CipherLab
User Guide

CipherWeb

For 8600 Series Mobile Computers

DOC Version 1.03

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RELEASE NOTES

Version	Date	Notes
1.03	July, 08, 2015	▸ Modified: separate Keypad Backlight into two sections: **1.2 LCD Backlight** and **1.3 Keypad Backlight** ▸ Modified: **1.5 Encoding** – Traditional/Simplified Chinese added with the Unicode checkbox
1.01	Feb. 11, 2015	▸ Modified: **4.2** – Input Mode item added for the Screen Controls group box ▸ New: **9.1.3 Tags Relating to Color Attributes**
1.00	Aug. 14, 2014	▸ Initial Release

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INTRODUCTION

The CipherWeb is basically a web browser client loaded to the mobile computer allowing users to access the Internet/Intranet via Wi-Fi connections. The CipherWeb package consists of two parts – one is the configuration utility running on your PC, and the other is the runtime program loaded to the mobile computer.

The configuration utility features a windows-based interface through which users are allowed to configure settings for CipherWeb including readers, networking, and hardware. As for the web client (runtime program), it is capable of handling negotiations between the mobile computer and the web server, and interprets the content of the web page.

This manual serves to provide comprehensive understanding of CipherWeb, and helps establish a Wi-Fi connection. We recommend that you read the document thoroughly before use and keep it at hand for quick reference.

Thank you for choosing CipherLab products!

SYSTEM REQUIREMENTS

To run the configuration utility, one of the Windows operating systems is required:

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

FEATURES

- Supports tags compliant with HTML 4.01
- HTTP 1.0 compliant
- Easy-configured graphic interface utility
- Capable of inserting data into an input field on the web page via reading barcodes or RFID tags
- Easy cloning by saving user settings to a configuration file (.CWS)
- Supports cursor tracking, font size options, auto-submit etc.
- Supports key mapping
- Supports control for barcode reader as well as RFID reader
- Supports control for beeper and vibrator
- Supports URL locked-down

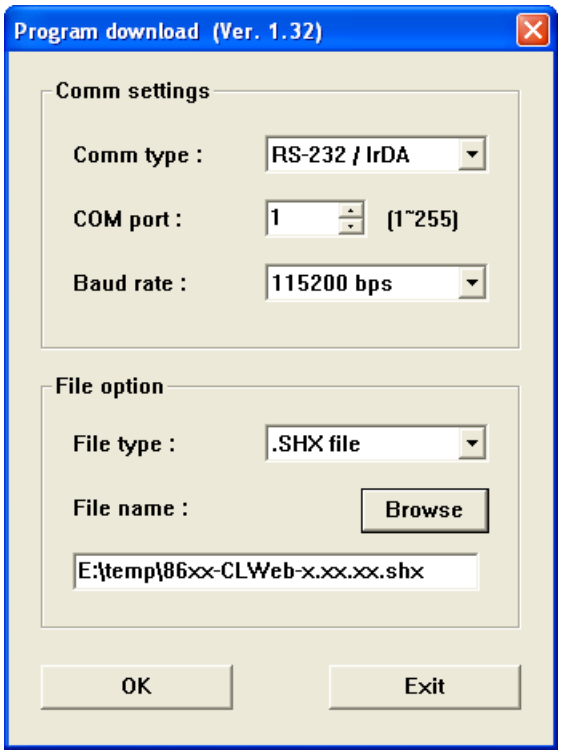
GETTING STARTED

DOWNLOAD RUNTIME

I) Run the **ProgLoad.exe** utility on the included product CD to download the CipherWeb runtime program (.SHX) to the mobile computer. The runtime program can also be found on the CD.

Associated Runtime Program

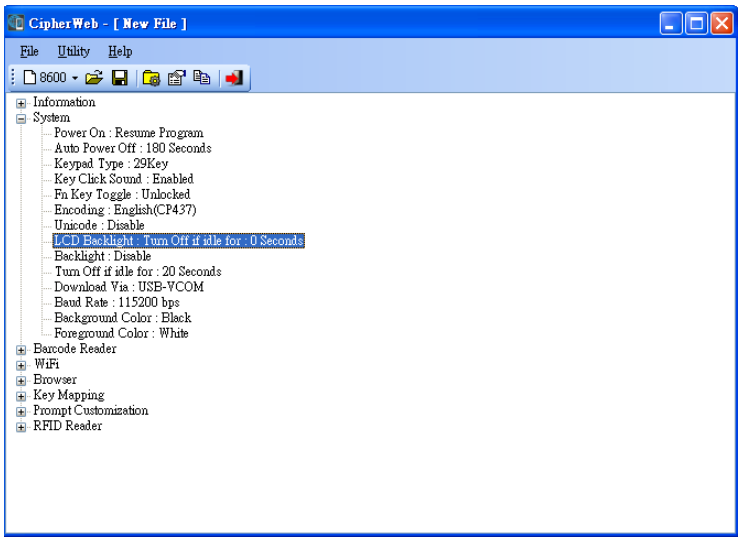
86xx-CLWeb-x.xx.xx.SHX : Download this program file to the mobile computer.



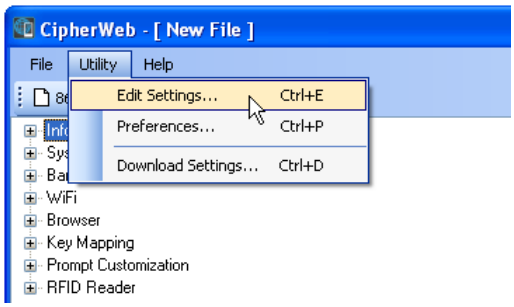
2) On the mobile computer, press [7] + [9] + [Power] simultaneously to enter **System Menu | Load Program**. And then choose the appropriate download interface depending on handy connections or what you prefer.

DOWNLOAD SETTINGS (.CWS)

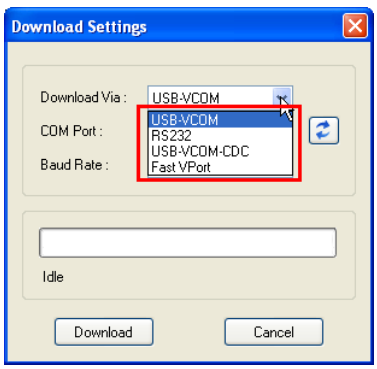
1) Run **CipherWeb.exe** from the Product CD. The associated information and default settings of the mobile computer will be displayed as below.



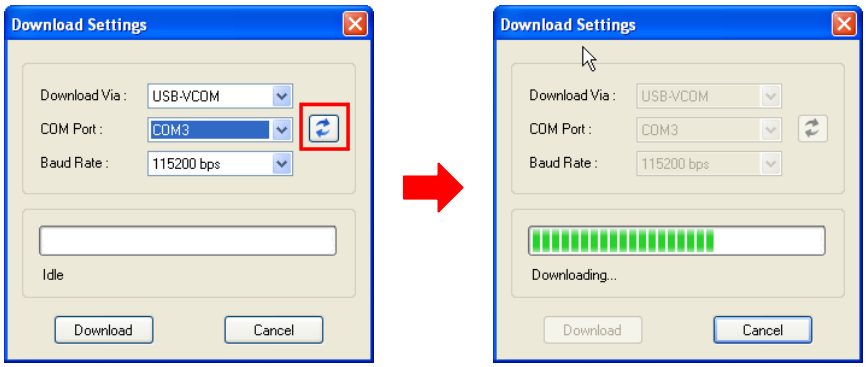
2) Click **Utilities | Edit Settings** to configure the current user settings for the mobile computer.



3) After you have finished all settings, click **File | Save** to save the current user settings to a configuration file (.CWS) and then download it to the mobile computer. Click **Utilities | Download Settings** to bring up the dialog box. Select an interface to download settings such as RS-232, USB-VCOM, USB-VCOM-CDC (depending on the VCOM driver installed on your PC), or FastVPort. Specify Baud Rate when you download via RS-232. Meanwhile, turn on the mobile computer and connect to your PC with the appropriate RS-232/USB/FastVPort cable.



4) Users have to specify the COM port manually. Click the button next to the **COM Port** drop-down menu to refresh the options listed. When ready, click the **Download** button to start downloading. When you see the "Download complete!" message displaying below the progress bar, click the close button at the top-right corner or the **Cancel** button to close the dialog box.



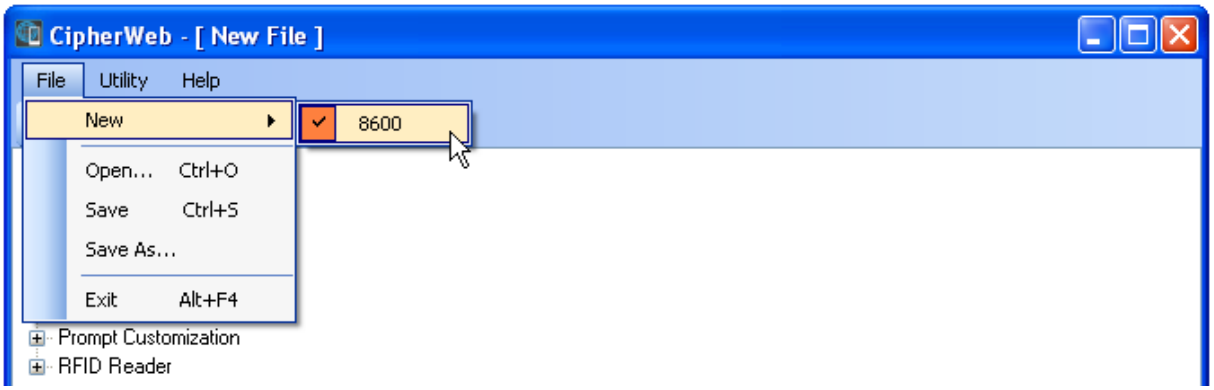
5) From the **CipherWeb** runtime menu on the mobile computer, select **1. Browser** to connect to the web page which was designated in the Home URL field in the configuration file.

The mobile computer (configuration file loaded with Wi-Fi settings) will connect to the web server via the associated access point. If you want to end the negotiation, press the ESC button to return to the runtime menu.

WORKING WITH MENUS & TOOLBAR

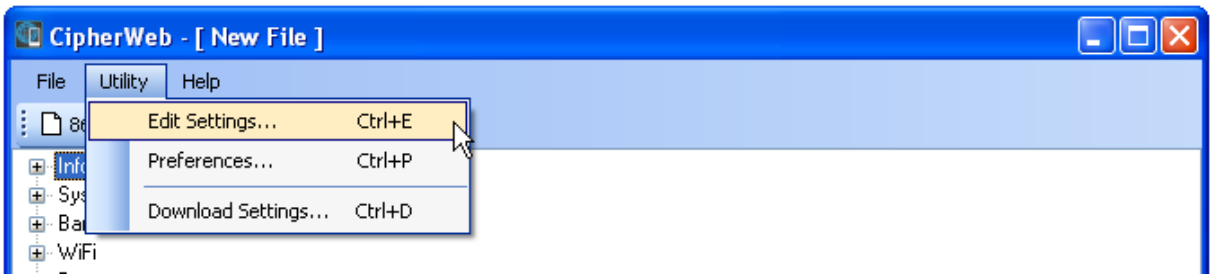
The menu bar contains a number of menus that specify tasks to be performed by system. Each menu contains a list of commands.

FILE MENU



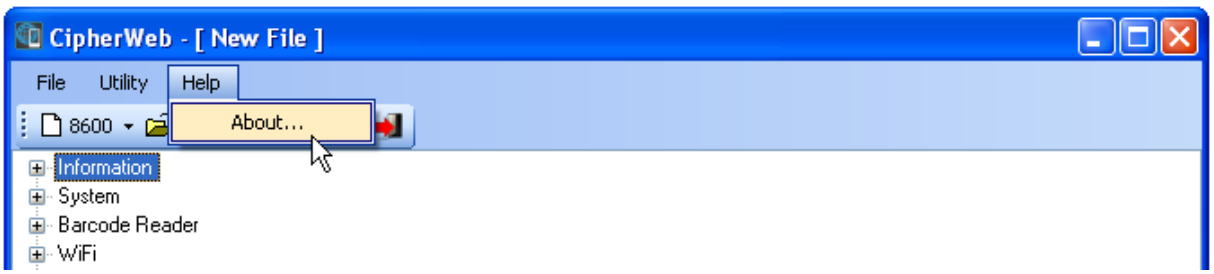
Command	Action...
New	To create a new configuration file for the web client. Refer to each chapter.
Open	To open an existing configuration file.
Save	To save the current settings to a configuration file (.CWS).
Save As	To save the current settings to a new .CWS file.
Exit	To close the application.

UTILITIES MENU



Command	Action...
Edit Settings	To configure the current user settings. Refer to each chapter. ▸ System Settings ▸ Barcode Settings ▸ Wi-Fi Settings ▸ Browser Settings ▸ Key Mapping Settings ▸ Prompt Customization Settings ▸ RFID Reader Settings
Preferences	To select a language file for CipherWeb user interface from the pop-up dialog.
Download Settings	To configure the download interface, COM port and Baud rate settings between host computer and mobile computer.

HELP MENU



Command	Action...
About	To show version information about CipherWeb. ▸ Version information is also available from the tree view.

TOOLBAR

The toolbar allows quick access to commands that are available in the current stage.

