields
- ▶ Field Name (if there is)
- ▶ Max. Length

If the maximum length of each field is set improperly, you will receive a warning message during downloading. You may fail to download the lookup file, depending on the action specified when the data format is wrong.

Refer to the settings of section 3.8 Action When the Format of Record Is Wrong.

3.3 LOOKUP DATA

3.3.1 ONLY READ DATA ONCE

Select the check box to compare data of an input field and the key field of the lookup file it refers to.

If this function is enabled, **Insert to lookup file** will be automatically set in section 3.4 Action When the Input Data Has No Match, and you may change it to **Show Warning Message & Insert**.

▶ When the data is found matching (i.e. data already exist), this record will be rejected.
▶ When the data is found no matching (i.e. new data), it will be inserted to the lookup file.

3.3.2 LOOKUP DATA CAN BE UPLOADED

This is the default setting. The lookup data can be uploaded from the mobile computer to your computer. On the mobile computer, select [2. Upload Data] after you have completed the data collection task and establish a proper connection with the server.

Refer to section 1.2.3 Record.

3.4 ACTION WHEN THE INPUT DATA HAS NO MATCH

Choose the appropriate action to take when the input data does not match that of the "key field".

3.4.1 CONTINUE

The program will allow data input to proceed without showing any message.

▶ Data can only be saved in a data file if you have selected "Save", "Save & update", "Save & output record", "Save & output screen" or "Save & remove" in section 1.2.3 Record.

3.4.2 SHOW WARNING MESSAGE

The program will suspend and a warning message "Data not found!" is displayed on the mobile computer.

▶ You will need to clear the input data manually (that is, 9990, in the example below).
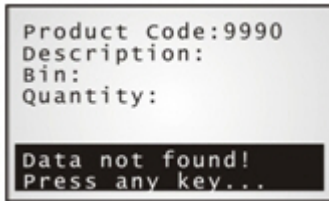
3.4.3 INSERT TO LOOKUP FILE

The program will allow data input to proceed without showing any message.

▸ Data will be inserted to the target lookup file if you have selected "Update lookup", "Save & update", "Remove from lookup", or "Save & remove" in section 1.2.3 Record.

3.4.4 SHOW WARNING MESSAGE & INSERT

The program will suspend and a warning message "Data not found!" is displayed on the mobile computer. Then, it will resume to data input. Data will be inserted to the target lookup file if you have selected "Update lookup", "Save & update", "Remove from lookup", or "Save & remove" in section 1.2.3 Record.

3.4.5 CLEAR THE SCREEN

The program will automatically clear the input data and wait for new entry.

3.4.6 SHOW WARNING & CLEAR SCREEN

The program will suspend and a warning message "Data not found!" is displayed on the mobile computer. Then, it will automatically clear the input data and wait for new entry.
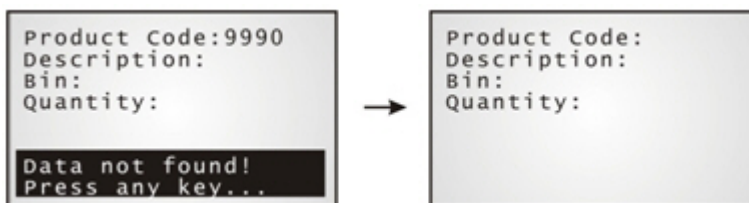
3.5 OFFSET

This applies to **Fixed Length**. Specify the start position for each referred data field.

3.6 (MAX) LENGTH

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

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

Note: If a delimiter is used to separate data fields, any improper value would cause wrong data format.

3.7 KEY FIELD

The import of data depends on the key field. Select your key field so that 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 its input data is found matching with that of the key field, data of other input fields, if referring to a lookup field, will be imported accordingly.

If no matching, see section 3.4 Action When the Input Data Has No Match.

Note: If offset and length of each field are specified improperly, it may go wrong with data import.

3.8 ACTION WHEN THE FORMAT OF RECORD IS WRONG

This applies to **Delimiter**, when a delimiter is used to separate data fields of the lookup file. It provides several options to handle wrong data format when you download the lookup file to the mobile computer.

3.8.1 STOP THE DOWNLOAD PROCESS

When wrong data format is encountered, a warning message will be displayed on the mobile computer to indicate which line is found format mismatching. The downloading process is stopped then. You will need to correct the data format, for example, remove an empty record (line) at the end of a file. Then, download the lookup file again.


```
Format mismatch!!
====================
The first error was
at the line 6.
Please check lookup
data and reload.
Press any key...
```

The preceding records (line 1~5 for example) can still be downloaded.

3.8.2 TRUNCATE / REFORMAT THE RECORD

When wrong data format is encountered, a warning message will be displayed on the mobile computer to indicate the mismatching part has been fixed, being automatically truncated or reformatted during downloading.

For example, the additional fields of a record will be left out. However, you may need to reload the lookup file after the data format has been corrected.
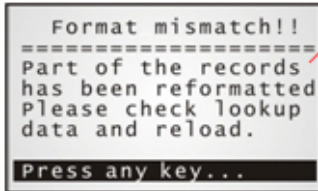
The downloading of lookup file will be completed with a successful fix to the mismatching line(s).

3.8.3 SKIP THE RECORD

When wrong data format is encountered, a warning message will be displayed on the mobile computer to indicate the mismatching part has been discarded. You may need to reload the lookup file after the data format has been corrected.
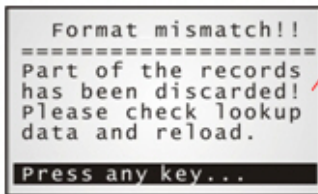
The downloading of lookup file will be completed without the mismatching line(s).

3.9 RESET CURRENT LOOKUP FILE

Click this button to load the default settings.

