CiNO

Vision of Future

FuzzyScan Family

Bar Code Programers Guide

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Configure Your FuzzyScan

Before you trying to configure the FuzzyScan, please refer to the Quick Reference for basic installation. Otherwise, unexpected conditions may occur while setting the FuzzyScan.

There are two ways to configure your FuzzyScan, depending on the model you brought from your vendors.

Via FuzzyScan PowerTool

PowerTool is a unique software utility designed for FuzzyScan scanners. It is designed to operate under Microsoft Windows 95/98/NT/2000/XP or above. To use the PowerTool, you will enjoy the convenience on your fingertip. Please refer to FuzzyScan PowerTool User's Guide for details.

Via Bar Code Programming Guide

The Bar Code Programming Guide is designed for field programming convenience. **All** FuzzyScan family scanners can take this way to make detailed configurations. Before you using the Bar Code Programming Guide, please understand the command structure and various programming procedures in advance.

Bar Code Programming Guide

The FuzzyScan bar code commands are specially designed **Proprietary** bar code labels which allow you to set the FuzzyScan 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 FuzzyScan concurrently.

A supplemental bar code command menu incorporates the bar code command labels of System Command and Option Code. As you set the FuzzyScan, open the bar code command menu to find the option code page. You may scan the desired family code and option code to set FuzzyScan. 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 FuzzyScan 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. FuzzyScan 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 FuzzyScan'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 FuzzyScan if you want to keep the existing configurations in the next power on.

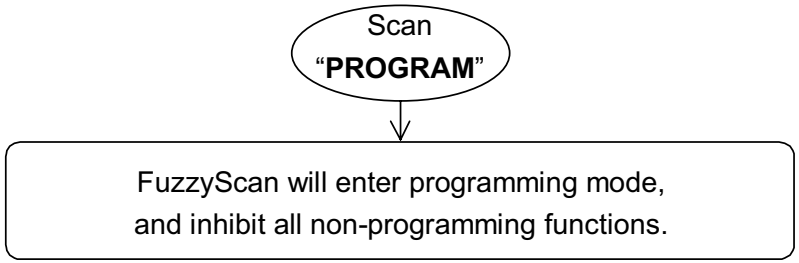
The programming procedures of FuzzyScan are designed as simple as possible for ease of setting. Most programming families take the **Single Scan Selection** programming procedure. But several programming families have more complex and flexible programmable options, and you must take **Multiple Scans 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. However, if you are the user of FuzzyScan ***Gold/Jade/Diamond*** series scanners, you are encouraged to use the **PowerTool** for convenience.

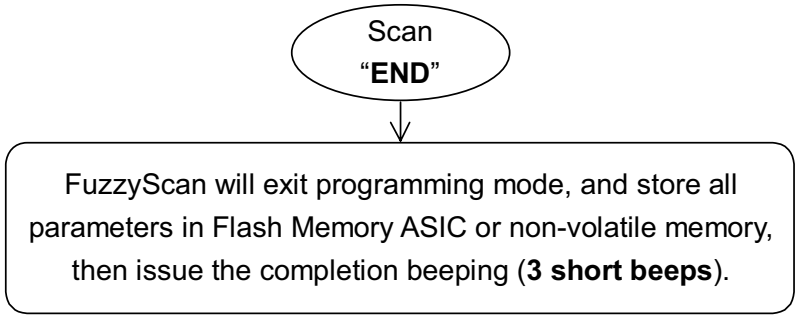
If the programming family must take multiple scans selection, cycling scan selection, or dual level selection procedures, the family of the programming menu will be marked with the matched representing symbol of **Programming Category** (P.C.) in bold font listed in the following table. You can easily find the bold mark in the programming menu, and refer to their flowcharts for details. Before setting the FuzzyScan, 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 FuzzyScan.

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**

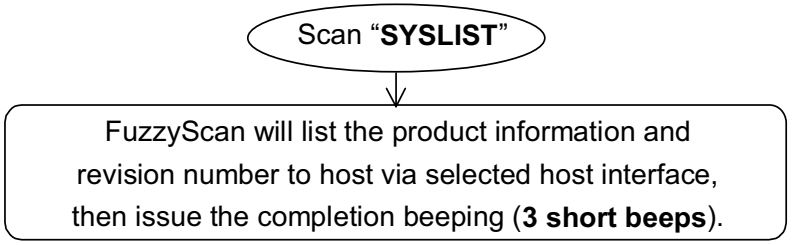
Program & End

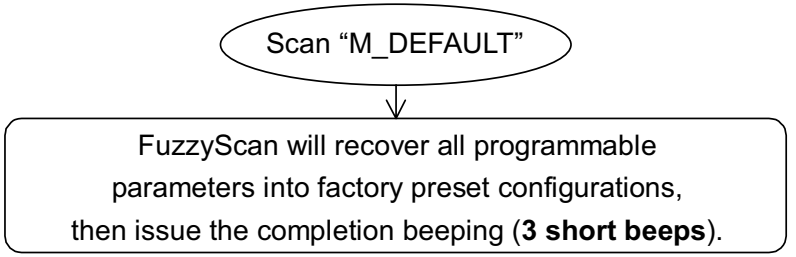




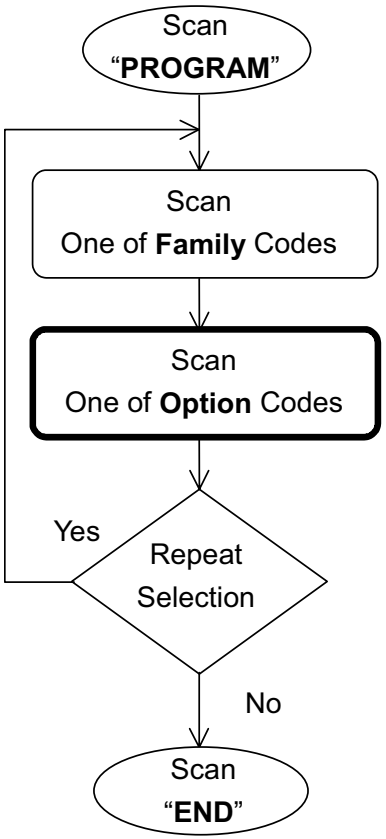
Please note that the FuzzyScan will take 3-4 seconds to store parameters in internal Flash Memory ASIC or non-volatile memory after you scan the “**END**”. Please **don’t** turn off the power before the completion beeping. It may destroy all configured parameters.

System List & Master Default





Single scan selection



Enter programming mode.

