TABLE OF CONTENTS

Chapter 1. Introduction ····· 5
1) Introduction & Features ····· 5
2) Specification ····· 6

Chapter 2. Operating the Bar Code Reader ····· 7
1) Basic Operation ····· 7
2) Programming Flow Chart ····· 9

Chapter 3. Programming Menu ····· 11

Chapter 4. Appendix ····· 22
1) Pin Assignment ····· 22
2) ASCII Table ····· 24
3) Control /ASCII Bar code ····· 27
4) Programming Bar code ····· 38

Chapter 1. INTRODUCTION

1) INTRODUCTION AND FEATURES

The PSD-100 series bar code reader is designed for easy installation, easy operation, and with a compact size for easy handling. The user can use the PSD-100 series bar code reader without any changes of H/W and S/W program of your computers.

The PSD-100 series bar code reader allows the user to add bar code reading capability via specific interfaces with Keyboard Emulation(Wedge) / RS-232C / C-MOS serial / Wand Emulation and etc. To program specific functions, you will need to use the PROGRAMMING MENU.(refer to Chapter 3). All the operating parameters are programmed by bar code programming menu and stored in non-volatile RAM which can retain the settings after power is turned off.

The PSD-100 series bar code reader has bi-directional reading and decoding capability which allows the user to scan the bar code symbols in either direction, from left to right or from right to left. It automatically recognizes and decodes most of the popular bar code symbologies, including CODE 39, CODE 2 OF 5, CODABAR, UPC/EAN, CODE 128, CODE MSI/PLESSEY and CODE 93. Also the PSD-100 series bar code reader has beeper and LED to confirm of operating status.

2) SPECIFICATION

(1) Scanner type
- Wand (Pen)

(2) Bar code symbologies
- CODE 39
- CODE 2 OF 5
- CODABAR
- UPC/EAN
- CODE 128
- CODE 93
- CODE MSI/PLESSEY

(3) Interface

PSD -100 〈X〉
- 〈K〉 Keyboard (Wedge)
- 〈R〉 RS-232C
- 〈TS〉 C-MOS serial
- 〈E〉 Wand Emulation

(4) Other
- Optional functions are selected via bar code programming.
- NV RAM stores programming so no re-initialization is requested.
- Confirmation of operating status via power LED, XMIT or audible tone(beeper)

Chapter 2. OPERATING THE BAR CODE READER

1) BASIC OPERATION

(1) Initialization via beeper

① Normal start-up : -0--0-0--

② Default start-up : -0--0-0-0--

; If implemented the initialization incorrectly, it automatically return to initial factory default status.

③ Internal problem

: -0--0-0-0---0-0-0-0-0---0-0-0-0-0--
---0-0-0-0----0-0-0-0----0-0-0-0---

; In case of this, the PSD-100 need to be fixed.

(2) A full data string from your PSD-100 may consist of the following ;

PREAMBLE	＋ID :	DATA	POSTAMBLE	SUFFIX

＋ID : Indicates bar code symbologies as belows ;

ID	BAR CODE	ID	BAR CODE
〈A〉 〈 : 〉	CODE 39	〈E〉 〈 : 〉	CODE 128
〈B〉 〈 : 〉	CODE 2 OF 5	〈G〉 〈 : 〉	CODE 93
〈C〉 〈 : 〉	CODABAR	〈H〉 〈 : 〉	CODE MSI
〈D〉 〈 : 〉	UPC/EAN	〈I〉 〈 : 〉	PLESSEY

(3) Programming

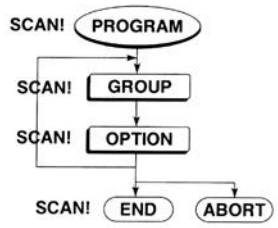
For specific programming, you may refer to chapter 3 PROGRAMMING MENU. and chapter 4 appendix for bar code reading. Also, see PROGRAMMING FLOW CHART.

(4) Factory Defaults

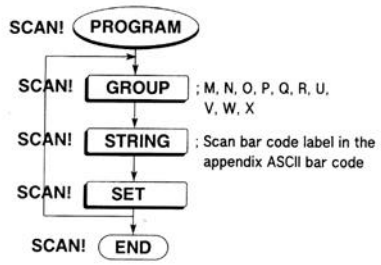
The default values are marked with asterisks(*) in the programming menu.

