

4-7 UPC-A

Read:

Format

System character	Data digits (10 digits)	Check digit
------------------	-------------------------	-------------

Check digit verification: The check digit is optional.

Check digit trans.: By setting Enable, check digit will be transmitted.

Code ID setting: Code ID is a one-or-two-character string used to represent the symbol upon a succeeding reading. If you want application to transmit Code ID, you must set

Code ID transmission

 to be enabled. Refer to [7-35 String transmission](#).

Insertion group selection: Refer to

Global insertion group selection

 of [7-4 Scanning mode and some global settings](#).

Supplement digits: The Supplement digits barcode is the supplemental 2 or 5 characters.

Format

System character	Data digits (10 digits)	Check digit	Supplement digits 2 or 5
------------------	-------------------------	-------------	--------------------------

Truncation/Expansion:

Truncate leading zeros- The leading “0” digits of UPC-A data characters can be truncated when the feature is enabled.

Expand to EAN-13- It extends to 13-digits with a “0” leading digit when the feature is enabled.

4-35 G1-G6 & C1-C3 & FN1 substitution string setting

Format of barcode data transmission:

Prefix	Code name	Preamble	Code ID	Code length	Code data	Code ID	Postamble	Suffix
--------	-----------	----------	---------	-------------	-----------	---------	-----------	--------

Suffix string setting: The <enter> key is represented in different ASCII when it is applied by different OS. For a Windows/DOS OS, <enter> is represented as <CR><LF> (0x0D 0x0A); for an Apple MAC OS, <enter> is represented as <CR> (0x0D); for a Linux/Unix OS, <enter> is represented as <LF> (0x0A).

Prefix/Suffix/Preamble/Postamble string setting:

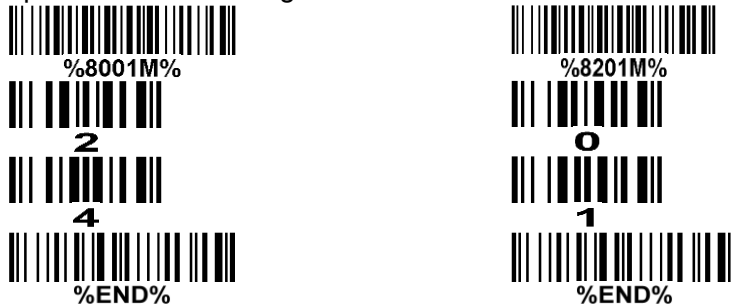
They are appended to the data automatically when a barcode is decoded.

Example: Add a symbol of “\$” as a prefix for all symbols.

Steps:

- 1) Scan the option barcode of Prefix string setting.
- 2) Use the ASCII table to find the value of \$→24.
- 3) Scan 2 and 4 from the barcode on the last page.
- 4) Scan END barcode.

Scanning steps: Scan the following barcodes in order.



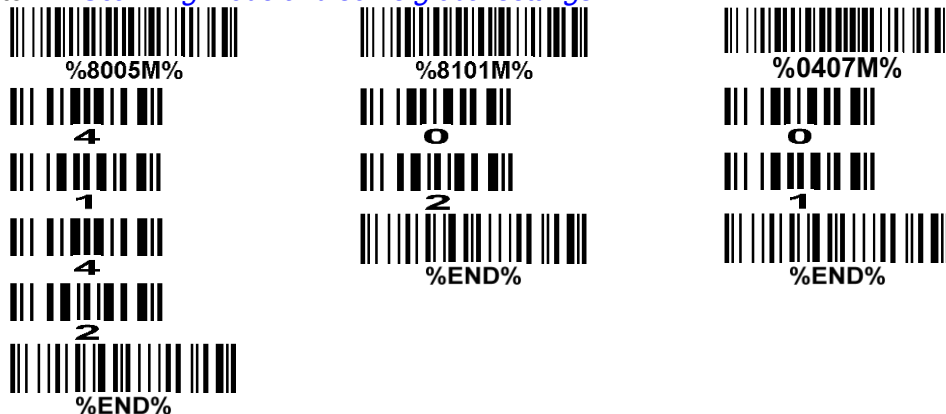
Insert G1/G2/G3/G4 string setting: The scanner offers 4 positions and 4 character strings to insert among the symbol.

Example: Set G1 string to be “AB”.