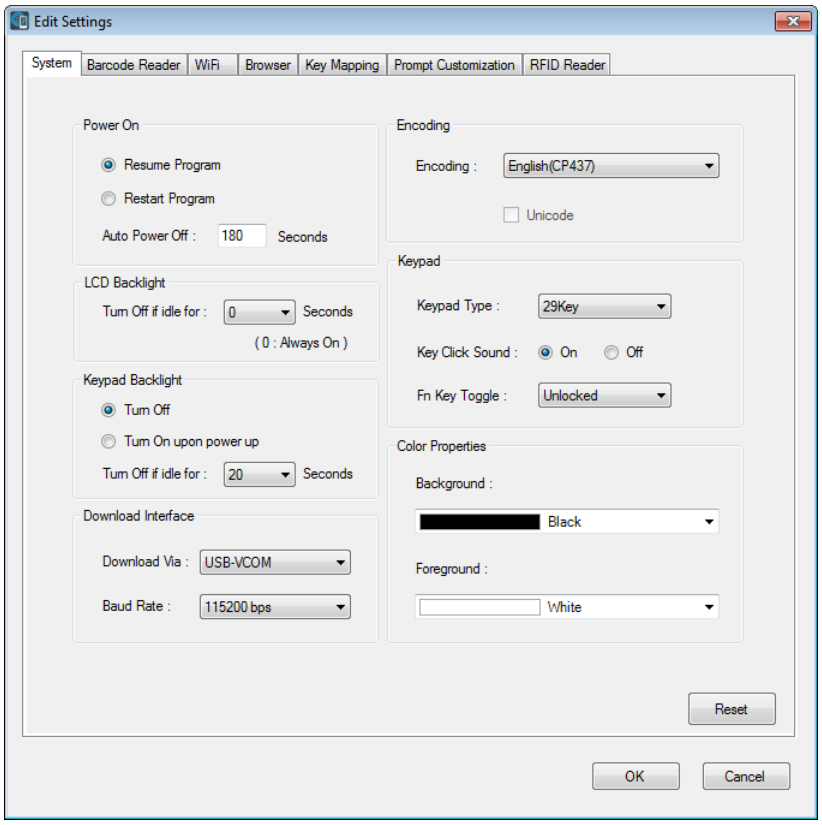
From left to right, they stand for the following commands:

	File Menu | New
	File Menu | Open
	File Menu | Save
	Utilities Menu | Preferences
	Utilities Menu | Edit Settings
	Utilities Menu | Download Settings
	File Menu | Exit

Chapter 1

SYSTEM SETTINGS

The CipherWeb configuration utility running on your PC offers the convenience of using the graphic interface to configure all of the settings for the mobile computer. Once the configuration file (.CWS) has been downloaded to the mobile computer, the new settings will take effect immediately.



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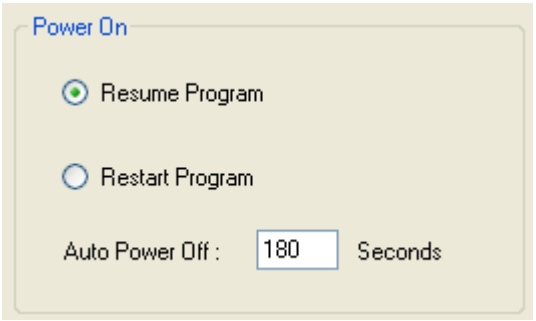
1.3 Keypad Backlight 11
1.4 Download Interface 11
1.5 Encoding 12
1.6 Keypad 12
1.7 Color Properties 13
1.8 Reset 13

1.1 POWER ON



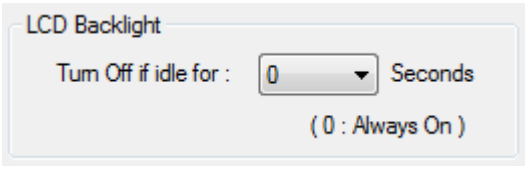
Resume Program: By default this radio button is selected to have the mobile computer start from the latest running program at the time it is turned off.

Restart Program: If selected, the mobile computer will start from the **CipherWeb Runtime Menu**.

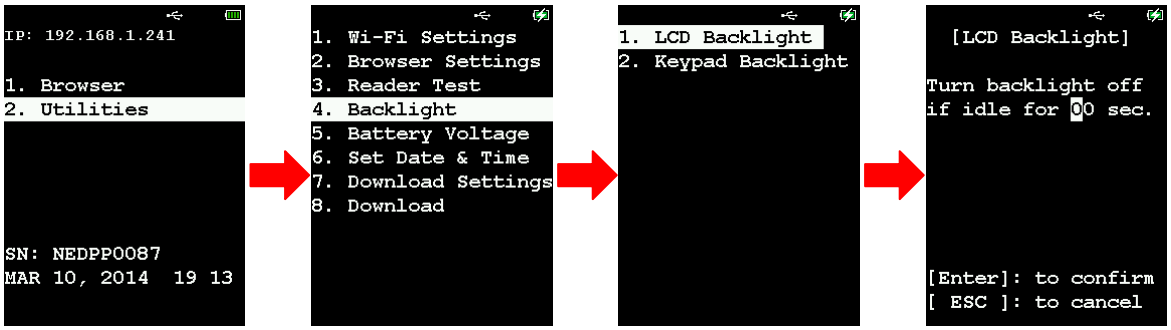
Auto Power Off: By default, the mobile computer will be automatically turned off when no operation is taking place within 180 seconds. If RFID is enabled, this function will be ignored.

1.2 LCD BACKLIGHT

The LCD backlight is always on (duration assigned with zero) by default. You can determine the idle duration for turning off backlight automatically by specifying 10, 20 or 30 seconds.

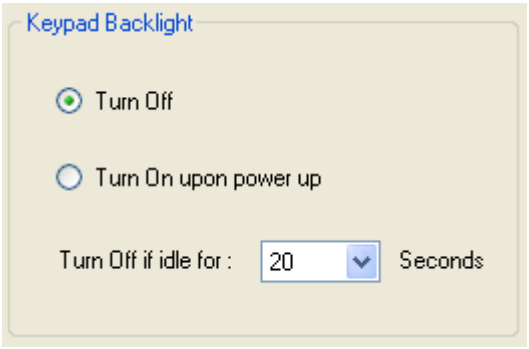


Anytime users can also configure backlight settings depending on ambient light conditions via the **Backlight** menu on the mobile computer.



1.3 KEYPAD BACKLIGHT

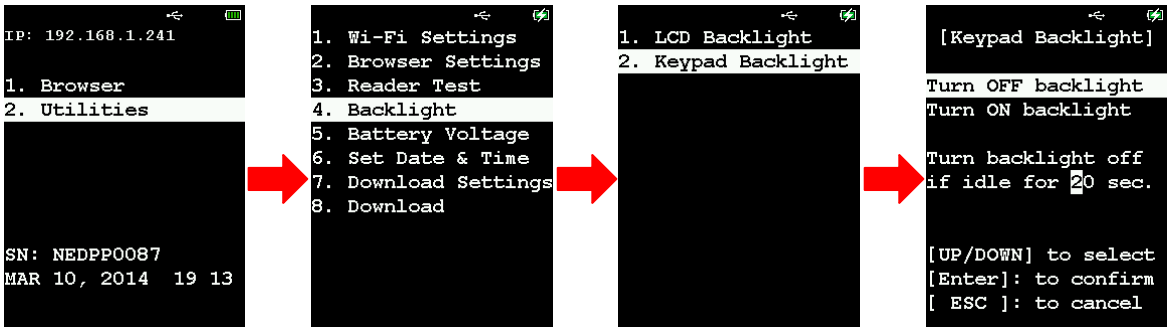
Users can decide to have the mobile computer turn on the keypad backlight by pressing any key. This is to help read characters printed on the keys while in dark environments.



By default, the mobile computer keypad backlight is turned off.

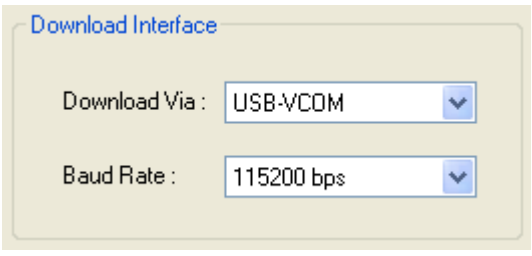
With the **Turn on upon power up** radio button selected, you can specify a period of idle time ranging from 10 to 90 seconds (in 10-second increments) to turn the backlight off automatically.

Anytime users can also configure backlight settings depending on ambient light conditions via the **Backlight** menu on the mobile computer.



1.4 DOWNLOAD INTERFACE

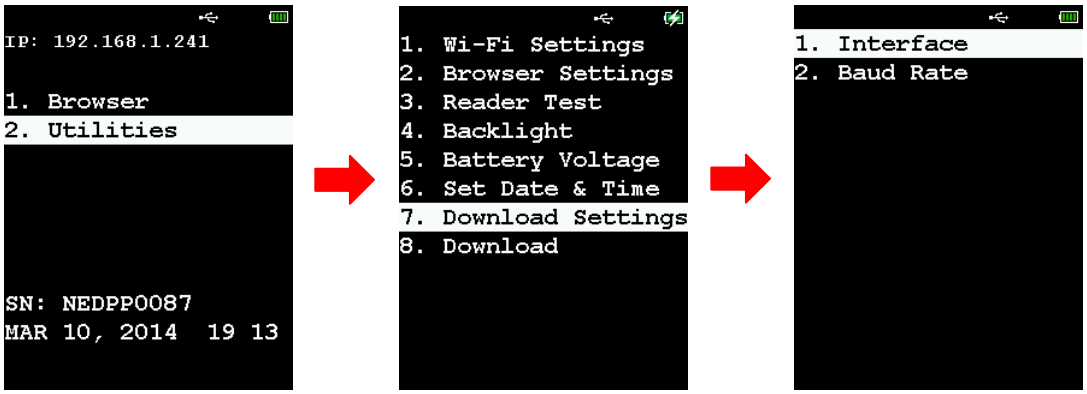
Select the download interface to send configuration file (.CWS) to the mobile computer.



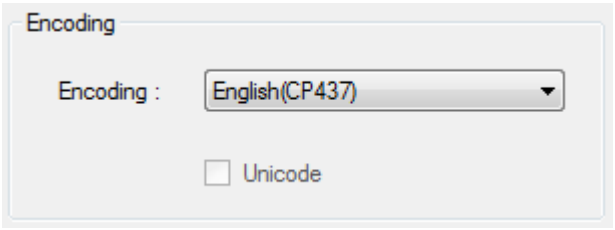
Download Via: Click the drop-down menu to select download interfaces including USB-VCOM, RS-232, USB-VCOM-CDC, and FastVPort.

Baud Rate: This setting needs to be configured only when you have selected RS-232 as the download interface. Please specify the baud rate ranging from 9600 to 115200 bps.

On the mobile computer, you can also configure download settings depending on handy connections via the **Download Settings** menu.



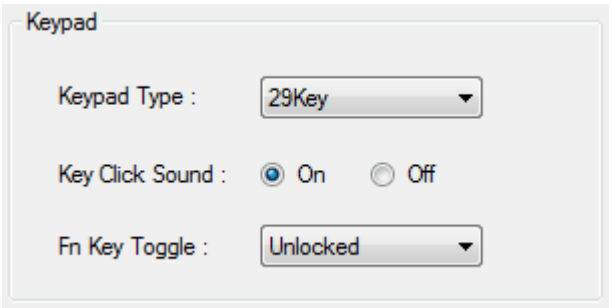
1.5 ENCODING



Click the drop-down menu to select a font file language encoding scheme for the mobile computer. CipherWeb supports English, Traditional Chinese, and Simplified Chinese font file languages. With Traditional/Simplified Chinese selected, the checkbox is then available for UTF-8 encoding.

1.6 KEYPAD

Configure settings for the keypad. Control items on the Key Mapping tab will then be changed according to the selected keypad type.



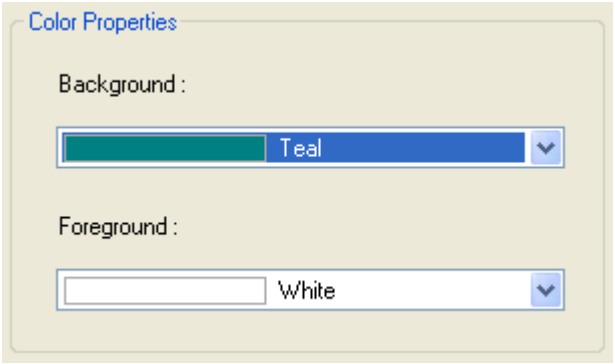
Keypad Type: Select the type of the keypad equipped with your mobile computer.

Key Click Sound: Select between the radio buttons to turn on/off the feedback sound when pressing a key.

Fn Key Toggle: With the orange key pressed, the Fn icon shows up on the top row of the screen indicating the function mode is on. And after users press the second key (take 1 for example) to complete the function key combination (F + 1), the Fn icon disappears by default. If this toggle item is set to 'Locked', the icon stays there always meaning the function mode continues.

1.7 COLOR PROPERTIES

Click the drop-down menus to set colors to the background and foreground respectively..



1.8 RESET

Click **Reset** to load the default settings.

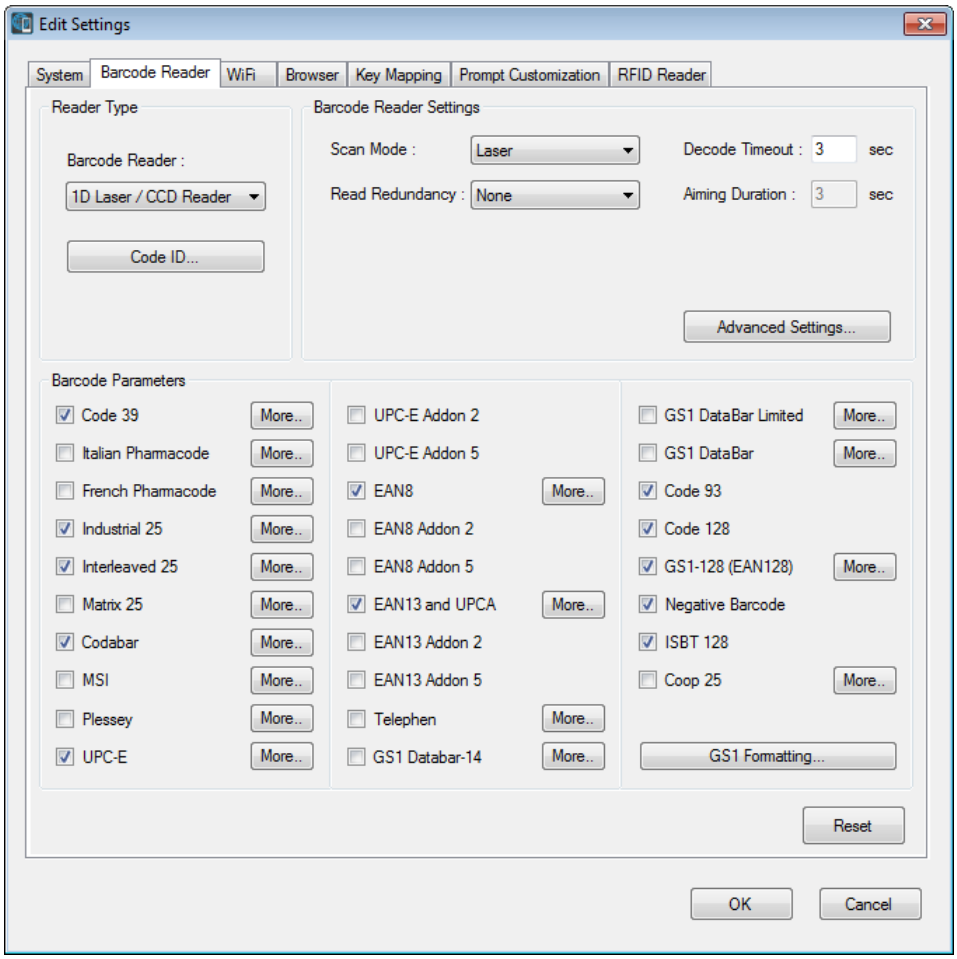
Note: The current settings will be cleared.