2) PROGRAMMING FLOW CHART

(1) General Setting

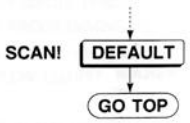


(2) String Setting



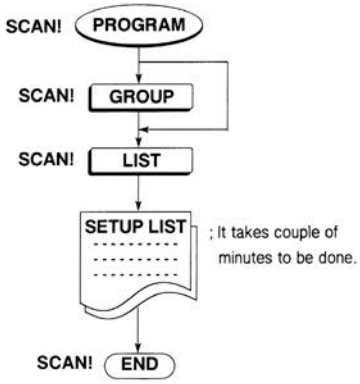
EX) To set preamble as <0> <1> < : >,
scan <PROGRAM> <M> <0> <1> < : > <SET> <END>.

(3) Default Setting



※ DEFAULT may be read any part of time.

(4) Status Display



Chapter 3. PROGRAMMING MENU

FUNCTION (* DEFAULT)		GROUP	OPTION
COMPUTER	IBM PC/XT	A	0
	* IBM PC/AT	A	1
	* IBM PS/2 50-80	A	1
	IBM PS/2 25, 30	A	2
KEYBOARD	* US	A	3
	AZERTY(EUROPE)	A	4
	QWERTZ(EUROPE)	A	5
CHARACTER TYPE	* UPPER	A	6
	LOWER	A	7
NUM LOCK	ENABLE	A	8
	* DISABLE	A	9
VOLUME CONTROL	LOW	B	0
	* MEDIUM	B	1
	HIGH	B	2
	NO BEEP	B	3
SUFFIX (WEDGE)	NONE	C	0
	TAB	C	1
	* RETURN	C	2
SUFFIX (RS-232C)	NONE	G	0
	* CR	G	1
	LF	G	2
	CR/LF	G	3
BAR CODE I/D	ENABLE	D	0
	* DISABLE	D	1
I/O TYPE	WEDGE	D	5
	RS-232C	D	6
	WAND	D	7
	LAPTOP	B	9
BAUD RATE (RS-232C)	2400	H	4
	4800	H	5
	* 9600	H	6
	19200	H	7
	38400	H	8

PROGRAM

END

ABORT

DEFAULT

FUNCTION (* DEFAULT)		GROUP	OPTION
DATA FORMAT (RS-232C)	* 1 STOP	J	0
	2 STOP	J	1
	* 7 DATA	J	2
	8 DATA	J	3
	* EVEN	J	4
	ODD	J	5
	NONE	J	6
RS-232C PROTOCOL	RTS/CTS ←	D	2
	ACK/NAK ←	D	3
	* NO RESPONSE	D	4
WAIT TIMEOUT	⇒	R	SET
BAR CODE SELECTION	* ALL ←	E	ALL
	CODE 39 ←	E	0
	CODABAR ←	E	1
	UPC/EAN ←	E	2
	CODE 2/5 ←	E	3
	CODE 128 ←	E	4
	CODE MSI ←	E	5
	CODE PLESSEY ←	E	6
	CODE 93 ←	E	7
CODE 39 FORMAT	* STANDARD	F	0
	FULL ASCII	F	1
	BASE 32	F	2
XMIT CHECK	ENABLE	F	3
	* DISABLE	F	4
VERIFY CHECK	ENABLE	F	6
	* DISABLE	F	7
XMIT ST/SP	ENABLE	F	8
	* DISABLE	F	9

