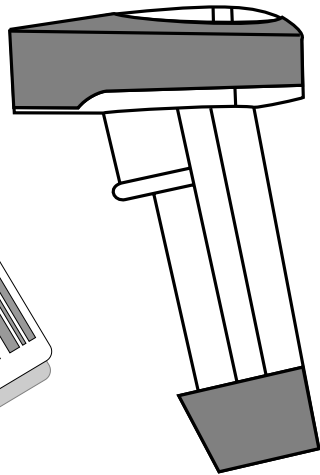
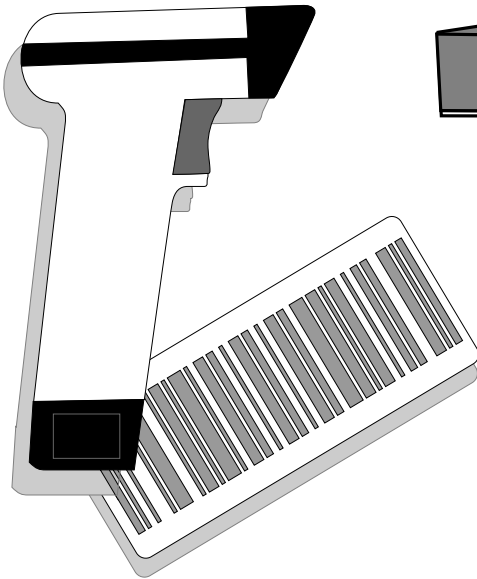

PSC[®]

*HANDHELD
LASER SCANNERS*

SP400

***QUICKSCAN™
6000/6000 plus***



*WAND EMULATION
INTERFACE PROGRAMMING*

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Disclaimer

Reasonable measures have been taken to ensure that all information contained in this manual is complete and accurate. However, PSC Scanning, Inc. reserves the right to change any specification at any time without prior notice.

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NOTES

WAND EMULATION INTERFACE PROGRAMMING

For your convenience, this guide provides basic configuration and option settings for your scanner's Wand Emulation interface. For more detailed programming information and features, reference the *SP400 Programming Guide* (R44-1020) or the *QuickScan 6000/6000 Plus Programming Guide* (R44-1540), available from your dealer.

THE QUICKSCAN 6000/6000 PLUS INTERFACE (I/F) CABLE

To disconnect the I/F cable at the scanner, insert a bent paper clip or 0.050" hex driver into the opening marked CABLE RELEASE as shown in Figure 1, and push inward. Once the connector latch is released, continue to hold the latch in while carefully pulling the cable free.

Connect the QuickScan 6000/6000 Plus scanner to your system using ONLY the proper PSC approved QuickScan 6000/6000 Plus I/F cable.

WARNING

Connection using an unapproved cable can result in damage to the scanner. QuickScan 6000/6000 Plus cables can be identified by a cable I.D. code printed on a white label, approximately 1" in length, attached to them.

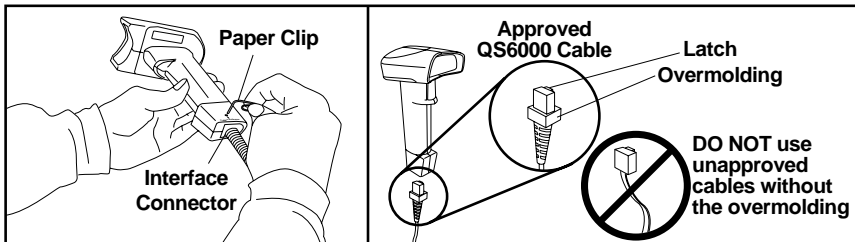


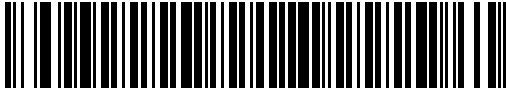
Figure 1. Disconnecting/Connecting the QuickScan 6000/6000 Plus I/F Cable

NOTE

QuickScan 6000 Plus I/F cables offer an enhanced capability that will automatically select the host-specific interface type when the cable is attached. For example, a scanner attached using an RS-232 cable will automatically communicate via RS-232; when attached using a wand emulation cable, it will automatically communicate via wand emulation.