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

Chapter 4

SYMBOLOGY

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 on the mobile computer.
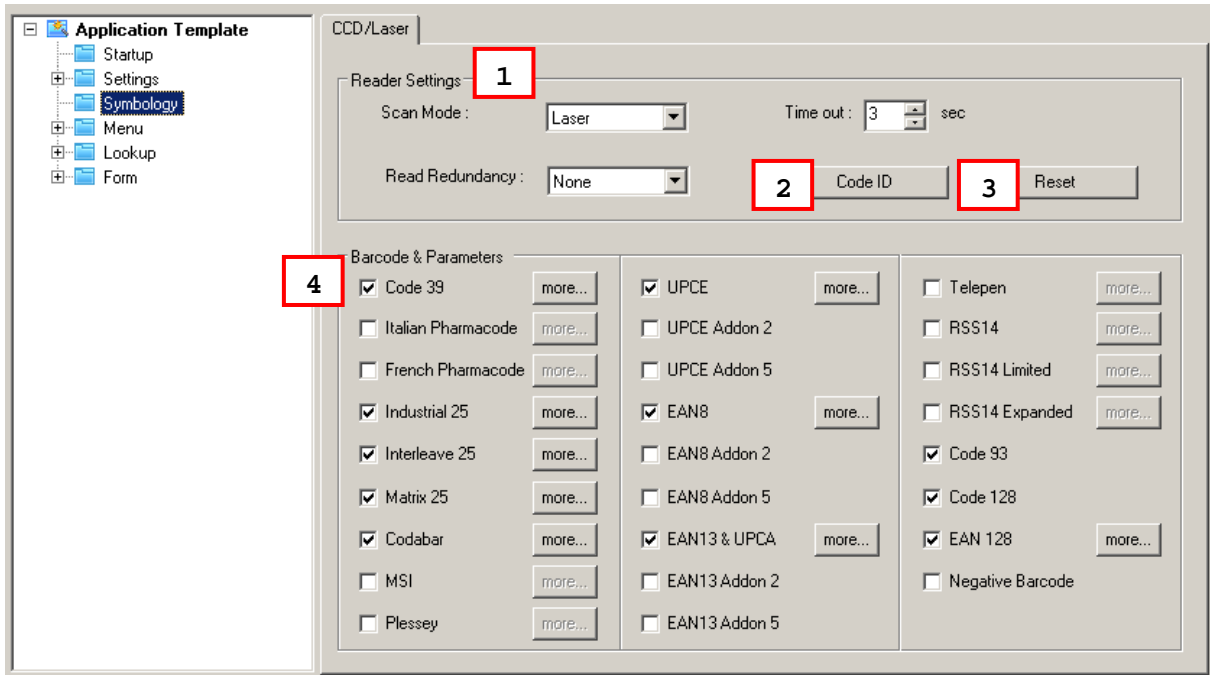
IN THIS CHAPTER

4.1 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.

4.2 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.

4.3 CODE ID

If this function is enabled, specify code ID for a listed barcode. The code ID will be prefixed to the decoding result of a barcode.

▶ Click the editing box next to the barcode, and select one code from the Grid Control (ASCII codes).

Alternatively, you may select Set 1 ~ 5. (Discrete 25 = Industrial 25)

Note: Code ID settings for RSS-14, RSS Limited, RSS Expanded, and EAN-128 are provided in section 4.2 Barcode & Parameters.

4.4 RESET

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

▶ section 4.1 Reader Settings

▶ section 4.2 Barcode & Parameters

Note: The current settings will be cleared.

SETTINGS

On this property page, basic settings for the application program can be changed.

▶ **Wedge Settings** is available in AG8300 only.

IN THIS CHAPTER

5.1 INITIAL SETTING
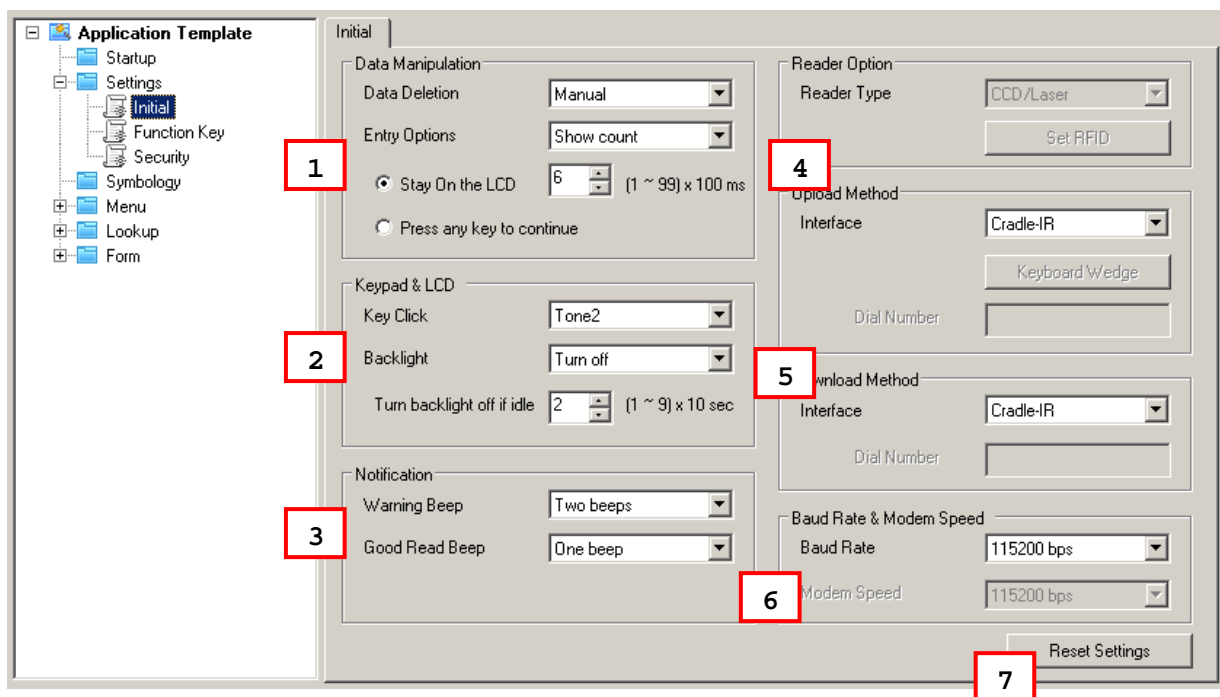
5.1.1 DATA MANIPULATION

DATA DELETION

By default, you need to select [3. Utilities] > [3. Delete Data] and manually delete a file. You may select to automatically delete data file(s) or lookup file(s) once it has been uploaded to the server. If so, the file will not be available any more when you select the following submenus -

▶ [2. Upload Data]

▶ [3. Utilities] > [2. Browse Data]

ENTRY OPTIONS

You may specify whether or not to display more information, either the record count (Show count) or the record preview (Show record), before proceeding to the next entry. By default, the record count will be displayed on the mobile computer screen for 600 milliseconds as soon as an entry is completed. Refer to 1.8.15 Counter.

