# User's Manual

## ZAC

## Revision History

Changes to the original manual are listed below:

| Version | Date | Description of Version |
|---------|------|------------------------|
| 1.0 | March 1, 2013 | Initial release |
| 1.1 | August 1, 2013 | Added how to import file section |
| 1.2 | Nov. 20, 2013 | Added download, upload, and import instructions |
| 1.3 | December 3, 2013 | Added lookup table instructions |
| 1.4 | July 29, 2014 | Delete unsupported instructions, and correction change description & pictures |
| 1.5 | December 5, 2016 | Add 2D Reader Setting |
| 1.6 | August 4, 2017 | New data types |

# Important Notice

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Guidance for Printing
This manual is in A5 size. Please double check your printer setting before printing it.

# Table of Contents

# Introduction

ZAC is the powerful software for developing custom templates for your data collector. It enables users to create their own application templates without using any program code.

## Features

- Simple to use
- Supports Windows XP, Vista, win7 and win8
- Supports real-time device and barcode settings
- Supports direct-link transfer of data

## System Requirement

ZAC requires a PC with the following specifications:

- Windows XP
- Windows Vista
- Windows 7
- Windows 8

Overview

Refer to the following illustrations to familiarize yourself with the user interface.

Quick Tools    Main Menu                                    Language Settings



Navigational Pane

Working Area
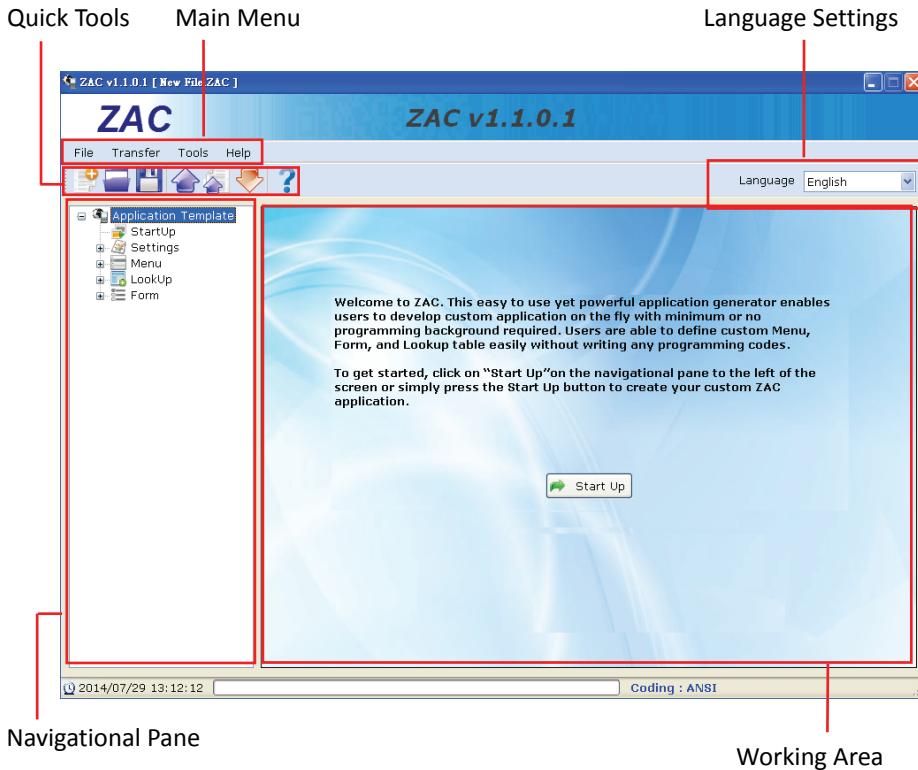
| Description | Function |
|---|---|
| Main Menu | To access all the functions in the program |
| Quick Tools | Frequently used functions are listed here |
| Navigational Pane | Select "+" to expand the menu tree and access the programming options |
| Language Settings | Choose the display language. |
| Working Area | The main settings area. |

# Main Menu

Main Menu can be used to initiate tasks on your system. Please refer to the following table to see what each menu item can do.

| Menu | Item | Function |
|---|---|---|
| File | New | Create a new application template |
| | Open | Open an existing application template (ZAC and AGX format only) |
| | Save | Save the current working template file |
| | Save as | Save the current working template file with a new file name |
| | Exit | Quit the program |
| Transfer | Send Application | Download the current template file from the PC to the data collector |
| | Receive Application | Upload ZAC file from the data collector to the PC |
| | Send Lookup | Download the associated lookup file from the PC to the data collector |
| | Direct-Link Data Transfer | Upload data from the data collector to the PC |
| Tools | Simulator | Initiate the data collector simulator. You can test applications here before running them on the actual device |
| Help | About ZAC | Show information about ZAC |

# Quick Tools

Quick Tools provide the most frequently used functions from the Main Menu for you convenience.

| Icon | Name | Function |
|---|---|---|
|  | New | Create a new application template |
|  | Open | Open an existing application template (ZAC and AGX format only) |
|  | Save | Save the current working template file |

| | | |
|---|---|---|
|  | Send Application | Download the current template file from the PC to the data collector |
|  | Send Lookup | Download the associated lookup file from the PC to the data collector |
|  | Direct-Link Data Transfer | Upload data from the data collector to the PC |
|  | About | Show information about ZAC |

Importing other types of application file (such as .agx) into ZAC

1.  Click on "Open" from the shortcut bar (as shown below), or File >> Open.
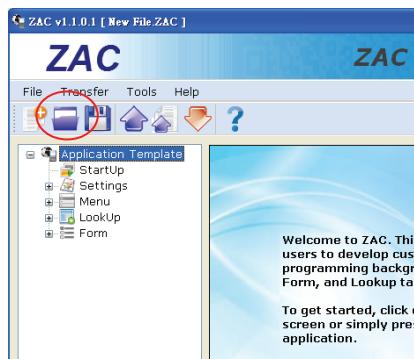


2.  At Open dialog box, Select the correct file type, such as AGX and click OK.
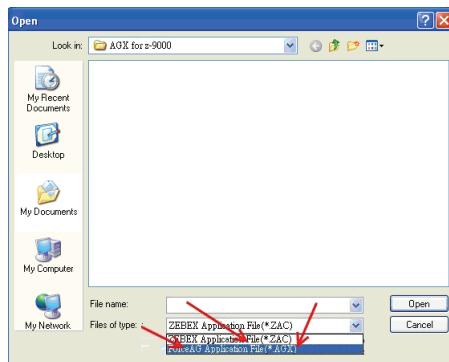
## Language Setting

1. To change the language you must first create a language file. Locate the "default.lng" file in the "language" folder where ZAC program files are located and duplicate and rename the "default.lng" file to a new language file; for instance, Japanese.LNG. The file type must be ".LNG" for the change to take effect.

2. Next, you must edit the language file so the new language can be displayed properly. Open the newly created file and you will see a list of strings displayed in the user interface of ZAC.

```
Code ID = Code ID
Barcode Setting = Barcode Setting
Sec = Sec
Time Out = Time Out
Scan Mode = Scan Mode
Reader Settings = Reader Settings
Menu = Menu
Reset Current Menu = Reset Current Menu
Item Settings = Item Settings
Pass Down = Pass Down
Save Selected Item = Save Selected Item
Save Caption = Save Caption
Data Action = Data Action
When Pressing ESC, go to  : = When Pressing ESC, go to  :
Title = Title
Properties = Properties
Look Up = Look Up
Reset Current Lookup File = Reset Current Lookup File
Data Structure : = Data Structure :
Number of fields = Number of fields
Skip the record = Skip the record
Truncate/Reformat the record = Truncate/Reformat the record
Stop the download process = Stop the download process
When record format is wrong = When record format is wrong
```

Change string to a different language

3. Change the right side of the strings (the strings after the equal signs) from English to your desired language and save the file.

4. To display the new language, select the new language from the Language menu in ZAC.

Language English

# Menu Tree

| Menu | Sub-Menu | Function |
|------|----------|----------|
| StartUp | none | Allows you to configure the program sequences and customizes the user interface |
| Settings | Setting Up The Device | Allows the user to configure the data collector function key, password, output file and equipment operation mode |
| | Barcode Setting | Allows you to configure symbologies and barcode parameters |
| Menu | Menu1 ~ Manu10 | Customizes the hierarchical arrangement of applications under the main menu of application |
| Lookup | 1st Lookup ~ 3rd Lookup | Configure how the lookup files retrieve data for the application |
| Form | Form1 ~ Form10 | Designed to accept user inputs. It may contain multiple input fields and can be arranged to follow up a menu |

# Getting Started

This section covers basic functions such as configuring device settings and symbologies. See later chapters for advanced functions.

## Installation

A driver must be installed to establish connections between the PC and the data collector. Follow the instructions below to install the driver on your computer.

1. Connect the device to your computer via USB cradle.

2. A window appears in the bottom right-hand corner of Windows that says "Found new hardware". In a few seconds a "Found New Hardware Wizard" window opens up. Double click the found new hardware icon to pull up the window if it does not appear automatically. Select "No, not this time" to continue.

3. Click "Next" to continue installation.

4. Click "Install from a list or specific location (Advanced)" and click "Next".

5. Check the "Include this location" option and use "Browse" to locate the driver in your computer. Click "Next" to go to the next step.