Chapter 2

BARCODE SETTINGS

According to the requirements of a specific application, barcode settings allow users to 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.



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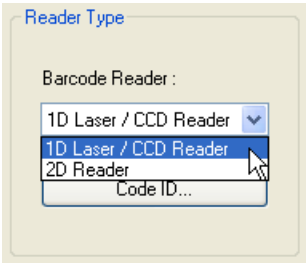
2.3 Advanced Settings 17
2.4 Barcode Parameters (Symbology Settings) 21
2.5 Reset 22

2.1 READER TYPE

2.1.1 BARCODE READER

Select a reader type that matches the hardware configuration of the mobile computer. The associated barcode reader settings, as well as the barcode parameters (= symbology settings) will be displayed accordingly.



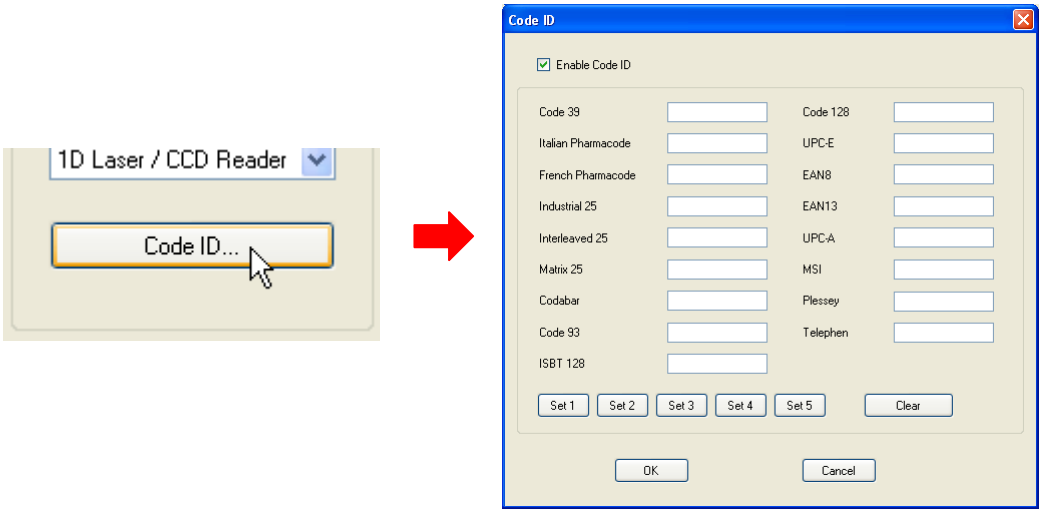
For more information, please refer to the following appendixes:

- Appendix I – Scan Engine Settings for information on the symbologies and RFID tags supported.
- Appendix II – CCD/Laser Scan Engine provides information on the reader settings as well as symbology settings for the CCD or Laser scan engine.
- Appendix III – 2D Scan Engine provides information on the reader settings as well as symbology settings for the 2D scan engine.

Note: If you accidentally selected the wrong reader type and downloaded to the mobile computer, the mobile computer will use the defaults for the correct reader type instead.

2.1.2 CODE ID

Depending on the barcode reader selected, click the Code ID button to configure Code ID settings. Further details please refer to the Code ID Table in Appendixes II ~ III.

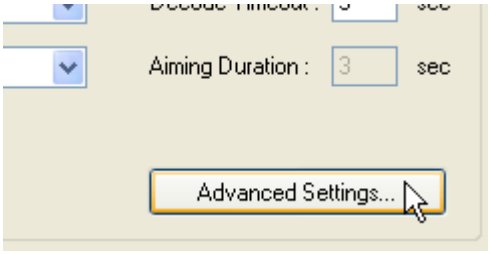


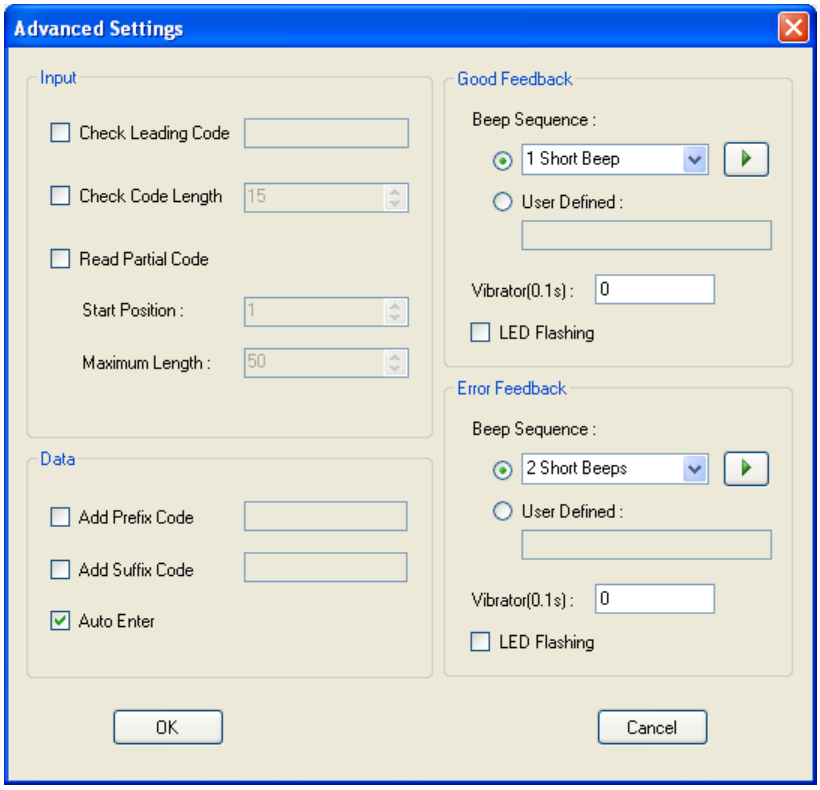
2.2 BARCODE READER SETTINGS

Depending on the barcode reader selected, configure the associated reader settings. Further details please refer to the Reader Settings Table in Appendixes II ~ III.

2.3 ADVANCED SETTINGS

These settings are provided to enhance the read operation via the barcode reader.





2.3.1 INPUT

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 found mismatching, the barcode will be discarded.

Below are some examples.

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

Check Code Length

By default, the maximum barcode length is 15. Select the check box to perform a length check on the barcode according to the length setting. A barcode found longer than the specified length will be discarded.

Read Partial Barcode

By default, it will return the whole barcode that has been decoded. Select the check box so that 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

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	(Discarded)

2.3.2 DATA

Add Prefix Code

With the checkbox ticked, the editing box becomes available; then click it to bring the Grid Control (ASCII codes) window which you can select one or more codes to prefix to the input data. For example, add a dollar sign “$” to the front of the input data for price information.

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).

Note: The Barcode configuration allows users to use prefix/suffix code to wrap the input data.

Auto Enter

By default, a carriage return will be automatically added to the end of the barcode input (= Scan+ENTER). It can then directly proceed to next input field upon completion of data input without pressing the **Enter** key on the mobile computer. For barcode scanning, it proves to be timesaving.

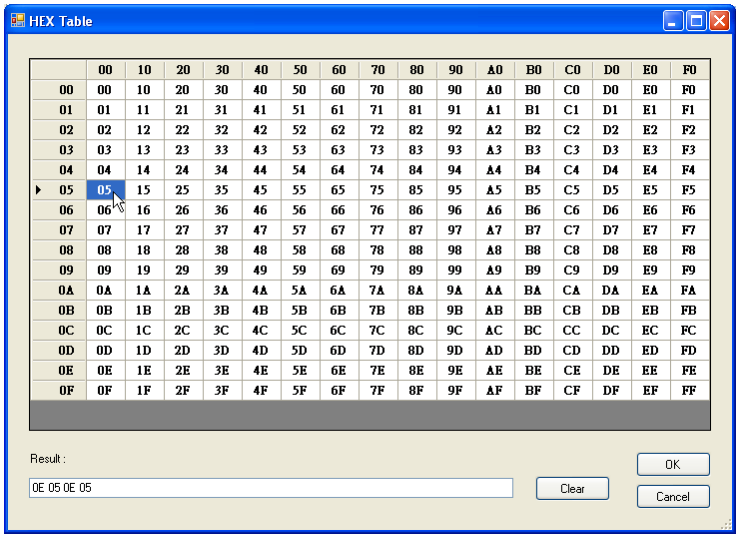
2.3.3 GOOD FEEDBACK (GOOD READ)

When data is read successfully, the mobile computer may inform users by issuing a beep, vibrating, or flashing LED light.

Beep Sequence

Specify the beep sound when decoding of a barcode is done successfully.

- By default the beep sequence is set to 1 short beeping sound. Users can simply click the drop-down menu to select options including 1 short beep, 1 long beep, and 2 short beeps. With the option selected, you can click the arrow button to play the beep sound.
- Or you can define on your own a beep sequence that refers to pairs of Beep Frequency(x) and Beep Duration(y). Click the User Defined radio button and then click the editing box. When the Hex Table window shows up, click the hexadecimal numerals to arrange pairs of beep sequence.



Vibrator

Specify how long the vibrator is turned on (in units of 0.1 second) to indicate a successful barcode reading.

- By default, the vibrator is turned off.

LED Flashing

You may specify whether to have green LED indication when decoding of a barcode is done successfully.

- By default, the LED indication is disabled.

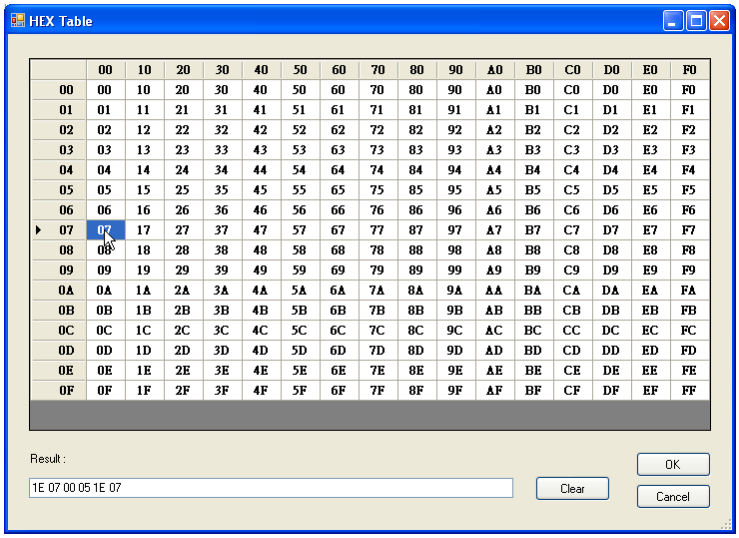
2.3.4 ERROR FEEDBACK

When an error occurs, the mobile computer may inform users by issuing a beep, vibrating, or flashing LED light.

Beep Sequence

Specify the beep sound when decoding of a barcode is done successfully.

- By default the beep sequence is set to 2 short beeping sounds. Users can simply click the drop-down menu to select options including 1 short beep, 1 long beep, and 2 short beeps. With the option selected, you can click the arrow button to play the beep sound.
- Or you can define on your own a beep sequence that refers to pairs of Beep Frequency(x) and Beep Duration(y). Click the User Defined radio button and then click the editing box. When the Hex Table window shows up, click the hexadecimal numerals to arrange pairs of beep sequence.



Vibrator

Specify how long the vibrator is turned on (in units of 0.1 second) to notify that an error occurs while reading a barcode.

- By default, the vibrator is turned off.

LED Flashing

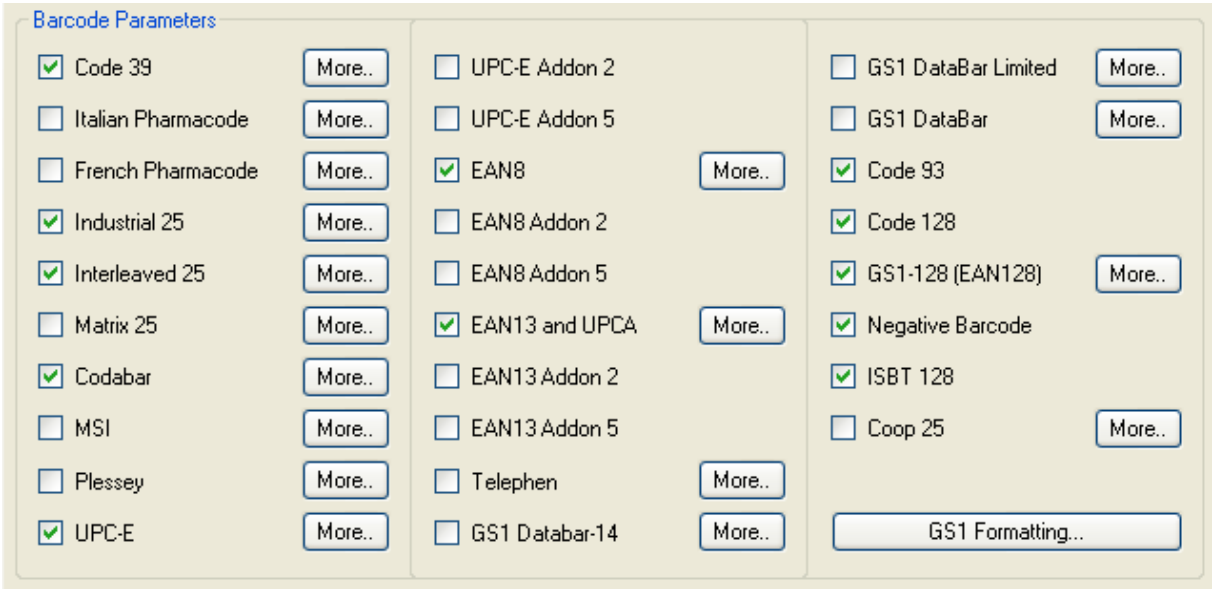
Specify whether to have red LED indication to notify that an error occurs while reading a barcode.