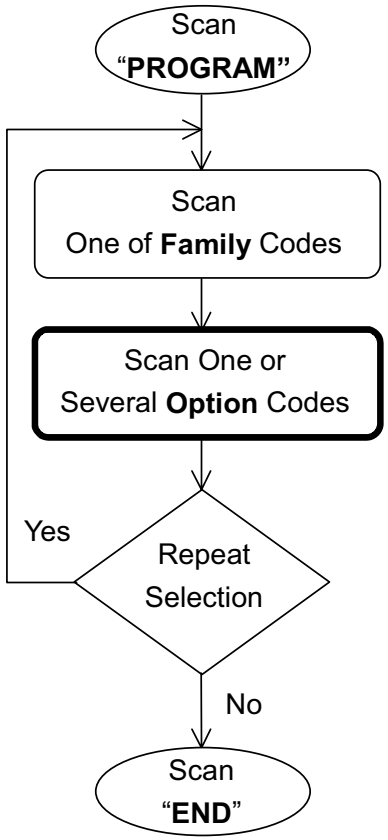
Select one of desired programming families.

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.

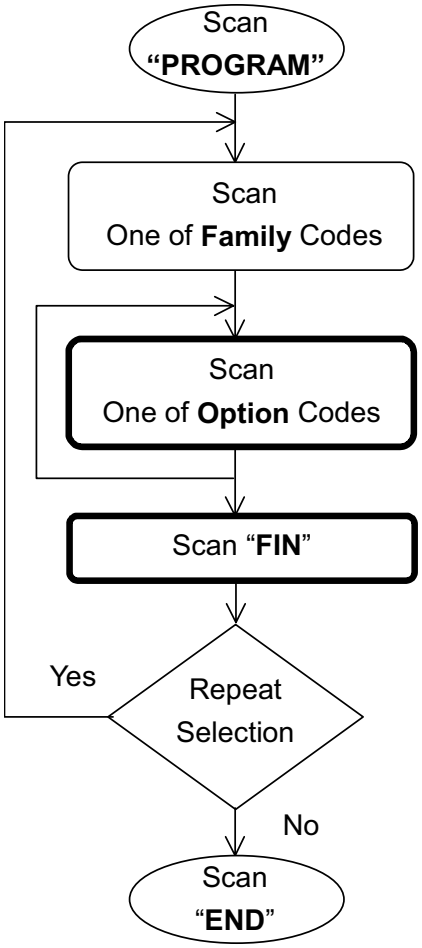
1. Select one or several option codes to select desired parameters.

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.

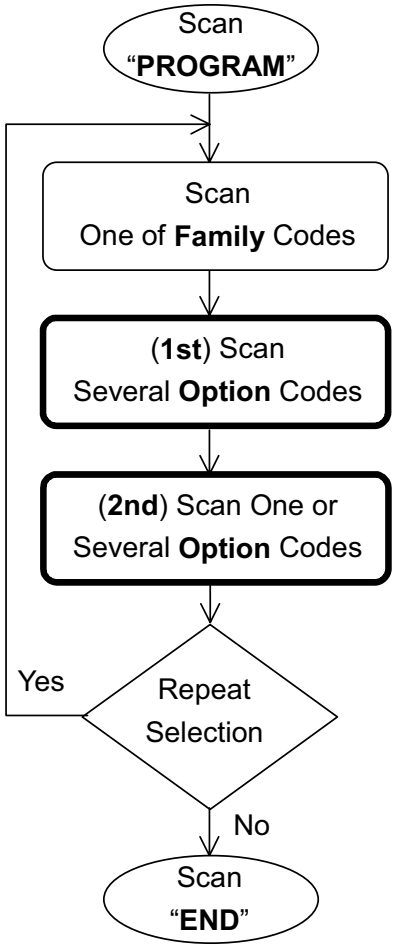
Cycling select one or several option codes of desired parameters as “Single” or “Multiple” scans selection.

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

♦ FuzzyScan Gold, Jade & Diamond Series ♦

Gold - Jade - Diamond

M_DEFAULT

Family Code Selection	P.C.	Parameter Selection	Option Code
Host Interface Selection ◆ for **Gold/Jade/Diamond** series ◆	**MS**	IBM PC/XT, 286/XT keyboard wedge interface	00
	MS	IBM PC/AT, PS/1, PS/2, PS/VP series keyboard wedge interface ◆	01
	MS	Compaq, HP Vectra PC keyboard wedge interface	04
	MS	Apple ADB keyboard wedge interface	05
	MS	Standard/TTL RS-232 peer-to-peer serial interface	06
	MS	Standard/TTL RS-232 serial wedge interface	07
	MS	Wand emulation interface	08
	MS	Pseudo RS-232 serial interface (**TTL** level, **3-wire connection only**)	09
	MS	PC/AT, PS/2 keyboard replacement interface (without external keyboard)	10
	MS	Cino Omnikey & VersaNet direct-link interface	11
	MS	HW-320 terminal keyboard wedge interface	12
	MS	General Notebook PC keyboard wedge interface (with external keybaord)	13
	MS	General Notebook PC keyboard direct-link interface (without external keyboard)	14
	MS	IBM SureOne keyboard wedge interface	15
	MS	IBM SureOne standard RS-232 serial interface	16
	MS	Laser emulation interface (**TBD** - Please check your vendor for the availability.)	17
	MS	USB keyboard interface (for Microsoft Windows 98, 2000 and Apple iMac)	18
	MS	IBM 5550 series keyboard wedge (5p)	19
	MS	IBM 5550 series keyboard wedge (6p)	1A
	MS	SUN Microsystems Ultra 10 Workstation	1B
	MS	DEC VT510 Keyboard Wedge (104-key)	21
	MS	DEC VT510 Keyboard Wedge (105-key)	22
	MS	IBM ThinkPad keyboard direct-link interface (without external pinpad)	84
	MS	IBM ThinkPad keyboard wedge interface (with external pinpad)	87

- All the above listed host interface selections are **not** available for FuzzyScan Lite series.
- USB keyboard interface is only supported by Windows 98, Windows 2000 or above and Apple iMac system.

