Delfi TECHNOLOGIES

Wireless DelfiScan Reference Manual

DelfiScan M71

Programming Manual

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Revision History

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Rev.A1	Oct. 22, 2009	❖ Page 6 Revise "Clone" function operation method. ❖ Page 68 Add "Save Configuration" and "Master Default" quick set commands.

Wireless DelfiScan Reference Manual

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Electronic versions may either be downloadable from the Delfi website (www.delfi.com) or provided on appropriate media.

Disclaimer

Delfi has taken reasonable measures to provide information in this manual that is complete and accurate, however, Delfi reserves the right to change any specification at any time without prior notice.

Regulatory

	FCC part 15B, FCC part 15C
	EN55022, EN55024, EN60950-1, EN301 489-1 & 489-17, EN300 328
	CNS13438, CNS14336
	LP0002
2.4 FH 1 技術基準認証済みの無線装置を内蔵	MIC T401
LED Eye Safety	IEC60825-1, EN60825-1

Delfi TECHNOLOGIES

Wireless DelfiScan Reference Manual

Table of Contents

Getting Started

Getting Familiar with Your DelfiScan 1
Preparation before Using 2
Decide Your Radio Link Mode 3
Using DelfiScan in PAIR Mode 4
Using DelfiScan in PICO Mode 5
Using DelfiScan in HID Mode 7
Using DelfiScan in SPP Mode 8
Out-of-range Scanning/Presentation Scanning/Paging Function 10
Batch Scanning (Inventory Mode) 11

Configure Your DelfiScan

Bar Code Programming Manual 13
- Programming Procedures 14
- Host Interface Selection 18
- Symbology Reading Control 19
- Keyboard Interface Control 37
- Serial Interface Control 41
- Wand/Laser Emulation Control 44
- Operation Control 45
- Condensed DataWizard 55

Appendix

Symbology ID Table 62
Keyboard Function Code Table 63
ASCII Input Shortcut 64
Link Mode Quick Set/Operation Mode Quick Set 65
Host Interface Quick Set 66
Option Codes 67
System Commands 68

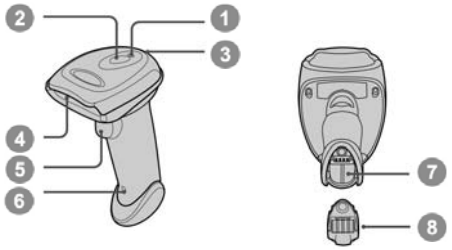
Delfi TECHNOLOGIES

Wireless DelfiScan Reference Manual

Getting Familiar with Your DelfiScan

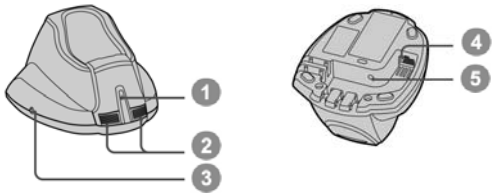
Thank you for choosing DelfiScan Bluetooth Cordless Image Scanner. Powered by the combination of cutting-edge DelfiScan 2.0 Imaging Technology and Bluetooth 2.1 EDR wireless technology, it not only provides outstanding reading performance, but also delivers the convenience and freedom of mobility. This document provides a quick reference for installation and operation purposes.

DelfiScan M71 Scanner



1. **Link Indicator**
2. **Status Indicator**
3. **Beeper**
4. **Scan Window**
5. **Trigger**
6. **Reset Button**
7. **Battery Cavity**
8. **End Cap**

Smart Cradle (Base)



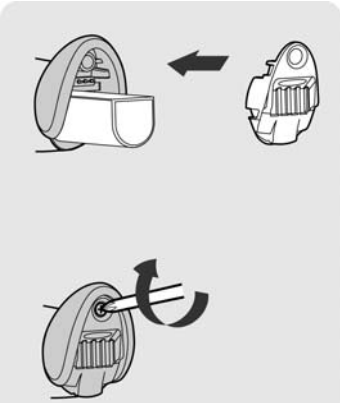
1. **Center Indicator**
2. **Side Indicators**
3. **Paging/Reset Button**
4. **Host Interface Port**

Delfi TECHNOLOGIES

Wireless DelfiScan Reference Manual

Preparation before Using

Install the Battery

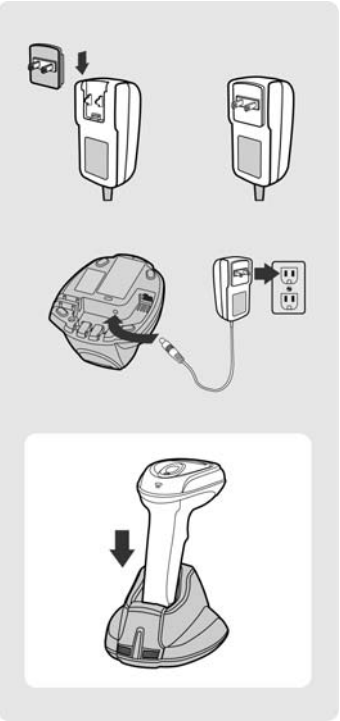


1. Ensure the battery contacts of the battery pack are facing the charging contacts inside the battery cavity.

2. Slide the battery pack into the battery cavity until hearing a click sound before locking it with the end cap. The scanner will give 4 beeps when the battery pack is installed properly if the battery pack still has power.

3. Secure the end cap with the screw provided, and make sure the end cap is secured properly before using the scanner.

Charging the Battery



1. There are 4 different power plugs in your power supply kit. Choose the appropriate local plug and slot it onto the power adapter cavity until it is locked.

2. Plug the AC power plug into the appropriate AC wall socket.

3. Plug the DC power cord of the power supply unit into the DC power jack of the cradle. The smart cradle will issue the power on beeps and the center indicator will give **one blue blink**. If you use the charging cradle, please check the power indicator of the charging cradle turns **steady blue**.

4. Place the scanner on the cradle. The status indicator of scanner will turn **steady red** if the battery is not fully charged. When the battery is fully charged, the status indicator of scanner will **flash green** at regular interval.

Please charge the new battery pack for 8 hours prior to the first use.

Delfi TECHNOLOGIES

Wireless DelfiScan Reference Manual

Decide Your Radio Link Mode

The DelfiScan Bluetooth image scanner provides several radio link modes to communicate with most host devices. When the Bluetooth-enabled host device is not available, it can work with the smart cradle in PAIR mode (one to one connection) or PICO mode (multiple connections) to provide a plug-and-play cordless migration of your existing non-Bluetooth-enabled IT assets. Moreover, you are also able to use the scanner to work with Bluetooth-enabled host devices via SPP master/slave modes and HID mode.

After losing the radio link, the scanner is capable of resuming the radio connection automatically while it returns to the communication coverage. But please note that this feature is not available in SPP slave mode. If you would like to change the radio link mode, you have to scan the "Uninstall" command to revert the scanner to uninstall state.

PAIR Mode

If the Bluetooth device is not available in your existing system, this is the simplest plug-and-play solution. In this mode, one scanner can only work with one smart cradle. The smart cradle not only provides the Bluetooth radio link with the scanner, but also offers the legacy cabled interfaces to the host device, including USB HID, USB COM, PS/2(DOS/V) Keyboard Wedge and RS232 Serial.

PICO Mode

For the requirement of multiple connections, up to 7 scanners can be connected to one smart cradle concurrently. If you would like to un-pair all paired scanners and smart cradle, you can simply press and hold the paging/reset button of the smart cradle for over 3 seconds. If you just want to un-pair part of the paired scanners, please take those paired scanners to scan the "Uninstall" command one by one.

HID Mode

Through the most helpful HID service, the scanner can work like a Bluetooth keyboard. In this mode, the scanner is discoverable by the radio connection request issued by a remote host device. For security purpose, you will be requested to input the PIN Code to establish the Bluetooth connection in most time.

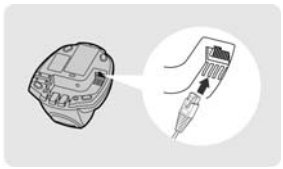
SPP Master/Slave Mode

Through the standard SPP service, the scanner can work like a serial input device. In SPP master mode, the scanner initiates the radio connection request to a remote slave device. In SPP slave mode, the scanner is discoverable by the radio connection request issued by a remote master device.

Wireless DelfiScan Reference Manual

Using DelfiScan in PAIR Mode

1. Ensure the battery is fully charged. You may refer to the section of **Preparations before Using** for details.
2. Please choose your desired interface cable, then plug it into the host interface port of the smart cradle and connect it to the host device.



3. Turn on the power of your host device.
4. Please note that the scanner has been pre-paired already, if the scanner is shipped together with the smart cradle. You will see the link indicator of scanner gives 1 blue blink per 2.5 seconds and the middle indicator of smart cradle turns steady blue. If the scanner and smart cradle just give **alternating red and green blinks** (in "**Uninstall**" state), please follow steps 5-6 to establish the connection between the scanner and the smart cradle.
5. Scan "PAIR mode" command. The status indicator of scanner will turn steady red.

Uninstall

PAIR Mode

6. Place the scanner on the smart cradle, then you will hear one short beep to indicate the pairing process is activated. The scanner will give continuous short clicks and the link indicator of scanner will flash blue quickly during the pairing process. When you hear 4 beeps in ascending tone, the pairing process is completed. You will see the link indicator of scanner giving **1 blue blink per 2.5 seconds** and the center indicator of the smart cradle turning **steady blue**.

   If the scanner pairing process failed or it's not placed on the smart cradle within 20 seconds, you will hear 2 "Di-do Di-do" beeps to indicate pair failure, the scanner will return to uninstall state automatically.
7. Scan the corresponding host interface quick set command to complete the installation.

The default host interface of smart cradle is preset to USB HID. If you want to set the host interface to USB COM, you have to install the USB virtual COM driver into your host device before using the scanner. Please visit the Delfi website to download the software driver.

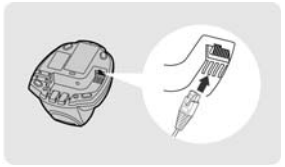
Delfi TECHNOLOGIES

Wireless DelfiScan Reference Manual

Using DelfiScan in PICO Mode

1. Ensure the battery is fully charged and choose your desired interface cable, then plug it into the host interface port of the smart cradle and connect it to the host device.

USB PS/2 RS232



2. Turn on the power of your host device.
3. Ensure the side indicators of the smart cradle give **alternative red and green blinks** (in "**Uninstall**" state). If the smart cradle is paired with other scanners, you can press and hold the paging/reset button for **over** 3 seconds to un-pair all paired scanners. Then the smart cradle will return to uninstall state automatically.
4. Prepare the scanners you desire to pair with smart cradle. Ensure the status indicator of each scanner give **alternative red and green blinks** (in "**Uninstall**" state). If the scanner is not in uninstall state, please scan the "Uninstall" command to un-pair the scanner. Then scan the "PICO mode" command, and the status indicator of scanner will turn steady red.

Uninstall

PICO Mode

5. Place the scanner on the smart cradle, then you will hear one short beep to indicate the pairing process is activated. The scanner will give continuous short clicks and the link indicator of scanner will flash blue quickly during the pairing process. When you hear 4 beeps in ascending tone, the pairing process is completed. You will see the link indicator of scanner giving **1 blue blink per 2.5 seconds**, the center indicator of the smart cradle turning **steady blue** and its side indicators turning **steady green**.

   If the scanner pairing process failed or it's not placed on the smart cradle within 20 seconds, you will hear 2 "Di-do Di-do" beeps to indicate pair failure, the scanner will return to uninstall state automatically.
6. Scan the corresponding host interface quick set command to complete the installation.
7. Please follow the same procedures to pair the other scanners with the smart cradle.

For user's convenience, the smart cradle will automatically assign the ID numbers to each scanner. After completed all pairing processes, you can scan the "System Information" command to check the assigned ID number of each scanner.

Clone Function

For the user's convenience, the clone function will help you to clone the host interface related parameters (please refer to following table for details) from one of the paired scanners to the rest of paired scanners under PICO mode. You can use one of the paired scanners to set the host interface related parameters first and then scan "Save Configuration" command. After that, please take the other paired scanners to scan "Clone" command one by one to clone the host interface related parameters.

Please ensure to keep those paired scanners in connected status when you use the "Clone" function. Because the host interface related parameters can't be cloned to the paired scanner in disconnected status.