- By default, the LED indication is disabled.

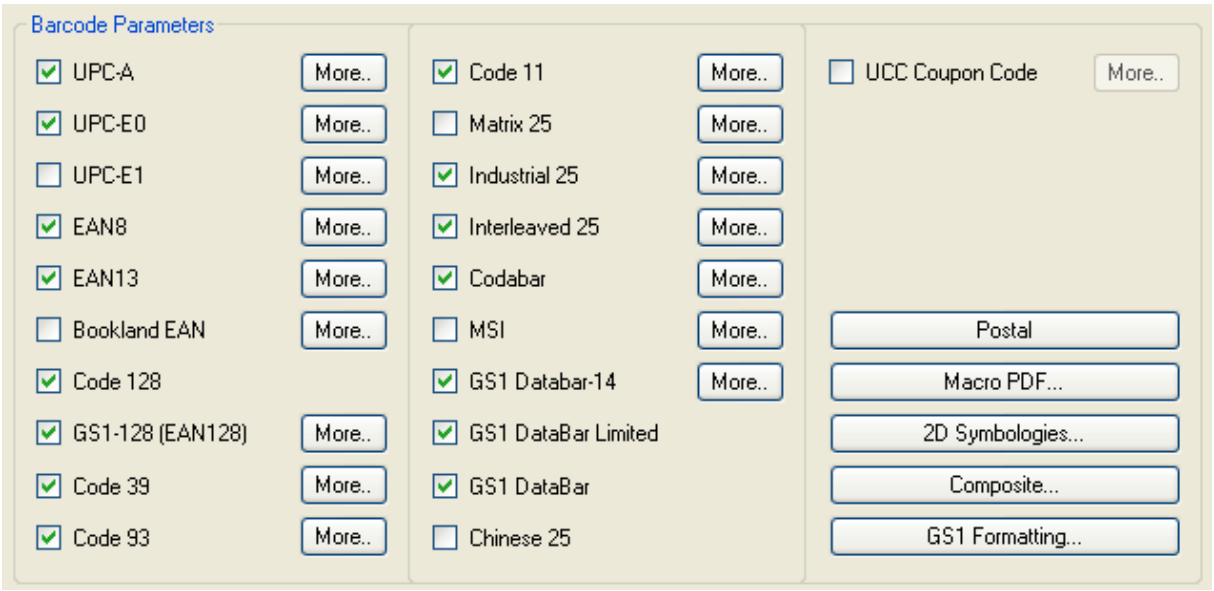
2.4 BARCODE PARAMETERS (SYMBOLOGY SETTINGS)

Depending on the barcode reader selected, configure the associated symbologies. Further details please refer to the Symbology Settings Table in Appendixes II ~ III. For a symbology along with the more... button, it means advanced symbology settings are available.

1D Laser/CCD Reader:



2D Reader:



2.5 RESET

Click **Reset** to load the default settings. This applies to the following settings —

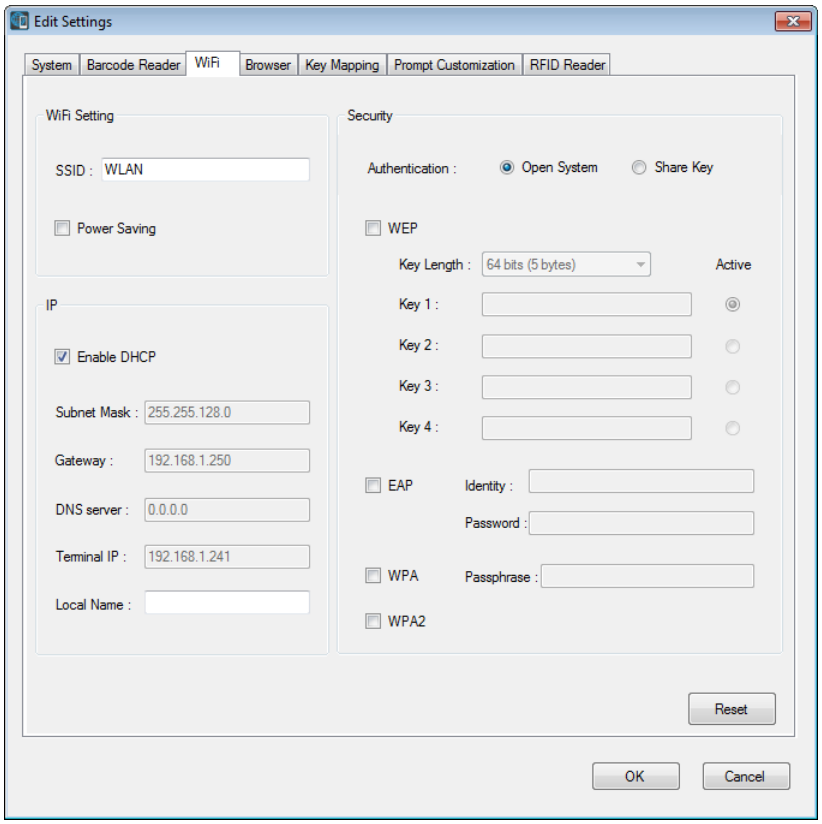
- Barcode Type & Reader Settings
- Barcode Parameters
- Advanced Settings

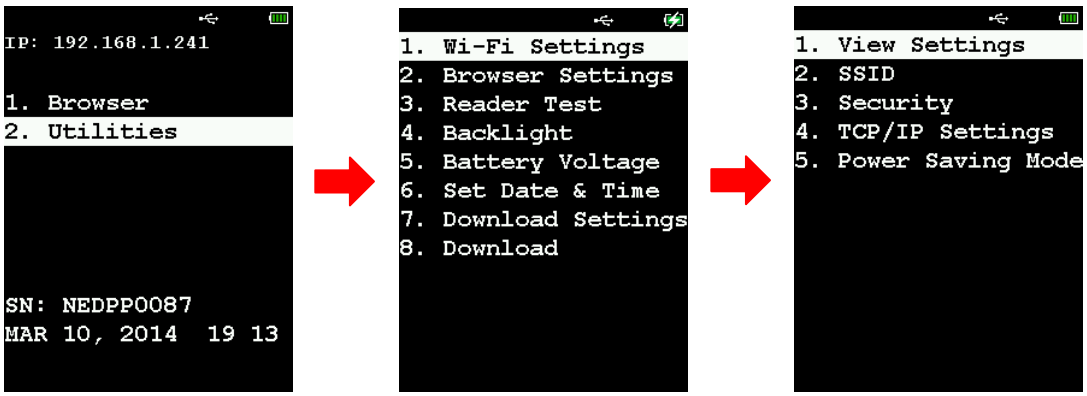
Note: The current settings will be cleared.

Chapter 3

WII-FI SETTINGS

To establish a Wi-Fi connection to a host, Wi-Fi networking settings must be configured correctly.



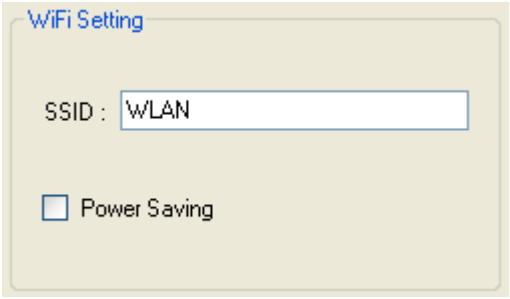


Users can also configure Wi-Fi settings depending on the connection environment via the **Wi-Fi Settings** menu on the mobile computer.

IN THIS CHAPTER

3.1 Wi-Fi Settings..... 24
3.2 IP 24
3.3 Security..... 24
3.4 Reset..... 26

3.1 WI-FI SETTINGS



SSID: Type in the SSID of target WLAN to which the mobile computer tries to connect.

Power Saving: Select this checkbox to enable power saving during Wi-Fi connection if necessary. This may periodically suspend the Wi-Fi radio activity for power saving purposes.

3.2 IP

By default, DHCP server is enabled where all the settings can be obtained.

If the DHCP function is disabled, the following information should be provided —

- Subnet Mask
- Gateway
- DNS Server
- Terminal IP

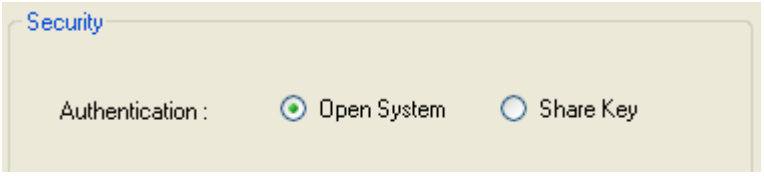
Local Name: Enter a name for identifying the mobile computer.

3.3 SECURITY

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

3.3.1 OPEN SYSTEM/SHARED KEY

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

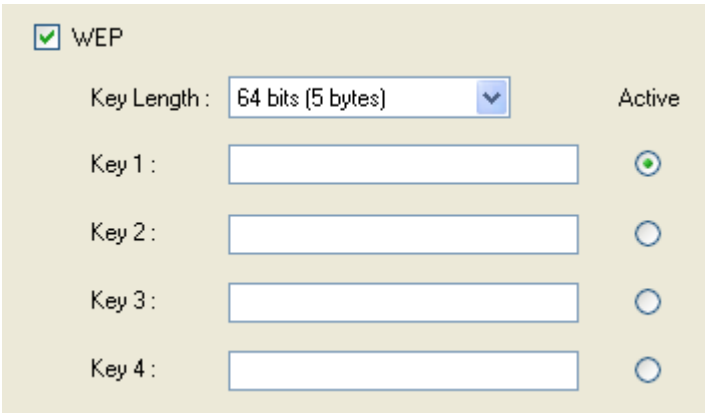


Setting	Remark
Open System	Using Open System authentication, any wireless station can request authentication. The station that needs to authenticate with another wireless station sends an authentication management frame containing the identity of the sending station. The receiving station or AP will grant any request for authentication. ▸ Open System authentication allows any device network access. If no encryption is enabled on the network, any device that knows the SSID of the access point can gain access to the network.
Shared Key	Using Shared Key authentication, each wireless station is assumed to have received a secret shared key over a secure channel that is independent from the 802.11b/g/n wireless network communications channel. ▸ Shared Key authentication requires that the client configured with a static WEP key. The client access will be granted only if it passed a challenge based authentication.

Note: For Shared Key authentication, the active WEP key is used for authentication.

3.3.2 WEP KEY

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



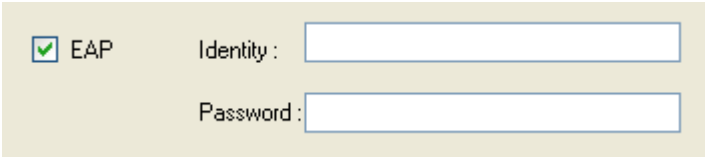
Setting	Remark
Key Length	Encryption type can be 64 bits (5 bytes) or 128 bits (13 bytes). ▸ Using 64-bit encryption, the password phrase can be 5 characters long. Click on any of the key fields to bring up the Grid Control of ASCII table. Select up to 5 characters (ASCII codes) for the WEP key. ▸ For 128-bit encryption, the password phrase can be 13 characters long. Click on any of the key fields to bring up the Grid Control of ASCII table.

	Select up to 13 characters (ASCII codes) for the WEP key.
Key 1 ~ 4	Key index number. Up to four WEP keys can be configured.
Active	Only one key (the active one) can be used at a time.

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

3.3.3 EAP

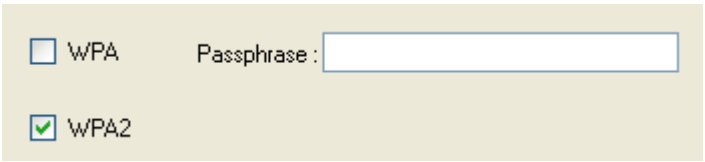
Select the check box to enable authentication using Extensible Authentication Protocol (EAP). It requires user name and password so that the mobile computer can identify itself when associating to Cisco® access points.



Setting	Remark
Identity	Specify a user name. (32 characters maximum)
Password	Specify a password. (32 characters maximum)

3.3.4 WPA-PSK/WPA2-PSK PASSPHRASE

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



3.4 RESET

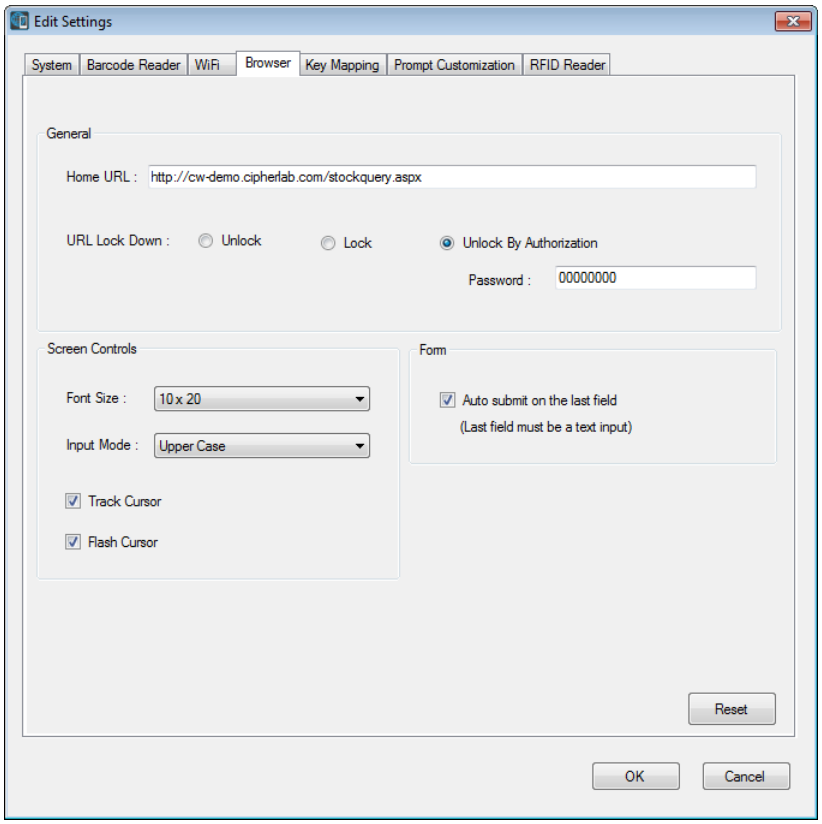
Click **Reset** to load the default settings.