Original code data	“1 2 3 4 5 6”
Output code data	“1 2 A B 3 4 5 6”

Steps:

- 1) Scan the option barcode of Insert G1 string setting.
- 2) Use the ASCII table to find the value of A→41, B→42.
- 3) Scan 4, 1 and 4, 2 from the barcode on the last page.
- 4) Scan END barcode.
- 5) Refer to [7-34 G1-G4 string position & Code ID position](#).
- 6) Refer to [7-4 Scanning mode and some global settings](#).



Testing barcode:



4-36 G1-G4 string position & Code ID position

Format of barcode data transmission:

Prefix	Code name	Preamble	Code ID	Code length	Code data	Code ID	Postamble	Suffix
--------	-----------	----------	---------	-------------	-----------	---------	-----------	--------

Insert G1/G2/G3/G4 string position: The scanner offers 4 positions to insert strings among the symbol. In case of the insertion position is greater than the length of the symbol, the insertion of string is not effective.

Code ID position: It is allowed to select different positions of code ID placement.

Multiple-scan setting			Single-scan setting
Option barcode	Option	Alpha. entry	
Insert G1 string position  %8101M%	00-99	00-99	 %8101D00% *
		00*	
Insert G2 string position  %8102M%	00-99	00-99	 %8102D00% *
		00*	
Insert G3 string position  %8103M%	00-99	00-99	 %8103D00% *
		00*	
Insert G4 string position  %8104M%	00-99	00-99	 %8104D00% *
		00*	
Code ID position  %8105M%	Before code data	00*	 %8105D00% *
	After code data	01	 %8105D01%
 %END%			

4-37 String transmission

Note: The information in this chapter is closely related to 7-33 G1-G6 & C1-C3 & FN1 substitution string setting.

Format of barcode data transmission:

Prefix	Code name	Preamble	Code ID	Code length	Code data	Code ID	Postamble	Suffix
--------	-----------	----------	---------	-------------	-----------	---------	-----------	--------

Prefix transmission: By setting Enable, prefix will be appended before the data transmitted.

Suffix transmission: By setting Enable, suffix will be appended after the data is transmitted.

Code name transmission: By setting Enable, code name will be transmitted before code data.

Preamble transmission: By setting Enable, preamble will be appended before the data transmitted.

Postamble transmission: By setting Enable, postamble will be appended after the data is transmitted.

Code ID transmission: Code ID can be transmitted in the format of either Proprietary ID or AIM ID.

Refer to [1-2 Default setting for each barcode](#).

Code length transmission: The length of code data string can be transmitted before the code data when Enable is selected. The length is represented by a number with two digits.






























Case conversion: The characters within code data or the whole output string can be set in either upper case or lower case.













FN1 substitution transmission: The scanner supports a FN1 substitution feature for keyboard wedge, USB and RS-232 interface. The replacement string of FN1 can be chosen by user (see [4-35 G1-G6 & C1-C6 & FN1 substitution string setting](#)).

All-non-printable-character string transmission with string setting: By setting enable, all string settings, e.g. Preamble transmission or Insert G1 string setting, are active for an all-non-printable-character string. Here a non-printable character means a character with ASCII value between 0x00 to 0x1F.

Transmit the first N data characters only: The scanner supports to only transmit the first N data characters of a barcode. The number of N can be set as a digit between 1 and 99.

Transmit the last N data characters only: The scanner supports to only transmit the last N data characters of a barcode. The number of N can be set as a digit between 1 and 99.

Multiple-scan setting			Single-scan setting
Option barcode	Option	Alpha. entry	
Prefix transmission  %8201M%	Disable	00*	 %8201D00% *
	Enable	01	 %8201D01%
Suffix transmission  %8202M%	Disable	00	 %8202D00%
	Enable	01*	 %8202D01% *
Code name transmission  %8203M%	Disable	00*	 %8203D00% *
	Enable	01	 %8203D01%
Preamble transmission  %8204M%	Disable	00*	 %8204D00% *
	Enable	01	 %8204D01%
Postamble transmission  %8205M%	Disable	00*	 %8205D00% *
	Enable	01	 %8205D01%
Code ID transmission  %8206M%	Disable	00*	 %8206D00% *
	Proprietary ID	01	 %8206D01%
	AIM ID	02	 %8206D02%
Code length transmission  %8207M%	Disable	00*	 %8207D00% *
	Enable	01	 %8207D01%
Case conversion  %8208M%	Disable	00*	 %8208D00% *
	Upper (data only)	01	 %8208D01%
	Lower (data only)	02	 %8208D02%
	Upper (whole string)	03	 %8208D03%
	Lower (whole string)	04	 %8208D04%
FN1 substitution	Disable	00*	 %8209D00% *