When selecting "Show count" or "Show record", you will need to specify how long it will be displayed on the screen. Time-out is specified in the range of 1~99, in units of 100 milliseconds.

5.1.2 KEYPAD & LCD

KEY CLICK

By default, "Tone 2" is used for the key click. You may select a desired tone or mute it.

BACKLIGHT

By default, the backlight for the LCD and the keypad of the mobile computer is turned off.

When the backlight is turned on, you may specify a period of idle time so that it can be automatically turned off. Such time-out is specified in the range of 1~9, in units of 10 seconds. The default time-out is 20 seconds.

5.1.3 NOTIFICATION

WARNING BEEP

You may specify whether or not to have a warning beep when a specific event takes place. By default, it will produce two beeps to warn you of a specific event.

GOOD READ BEEP

You may specify whether or not to have a beep when decoding of a barcode is done successfully. By default, it will produce one beep to inform you of a successful reading.

VIBRATOR DURATION

This is available in 8300/8500 program only. You may specify whether or not to turn on the vibrator to warn you of a specific event. By default, the vibrator is turned off.

You may turn it on for a preset period of time.

5.1.4 READER OPTION

READER TYPE

Refer to Appendix I - Scan Engine Settings for information on barcode reader and RFID reader.

BARCODE READER

Select a reader type that matches the hardware configuration of your mobile computer. 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. Advanced settings are provided as shown below. RFID tags in proximity will be read automatically by 8300/8500 when RFID reader is enabled. You may limit the 1.10 Input Type options in Form to prevent from misreading RFID data.
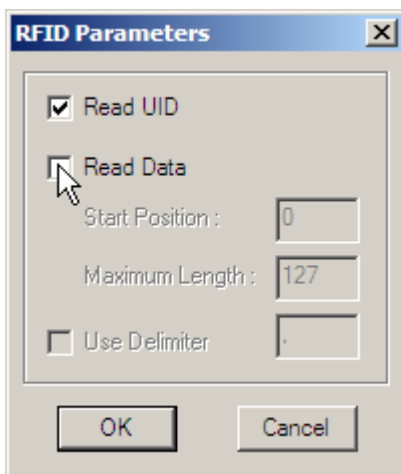
Read UID
By default, the RFID reader is set to read UID (Unique Identification).

Read Data
▶ Select the check box so that 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.

5.1.5 UPLOAD & DOWNLOAD SETTINGS

Settings	Default Value	Remarks
1. Upload Port	Cradle-IR	Bluetooth SPP is not available on the mobile computer unless selected for downloading to 8061, 8360.
2. Download Port	Cradle-IR	
3. Modem Speed	(115200 bps)	
4. Baud Rate	115200 bps	
5. Backlight	Turn off	
6. Data Deletion	Manual	
7. Entry Options	Show count	Stay on the LCD for 600 ms
8. Key Click	Tone 2	
9.Barcode Good Read	One beep	
10. Warning Beep	Two beeps	
11. Vibrator Duration	Off	

UPLOAD METHOD

Select a communication interface used on the mobile computer to upload data file(s) or lookup file(s) to your computer.

AG - Upload Port	Remarks
AG8000	Normally, the interface options on the mobile computer are ▶ Cradle-IR ▶ IrDA ▶ Modem ▶ Ethernet Cradle However, if you download Batch AG runtime to 8061, **Bluetooth SPP** must be selected for initial settings, and it will replace **Modem** above; otherwise, this option will become unavailable on the mobile computer – ▶ [3. Utilities] > [1. Program Settings] > [1. Upload Interface] ▶ [3. Utilities] > [1. Program Settings] > [2. Download Interface]

AG8300	Normally, the interface options on the mobile computer are
	▶ Direct RS-232
	▶ Cradle-IR
	▶ IrDA
	▶ Keyboard Wedge
	▶ Modem
	▶ Ethernet Cradle
	However, if you download Batch AG runtime to 8360, **Bluetooth SPP** must be selected for initial settings, and it will replace **Modem** above; otherwise, this option will become unavailable on the mobile computer –
	▶ [3. Utilities] > [1. Program Settings] > [1. Upload Interface]
	▶ [3. Utilities] > [1. Program Settings] > [2. Download Interface]

AG8500	Because the 8500 Series comes with Bluetooth integrated, the interface options on the mobile computer are
	▶ Cradle-IR
	▶ IrDA
	▶ Modem
	▶ Bluetooth SPP
	▶ Ethernet Cradle

WEDGE SETTINGS

This feature is provided with the 8300 Series mobile computers, and therefore, the settings are available in AG8300 program only.

DOWNLOAD METHOD

Select a communication interface used on the mobile computer to download the application template or lookup file(s) to your computer.