PROGRAM

Host Interface Selection

♦ FuzzyScan Jade & Diamond Series ♦

Jade - Diamond

M_DEFAULT

Family Code Selection	P.C.	Parameter Selection	Option Code
Host Interface Selection ◆ for **Jade & Diamond** series ◆	**MS**	IBM PS/55 5576-001 (code set 81) keyboard wedge interface	70
	MS	IBM PS/55 5576-002 (code set 81) keyboard wedge interface	71
	MS	IBM PS/55 5576-003 (code set 81) keyboard wedge interface	72
	MS	IBM PS/55 5576-A01 (code set 1) keyboard wedge interface	73
	MS	IBM PS/55 5576-001 (code set 8A) keyboard wedge interface	74
	MS	IBM PS/55 5576-002 (code set 8A) keyboard wedge interface	75
	MS	IBM PS/55 5576-003 (code set 8A) keyboard wedge interface	76
	MS	IBM PS/V PC, 5576-001 (code set 82) keyboard wedge interface	77
	MS	IBM PS/V PC, 5576-002 (code set 82) keyboard wedge interface	78
	MS	IBM PS/V PC, 5576-003 (code set 82) keyboard wedge interface	79
	MS	IBM PS/V PC, 5576-A01 (code set 2) keyboard wedge interface	80
	MS	Hitachi Flora KB1100 keyboard wedge interface	81
	MS	Hitachi Flora KB3100 keyboard wedge interface	82
	MS	Compaq Desktop PC keyboard wedge interface	83
	MS	DOS/V keyboard direct link interface	85
	MS	Fujitsu FMV keyboard wedge interface	86
	MS	NEC NX Notebook direct link interface	89
	MS	NEC PC-98 keyboard wedge interface	90

- All of the above listed interfaces are **not** available for FuzzyScan Lite and Gold series.
- All of the above listed interfaces are specially for **Japanese Machines**.
- The Keyboard Wedge Interfaces of IBM/DEC/WYSE/TELEX, IBM 4683/4694 Traditional Interface and Variuos OCIA Interfaces are available with the FuzzyScan **Diamond** series only under **OEM/ODM** request. Please consult your local FuzzyScan vendor for details.

PROGRAM

Symbology Reading Control

♦ User Defined Symbol ID ♦

Lite - Gold - Jade - Diamond

M_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/JAN/CAN-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)**
Symbol ID : 2 character	**DS**	UPC-E (default=**E0**)	00	**[1-2 characters], [FIN]**
		EAN-8 (default=**FF**)	01	**[1-2 characters], [FIN]**

▪ To determine the hex value for the “Character”, please refer to the **HEX/ASCII Reference Table** found on page A-3.

PROGRAM

Symbology Reading Control

♦ Symbology ID Trans., Readable Bar Code Setting ♦

Lite - Gold - Jade - Diamond

M_DEFAULT

Family Code Selection	P.C.	Parameter Selection	Option Code
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
Readable Symbology Setting	SS	Automatic discrimination ◆	00
	CS	Code 128, UCC/EAN-128	01
	CS	UPC-A	02
	CS	UPC-E	03
	CS	EAN/CAN/JAN-13	04
	CS	EAN/CAN/JAN-8	05
	CS	Codabar/NW-7	06
	CS	Code 39/Code 32, HIBC	07
	CS	Code 25 Family, IATA	08
	CS	Code 93	09
	CS	Code 11	10
	CS	MSI/Plessey	11
	CS	UK/Plessey	12
	CS	Telepen	13

Remember to scan **"FIN"** to terminate this selection. But if you select the **" Automatic discrimination "**, FuzzyScan 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 enabling those known symbologies only. Furthermore, to add the "**Symbology ID**" into the transmitted data is helpful for applications to identify the specific symbology ID.
- To further ensure fast, accurate readings, you can complete more complex configurations via full-feature **DataWizard**. To configure the full-feature DataWizard, user must use the **PowerTool,** a Windows 95/98/NT based software utility specially designed for FuzzyScan **Universal Interface Models** (Gold, Jade and Diamond series). Please consult your local FuzzyScan vendor for details.

PROGRAM

Symbology Reading Control

♦ Code 39/Code 32 Setting♦

Lite - Gold - Jade - Diamond

M_DEFAULT

Family Code Selection	P.C.	Parameter Selection	Option Code
Code 39 Family Setting	SS	Select Standard Code 39 as primary format ◆	0
	SS	Select Full ASCII Code 39 as primary format	1
	SS	Select Code 32 (Italian Pharmaceutical) as primary format	2
	SS	Disable start/stop symbol transmission ◆	3
	SS	Enable start/stop symbol transmission	4
	SS	Disable Code 32 leading A transmission ◆	5
	SS	Enable Code 32 leading A transmission	6
	SS	Disable MOD 43 check digit verification ◆	7
	SS	Enable MOD 43 check digit verification	8
	SS	Disable check digit transmission	9
	SS	Enable check digit transmission ◆	A
	SS	Disable RS WIDE Code 39 ◆	B
	SS	Enable RS WIDE Code 39	C
Code 39 Min. Length	SS	Default (04) ◆	**FIN**
	MS	01-Maximum	**(2 digits)**
		Scan 2 digits from the option code chart in Appendix, then FuzzyScan will terminate this selection automatically.	
Code 39 Max. Length	SS	Default (99) ◆	**FIN**
	MS	99-Minimum	**(2 digits)**
		Scan 2 digits from the option code chart in Appendix, then FuzzyScan will terminate this selection automatically.	

- Selecting Full ASCII Code 39 disable Code 32 (both options may not be enabled at the same time). Standard Code 39 and Full ASCII Code 39 may be enabled at the same time, and Code 32 and standard Code 39 may be enabled at the same time.

PROGRAM

Symbology Reading Control

♦ Codabar/NW-7 Setting ♦

Lite - Gold - Jade - Diamond

M_DEFAULT

Family Code Selection	P.C.	Parameter Selection	Option Code
Codabar Setting	SS	Select Codabar standard format ◆	0
	SS	Select Codabar ABC format	1
	SS	Select Codabar CLSI format	2
	SS	Select Codabar CX format	3
	SS	Disable start/stop symbol transmission ◆	4
	SS	Enable ABCD/ABCD start/stop symbol transmission	5
	SS	Enable abcd/abcd start/stop symbol transmission	6
	SS	Enable ABCD/TN*E start/stop symbol transmission	7
	SS	Enable abcd/tn*e start/stop symbol transmission	8
	SS	Disable check digit verification ◆	9
	SS	Enable check digit verification	A
	SS	Disable check digit transmission	B
	SS	Enable check digit transmission ◆	C
Codabar Min. Length	SS	Default (04) ◆	**FIN**
	MS	01-Maximum	**(2 digits)**
		Scan 2 digits from the option code chart in Appendix, then FuzzyScan will terminate this selection automatically.	
Codabar Max. Length	SS	Default (99) ◆	**FIN**
	MS	99-Minimum	**(2 digits)**
		Scan 2 digits from the option code chart in Appendix, then FuzzyScan will terminate this selection automatically.	