WAND EMULATION INTERFACE SELECTION

Scan this label to enable the Wand Emulation interface.



RETURN TO FACTORY CONFIGURATION

If, during a programming session, you wish to reset the scanner's configuration to its original factory settings, scan the Return to Factory label below. Use this label **ONLY IF NECESSARY**, since it will reset any changes made to this interface during any previous programming session.



RETURN TO FACTORY

PROGRAMMING MODE

The scanner must be placed in Programming Mode before its configuration can be altered using the bar codes in this guide. Enter programming mode by scanning the SET label found at the top of each label set. The scanner's green light will flash continuously, indicating the scanner is in Programming Mode.

While in Programming Mode, the scanner will recognize only specially formatted programming bar code labels like those contained in this guide, and will not decode bar code labels of any other type. Scan all programming bar code labels needed to set the scanner's features to the desired settings. The scanner will beep after each bar code label is scanned, indicating that the setting has been stored in memory. The scanner will emit a rejection tone if a scanned bar code programming label isn't valid.

To exit Programming Mode and save all changes made during the programming session, scan the END label located at the bottom of each label set. The scanner will return to normal operation.

Disconnecting power during Programming Mode will cause the scanner to return to its previous settings.

POLARITY, SIGNAL SPEED, DATA FORMAT

SET -----



POLARITY	SPACE LOW, BAR HIGH -----	
	SPACE HIGH, BAR LOW -----	
SIGNAL SPEED	LOW (660 μs)-----	
	HIGH (330 μs) -----	
DATA FORMAT	NORMAL -----	
	SEND AS CODE 39 -----	
	TRANSMIT IN C128 FORMAT --- (QS6000/6000 PLUS ONLY)	
	TRANSMIT IN CODE 39 ----- FULL ASCII (QS 6000/6000 PLUS ONLY)	
	END -----	

IDLE STATE, PRE-NOISE

SET -----

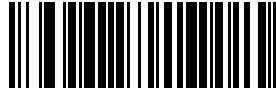


TRANSMIT A NOISE PATTERN BEFORE LABEL TRANSMISSION	IDLE STATE

LOW -----



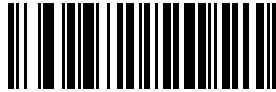
HIGH -----



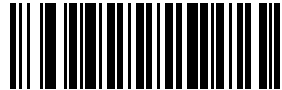
TRANSMIT PRE-NOISE -----
(QS 6000/6000 PLUS ONLY)



DON'T TRANSMIT PRE-NOISE ---
(QS 6000/6000 PLUS ONLY)



END -----



UNIVERSAL SYMBOLOGY SELECTION

To set the scanner to read all symbologies, scan the ENABLE ALL SYMBOLOGIES bar code below.

NOTE

DO NOT scan a SET/END bar code when programming universal symbology features. Programming mode is automatically entered and exited when one of the two special bar codes below are scanned.

ENABLE ALL SYMBOLOGIES



DISABLE ALL SYMBOLOGIES¹



1 Code 128 is always active for the purpose of reading programming bar code labels, however, the scanner does not transmit data to the host when in Programming Mode.

SYMBOLGY SELECTION

The bar code programming labels on the following pages allow you to enable or disable individual symbolgies.

SYMBOLGY SELECTION	SET -----	
	ENABLE UPC/EAN -----	
	DISABLE UPC/EAN -----	
	ENABLE CODE 39 -----	
	DISABLE CODE 39 -----	
	ENABLE PHARMACODE ² 39 -----	
	DISABLE PHARMACODE 39 -----	
	ENABLE INTERLEAVED 2 OF 5 ---	
	DISABLE INTERLEAVED 2 OF 5 ---	
	ENABLE STANDARD 2 OF 5 -----	

2 Code 39 must first be enabled for the scanner to read PharmaCode 39 labels. Enabling PharmaCode 39 will convert Code 39 data to PharmaCode format whenever possible.