6. Click "Next" and "Finish" when the installation is done.

## Starting ZAC

To start ZAC:

1. Obtain the latest version of ZAC. Please contact your dealer for assistance.

2. Locate the ZAC folder and open the executable file.

3. The ZAC main screen appears on the desktop.

# Connecting Data Collector

To connect the data collector to a PC via cradle:

1. Place the data collector on the cradle and connect the cradle to PC using the USB cable.

2. The PC should auto-detect the device as a COM device and ask for the driver when connecting the first time.

3. Please install the driver from the CD. The system should assign a COM port to the device after the driver installation.

- Connect the power adapter to the cradle when necessary.
- Make sure the unit is turned on after the cable is connected.
- Check the COM and LPT section in the device manager for the assigned COM port. The data collector should appear as a virtual com device.

# Setting up the Device

## Initial Settings

Select "Settings" on the navigational pane and select the "Initial" tab on the right to enter the setup.
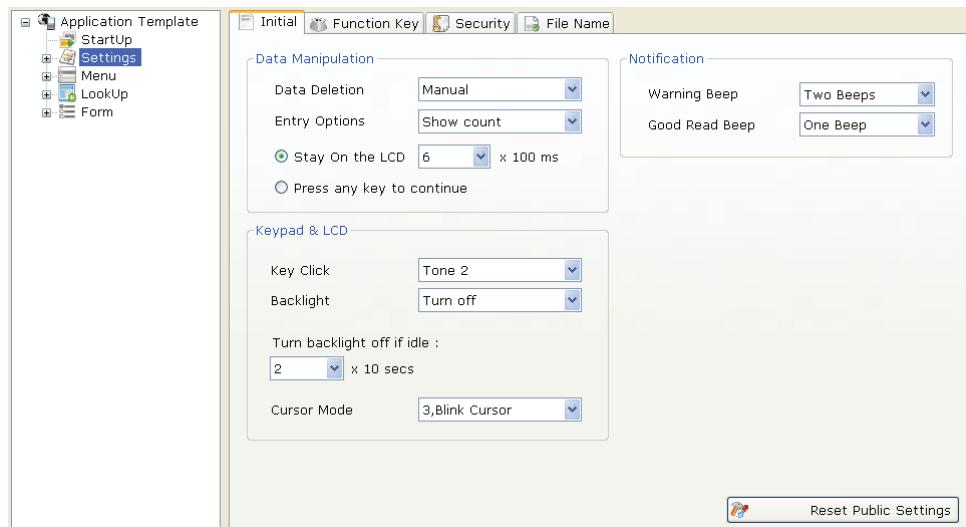
The Initial property page covers the following settings:

Data Manipulation:

| Setting | Value | Function |
|---------|-------|----------|
| Data Deletion<br>Configures if the data should be deleted from the data collector after it is uploaded to a host | Manual | Prompt the user after upload is complete to decide to keep or delete the data on the data collector |
| | Automatic | Delete the data automatically from data collector after the upload is completed |
| | No | Keep the data on the data collector after upload is completed |
| Entry Option<br>Configures what information to display on data collector after data entry is completed | No Prompt | Display nothing after data entry is completed |
| | Show count | Display the current record number being stored |
| | Show record | Display the data recorded after data entry is completed |
| Stay On the LCD | 1 ~ 99 * 100ms | Select 1~99 ms to specify the time of the count/record review |
| Press any key to continue | n/a | Select this option to display the count/record review until a key is pressed |

Keypad & LCD

Configure the tone of the key click and the LCD/keypad backlight.

| Setting | Value | Function |
|---------|-------|----------|
| Key Click | Mute | Select desired tone from Tone 1~Tone5 or Mute to mute it |
| | Tone 1 ~ Tone 5 | |
| Backlight | Turn off, Turn on | Turn the backlight on or off |
| Turn backlight off if idle | 1 ~ 9 * 10 secs | Select idle duration (1~9 *10 secs) for turning off backlight when the backlight is on |
| Cursor Mode | Disable Cursor | Prohibit the cursor display |
| | Fixed Cursor | Cursor does not blink |
| | Blink Cursor | Show the blinking cursor |

Notification

Configure the device beep sound for status feedback.

| Setting | Value | Function |
|---------|-------|----------|
| Warning Beep | Mute | Select desired warning feedback options (one ~ three beeps) or Mute for no feedback |
| | One Beep ~ Three Beeps | |
| Good Read Beep | Mute | Select desired Good Read feedback options (one ~ three beeps) or Mute for no feedback |
| | One Beep ~ Three Beeps | |

Reset Public Settings
Select this option to reset the current form back to default values.

# Function Key Settings

Select "Settings" on the navigational pane and select the "Function Key" tab on the right to enter the setup. The data collector includes default shortcut keys (FN+1~FN+7) to quick-access applications or menus. The Function Key settings enable users to customize their own shortcut keys. To change the settings check the "Enable Function Key Mappings" checkbox and select options from the drop down menu for each key you want to configure.

| Setting | Value | Function |
|---|---|---|
| | Nil | No function |
| Function 1 (Fn + 1) ~ Function 7 (Fn+7) | Collect Upload Utilities Settings Browse Data Delete Data Reader Test Set Date/Time Load Program Memory & Power Load Lookup Upload Port Download Port Baud Rate Backlight Data Deletion Entry Option View Settings Calculator | Assign function to the shortcut key |
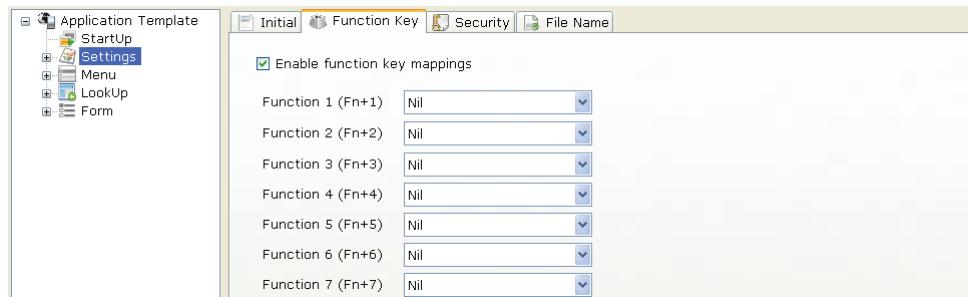
# Security Settings

Select “Settings” on the navigational pane and select the “Security” tab on the right to enter the setup. The Security settings enable users to add access restrictions to specified resources.
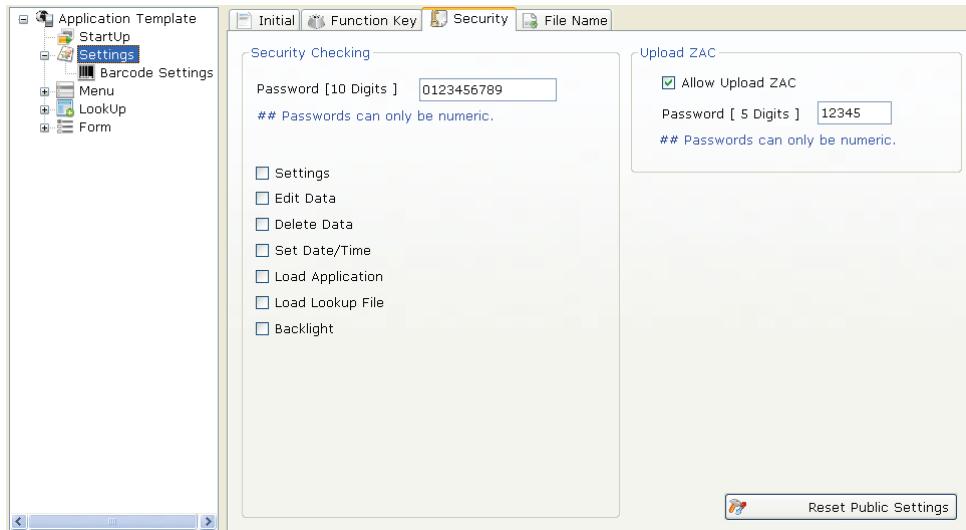


Security Checking
You may specify a password and check one or more items to lock the item. Locked items must be unlocked with the password before you can use them. Check the checkbox and enter the password to add the restriction. Up to 10 alphanumeric characters is permitted for the password.


Upload ZAC
You may set a password to restrict ZAC upload. Check the checkbox and enter the password to add the restriction. Up to 5 alphanumeric characters is permitted for the password.