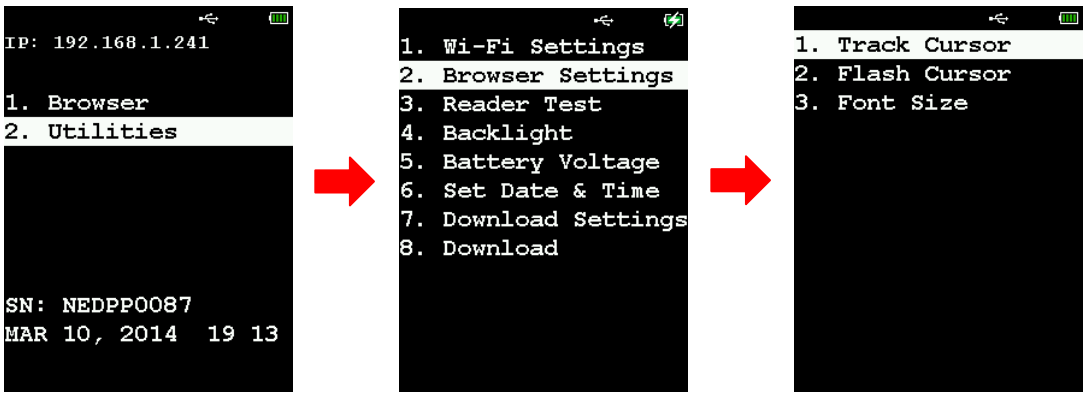
Note: The current settings will be cleared.

Chapter 4

BROWSER

On this tab page users can specify the target web page and related settings for the browsed web page.





Users can configure the screen control settings also via the **Browser Settings** menu on the mobile computer.

IN THIS CHAPTER

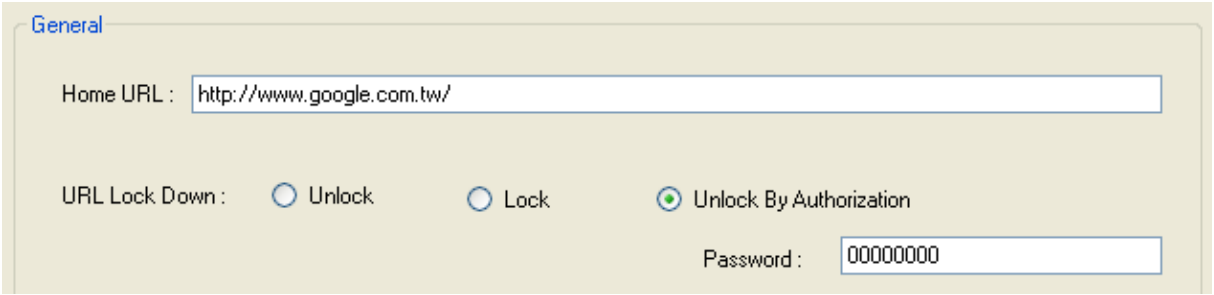
4.1 General 28
4.2 Screen Controls 28
4.3 Form 29
4.4 Reset..... 29

4.1 GENERAL

Home URL: Specify the target web page to which the mobile computer will connect.

URL Lock Down: This setting determines whether the mobile computer users are allowed to input the URL manually.

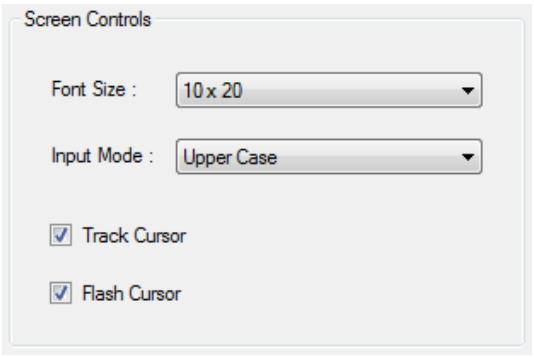
- Unlock: Users are permitted to input a URL to browse.
- Lock: URL locked-down. URL input is not allowed.
- Unlock By Authorization: With this radio button selected, please specify an associated password up to 15 characters.



Note: A key press needs to be assigned if you plan to give the permit for inputting URL manually by users. Please refer to the Key Mapping section on how to define a key press.

4.2 SCREEN CONTROLS

The Screen Controls panel is used to control the font size and cursor behavior for the web contents on your mobile computer.



Font Size: By default, the font size of the web contents showing on the screen is set to 10 x 20. A larger font size (12 x 24) option is available. See the table below.

10x20 Small Font	12x24 Large Font
24 characters by 15 lines (default)	20 characters by 12 lines

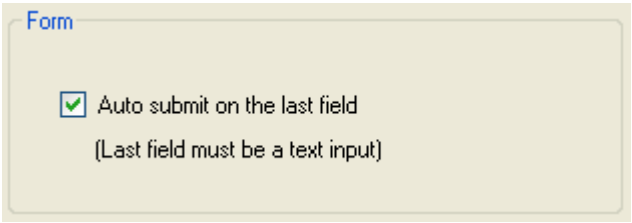
Input Mode: By default, the input mode of the web controls is set to upper case. Users can change the default input mode for the web browser. Options include Numeric, Upper Case, and Lower Case.

Track Cursor: This feature is enabled by default. The screen will automatically adjust itself so that the cursor will always be visible on the screen. Thus, every screen received from the web pages will be displayed with the cursor visible to indicate the first input field.

Flash Cursor: Select the checkbox to have a flashing cursor.

4.3 FORM

For your convenience, select this checkbox to allow the system to submit data on the screen right after you press the Enter key.



4.4 RESET

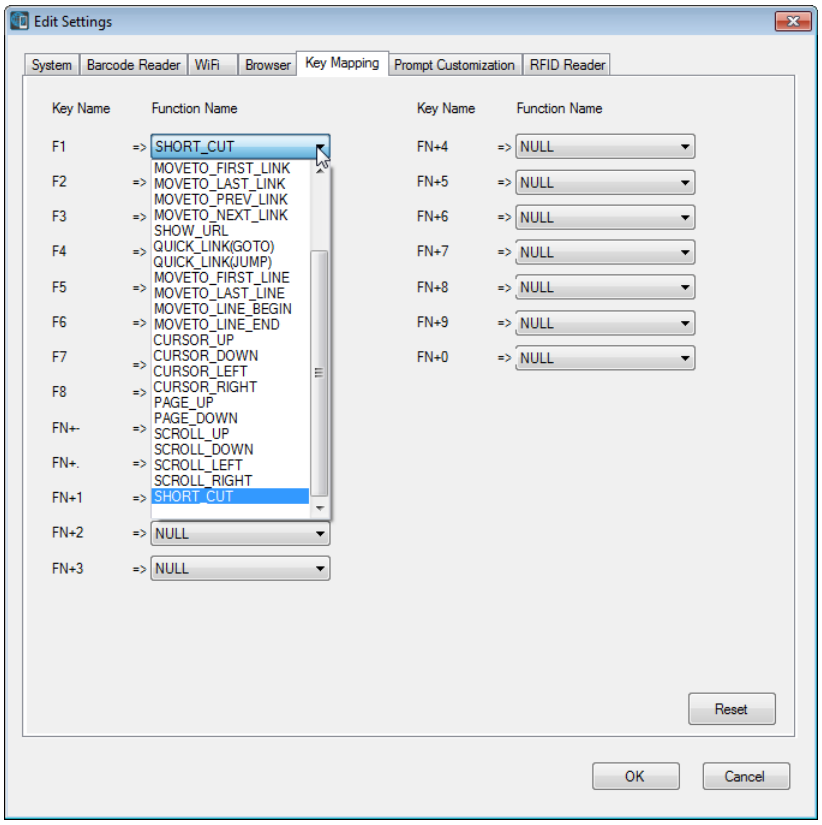
Click **Reset** to load the default settings.

Note: The current settings will be cleared.

Chapter 5

KEY MAPPING

The function key or key combination is one of the keys on the mobile physical keypad that transmit control codes. Control codes are functional characters that are not displayable. If these codes are received by the mobile computer, it will perform the associated function as defined.



IN THIS CHAPTER

5.1 Key Mapping 32
5.2 Reset..... 33

5.1 KEY MAPPING

By default, the single keys (F1 ~ F8) and key combinations (FN+'-', FN+'.', FN+1 ~ FN+9, FN+0) do not function. On the Key Mapping tab, click a drop-down menu next to a particular key/key combination to assign the corresponding function.

The table below depicts functions and their activities respectively.

Function Name	Remarks
NULL	Do nothing
QUIT	Quit the browser
SHOW_LINE_NO	Show the current line number
SUBMIT	Submit the form data
RELOAD	Reload the buffer
SHORT_CUT	Pop up shortcut list menu
SHOW_URL	Show web page URL
GOTO_URL	Go to the specified URL
QUICK_LINK(GOTO)	Pop up the link list menu and go to the selected link
QUICK_LINK(JUMP)	Pop up the link list menu and move cursor to the selected link
MOVETO_FIRST_LINK	Move cursor to the first link of web page
MOVETO_LAST_LINK	Move cursor to the last link of web page
MOVETO_PREV_LINK	Move cursor to previous link
MOVETO_NEXT_LINK	Move cursor to next link
MOVETO_FIRST_LINE	Move cursor to the first line of web page
MOVETO_LAST_LINE	Move cursor to the last line of web page
MOVETO_LINE_BEGIN	Move cursor to the beginning of line
MOVETO_LINE_END	Move cursor to the end of line
CURSOR_UP	Move the cursor up (a half screen scroll at the top of the screen)
CURSOR_DOWN	Move the cursor down (a half screen scroll at the bottom of the screen)
CURSOR_LEFT	Move the cursor leftwards (a half screen shift at the left edge)
CURSOR_RIGHT	Move the cursor rightwards (a half screen shift at the right edge)
PAGE_UP	Move cursor to previous page (scroll up one screen)
PAGE_DOWN	Move cursor to next page (scroll down one screen)
SCROLL_UP	Scroll up by one line
SCROLL_DOWN	Scroll down by one line
SCROLL_LEFT	Shift to the left by one column
SCROLL_RIGHT	Shift to the right by one column

5.2 RESET

Click **Reset** to load the default settings.

Note: The current settings will be cleared.

Chapter 6

PROMPT CUSTOMIZATION

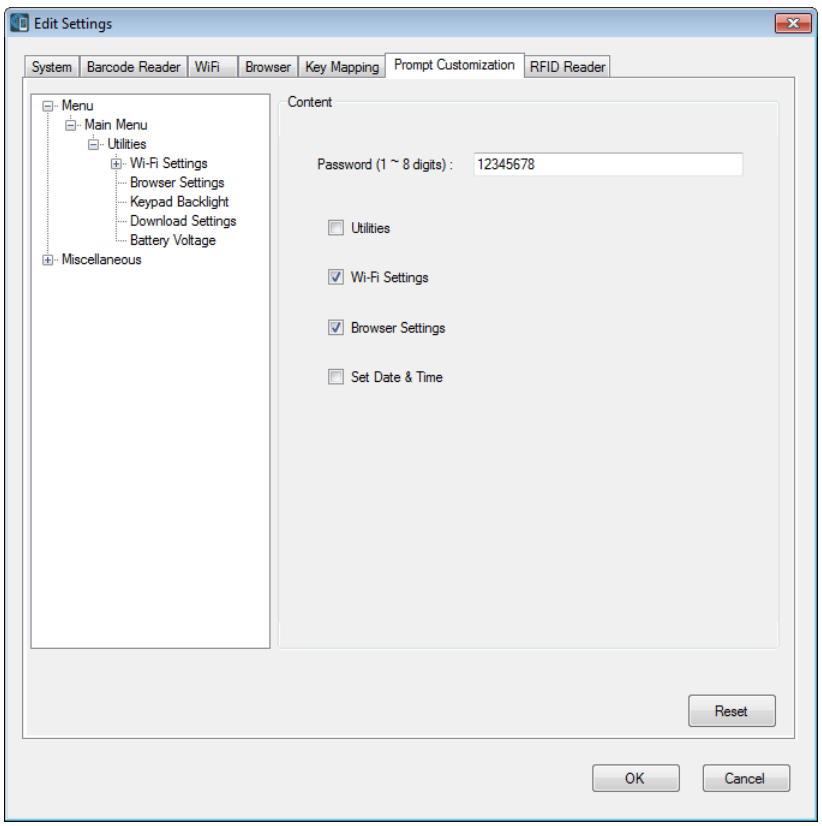
The CipherWeb utility allows users to edit the menu titles and messages on the mobile computer for display language localization. In addition, the menus of Utilities, Wi-Fi Settings, Browser Settings and Set Date & Time can be secured by assigning a password to prevent unauthorized users from accessing.

IN THIS CHAPTER

6.1 Access Permissions 35
6.2 Display Language Localization 36
6.3 Reset..... 36

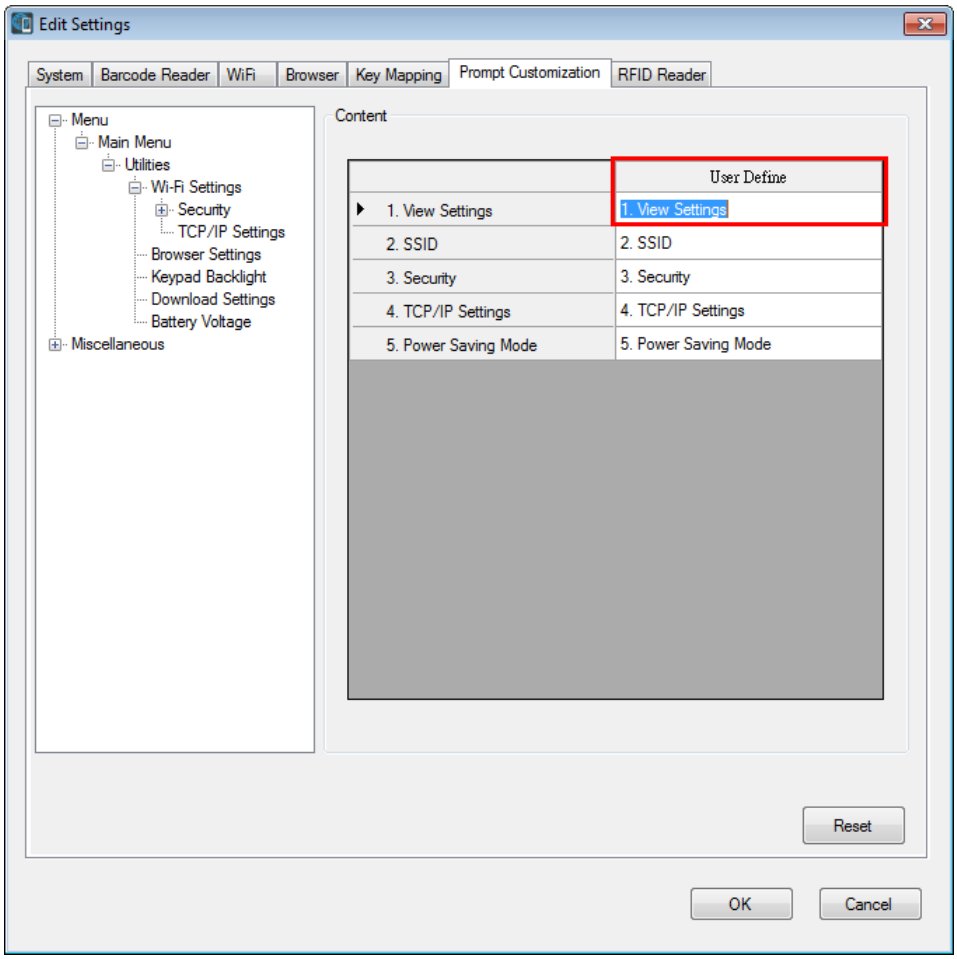
6.1 ACCESS PERMISSIONS

It's easy to manage access permissions. Click the Menu item in the tree menu on the left to have the Content panel display on the right side. Select the checkboxes with a set of password specified in the field and click OK to finish the setting.