SYMBOLGY SELECTION

DISABLE STANDARD 2 OF 5 ----



ENABLE IATA³ -----



DISABLE IATA -----



ENABLE CODABAR -----



DISABLE CODABAR -----



ENABLE CODE 93 -----



DISABLE CODE 93 -----



ENABLE CODE 128 -----



DISABLE CODE 128⁴ -----



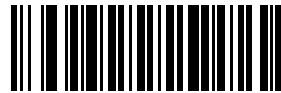
ENABLE MSI/PLESSEY -----



DISABLE MSI/PLESSEY -----



END



- 3 Standard 2 of 5 must first be enabled before IATA can be enabled, however, the scanner will not read Standard 2 of 5 labels when IATA is enabled.
- 4 Code 128 is always active for the purpose of reading programming bar code labels. Scanning the DISABLE ALL SYMBOLOGIES or the DISABLE CODE 128 labels disables Code 128 transmission to the host (disables decoding of all C128 non-programming labels).

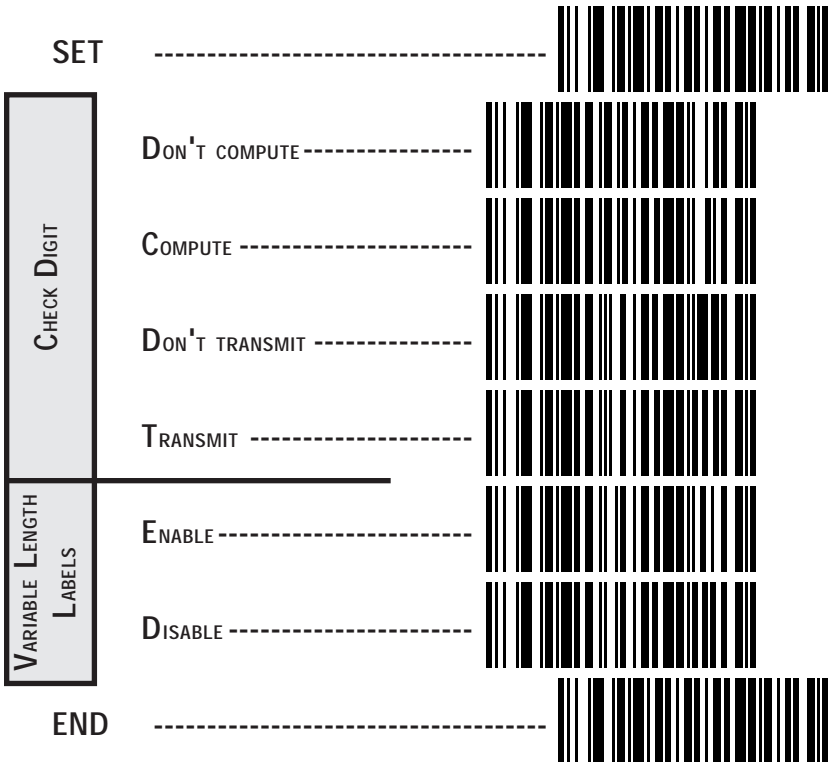
INTERLEAVED 2 OF 5

The Interleaved 2 of 5 (I 2 of 5) symbology has the following programmable features:

Check Digit — calculate the Check Digit to verify that the Check Digit contained in the bar code label is correct. If you enable this feature, your bar codes must contain a Check Digit.

You may also choose to transmit or not transmit the Check Digit independent of whether the Check Digit is calculated by the scanner. *Transmit Check Digit* will have no effect unless the *Compute Check Digit* feature is enabled. If you choose *Don't Compute Check Digit*, the scanner sends the Check Digit encoded in the bar code without verifying its accuracy. If you choose both *Compute Check Digit* and *Don't Transmit Check Digit*, the scanner will remove the Check Digit's contents before sending the bar code data to the host.

Variable Length — If you select variable length, the scanner will recognize labels with an even number of digits between 04 and 50 digits¹.



SETTING INTERLEAVED 2 OF 5 FIXED AND MINIMUM LABEL LENGTHS

All interfaces that are shipped with the standard factory configuration are set to read variable length labels. If you switch from variable to fixed length labels (by disabling variable lengths on the previous page), the default fixed label lengths are 14 digits and 8 digits. Follow the steps below to change these defaults. All fixed length settings for Interleaved 2 of 5 must be an even number.

