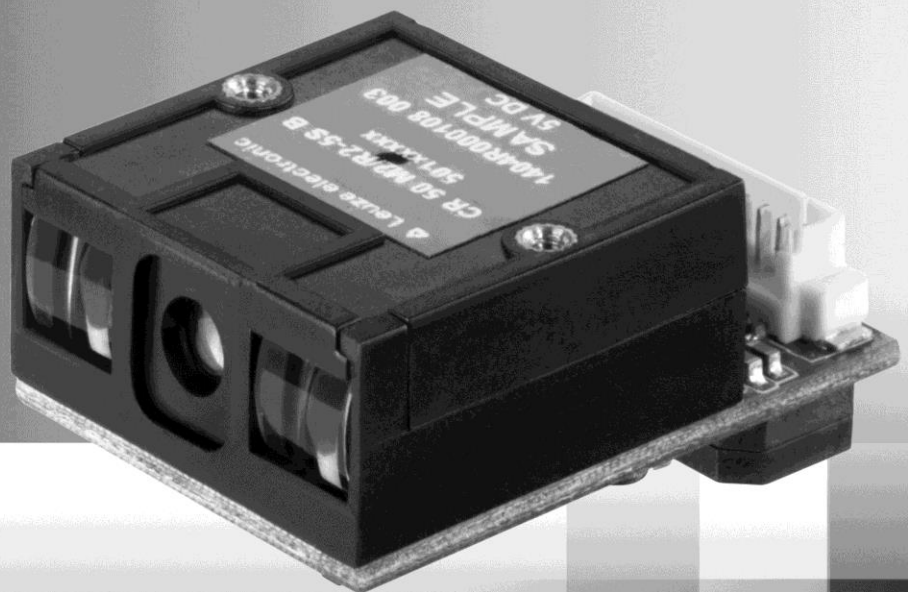
Leuze electronic

the sensor people

CR 50/ CR 55

Programming Guide



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We reserve the right to
make technical changes

SAFE IMPLEMENTATION AND OPERATION

Original Instructions

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1 Factory Default Table

Parameter	Factory Default
Beeper Tone	Medium Tone
Beeper Volume	Medium
Beeper Duration	60msec
Power-up beeper	Enabled
LED/Beep before transmission	Enabled
Scan Mode	Trigger mode
LED sleep timeout	Off
Low Power mode	Enabled
Same code delay	300msec
Inter message delay	0msec
Inter character delay	0msec
RS-232 Communication	
Baud rate	9600
Parity	None
Data Bits	8
Stop Bit	1
Handshaking	None
Terminator	<CR><LF>
HID USB Communication	
Terminator type	Enter
Code mode	Scan code
Keyboard	US keyboard
Decoder Selection	
UPC/EAN	
UPC-A	Enabled
UPC-E	Enabled
EAN-13	Enabled
EAN-8	Enabled
Bookland EAN(ISBN/ISSN)	Disabled
Addendum	Disabled
UPC-E to UPC-A format	Disabled
UPC-A to EAN-13 format	Disabled
Transmit UPC-A check digit	Enabled
Transmit UPC-A leading digit	Enabled
UPC-A data redundant check	Off
Transmit UPC-E check digit	Enabled
Transmit UPC-E leading digit	Enabled
UPC-E data redundant check	Off
Transmit EAN-13 check digit	Enabled
EAN-13 data redundant check	Off
Transmit EAN-8 check digit	Enabled
EAN-8 data redundant check	Off
Code 39	
Code 39	Enabled
Transmit Code 39 Start/Stop character	Disabled
Convert Code 39 to Code 32	Disabled
Set Lengths for Code 39	4-30
check digit verification	Disabled
Code 39 FULL ASCII conversion	Disabled
Code 39 data redundant check	Off