# File Name

Select "Settings" on the navigational pane and select the "File Name" tab on the right to enter the setup.
You may save collected data from a specific form separately. Check the checkbox and enter the file names to save to activate this function.
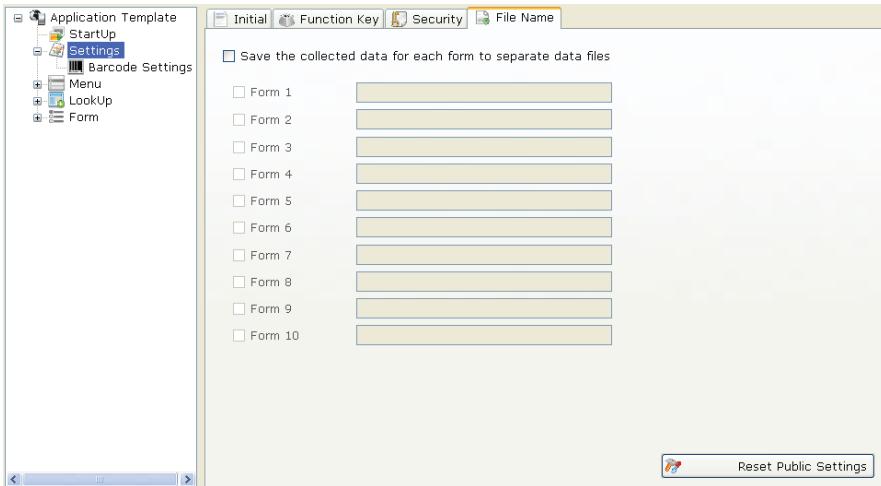


# Barcode Setting

Learn how to customize the barcode settings for your data collector unit in this section.
Select "Settings/Barcode Setting" from the navigational pane to enter the setup.
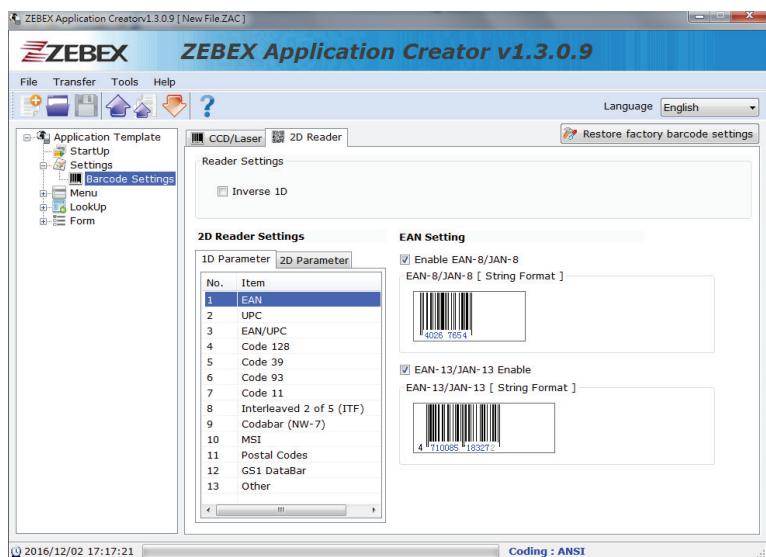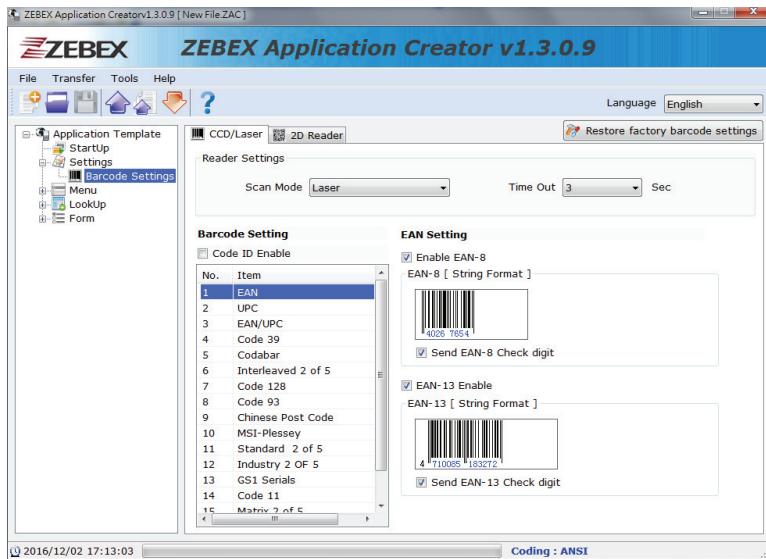
Reader Settings
The Reader Settings covers the following settings:

| Setting | Value | Function |
|---------|-------|----------|
| Scan Mode | Continuous | Set scan mode to non-stop scanning |
| | Laser | Hold the trigger to start scanning. The scanning will only stop when a barcode is read or the set timeout expires or the trigger is released |
| Time Out | 0~99 Sec | Set the time out for the scan mode to 0~99 seconds |

Code ID Setting
Enable/Disable barcode recognition.

CCD/Laser Barcode Setting
The Barcode Setting covers the following settings:

| Symbology | Setting | Function |
|---|---|---|
| EAN8 | Enable | Enable/Disable to read EAN-8 |
| | Send Check Digit | Enable/Disable to transmission check digit |
| EAN13 | Enable | Enable/Disable to read EAN-13 |
| | Send Check Digit | Enable/Disable to transmission check digit |
| UPC-A | Enable | Enable/Disable to read UPC-A |
| | Send UPCA Leading 0 | Enable/Disable to transmission leading "0" |
| | Send Check Digit | Enable/Disable to transmission check digit |
| UPC-E | Enable | Enable/Disable to read UPC-E |
| | Send UPCE Leading 0 | Enable/Disable to transmission leading "0" |
| | Send Check Digit | Enable/Disable to transmission check digit |

| | | | |
|---|---|---|---|
| EAN/UPC | UPCE to UPCA Enable | The UPCE barcode will be converted into UPCA, and the next processing will follow the settings configured for UPCA | |
| | UPC-A to EAN-13 Format | The UPC-A barcode will be converted into EAN-13 and the next processing will follow the settings configured for EAN-13 | |
| | ISBN/ ISSN Conversion | Barcodes starting with 977/978 will be converted to ISBN | |
| | EAN8 to EAN-13 Enable | The EAN-8 barcode will be converted into EAN-13 and the next processing will follow the settings configured for EAN-13 | |
| | EAN13 first "0" can transmit Enable | Enable/Disable to EAN13 First 0 transmission | |
| | EAN13 with first 0 ID code same as | Use this option to first 0 ID code same as options:<br>● EAN-13<br>● UPC-A | |
| | UPC/EAN Add-On | Use this option to set supplemental options:<br>● No Supplement<br>● 2 Digits<br>● 5 Digits<br>● 2 + 5 Digits | |
| Code39 | Enable | Enable/Disable to read Code39 | |
| | Send Start / Stop Character | Enable/Disable transmission Start and Stop asterisks | |
| | Check Digit Verification Enable | Enable/Disable to check digit verification | |
| | Send Check Digit | Enable/Disable to transmission check digit | |
| | Enable Full Code39 | Enable: Using full ASCII encoding reading<br>Disable: Direct code reading<br>(Please refer to the specification of code39) | |
| | Min Length & Max Length | Set the length qualification to fixed length or min/max length from 0 ~ 64 | |
| | ITPR Conversion | Enable/Disable to read Code32 (Italian Pharmacy code) | |
| | ITPR Transmit A Character | When reading code32, enable/disable to transmission an "A" character | |

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| | | | |
|---|---|---|---|
| Codabar | Enable | Enable/Disable to read Codabar | |
| | Send Start/Stop Character | Enable/Disable transmission Start and Stop character | |
| | Check Digit Verification Enable | Enable/Disable to check digit verification | |
| | Send Check Digit | Enable/Disable to transmission check digit | |
| | ST / SP | Set start / stop characters to ● ABCD ● DC1→DC4 ● a/t,b/n,c/*,d/e ● abcd / abcd | |
| | Min Length & Max Length | Set the length qualification to fixed length or min/max length from 0 ~ 64 | |
| Interleaved 2 of 5 | Enable | Enable/Disable to read Interleaved 25 | |
| | Check Digit Verification Enable | Enable/Disable to check digit verification | |
| | Send Check Digit | Enable/Disable to transmission check digit | |
| | Fix Length 1 Default | Set the length qualification to fixed length | |
| | Fix Length 2 Default | Set the length qualification to fixed length | |
| | Min Length & Max Length | Set the length qualification to fixed length or min/max length from 0 ~ 64 | |

| | | |
|---|---|---|
| Code 128 | Enable | Enable/Disable to read Code 128 |
| | Check Digit Verification Enable | Enable/Disable to check digit verification |
| | Send Check Digit | Enable/Disable to transmission check digit |
| | Min Length & Max Length | Set the length qualification to fixed length or min/max length from 0 ~ 64 |
| Code 93 | Enable | Enable/Disable to read Code 93 |
| | Check Digit Verification Enable | Enable/Disable to check digit verification |
| | Send Check Digit | Enable/Disable to transmission check digit |
| | Min Length & Max Length | Set the length qualification to fixed length or min/max length from 0 ~ 64 |
| Chinese Post Code | Enable | Enable/Disable to read Chinese Post Code |
| | Min Length & Max Length | Set the length qualification to fixed length or min/max length from 0 ~ 64 |
| MSI/ Plessey | Enable | Enable/Disable to read MSI-Plessey |
| | Check Digit Selection | Set check digit to<br>● Without check digit<br>● Single check but no send<br>● Single check and send digit<br>● Double check but no send<br>● Double check and send first digit<br>● Double check and send both digit |
| | Min Length & Max Length | Set the length qualification to fixed length or min/max length from 0 ~ 64 |