<Note>

← : Indicates toggle by reading a specific code in the <GROUP> <OPTION> codes

⇒ : A unit is 100ms

EX) If timeout is 1000ms, scan <PROGRAM> <R> <1> <0> <SET> <END>

PROGRAM

END

ABORT

DEFAULT

FUNCTION (* DEFAULT)		GROUP	OPTION
UPC/EAN	* NO	I	0
ADDENDUM	2 DIGIT	I	1
	5 DIGIT	I	2
	ALL	I	3
UPC-E FORMAT	* NORMAL	I	4
	EXPANSION	I	5
XMIT CHECK			
UPC-A	* ENABLE	I	6
	DISABLE	I	7
UPC-E	* ENABLE	T	0
	DISABLE	T	1
EAN-13	* ENABLE	T	2
	DISABLE	T	3
EAN-8	* ENABLE	T	4
	DISABLE	T	5
UPC NSC	* ENABLE	I	8
	DISABLE	I	9
UPC APPEND	ENABLE	S	4
ZERO	* DISABLE	S	5
ISSN/ISBN	ENABLE	D	8
	* DISABLE	D	9
ADDENDUM	ENABLE	B	6
	* DISABLE	B	7
MSI OPTION	* MOD 10	K	4
CHECK DIGHT	MOD 11	K	5
	MOD 1010	K	6
	MOD 1110	K	7
XMIT CHECK	ENABLE	T	6
	* DISABLE	T	7
CODE 2/5	* INTERLEAVED	L	0
FORMAT	INDUSTRIAL	L	1
	MATRIX	L	2
	STANDARD	L	3
VERIFY CHECK	ENABLE	T	8
	* DISABLE	T	9
XMIT CHECK	ENABLE	B	4
	* DISABLE	B	5

PROGRAM

END

ABORT

DEFAULT

FUNCTION (* DEFAULT)		GROUP	OPTION
APPEND	1 ←	L	4
LENGTH	2 ←	L	5
(2/5, CODA, MSI,	3 ←	L	6
PLESSEY)	4 ←	L	7
	5 ←	L	8
CODABAR	* NONE	S	6
START/STOP	ABCD	S	7
	TN*E	S	8
VERIFY CHECK	ENABLE	C	8
	* DISABLE	C	9
XMIT CHECK	ENABLE	K	8
	* DISABLE	K	9
WAND EMUL			
FORMAT	* CODE 39	-	-
CHECK DIGIT	ENABLE	K	2
	* DISABLE	K	3
BAR LEVEL	LOW	C	3
	* HIGH	C	4
BAR SPEED	LOW (2ms)	C	5
	* MEDIUM (1ms)	C	6
	HIGH (0.5ms)	C	7
STATUS DISPLAY			LIST
PREAMBLE (1～24 char)		M	SET
POSTAMBLE (1～24 char)		N	SET
Inter character delay (2 digits)	⇨	O	SET
Inter message delay (2 digits)	➡	P	SET
Inter scancode delay1 (2 digits)	⇨	U	SET
Inter scancode delay2 (2 digits)	⇨	Q	SET
Limit Min Length (2 digits)	⇨	V	SET
Limit Max Length (2 digits)	⇨	W	SET
Quiet Zone Threshold (6～15)	⇨	X	SET

<Note>

← : Indicates toggle by reading a specific code in the <GROUP> <OPTION> codes

➡ : A unit is 10ms
EX) If delay is 120ms, scan <PROGRAM> <P> <1> 2> <SET> <END>

⇨ : A unit is 1ms

PROGRAM

END

ABORT

DEFAULT

FUNCTION (* DEFAULT)	GROUP	OPTION
Quiet Zone Threshold(06～15)	X	SET
Limit Min Length(2 digits)	V	SET
Limit Max Length(2 digits)	W	SET

PROGRAM

END

ABORT

DEFAULT

Chapter 4. APPENDIX

1) PIN ASSIGNMENT

(1) KEYBOARD WEDGE(PSD-100K)

IBM XT/AT

PIN	DIN 5P MALE/FEMALE	
	Signal	Function
1	Clock	Keyboard Clock
2	Data	Keyboard Data
3	Bypass	–
4	GND	Supply Ground
5	+5VDC	Power Supply

IBM PS-2

PIN	MINI-DIN 6P MALE/FEMALE	
	Signal	Function
1	Data	Keyboard Data
2	Bypass	–
3	GND	Supply Ground
4	+5VDC	Power Supply
5	Clock	Keyboard Clock
6	Bypass	–

(2) RS－232C OUPUT(PSD-100R)