Save Configuration

Clone

The below host interface related parameters will be impacted by clone function:

Data Transmission Parameter	**Serial Interface Control**
Field Delimiter	Handshaking Protocol
Data Transmission Format	Intermessage Delay
Host Interface Control	Interfunction Delay
Host interface Selection	Intercharacter Delay
Keyboard Interface Control	Baud Rate
Keyboard Layout	Data Frame
Intermessage Delay	Time Out Control
Interfunction Delay	**Wand Emulation Control**
Intercharacter Delay	Output Polarity
Caps Lock Control	Initial Signal State
Caps Lock Release Control	Margin Time
Function Key Emulation	Module Time
Key Pad Emulation	Narrow/Wide Ratio
Upper/Lower Case	Code39 Emulation

Wireless DelfiScan Reference Manual

Using DelfiScan in HID Mode

1. Ensure the battery is fully charged. Power on the scanner within radio range and ensure the status indicator of scanner gives **alternating red and green blinks** (in "**Uninstall**" state). If the scanner is not in uninstall state, please scan the "Uninstall" command first. Then scan the "HID Mode" command, and the link indicator of scanner will give 3 blue blinks per 2 seconds.

Uninstall

HID Mode

2. Execute the Bluetooth Discovery procedure to find all available Bluetooth devices in your remote host. You will see '' FxxxBT-xxxx" is shown in the list if the scanner is successfully discovered already.

3. Double click the "FxxxBT-xxxx" in the discovered Bluetooth device list. If the PIN Code or Passkey is requested for security connection, please enter "**00000000**" (default setting). You will see "Keyboard on FxxxBT-xxxx", and double click this HID service to establish the connection between the scanner and the remote host device.

4. The scanner will give 4 beeps in ascending tone to indicate the radio is connected. At the same time, the link indicator of scanner will give 1 blue blink per 2.5 seconds to indicate the scanner is in radio-connected state.

   Please note that if the scanner is not connected to the host device within 1 minute after scanning the "HID Mode" command, the scanner will go to sleep automatically. You just need to press the trigger to wake up the scanner to continue the installation.

1. **The installation procedures vary on different remote host devices, operation systems and the Bluetooth software driver. Please consult your professional IT consultant to obtain necessary support if any problem has been encountered during the installation processes.**

2. **While using HID mode, beware of potential error in the data transmitted at the same time when radio link quality is poor. You are suggested to use the scanner under the communication coverage all the times.**

Delfi TECHNOLOGIES

Wireless DelfiScan Reference Manual

Using DelfiScan in SPP Mode

Establish SPP Master Connection

1. Ensure the battery is fully charged. Please go to the folder of "**Hardware**" located in Bluetooth Advanced Setting of the remote host device to check its device MAC address. Then prepare a 12-character Code 128 barcode of the remote host device MAC address, or follow the step 4 to input MAC address by scanning 12 option codes.

2. Ensure a virtual COM port is available in your remote host for connecting the scanner. If not, please go to the folder of "**Local Services**" located in Bluetooth Advanced Setting. Click the "**Add Serial Services**" to add one more Bluetooth COM port.

3. Power on the scanner within radio range and ensure the status indicator of scanner gives **alternating red and green blinks** (in "**Uninstall**" state). If the scanner is not in uninstall state, please scan the "Uninstall" command first. Then scan the "SPP Master Mode" command, and the status indicator of scanner will turn steady red.

Uninstall

SPP Master Mode

4. Scan a 12-character MAC address barcode, or scan 12 option codes and "FIN" command to confirm your inputs. The scanner will give continuous short clicks and the link indicator of the scanner will flash blue quickly during the radio connecting process. If the PIN Code or Passkey is requested for security connection, please enter "**00000000**" (default setting).

5. The scanner will give 4 beeps in ascending tone to indicate the radio is connected. At the same time, the link indicator of scanner will give 1 blue blink per 2.5 seconds to indicate the scanner is in radio-connected state.

   Please note that if the scanner failed to connect to the host device within 30 seconds, the link indicator will give 3 blue blinks per 2 seconds. But the scanner is still continuing to discover the host device for another 30 seconds before go to sleep. In the interim, you still can scan "Uninstall" command to revert the scanner to uninstall state. If the scanner goes to sleep already, you just need to press the trigger to wake up the scanner to continue the installation.

The installation procedures vary on different remote host devices, operating systems and the Bluetooth software driver. Please consult your professional IT consultant to obtain necessary support if any problem has been encountered during the installation processes.

Establish SPP Slave Connection

1. Ensure the battery is fully charged and a virtual COM port is available in your remote host for connecting the scanner. If not, please go to the folder of "**Client Applications**" located in Bluetooth Advanced Setting. Click the "**Add COM Port**" to add one more Bluetooth COM port.

2. Power on the scanner within radio range and ensure the status indicator of scanner gives **alternating red and green blinks** (in "**Uninstall**" state). If the scanner is not in uninstall state, please scan the "Uninstall" command first. Then scan the "SPP Slave Mode" command, and the link indicator of scanner will give 3 blue blinks per 2 seconds.

Uninstall

SPP Slave Mode

3. Execute the Bluetooth Discovery procedure to find all available Bluetooth device list in your remote host. You will see "FxxxBT-xxxx" is shown in the list if the scanner is successfully discovered already.

4. Double click the "FxxxBT-xxxx" on the discovered Bluetooth devices. If the PIN Code or Passkey is requested for security connection, please enter "**00000000**" (default setting). You will see "Serial Port on FxxxBT-xxxx", and double click this SPP service to establish the connection between the scanner and the remote host device.

5. The scanner will give 4 beeps in ascending tone to indicate the radio is connected. At the same time, the link indicator of scanner will give 1 blue blink per 2.5 seconds to indicate the scanner is in radio-connected state.

   Please note that if the scanner is not connected to the host device within 1 minute, the scanner will go to sleep. You can press the trigger to wake up the scanner to continue the installation.

The installation procedures vary on different remote host devices, operating systems and the Bluetooth software drivers. Please consult your professional IT consultant to obtain necessary support if any problem has been encountered during the installation processes.

Wireless DelfiScan Reference Manual

Out-of-range Scanning

When the radio is connected between the scanner and the remote host device, the scanner will transmit each scanned data right after scanning the barcode. However, the scanner is preset for unable to scan any barcode data when it loses the radio connection with the remote host device.

If you enable the out-of-range scanning function, the scanner is able to continue scanning barcode data while it is out of working range. All scanned data will be temporarily stored into the memory buffer until radio link resumed.

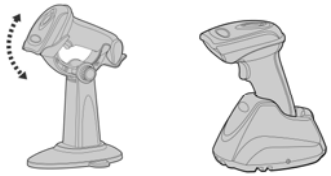
Enable Out-of-range Scannning

Disable Out-of-range Scanning ◆

In case of the scanner is out of working range, you will hear 4 beeps in descending tone to indicate the radio connection lost. The link indicator of scanner will give 3 blue blinks per 2 seconds. Once the scanner is back to working range, you will hear 4 beeps in ascending tone to indicate the radio connection rebuilt and the scanner will give 1 blue blink per 2.5 seconds. At the same time, all stored scanned data will be transmitted automatically right after the radio link is resumed.

Presentation Scanning

The Presentation Scanning is designed for hand-free applications for user's convenience. If the "Presentation Scanning Auto-sense" function is enabled, the scanner is capable of automatically switching to presentation mode when you place it onto the SmartStand or cradle.

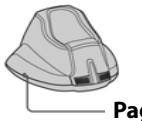


Enable Presentation Scanning Auto-sense

Disable Presentation Scanning Auto-sense □

Paging Function

The paging function is helpful for you to locate the paired smart cradle or scanner. If you would like to page the paired smart cradle, you can scan "Paging" command. If you would like to page the paired scanner, you can press the paging/rest button of the smart cradle **no longer** than 3 seconds.



Paging/Reset Button

Paging

Delfi TECHNOLOGIES

Wireless DelfiScan Reference Manual

Batch Scanning (Inventory Mode)

Thanks to the specially designed Batch Scanning function, the scanner is capable of storing the barcode data up to 20,000 EAN-13 labels. It is an ideal cost-saving solution for inventory applications.

Once you scan the "Enter Batch Scanning" command to activate this function, all scanned barcode data will be stored into the memory storage, and the status indicator of scanner will give **green blink** at regular interval during batch scanning. You can scan and store the barcode data till the memory storage is full. If the storage is full, you will hear 2 long beeps and the status indicator will give 2 red blinks to indicate out of storage. To terminate the batch scanning, please scan the "Exit Batch Scanning" command.

Enter Batch Scanning

Exit Batching Scanning

How to Transmit Stored Data

The scanner is preset to scan the "Transmit Stored Data" command to transmit all stored data. During the transmission process, the scanner will give continuous short clicks and blue blinks. Then the scanner will give two short beeps after data transmission is completed.

Transmit Stored Data

But you are still able to set the scanner to transmit the stored data by placing the scanner onto the cradle as well.

Transmit Stored Data by Scanning Barcode Command

Transmit Stored Data by Placing Scanner onto Cradle

Transmit Stored Data by Scanning Barcode or Placing Scanner onto Cradle

The scanner is preset to keep all the stored data until you scan the "Clear All Stored Data" command. But you are still able to change the setting to "Auto Delete Stored Data after Transmission" as well.

Clear All Stored Data

Auto Delete Stored Data after Transmission

Keep Stored Data after Transmission □

If you scanned a wrong barcode, the "Delete Last Scanned Data" command is helpful to recover mistake. By scanning the "Delete Last Scanned Data" command, the last stored data can be deleted.

Delete Last Scanned Data

Using Quantity Feature

If you want to input the quantity information of barcode data, you can enter the quantity from 1 to 9999 by scanning the quantity barcodes right after you scanned the barcode data. The quantity information will be stored into the memory storage together with the barcode data.

Quantity 0

Quantity 1

Quantity 2

Quantity 3

Quantity 4

Quantity 5

Quantity 6

Quantity 7

Quantity 8

Quantity 9

There are two ways to output the stored barcode data and quantity information. Please refer to following for details:

- Stored data is transmitted as many times as the quantity indicated.
- Stored data is transmitted together with quantity information in two fields. Please scan "Enable Quantity Field Transmission" command to enable this function. The preset delimiter is " , ", but you are able to choose your desired one from DelfiScan Wireless Reference Manual for details.

Disable Quantity Field Transmission □

Enable Quantity Field Transmission

Delfi TECHNOLOGIES

Wireless DelfiScan Reference Manual

Bar Code Programming Menu

The DelfiScan bar code commands are specially designed **Proprietary** bar code labels which allow you to set the DelfiScan internal programming parameters. There are **System Command**, **Family Code** and **Option Code** for programming purpose.

Each programmable family and bar code command label is listed on the same page with major system commands. The detailed explanations and special programming flowchart are printed on facing or following pages. You can read the explanation and set the DelfiScan concurrently.

A supplemental bar code command menu incorporates the bar code command labels of System Command and Option Code. As you set the DelfiScan, open the bar code command menu to find the option code page. You may scan the desired family code and option code to set DelfiScan. If you want to change the programming family for multiple settings, you need only turn over the programming page to find next desired programming family.

System Command

The System Command is the highest level bar code command which directs DelfiScan to perform immediate operations, such as entering programming mode (**PROGRAM**), exiting programming mode (**EXIT**), listing system information (**SYSLIST**), recovering to factory preset configurations (**M_DEFAULT**), and so on. Please note that all system commands will take a few seconds to complete the operations. User must wait for the completion beeps before scanning another bar code.

Family Code

The Family Code is scanned to select the user desired programming family. DelfiScan has already provided more than one hundred programming families to meet any specific requirements.

Option Code

The Option Codes is a set of bar code commands represented by "**0–9**", "**A–F**" and finishing selection (**FIN**). For most setting, you must select at least one option code following the family code selection to set the desired parameter for the selected programming family.

Programming Procedures

As you scan the bar code command to select the desired parameters, information about the final selected parameters represented by the bar code commands are stored in the DelfiScan's internal Flash Memory ASIC or non-volatile memory. If you turn off the unit, the Flash Memory ASIC or non-volatile memory retains all programming options. You need not re-program the DelfiScan if you want to keep the existing configurations in the next power on.