6.2 DISPLAY LANGUAGE LOCALIZATION

Click any menu or message item in the tree menu to have its subitems display on the right side. In the User Define fields as the picture shown below, users can change the labels in the target language which they want to display on the mobile computer. When finished, click OK to have the settings take effect.



6.3 RESET

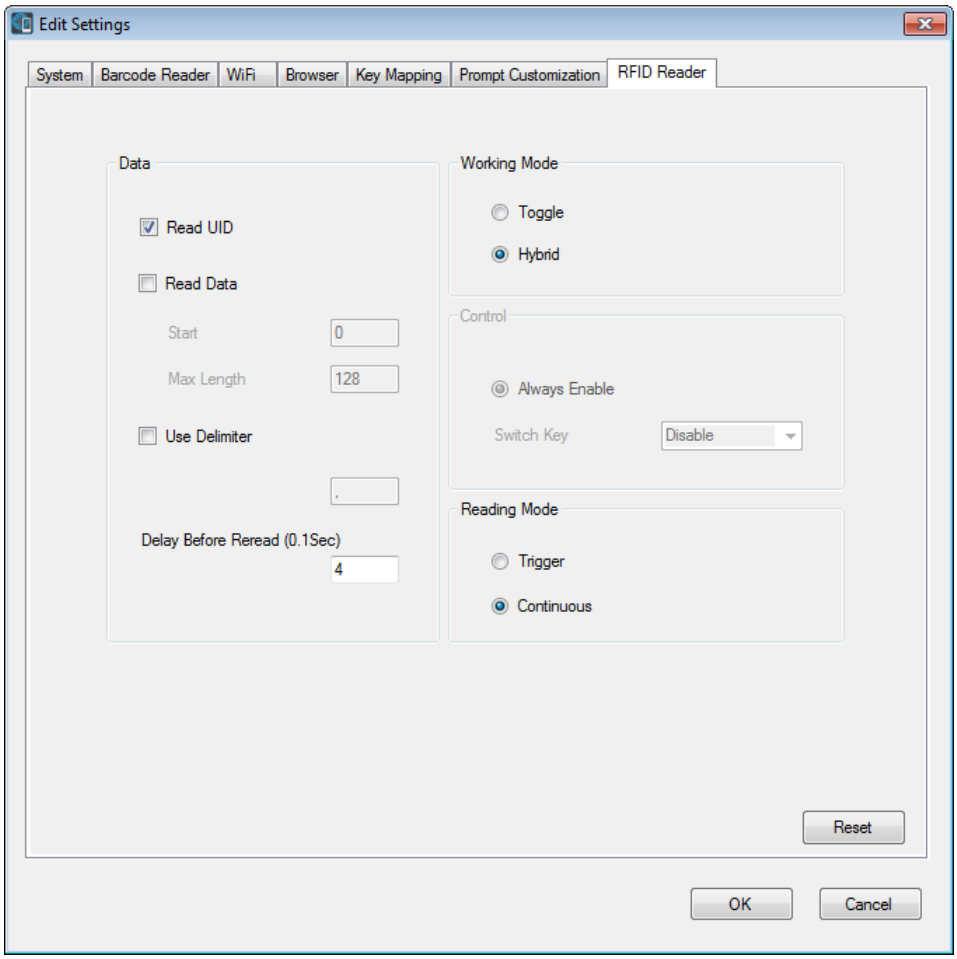
Click **Reset** to load the default settings.

Note: The current settings will be cleared.

Chapter 7

RFID READER

With the mobile computer capable of reading RFID tags, this tab is to configure the associated RFID settings. By default, the RFID reader is enabled to read UID only.



IN THIS CHAPTER

7.1 Data 38
7.2 Working Mode 38
7.3 Control 38
7.4 Reading Mode 39
7.5 Reset 39

7.1 DATA

Read UID

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

- UID: a permanent factory programmed unique identification (UID) code which is unique to each tag.

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.

Use Delimiter

Select the check box and specify a delimiter to separate UID from data when both are read.

- Click the editing box and select one character from the Grid Control (ASCII codes).

Delay before Re-read

By default, the RFID reader is set to re-read the same tag by an interval of 0.4 second when the tag is not removed out of range.

- You may specify a delay time before re-read in the range of 1~9999, in units of 100 milliseconds.

7.2 WORKING MODE

Toggle

When this radio button is selected, the **Control** setting will then be available. In this mode, only one reader can work at a time: either RFID or barcode reader.

Hybrid (=dual mode)

By default, the RFID reader is always enabled and co-exists with the barcode reader, which is also called “dual mode” because both readers can work at the same time.

7.3 CONTROL

If **Toggle** is selected, a specific switch key from the drop-down menu must be selected.

Always Enable

By default, the RFID reader is always enabled after login; however, it will not work until the switch key is pressed.

To stop it from working, press the specific switch key again.

Switch Key

The switch key works as the toggle between readers. When the key is pressed, only one reader is allowed to work at a time.

- By default, the switch key is disabled.
- Select the switch key (F1 ~ F8, FN+-, FN+., and FN+0 ~ FN+9). The selected combination will become unavailable on the Function Key Mapping list. For example, if select FN+5, you can find the key combination is mapped to “RFID_READER” on the Key Mapping tab.

7.4 READING MODE

Trigger

If selected, please press the trigger to start each RFID reading.

- When working mode is set to “Hybrid”, press the trigger to read an RFID tag or a barcode label depending on which one first comes in range.

Continuous

By default, the RFID reader works in a continuous way. It will keep on reading the same RFID tag until the tag is removed out of range.

7.5 RESET

Click **Reset** to load the default settings.

Note: The current settings will be cleared.

Chapter 8

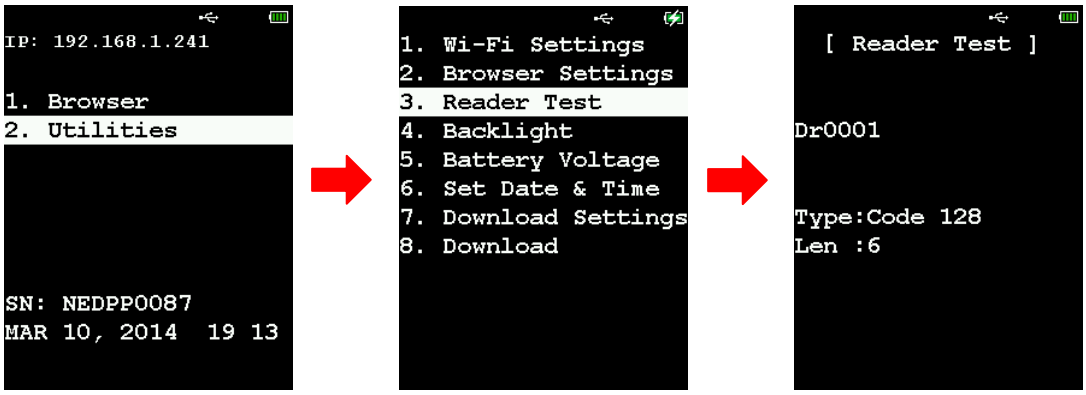
MISCELLANEOUS

This chapter is intended to explain the menu items on the mobile computer that are not included in the windows-base configuration utility.

IN THIS CHAPTER

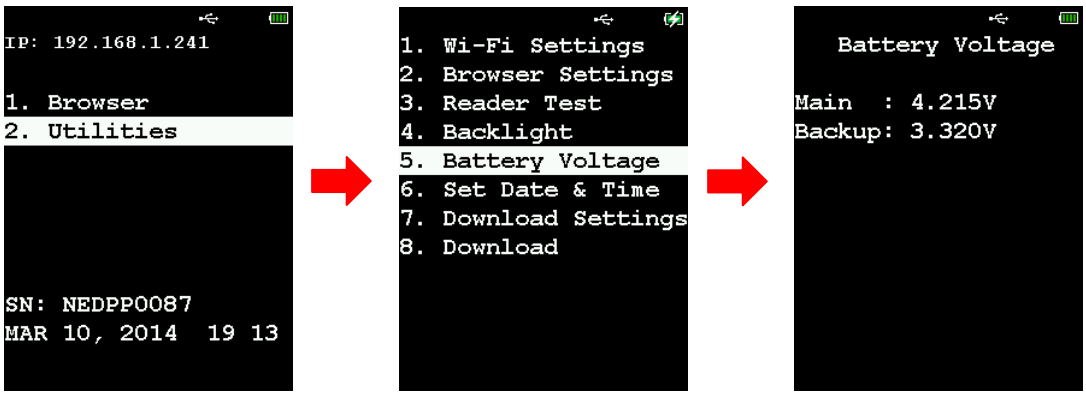
8.1 Reader Test..... 41
8.2 Battery Voltage..... 41
8.3 Set Date & time..... 42

8.1 READER TEST



As the pictures illustrated above, users can press the trigger to scan barcode labels to make sure the barcode reader is working and identify the barcode type.

8.2 BATTERY VOLTAGE



As the pictures illustrated above, this function is designed for users to monitor the battery voltage level.

8.3 SET DATE & TIME

As the pictures illustrated above, this function is designed for users to change system date and time manually.

Chapter 9

HTML COMPATIBILITY

The CipherWeb client mainly supports tags compliant with HTML 4.01. It's recommended that users develop their own web pages conforming to HTML 4.01 to ensure that web contents can be displayed as expected on the mobile computer.

9.1 STANDARD TAGS

CipherWeb will not accept tags respecting pictures, objects, JavaScript, CSS template, frames etc.

9.1.1 TAGS NOT SUPPORTED BY CIPHERWEB

First, the table below list tags **NOT** supported by CipherWeb:

Not Supported Tags	Description
<IMG>	Defines an image.
<AREA>	Defines an area inside an image-map.
<MAP>	Defines a client-side image-map.
<EMBED>	Defines a container for an external (non-HTML) application.
<NOEMBED>	The NOEMBED element is used to provide alternative content for browsers that don't support the EMBED element. It's not defined by any standard (it was introduced by early Netscape browsers), and as such there aren't any guidelines as to what it may or may not contain.
<APPLET>	Defines an embedded applet.
<PARAM>	Defines a parameter for an object.
<SCRIPT>	Defines a client-side script.
<LINK>	Defines the relationship between a document and an external resource (most used to link to style sheets).
<STYLE>	Defines style information for a document.
<FRAME>	Defines a window (a frame) in a frameset.
<FRAMESET>	Defines a set of frames.
<NOFRAME>	Defines an alternate content for users that do not support frames.
<IFRAME>	Defines an inline frame.

9.1.2 TAGS SUPPORTED

The tags compliant with HTML 4.01 that CipherWeb client supports are grouped by functions as follows:

Document Tags	Description
<HTML>	Defines the root of an HTML document.
<HEAD>	Defines information about the document.
<BODY>	Defines the document's body.
<!DOCTYPE>	Defines the document type.
<TITLE>	Defines a title for the document.
<META>	Defines metadata about an HTML document. Prefix “X-CL” should be added for CipherWeb customization. Besides, its Content attribute has to conform to Meta Tag settings.

Block/Paragraph Tags	Description
<DIV>	Defines a section in a document.
<SPAN>	Defines a section in a document.
<P>	Defines a paragraph.
 	Defines a single line break.
<CENTER>	Defines centered text.

List Tags	Description
<OL>	Defines an ordered list.
<UL>	Defines an unordered list.
<DL>	Defines a definition list.
<LI>	Defines a list item.
<DT>	Defines a term (an item) in a definition list.
<DD>	Defines a description of an item in a definition list.

Table Tags	Description
<TABLE>	Defines a table.
<TR>	Defines a row in a table.
<TD>	Defines a cell in a table.
<TH>	Defines a header cell in a table.

Link Tags	Description
<A>	Defines a hyperlink.

9.1.3 TAGS RELATING TO COLOR ATTRIBUTES

The table below lists tags with attributes that can change the color of web contents accepted by CipherWeb.

Tags	Related Attributes	Description
<BODY>	text	Defines document text color.
	bgcolor	Defines document background color.
	link	Defines color of links.
<FONT>	color	Defines text color.
<TABLE>	bgcolor	Defines background color of the table.
	bordercolor	Defines border color for cells in the table.
<TR>	bgcolor	Defines background color for a row.
<TH>	bgcolor	Defines background color of the header cell.
<TD>	bgcolor	Defines background color of the data cell.

16 colors are supported as follows:

lime	silver	yellow	navy
black	maroon	purple	teal
blue	fuchsia	red	aqua
green	white	gray	olive

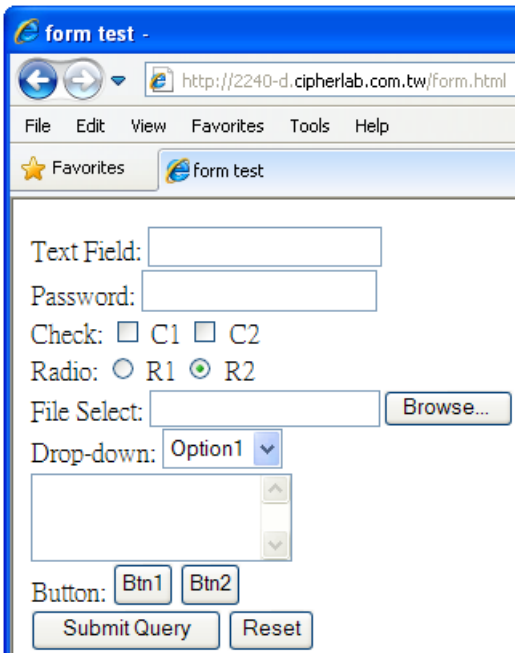
Users can change the color by giving either the color name or the 6-digit hexadecimal code that represents the color. For example, #000000 represents black and #FF0000 represents red.