AG - Download Port	Remarks
AG8000	Normally, the interface options on the mobile computer are
	▶ Cradle-IR
	▶ IrDA
	▶ Modem
	However, if you download Batch AG runtime to 8061, **Bluetooth SPP** must be selected for initial settings, and it will replace **Modem** above; otherwise, this option will become unavailable on the mobile computer –
	▶ [3. Utilities] > [1. Program Settings] > [1. Upload Interface]
	▶ [3. Utilities] > [1. Program Settings] > [2. Download Interface]

AG8300	Normally, the interface options on the mobile computer are
	▶ Direct RS-232
	▶ Cradle-IR
	▶ IrDA
	▶ Modem
	However, if you download Batch AG runtime to 8360, **Bluetooth SPP** must be selected for initial settings, and it will replace **Modem** above; otherwise, this option will become unavailable on the mobile computer —
	▶ [3. Utilities] > [1. Program Settings] > [1. Upload Interface]
	▶ [3. Utilities] > [1. Program Settings] > [2. Download Interface]
AG8500	Because the 8500 Series comes with Bluetooth integrated, the interface options on the mobile computer are
	▶ Cradle-IR
	▶ IrDA
	▶ Modem
	▶ Bluetooth SPP

5.1.6 BAUD RATE & MODEM SPEED

BAUD RATE

By default, the baud rate setting is 115200 bps for communications via any interface except for **Modem**.

MODEM SPEED

Only when Modem is selected for **Upload Port** (5.1.1) or **Download Port** (5.1.2), this option will become available. By default, the baud rate setting is 115200 bps for communications.

DIP SWITCH

This baud rate setting depends on the IR control board of the modem cradle, which is set to 57600 bps by default. If you select any value other than 57600 bps, you need to adjust the DIP switch of the control board accordingly.

Note: For the 8000/8300 Series, the version of IR control board on the modem cradle must be greater than SV3.01.

5.1.7 RESET SETTINGS

Click this button to load the default settings. This applies to the following -

▶ section 5.1 Initial Setting

▶ section 5.2 Function Key Setting

‣ section 5.3 Security Setting

Note: The current settings will be cleared.

5.2 FUNCTION KEY SETTING
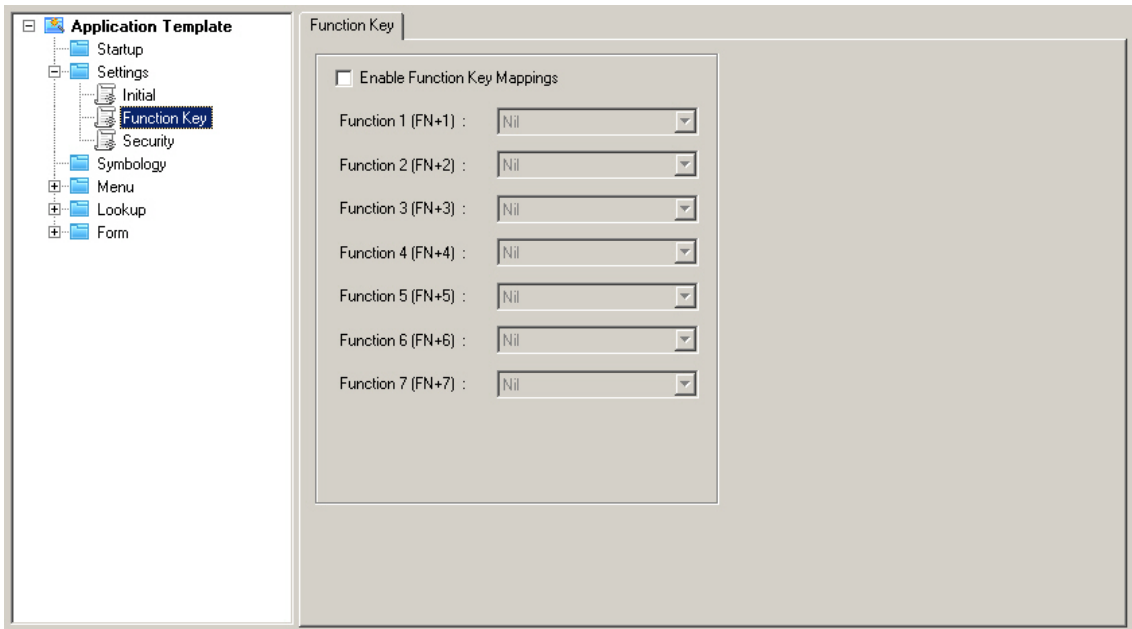
You may enable the function keys and define the mapping. That is, specify which task will be invoked when you press a key combination. By default, no function keys have been defined.

5.3 SECURITY SETTING
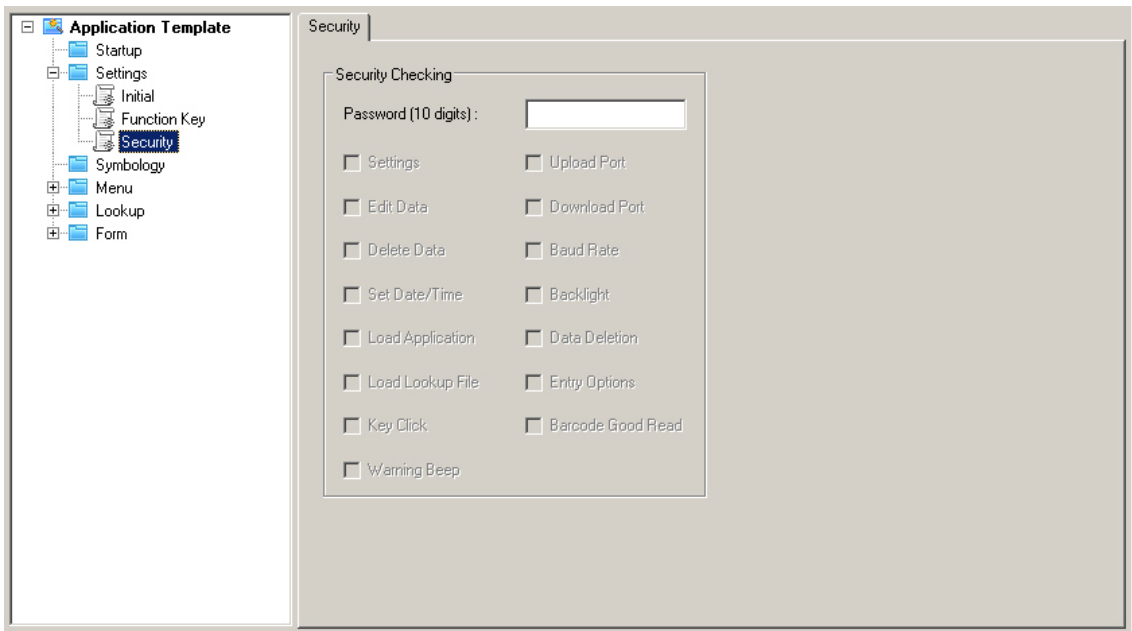
For security concerns, you may specify a password and select the check box of one or more tasks that need security checking. By default, no password is required for any task.