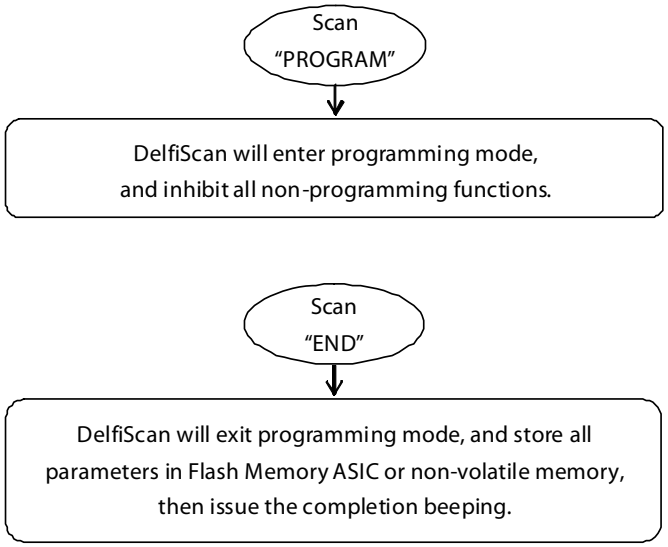
The programming procedures of DelfiScan are designed as simple as possible for ease of setting. Most programming families take the **Single Scan Selection** programming procedure. But several programming families have more complex and flexible programmable options, and you must take **Multiple Scans Selection, Cycling Scan Selection or Dual Level Selection** to complete their programming procedures. Each kind of programming procedure is listed in the following pages for your reference. Please give careful attention to become familiar with each programming procedure.

If the programming family must take multiple scans selection, cycling scan selection, or dual level selection procedures, the family of the programming menu will be marked with the matched representing symbol of **Programming Category** (P.C.) in bold font listed in the following table. You can easily find the bold mark in the programming menu, and refer to their flowcharts for details. Before setting the DelfiScan, please also refer to the "Beeping Indications" listed in Appendix to understand the details of programming beeping indications. It will be very helpful for you to know the existing status while you are programming the DelfiScan.

Conventions of Programming Menu

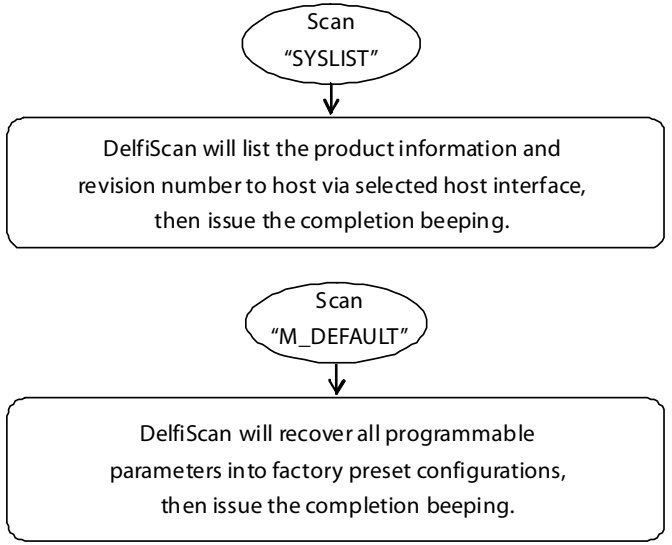
Conventions	Descriptions
	Factory Default Value
P.C.	**Programming Category** **SS** : Signle scan selection **MS** : Multiple scans selection **CS** : Cycling scan selection **DS** : Dual level scan selection
( )	**Necessary Option Code**
[ ]	**Selectable Option Code**

Program & End

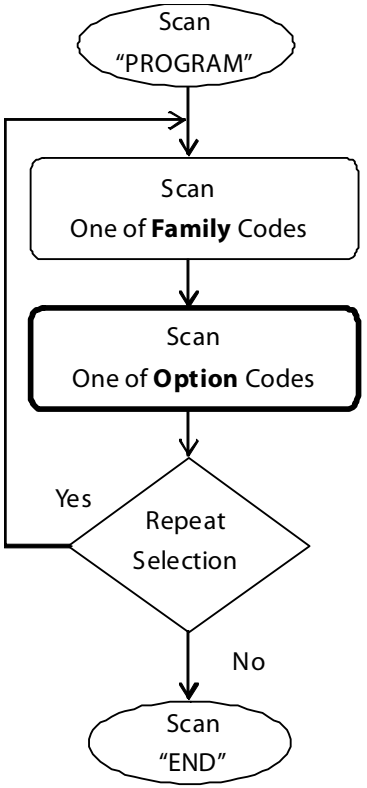


Please note that the DelfiScan will take 3-4 seconds to store parameters in internal Flash Memory ASIC or non-volatile memory after you scan the "**END**". Please **don't** turn off the power before the completion beeping. It may destroy all configured parameters.

System List, Group & Master Default



Single scan selection



Enter programming mode.

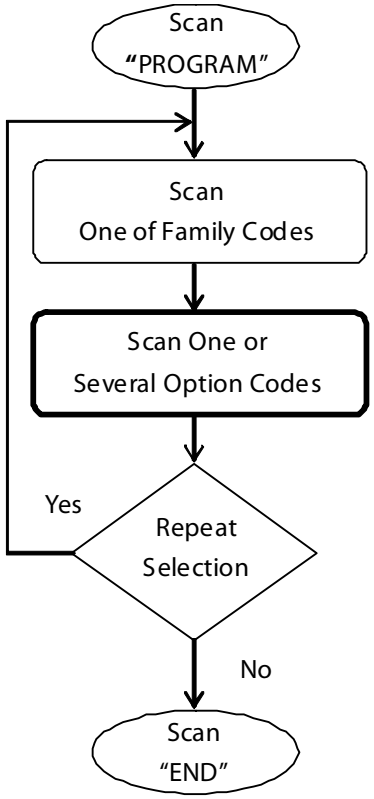
Select one of desired programming families.

Select one option code of desired parameter.

Want to select another programming family?

Exit programming mode.

Multiple scans selection



Enter programming mode.

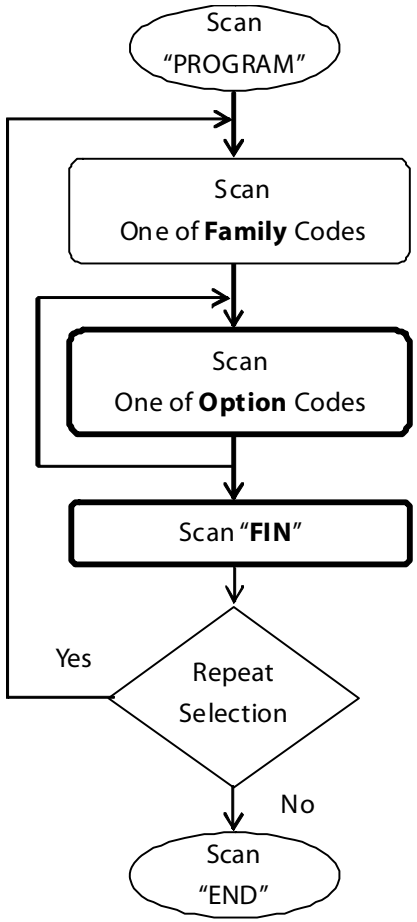
Select one of desired programming families.

1. **Select one or several option codes to select desired parameters.**
2. **If it’s necessary, scan “FIN” to terminate option code selection.**

Want to select another programming family?

Exit programming mode.

Cycling scan selection



Enter programming mode.

Select one of desired programming families.

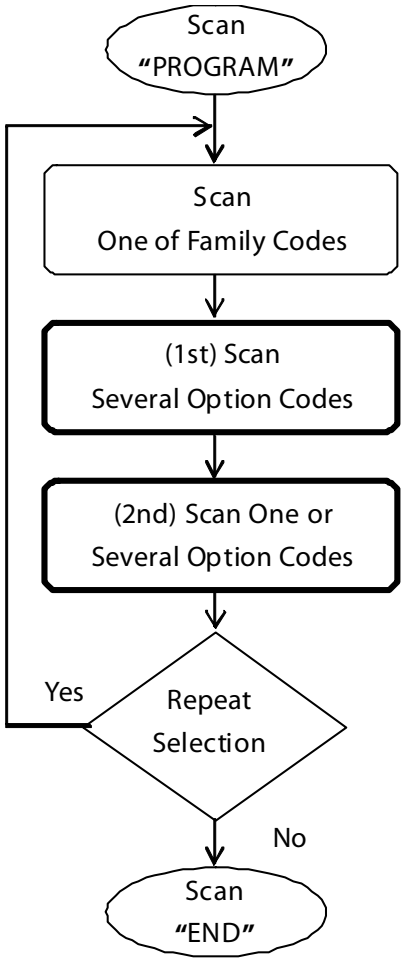
Cycling select one or several option codes of desired parameters as "Single" or "Multiple" scans selection.

Finish cycling selection.
(If necessary)

Want to select another programming family?

Exit programming mode.

Dual level selection



Enter programming mode.

Select one of desired programming families.

Select several option codes of desired parameters.

1. **Select one or several option codes of desired parameters.**
2. **If it's necessary, scan "FIN" to terminate option code selection.**

Want to select another programming family?

Exit programming mode.

PROGRAM

Host Interface Selection

F_DEFAULT

Family Code Selection	P.C	Parameter Selection	Option Code
Host Interface Selection	**MS**	IBM PS/2, 25-30 series keyboard wedge interface	02
	MS	Standard/TTL RS-232 peer-to-peer serial	06
	MS	Wand emulation	08
	MS	USB Com Port Emulation	09
	MS	PS/2 (DOS/V) direct link (keyboard replacement)	10
	MS	PS/2 (DOS/V) keyboard wedge turbo mode	13
	MS	PS/2 (DOS/V) keyboard wedge standard mode	14
	MS	Laser emulation	17
	MS	USB HID standard mode	18
	MS	USB HID turbo mode	19

Symbology Reading Control

User Defined Symbol ID

PROGRAM

F_DEFAULT

Family Code Selection	P.C	Parameter Selection	Option Code	2nd Option Code
Symbol ID : 1 character	**DS**	Code 128 (default=**B**)	00	**(1 character)**
		UCC/EAN-128 (default=**C**)	01	**(1 character)**
		UPC-A (default=**A**)	02	**(1 character)**
		EAN-13 (default=**F**)	03	**(1 character)**
		Codabar/NW-7 (default=**D**)	04	**(1 character)**
		Code 39/Code 32 (default=**G**)	05	**(1 character)**
		Code 93 (default=**H**)	06	**(1 character)**
		Standard/Industrial 2 of 5 (default=**I**)	07	**(1 character)**
		Interleaved 2 of 5 (default=**J**)	08	**(1 character)**
		Matrix 2 of 5 (default=**K**)	09	**(1 character)**
		China Postal Code (default=**L**)	10	**(1 character)**
		German Postal Code (default=**M**)	11	**(1 character)**
		IATA (default=**O**)	12	**(1 character)**
		Code 11 (default=**P**)	13	**(1 character)**
		MSI/Plessey (default=**R**)	14	**(1 character)**
		UK/Plessey (default=**S**)	15	**(1 character)**
		Telepen (default=**T**)	16	**(1 character)**
		GS1 DataBar (default=**X**)	17	**(1 character)**
		UPC-E (default=**E**)	18	**(1 character)**
		EAN-8 (default=**N**)	19	**(1 character)**
		Trioptic Code 39 (Default=**W**)	20	**(1 character)**
		UCC Coupon Extended Code (Default=**Z**)	21	**(1 character)**
		PDF417/Micro PDF417 (default=**V**)	22	**(1 character)**
		Codablock F (default=**Y**)	23	**(1 character)**
		Korea Post Code (default =**a**)	26	**(1 character)**

PROGRAM

Symbology Reading Control

Symbology ID Transmission

F_DEFAULT

Family Code Selection	P.C	Parameter Selection	Option Code
Symbology ID Transmission	SS	Disable symbology ID transmission	0
	SS	Enable prefix Delfi symbology ID transmission	1
	SS	Enable suffix Delfi symbology ID transmission	2
	SS	Enable both prefix and suffix Delfi symbology ID transmission	3
	SS	Enable prefix AIM symbology ID transmission	4
	SS	Enable suffix AIM symbology ID transmission	5
	SS	Enable both prefix and suffix AIM symbology ID transmission	6

Delfi TECHNOLOGIES

Wireless DelfiScan Reference Manual

Symbology Reading Control

Readable Bar Code Setting

PROGRAM

F_DEFAULT

Family Code Selection	P.C	Parameter Selection	Option Code
Readable Symbology Setting	SS	Auto	00
	CS	Code 128 *	01
	CS	UPC-A *	02
	CS	UPC-E *	03
	CS	EAN-13 *	04
	CS	EAN-8 *	05
	CS	Codabar/NW-7 *	06
	CS	Code 39 *	07
	CS	Trioptic Code 39	47
	CS	Standard/Industrial 2 of 5	08
	CS	Matrix 2 of 5	38
	CS	Interleaved 2 of 5 *	48
	CS	China Postal Code	58
	CS	German Postal Code	68
	CS	Code 93 *	09
	CS	Code 11	10
	CS	MSI/Plessey	11
	CS	UK/Plessey	12
	CS	Telepen	13
	CS	GS1 DataBar (RSS-14) *	14
	CS	IATA	15
	CS	PDF417/Micro PDF417	17
	CS	Codablock F	18
	CS	Korea Post Code	21

Remember to scan **"FIN"** to terminate this selection. But if you select the **" Auto "**, DelfiScan will terminate this selection **automatically**.