PIN	D－SUB 9P FEMALE		
	Color	Signal	Function
2	Black	TX	Transmit Data
3	Green	RX	Receive Data
5	Brown	GND	Signal Ground
7	Yellow	CTS	Clear to Send
8	Red	RTS	Request to Send

NOTE : JACK connector for external power
(+5VDC/300mA) ⊕—◉—⊖

(3) WAND EMULATION(PSD-100E)

PIN	D－SUB/AMP 9P FEMALE		
	Color	Signal	Function
2	Green	DATA	Barcode Data Output
7	Brown	GND	Supply Ground
9	White	+5VDC	Power Supply

2) ASCII TABLE

ASCII	HEX	DEC	ASCII	HEX	DEC
NUL	00	0	SP	20	32
SOH	01	1	!	21	33
STX	02	2	"	22	34
ETX	03	3	#	23	35
EOT	04	4	$	24	36
ENQ	05	5	%	25	37
ACK	06	6	&	26	38
BEL	07	7	'	27	39
BS	08	8	(	28	40
HT	09	9	)	29	41
LF	0A	10	*	2A	42
VT	0B	11	+	2B	43
FF	0C	12	,	2C	44
CR	0D	13	-	2D	45
SO	0E	14	.	2E	46
SI	0F	15	/	2F	47
DLE	10	16	0	30	48
DC1	11	17	1	31	49
DC2	12	18	2	32	50
DC3	13	19	3	33	51
DC4	14	20	4	34	52
NAK	15	21	5	35	53
SYN	16	22	6	36	54
ETB	17	23	7	37	55
CAN	18	24	8	38	56
EM	19	25	9	39	57
SUB	1A	26	:	3A	58
ESC	1B	27	;	3B	59
FS	1C	28	<	3C	60
GS	1D	29	=	3D	61
RS	1E	30	>	3E	62
US	1F	31	?	3F	63

ASCII	HEX	DEC	ASCII	HEX	DEC
@	40	64	`	60	96
A	41	65	a	61	97
B	42	66	b	62	98
C	43	67	c	63	99
D	44	68	d	64	100
E	45	69	e	65	101
F	46	70	f	66	102
G	47	71	g	67	103
H	48	72	h	68	104
I	49	73	i	69	105
J	4A	74	j	6A	106
K	4B	75	k	6B	107
L	4C	76	l	6C	108
M	4D	77	m	6D	109
N	4E	78	n	6E	110
O	4F	79	o	6F	111
P	50	80	p	70	112
Q	51	81	q	71	113
R	52	82	r	72	114
S	53	83	s	73	115
T	54	84	t	74	116
U	55	85	u	75	117
V	56	86	v	76	118
W	57	87	w	77	119
X	58	88	x	78	120
Y	59	89	y	79	121
Z	5A	90	z	7A	122
[	5B	91	{	7B	123
\	5C	92	¦	7C	124
]	5D	93	}	7D	125
^	5E	94	~	7E	126
_	5F	95	DEL	7F	127

3) CONTROL / ASCII BAR CODE

F1 F2

F3 F4

F5 F6

F7 F8

F9 F10

F11 F12

CTRL ON CTRL OFF

ALT ON ALT OFF

Ins	Home
PgUp	Del
End	PgDn
Up	Down
Left	Right
Esc	HT
BS	Enter

NUL	SOH	STX
ETX	EOT	ENQ
ACK	BEL	BS
HT	LF	VT
FF	CR	SO
SI	DLE	DC1

DC2	DC3	DC4
NAK	SYN	ETB
CAN	EM	SUB
ESC	FS	GS
RS	US	SP
!	"	#

$	%	&
'	(	)
*	+	,
-	.	/
0	1	2
3	4	5

6 7 8

9 : ;

< = >

? @ A

B C D

E F G

H I J

K L M

N O P

Q R S

T U V

W X Y

Z [\

] ^ _

` a b

c d e

f g h

i j k

l m n

o p q

r s t

u v w

x y z

{ | }

~ DEL

4) PROGRAMMING BAR CODE

GROUP CODE

A B C

D E F

G H I

J K L

M N O

P Q R

S T U

V W X

OPTION CODE

0 1 2

3 4 5

6 7 8

9 LIST

ALL SET