Parameter	Factory Default
Code 93	
Code 93	Enabled
Set Lengths for Code 93	4-30
check digit verification	Disabled
Code 93 data redundant check	Off
Code 128	
Code 128	Enabled
UCC/EAN-128	Enabled
Set Lengths for Code 128	4-30
Code 128 FNC2 concatenation	Disabled
Transmit UCC/EAN-128 FNC1 character	Disabled
Transmit Check digit	Disabled
Code 128 data redundant check	Off
Codabar	
Codabar	Enabled
Set Lengths for Codabar	6-30
Codabar Start/Stop character	A,B,C,D
check digit verification	Disabled
Codabar data redundant check	Off
Interleave 2 of 5	
Interleave 2 of 5	Enabled
Set Lengths for Interleave 2 of 5	10
check digit verification	Disabled
Interleave 2 of 5 data redundant check	1
Code 11	
Code 11	Disabled
Set Lengths for Code 11	6-62
check digit verification	One check digit
Transmit check digit	Disabled
Standard 2 of 5	
Standard 2 of 5	Disabled
Set Lengths for Standard 2 of 5	6-62
check digit verification	Disabled
Matrix 2 of 5	
Matrix 2 of 5	Disabled
IATA Code	Disabled
Set Lengths for Matrix 2 of 5	6-62
check digit verification	Disabled
Industrial 2 of 5	
Industrial 2 of 5	Disabled
Set Lengths for Industrial 2 of 5	6-62
check digit verification	Disabled
Chinese Postal Code	
Chinese Postal Code	Disabled
Set Lengths for Chinese Postal code	10-16
Chinese Postal code data redundant check	1
MSI/PLESSEY	
MSI/PLESSEY	Disabled
Set Lengths for MSI/PLESSEY	6-30
check digit verification	Double digit check
Transmit check digit	Disabled
MSI/PLESSEY data redundant check	1

Parameter	Factory Default
GS1 DataBar	
GS1 DataBar Omnidirectional	Disabled
GS1 DataBar Limited	Disabled
GS1 DataBar Expanded	Disabled
Transmit GS1DataBar Omnid. check digit	Enabled
Transmit GS1 DataBar Omnid. application ID(01)	Enabled
GS1 DataBar Omnid. to EAN-128 emulation	Enabled
Transmit GS1 DataBar Limited application ID(01)	Enabled
Transmit GS1 DataBar Expanded application ID(01)	Disabled
Telepen	
Telepen	Disabled
AIM Character Telepan	Enabled
Data Editing	
Prefix and Suffix Value	None
Truncate Prefix and Suffix	None
Transmit Identifier code Character	Disabled
Identifier Code character table	
Code 39 identifier code	2
ITF 2 of 5 identifier code	1
Chinese post code identifier code	17
UPC-A identifier code	6
UPC-E identifier code	6
EAN-13 identifier code	7
EAN-8 identifier code	7
Codabar identifier code	11
Code 128 identifier code	8
Code 93 identifier code	12
MSI identifier code	18
GS1 DataBar Omnid. identifier code	13
GS1 DataBar Limited identifier code	14
GS1 DataBar Expanded identifier code	15
Industrial 2 of 5 identifier code	4
Code 11 identifier code	19
Standard 2 of 5 identifier code	5
Matrix 2 of 5 identifier code	16


%+$.$

Enter Programming mode

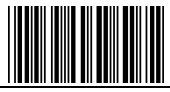
Exit Programming mode with update


%$$%

Barcode Value	Barcode	Parameter Function
System Parameter		
%++%		Reset (return to factory default)
%--%		Display firmware version
%+-%		Abort(exit programming mode(no update)
JD78		USB-virtual COM port enabled
JD94		Return as customer default
JD95		Save as customer default
JD97		USB HID interface enabled
JD99		RS-232 interface enabled


%+$.$ Enter Programming mode

Exit Programming mode with update 
%$$%

Barcode Value	Barcode	Parameter Function
		RS-232 Parameter
Baud Rate		
AQ00		Baud Rate 38400
AQ01		Baud Rate 19200
AQ02		Baud Rate 9600 *
AQ03		Baud Rate 4800
AQ04		Baud Rate 2400
AQ05		Baud Rate 1200
AQ06		Baud Rate 600
AQ07		Baud Rate 300
AQ08		Baud Rate 57600
AQ09		Baud Rate 115200
Data Bit		
CA07		7 data bit
CA08		8 data bit *
Parity Bit		
OA01		Even parity
OA02		Odd parity
OA03		Mark parity

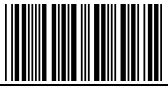
Enter Programming mode %+$.$

Exit Programming mode with update %$$%

Barcode Value	Barcode	Parameter Function
OA04		Space parity
OA05		None parity *
Stop Bit		
RA01		1 stop bit *
RA02		2 stop bit
Message Terminator		
CS11		RS-232 message terminator—none
CS12		RS-232 message terminator—CR/LF *
CS13		RS-232 message terminator—C
CS14		RS-232 message terminator—LF
CS15		RS-232 message terminator—H tab
CS16		RS-232 message terminator—STX/ETX
CS17		RS-232 message terminator—EOT
CS18		RS-232 message terminator—STX/CR LF
Handshaking		
GO01		None handshaking *
GO02		ACK/NAK
GO03		Xon/Xoff
GO04		RTS/CTS Handshaking.(Standard RTS polarity) (-12V=inactive,+12V=active). *