| | | |
|---|---|---|
| **Standard 2 of 5** | Enable | Enable/Disable to read Standard 25 |
| | Enable IATA | Enable/Disable to read IATA Code |
| | Check Digit Verification Enable | Enable/Disable to check digit verification |
| | Send Check Digit | Enable/Disable to transmission check digit |
| | Min Length & Max Length | Set the length qualification to fixed length or min/max length from 0 ~ 64 |
| **Industrial 2 of 5** | Enable | Enable/Disable to read Industrial 25 |
| | Check Digit Verification Enable | Enable/Disable to check digit verification |
| | Send Check Digit | Enable/Disable to transmission check digit |
| | Min Length & Max Length | Set the length qualification to fixed length or min/max length from 0 ~ 64 |
| **GS1 Serials** | GS1 Enable | Enable/Disable to read GS1 |
| | GS1 Limited Enable | Enable/Disable to read GS1 Limited |
| | GS1 Expanded Enable | Enable/Disable to read GS1 Expanded |
| | Min Length & Max Length | Set the length qualification to fixed length or min/max length from 0 ~ 64 |
| **Code 11** | Enable | Enable/Disable to read Code 11 |
| | Check Digit Verification Enable | Enable/Disable to check digit verification |
| | Send Check Digit | Enable/Disable to transmission check digit |
| | The number of check digit | Set the number of check digit:<br>● One Check Digit<br>● Two Check Digits |
| | Min Length & Max Length | Set the length qualification to fixed length or min/max length from 0 ~ 64 |

| | | |
|---|---|---|
| Matrix 2 of 5 | Enable | Enable/Disable to read Matrix 25 |
| | Check Digit Verification Enable | Enable/Disable to check digit verification |
| | Send Check Digit | Enable/Disable to transmission check digit |
| | Min Length & Max Length | Set the length qualification to fixed length or min/max length from 0 ~ 64 |
| Telepen | Enable | Enable/Disable to read Telepen |
| | Telepen Mode | Set Telepen to:<br>● Telepen Numeric mode Enable<br>● AIM Telepen mode Enable |
| | Min Length & Max Length | Set the length qualification to fixed length or min/max length from 0 ~ 64 |

2D Reader Barcode Setting , 1D Parameter
The Barcode Setting covers the following settings:

| Symbology | Setting | Function |
|---|---|---|
| EAN8 | Enable | Enable/Disable to read EAN-8 |
| EAN13 | Enable | Enable/Disable to read EAN-13 |
| UPC-A | Enable | Enable/Disable to read UPC-A |
| | Send Check Digit | Enable/Disable to transmission check digit |
| | UPC-A Preamble | Use this option to set supplemental options:<br>● No Preamble<br>● System Character<br>● System Character & Country Code |
| UPC-E | Enable | Enable/Disable to read UPC-E |
| | Send Check Digit | Enable/Disable to transmission check digit |
| | UPC-E Preamble | Use this option to set supplemental options:<br>● No Preamble<br>● System Character<br>● System Character & Country Code |

| | | |
|---|---|---|
| UPC-E1 | Enable | Enable/Disable to read UPC-E1 |
| | Send Check Digit | Enable/Disable to transmission check digit |
| | UPC-E1 Preamble | Use this option to set supplemental options:<br>● No Preamble<br>● System Character<br>● System Character & Country Code |
| EAN/UPC | Bookland EAN Enable | Bookland EAN Enable |
| | Bookland ISBN Format | Use this option to set supplemental options:<br>● Bookland ISBN-10<br>● Bookland ISBN-13 |
| | Decode UPC/EAN/JAN Supplementals | Use this option to set supplemental options:<br>● Ignore Supplementals<br>● Decode UPC/EAN/JAN only with Supplementals<br>● Autodiscriminate UPC/EAN/JAN Suppliementals<br>● Enable smart Supplemental Mode |
| | UPCE to UPCA Enable | The UPCE barcode will be converted into UPCA, and the next processing will follow the settings configured for UPCA |
| | UPCE1 to UPCA Enable | The UPCE1 barcode will be converted into UPCA, and the next processing will follow the settings configured for UPCA |
| | EAN8 and JAN8 Extend | EAN8 and JAN8 Extend |
| | ISBN/ ISSN Conversion | Barcodes starting with 977/978 will be converted to ISBN |
| Code 128 | Enable | Enable/Disable to read Code 128 |
| | Enable | Enable/Disable to read GS1-128 (formarly UCC/EAN-128) |
| | Min Length & Max Length | Set the length qualification to fixed length or min/max length from 0 ~ 64 |
| Code39 | Enable | Enable/Disable to read Code39 |
| | Enable | Enable/Disable to read Trioptic Code 39 |
| | Code 39 to | The Code 39 barcode will be converted into Code 32 |

| | Code 32 Enable | |
|---|---|---|
| | Enable | Enable/Disable Code 32 Prefix |
| | Check Digit Verification Enable | Enable/Disable to check digit verification |
| | Send Check Digit | Enable/Disable to transmission check digit |
| | Enable Full Code39 | Enable: Using full ASCII encoding reading<br>Disable: Direct code reading<br>(Please refer to the specification of code39) |
| | Min Length & Max Length | Set the length qualification to fixed length or min/max length from 0 ~ 64 |
| Code 93 | Enable | Enable/Disable to read Code 93 |
| | Min Length & Max Length | Set the length qualification to fixed length or min/max length from 0 ~ 64 |
| Code 11 | Enable | Enable/Disable to read Code 11 |
| | The number of check digit | Set the number of check digit:<br>● One Check Digit<br>● Two Check Digits |
| | Send Check Digit | Enable/Disable to transmission check digit |
| | Min Length & Max Length | Set the length qualification to fixed length or min/max length from 0 ~ 64 |
| Interleaved 2 of 5 | Enable | Enable/Disable to read Interleaved 25 |
| | Check Digit Verification | Set the number of check digit:<br>● One Check Digit<br>● Two Check Digits |
| | Send Check Digit | Enable/Disable to transmission check digit |
| | Convert Enable | Convert I 2 of 5 to EAN-13 |
| | Min Length & Max Length | Set the length qualification to fixed length or min/max length from 0 ~ 64 |
| Codabar(NW-7) | Enable | Enable/Disable to read Codabar(NW-7) |
| | Min Length & Max Length | Set the length qualification to fixed length or min/max length from 0 ~ 64 |

| | | |
|---|---|---|
| | Enable | Enable/Disable to read MSI-Plessey |
| MSI/ Plessey | Check Digit Selection | Set check digit to<br>● One MSI Check Digit<br>● Two MSI Check Digit |
| | Check Digit Algorithm Selection | Set check digit Algorithm to<br>● MOD 10/MOD 10<br>● MOD 10/MOD 11 |
| | Send Check Digit | Enable/Disable MSI check digit |
| | Min Length & Max Length | Set the length qualification to fixed length or min/max length from 0 ~ 64 |
| Postal Code | Enable | Enable/Disable US Postnet |
| | Enable | Enable/Disable US Planet |
| | Send Check Digit | Enable/Disable Transmit US Postnet and US Planet check Digit |
| | Enable | Enable/Disable UK Postal |
| | Send Check Digit | Enable/Disable to Transmit UK Postal Check Digit |
| | Enable | Enable/Disable Japan Postal |
| | Enable | Enable/Disable Australia Post |

| | | |
|---|---|---|
| GS1 Serials | GS1 Enable | Enable/Disable to read GS1 |
| | GS1 Limited Enable | Enable/Disable to read GS1 Limited |
| | GS1 Expanded Enable | Enable/Disable to read GS1 Expanded |
| Other | Enable | Enable/Disable to read Chinese 2 of 5 |
| | Enable | Enable/Disable to read Korean 3 of 5 |
| | Inverse 1D | Set check digit to<br>● Regular Only<br>● Inverse Only<br>● Inverse Autodetect |

2D Reader Barcode Setting , 2D Parameter
The Barcode Setting covers the following settings:

| | | |
|---|---|---|
| PDF417 | Enable | Enable/Disable to read PDF417 |
| | Enable | Enable/Disable to read MicroPDF417 |
| Data Matrix | Enable | Enable/Disable to read Data Matrix |
| | Data Matrix Inverse | Set check digit to<br>● Regular Only<br>● Inverse Only<br>● Inverse Autodetect |
| QR Code | Enable | Enable/Disable to read QR Code |
| | Enable | Enable/Disable to read MicroQR |
| | QR Inverse | Set check digit to<br>● Regular Only<br>● Inverse Only<br>● Inverse Autodetect |
| Aztec | Enable | Enable/Disable to read Axtec |
| | Aztec Inverse | Set check digit to<br>● Regular Only<br>● Inverse Only<br>● Inverse Autodetect |
| Other | Enable | Enable/Disable to read Maxicode |

# Upload Custom Application

To upload custom application from PC to the data collector:

1.  Power on the data collector and select "3.Utilities" and "6.Load Application" on the data collector main menu.
2.  Connect the cradle to the PC and place the data collector on the cradle.
3.  Open ZAC and click the "Open" icon to select the application file on your PC.
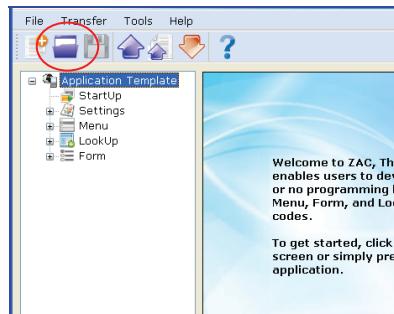
4. Click the "Send Application" icon.
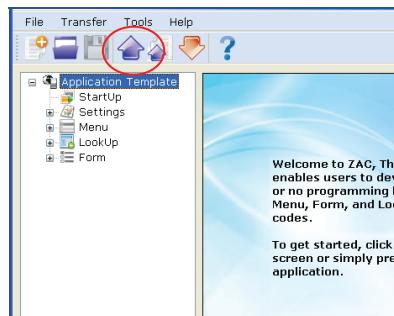


5. Check the Device Manager on your PC for the COM port your data collector is using and select the same COM port in the Communication parameters.
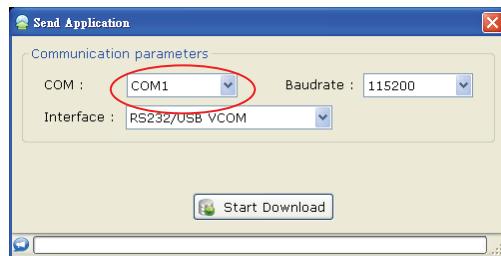


6. Click "Start Download" to send the application to the data collector.

# Upload Scanned Data to PC

To upload scanned data from the data collector to PC:

1. Power on the data collector and select "2.Upload" on the data collector main menu.
2. Connect the cradle to the PC and place the data collector on the cradle.
3. Open ZAC and click the "Direct-Link Data Transfer" icon.
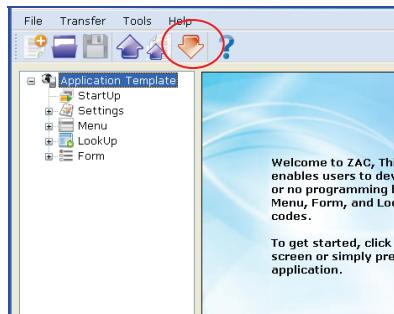


4. Select "Browse" to open the Save as window. Specify the name for your data file and click "Save" to save the file.
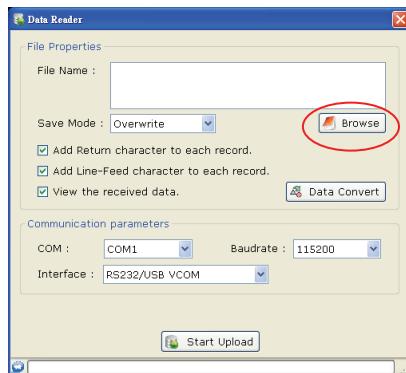
5.    Check the Device Manager on your PC for the COM port your data collector is using and select the same COM port in the Communication parameters.
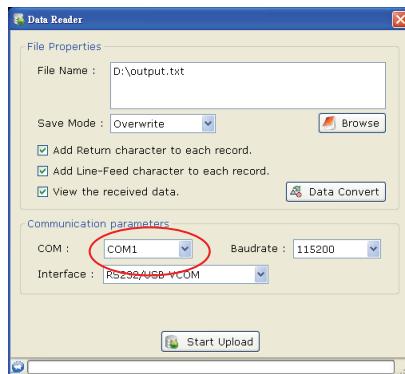


6.    Select the desired save mode (Overwrite or Append).
7.    Click "Start Upload" to upload data.
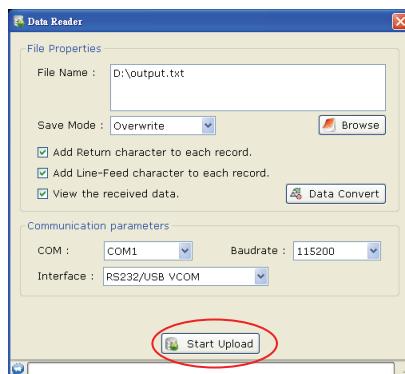


8.    A message appears in ZAC when upload is completed. To view received data, select "Yes", otherwise select "No".
9.    To delete the data you just sent on your data collector, select "Yes" when prompted on the data collector screen. Otherwise select "No".

# Upload Lookup File

To upload lookup file from PC to the data collector:

1. Power on the data collector and select "3.Utilities" and "6.Load Application" on the data collector main menu.
2. Connect the cradle to the PC and place the data collector on the cradle.
3. Open ZAC and click the "Open" icon to select the application file on your PC.
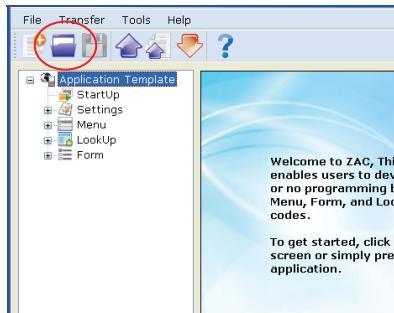


4. Click the "Send Application" icon.
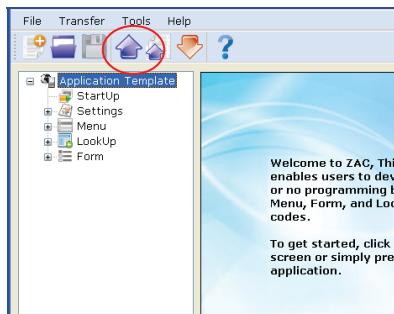
5.    Check the Device Manager on your PC for the COM port your data collector is using and select the same COM port in the Communication parameters.
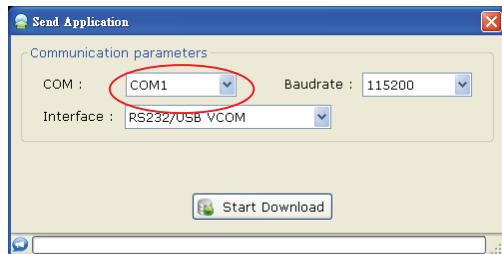


6.    Click "Start Download" to send the application to the data collector.
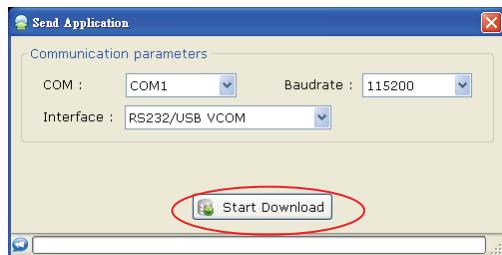


7.    Select "8. Load Lookup" on your data collector and place it back on the cradle.
8.    Click the "Send Lookup" icon.
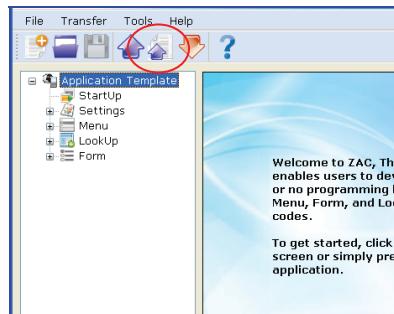
9.	Check the Device Manager on your PC for the COM port your data collector is using and select the same COM port in the Communication parameters.
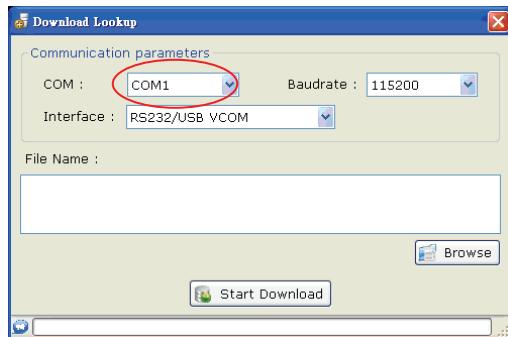


10.	Select "Browse" and select the lookup file.
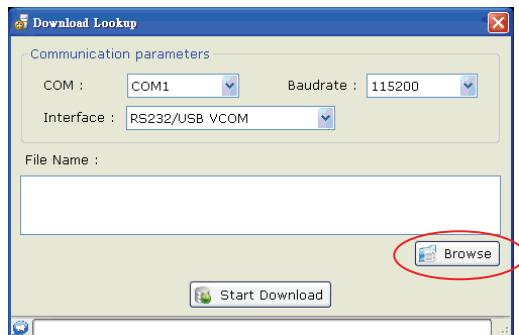


11.	Select "Start Download" to send the lookup file.
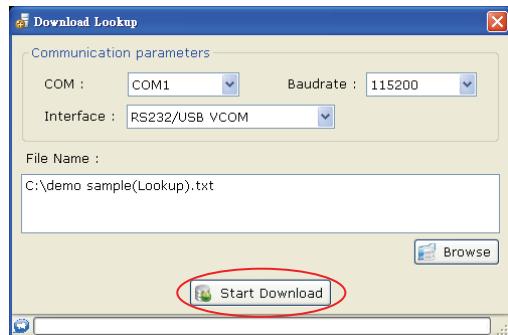
# Convert AGX to ZAC

To import .AGX files into ZAC:

1.    Open ZAC and click the "Open" icon.
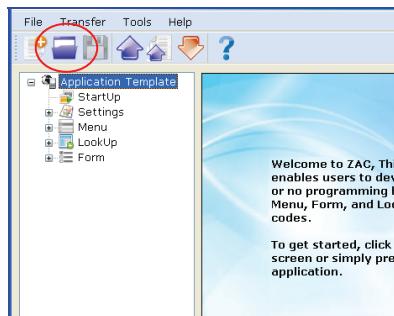


2.    Click the arrow in "File Type" in the Open menu. 2 options appear as illustrated below.
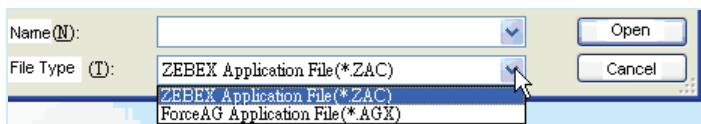


3.    Select the "ForceAG Application File (*.AGX)" option. The .AGX type files will appear.
4.    Select the desired .AGX file and click Open.