PROGRAM

Symbology Reading Control

♦ UPC-A & UPC-E Setting ♦

Lite - Gold - Jade - Diamond

M_DEFAULT

Family Code Selection	P.C.	Parameter Selection	Option Code
UPC Family 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 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

- **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 UPC-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/JAN/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/JAN/CAN-13	13	- 1	NC	+ 2	+ 5	NC	0
EAN/JAN/CAN-8	8	- 1	NC	+ 2	+ 5	NC	+ 5

PROGRAM

Symbology Reading Control

♦ EAN/JAN/CAN & IATASetting ♦

Lite - Gold - Jade - Diamond

M_DEFAULT

Family Code Selection	P.C.	Parameter Selection	Option Code
EAN/CAN/JAN 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 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
IATA Setting	SS	Select 15-digit fixed length IATA checking ◆	0
	SS	Select variable length IATA	1
	SS	Disable check digit verification ◆	2
	SS	Enable check digit automatic verification	3
	SS	Enable S/N checking digit verification only	4
	SS	Enable CPN checking digit verification only	5
	SS	Enable CPN, Airline and S/N check digit verification	6
	SS	Disable start/stop symbol transmission ◆	7
	SS	Enable start/stop symbol transmission	8
	SS	Disable check digit transmission	9
	SS	Enable check digit transmission ◆	A

PROGRAM

Symbology Reading Control

♦ Code 25 Family & German Post Code Setting ♦

Lite - Gold - Jade - Diamond

M_DEFAULT

Family Code Selection	P.C.	Parameter Selection	Option Code
Code 25 Setting	SS	Select any Code 25 ◆	0
	SS	Select Standard/Industrial 2 of 5 only	1
	SS	Select Matrix 2 of 5 only	2
	SS	Select Interleaved 2 of 5 only	3
	SS	Select Interleaved 2 of 5 S Code only	4
	SS	Select IATA only	5
	SS	Select China Postal Code only	6
	SS	Disable check digit verification ◆	7
	SS	Enable check digit verification	8
	SS	Disable check digit transmission	9
	SS	Enable check digit transmission ◆	A
Code 25 Min. Length	SS	Default (06) ◆	**FIN**
	MS	01-Maximum	**(2 digits)**
		Scan 2 digits from the option code chart in Appendix, then FuzzyScan will terminate this selection automatically.	
Code 25 Max. Length	SS	Default (99) ◆	**FIN**
	MS	99-Minimum	**(2 digits)**
		Scan 2 digits from the option code chart in Appendix, then FuzzyScan will terminate this selection automatically.	
German Postal Setting	SS	Disable ◆	0
	SS	Enable	1

- The FuzzyScan can decode almost all Code 25 symbologies automatically. However, since the Code 25 encoding algorithm is not very robust, we recommend that you select **only one** kind of Code 25 for reading, or set limited **maximum and minimum reading length** for reading.

PROGRAM

Symbology Reading Control

♦ Code 11 & Code 93 Seting ♦

Lite - Gold - Jade - Diamond

M_DEFAULT

Family Code Selection	P.C.	Parameter Selection	Option Code
Code 11 Setting	SS	Select 1-check digit verification	0
	SS	Select 2-check digit verification ◆	1
	SS	Disable check digit transmission ◆	2
	SS	Enable 1-check digit transmission	3
	SS	Enable 2-check digit transmission	4
Code 11 Min. Length	SS	Default (04) ◆	**FIN**
	MS	01-Maximum	**(2 digits)**
		Scan 2 digits from the option code chart in Appendix, then FuzzyScan will terminate this selection automatically.	
Code 11 Max. Length	SS	Default (99) ◆	**FIN**
	MS	99-Minimum	**(2 digits)**
		Scan 2 digits from the option code chart in Appendix, then FuzzyScan will terminate this selection automatically.	
Code 93 Setting	SS	Disable check digit transmission ◆	0
	SS	Enable check digit transmission	1
Code 93 Min. Length	SS	Default (03) ◆	**FIN**
	MS	01-Maximum	**(2 digits)**
		Scan 2 digits from the option code chart in Appendix, then FuzzyScan will terminate this selection automatically.	
Code 93 Max. Length	SS	Default (99) ◆	**FIN**
	MS	99-Minimum	**(2 digits)**
		Scan 2 digits from the option code chart in Appendix, then FuzzyScan will terminate this selection automatically.	

PROGRAM

Symbology Reading Control

♦ MSI/Plessey, Code 128 & UCC/EAN 128 Setting ♦

Lite - Gold - Jade - Diamond

M_DEFAULT

Family Code Selection	P.C.	Parameter Selection	Option Code
MSI/Plessey Setting	SS	Select MOD 10 check digit ◆	0
	SS	Select MOD 10-10 check digit	1
	SS	Select MOD 11-10 check digit	2
	SS	Disable check digit transmission	3
	SS	Enable 1-check digit transmission ◆	4
	SS	Enable 2-check digit transmission	5
MSI/Plessey Min. Length	SS	Default (06) ◆	**FIN**
	MS	01-Maximum	**(2 digits)**
		Scan 2 digits from the option code chart in Appendix, then FuzzyScan will terminate this selection automatically.	
MSI/Plessey Max. Length	SS	Default (99) ◆	**FIN**
	MS	99-Minimum	**(2 digits)**
		Scan 2 digits from the option code chart in Appendix, then FuzzyScan will terminate this selection automatically.	
Code 128/EAN-128 Setting	SS	Disable function code conversion ◆	0
	SS	Enable function code conversion	1
Code 128/EAN-128 Min. Length	SS	Default (04) ◆	**FIN**
	MS	01-Maximum	**(2 digits)**
		Scan 2 digits from the option code chart in Appendix, then FuzzyScan will terminate this selection automatically.	
Code 128/EAN-128 Max. Length	SS	Default (99) ◆	**FIN**
	MS	99-Minimum	**(2 digits)**
		Scan 2 digits from the option code chart in Appendix, then FuzzyScan will terminate this selection automatically.	