If any task is selected and provided with a password, you will not be allowed to enter a submenu on the mobile computer without the password.

▶ A password can be up to 10 alphanumeric characters.

Note: The password is case-sensitive.

Security Options	Remarks
Settings	3. Utilities > 1. Program Settings
Edit Data	3. Utilities > 2. Browse Data
Delete Data	3. Utilities > 3. Delete Data
Set Date/Time	3. Utilities > 5. Set Date / Time
Load Application	3. Utilities > 6. Load Application
Load Lookup File	3. Utilities > 8. Load Lookup File
Key Click	3. Utilities > 1. Program Settings > 7. Buzzer > 1. Key Click
Warning Beep	3. Utilities > 1. Program Settings > 7. Buzzer > 3. Warning Beep
Upload Port	3. Utilities > 1. Program Settings > 1. Upload Interface
Download Port	3. Utilities > 1. Program Settings > 2. Download Interface
Baud Rate	3. Utilities > 1. Program Settings > 3. Transmission Speed
Backlight	3. Utilities > 1. Program Settings > 4. Backlight
Data Deletion	3. Utilities > 1. Program Settings > 5. Set Data Delete
Entry Options	3. Utilities > 1. Program Settings > 6. Entry Options
Barcode Good Read	3. Utilities > 1. Program Settings > 7. Buzzer > 2. Barcode Read

STARTUP

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

▸ **Use large font for all prompts** is NOT available in AG8500.
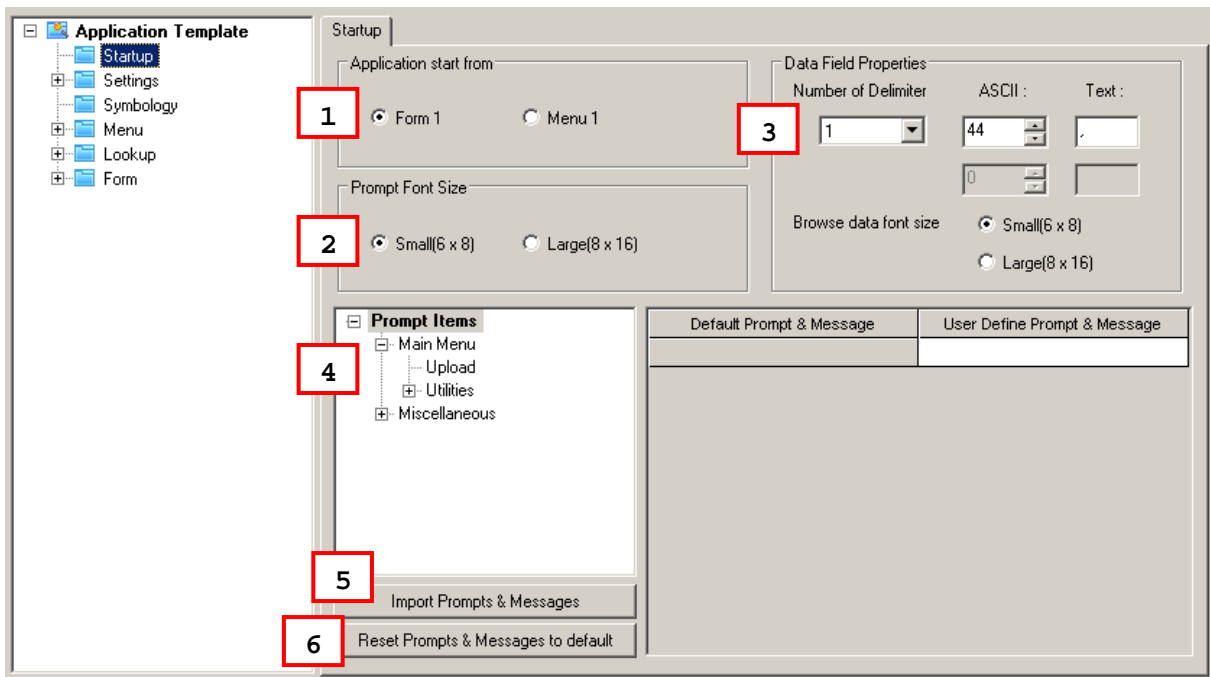
IN THIS CHAPTER

6.1 APPLICATION START FROM

Decide where the application program starts as soon as [1. Collect data] is selected on the mobile computer.

▸ Form 1
▸ Menu 1

6.2 PROMPT FONT SIZE

You may select to use large font for all prompts. These two options are available in AG8000 and AG8300 programs only because small font (6x8) is applied by default.

Large font (8x16) must be applied for double-byte languages, such as Chinese, Japanese, etc. In that case, select the check box first so that all the prompts and messages will use large font. Proceed to section 6.4 Redefine Prompts and Messages. On the Form and Menu property pages, font size needs to be changed accordingly. Refer to Localization.

Note: These settings are not available for 8500 Series because it must use large font.

6.3 DATA FIELD PROPERTIES

6.3.1 NUMBER OF DELIMITER

The input data will be saved as transaction records. Specify the delimiters used to separate data fields, either in ASCII code or text. It allows using up to two different delimiters. Type the ASCII code for a delimiter and its corresponding character will be shown automatically, and vice versa.

6.3.2 BROWSE DATA FONT SIZE

You may select to use large font for data browsing. These two options are available in AG8000 and AG8300 programs only because small font (6x8) is applied by default.