# Start Up

Start Up settings allow you to customize the preset settings.

## Customization

1. Run ZAC on your PC.

2. From the navigational pane, select "StartUp" to expand the menu and select one of the menus or simply select "Start Up" from the working area. Check the following section for the options you can configure.
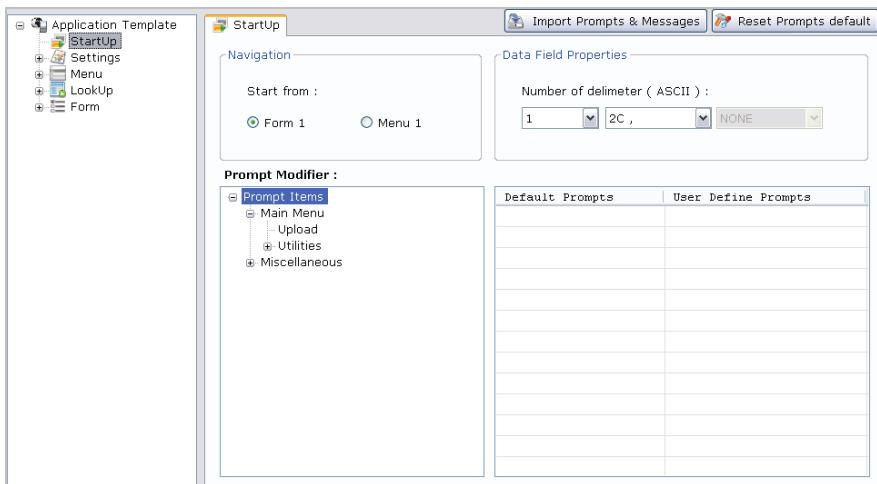


## Navigation

Select an option to start the application from:
● Form 1
● Menu 1

## Import Prompts & Message

Click this button to import existing template file for the prompts and messages.

# Reset Prompts Default

Click this button to load the pre-defined default prompts.


# Data Field Properties

Data Field Properties are used to provide the information about the data structure.

| Setting | Value | Function |
|---------|-------|----------|
| Number of delimiter (ASCII) | Nil ~ 2 | Delimiter is used to separate the data fields. Set the number of delimiter you are using and set the delimiter using included ASCII characters |


# Prompt Modifier

Select + to expand the menu tree on the left and select an item to display its default prompts on the right. You may change the default prompts by editing them in the "User Define Prompts" fields.
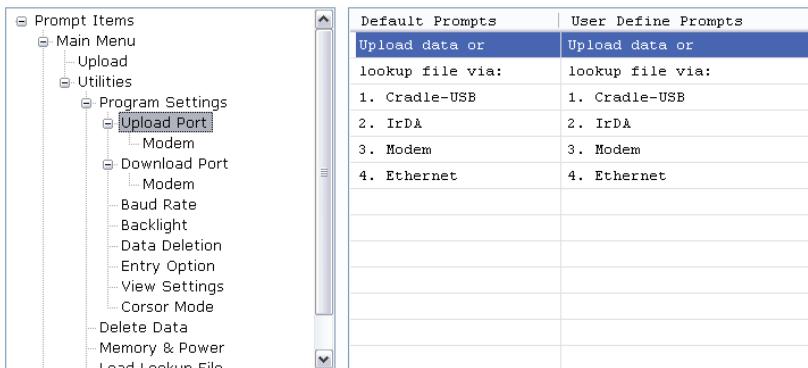
# Managing Menus

A menu is used to display commands that allow users to access various data collecting forms. Users can add one or more forms to a menu, and use multiple menus to create an application template.

## Customizing a Menu

1.  Run ZAC on your PC.

2.  From the navigational pane, select "Menu" to expand the menu and select one of the menus or simply select Menu from the navigational pane and click "Menu" from the working area. Check the following section for the options you can configure.
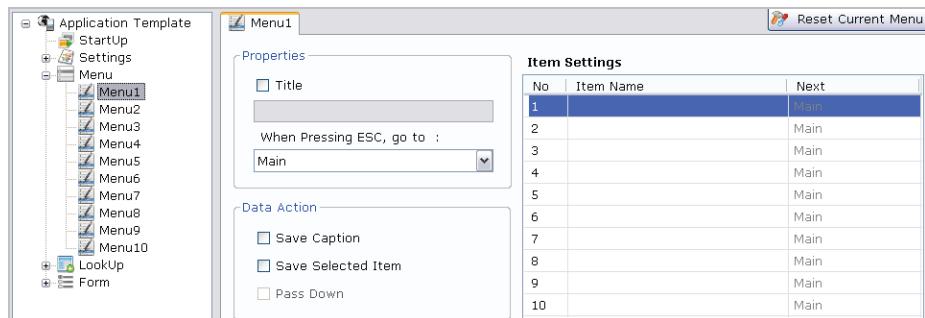
## Properties

Properties cover the following settings:

| Setting | Value | Function |
|---------|-------|----------|
| Title | n/a | Configure the menu title display |
| ESC | Main, Form1 ~ Form10, Menu1 ~ Menu10 | Select the function to perform when ESC is pressed |

## Data Action

Data Action covers the following settings:

| Setting | Function |
|---------|----------|
| Save Caption | Check this option to save the menu caption to the transaction record with the data |
| Save Selected Item | Check this option to save the name of the selected item to the transaction record |
| Pass Down | When "Save Selected Item" is checked, this option becomes available. Check this option to pass down the enabled information to the next form |

## Item Settings

Use this option to manage items in a menu. Item Settings cover the following settings:

| Setting | Value | Function |
|---------|-------|----------|
| Item Name | n/a | Enter the item names to be displayed in the menu |
| Next | Main, Form1 ~ Form10, Menu1 ~ Menu10 | Assign a form or menu to the selected item name |

## Reset Current Menu

Select this option to reset the device back to default settings.

# Managing Lookup Files

A lookup file is used for information reference in a database. It makes it possible for users to check what are stored on the database and retrieve information when necessary. Up to three lookup files are supported by ZAC.

## Customizing a Lookup file

1. Run ZAC on your PC.

2. From the navigational pane, select "Lookup" to expand the menu and select one of the Lookup Files or simply select Lookup from the navigational pane and click "Lookup" from the working area. Check the following section for the options you can configure.
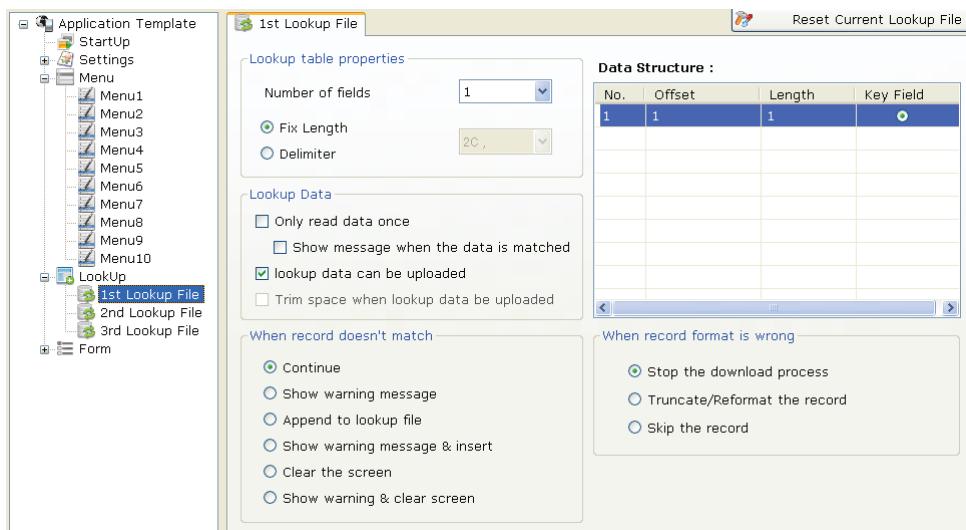
# Lookup Table Properties

Lookup Table Properties are used to provide the information about the data structure.

| Setting | Value | Function |
|---------|-------|----------|
| Number of Fields | 0 ~ 8 | Set the number of fields in the lookup file you are using. You must set a number that is no smaller than the lookup file's actual field amount |
| Fixed Length | n/a | Select this option to set fixed length for the data in lookup files |
| Delimiter | ASCII characters | Delimiter is used to separate the data fields. Use this option to set the delimiter using included ASCII characters |

# Lookup Data

Lookup Data configures how the data in the lookup file should be handled.