SET FIXED

1. Identify the fixed length settings you want to make.
2. Scan the SET label.
3. Scan the ENABLE FIRST FIXED barcode.

SETTING FIXED LENGTHS

If you are setting a length less than ten, you must scan a zero first and then the length digit (04, 06, 08).

4. Set the first fixed label length by scanning the correct digits from the next two pages.

If you need to set a second fixed length, continue with step five. If you do not need to set a second fixed length scan the NO SECOND FIXED LENGTH below and skip to step seven.

5. Scan the SET SECOND FIXED label.
6. Set the second fixed label length by scanning the correct digits from this page.
7. Scan the END label to complete the procedure.

SETTING MINIMUM LABEL LENGTH

1. Identify the minimum length setting you want to make. The selectable range is 04 to 50 characters¹.
2. Scan the SET label.
3. Scan the SET MINIMUM LABEL LENGTH barcode.

If you are setting a length less than ten, you must scan a zero first and then the length digit (04, 06, 08).

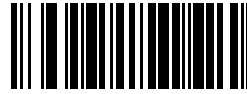
4. Set the minimum label length by scanning the correct digits from the next two pages
5. Scan the END label.

1. The scanner will decode up to 50 characters, but the actual readable length will vary depending upon the bar code size and quality. The *QuickScan 6000/6000 Plus* is limited to 32 character labels when using the IBM POS interface.

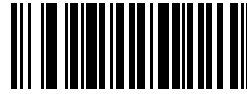
SET



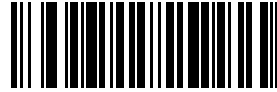
SET FIRST FIXED LENGTH



SET SECOND FIXED LENGTH



NO SECOND FIXED LENGTH



SET MINIMUM LABEL LENGTH



0



1



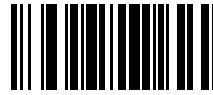
2



3



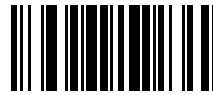
4



6



8



END



INTERLEAVED 2 OF 5 FIXED AND MINIMUM LABEL LENGTHS

CODABAR CHECK DIGIT & VARIABLE LENGTH

These programming labels determine whether you compute and send the check digit contents and enables variable length.

Check Digit — (See Interleaved 2 of 5 Check Digit.)

Variable Length — If variable length is disabled, only labels of two specified lengths can be read. The two fixed lengths are configurable.

Gap Check — If Gap Check is enabled, the scanner verifies the uniformity of the gaps between characters.



CODABAR FIXED LENGTH

Most scanners shipped from the factory are set to read variable length labels for Codabar. If you switch from variable to fixed length labels, the factory set fixed label lengths are 14 and 08. Follow the steps below to change these defaults.

ENABLE FIXED

1. Identify the fixed length settings you want to make.
2. Scan the SET label.
3. Scan the SET FIRST FIXED LENGTH label.

SETTING LENGTHS

If you are setting a length less than ten, you must scan a zero first and then the length digit (02, ...09).












4. Set the first fixed length label by scanning the correct digits from the next page. The selectable range is from 03 to 50¹.

If you need to set a second fixed length, continue with step five. If you do not need to set a second fixed length, scan the NO SECOND FIXED LENGTH label below and skip to step seven.



-
1. The scanner will decode up to 50 characters, but the actual readable length will vary depending upon the bar code size and quality. The *QuickScan 6000/6000 Plus* is limited to 32 character labels when using the IBM POS interface.
-

5. Scan the SET SECOND FIXED LENGTH label.
6. Set the second fixed label length by scanning the correct digits from this page. The selectable range is from 03 to 50¹.
7. Scan the END label to complete the procedure.

CODABAR SET FIXED LENGTHS	0		
	1		
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	END		

1. The scanner will decode up to 50 characters, but the actual readable length will vary depending upon the bar code size and quality. The *QuickScan 6000/6000 Plus* is limited to 32 character labels when using the IBM POS interface.