9.2 WEB COMPONENTS

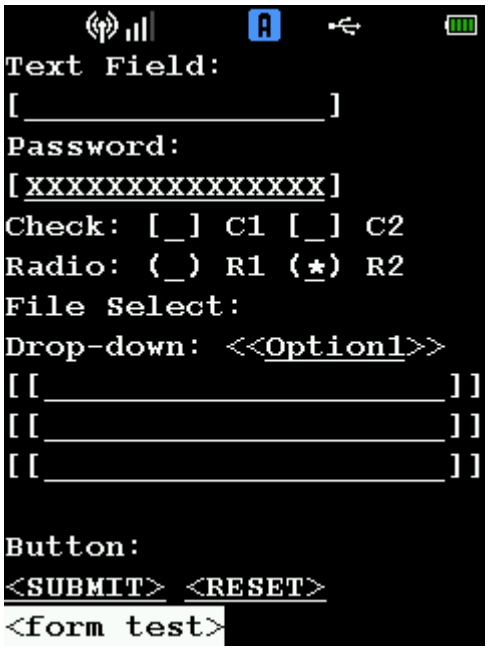
Apart from displaying information, the user-designed web form on web pages can contain data input elements to gather data given by users and then transfer the data to the web server.

Limited by the hardware capability, the mobile computer can alternatively display web contents using simple and transformed elements. Consider that a variety of web clients may be used to browse the web site, with the result that the web server will then respond with the target page of adapted contents by verifying the "User-Agent" header of the incoming HTTP request. For CipherWeb, a "Cipherweb/x.xx.xx" string is supposed to be added in the "User-Agent" header of the outgoing HTTP request where the web server can identify which kind of web client is originating the request.

The pictures below demonstrate the results when the IE browser on PC and CipherWeb on the mobile computer are browsing the same HTML form that contains various input components.



IE Browser

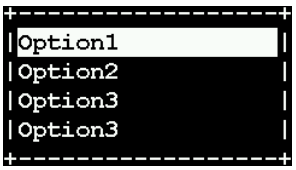


CipherWeb

The table below depicts the supported HTML form components on CipherWeb.

Component Appearance on CipherWeb	States
Text Field 	Displaying: ▸ Press the up/down key to move cursor between input components. ▸ Press ENTER or directly press any of the character keys to have the text field being edited. Being edited: ▸ Up to 15 characters will be admitted. If users type the number of characters greater than 15, a "{" symbol will appear in front of the first character. ▸ Press ENTER to confirm what you have typed. ▸ Press ESC to return to the displaying state.
Password Field 	Displaying: ▸ Press the up/down key to move cursor between input components. ▸ Press ENTER or directly press any of the character keys to have the text field being edited. Being edited: ▸ Up to 15 characters will be admitted. If users type the number of characters greater than 15, a "{" symbol will appear in front of the first character. ▸ Press ENTER to confirm what you have typed. ▸ Press ESC to return to the displaying state.
Checkbox	 Press ENTER to select/unselect the checkbox.
Radio Button	 Press ENTER to select the radio button.
File Select	Not supported component that won't be displayed on the mobile computer screen
Drop-down Menu 	Displaying: ▸ Press ENTER to bring up a list menu.

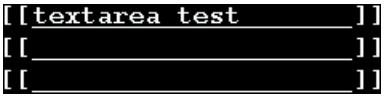
Being edited:



- After pressing ENTER, a group box of options shows up representing the drop-down menu on the screen. Press the up/down key to move cursor and press ENTER to confirm the selection.

Textarea

Displaying:



- Press ENTER or any of the character keys to input data in the textarea component.

Being edited:

- A cleared screen shows up representing a textarea component that allows users to type characters more than one line while in editing state.

Button

Not supported component that won't be displayed on the mobile computer screen

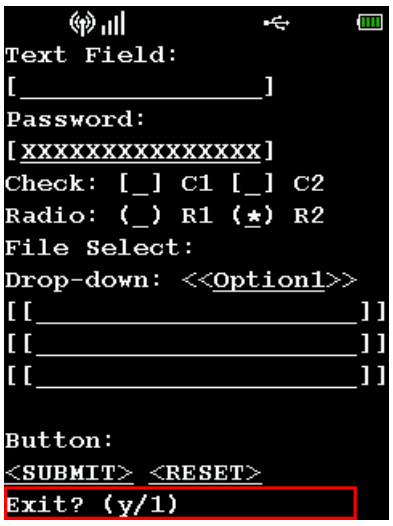
Submit Button <SUBMIT>

Press ENTER to submit all data you have filled in the form.

Reset Button <RESET>

Press ENTER to clear those data you've filled in the form.

To exit the form, press ESC; the system will ask you whether to exit the form. When you see the message (as the picture shown below) showing up at the bottom of the page, input '1' or 'y' to return to the CipherWeb main menu.



Appendix I

SCAN ENGINE SETTINGS

The **CipherWeb** allows configuring the following reader types, depending on the module equipped on the mobile computer:

	8600
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	×
HF RFID Multi-ISO v1.2.2	✓

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 pressing the **SCAN** button while running the CipherWeb 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: It 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	2D
Codabar		✓	✓
Code 11		×	✓
Code 93		✓	✓
Composite Code		×	✓
MSI		✓	✓
Plessey		✓	×
Postal Codes		×	✓
Telepen		✓	×
Code 128	Code 128	✓	✓
	GS1-128 (EAN-128)	✓	✓
	ISBT 128	✓	✓
Code 2 of 5	Industrial 25 (Discrete 25)	✓	✓
	Interleaved 25	✓	✓
	Matrix 25	✓	(✓)Note
	Chinese 25	×	(✓)Note
	Coop 25	(✓)Note	×
Code 3 of 9	Code 39	✓	✓
	Trioptic Code 39	×	✓
	Italian Pharmacode (Code 32)	✓	✓
	French Pharmacode	✓	×
EAN / UPC	EAN-8	✓	✓
	EAN-13	✓	✓
	Bookland EAN (ISBN)	✓	✓
	UPC-E0	✓	✓
	UPC-E1	✓	✓
	UPC-A	✓	✓
GS1 DataBar (RSS)	GS1 DataBar Omnidirectional (RSS-14)	✓	✓
	GS1 DataBar Truncated	✓	✓
	GS1 DataBar Stacked	✓	✓
	GS1 DataBar Stacked Omnidirectional	✓	✓
	GS1 DataBar Limited (RSS Limited)	✓	✓

	GS1 DataBar Expanded (RSS Expanded)	✓	✓
	GS1 DataBar Expanded Stacked	✓	✓
2D Symbologies	PDF417	×	✓
	MicroPDF417	×	✓
	Data Matrix	×	✓
	Maxicode	×	✓
	QR Code	×	✓
	Micro QR	×	(✓)Note
	Aztec	×	(✓)Note

RFID TAGS SUPPORTED

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

Note: You should study the specifications of RFID tags before use.

HF RFID Multi-ISO Version 1.2.2		UID Only	Read Page	Write Page
ISO 14443A	Mifare Standard 1K (Mifare S50)	✓	✓	✓
	Mifare Standard 4K (Mifare S70)	✓	✓	✓
	Jcop 41 only the (Mifare 1K & 4K compatible)	✓	✓	✓
	Mifare Ultralight	✓	✓	✓
	Mifare Ultralight C	✓	✓	✓
	Mifare ProX	✓	✓	✓
	Mifare DESFire	✓	✓	✓
	Mifare Plus	✓	✓	✓
	Mifare Mini (Mifare S20)	✓	✓	✓
	SLE66CLX320P	✓	---	---
	SLE55R04 / 08	✓	---	---
	Smart MX	✓	---	---
	Jewel	✓	✓	✓
	Topaz	✓	✓	✓
ISO 14443B	SLE6666CL160S	✓	---	---
	SR176	✓	✓	✓
	SRIX4K	✓	✓	✓
	SLIX 4K	✓	✓	✓

Dual	ISO 14443A compliant	✓	---	---
	ISO 14443B compliant	✓	---	---
ISO 15693	EM4135	✓	✓	✓
	ICode SLI	✓	✓	✓
	LRI12	✓	✓	✓
	LRI64	✓	✓	✓
	LRI128	✓	✓	✓
	LRI2k	✓	✓	✓
	SRF55VxxP	✓	✓	✓
	SRF55VxxS	✓	✓	✓
	Tag-it HF-I Std	✓	✓	✓
	TempSense	✓	---	---
	ICODE1 with EAS&AFI	✓	✓	✓
	Icode	✓	✓	✓

ACG_RFID Module Version 1.0		UID Only	Read Page	Write Page
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 Engine	Description	Default
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, (b) the pre-set timeout expires, or (c) you release the trigger.	
Laser Mode	Hold down the scan trigger to start with scanning. ▸ The scanning won't stop until (a) a barcode is read, (b) the preset timeout expires, or (c) you release the trigger.	
Auto Off Mode	Press the scan trigger to start with scanning. ▸ The scanning won't stop until (a) a barcode is read or (b) the preset timeout expires.	
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.
Time-out	**3 sec.**
0~255 (second)	Set the maximum time for decoding to continue during a scan attempt. It applies to the following scan modes only – ▸ Aiming mode ▸ Laser mode ▸ Auto Off mode ▸ Auto Power Off mode
Aiming Duration	**3 sec.**
1~255 (second)	Set the maximum time for decoding to continue during a scan attempt. ▸ It applies to Aiming mode only.

SYMBOLOGY SETTINGS TABLE

CCD/Laser Engine	Description	Default
Codabar		**Enable**
Transmit Start/Stop Character	Decide whether to include the start/stop characters in the data being transmitted. If "Transmit Start/Stop Characters" is desired, select one set: ▸ abcd / abcd ▸ abcd / tn*e ▸ ABCD / ABCD ▸ ABCD / TN*E	No
Code 128		**Enable**
GS1-128 (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
Replace Field Separator	Decide whether to replace the field separator. If the barcode contains Field Separator “0x1D”, it will be changed to the desired Field Separator. For example, type the desired character “;” (semicolon) as the new field separator. Then if the barcode contains Field Separator “0x1D”, it will be changed to “;”.	No
ISBT 128		**Enable**
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 Check Digit	Decide whether to verify the check digit. If the check digit is incorrect, the barcode will not be accepted.	No
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.	Yes
Select Length	▸ One or two fixed lengths ▸ Range	1~127
Interleaved 25		**Enable**
Start/Stop Selection	Refer to Industrial 25.	Interleaved 25
Verify Check Digit	Decide whether to verify the check digit. If the check digit is incorrect, the barcode will not be accepted.	No
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.	Yes

Select Length	▸ One or two fixed lengths ▸ Range	1~126
Matrix 25		**Disable**
Start/Stop Selection	Refer to Industrial 25.	Matrix 25
Verify Check Digit	Decide whether to verify the check digit. If the check digit is incorrect, the barcode will not be accepted.	No
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.	Yes
Select Length	▸ One or two fixed lengths ▸ Range	1~127
Coop 25		**Disable**
Verify Check Digit	Decide whether to verify the check digit. If the check digit is incorrect, the barcode will not be accepted.	No
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.	Yes
French Pharmacode		**Disable**
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.	Yes
Italian Pharmacode (Code 32)		**Disable**
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.	Yes

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

Code 39		**Enable**
Transmit Start/Stop Character	Decide whether to include the start/stop characters "*" in the data being transmitted.	No
Verify Check Digit	Decide whether to verify the check digit. If the check digit is incorrect, the barcode will not be accepted.	No
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.	Yes
Code 39 Full ASCII	Code 39 Full ASCII includes all the alphanumeric and special characters.	Disable
Security Level	▸ High ▸ Normal	High
Code 93		**Enable**

MSI		**Disable**
Verify Check Digit	Select one of the three calculation formulas to verify the check digit. If the check digit is incorrect, the barcode will not be accepted. ▸ Single Modulo 10 ▸ Double Modulo 10 ▸ Modulo 11 & 10	Single Modulo 10
Transmit Check Digit	Decide whether to include the check digit 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	1~127
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 Check Digit	Decide whether to include the two check digits in the data being transmitted.	Yes
Telepen		**Disable**
Original Telepen (Numeric)	The original Telepen includes numeric characters.	No
AIM Telepen (Full ASCII)	AIM Telepen (Full ASCII) includes all the alphanumeric and special characters.	Yes
GS1 DataBar-14 (RSS-14)		**Disable**
GS1 DataBar-14 is short for GS1 DataBar Omnidirectional. This group consists of (1) GS1 DataBar Omnidirectional, (2) GS1 DataBar Truncated, (3) GS1 DataBar Stacked, and (4) GS1 DataBar Stacked Omnidirectional.		
Transmit Code ID	Decide whether to include Code ID ("]e0") will be included in the data being transmitted.	Yes
Transmit Application ID	Decide whether to include the Application ID ("01") in the data being transmitted.	Yes
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.	Yes
GS1 DataBar Limited (RSS Limited)		**Disable**
Transmit Code ID	Refer to RSS-14.	Yes
Transmit Application ID	Refer to RSS-14.	Yes
Transmit Check Digit	Refer to RSS-14.	Yes
GS1 DataBar Expanded (RSS Expanded)		**Disable**
This group consists of (1) GS1 DataBar Expanded, and (2) GS1 DataBar Expanded Stacked.		