| Setting | Function |
|---------|----------|
| Only read data once | Check this option to restrict a key field data to only one reading |
| Show message when the data is matched | Check this option to show message when the data is matched |
| lookup data can be uploaded | Check this option to allow lookup data to be uploaded from data collector to host |
| Trim space when lookup data be uploaded | This option becomes available when the Delimiter option is checked. Select this option to remove the spaces in a lookup file that has delimiters when it is uploaded to your PC |

# When record doesn't match

This setting configures the actions for the data collecting form to take when the incoming data finds no match in the lookup files.

| Setting | Function |
|---|---|
| Continue | Select this option to allow the incoming data input into its field even if no match in the lookup files is found<br>If the "Record" mode of the data collecting form is set to "Save", "Save & update", "Save & output record", "Save & output screen" or "Save & remove" on the Form property page, data can only be saved in a data file |
| Show warning message | Select this option to display a warning message when no match is found in the lookup files |
| Append to lookup file | Select this option to allow the incoming data input into its field even if no match in the lookup files is found. The data will be saved as a key lookup file.<br>The incoming data will be written into the target lookup file if the Record mode of the data collecting form is set to "Update lookup", "Save & update", "Remove from lookup", or "Save & remove" |
| Show warning message & insert | Select this option to display a warning message before accepting the incoming data into the lookup file even if no match is found in the lookup file |
| Clear the screen | Select this option to clear the screen when no match is found in the lookup files |
| Show warning & clear screen | Select this option to display a warning message before clearing the screen when no match is found in the lookup files |

# Data Structure

Data Structure covers the following settings:

| Setting | Function |
| --- | --- |
| Offset | This option becomes available when "Fixed Length" is selected. It is used to specify the start position for each referred data field |
| Length | Specify the fixed length/maximum length for each referred data field in Fixed Length/Delimiter. The maximum value is 255 |
| Key Field | Select a key field so that an index file can be created for the lookup file |

# When record format is wrong

This setting configures the actions for the data collecting form to take when the incoming data format is wrong.

| Setting | Function |
| --- | --- |
| Stop the download process | Select this option to stop the downloading process if the record format is wrong |
| Truncate/Reformat the record | Select this option to truncate/reformat the data during downloading if the record format is wrong |
| Skip the record | Select this option to continue downloading but discard the mismatched data |

Reset Current Lookup File
Select this option to reset the current form back to default values.

# How to use Lookup with ZAC/Data Collector

Lookup table serves as a reference database. Scanned data is first compare with corresponding data fields on the lookup table with pre-define rules and conditions. If they are met, comparison result will appear on the screen; if not met, warning messages will alert the user, or prompting user to take necessary actions.

Setting up lookup table is straight-forward and simple. The process usually involves the following steps:

1) Locate / produce lookup table (usually in TXT format).
2) Launch ZAC to setup relationship between application and lookup table.
3) Setup rules and conditions when comparing data with lookup table.
4) Send both the custom application + lookup table to data collector.
5) Test your application.

# Locate / Produce Lookup Table

Lookup table usually contains rows and columns of data field. Each filed will be pre-define and contains different pieces of information such as name, barcode, or quantity, etc. You can create the table, or you can export all the data out from existing database. Below you will find an example of lookup table in TXT format.

```
00001,Juice,10,Market
00002,Cookie,11,Candy Shop
00003,Wine,22,Market
00004,Chocolate,33,Candy Shop
00005,Water,44,Market
00006,Coke,55,Market
00007,Sandwich,66,Grocery Store
00008,Hamburger,77,Grocery Store
00009,Milk,88,Market
00010,Black Tea,99,Markets
```

Notice a typical lookup table will contains all your records separated by ",". Each record is uniquely identified by at least one column (in this case, the unique identifiable column would be the first column, item number which starts with 0001, 0002...). A column heading may or may not be necessary for the lookup table to work properly.

# Setting up Relationship

Once the lookup table has been gathered, we now need to design custom application which will "link" to specific lookup table. Keep in mind in any ZAC application; you can have up to three lookup tables. Each form can only be link to one lookup table at anytime. Before you can import/upload the lookup table to data terminal, you will need to setup rules and conditions during import and compare.
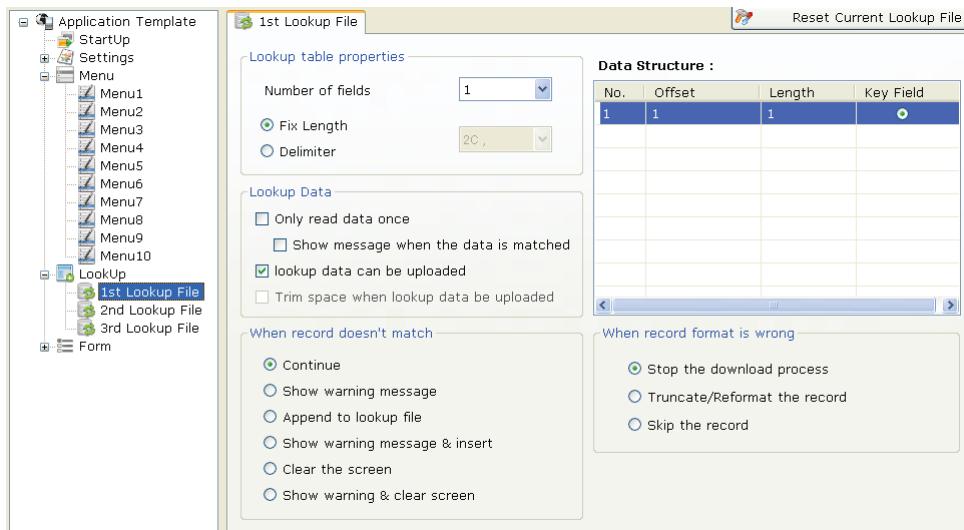


Here you can setup the properties, rules when record doesn't match, rules when record format is wrong, and preview the data structure of the lookup table. Keep in mind the data structure has to match the data structures on the TXT file. If they don't match, error message may appear according to the rules specified in the "When record format is wrong" section.

For more information on the description of each rules and condition, please refer to ZAC user's manual Managing Lookup Files.

## Sending Lookup to Data Terminal

Once the data structure and rules have been setup, it is time to upload the lookup table to data terminal. In order for lookup table to function properly, you will need to up load custom application first, follow by lookup table. If you receive error message during lookup table uploading process, you need to go back to ZAC and adjust the data structure to match the data structure of your lookup table.

For instruction on how to upload application and lookup up table, please refer to ZAC user's manual Upload Custom Application and Upload Lookup File.

## Test and verified

Once both application and lookup table have been uploaded, execute (by going back to Main Menu and press 1. Collect). If all goes well, when you input one of the data listed in the uniquely identifiable column, data terminal will display the corresponding search result on the screen. If you are getting "record not found…" error message, you need to go back to ZAC and check application settings under Form and Lookup.

# Managing Forms

A form consists of a sequence of inputs that can take on various values for data collecting purpose. You can add one or more forms to a menu, and use multiple menus to create an application template. You can also connect forms and menus to each other to fit your data collecting needs.

A form is designed to ask for inputs on the screen when it is run on the data collector. Once all the input fields are completed, the inputted data will be stored as a transaction record and saved into a "data file" on the data collector. You can add the transaction record to the lookup database that the form refers to, or directly output it to a printer.

## Customizing a Form

1. Run ZAC on your PC.

2. From the navigational pane, select "Form" to expand the menu and select one of the Forms or simply select "Form" from the navigational pane and click "Form" from the working area. Check the following section for the options you can configure.
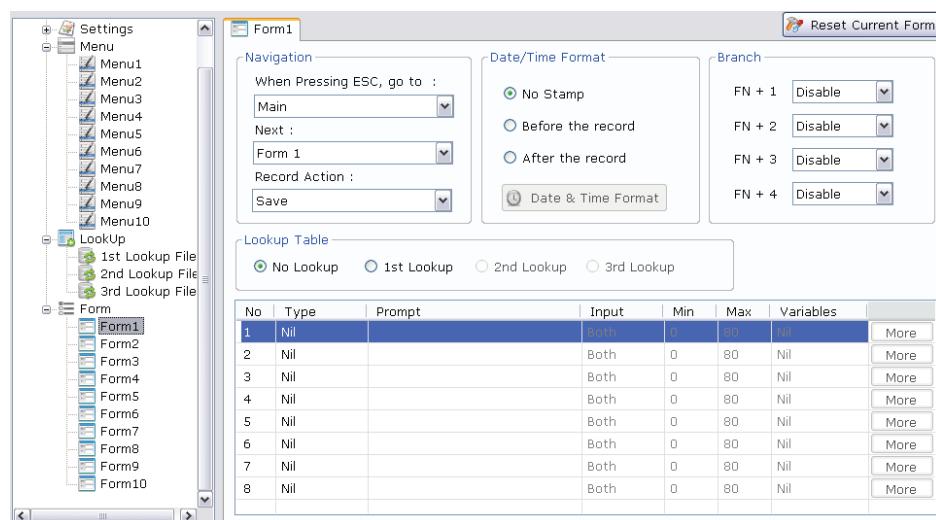
# Navigation