Large font (8x16) must be applied for double-byte languages, such as Chinese, Japanese, etc. In that case, select the check box first so that all the prompts and messages will use large font. Proceed to section 6.4 Redefine Prompts and Messages. On the Form and Menu property pages, font size needs to be changed accordingly. Refer to Localization.

Note: These settings are not available for 8500 Series because it must use large font.

6.4 REDEFINE PROMPTS AND MESSAGES

For non-English environment, all the 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 that it can display the prompts and messages correctly. Refer to Localization.

6.5 IMPORT PROMPTS AND MESSAGES

If the prompts and messages have already been re-defined with an existing template file, simply import the template file.

6.6 RESET PROMPTS AND MESSAGES TO DEFAULT

Click this button to load the default prompts and messages settings.

Note: The current settings will be cleared.

SCAN ENGINE SETTINGS

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

	8000	8300	8500
Barcode Reader			
1D CCD Scan Engine	✓	✓	✓
1D Laser Scan Engine	✓	✓	✓
1D Long Range Laser Scan Engine (LR)	✗	✓	✓
1D Extra Long Range Laser Scan Engine (ELR)	✗	✗	✓
2D Scan Engine	✗	✗	✓
RFID Reader			
ACG_RFID Module v0.9	✗	✗	✓
ACG_RFID Module v1.0	✗	✓	✓

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.

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

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
Codabar	✓	✓	✓
Code 11	✗	✗	✓
Code 93	✓	✓	✓
Composite Code	✗	✗	✓
MSI	✓	✓	✓
Plessey	✓	✗	✗

		✗	✗	✓
Postal Codes		✗	✗	✓
Telepen		✓	✗	✗
Code 128	Code 128	✓	✓	✓
	EAN-128	✓	✓	✓
	ISBT-128	✗	✓	✓
Code 2 of 5	Industrial 25 (i.e. Discrete 25)	✓	✓	✓
	Interleaved 25	✓	✓	✓
	Matrix 25	✓	✗	✗
Code 3 of 9	Code 39	✓	✓	✓
	Trioptic Code 39	✗	✓	✓
	Italian Pharmacode (i.e. Code 32)	✓	✓	✓
	French Pharmacode	✓	✗	✗
EAN/UPC	EAN-8	✓	✓	✓
	EAN-13	✓	✓	✓
	Bookland EAN (i.e. ISBN)	✓	✓	✓
	UPC-E0	✓	✓	✓
	UPC-E1	✗	✓	✓
	UPC-A	✓	✓	✓
RSS	RSS-14	✓	✓	✓
	RSS Limited	✓	✓	✓
	RSS Expanded	✓	✓	✓
2D Symbologies	PDF417	✗	✗	✓
	MicroPDF417	✗	✗	✓
	Data Matrix	✗	✗	✓
	Maxicode	✗	✗	✓
	QR Code	✗	✗	✓

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 with RFID module version 1.0 are different from those found with version 0.9 or older versions.

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

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

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

Appendix II

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	Description	Default
Time-out		**3 sec.**
1~255 (second) for programming	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 ▶ Auto Power Off mode	
Scan Mode		**Laser mode**
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	
Repeat Mode	Non-stop scanning ▶ Capable of re-transmitting barcode data if triggering within one second after a successful decoding	
Momentary Mode	Hold down the scan trigger to start with scanning. ▶ The scanning won't stop until you release the trigger.	
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 or (b) the pre-set timeout expires.	
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.	

Auto Power Off Mode	Press the scan trigger to start with scanning.
	▶ The scanning won't stop until the preset timeout expires, and, the preset timeout period re-counts after each successful decoding.

Read Redundancy		None
None	No redundancy means one successful decoding will make the reading valid and induce the "READER Event".	
One time, Two times, or Three times	The higher the reading security is (that is, the more redundancy the user selects), the slower the reading speed gets. ▶ If "Three Times" is selected, it will take a total of four consecutive successful decodings of the same barcode to make the reading valid.	

SYMBOLOGY SETTINGS TABLE

CCD/Laser	Description	Default
Codabar		**Enable**
Transmit Start/Stop Characters	Decide whether to include the start/stop characters in the data being transmitted. If "Transmit Start/Stop Characters" is desired, select one set: ▶ abcd / abcd ▶ abcd / tn*e ▶ ABCD / ABCD ▶ ABCD / TN*E	No
Code 128		**Enable**
EAN-128		**Enable**
Transmit Code ID (for EAN-128)	Decide whether to include Code ID ("]C1") will be included in the data being transmitted.	No
Field Separator	Decide whether to replace the field separator.	No
Industrial 25 (= Discrete 25)		**Enable**
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 set to "Interleaved 25".	Industrial 25
Verify Checksum	Decide whether to verify the checksum. If the checksum is incorrect, the barcode will not be accepted.	No
Transmit Checksum	Decide whether to include the checksum in the data being transmitted.	Yes
Select Length	▶ One or two fixed lengths ▶ Range	1~127
Interleaved 25		**Enable**

Start/Stop Selection	Refer to Industrial 25.	Interleaved 25
Verify Checksum	Decide whether to verify the checksum. If the checksum is incorrect, the barcode will not be accepted.	No
Transmit Checksum	Decide whether to include the checksum in the data being transmitted.	Yes
Select Length	▶ One or two fixed lengths ▶ Range	1~126
Matrix 25		**Disable**
Start/Stop Selection	Refer to Industrial 25.	Matrix 25
Verify Checksum	Decide whether to verify the checksum. If the checksum is incorrect, the barcode will not be accepted.	No
Transmit Checksum	Decide whether to include the checksum in the data being transmitted.	Yes
Select Length	▶ One or two fixed lengths ▶ Range	1~127
French Pharmacode		**Disable**
*Transmit Start/Stop Character	Controlled by the same setting of Code 39.	No
Transmit Checksum	Decide whether to include the checksum in the data being transmitted.	Yes
Italian Pharmacode (= Code 32)		**Disable**
*Transmit Start/Stop Character	Controlled by the same setting of Code 39.	No
Transmit Checksum	Decide whether to include the checksum in the data being transmitted.	Yes
Code 39		**Enable**
Transmit Start/Stop Character	Decide whether to include the start/stop characters "*" in the data being transmitted.	No
Verify Checksum	Decide whether to verify the checksum. If the checksum is incorrect, the barcode will not be accepted.	No
Transmit Checksum	Decide whether to include the checksum in the data being transmitted.	Yes
Code 39 Full ASCII	Code 39 Full ASCII includes all the alphanumeric and special characters.	Disable
Code 93		**Enable**
MSI		**Disable**
Verify Checksum	Select one of the three calculation formulas to verify the checksum. If the checksum is incorrect, the barcode will not be accepted. ▶ Single Modulo 10 ▶ Double Modulo 10 ▶ Modulo 11 & 10	Single Modulo 10