- If your application is reading known, limited bar code symbologies, you may increase the reading speed and decrease the reading error possibility by selecting those known symbologies only. Furthermore, to add the "**Symbology ID**" into the transmitted data is also helpful for applications to identify the specific symbology ID.
- Above symbologies marketed with * are enable as default. When you select "Auto", the scanner only read those symbologies marked with *
- When you set the minimum and maximum length of each symbology, please note the data length of scanned bar code doesn't include star/stop characters.

PROGRAM

Symbology Reading Control

Code 39/Code 32 Setting

F_DEFAULT

Family Code Selection	P.C	Parameter Selection	Option Code
Code 39 Family Setting	SS	Disable Code 39	0
	SS	Enable Code 39	1
	SS	Select Standard Code 39 as primary format	2
	SS	Select Full ASCII Code 39 as primary format	3
	SS	Select Code 32 (PARAF, Italian Pharmaceutical) as primary format	4
	SS	Disable start/stop symbol transmission	5
	SS	Enable start/stop symbol transmission	6
	SS	Disable Code 32 leading A transmission	7
	SS	Enable Code 32 leading A transmission	8
	SS	Disable MOD 43 check digit verification	9
	SS	Enable MOD 43 check digit verification	A
	SS	Disable check digit transmission	B
	SS	Enable check digit transmission	C
	SS	Disable Code 39 buffering	D
	SS	Enable Code 39 buffering	E
Trioptic Code 39 Setting	SS	Disable Trioptic Code 39	0
	SS	Enable Trioptic Code 39	1
Code 39 Min. Length	SS	Default (01)	**FIN (2 digits)**
	MS	01-Maximum	
		Scan 2 digits from the option code chart in Appendix, then DelfiScan will terminate this selection automatically.	
Code 39 Max. Length	SS	Default (98)	**FIN (2 digits)**
	MS	98-Minimum	
		Scan 2 digits from the option code chart in Appendix, then DelfiScan will terminate this selection automatically.	

▪ Trioptic Code 39 and Code 39 Full ASCII cannot be enabled simultaneously.

Delfi TECHNOLOGIES

Wireless DelfiScan Reference Manual

PROGRAM

Symbology Reading Control

Codabar/NW-7 Setting

F_DEFAULT

Family Code Selection	P.C	Parameter Selection	Option Code
Codabar Setting	SS	Disable Codabar	0
	SS	Enable Codabar	1
	SS	Select Codabar standard format	2
	SS	Select Codabar ABC format	3
	SS	Select Codabar CLSI format	4
	SS	Select Codabar CX format	5
	SS	Disable start/stop symbol transmission	6
	SS	Enable ABCD/ABCD start/stop symbol transmission	7
	SS	Enable abcd/abcd start/stop symbol transmission	8
	SS	Enable ABCD/TN*E start/stop symbol transmission	9
	SS	Enable abcd/tn*e start/stop symbol transmission	A
	SS	Disable check digit verification	B
	SS	Enable check digit verification	C
	SS	Disable check digit transmission	D
	SS	Enable check digit transmission	E
Codabar Min. Length	SS	Default (04)	**FIN (2 digits)**
	MS	01-Maximum	
		Scan 2 digits from the option code chart in Appendix, then DelfiScan will terminate this selection automatically.	
Codabar Max. Length	SS	Default (98)	**FIN (2 digits)**
	MS	98-Minimum	
		Scan 2 digits from the option code chart in Appendix, then DelfiScan will terminate this selection automatically.	

Symbology Reading Control

UPC-A & UPC-E Setting

PROGRAM

F_DEFAULT

Family Code Selection	P.C	Parameter Selection	Option Code
UPC Family Setting	SS	Disable UPC-A	0
	SS	Enable UPC-A	1
	SS	Disable UPC-E	2
	SS	Enable UPC-E	3
	SS	Disable UPC-E expansion	4
	SS	Enable UPC-E expansion	5
	SS	Disable UPC standardization	6
	SS	Enable UPC standardization	7
	SS	Disable UPC numeric system	8
	SS	Enable UPC numeric system	9
	SS	Disable UPC-A check digit transmission	A
	SS	Enable UPC-A check digit transmission	B
	SS	Disable UPC-E check digit transmission	C
	SS	Enable UPC-E check digit transmission	D
	SS	Disable UPC “leading 1” portion	E
	SS	Enable UPC “leading 1” portion	F

Symbology Reading Control

UPC-A & UPC-E Setting

PROGRAM

F_DEFAULT

Family Code Selection	P.C	Parameter Selection	Option Code
UPC Supplement Setting	SS	Select UPC without supplement digits	0
	SS	Select UPC with only 2 supplement digits	1
	SS	Select UPC with only 5 supplement digits	2
	SS	Select UPC with 2/5 supplement digits	3
	SS	Disable force supplement digits output	4
	SS	Enable force supplement digits output	5
	SS	UPC Family Addenda Separator Off	6
	SS	UPC Family Addenda Separator On	7

- **UPC-E & EAN-8 Expansion** : Expand the 7-digit UPC-E and 8-digit ENA-8 to 12-digit UPC-A and 13-digit EAN-13.
- **UPC-A/E Standardization** : Expand the 7-digit UPC-E and 12-digit UPC-A to 8-digit EAN-8 to 13-digit EAN-13 with 1 zero insertion.
- **UPC Lead 1 Numeric System** **:** Enable to read UPC leading with the 1 numeric system, you must enable this option.

WPC Selection (UPC/EAN/CAN)	Basic Length	Disable Check Digit	Disable Numeric System	With 2-digit Addendum	With 5-digit Addendum	Enable Standardization	Enable Expansion
UPC-A	12	- 1	- 1	+ 2	+ 5	+ 1	0
UPC-E	7	- 1	- 1	+ 2	+ 5	+ 1	+ 5
EAN-13	13	- 1	NC	+ 2	+ 5	NC	0
EAN-8	8	- 1	NC	+ 2	+ 5	NC	+ 5

PROGRAM

Symbology Reading Control

EAN Setting

F_DEFAULT

Family Code Selection	P.C	Parameter Selection	Option Code
EAN Setting	SS	Disable EAN-13	0
	SS	Enable EAN-13	1
	SS	Disable EAN-8	2
	SS	Enable EAN-8	3
	SS	Disable EAN-8 expansion	4
	SS	Enable EAN-8 expansion	5
	SS	Disable EAN-13 check digit transmission	6
	SS	Enable EAN-13 check digit transmission	7
	SS	Disable EAN-8 check digit transmission	8
	SS	Enable EAN-8 check digit transmission	9
	SS	Disable ISBN/ISSN Conversion reading check	A
	SS	Enable ISBN/ISSN Conversion reading check	B
EAN Supplement Setting	SS	Select EAN without supplement digits	0
	SS	Select EAN with only 2 supplement digits	1
	SS	Select EAN with only 5 supplement digits	2
	SS	Select EAN with 2/5 supplement digits	3
	SS	Disable force supplement digits output	4
	SS	Enable force supplement digits output	5
	SS	EAN Addenda Separator Off	6
	SS	EAN Addenda Separator On	7

PROGRAM

Symbology Reading Control

UCC Coupon Extended Code Setting

F_DEFAULT

Family Code Selection	P.C	Parameter Selection	Option Code
UCC Coupon Extended Code	SS	Disable UCC Coupon Extended Code	0
	SS	Enable UCC Coupon Extended Code	1

- UCC Coupon Extended Code
  When enabled, this parameter decodes UPC-A barcodes starting with digit “5”, EAN-13 barcodes starting with digit “99”, and UCC/EAN-128 Coupon Codes. UPC-A, EAN-13 and EAN-128 must be enabled to scan all types of Coupon Codes.

PROGRAM

Symbology Reading Control

IATA & Interleaved 2 of 5 Setting

F_DEFAULT

Family Code Selection	P.C	Parameter Selection	Option Code
IATA Setting	SS	Disable IATA	0
	SS	Enable IATA	1
	SS	Select 15-digit fixed length IATA checking	2
	SS	Select variable length IATA	3
	SS	Disable check digit verification	4
	SS	Enable check digit automatic verification	5
	SS	Enable S/N checking digit verification only	6
	SS	Enable CPN checking digit verification only	7
	SS	Enable CPN, Airline and S/N check digit verification	8
	SS	Disable check digit transmission	9
	SS	Enable check digit transmission	A
	SS	Disable start/stop symbol transmission	B
	SS	Enable start/stop symbol transmission	C
Interleaved 2 of 5 Setting	SS	Disable Interleaved 2 of 5	0
	SS	Enable Interleaved 2 of 5	1
	SS	Select Interleaved 2 of 5 as primary format	2
	SS	Select German Postal Code as primary format	3
	SS	No check character	4
	SS	Validate USS check digit	5
	SS	Validate OPCC check digit	6
	SS	Disable check digit transmission	7
	SS	Enable check digit transmission	8

Symbology Reading Control

Code 25 Family Setting

PROGRAM

F_DEFAULT

Family Code Selection	P.C	Parameter Selection	Option Code
Code 25 Setting	SS	Disable Standard/Industrial 2 of 5	0
	SS	Enable Standard/Industrial 2 of 5	1
	SS	Disable Matrix 2 of 5	2
	SS	Enable Matrix 2 of 5	3
	SS	Disable China Postal Code	4
	SS	Enable China Postal Code	5
	SS	Disable check digit verification	6
	SS	Enable check digit verification	7
	SS	Disable check digit transmission	8
	SS	Enable check digit transmission	9
Code 25 Family Min. Length	SS	Default (04)	**FIN (2 digits)**
	MS	01-Maximum Scan 2 digits from the option code chart in Appendix, then DelfiScan will terminate this selection automatically.	
Code 25 Family Max. Length	SS	Default (98)	**FIN (2 digits)**
	MS	98-Minimum Scan 2 digits from the option code chart in Appendix, then DelfiScan will terminate this selection automatically.	

- We recommend that you select **only one** kind of Code 25 for reading, or set limited **maximum and minimum reading length** for reading, because the encoding algorithm of Code 25 isn't very good. To decode all Code 25 automatically or to read variable length Code 25 will increase the error reading rate.

PROGRAM

Symbology Reading Control

Code 11 & Code 93 Setting

F_DEFAULT

Family Code Selection	P.C	Parameter Selection	Option Code
Code 11 Setting	SS	Disable Code 11	0
	SS	Enable Code 11	1
	SS	Disable check digit verification	2
	SS	Select 1-check digit verification	3
	SS	Select 2-check digit verification	4
	SS	Disable check digit transmission	5
	SS	Enable check digit transmission	6
Code 11 Min. Length	SS	Default (04)	**FIN**
	MS	01-Maximum	**(2 digits)**
		Scan 2 digits from the option code chart in Appendix, then DelfiScan will terminate this selection automatically.	
Code 11 Max. Length	SS	Default (98)	**FIN**
	MS	98-Minimum	**(2 digits)**
		Scan 2 digits from the option code chart in Appendix, then DelfiScan will terminate this selection automatically.	
Code 93 Setting	SS	Disable Code 93	0
	SS	Enable Code 93	1
	SS	Disable check digit transmission	2
	SS	Enable check digit transmission	3
Code 93 Min. Length	SS	Default (01)	**FIN**
	MS	01-Maximum	**(2 digits)**
		Scan 2 digits from the option code chart in Appendix, then DelfiScan will terminate this selection automatically.	
Code 93 Max. Length	SS	Default (98)	**FIN**
	MS	98-Minimum	**(2 digits)**
		Scan 2 digits from the option code chart in Appendix, then DelfiScan will terminate this selection automatically.	