PROGRAM

Symbology Reading Control

♦ UK/Plessey & Telepen Setting ♦

Lite - Gold - Jade - Diamond

M_DEFAULT

Family Code Selection	P.C.	Parameter Selection	Option Code
UK/Plessey Setting	SS	Select UK/Plessey Standard Format ◆	0
	SS	Select UK/Plessey CLSI Format	1
	SS	Disable Convert X to A-F ◆	2
	SS	Enable Convert X to A-F	3
	SS	Disable check digit transmission ◆	4
	SS	Enable check digit transmission	5
UK/Plessey Min. Length	SS	Default (04) ◆	**FIN**
	MS	01-Maximum	**(2 digits)**
		Scan 2 digits from the option code chart in Appendix, then FuzzyScan will terminate this selection automatically.	
UK/Plessey Max. Length	SS	Default (99) ◆	**FIN**
	MS	99-Minimum	**(2 digits)**
		Scan 2 digits from the option code chart in Appendix, then FuzzyScan will terminate this selection automatically.	
Telepen Setting	SS	Select Telepen Numeric mode ◆	0
	SS	Select Telepen Full ASCII mode	1
	SS	Disable check digit transmission ◆	2
	SS	Enable check digit transmission	3
Telepen Min. Length	SS	Default (04) ◆	**FIN**
	MS	01-Maximum	**(2 digits)**
		Scan 2 digits from the option code chart in Appendix, then FuzzyScan will terminate this selection automatically.	
Telepen Max. Length	SS	Default (99) ◆	**FIN**
	MS	99-Minimum	**(2 digits)**
		Scan 2 digits from the option code chart in Appendix, then FuzzyScan will terminate this selection automatically.	

PROGRAM

Keyboard Interface Control

♦ Keyboard Layout (Language) Setting ♦

KB Lite - Gold - Jade - Diamond

M_DEFAULT

Family Code Selection	P.C.	Parameter Selection	Option Code
Keyboard Layout	**MS**	USA (QWERTY) ◆	00
	MS	France (AZERTY)	01
	MS	Germany (QWERTZ)	02
	MS	United Kingdom - UK (QWERTY)	03
	MS	Canadian French (QWERTY)	04
	MS	Spain (QWERTY)	05
	MS	Sweden/Finland (QWERTY)	06
	MS	Portugal (QWERTY)	07
	MS	Norway (QWERTY)	08
	MS	Latin America (QWERTY)	09
	MS	Italy (QWERTY)	10
	MS	Netherlands (QWERTY)	11
	MS	Denmark (QWERTY)	12
	MS	Belgium (AZERTY)	13
	MS	Switzerland-Germany (QWERTY)	14
	MS	Iceland (QWERTY)	15
	MS	Japan (DOS/V)	16
	MS	Universal (only available for IBM PC/AT, PS/VP in MS DOS and Windows Mode)	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 & Delay Setting ♦

KB Lite - Gold - Jade - Diamond

M_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
	MS	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.	
Character Frame Control	SS	None ◆	**FIN**
	MS	1-99 msec.	**(2 digits)**
		Scan 2 digits from the option code chart in Appendix, then FuzzyScan will terminate this selection automatically.	
Intermessage Delay	SS	None ◆	**FIN**
	MS	1-99 (x5) msec.	**(2 digits)**
		Scan 2 digits from the option code chart in Appendix, then FuzzyScan will terminate this selection automatically.	
Intercharacter Delay	SS	None ◆	**FIN**
	MS	1-99 msec.	**(2 digits)**
		Scan 2 digits from the option code chart in Appendix, then FuzzyScan will terminate this selection automatically.	

PROGRAM

Keyboard Interface Control

♦ Caps Lock Control & Emulation Setting ♦

KB Lite - Gold - Jade - Diamond

M_DEFAULT

Family Code Selection	P.C.	Parameter Selection	Option Code
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
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

- **Character Frame Control** is used to adjust timing gap between bytes within one character data output by FuzzyScan. **Intercharacter Delay** is a time delay between data characters output by FuzzyScan. 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 safty margin when adjusting these two parameters.
- **Intermessage Delay** is a time delay between messages output by FuzzyScan. Increasing this delay will help host applications process the incoming data on time.
- 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 FuzzyScan will perform normal data transmission. If the Caps Lock state is on, select **"Caps Lock On"** state. Select **"Auto Detect"**, FuzzyScan will perform special transmission handshaking without changing the status of Caps Lock switch.

PROGRAM

Serial Interface Control

♦ Record Suffix, Handshaking & Time Out Setting ♦

RS-232 Lite - Gold - Jade - Diamond

M_DEFAULT

Family Code Selection	P.C.	Parameter Selection	Option Code
STX/ETX Control	SS	Disable STX/ETX transmission ◆	0
	SS	Enable STX/ETX transmission	1
		STX/ETX are two characters used to indicate the starting and ending of the total data frame transmitted via serial interface.	
Record Suffix	SS	None	0
	SS	CR (0DH) ◆	1
	SS	LF (0AH)	2
	SS	CRLF (0D0AH)	3
	SS	TAB (09H)	4
	SS	SPACE (20H)	5
	SS	EOT (04H)	6
	MS	User defined character (1 character)	**7, (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.	

▪ **Serial Interface Message String :**

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

PROGRAM

Serial Interface Control

♦ Baud Rate & Data Frame Setting ♦

RS-232 Lite - Gold - Jade - Diamond

M_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	1200 BPS	0	5
	SS	19.2K BPS	600 BPS	1	6
	SS	9600 BPS ◆	300 BPS	2	7
	SS	4800 BPS	115.2K BPS	3	8
	SS	2400 BPS		4	
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 FuzzyScan waits for an **ACK** (acknowledge) or **NAK** (not acknowledge) from the host computer after each data transmission. If the NAK is received, FuzzyScan will re-send the data until receiving ACK.
- The **Time Out Control** is a pre-defined delay time for FuzzyScan to wait for handshaking, acknowledgment or non-acknowledgment from the host computer.

PROGRAM

Wand Emulation Control

♦ Output Polarity, Singal State, Margin/Module Time, etc.♦

Wand Lite - Gold - Jade - Diamond

M_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 mseconds	30 mseconds	0	4
	SS	15 mseconds	50 mseconds	1	5
	SS	20 mseconds ◆	100 mseconds	2	6
	SS	25 mseconds	Delay time before data transmission	3	
Module Time	SS	Extremely short	Long	0	3
	SS	Short		1	
	SS	Medium ◆	Time base of minimum narrow bar	2	
Narrow/Wide Ratio	SS	1:2 ◆		0	
	SS	1:2.5		1	
	SS	1:3		2	
Code 39 Emulation	SS	Disable standard Code 39 emulation ◆		0	
	SS	Enable standard Code 39 skip emulation		1	
	SS	Enable standard Code 39 replace emulation		2	

- **[Code 39 Skip] :** When this option is selected, all scanned data will be translated as Standard Code 39 wand 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

OCIA Interface

♦ OCIA Interface Setting ♦

OCIA Lite - Diamond

M_DEFAULT

Family Code Selection	P.C.	Parameter Selection	Option Code
OCIA Output Format	SS	NCR-S-format	0
	SS	NCR-F-format	1
	SS	DTS/Nixdorf	2
	SS	Siemens	3
	SS	Spectra Physics ◆	4
	SS	TEC	5
	SS	CASIO	6
	SS	Fujitsu	7

- These special interfaces are only available for OEM/ODM. Due to varieties on data format, pin-assignment, and connector type in the market, please prepare related information and check with the manufacturer first to verify compatibility. Quantity commitment is necessary on these models.