%+$.$ Enter Programming mode

Exit Programming mode with update 
%$$%

Barcode Value	Barcode	Parameter Function
GO05		RTS/CTS Handshaking.(Invert RTS polarity) (-12V=active ,+12V=active)
GO07		Standard CTS polarity. * (-12V=inactive,+12V=active)
GO08		Invert CTS polarity (-12V=active ,+12V=active)
GO09		Active RTS, do not wait for CTS
GO10		Active RTS, wait for CTS. *
GO11		Message RTS/CTS. Activate RTS before sending the first character and leave it active until after the last character has been transmitted.
Beeper on BEL Parameter		
KA07		Beeper on BEL enabled
KA08		Beeper on BEL disabled. *
ACK/NAK Response Time		
QS01		ACK/NAK response time 300ms *
QS02		ACK/NAK response time 2s
QS03		ACK/NAK response time 500ms
QS04		ACK/NAK response time 3s
QS05		ACK/NAK response time 1s
QS06		ACK/NAK response time 5s
QS07		ACK/NAK response time infinity


%+$.$ Enter Programming mode

Exit Programming mode with update 
%$$%

Barcode Value	Barcode	Parameter Function
HID USB keyboard Parameter		
Keyboard Language		
JK01		Keyboard language support---USA *
JK02		Keyboard language support---UK
JK03		Keyboard language support---GERMANY
JK04		Keyboard language support---FRENCH
JK05		Keyboard language support---SPANISH
JK06		Keyboard language support---ITALIAN
JK07		Keyboard language support---SWISS
JK08		Keyboard language support---Switzerland
JK09		Keyboard language support---Belgium
JK10		Keyboard language support---Portugal
JK11		Keyboard language support---Turkish
JK15		Keyboard language support---Japanese
JK00		Enable ALT mode. The scanner will duplicate the following keyboard sequence: *Hold down ALT key and Type decimal number that corresponds to the appropriate character.*
Keyboard Function		
BO00		Capital lock on
BO01		Capital lock off. *


%+$.$ Enter Programming mode

Exit Programming mode with update 
%$$%

Barcode Value	Barcode	Parameter Function
BO05		Function key emulation enabled
BO06		Function key emulation disabled. *
BO18		Send number as normal data. *
BO19		Send number as keypad data
BO20		Alphabet follow as keyboard. *
BO21		Alphabet always upper case.
BO22		Alphabet always Lower case.
Message Terminator		
CS01		Keyboard terminator---none
CS02		Keyboard terminator---Enter *
CS03		Keyboard terminator---H-TAB
Scan Operation Parameter (Scan Mode)		
RL01		Trigger mode, The scanner becomes inactive as soon as the data is transmitted. It must be triggered to become active again. *
RL02		Autoscan mode, In auto scan mode, the scanner is still active after the data is transmitted, but the successive transmission of the same bar code is not allowed when the trigger switch is pressed again.
RL04		Alternate mode. This scanner will light up when press the scanner trigger switch once. And, the scanner will turn off for next pressing
RL05		Repeat mode. This mode is similar to Auto scan mode, but double reading for the same barcode is prohibited if the scanner switch is pressed.

Enter Programming mode %+$.$

Exit Programming mode with update %$$%

Barcode Value	Barcode	Parameter Function
RL06		Momentary mode. The scanner will light up only when the trigger switch is pressed. The scanner will turn off when the trigger switch is release.
RL12		Presentation mode.
Reading Mode		
3D00		Default reading mode, *
3D01		Fast reading mode (Optimized for near distance)
Inverse Code		
TDR0		Read all barcode regular (black bars) *
TDR1		Read all barcode inverse (white bars)
TDR2		Read all barcode regular and inverse
Same Code Delay Parameter		
RC00		Same code delay time 0msec
RC01		Same code delay time 50msec
RC02		Same code delay time 100msec
RC03		Same code delay time 200msec
RC04		Same code delay time 300msec. *
RC05		Same code delay time 400msec
RC06		Same code delay time 500msec
RC07		Same code delay time 600msec

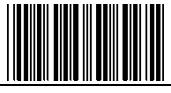
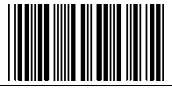
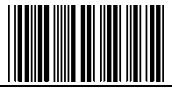
Enter Programming mode %+$.$

Exit Programming mode with update %$$%

Barcode Value	Barcode	Parameter Function
RC08		Same code delay time 700msec
RC09		Same code delay time 800msec
RC10		Same code delay time 900msec
RC11		Same code delay time 1000msec
RC12		Same code delay time Infinity
LED Sleep timeout Parameter		
KR00		LEDsleep mode off, The LED/Laser timeout programming bar codes set the time for switching the laser off if the scanner isn't used. *
KR01		LED sleep time 5 seconds.
KR02		LED sleep time 10 seconds.
KR03		LED sleep time 15 seconds.
KR04		LED sleep time 20 seconds.
KR05		LED sleep time 30 seconds.
KR06		LED sleep time 60 seconds.
KR07		LED sleep time 1 second.