PROGRAM

Symbology Reading Control

MSI/Plessey Setting

F_DEFAULT

Family Code Selection	P.C	Parameter Selection	Option Code
MSI/Plessey Setting	SS	Disable MSI/Plessy	0
	SS	Enable MSI/Plessy	1
	SS	Select MOD 10 check digit	2
	SS	Select MOD 10-10 check digit	3
	SS	Select MOD 11-10 check digit	4
	SS	Disable check digit transmission	5
	SS	Enable check digit transmission	6
MSI/Plessey Min. Length	SS	Default (04)	**FIN (2 digits)**
	MS	01-Maximum	
		Scan 2 digits from the option code chart in Appendix, then DelfiScan will terminate this selection automatically.	
MSI/Plessey Max. Length	SS	Default (98)	**FIN (2 digits)**
	MS	98-Minimum	
		Scan 2 digits from the option code chart in Appendix, then DelfiScan will terminate this selection automatically.	

PROGRAM

Symbology Reading Control

Code 128 & UCC/EAN 128 Setting

F_DEFAULT

Family Code Selection	P.C	Parameter Selection	Option Code
Code 128/EAN-128 Setting	SS	Disable Code 128 and UCC/EAN-128	0
	SS	Enable Code 128 and UCC/EAN-128	1
	SS	Disable function code conversion	2
	SS	Enable function code conversion	3
	SS	ISBT Concatenation Off	4
	SS	ISBT Concatenation On	5
Code 128/EAN-128 Min. Length	SS	Default (01)	**FIN**
	MS	01-Maximum	**(2 digits)**
		Scan 2 digits from the option code chart in Appendix, then DelfiScan will terminate this selection automatically.	
Code 128/EAN-128 Max.	SS	Default (98)	**FIN**
	MS	98-Minimum	**(2 digits)**
		Scan 2 digits from the option code chart in Appendix, then DelfiScan will terminate this selection automatically.	

Symbology Reading Control

UK/Plessey Setting

PROGRAM

F_DEFAULT

Family Code Selection	P.C	Parameter Selection	Option Code
UK/Plessey Setting	SS	Disable UK/Plessey	0
	SS	Enable UK/Plessey	1
	SS	Select UK/Plessey Standard Format	2
	SS	Select UK/Plessey CLSI Format	3
	SS	Disable Convert X to A-F	4
	SS	Enable Convert X to A-F	5
	SS	Disable check digit transmission	6
	SS	Enable check digit transmission	7
UK/Plessey Min. Length	SS	Default (04)	**FIN (2 digits)**
	MS	01-Maximum	
		Scan 2 digits from the option code chart in Appendix, then DelfiScan will terminate this selection automatically.	
UK/Plessey Max. Length	SS	Default (98)	**FIN (2 digits)**
	MS	98-Minimum	
		Scan 2 digits from the option code chart in Appendix, then DelfiScan will terminate this selection automatically.	

Symbology Reading Control

Telepen Setting

PROGRAM

F_DEFAULT

Family Code Selection	P.C	Parameter Selection	Option Code
Telepen Setting	SS	Disable Telepen	0
	SS	Enable Telepen	1
	SS	Select Telepen Numeric mode	2
	SS	Select Telepen Full ASCII mode	3
	SS	Disable check digit transmission	4
	SS	Enable check digit transmission	5
Telepen Min. Length	SS	Default (04)	**FIN (2 digits)**
	MS	01-Maximum	
		Scan 2 digits from the option code chart in Appendix, then DelfiScan will terminate this selection automatically.	
Telepen Max. Length	SS	Default (98)	**FIN (2 digits)**
	MS	98-Minimum	
		Scan 2 digits from the option code chart in Appendix, then DelfiScan will terminate this selection automatically.	

PROGRAM

Symbology Reading Control

GS1 DataBar Setting

F_DEFAULT

Family Code Selection	P.C	Parameter Selection	Option Code
GS1 DataBar Setting	SS	Disable GS1 DataBar (RSS-14)	0
	SS	Enable GS1 DataBar (RSS-14)	1
	SS	Disable GS1 DataBar Limited	2
	SS	Enable GS1 DataBar Limited	3
	SS	Disable GS1 DataBar Expanded	4
	SS	Enable GS1 DataBar Expanded	5
GS1 DataBar Min. Length	SS	Default (04)	**FIN (2 digits)**
	MS	01-Maximum	
		Only available for **Expanded** GS1 Databar.	
		Scan 2 digits from the option code chart in Appendix, then DelfiScan will terminate this selection automatically.	
GS1 DataBar Max. Length	SS	Default (74)	**FIN (2 digits)**
	MS	74-Minimum	
		Only available for **Expanded** GS1 Databar.	
		Scan 2 digits from the option code chart in Appendix, then DelfiScan will terminate this selection automatically.	

PROGRAM

Symbology Reading Control

Linear-stacked & Korea Post Code Setting

F_DEFAULT

Family Code Selection	P.C	Parameter Selection	Option Code
Composite Codes Setting	SS	Disable composite codes	0
	SS	Enable composite codes	1
	SS	UPC Composite Mode: UPC never linked	2
	SS	UPC Composite Mode: UPC always linked	3
PDF417/MicroPDF417 Setting	SS	Disable PDF417	0
	SS	Enable PDF417	1
	SS	Disable MicroPDF417	2
	SS	Enable MicroPDF417	3
Codablock F Setting	SS	Disable	0
	SS	Enable	1
Korea Post Code Setting	SS	Disable	0
	SS	Enable	1
		Length fixed in 6 characters.	

▪ Composite Codes Setting
If UPC Composite Mode: UPC never linked is selected, UPC barcodes are transmitted regardless of whether a MicroPDF417 symbol is detected.
If UPC Composite Mode: UPC always linked is selected, UPC barcodes are only transmitted when the MicroPDF417 is detected.

Keyboard Interface Control

Keyboard Layout (Language) Setting

PROGRAM

F_DEFAULT

Family Code Selection	P.C	Parameter Selection	Option Code
Keyboard Layout	SS	USA (QWERTY)	00
	SS	France (AZERTY)	01
	SS	Germany (QWERTZ)	02
	SS	United Kingdom - UK (QWERTY)	03
	SS	Canadian French (QWERTY)	04
	SS	Spain (QWERTY)	05
	SS	Sweden/Finland (QWERTY)	06
	SS	Portugal (QWERTY)	07
	SS	Norway (QWERTY)	08
	SS	Latin America (QWERTY)	09
	SS	Italy (QWERTY)	10
	SS	Netherlands (QWERTY)	11
	SS	Denmark (QWERTY)	12
	SS	Belgium (AZERTY)	13
	SS	Switzerland-Germany (QWERTY)	14
	SS	Iceland (QWERTY)	15
	SS	Japan (DOS/V)	16
	SS	Universal * (see note)	99

- The "**Universal Selection**" is only for PC/AT, PS/VP, PS/2 and compatible ones in **DOS** or **Windows** environment which can perform unique output **without** Caps Lock on/off (Output Style) concern. All transmitted data will follow the original full ASCII form. You also need not worry about the upper/lower case control.
- Please refer to the **ASCII/HEX Table** listed in the Appendix to determine HEX codes for characters, symbols, and functions to be used as premble or postamble.
- To set preamble or postamble as function key output, you must enable the **"Function Key Emulation"** feature as listed in page 3-25 first.
- **Keyboard Interface Message String :**

Preamble	Data Length	Prefix Symbol ID	**Scanned Data**	Suffix Symbol ID	Postamble	Record Suffix
1-15 characters	2-3 digits	1 or 2 characters	Variable length	1 or 2 characters	1-15 characters	1 character

PROGRAM

Keyboard Interface Control

Record Suffix, Preamble, Postamble & Caps Lock

F_DEFAULT

Family Code Selection	P.C	Parameter Selection	Option Code
Record Suffix	SS	None	0
	SS	RETURN	1
	SS	TAB	2
	SS	SPACE	3
	SS	ENTER (Numeric Key Pad)	4
	SS	User defined character (1 character)	**5, (00-7F)**
Preamble	SS	None	**FIN**
	MS	1-15 characters	**[00-7F], [FIN]**
		Maximum 15-character input; scan "FIN" to terminate this selection.	
Postamble	SS	None	**FIN**
	MS	1-15 characters	**[00-7F], [FIN]**
		Maximum 15-character input; scan "FIN" to terminate this selection.	
Caps Lock Control	SS	"Caps Lock Off" State	0
	SS	"Caps Lock On" State	1
	SS	Auto Detect (PC/AT, PS/2, Keyboard Replacement and DOS/V Machines only)	2
Caps Lock Release Control	SS	"Caps Lock On, Caps Off"	0
	SS	"Caps Lock On, Shift Off"	1

- The function of "**Caps Lock Control**" and "**Key Pad Emulation**" are **only** available for IBM PC/AT, PS/VP, PS/2 series personal computers and compatible machines. While selecting the other host interfaces, these selections don't perform the above functions for you.
- Please check the **actual** Caps Lock state in use while software application is running. If the Caps Lock state is off, select "**Caps Lock Off**" state, then DelfiScan will perform normal data transmission. If the Caps Lock state is on, select "**Caps Lock On**" state. Select "**Auto Detect**", DelfiScan will perform special transmission handshaking without changing the status of Caps Lock switch.

Keyboard Interface Control

Delay Setting

PROGRAM

F_DEFAULT

Family Code Selection	P.C	Parameter Selection	Option Code
Intermessage Delay	SS **MS**	None 1-99 (x10) msec. Scan 2 digits from the option code chart in Appendix, then DelfiScan will terminate this selection automatically.	**FIN** **(2 digits)**
Intercharacter Delay	SS **MS**	None 1-99 (x5) msec. Scan 2 digits from the option code chart in Appendix, then DelfiScan will terminate this selection automatically.	**FIN** **(2 digits)**
Interfunction Delay	SS **MS**	None 1-99 (x5) msec. Scan 2 digits from the option code chart in Appendix, then DelfiScan will terminate this selection automatically.	**FIN** **(2 digits)**

- **Intermessage Delay** is a time delay between messages output by DelfiScan. Increasing this delay will help host applications process the incoming data on time.
- **Intercharacter Delay** is a time delay between data characters output by DelfiScan. These two parameters are used to synchronize data communication when : 1) the data transmission speed is too fast, characters may be skipped; 2) multitasking operation system or host computers in a network may slow down the keyboard handling; 3) various notebook or desktop PC systems require different timing parameter settings. Please always add one extra unit as safety margin when adjusting these two parameters.
- **Interfunction Delay** is a time delay between the transmission of each segment of the message string.
- **Intermessage Delay, Intercharacter Delay and Interfunction Delay** cannot be only worked under SPP and HID modes.