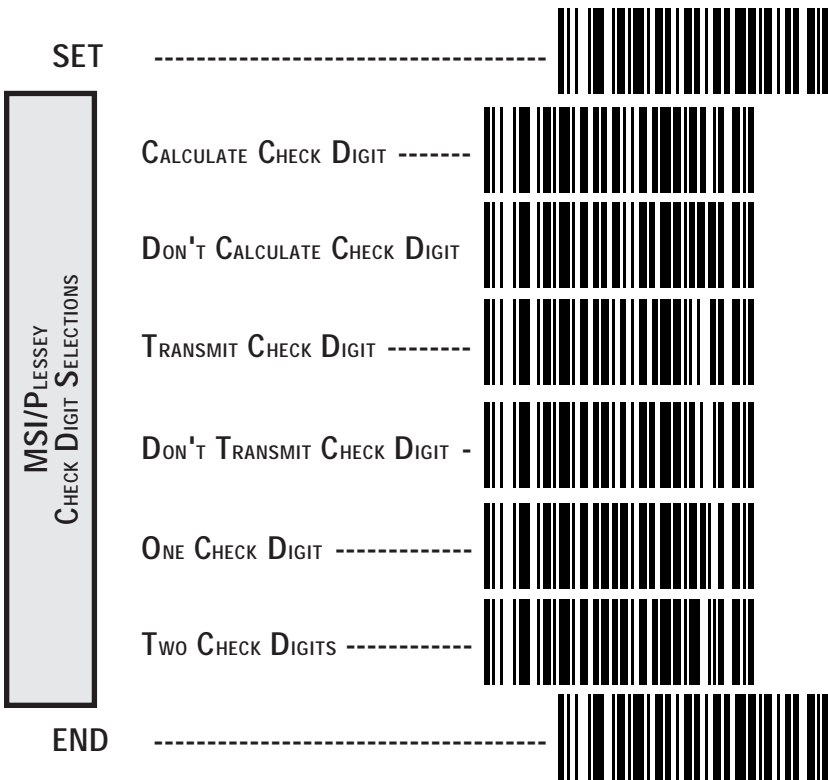
MSI/PLESSEY CHECK DIGIT

MSI/Plessey Check Digit options include:

Check Digit Calculation — calculate the Check Digit to verify the labels contents have been read correctly. If you enable this feature, your bar codes must include a Check Digit. You may also choose to transmit or not transmit the Check Digit.

Transmit Check Digit — enable or disable transmission of MSI/Plessey Check Digit(s).

Number of Check Digits — specify either one or two Check Digits.



ASCII CHARACTER SET

The table on this page shows a set of ASCII characters and their corresponding Hex Values. The Hex Values in this table are needed for setting symbol-specific label identifiers, as well as enabling custom prefix and suffix characters.

ASCII CHAR.	HEX VALUE	ASCII CHAR.	HEX VALUE	ASCII CHAR.	HEX VALUE	ASCII CHAR.	HEX VALUE
nul	00	sp	20	@	40	`	60
soh	01	!	21	A	41	a	61
stx	02	"	22	B	42	b	62
etx	03	#	23	C	43	c	63
eot	04	\$	24	D	44	d	64
enq	05	%	25	E	45	e	65
ack	06	&	26	F	46	f	66
bel	07	'	27	G	47	g	67
bs	08	(	28	H	48	h	68
ht	09	)	29	I	49	i	69
lf	0A	*	2A	J	4A	j	6A
vt	0B	+	2B	K	4B	k	6B
ff	0C	,	2C	L	4C	l	6C
cr	0D	-	2D	M	4D	m	6D
so	0E	.	2E	N	4E	n	6E
si	0F	/	2F	O	4F	o	6F
dle	10	0	30	P	50	p	70
dc1	11	1	31	Q	51	q	71
dc2	12	2	32	R	52	r	72
dc3	13	3	33	S	53	s	73
dc4	14	4	34	T	54	t	74
nak	15	5	35	U	55	u	75
syn	16	6	36	V	56	v	76
etb	17	7	37	W	57	w	77
can	18	8	38	X	58	x	78
em	19	9	39	Y	59	y	79
sub	1A	:	3A	Z	5A	z	7A
esc	1B	;	3B	[5B	{	7B
fs	1C	<	3C	\	5C		7C
gs	1D	=	3D]	5D	}	7D
rs	1E	>	3E	^	5E	~	7E
us	1F	?	3F	_	5F	del	7F

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