PROGRAM

Operation Control

♦ Operation Mode, Buzzer Tone, Scanning Tolerance ♦

Lite - Gold - Jade – Diamond

M_DEFAULT

Family Code Selection	P.C.	Parameter Selection	Option Code
Operation Mode	SS	Low Power mode (Low Power triggering)	0
	SS	Trigger mode (External triggering) ◆	1
	SS	Level mode (Auto power off)	2
	SS	Alternative mode (Periodic power off)	3
	SS	Flash mode (Pulse driven reading)	4
	SS	Force mode (Continued power on)	5
	SS	Toggle mode (Repeat reading)	6
	SS	Diagnostic mode (Test reading)	7
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	Good-read beep before data transmission ◆	5
	SS	Good-read beep after data transmission	6
	SS	Power-on beep ◆	7
	SS	No power-on beep	8
Scanning Tolerance	SS	Regular (standard) printing quality ◆	0
	SS	Poor (critical) printing quality	1
(Printing Quality Control)		Please note that if you select “Poor printing quality”, you should limit **“Readable Bar Code Symbology”** and **“Minimum & Maximum Reading Length”** of each symbology to avoid error reading.	

- The “Scanning Tolerance” provides the user with a helpful tool to use when the printing quality of the bar code is poor. This is a programmable feature with software revision CXX and older for both FBC-3000 series and FBC-6000 series. Units using later software revisions (DXX) perform this feature automatically without any extra programming. To reduce the error reading rate further, we also recommend that you limit the number of enabled symbologies to only those that you need to read. And to limit the minimum and maximum reading of each enabled bar code symbology.

PROGRAM

Operation Control

♦ Dollar Sign, Double Scan Verification ♦

Lite - Gold - Jade – Diamond

M_DEFAULT

Family Code Selection	P.C.	Parameter Selection		Option Code	
Double Scan Verification	SS	Disable	Long time out duration	0	4
	SS	Immediate time out duration	Force Verification	1	5
	SS	Short time out duration ◆		2	
	SS	Medium time out duration		3	
Redundancy (Scan Voting)	SS	None	4 times	0	4
	SS	1 time ◆	5 times	1	5
	SS	2 times		2	
	SS	3 times		3	
Auto Power Off Duration	SS	Short (around 2 seconds)		0	
	SS	Medium (around 3-4 seconds)		1	
	SS	Long (around 5-6 seconds)		2	
	SS	Extremely long (around 7-8 seconds) ◆		3	
Pulse Driven Duty	SS	1/2 duty cycle ◆		0	
	SS	2/3 duty cycle		1	
	SS	3/4 duty cycle		2	
	SS	4/5 duty cycle		3	
Inverse Bar Code Reading	SS	Disable ◆		0	
	SS	Enable		1	
Dollar Sign Control	SS	Dollar sign output as “$” ◆		0	
	SS	Dollar sign output as “¥”		1	
		Dollar sign output as “ “ (**TBD** – Please check your vendor for the availability)		2	

- The “**Double Scan Verification**” is designed to inhibit FuzzyScan from reading the same bar code label twice in pre-defined short duration.
- The **Redundancy** is the number of times the same bar code label has to be decoded before it is transmitted.

PROGRAM

Operation Control

♦ Digial I/O Output Control, Pulse Interval Control ♦

For FBC-8000 Series Only

M_DEFAULT

Family Code Selection	P.C.	Parameter Selection	Option Code
Digital I/O Output Control **(for FBC-8000 Series Only)**	SS	Digital I/O output by user control ◆	0
	SS	Digital I/O output after good-read	1
	SS	Output initial state as low ◆	2
	SS	Output initial state as high	3
Pulse Interval Control **(for FBC-8000 Series Only)**	SS	None (00) ◆	**FIN**
	SS	01-FF (x10) msec.	**(2 digits)**
		Scan 2 digits from the option code chart in Appendix, then FuzzyScan will terminate this selection automatically.	

- The **Digital I/O Output Control** is currently available only for FuzzyScan FBC-8000 series fixed mount linear imager.
- The **Digital I/O Output Control** provides the controls from or imposed on external devices upon preset reading conditions.
- The **Pulse Interval Control** is the setting for pulse interval of digital I/O output. The actual value of the pulse interval will be 10 times of the setting value. For example, if user sets the pulse interval as '05', the actual interval should be 50msec.

PROGRAM

Operation Control

♦ Operation Mode, Clear Memory, Data Memory Upload ♦

For MBC-6000 Series Only

M_DEFAULT

Family Code Selection	P.C.	Parameter Selection	Option Code
Operation Mode (for MBC-6000 Series Only)	SS	On-line Scan mode	0
	SS	Self-powered Scan mode	1
	SS	Batch Scan mode ◆	2
Clear Memory (for MBC-6000 Series Only)		Clear all scanned data stored in the memory.	
Data Memory Upload (for MBC-6000 Series Only)		Upload all scanned data stored in the memory into the host PC through the desired communication port. (*)	

- For MBC-6000 setup process, you will need to read **END** and **FIN** to terminate the selection in stead of just reading **END**.
- When set the Operation Mode to **On-line Scan mode**, you can use the MBC-6000 series imager as an on-line imager.
- When set the Operation Mode to **Self-powerScan mode**, you can use the MBC-6000 series imager as a self-powered scanning device with battery power supplied to the interface cable converters.
- When set the Operation Mode to **Batch Scan mode**, you can use the MBC-series imager as a batch memory imager with all scanned data stored in flash memory.
- (*): Host interface port has to be specified first. Then, proper interface cable converter has to be connected accordingly for data file to be sent to host correctly. Please refer to page 2-7 Host Interface Selection and page A-5 of various Host Interface Quick Set Command for details.