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
GTIN-13 Format	Decide whether to convert using GTIN-13 format.	No
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.	Yes
Addon 2 / Addon 5	Decide whether to decode EAN-8 with addons.	No
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 Check Digit	Decide whether to include the check digit in the data being transmitted.	Yes
Addon 2 / Addon 5	Decide whether to decode EAN-13/UPC-A with addons.	No
(UPC-A) Convert to EAN-13	The UPC-A barcode will be expanded into EAN-13, and the next processing will follow the settings configured for EAN-13.	Yes
(UPC-A) Transmit Check Digit	Decide whether to include the UPC-A check digit in the data being transmitted.	Yes
(UPC-A) Transmit System Number	Decide whether to include the UPC-A System Number in the data being transmitted.	Yes
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 Check Digit	Decide whether to include the UPC-E check digit in the data being transmitted.	Yes
Transmit System Number	Decide whether to include the UPC-E System Number in the data being transmitted.	No
Enable UPC-E1	Decide whether to decode both UPC-E0 and UPC-E1 barcodes. ▸ By default, it decodes the UPC-E0 barcodes only.	No
Enable UPC-E1 Triple Check	Decide whether to apply read redundancy to the UPC-E1 barcode. ▸ When applied, the same UPC-E1 barcode has to be read three times to make a valid reading. This is helpful when the barcode is defaced and requires more attempts to read it successfully.	No
Addon 2 / Addon 5	Decide whether to decode UPC-E with addons.	No

GS1 Formatting		**---**
GS1-128 (EAN128)	Decide whether to enable GS1 formatting for GS1-128.	Disable
GS1 DataBar Family	Decide whether to enable GS1 formatting for GS1 DataBar.	Disable
Field Separator	Specify the field separator.	No
Application ID Mark	Specify the application ID mark character.	No

CODE ID TABLE

Code ID Options	Set 1	Set 2	Set 3	Set 4	Set 5
Code 39	A	C	Y	M	A
Italian Pharmacode	A	C	Y	M	A
French Pharmacode	A	C	Y	M	A
Industrial 25	C	H	H	H	S
Interleaved 25	D	I	Z	I	S
Matrix 25	E	G	G	G	S
Codabar	F	N	X	N	F
Code 93	I	L	L	L	G
Code 128	H	K	K	K	C
ISBT 128	H	K	K	K	C
UPC-E	S	E	C	E	E
EAN-8	P	B	B	FF	E
EAN-13	M	A	A	F	E
UPC-A	J	A	A	A	E
MSI	V	V	D	P	M
Plessey	W	W	E	Q	P
Telepen	Z	---	---	---	---

Appendix III

2D SCAN ENGINE

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

READER SETTINGS TABLE

2D Engine	Description	Default
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	
Alternate Mode	Press the scan trigger to start with scanning. ▸ The scanning won't stop until you press the trigger again.	
Aiming Mode	Press the scan trigger to aim at a barcode. Within one second, press the trigger again to decode the barcode. ▸ The scanning won't stop until (a) a barcode is decoded, (b) the pre-set timeout expires, or (c) you release the trigger.	
Laser Mode	Hold down the scan trigger to start with scanning. ▸ The scanning won't stop until (a) a barcode is read, (b) the preset timeout expires, or (c) you release the trigger.	
Auto Off Mode	Press the scan trigger to start with scanning. ▸ The scanning won't stop until (a) a barcode is read or (b) the preset timeout expires.	
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**
Aiming Pattern	Decide whether to project the aiming pattern during barcode capture. ▸ Turn On ▸ Turn Off	**On**

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

SYMBOLOGY SETTINGS TABLE

1D SYMBOLOGIES

2D Engine	Description	Default
Codabar		**Enable**
Transmit Start/Stop Character	Decide whether to include the start/stop characters in the data being transmitted.	No
Select Length	▸ Any Length ▸ One or two fixed lengths ▸ Range (1~55)	Any Length
Code 128		**Enable**
GS1-128		**Enable**
Replace Field Separator	Decide whether to replace the field separator. If the barcode contains Field Separator "0x1D", it will be changed to the desired Field Separator. For example, type the desired character ";" (semicolon) as the new field separator. Then if the barcode contains Field Separator "0x1D", it will be changed to ";".	No
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 Check Digit	Decide whether to verify the check digit. If desired, select one of the algorithms below. If the check digit is incorrect, the barcode will not be accepted. ▸ No ▸ USS algorithm ▸ OPCC algorithm	No
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.	No
Select Length	▸ Any Length ▸ One or two fixed lengths ▸ Range (1~55)	Any Length

Matrix 25		**Disable**
Verify Check Digit	Decide whether to verify the check digit. If the check digit is incorrect, the barcode will not be accepted.	No
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted.	No
Select Length	▸ Any Length ▸ One or two fixed lengths ▸ Range (1~55)	Any Length
Chinese 25		**Disable**
Code 39		**Enable**
Convert to Code 32	Convert to Italian Pharmacode.	No
Verify Check Digit	Decide whether to verify the check digit. If the check digit is incorrect, the barcode will not be accepted.	No
Transmit Check Digit	Decide whether to include the check digit in the data being transmitted. ▸ "Verify Check Digit" must be enabled so that the check digit can be left out (= "Transmit Check Digit" disabled).	No
Code 39 Full ASCII	Code 39 Full ASCII includes all the alphanumeric and special characters.	Disable
Trioptic Code 39	Decide whether to decode Trioptic Code 39. ▸ Trioptic Code 39 is a variant of Code 39 used in the marking of computer tape cartridges. It always contains six characters.	Disable
Select Length	▸ Any Length ▸ One or two fixed lengths ▸ Range (1~55)	Any Length
Code 93		**Enable**
Select Length	▸ Any Length ▸ One or two fixed lengths ▸ Range (1~55)	Any Length
MSI		**Disable**
Verify Check Digit	If Two Check Digits option is selected, an additional verification is required to ensure integrity. Select one of the algorithms below. If the check digit is incorrect, the barcode will not be accepted.	Single Modulo 10

<table>
<tr><td></td><td><table><tr><th>Check Digit</th><th>Algorithm</th></tr><tr><td>One Check Digit</td><td>Single Modulo 10</td></tr><tr><td>Two Check Digits</td><td>▸ Mod 10/Mod 11
▸ Mod 10/Mod 10</td></tr></table></td><td></td></tr>
<tr><td>Transmit Check Digit</td><td>Decide whether to include the check digit in the data being transmitted.</td><td>No</td></tr>
<tr><td>Select Length</td><td>▸ Any Length
▸ One or two fixed lengths
▸ Range (1~55)</td><td>Any Length</td></tr>
<tr><td colspan="2">GS1 DataBar (RSS)</td><td>---</td></tr>
<tr><td>GS1 Databar-14</td><td>GS1 DataBar-14 is short for GS1 DataBar Omnidirectional. This group consists of (1) GS1 DataBar Omnidirectional, (2) GS1 DataBar Truncated, (3) GS1 DataBar Stacked, and (4) GS1 DataBar Stacked Omnidirectional.</td><td>Enable</td></tr>
<tr><td>GS1 Databar Limited</td><td></td><td>Enable</td></tr>
<tr><td>GS1 Databar Expanded</td><td>This group consists of (1) GS1 DataBar Expanded, and (2) GS1 DataBar Expanded Stacked.</td><td>Enable</td></tr>
<tr><td>Convert RSS to UPC/EAN</td><td>"Convert to UPC/EAN" only applies to GS1 Databar-14 and GS1 Databar Limited barcodes not decoded as part of a Composite barcode.<table><tr><th>Convert to EAN-13</th></tr><tr><td>Strip the leading "010" from barcodes.
▸ "01" is the Application ID and must be followed by a single zero (the first digit encoded)</td></tr><tr><th>Convert to UPC-A</th></tr><tr><td>Strip the leading "0100" from barcodes.
▸ "01" is the Application ID and must be followed by two or more zeros (but not six zeros)</td></tr></table></td><td>No</td></tr>
<tr><td colspan="2">EAN-8</td><td>Enable</td></tr>
<tr><td>Convert to EAN-13</td><td>The EAN-8 barcode will be expanded into EAN-13, and the next processing will follow the settings configured for EAN-13.</td><td>No</td></tr>
<tr><td>Addon 2 / Addon 5</td><td>Refer to UPC/EAN Addon setting.</td><td></td></tr>
<tr><td colspan="2">EAN-13</td><td>Enable</td></tr>
<tr><td>Bookland EAN (ISBN)</td><td>The EAN-13 barcode starting with 978 will be converted to ISBN.</td><td>No</td></tr>
<tr><td>Addon 2 / Addon 5</td><td>Refer to UPC/EAN Addon setting.</td><td></td></tr>
<tr><td colspan="2">UPC-A</td><td>Enable</td></tr>
<tr><td>Transmit Check Digit</td><td>Decide whether to include the UPC-A check digit in the data being transmitted.</td><td>Yes</td></tr>
</table>

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 Check Digit	Decide whether to include the UPC-E0 check digit in the data being transmitted.	Yes
Transmit Preamble	Decide whether to include the UPC-E0 preamble System Number (and Country Code) in the data being transmitted.	System Number
Addon 2 / Addon 5	Refer to UPC/EAN Addon setting.	
Convert to UPC-A	The UPC-E0 barcode will be expanded into UPC-A, and the next processing will follow the settings configured for UPC-A.	No
UPC-E1		**Disable**
Transmit Check Digit	Decide whether to include the UPC-E1 check digit in the data being transmitted.	Yes
Transmit Preamble	Decide whether to include the UPC-E1 preamble System Number (and Country Code) in the data being transmitted.	System Number
Addon 2 / Addon 5	Refer to UPC/EAN Addon setting.	
Convert to UPC-A	The UPC-E1 barcode will be expanded into UPC-A, and the next processing will follow the settings configured for UPC-A.	No
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 addons. ▸ Ignore Addons ▸ Decode Only With Addons ▸ Decode With Addons (= Auto-discriminate)	Ignore...
Code 11		**Disable**
Verify Check Digit	Decide whether to verify the check digit. If the check digit is incorrect, the barcode will not be accepted. ▸ No verification ▸ One Check Digit ▸ Two Check Digits	No
Select Length	▸ Any Length ▸ One or two fixed lengths ▸ Range (1~55)	Any Length

Postal Codes		**---**
US Postnet		Enable
US Planet		Enable
Transmit US Postal Check Digit	US Postnet or US Planet must be enabled first!	Enable
UK Postal		Enable
Transmit UK Postal Check Digit	UK Postal must be enabled first!	Enable
Japan Postal		Enable
Australian Postal		Enable
Dutch Postal		Enable
UPU FICS Postal		Disable
USPS 4CB/One Code/ Intelligent Mail		Disable
Composite Codes		**---**
Composite CC-C		Disable
Composite CC-A/B		Disable
Composite TLC-39		Disable
GS1-128 Emulation Mode for UCC/EAN Composite Codes	Transmit UCC/EAN Composite Code data as if it was encoded in GS1-128 barcodes.	Disable
UPC Composite Mode	UPC barcodes can be "linked" with a 2D barcode during transmission as if they were one barcode. **UPC 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
GS1 Formatting		**---**
GS1-128 (EAN128)		Disable

GS1 DataBar Omnidirectional	Decide whether to enable GS1 formatting for GS1 DataBar Omnidirectional.	Disable
GS1 DataBar Limited	Decide whether to enable GS1 formatting for GS1 DataBar Limited.	Disable
GS1 DataBar Expanded	Decide whether to enable GS1 formatting for GS1 DataBar Expanded.	Disable
Composite CC-A/B	Decide whether to enable GS1 formatting for Composite CC-A/B.	Disable
Composite CC-C	Decide whether to enable GS1 formatting for Composite CC-C.	Disable
Field Separator	Specify the field separator.	No
Application ID Mark	Specify the application ID mark character.	No

2D SYMBOLOGIES

2D Engine	Description	Default
2D Symbologies		**---**
PDF417		Enable
MicroPDF417		Enable
Data Matrix		Enable
Data Matrix Inverse	Decide whether to decode Data Matrix Inverse. **Regular Only** Decode regular Data Matrix barcodes only. **Inverse Only** Decode inverse Data Matrix barcodes only. **Inverse Autodetect** Decode both regular and inverse Data Matrix barcodes.	Regular Only

Mirror Image (for Data Matrix)	Decide whether to decode mirror image Data Matrix barcodes. **Never** Do not decode Data Matrix barcodes that are mirror images. **Always** Decode only Data Matrix barcodes that are mirror images. **Auto** Decode both mirrored and unmirrored Data Matrix barcodes.	Never
Maxicode		Enable
QR Code		Enable
QR Code Inverse	Decide whether to decode QR Code Inverse. **Regular Only** Decode regular QR Code only. **Inverse Only** Decode inverse QR Code only. **Inverse Autodetect** Decode both regular and inverse QR Code.	Regular Only
MicroQR		Enable
Aztec		Enable
Aztec Inverse	Decide whether to decode Aztec Inverse. **Regular Only** Decode regular Aztec barcodes only. **Inverse Only** Decode inverse Aztec barcodes only. **Inverse Autodetect** Decode both regular and inverse Aztec barcodes.	Regular Only
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! **Transmit Any Symbol in Set / No Particular Order** Transmit data from each Macro PDF symbol as decoded, regardless of the sequence. **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.	Passthrough All Symbols
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!

CODE ID TABLE

Code ID Options	Set 1	Set 2	Set 3	Set 4	Set 5
Codabar	F	N	X	N	F
Industrial 25	C	H	H	H	S
Interleaved 25	D	I	Z	I	S
Matrix 25	E	G	G	G	S
Chinese 25	Q	M	P	S	X
Code 39	A	C	Y	M	A
Trioptic Code 39	A	C	Y	M	X
Code 93	I	L	L	L	G
Code 128	H	K	K	K	C

ISBT 128	H	K	K	K	C
Italian Pharmacode	A	C	Y	M	A
MSI	V	V	D	P	M
EAN-8	P	B	B	FF	E
EAN-13	M	A	A	F	E
UPC-A	J	A	A	A	E
UPC-E	S	E	C	E	E
UCC Coupon Code	G	F	I	C	C
Code 11	K	J	J	D	H
Composite Code (CC-A/B, CC-C)	L	X	M	J	La
Composite TLC-39	O	Z	O	R	L2
US Postnet	h	a	s	i	X
US Planet	i	b	t	j	X
UK Postal	j	c	u	k	X
Japan Postal	k	d	v	l	X
Australian Postal	l	e	w	m	X
Dutch Postal	m	f	x	n	X
USPS 4 CB / One Code / Intelligent Mail	n	g	y	o	X
UPU FICS Postal	o	h	z	p	X
PDF417	a	O	W	T	L
MicroPDF417	b	P	V	U	L
Data Matrix	c	Q	U	V	d
Maxicode	d	R	T	W	U
QR Code	e	S	S	X	Q
MicroQR	f	T	R	Y	Q
Aztec	g	U	Q	Z	z
IATA	z	z	r	h	S
Macro PDF417	p	i	a	q	L
Macro MicroPDF417	q	j	b	r	L