Transmit Checksum	Decide whether to include the checksum in the data being transmitted. ▶ Last digit not transmitted ▶ Both digits transmitted ▶ Both digits not transmitted	Both digits transmitted
Select Length	▶ One or two fixed lengths ▶ Range	0~127
Negative Barcode		**Disable**
Plessey		**Disable**
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 Checksum	Decide whether to include the checksum (2 digits) in the data being transmitted.	Yes
Telepen		**Disable**
Original Telepen (Numeric)	The original Telepen includes numeric characters.	Yes
AIM Telepen (Full ASCII)	AIM Telepen (Full ASCII) includes all the alphanumeric and special characters.	No
RSS-14		**Disable**
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 Checksum	Decide whether to include the checksum in the data being transmitted.	Yes
RSS Limited		**Disable**
Transmit Code ID	Refer to RSS-14.	Yes
Transmit Application ID	Refer to RSS-14.	Yes
Transmit Checksum	Refer to RSS-14.	Yes
RSS Expanded		**Disable**
Transmit Code ID	Refer to RSS-14.	Yes
EAN-8		**Enable**
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
Transmit Checksum	Decide whether to include the checksum in the data being transmitted.	Yes
Addon 2 / Addon 5	Decide whether to decode EAN-8 with supplementals.	No
EAN-13 / UPC-A		**Enable**
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 Checksum	Decide whether to include the checksum in the data being transmitted.	Yes
Addon 2 / Addon 5	Decide whether to decode EAN-13/UPC-A with supplementals.	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.	Yes
(UPC-A) Transmit Checksum	Decide whether to include the UPC-A checksum 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-E		**Enable**
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.	No
Transmit Checksum	Decide whether to include the UPC-E checksum in the data being transmitted.	Yes
Transmit System Number	Decide whether to include the UPC-E System Number in the data being transmitted.	No
Addon 2 / Addon 5	Decide whether to decode UPC-E with supplementals.	No
*It cannot read UPC-E1 barcodes!		

Appendix III

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	Description	Default
AIM Duration	▶ 0~255, in units of 1 second. ▶ Enter 0 if aiming is not desired.	**No aiming**
Decode Time-out	Set the maximum time for decoding to continue during a scan attempt. ▶ 5~99, in units of 0.1 second.	**3.0 sec.**

SYMBOLOGY SETTINGS TABLE

LR/ELR/2D	Description	Default
Codabar		**Disable**
CLSI Editing	When applied, the CLSI editing strips the start/stop characters and inserts a space after the first, fifth, and tenth characters of a 14-character Codabar barcode. ▶ The 14-character barcode length does not include start/stop characters.	No
NOTIS Editing	Decide whether to include the start/stop characters in the data being transmitted. ▶ NOTIS Editing is to strip the start/stop characters, i.e. to disable "Transmit Start/Stop Characters".	No
Select Length	▶ Any Length ▶ One or two fixed lengths ▶ Range (1~55)	Any Length
Code 128		**Enable**
EAN-128		**Enable**
Field Separator	Decide whether to replace the field separator.	No
ISBT 128		**Enable**
Industrial 25 (= Discrete 25)		**Enable**
Select Length	▶ Any Length ▶ One or two fixed lengths ▶ Range (1~55)	Any Length

Interleaved 25		Enable
Convert to EAN-13	Convert a 14-character barcode into EAN-13 if the following requirements are met: ▶ The barcode must have a leading 0 and a valid EAN-13 check digit.	No
Verify Checksum	Decide whether to verify the checksum. If desired, select one of the algorithms below. If the checksum is incorrect, the barcode will not be accepted. ▶ No ▶ USS algorithm ▶ OPCC algorithm	No
Transmit Checksum	Decide whether to include the checksum in the data being transmitted. ▶ "Verify Checksum" must be enabled so that the checksum can be left out (= "Transmit Checksum" disabled).	No
Select Length	▶ Any Length ▶ One or two fixed lengths ▶ Range (1~55)	Any Length
Code 39		**Enable**
Convert to Code 32	Convert to Italian Pharmacode.	No
Code 32 Prefix	Prefix character "A" to Code 32 barcodes.	No
Verify Checksum	Decide whether to verify the checksum. If the checksum is incorrect, the barcode will not be accepted.	No
Transmit Checksum	Decide whether to include the checksum in the data being transmitted. ▶ "Verify Checksum" must be enabled so that the checksum can be left out (= "Transmit Checksum" disabled).	No
Code 39 Full ASCII	Code 39 Full ASCII includes all the alphanumeric and special characters.	Disable
Select Length	▶ Any Length ▶ One or two fixed lengths ▶ Range (1~55)	Any Length
Trioptic Code 39		**Disable**
Code 93		**Disable**
Select Length	▶ Any Length ▶ One or two fixed lengths ▶ Range (1~55)	Any Length
MSI		**Disable**

Verify Checksum	If Two Check Digits option is selected, an additional verification is required to ensure integrity. Select one of the algorithms below. If the checksum is incorrect, the barcode will not be accepted.	Single Modulo 10

Check Digit	Algorithm
One Check Digit	Single Modulo 10
Two Check Digits	▶ Mod 10/Mod 11 ▶ Mod 10/Mod 10

Transmit Checksum	Decide whether to include the checksum in the data being transmitted.	No
Select Length	▶ Any Length ▶ One or two fixed lengths ▶ Range (1~55)	Any Length
RSS		---
RSS-14	"Convert to UPC/EAN" only applies to RSS-14 and RSS Limited barcodes not decoded as part of a Composite barcode.	Enable
RSS Limited		Enable
RSS Expanded		Enable
Covnert RSS to UPC/EAN	**Convert to EAN-13** Strip the leading "010" from barcodes. ▶ "01" is the Application ID and must be followed by a single zero (the first digit encoded) **Convert to UPC-A** 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
EAN-8		**Enable**
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.	
EAN-13		**Enable**
Bookland EAN (= ISBN)	The EAN-13 barcode starting with 978 will be converted to ISBN.	No
Addon 2 / Addon 5	Refer to UPC/EAN Addon setting.	
UPC-A		**Enable**
Transmit Checksum	Decide whether to include the UPC-A checksum 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.	