PROGRAM

Operation Control

♦ Data Storage Format (Number of field, etc) ♦

For MBC-6000 Series Only

M_DEFAULT

Family Code Selection	P.C.	Parameter Selection	Option Code
Number of Fields **(for MBC-6000 Series Only)**	SS SS	Default (01) ◆ 01-10 Scan 2 digits from the option code chart in Appendix, then FuzzyScan will terminate this selection automatically.	**FIN** **(2 digits)**
Field Delimiter **(for MBC-6000 Series Only)**	MS	TAB (09H) as the default delimiter ◆ User defined character (1 character)	00-7F
Record Delimiter **(for MBC-6000 Series Only)**	MS	CR (0DH) as the default delimiter ◆ User defined character (1 character)	00-7F

- For MBC-6000 setup process, you will need to read **END** and **FIN** to terminate the selection in stead of just reading **END**.
- User may select desired delimiter via reading ASCII codes of each delimiter according to ASCII code table in the **Appendix section in page A-3.**

PROGRAM

Condensed DataWizard

♦ Preamble, Postamble, Data Length & Symbol ID Trans. ♦

Lite - Gold - Jade – Diamond

M_DEFAULT

Family Code Selection	P.C.	Parameter Selection	Option Code
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 symbol ID transmission ◆	0
	SS	Enable prefix symbol ID transmission	1
	SS	Enable suffix symbol ID transmission	2
	SS	Enable both prefix and suffix symbol ID transmission	3
Data Pass Control	SS	Disable (format match required) ◆	0
	SS	Enable (format match not required)	1
		If data verifier is false, the original scanned bar code data will be transmitted.	
Data Sequence Control	SS	Data output to host: Data Length first, then followed by Prefix Symbol ID ◆	0
	SS	Data output to host: Prefix Symbol ID first, then followed by Data Length	1

- **DataWizard** is a very powerful, Artificial-Intelligence based data editing expert system provided specially for the FuzzyScan family bar code scanners. Through the **DataWizard**, you can process the scanned data prior the transmissions in many ways, such as: **Insert, Delete, Match, Verify, Replace, Reorganize**, and **Repeat Transmission**. It also allows 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** and **not** available on the FuzzyScan **Lite** series. Through the PowerTool, all settings and configurations can be done on-screen, under Windows 95/98/NT environment.
- To make the Preamble and Postable setting, please refer to the **Keyboard Interface Control** in page 2-20, or **Serial Interface Control** in page 2-22 for details.
- A **Condensed Version DataWizard** is provided for all FuzzyScan scanner including Lite series and is utilized by scanning the programming bar codes.
- When **Data Pass Control** is disabled, all input data must conform to an edited format or the scanner does not transmit the input data to the host.
- To make the **Data Sequence Control setting**, you can refer to the **Keyboard Interface Message String** in page 2-19, or **Serial Interface Message String** in page 2-22 for details.

PROGRAM

Condensed DataWizard

♦ Data Formater Setting ♦

Lite - Gold - Jade - Diamond

M_DEFAULT

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

- 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 2-33 for details.
- Please note that all "**Character**" input should be referred to the **ASCII/HEX Table** listed in Appendix to find matched HEX value.

PROGRAM

Condensed DataWizard

♦ Data Verifier Setting ♦

Lite - Gold – Jade - Diamond

M_DEFAULT

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

- 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 FuzzyScan 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 page 2-33 for details.
- Please note that all "**Character**" input should be referred to the **ASCII/HEX Table** listed in Appendix to find matched HEX value.

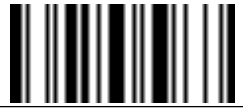
PROGRAM

Condensed DataWizard

♦ Data Replacer Setting ♦

Lite - Gold – Jade - Diamond

M_DEFAULT

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

- 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 2-33 for details.
- Please note that all "**Character**" input should be referred to the **ASCII/HEX Table** listed in Appendix to find mathced HEX value.

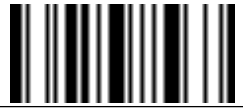
PROGRAM

Condensed DataWizard

♦ Data Organizer Setting ♦

Lite - Gold – Jade - Diamond

M_DEFAULT

Family Code Selection	P.C.	Parameter Selection	Option Code	2nd Option Code
Organizer Control 	SS	Disable ◆	**FIN**	
	MS	Select one bar code symbology	**(2 digits)**	automatic termination
	MS	Select all bar code symbologies	**00**	automatic termination
1st Organization	SS	Disable ◆	**FIN**	
	DS	Enable	**(2 digits)**	0 (Forward) ◆ 1 (Backward)
		2-digits identified position; Forward/backward data transmission setting	position direction	
2nd Organization	SS	Disable ◆	**FIN**	
	DS	Enable	**(2 digits)**	0 (Forward) ◆ 1 (Backward)
		2-digits identified position; Forward/backward data transmission setting	position direction	
Include/Exclude Control	SS	Transmitted data excluded the data of identified position◆	0	
	DS	Transmitted data included the data of identified position	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 2-33 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**.
- Reagrding the "**Bar Code Selection**" and "Position Calculation" of Data Organizer, please refer to page 2-33 for details.
- Please note that all "**Character**" input should be referred to the **ASCII/HEX Table** listed in Appendix.

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 FuzzyScan 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.

UPC-E : **03**	Telepen : **13**	Codabar/NW-7 : **06**
UPC-A : **02**	Code 128 : **01**	Code 25 Family : **08**
EAN/CAN/JAN-8 : **05**	UCC/EAN 128 : **01**	Code 11 : **10**
EAN/CAN/JAN-13 : **04**	Code 39 : **07**	UK/Plessey : **12**
Code 32 : **07**	Code 93 : **09**	MSI/Plessey : **11**

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 FuzzyScan 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 “**08**” (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 “**08**”.
- 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 “**08**”.
- 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 “**08**”.
- 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.

FuzzyScan

A Series of Intelligent Bar Code Reader
with NeuroFuzzy Decoding

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Appendix

This chapter gives the most up-to-date description of the Keyboard Function Code Table, ASCII Input Shortcut for all FuzzyScan family programming use.

Also, all necessary bar code commands are printed in the foldout of the back cover of this manual. Please take special care on those pages for future programming purpose. If those pages are lost or damaged, please ask your local vendor for help. For accessory updated information, please consult with your local FuzzyScan vendor or visit our web site at:

http://www.cino.com.tw

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	CTRL (Right)
05	ENQ	05H	NUM LOCK	21	NAK	15H	ALT (Right)
06	ACK	06H	ESC	22	SYN	16H	INS (Insert)
07	BEL	07H	F1	23	ETB	17H	DEL (Delete)
08	BS	08H	+ (Numeric Pad)	24	CAN	18H	HOME
09	HT	09H	TAB	25	EM	19H	END
10	LF	0AH	F2	26	SUB	1AH	PAGE UP
11	VT	0BH	F3	27	ESC	1BH	PAGE DOWN
12	FF	0CH	F4	28	FS	1CH	UP
13	CR	0DH	ENTER (Carriage Return)	29	GS	1DH	DOWN
14	SO	0EH	F5	30	RS	1EH	LEFT
15	SI	0FH	F6	31	US	1FH	RIGHT

- To emulate the key functions above, program the scanner by using the corresponding **ASCII hex value** and also **Enable** the “Function Key Emulation”. For example, If you want to program in a suffix of a TAB, you would follow the directions for programming a suffix on page 2-20. For option code, scan “**09**” for a TAB.
- For some of the above key functions to work correctly, it is necessary to disable the NumLock key.