Keyboard Interface Control

Emulation Setting & Upper/Lower Case Setting

PROGRAM

F_DEFAULT

Family Code Selection	P.C	Parameter Selection	Option Code
Function Key Emulation	SS	Enable ASCII 00-31 code as keyboard function code output	0
	SS	Ctrl-Output	1
		Refer to Appendix – Keyboard Function Code Table for details.	
Key Pad Emulation	SS	Disable key pad emulation	0
	SS	Enable numeric output as key pad (Num Lock On) output	1
Upper/Lower Case	SS	Normal case (neglect the upper/lower case control)	0
	SS	Inverse case (change all characters output to inverse case)	1
	SS	Upper case (force all characters output as upper case)	2
	SS	Lower case (force all characters output as lower case)	3

PROGRAM

Serial Interface Control

Record Suffix, Preamble ,Postamble Setting

F_DEFAULT

Family Code Selection	P.C	Parameter Selection	Option Code
STX/ETX Control	SS SS	Disable STX/ETX transmission Enable STX/ETX transmission STX/ETX are two characters used to indicate the starting and ending of the total data frame transmitted via serial interface.	0 1
Record Suffix	SS SS SS SS SS SS **MS**	None CR (0DH) LF (0AH) CRLF (0D0AH) TAB (09H) SPACE (20H) User defined character (1 character)	0 1 2 3 4 5 **6, (00-7F)**
Preamble	SS **MS**	None 1-15 characters Maximum 15-character input; scan “FIN” to terminate this selection.	**FIN** **[00-7F], [FIN]**
Postamble	SS **MS**	None 1-15 characters Maximum 15-character input; scan “FIN” to terminate this selection.	**FIN** **[00-7F], [FIN]**

▪ **Serial Interface Message String (RS232, USB COM) :**

STX	Preamble	Data Length	Prefix Symbol ID	**Scanned Data**	Suffix Symbol ID	Postamble	ETX	Record Suffix
1 character	1-15 characters	2-3 digits	1 or 2 characters	Variable length	1 or 2 characters	1-15 characters	1 character	1 character

Serial Interface Control

Delay Setting

PROGRAM

F_DEFAULT

Family Code Selection	P.C	Parameter Selection	Option Code
Intermessage Delay	SS **MS**	None 1-99 (x10) msec. Scan 2 digits from the option code chart in Appendix, then DelfiScan will terminate this selection automatically.	**FIN** **(2 digits)**
Intercharacter Delay	SS **MS**	None 1-99 (x5) msec. Scan 2 digits from the option code chart in Appendix, then DelfiScan will terminate this selection automatically.	**FIN** **(2 digits)**
Interfunction Delay	SS **MS**	None 1-99 (x5) msec. Scan 2 digits from the option code chart in Appendix, then DelfiScan will terminate this selection automatically.	**FIN** **(2 digits)**

- **Intermessage Delay** is a time delay between messages output by DelfiScan. Increasing this delay will help host applications process the incoming data on time.
- **Intercharacter Delay** is a time delay between data characters output by DelfiScan. These two parameters are used to synchronize data communication when : 1) the data transmission speed is too fast, characters may be skipped; 2) multitasking operation system or host computers in a network may slow down the keyboard handling; 3) various notebook or desktop PC systems require different timing parameter settings. Please always add one extra unit as safety margin when adjusting these two parameters.
- **Interfunction Delay** is a time delay between the transmission of each segment of the message string.
- **Intermessage Delay**, **Intercharacter Delay** and **Interfunction Delay** cannot be only worked under SPP and HID modes.

PROGRAM

Serial Interface Control

Protocol, Baud Rate, Data Frame & Time Out Setting

F_DEFAULT

Family Code Selection	P.C	Parameter Selection		Option Code	
Handshaking Protocol	SS	None (free running mode)		0	
	SS	RTS/CTS (hardware handshaking)		1	
	SS	ACK/NAK (software handshaking)		2	
	SS	Xon/Xoff (software handshaking)		3	
Baud Rate (BPS)	SS	38.4K BPS	2400 BPS	0	4
	SS	19.2K BPS	1200 BPS	1	5
	SS	9600 BPS	600 BPS	2	6
	SS	4800 BPS	300 BPS	3	7
Data Frame	SS	8, None, 1	7, Space, 1	0	8
	SS	8, Odd, 1	7, Mark, 1	1	9
	SS	8, Even, 1	7, None, 2	2	A
	SS	8, Space, 1	7, Odd, 2	3	B
	SS	8, Mark, 1	7, Even, 2	4	C
	SS	8, None, 2	7, Space, 2	5	D
	SS	7, Odd, 1	7, Mark, 2	6	E
	SS	7, Even, 1		7	
Time Out Control	SS	None	1 second	0	3
	SS	200 mseconds	2 seconds	1	4
	SS	500 mseconds	5 seconds	2	5
	MS		User defined value (seconds)		**6, (2 digits)**

- When the **RTS/CTS Hardware Handshaking** option is selected, the **RTS** (request to send) and **CTS** (clear to send) signals will be issued before normal data communication. This option is very helpful to ensure the reliability of data communication.
- When the **ACK/NAK Software Handshaking** option is selected, the DelfiScan waits for an **ACK** (acknowledge) or **NAK** (not acknowledge) from the host computer after each data transmission. If the NAK is received, DelfiScan will re-send the data until receiving ACK.
- The **Time Out Control** is a pre-defined delay time for DelfiScan to wait for handshaking, acknowledgment or non-acknowledgment from the host computer.

PROGRAM

Wand/Laser Emulation Control

Output Polarity, Signal State, Margin/Module Time, etc.

F_DEFAULT

Family Code Selection	P.C	Parameter Selection		Option Code	
Output Polarity	SS	High level (5Vdc) on Bar (low level on Space)		0	
	SS	Low level (0Vdc) on Bar (high level on Space)		1	
		Determine the output voltage level for both bar and space.			
Initial Signal State	SS	High Level (5Vdc)		0	
	SS	Low Level (0Vdc)		1	
		Determine the initial state of output voltage level.			
Margin Time	SS	10 msec.	30 msec.	0	4
	SS	15 msec.	50 msec.	1	5
	SS	20 msec.	100 msec.	2	6
	SS	25 msec.	Delay time before data transmission	3	
Module Time	SS	Extremely short	Long	0	3
	SS	Short		1	
	SS	Medium		2	
			Time base of minimum narrow bar		
Narrow/Wide Ratio	SS	1:2		0	
	SS	1:2.5		1	
	SS	1:3		2	
Code 39/Code 128 Emulation	SS	Disable standard Code 39 emulation		0	
	SS	Enable standard Code 39 skip emulation		1	
	SS	Enable standard Code 39 replace emulation		2	
	SS	Enable Full ASCII Code 39 emulation		3	
	SS	Enable Code 128 emulation		4	

▪ **[Code 39 Skip]** : When this option is selected, all scanned data will be translated as Standard Code 39 wand/laser emulation output. If any lower case characters are read, they will be translated to upper case characters. Any other characters that are not available in Code 39 symbology set will be **skipped**.

- **[Code 39 Replace]** : Any character not normally available in the standard Code 39 symbology set, will be translated as **Space.**

PROGRAM

Operation Control

Operation Mode, Presentation Scanning Setting

F_DEFAULT

Family Code Selection	P.C	Parameter Selection	Option Code
Operation Mode	SS SS	Trigger mode Presentation mode	1 2
Presentation Scanning **Auto-sense**	SS SS	Disable Enable	0 1

- **Trigge** goes into standby state after scanning the bar code. You must press the trigger to turn on the light source of the scanner before scanning the bar code.
- **Presentation Mode** Presentation mode uses ambient light to detect bar codes. The LEDs are off for ambient conditions until a change occurs in the scanner's field of view. Then the LEDs turn on automatically to read the bar code. If the light level in the room is not high enough, Presentation Mode may not work properly.
- The **Presentation Scanning Auto-sense** can switch between presentation mode and trigger mode automatically while working with SmartStand or cradle.

PROGRAM

Operation Control

Buzzer, Indicator, Vibrator, Inverse Reading, Dollar Sign

F_DEFAULT

Family Code Selection	P.C	Parameter Selection	Option Code
Buzzer Tone Adjust	SS	Buzzer tone – mute	0
	SS	Buzzer tone – low	1
	SS	Buzzer tone – medium	2
	SS	Buzzer tone – high	3
	SS	Buzzer tone - extremely high	4
	SS	Power-on beep	5
	SS	No power-on beep	6
Power On Indicator	SS	Disable (LED off)	0
	SS	LED steady on	1
	SS	LED flash	2
Vibrator Control	SS	Disable	0
	SS	Enable	1
		Optional function, only available for vibrator model.	
Inverse Reading	SS	Disable	0
	SS	Enable	1
Dollar Sign Control	SS	Dollar sign output as " $ "	0
	SS	Dollar sign output as "¥"	1
	SS	Dollar sign output as " € "	2
	SS	Dollar sign output as " £ "	3
	SS	Dollar sign output as " ¢ "	4

Operation Control

Flash Duty Cycle, Redundancy, Delay Setting

PROGRAM

F_DEFAULT

Family Code Selection	P.C	Parameter Selection	Option Code
Flash Duty Cycle	SS	1/2 duty cycle	0
	SS	2/3 duty cycle	1
	SS	3/4 duty cycle	2
	SS	4/5 duty cycle	3
Redundancy (Scan Voting)	SS	None	0
	SS	Level 1	1
	SS	Level 2	2
	SS	Level 3	3
	SS	Level 4	4
	SS	Level 5	5
		To prevent potential miss reading.	
Reread Delay	SS	Disable	0
	SS	Immediate time out	1
	SS	Short time out	2
	SS	Medium time out	3
	SS	Long time out	4
	SS	Force verification	5
Good Read Delay	SS	None	0
	SS	200 msec.	1
	SS	500 msec.	2
	SS	1 sec.	3
	SS	1.5 sec.	4
	SS	2 sec.	5
	SS	3 sec.	6

- The **Flash Duty Cycle** is designed to control the flashing frequency of the light source.
- The **Redundancy** is the number of times the same bar code label has to be decoded before it is transmitted.
- The **Reread Delay** is designed to inhibit DelfiScan from reading the same bar code label twice in pre-defined short duration. Force Verification will not allow reading of the same bar code twice.
- This **Good Read Delay** is the minimum amount of time before the scanner can read another bar code.

PROGRAM

Operation Control

Time-out Setting, Good Read Beep Duration

F_DEFAULT

Family Code Selection	P.C	Parameter Selection	Option Code
Auto Power Off Duration	SS	Short	0
	SS	Medium	1
	SS	Long	2
	SS	Extremely long	3
Hands Free Time-out	SS	Short	0
	SS	Medium	1
	SS	Long	2
	SS	Extremely long	3
Good Read Duration	SS	Short	0
	SS	Medium	1
	SS	Long	2
	SS	Extremely long	3

- The **Auto Power Off Duration** is a pre-defined power off time out counter for Presentation Mode. The scanner keeps the light source on till the pre-defined auto power off duration is up. You can adjust this parameter to meet your own application requirement.
- The Presentation Mode is referred to as “hands free” modes. The hands free mode will be automatically changed to manual trigger mode if you remove the scanner from stand. The manual trigger mode will be changed to hands free mode if you place the scanner back to stand. You can set the time for scanner to remain in manual trigger mode by setting the **Hands Free Time-Out**. Once the time-out value is up (if there have been no further trigger pulls), the scanner reverts to the original hands free mode.

PROGRAM

Operation Control

SmartStand Power Off Time-out

F_DEFAULT

Family Code Selection	P.C	Parameter Selection	Option Code
SmartStand Power Off Timeout	SS	3 mins	0
	SS	5 mins	1
	SS	10 mins	2
		Only available for DelfiScan Laser model	

- The **SmartStand Power Off Timeout** is a pre-defined duration for scanner placed in SmartStand. While the scanner is placed in SmartStand, the scanner's built-in sensor will switch the scanner from hand-held scanning to presentation scanning and the light source will be forced on automatically. The light source will be off when the pre-defined power off duration is up.

PROGRAM

Operation Control

Out-of-range Scanning, Sleep Time-out Control

F_DEFAULT

Family Code Selection	P.C	Parameter Selection	Option Code
Out-of-range Scanning	SS SS	Disable Enable	0 1
Link Supervision Time-out	SS SS SS SS SS	1 sec 3 secs 5 secs 7 secs 9 secs Only available in PAIR & PICO modes	0 1 2 3 4
Sleep Time-out of Connect State	SS **MS**	6 (x5) minutes 0-99 (x5) minutes	**FIN** **(2 digits)**
Sleep Time-out of Disconnect State	SS **MS**	1 minute 0-99 minutes	**FIN** **(2 digits)**

- **Out-of-range Scanning** When radio link is built between the scanner and remote host device, the scanner will transmit each scanned data right after scanning the barcode data. However, the scanner is preset for unable to scan any barcode data when it loses the radio connection. You can enable the Out-of-range Scanning function to continue scanning barcode data into memory buffer until radio link resumed.
- The **Link Supervision Time-out** is a pre-defined radio link supervision timeout setting. The scanner will supervise the radio link status every preset

seconds.

- The **Sleep Time-out Control** can be set under radio connection or disconnection state. If the scanner is not used within the preset time-out duration, it will automatically enter “Sleep State” for power saving purpose. You are able to disable this function by setting the time-out duration to “0”.