UPC-E0		Enable
Transmit Checksum	Decide whether to include the UPC-E0 checksum 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
UPC-E1		**Disable**
Transmit Checksum	Decide whether to include the UPC-E1 checksum 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
UCC Coupon Extended Code		**Disable**
Read UPC-A barcodes starting with digit "5", EAN-13 barcodes starting with digits "99", and UPC-A/EAN-128 Coupon Codes. ▶ UPC-A, EAN-13, and EAN-128 must be enabled first!		
UPC/EAN Addon		**---**
Addon 2 / Addon 5	Decide whether to decode EAN-8, EAN-13, UPC-E0, UPC-E1, UPC-A with supplementals. ▶ Ignore Supplementals ▶ Decode Only With Supplementals ▶ Decode With Supplementals (= Auto-discriminate)	Ignore…
Addon Redundancy	When "Decode with Supplementals" is applied, decide the number of times of supplementary decoding the same barcode that makes a valid reading.	10 times

2D SCAN ENGINE

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

READER SETTINGS TABLE

2D	Description	Default
Focus Mode	Select the focus mode to control the working range: ▶ Far Focus – optimized to read at its far position ▶ Near Focus – optimized to read at its near position ▶ Smart Focus – toggles the focus position after every frame	**Far Focus**
Decode Illumination	Decide whether to flash illumination on every barcode capture to aid decoding. ▶ Turn On (Internal LED) ▶ Turn Off	**On**
AIM Pattern	Decide whether to project the aim pattern during barcode capture. ▶ Turn On ▶ Turn Off	**On**
Decode Time-out	Set the maximum time for decoding to continue during a scan attempt. ▶ 5~99, in units of 0.1 second.	**9.9 sec.**

SYMBOLOGY SETTINGS TABLE

The symbology settings for the LR/ELR scan engine are all supported on the 2D scan engine. In addition, the 2D scan engine supports the following symbology settings:

2D	Description	Default
Code 11		**Disable**
Verify Checksum	Decide whether to verify the checksum. If the checksum is incorrect, the barcode will not be accepted. ▶ No verification ▶ One Check Digit ▶ Two Check Digits	No

Transmit Checksum	Decide whether to include the checksum in the data being transmitted. ▶ "Verify Checksum" must be enabled so that the checksum can be left out (= "Transmit Checksum" disabled).	No
Select Length	▶ Any Length ▶ One or two fixed lengths ▶ Range (1~55)	Any Length
Postal Codes		**---**
US Postnet		Enable
US Planet		Enable
Transmit US Postal Checksum	US Postnet or US Planet must be enabled first!	Enable
UK Postal		Enable
Transmit UK Postal Checksum	UK Postal must be enabled first!	Enable
Japan Postal		Enable
Australian Postal		Enable
Dutch Postal		Enable
Composite Codes		**Disable**
Composite CC-C		Disable
Composite CC-A/B		Disable
Composite TLC-39		Disable
UCC/EAN Code 128 Emulation Mode	Transmit data as if it was encoded in Code 128 barcodes. ▶ Transmit AIM Code Identifier must be enabled first!	Disable
UPC Composite Mode	UPC barcodes can be "linked" with a 2D barcode during transmission as if they were one barcode. **UPC Never Linked** Transmit UPC barcodes regardless of whether a 2D barcode is detected. **UPC Always Linked** Transmit UPC barcodes and the 2D portion. If the 2D portion is not detected, the UPC barcode will not be transmitted. ▶ CC-A/B or CC-C must be enabled! **Auto-discriminate UPC Composites** Transmit UPC barcodes as well as the 2D portion if present.	UPC Always Linked
2D Symbologies		**---**

PDF417		Enable
MicroPDF417		Disable
MicroPDF417 Code 128 Emulation	Transmit data from certain MicroPDF417 barcodes as if it was encoded in Code 128 barcodes. ▸ Transmit AIM Code Identifier must be enabled first! When applied, the MicroPDF417 barcodes are transmitted with one of these prefixes: **The first codeword of MicroPDF417 is 903-907, 912, 914, 915:** The original Code ID "]L3" will be changed to "]C1". **The first codeword of MicroPDF417 is 908 or 909:** The original Code ID "]L4" will be changed to "]C2". **The first codeword of MicroPDF417 is 910 or 911:** The original Code ID "]L5" will be changed to "]C0".	Disable
Data Matrix		Enable
Maxicode		Enable
QR Code		Enable
2D Symbologies - Macro PDF		**---**
Macro PDF is a special feature for concatenating multiple PDF barcodes into one file, known as Macro PDF417 or Macro MicroPDF417.		
Transmit/Decode Mode	Decide how to handle Macro PDF decoding. **Buffer All Symbols / Transmit Macro PDF When Complete** 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! ▸ The transmission of the control header must be disabled.	Passthrough All Symbols

Transmit/Decode Mode	**Transmit Any Symbol in Set / No Particular Order**	
	Transmit data from each Macro PDF symbol as decoded, regardless of the sequence.	
	▸ The transmission of the control header must be enabled.	
	Passthrough All Symbols	
	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.	
Send Control Header	The control header contains the segment index and file ID. This option has no effect when "Passthrough All Symbols" is applied.	Yes
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!