ASCII Input Shortcut

To configure the user definable parameters of FuzzyScan via programming menu, FuzzyScan 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 2-20 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

	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

Bar Code Command List									
001	1	011	A	021		031	System Information List	041	
002	2	012	B	022	PC/AT, PS/2 Keyboard Wedge	032		042	Paging
003	3	013	C	023		033	Factory Default Setting	043	
004	4	014	D	024	Keyboard Replacement	034		044	Uninstall
005	5	015	E	025		035	PowerTool Host Link	045	
006	6	016	F	026	RS-232 Serial Interface	036		046	Pair Mode
007	7	017		027		037		047	
008	8	018	PROGRAM	028	USB Keyboard Interface	038		048	
009	9	019	FIN (Finish)	029		039		049	
010	0	020	END (Exit)	030	USB Serial Interface	040		050	

Bar Code Command List									
C01	PROGRAM	051	Host Interface Selection for Gold/Jade/Diamond	061	Codabar Min. Length	071	Code 11 Min. Length	081	Code128/EAN-128 Max.Length
C02	FIN (Finish)	052	Host Interface Selection for Jade & Diamond	062	Codabar Max. Length	072	Code 11 Max. Length	082	UK/Plessey Setting
C03	END (Exit)	053	Symbol ID : 1 character	063	UPC Family Setting	073	Code 93 Setting	083	UK/Plessey Min. Length
C04		054	Symbol ID : 2 character	064	EAN/CAN/JAN Setting	074	Code 93 Min. Length	084	UK/Plessey Max. Length
C05		055	Symbology ID Transmission	065	IATA Setting	075	Code 93 Max. Length	085	Telepen Setting
C06	System Information List	056	Readable Symbology Setting	066	Code 25 Setting	076	MSI/Plessey Setting	086	Telepen Min. Length
C07		057	Code 39 Family Setting	067	Code 25 Min. Length	077	MSI/Plessey Min. Length	087	Telepen Max. Length
C08	Factory Default Setting	058	Code 39 Min. Length	068	Code 25 Max. Length	078	MSI/Plessey Max. Length	088	Keyboard Layout
C09		059	Code 39 Max. Length	069	German Postal Setting	079	Code128/EAN-128 Setting	089	Record Suffix
C10	PowerTool Host Link	060	Codabar Setting	060	Code 11 Setting	080	Code128/EAN-128 Min.Length	090	Preamble

Bar Code Command List									
C01	PROGRAM	091	Postamble	101	**Preamble**	111	Narrow/Wide Ratio	121	Inverse Bar Code Reading
C02	FIN (Finish)	092	Character Frame Control	102	**Postamble**	112	Code 39 Emulation	122	Dollar Sign Control
C03	END (Exit)	093	Intermessage Delay	103	**Handshaking Protocol**	113	OCIA Output Format	123	Data Length Transmission
C04		094	Intercharacter Delay	104	**Baud Rate (BPS)**	114	Operation Mode	124	Symbology ID Transmission
C05		095	Caps Lock Control	105	**Data Frame**	115	Buzzer Tone Adjust	125	Data Pass Control
C06	System Information List	096	Function Key Emulation	106	Time Out Control	116	Scanning Tolerance (Printing Quality Control)	126	Data Sequence Control
C07		097	Key Pad Emulation	107	Output Polarity	117	Double Scan Verification	127	Formatter Control
C08	Factory Default Setting	098	Upper/Lower Case	108	Initial Signal State	118	**Redundancy (Scan Voting)**	128	**Formatter Control**
C09		099	STX/ETX Control	109	Margin Time	119	Auto Power Off Duration	129	1st Insertion
C10	PowerTool Host Link	100	Record Suffix	110	Module Time	120	Pulse Driven Duty	130	2nd Insertion

Bar Code Command List									
C01	PROGRAM	131	3rd Insertion	151	3rd Replacement	161		171	
C02	FIN (Finish)	132	4th Insertion	152	Organizer Control	162		172	
C03	END (Exit)	133	Verifier Control	153	1st Organization	163		173	
C04		134	Identified Data Length	154	2nd Organization	164		174	
C05		135	1st Identified Character	155	Include/Exclude Control	165		175	
C06	System Information List	136	2nd Identified Character	156		166		176	
C07		137	3rd Identified Character	157		167		177	
C08	Factory Default Setting	138	Replacer Control	158		168		178	
C09		139	1st Replacement	159		169		179	
C10	PowerTool Host Link	140	2nd Replacement	160		170		180	

Bar Code Command List					
C01	PROGRAM	131	Digital I/O Output Control (for FBC-8000 Series Only)	141	
C02	FIN (Finish)	132	Pulse Interval Control (for FBC-8000 Series Only)	142	
C03	END (Exit)	133	Operation Mode (for MBC-6870 Series Only)	143	
C04		134	Clear Memory (for MBC-6870 Series Only)	144	
C05		135	Data Memory Upload (for MBC-6870 Series Only)	145	
C06	System Information List	136	Number of Fields (for MBC-6870 Series Only)	146	
C07		137	Field Delimiter (for MBC-6870 Series Only)	147	
C08	Factory Default Setting	138	Record Delimiter (for MBC-6870 Series Only)	148	
C09		139		149	
C10	PowerTool Host Link	140		150	

Bar Code Command Menu

Option Code : “0 – 9”, “A – F”	System Command

0

4

8

C

FIN (Finish)

1

5

9

D

END (Exit)

2

6

A

E

(System List)

SYSLIST

3

7

B

F

(Master Default)

M_DEFAULT

Bar Code System Command

To scan following commands will reset related settings to factory default, which may be different to your current settings. Please consult the technical person in charge of scanning or your local supplier before scanning the following bar codes.

PC/AT, PS/2 Keyboard Wedge
Quick Set Command

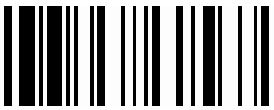
RS-232 Serial Interface
Quick Set Command

USB Keyboard Interface
Quick Set Command

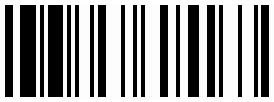
USB Serial Interface
Quick Set Command

Keyboard Replacement
Quick Set Command

Paging Command



Uninstall Command



Pair Mode Command

System Information List
(SYSLIST)

Factory Default Setting
(M_DEFAULT)

FuzzyScan PowerTool
Host Link Command

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