Multiple-scan setting			Single-scan setting
Option barcode	Option	Alpha. entry	
transmission  %8209M%	Keyboard wedge/USB	01	 %8209D01%
	RS-232	02	 %8209D02%
	Keyboard wedge / USB/RS-232	03	 %8209D03%
All-non-printable-character string transmission with string setting  %8210M%	Disable	00*	 %8210D00% *
	Enable	01	 %8210D01%
Transmit the first N data characters only  %8211M%	All	99*	 %8211D99% *
	01-99		
Transmit the last N data characters only  %8212M%	All	99*	 %8212D99% *
	01-99		
 %END%			

5 Barcode representing non-printable character

Notes to make the following barcode:

1. According to different barcode printing software, the method of printing following barcode is different.
2. If using CODESOFT software, firstly read the information through "Help→Index→Code128→Special input syntax". Also refer to ASCII table. For example, if we wish to make "F1" barcode, select "Code128", then select "CODE A" type, and input "{DC1}" as data.



6 ASCII Table

L \ H		for keyboard wedge		for RS-232	
		0	1	0	1
0		Null		NUL	DLE
1		Up	F1	SOH	DC1
2		Down	F2	STX	DC2
3		Left	F3	ETX	DC3
4		Right	F4	EOT	DC4
5		PgUp	F5	ENQ	NAK
6		PgDn	F6	ACK	SYN
7			F7	BEL	ETB
8		Bs	F8	BS	CAN
9		Tab	F9	HT	EM
A			F10	LF	SUB
B		Home	Esc	VT	ESC
C		End	F11	FF	FS
D		Enter	F12	CR	GS
E		Insert	Ctrl+	SO	RS
F		Delete	Alt+	SI	US

Notes: The 2nd and the 3rd columns above are used for keyboard wedge only.

L \ H		2	3	4	5	6	7
0		SP	0	@	P	`	p
1		!	1	A	Q	a	q
2		"	2	B	R	b	r
3		#	3	C	S	c	s
4		\$	4	D	T	d	t
5		%	5	E	U	e	u
6		&	6	F	V	f	v
7		'	7	G	W	g	w
8		(	8	H	X	h	x
9		)	9	I	Y	i	y
A		*	:	J	Z	j	z
B		+	;	K	[	k	{
C		,	<	L	\	l	|
D		-	=	M	]	m	}
E		.	>	N	^	n	~
F		/	?	O	_	o	DEL

Example: ASCII "A" = "41".

7 Test Chart

UPC-A

6 59871 23231 9

UPC-E

0 232310 7

UPC-E1
(Default setting: Disable)


1 6 5 4 3 2 1 1

EAN-13

1 234567 891019

ISBN/ISSN

9 780194 315104

EAN-8

0123 4510

Code 39

0189-.\$AZ

Interleaved 2 of 5

0123456789

Industrial 2 of 5
(Default setting: Disable)

0123456789

Matrix 2 of 5

9876543210

Codabar

a01+-:.\$89a

Code 128

01AZ[+~*/za98

UCC/EAN 128

01AZ[]+-az54

Test Chart (Continued)

ISBT 128



Code 93



Code 11

(Default setting: Disable)



MSI/Plessey

(Default setting: Disable)



UK/Plessey



China Post



GS1 DataBar (GS1 DataBar Truncated)



GS1 DataBar Limited



GS1 DataBar Expanded



Test Chart (Continued)

PDF417



12=890ab-+%xyz

MicroPDF417

(Default setting: Disable)



12345678abcABCMicroPDF417

QR code



1234567890ABCD-+()&*%^@#\$.XYZ

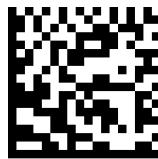
Micro QR Code

(Default setting: Disable)



0123456789MicroQR

Data Matrix



123890abc-+=&*%^!mdo

Aztec Code

(Default setting: Disable)



12345678901234567890

8 Return default parameters & firmware version



%%%DEF

WARNING: Restore Factory Defaults

Scan this barcode to restore the factory default values.



%%%VER

Engine Firmware Version List

Scan this barcode to display the engine firmware version.



%%SVER

Device Firmware Version List

Scan this barcode to display the device firmware version.



%%BVER

Bluetooth Version List

Scan this barcode to display the device bluetooth version.

9 Configuration alphanumeric entry barcode



0



2



4



6



8



A



C



E



1



3



5



7



9



B



D



F

To finish parameter setting, please scan the bar code below.



%%%END