Navigation covers the following settings:

| Setting | Value | Function |
|---------|-------|----------|
| ESC | Main, Form1 ~ Form10, Menu1 ~ Menu10 | Select the function to perform when ESC is pressed |
| Next | Main, Form1 ~ Form10, Menu1 ~ Menu10 | Select the next function to execute when the current form of work is completed |
| Record Action<br><br>The Record function tells the system what to do when all the input fields of a form is completed | Save | Saves the record in order |
| | Update Lookup | Update the lookup file associated with the form |
| | Save & Update | Save the record in order and updates the lookup file |
| | Pass down | Pass down the data to the next form or menu without saving |
| | Output record | Outputs the record directly to a printer instead of saving it to a file |
| | Output screen | Outputs what is displayed on the screen such as the prompts and data collected |
| | Save & output record | Save the record in order and output it directly to a printer |
| | Save & output screen | Save the record in order and output what is displayed on the screen |
| | Remove form look up | Remove the record from the lookup file |
| | Save & remove | Save the record in order and removes it from the lookup file |

# Time Stamp

Use this feature to set the date and time stamp written format.
Options available are:

| Setting | Function |
|---------|----------|
| No Stamp | Write data without using date and time stamp |
| Before the record | Date and time stamp added to the front |
| After the record | Date and time stamp added at the end |

Date & Time Stamp Settings

| Setting | Value | Function |
|---------|-------|----------|
| Separate DATA stamp and Time stamp to two fields | User defined | The date + time format delimiter |
| Year | 4 Digits (YYYY) 2 Digits (YY) | Enable/Disable years format, used to write data reference. |
| Month | n/a | Enable/Disable month format |
| Day | n/a | Enable/Disable day format |
| Separator | User defined | The date format delimiter |
| Date Style | Year.Month.Day1 Month.Day.Year1 Day.Month.Year1 | Select the date format combinations. |
| Hour | n/a | Enable/Disable hour format |
| Minute | n/a | Enable/Disable minute format |
| Second | n/a | Enable/Disable seconds format |
| Separator | User defined | The time format delimiter |

## Lookup Table

Lookup files are used to provide the information about the data structure. You must first configure the lookup file settings before this option becomes available. The lookup table covers the following settings:

| Setting | Value | Function |
|---|---|---|
| Lookup Table | No Lookup<br>1st Lookup<br>2nd Lookup<br>3rd Lookup | Select a lookup file as the reference file when fetching data. Select no lookup to use the pre-defined initial value |

## Branch

Branch configures the keypad shortcut for the data collector to switch between the forms and menus. Up to four shortcuts can be configured.

| Setting | Value | Function |
|---|---|---|
| Fn + 1<br>Fn + 2<br>Fn + 3<br>Fn + 4 | Disable,<br>Form1 ~ Form 10 | Configuring additional Fn + 1~ Fn + 4 shortcuts operations |

## More

Press the "More" button for advanced settings:
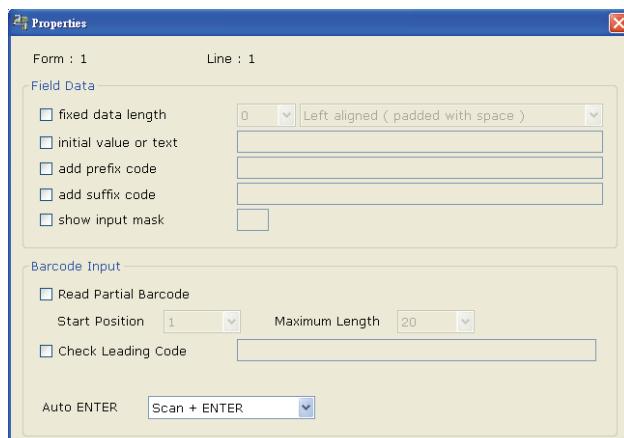
Field Data

| Setting | Value | Function |
|---------|-------|----------|
| fixed data length | 0 ~ 255,<br>Left aligned (padded with space),<br>Right aligned (filled with space),<br>Left aligned (padded with 0),<br>Right aligned (filled with 0) | Check this option and select a value and alignment to set the data length within the specified value |
| initial value or text | User defined (up to 9 characters) | Check this option and enter a value or text to display the initial value or text on the data collector screen. The value or text will be replaced by data input |
| add prefix code | User defined(up to 10 characters) | Check this option and enter a value or text to add a prefix code such as a $ sign in front of the inputted data |
| add suffix code | User defined(up to 10 characters) | Check this option and enter a value or text to add a suffix code after the inputted data |
| show input mask | User defined(only 1 character) | Check this option and enter a mark or symbol such as an asterisk (*) to highlight the input field |

Barcode Input

| Setting | Value | Function |
|---------|-------|----------|
| Read Partial Barcode Start Position | Start Position: 1 ~ 80<br>Maximum Length: 1 ~80 | To collect only a part of the barcode scanned, check this option and set the start and maximum length of the data |
| Check Leading Code | User defined(up to 6 characters) | Check this option and enter a value or text to enable leading code check. When the leading characters do not match the entered code, the barcode will be rejected |
| Auto Enter | No<br>Scan + Enter<br>Enter + Scan | Configure the use of the Enter key for input |

# Data Collecting

The bottom half of the Form settings are used to configure the elements of the input fields in a data collecting form.

| No | Type | Prompt | Input | Min | Max | Variables | |
|----|------|--------|-------|-----|-----|-----------|------|
| 1 | Nil | | Both | 0 | 80 | Nil | More |
| 2 | Nil | | Both | 0 | 80 | Nil | More |
| 3 | Nil | | Both | 0 | 80 | Nil | More |
| 4 | Nil | | Both | 0 | 80 | Nil | More |
| 5 | Nil | | Both | 0 | 80 | Nil | More |
| 6 | Nil | | Both | 0 | 80 | Nil | More |
| 7 | Nil | | Both | 0 | 80 | Nil | More |
| 8 | Nil | | Both | 0 | 80 | Nil | More |

Data Type

| Setting | Value | Function |
|---------|-------|----------|
| Nil | None | Select this option to reject any data regardless of the format |
| Text | $1a2b3c=-*/… | Select this option to accept any ASCII character |
| Integer | …-1,0,1,2… | Select this option to accept whole numbers |
| Real | 8.88 | Select this option to accept any number with a decimal |
| Letter | Aa ~ Zz | Select this option to accept any letter |
| Auto [+/-] | 8, 8.88 | Select this option to accept Real and Integer numbers and perform arithmetic + or – depending on the field setting |
| Boolean | 0 or 1, Y or N, T or F… | Select this option to accept a true or false type input |
| Lookup | Matching data | No data accepted. Select this option to fetch associated lookup value for reference |
| Fixed Data | Pre-defined | No data accepted. Select this option to show data pre-defined in the Prompt field. Fixed Data will be saved as part of the transaction record |
| Prompt | Pre-defined | No data accepted. Select this option to show data pre-defined in the Prompt field. Prompt will not be saved as part of the transaction record |
| Counter | Counter | No data accepted. Select this option to record the count of user's data collecting process |
| Passdown | Data from previous form | Select this option to imports the data collected by the previous form that is set to Pass down for the Record mode |
| Extension | Space | No data accepted. Select this option to reserve field space for an input field above it when it is too long to completely display on the screen |
| Pause | User defined | No data accepted. Select this option to show an alert defined in the Prompt field |
| Alphameric | ABC123xyz | Select this option to accepts any alphabetic, numeric, or alphanumeric characters |

| Setting | Value | Function |
|---|---|---|
| Date | YYYY/MM/DD | Write data using date stamp. |
| Time | HH:MM:SS | Write data using time stamp. |
| Accumulator | Accumulator | No data accepted. Select this option to record the count of user's data collecting process. Change accumulator parameter in "More" option. |

Prompt

| Setting | Value | Function |
|---|---|---|
| Prompt | User defined | Used for the label or name of an input field. Enter a string for an input field if necessary |

Input Type

| Setting | Value | Function |
|---|---|---|
| Input Type | Reader, Keypad, Both | Select the option to set where the data is collected from. "Auto Enter" in the barcode settings must be enabled for the Reader option to function |

Minimum Length

| Setting | Value | Function |
|---|---|---|
| Min | 0 ~ 80 | Set the minimum length of the input data |

Maximum Length

| Setting | Value | Function |
|---|---|---|
| Max | 0 ~ 80 | Set the maximum length of the input data |

Fields

Fields are only available when the data collecting form is set to refer to a lookup file.

| Setting | Value | Function |
|---------|-------|----------|
| Fields | Nil | Accept no data |
| | Field 1, Field 2… | Select to set an input field to either admit the data read or fetch lookup value |

<u>Variables</u>

Variables are only used when the data collecting form is not referring to any lookup file.

| Setting | Value | Function |
|---------|-------|----------|
| Variables | Nil | Accept no data |
| | get v1 ~ get v8, set v1 ~ set v8 | Input field set to "set v1" can be fetched by the input field set to "get v1" in the succeeding form; input field set to "get v1" can fetch the data from input field set to "set v1" |
| | get & setv1~ get & setv8 | Input field set to get & setv1 will fetch the value from an input field set to set v1 in the preceding form and sets the fetched value to the new variable that is to be fetched by the succeeding from. This selection is applicable when a data needs to pass down to an over next form |

# Reset Current Form

Select this option to reset the current form back to default values.