PROGRAM

Operation Control

Batch Scanning Setting

F_DEFAULT

Family Code Selection	P.C	Parameter Selection	Option Code
Batch Scanning Link Control	SS SS	Radio disable Radio enable	0 1
Stored Data Transmission	SS SS SS	All On cradle Scan barcode	0 1 2
Delete Stored Data after Transmission	SS SS	Disable Enable	0 1

- The **Batch Scanning Link Control** is a pre-defined radio option to control the radio-on or radio-off status under batch scanning operation. Please note that if the radio disable is activated, the radio link will be disconnected once you enter batching scanning. The radio link will be resumed when you transmit the stored data or exit batch scanning.
- The **Stored Data Transmission** is a pre-defined approach when you want to transmit the scanned data under batch scanning operation. You can transmit the scanned data by placing the scanner onto the cradle or scanning "Transmit Stored Data" command, or by either one of both methods.
- In batching scanning, the default setting of **Delete Stored Data after Transmission** is disable. The scanner will keep all stored data after transmission until you scan the "Clear All Stored Data" command. You are also able to delete all stored data after transmission automatically by enabling this function.

PROGRAM

Operation Control

Batch Scanning Data Transmission Setting

F_DEFAULT

Family Code Selection	P.C	Parameter Selection	Option Code
Field Delimiter	SS	None	0
	SS	,	1
	SS	SPACE	2
	SS	–	3
	SS	.	4
	SS	User define	**5, [00-7F]**
Batch Data Quantity Output Format	SS	As many times as the quantity indicates	0
	SS	<Quantity><Field Delimiter><Scanned Data>	1
Data Transmission Format	SS	Disable (scanned data only)	0
	SS	Leading with MAC address (MAC address and scanned data)	1
	SS	Leading with ID No. (scanner ID and scanned data)	2
		Only available for RS232, USB HID and USB COM interface in PAIR & PICO modes	

- The **Field Delimiter** is used to separate the specific information and scanned data into two fields. You can choose desired delimiter format.
- The **Batch Data Quantity Output Format** If you want to input the quantity information of barcode data, you can enter the quantity from 1 to 9999 by scanning the quantity barcodes right after you scanned the barcode data. The quantity information will be stored into the memory storage together with the barcode data. There are two ways to output the stored barcode data and quantity information.
- In PICO mode, up to 7 scanners can be connected with one smart cradle. The **Data Transmission Format** can help user to identify the source of the transmitted data. You can choose to transmit the scanned data leading with MAC address or pre-assigned ID.
  Example format: <MAC address><Field Delimiter><Data> or <ID><Field Delimiter><Data>.

PROGRAM

Operation Control

Bluetooth Device Name & Security Setting

F_DEFAULT

Family Code Selection	P.C	Parameter Selection	Option Code
Bluetooth Device Name	SS **MS**	Default device name User define, 1-14 characters	**FIN** **[00-7F], FIN**
Bluetooth PIN Code	SS **MS**	Default Bluetooth PIN Code User define, 1-8 numbers	**FIN** **[30-39], FIN**
Bluetooth Authentication	SS SS	Disable Enable	0 1

- The default **Bluetooth Device Name** is "FxxxBT-xxxx", you will be able to change the device name by scanning HEX values (1-14 characters).
- The default **Bluetooth PIN Code** is "00000000", you will be able to change the PIN Code by scanning HEX values (1-8 numbers).
- The **Bluetooth Authentication** You can enable or disable the Bluetooth Authentication between the scanner and remote host device. If this function is enabled, when the scanner wants to connect itself and sends the data to the host device, the host device has to return a link key shared between the scanner and the host device.

PROGRAM

Operation Control

Bluetooth Other Settings

F_DEFAULT

Family Code Selection	P.C	Parameter Selection	Option Code
HID Link Quality Setting	SS SS	Disable Enable	0 1
Bluetooth Power Saving Mode	SS SS	Disable Enable	0 1

- The **HID Link Quality Setting** While using the HID radio link mode, some errors may occur during the data transmission when the radio link is disconnected. You can enable this function to prevent such error from occurring.
- The **Bluetooth Power Saving Mode** Bluetooth module will enter low consumption mode when you enable this function.

Condensed DataWizard

Preamble, Postamble, Data Length & Symbol ID Trans.

PROGRAM

F_DEFAULT

Family Code Selection	P.C	Parameter Selection	Option Code
Preamble	SS	None	**FIN**
	MS	1-15 characters	**[00-7F], [FIN]**
		Maximum 15-character input; scan "FIN" to terminate this selection.	
Postamble	SS	None	**FIN**
	MS	1-15 characters	**[00-7F], [FIN]**
		Maximum 15-character input; scan "FIN" to terminate this selection.	
Data Length Transmission	SS	Disable	0
	SS	Enable 2 digits data length transmission	1
		If data length exceeds 99, 3-digit data length will be transmitted.	
Symbology ID Transmission	SS	Disable symbology ID transmission	0
	SS	Enable prefix symbology ID transmission	1
	SS	Enable suffix symbology ID transmission	2
	SS	Enable both prefix and suffix symbology ID transmission	3
	SS	Enable prefix AIM symbology ID transmission	4
	SS	Enable suffix AIM symbology ID transmission	5
	SS	Enable both prefix and suffix AIM symbology ID transmission	6

- **DataWizard** is the most powerful, Artificial-Intelligence based data editing expert system provided specially for the DelfiScan family bar code readers. Through DataWizard, you can process the scanned data prior the transmissions in many ways as: **Insert**, **Delete**, **Match**, **Verify**, **Replace**, **Reorganize**, and **Repeat Transmission**. It will help you to arrange the transmission of scanned data to any specific format without software modification.
- Due to the resources used by this system, **Full-feature DataWizard** is only supported by **PowerTool**. Through the PowerTool, all settings and configurations can be done on-screen, under Windows 95/98/NT/2000/XP environment.
- A **Condensed Version DataWizard** is provided by each DelfiScan series. Through this menu, the condensed DataWizard can be utilized via bar code menu readings with ease.
- Please note that all "**Character**" input should be referred to the **ASCII/HEX Table** listed in Appendix to find matched HEX value.
- If you have any problem to use DataWizard, please refer to following pages for details and consult your local DelfiScan vendor or our web site for any assistance.

Condensed DataWizard

Data Formatter Setting

PROGRAM

F_DEFAULT

Family Code Selection	P.C	Parameter Selection	Option Code	2nd Option Code
Formatter Control	SS **MS** **MS**	Disable Select one bar code symbology Select all bar code symbologies	**FIN** **(2 digits)** **00**	 automatic termination automatic termination
1st Insertion	SS **DS**	Disable Enable 2-digits identified position; max. 3 insertion characters	**FIN** **(2 digits)** position	**[1-3 characters], [FIN]**
2nd Insertion	SS **DS**	Disable Enable 2-digits identified position; max. 3 insertion characters	**FIN** **(2 digits)** position	**[1-3 characters], [FIN]**
3rd Insertion	SS **DS**	Disable Enable 2-digits identified position; max. 3 insertion characters	**FIN** **(2 digits)** position	**[1-3 characters], [FIN]**
4th Insertion	SS **DS**	Disable Enable 2-digits identified position; max. 3 insertion characters	**FIN** **(2 digits)** position	**[1-3 characters], [FIN]**

- The **Data Formatter** is used to edit the scanned raw data prior to transmitting the data to the host computers or terminals. It allows you to select desired bar code symbologies for formatter control, and provides **Multiple Position Insertion** and **Multiple Character Insertion** (max three characters) in the identified position.
- While the Data Formatter is enabled, it arranges only scanned data without **Preamble**, **Postamble**, **STX**, **ETX**, **Data Length**, **Prefix/Suffix** **Symbolology ID** or **Record Suffix**. All of the above programmable parameters perform the same function depending on your setting.
- Regarding the "**Bar Code Selection**" and "**Position Calculation**" of data formatter, please refer to page 37 for details.
- Please note that all "**Character**" input should be referred to the **ASCII/HEX Table** listed in Appendix to find matched HEX value.

Condensed DataWizard

Data Verifier Setting

PROGRAM

F_DEFAULT

Family Code Selection	P.C	Parameter Selection	Option Code	2nd Option Code
Verifier Control	SS **MS** **MS**	Disable Select one bar code symbology Select all bar code symbologies	**FIN** **(2 digits)** **00**	 automatic termination automatic termination
Identified Data Length	SS **MS**	Disable Enable Determine the identified data length for verification.	**FIN** **(2 digits)**	
1st Identified Character	SS **DS**	Disable Enable 2-digits checking position; 1 identified character	**FIN** **(2 digits)** position	**[00-7F]**
2nd Identified Character	SS **DS**	Disable Enable 2-digits checking position; 1 identified character	**FIN** **(2 digits)** position	**[00-7F]**
3rd Identified Character	SS **DS**	Disable Enable 2-digits checking position; 1 identified character	**FIN** **(2 digits)** position	**[00-7F]**

- The **Data Verifier** is used to provide advanced verification for error-free scanning and to work as an **Embedded Data Transmitting Filter**.
- All data must conform to the **Identified Bar Code Symbologies**, **Identified Data Length**, and one to three **Identified Characters** in the checking position. Otherwise, the DelfiScan will not transmit the data to the host computers or terminals, but will instead issue **3 long beeps** for verification error and **skip** the scanned data.
- The Data Verifier checks only scanned data without **Preamble**, **Postamble**, **STX**, **ETX**, **Data Length**, **Prefix/Suffix Symbology ID** or **Record Suffix**.
- Regarding the "**Bar Code Selection**" and "**Position Calculation**" of **Data Verifier**, please refer to page 37 for details.
- Please note that all "**Character**" input should be referred to the **ASCII/HEX Table** listed in Appendix to find matched HEX value.

Condensed DataWizard

Data Replacer Setting

PROGRAM

F_DEFAULT

Family Code Selection	P.C	Parameter Selection	Option Code	2nd Option Code
Replacer Control	SS **MS** **MS**	Disable Select one bar code symbology Select all bar code symbologies	**FIN** **(2 digits)** **00**	 automatic termination automatic termination
1st Replacement	SS **DS**	Disable Enable 2-digits identified position; 1 replacement character	**FIN** **(2 digits)** position	**[00-7F]**
2nd Replacement	SS **DS**	Disable Enable 2-digits identified position; 1 replacement character	**FIN** **(2 digits)** position	**[00-7F]**
3rd Replacement	SS **DS**	Disable Enable 2-digits identified position; 1 replacement character	**FIN** **(2 digits)** position	**[00-7F]**

- The **Data Replacer** is used to edit the scanned raw data prior to transmitting the data to the host computers or terminals. It allows you to select desired bar code symbologies for replacer control, and provides **Multiple Position Replcement** in the identified position.
- All data must conform to the **Identified Bar Code Symbologies**, and one to three **Identified Characters** in the identified position While the Data Replacer is enabled, it arranges only scanned data without **Preamble**, **Postamble**, **STX**, **ETX**, **Data Length**, **Prefix/Suffix Symbology ID** or **Record Suffix**.
- Regarding the "**Bar Code Selection**" and "**Position Calculation**" of Data Replacer, please refer to page 37 for details.
- Please note that all "**Character**" input should be referred to the **ASCII/HEX Table** listed in Appendix to find mathced HEX value.

PROGRAM

Condensed DataWizard

Data Organizer Setting

F_DEFAULT

Family Code Selection	P.C	Parameter Selection	Option Code	2nd Option Code
Organizer Control	SS **MS** **MS**	Disable Select one bar code symbology Select all bar code symbologies	**FIN** **(2 digits)** **00**	 automatic termination automatic termination
1st Organization	SS **DS**	Disable Enable 2-digits identified position; Forward/backward data transmission setting	**FIN** **(2 digits)** position direction	0 (Forward) 1 (Backward)
2nd Organization	SS **DS**	Disable Enable 2-digits identified position; Forward/backward data transmission setting	**FIN** **(2 digits)** position direction	0 (Forward) 1 (Backward)
Include/Exclude Control	SS **DS**	Transmitted data excluded the data of identified position Transmitted data included the data of identified position	0 1	

- The **Data Organizer** is used to edit the scanned raw data prior to transmitting the data to the host computers or terminals. It allows you to select desired bar code symbologies for organizer control, and provides maximum two identified positions to send the data **forward** or **backward**. It also allows you to control the transmitted data **including** or **excluding** the data of identification position. Please refer to the application example listed in page 37 for details.
- While the Data Organizer is enabled, it arranges only scanned data without **Preamble**, **Postamble**, **STX**, **ETX**, **Data Length**, **Prefix/Suffix Symbology ID** or **Record Suffix**.
- Regarding the "**Bar Code Selection**" and "**Position Calculation**" of Data Organizer, please refer to page 37 for details.
- Please note that all "**Character**" input should be referred to the **ASCII/HEX Table**.

Select a Bar Code Symbology

You can select one or all types of bar code symbologies to use Condensed DataWizard for advanced transmission arrangement. If you scan "00" to select all types, the DelfiScan will arrange all incoming data to meet your pre-defined format. If you want to select only one type bar code, please select one of the option code listed below.

Code 128 : **01**	EAN-8 : **05**	Code 93 : **09**
UCC/EAN 128 : **31**	EAN-8 with 2 supple : **35**	Code 11 : **10**
UPC-A : **02**	EAN-8 with 5 supple.: **45**	MSI/Plessey : **11**
UPC-A with 2 supple.: **32**	Codabar/NW-7 : **06**	UK/Plessey : **12**
UPC-A with 5 supple.: **42**	Code 39 : **07**	Telepen : **13**
UPC-E : **03**	Code 32 : **37**	GS1 Data Bar : **14**
UPC-E with 2 supple.: **33**	Trioptic Code 39: **47**	IATA : **15**
UPC-E with 5 supple.: **43**	Matrix 2 of 5 : **38**	Coupon Code : **16**
EAN-13 : **04**	Interleaved 2 of 5 : **48**	PDF417/MicroPDF417: **22**
EAN-13 with 2 supple. : **34**	China Postal Code : **58**	Codablock: **23**
EAN-13 with 5 supple. : **44**	German Postal Code : **68**	Korea Post Code: **26**

Position Calculation

[Data Formatter]

If there is a 5-character input data string, refer to the following to calculate the actual position for insertion:

	X		X		X		X		X	
00		01		02		03		04		05

[Data Verifier, Data Replacer, Data Organizer]

If there is a 11-character data string, please refer to the following to calculate the actual position for identification.

X	X	X	X	X	X	X	X	X	X	X
00	01	02	03	04	05	06	07	08	09	10

Application Example

If your bar code label is a 16-digit Interleaved 2 of 5 which includes the information of 6-digit date code, 6-digit serial number and 4-digit unit price, you want the DelfiScan do the following for you without software modification:

- Apply only Interleaved 2 of 5 to the condensed DataWizard.
- Check bar code is actually with 16-digit length.
- Allow bar code output whose date code is leading with "9".
- Three outputs with "TAB" suffix.
- The date code output should skip "9" and replaced it by "A".
- The serial number output should be led with "SN".
- The unit price output should be skipped the first 2 digits.
- Test Bar Code : **9 8 1 0 2 5 1 2 3 4 5 6 9 8 7 6**
- Actual Output : **A81025[TAB]SN123456[TAB]76[TAB]**

Programming Procedure

[Data Verifier]

- Scan "Program" to enter the programming mode.
- Scan "Verifier Control" and set bar code symbology to "**48**" (Interleaved 2 of 5).
- Scan "Identified Data Length" and set the length to "**16**".
- Scan "1st Identified Character" and set the identified position to "**00**", then set the identified character to "**39**" (Hex Code of 9).

[Data Formatter]

- Scan "Formatter Control" and set bar code symbology to "**48**".
- Scan 1st Insertion" and set the identified position to "**06**", then inserted characters to "**09**" (Hex Code of TAB), "**53**" (Hex Code of S), "**4E**" (Hex Code of N).
- Scan "2nd Insertion" and set the identified position to "**12**", then inserted character to "**09**". In the final, you must scan "**FIN**" (Finish) code to terminate this selection.
- Scan "3rd Insertion" and set the identified position to "**16**", then inserted character to "**09**". In the final, you must scan "**FIN**" (Finish) code to terminate this selection.

[Data Replacer]

- Scan "Replacer Control" and set bar code symbology to "**48**".
- Scan "1st Replacement" and set the identified position to "**00**", then replaced character to "**41**" (Hex Code of A).

[Data Organizer]

- Scan "Organizer Control" and set bar code symbology to "**48**".
- Scan "1st Organization" and set the identified position to "**16**", then set the data transmission to "**0**" (forward).
- Scan "2nd Organization" and set the identified position to "**17**", then set the data transmission to "**1**" (backward).
- Scan "**END**" (Exit) to terminate the programming.

[Important Notice]

Please note that Condensed DataWizard will follow the preset working flow as below:

Verifier Formatter Replacer Organizer

So when you set the identified position in Data Organizer, you must consider the inserted data which you already set via Data Formatter.

Symbology ID Table

Each AIM Code Identifier contains the three-character string **]cm** where:

] = Flag Character
c = Code Character
m = Modifier Character

Code Family	Primary Format	Delfi ID	AIM ID		Code Family	Primary Format	Delfi ID	AIM ID	
		Code Character	Code Character	Modified Character			Code Character	Code Character	Modified Character
UPC	UPC-A	A	E	m	EAN/JAN	EAN/JAN-8	N	E	4
	UPC-A with 2 supple.			1		EAN/JAN-8 with 2 supple.			1
	UPC-A with 5 supple.			2		EAN/JAN-8 with 5 supple.			2
	UPC-E	E		m		EAN/JAN-13	F	E	m
	UPC-E with 2 supple.			1		EAN/JAN-13 with 2 supple.			1
	UPC-E with 5 supple.			2		EAN/JAN-13 with 5 supple.			2
	Example: A UPC-A bar code 012345678950 with 2 supplement 12 is transmitted as **]E0**012345678950**]E1**12					Example: A EAN/JAN-8 bar code 49123562 with 5 supplement 12345 is transmitted as **]E4**49123562**]E2**12345			
Code 128	Code 128	B	C	m	Code 93	Code 93	H	G	m
	UCC/EAN-128	C		1	Code 11	Code 11	P	H	m
Codabar	Codabar/NW-7	D	F	m	MSI/Plessey	MSI/Plessey	R	M	m
Code 25	Standard/Industrial 2 of 5	I	S	0	UK/Plessey	UK/Plessey	S	P	0
	Matrix 2 of 5	K	X	0	Telepen	Telepen	T	B	m
	Interleaved 2 of 5	J	I	m	GS1 DataBar	GS1 Databar	X	e	0
	China Postal Code	L	X	0	Compsoite	Composite Code			
	German Postal Code	M	I	3	Code 39	Code 39	G	A	m
IATA	IATA	O	R	m		Code 39 Trioptic	W	X	0
UCC	UCC Coupon Code	Z				Code 32	G	A	0
					PDF417	PDF417/Micro PDF417	V	L	0

Coupon	Example : A UPC-A 512345678900 + UCC/EAN-128 81010123451297 bar code is transmitted as**]E0**512345678900**]C1**81010123451297 Example: A EAN-13 9923456789019 + UCC/EAN-128 81010123451297 bar code is transmitted as **]E0**9923456789019**]C1**81010123451297	Codablock	Codablock F	Y	O	0
		Korea Post	Korea Post Code	a	X	0
		Remark: Above examples are given for the transmission of AIM ID.				

Keyboard Function Code Table

No.	ANSI	ASCII	Key Function	No.	ANSI	ASCII	Key Function
00	NUL	00H	RESERVED	16	DLE	10H	F7
01	SOH	01H	CTRL (Left)	17	DC1	11H	F8
02	STX	02H	ALT (Left)	18	DC2	12H	F9
03	ETX	03H	SHIFT	19	DC3	13H	F10
04	EOT	04H	CAPS LOCK	20	DC4	14H	F11
05	ENQ	05H	NUM LOCK	21	NAK	15H	F12
06	ACK	06H	ESC	22	SYN	16H	INS (Insert) (Edit)
07	BEL	07H	F1	23	ETB	17H	DEL (Delete) (Edit)
08	BS	08H	BACK SPACE	24	CAN	18H	HOME (Edit)
09	HT	09H	TAB	25	EM	19H	END (Edit)
10	LF	0AH	F2	26	SUB	1AH	PAGE UP (Edit)
11	VT	0BH	F3	27	ESC	1BH	PAGE DOWN (Edit)
12	FF	0CH	F4	28	FS	1CH	UP (Edit)
13	CR	0DH	ENTER (CR)	29	GS	1DH	DOWN (Edit)
14	SO	0EH	F5	30	RS	1EH	LEFT (Edit)
15	SI	0FH	F6	31	US	1FH	RIGHT (Edit)

To emulate the keyboard function key input for user definable parameters, user must configure actual content using the **Reserved ASCII 0 – 31** characters, and also **Enable** the "Function Key Emulation". Otherwise, the Ctrl output will be done by the scanner. Please refer to the above Keyboard Function Code Table which is for IBM PC/XT/AT, PS/2, PS/VP, COMPAQ PC, HP Vectra PC, Notebook PC, APPLE and PowerMac, and WYSE PC Enhanced or fully compatible machines.

Delfi TECHNOLOGIES

Wireless DelfiScan Reference Manual

ASCII Input Shortcut

To configure the user definable parameters of DelfiScan via programming menu, DelfiScan will ask you to scan your desired ASCII value in **HEX** form. You have to refer to the "**HEX/ASCII Table**" for details.

Example:

If you want the scanned data output leading with a Dollar Sign, you have to set the "Preamble" to "$". The configuration procedure is listed below for reference.

- Scan the system command – **PROGRAM** listed on page 3-24 to enter programming mode.
- Scan family code – **PREAMBLE** to select this family.
- Refer to the **Hex/ASCII Table**, you will find the HEX value of "**$**" is **24**.
- Scan the option code – **2** listed on the fold out back cover.
- Scan the option code – **4** listed on the fold out back cover.
- Scan the system command – **FIN (Finish)** to terminate Preamble setting.
- Scan the system command – **End** to exit the programming mode for normal operation.

HEX/ASCII Reference Table

H / L	0	1	2	3	4	5	6	7
0	NUL	DLE	SPACE	0	@	P	`	p
1	SOH	DC1	!	1	A	Q	a	q
2	STX	DC2	"	2	B	R	b	r
3	ETX	DC3	#	3	C	S	c	s
4	EOT	DC4	$	4	D	T	d	t
5	ENQ	NAK	%	5	E	U	e	u
6	ACK	SYN	&	6	F	V	f	v
7	BEL	ETB	'	7	G	W	g	w
8	BS	CAN	(	8	H	X	h	x
9	HT	EM	)	9	I	Y	i	y
A	LF	SUB	*	:	J	Z	j	z
B	VT	ESC	+	;	K	[	k	{
C	FF	FS	,	<	L	\	l	|
D	CR	GS	-	=	M	]	m	}
E	SO	RS	.	>	N	^	n	~
F	SI	US	/	?	O	_	o	DEL

Example : ASCII "A" HEX "41"; ASCII "a" "61"

: High Byte of HEX Value

: Low Byte of HEX Value

Delfi TECHNOLOGIES

Wireless DelfiScan Reference Manual

Link Mode Quick Set

Uninstall

SPP Slave Mode

PAIR Mode

HID Mode

SPP Master Mode

PICO Mode

Operation Mode Quick Set

Trigger Mode

Presentation Mode

Delfi TECHNOLOGIES

Wireless DelfiScan Reference Manual

Host Interface Quick Set

(Work with Smart Cradle only)

RS232 Serial

Keyboard Replacement

USB HID Standard Mode

USB HID Turbo Mode

USB Com Port Emulation

PS/2 (DOS/V) KBW Standard Mode

PS/2 (DOS/V) KBW Turbo Mode

Option Codes

0

4

8

C

1

5

9

D

2

6

A

E

3

7

B

F

System Commands

PROGRAM
(Enter Programming Mode)

Sleep

Save Configuration

FIN (Finish)

Paging

Clone

END
(Exit Programming Mode)

PowerTool Host Link

Factory Default

System Information List
(SYSLIST)

Master Default

- **Factory Default:** After scanning" Factory Default" command, all parameters will be returned to factory default value (The radio link will be disconnected and the scanner will revert to uninstall state).
- **Master Default:** After scanning "Master Default" command, the scanner will remain the pre-set parameters of **Host Interface Selection**, **Keyboard Interface Control** (except Record Suffix; Preamble; Postamble), **Serial Interface Control** (except Record Suffix; Preamble; Postamble), **Wand/Laser Emulation Control**, **Bluetooth Device Name**, **Bluetooth PIN Code**, and **Out-of-range Scanning**, the rest of parameters will be returned to default value (The radio link is still keep on).

Save User Default

User Default