Enter Programming mode %+$.$

Exit Programming mode with update %$$%

Barcode Value	Barcode	Parameter Function
Low Power Parameter		
LS00		Continuous Power mode.
LS01		Power save time 5 minutes.
LS02		Power save time 10 minutes.
LS03		Power save time 20 minutes.
LS04		Power save time 30 minutes.
LS05		Power save time 60 minutes.
LS12		Low Power after every trigger scan. *
Beeper Control Parameter		
FQ01		Medium good read beeper tone *
FQ02		Low good read beeper tone
FQ03		High good read beeper tone
SAD1		High _Low good read beeper tone
SAD2		Low _High good read beeper tone
FQ05		Good read beeper disabled
FQ10		sound duration _120 msec.
FQ11		sound duration_60 msec. *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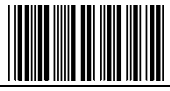
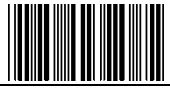
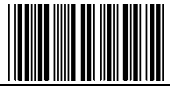
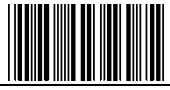
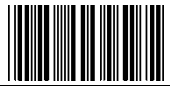
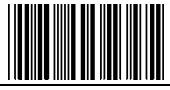
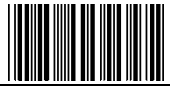
Enter Programming mode

Exit Programming mode with update

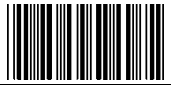
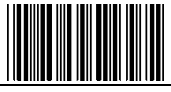

%$$%

Barcode Value	Barcode	Parameter Function
FQ12		sound duration_30 msec.
FQ13		sound duration_5 msec.
FQ14		sound duration _200 msec.
FQ15		sound duration_300 msec.
FQ20		LOUD beeper volume.
FQ21		MEDIUM beeper volume. *
FQ22		Slight beeper volume.
KA00		Led/Beep after transmission.
KA01		Led/Beep before transmission. *
KA03		Power – up beeper enabled *
KA04		Power –up beeper disabled


%+$.$

Enter Programming mode

Exit Programming mode with update 
%$$%

Barcode Value	Barcode	Parameter Function
UPC/EAN Parameter		
QB03		UPC/EAN enabled *
QC03		UPC/EAN disabled
QB11		EAN convert to Bookland enabled
QC11		EAN convert to Bookland disabled *
QC26		Disable UPC-E
QC27		Disable EAN-13
QC28		Disable EAN-8
QC29		Disable UPC-A
TD02		EAN-8 AND EAN-13 ENABLED
TD03		UPC-A AND EAN-13 ENABLED
TD04		UPC-A AND UPC-E ENABLED
TD05		UPC-A only enabled
TD06		UPC-E only enabled
TD07		EAN-13 only enabled
TD08		EAN-8 only enabled
TD09		UPC/EAN addendum off *

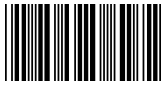
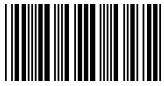
Enter Programming mode %+$.$

Exit Programming mode with update %$$%

Barcode Value	Barcode	Parameter Function
TD10		UPC/EAN addendum 5 character only
TD11		UPC/EAN addendum 2 character only
TD12		UPC/EAN addendum 2 or 5 character.
TD13		Force UPC-E to UPC-A format enabled
TD14		Force UPC-E to UPC-A format disabled *
TD15		Force UPC-A to EAN-13 format enabled
TD16		Force UPC-A to EAN-13 format disabled *
TD17		Transmit UPC-A check digit enabled *
TD18		Transmit UPC-A check digit disabled
TD19		Transmit UPC-E leading character enabled *
TD20		Transmit UPC-E leading character disabled
TD21		Transmit UPC-E check digit enabled *
TD22		Transmit UPC-E check digit disabled
TD23		Transmit EAN-8 check digit enabled *
TD24		Transmit EAN-8 check digit disabled
TD25		Transmit EAN-13 check digit enabled. *
TD26		Transmit EAN-13 check digit disabled
TD27		Transmit UPC-A leading character enabled. *


%+$.$ Enter Programming mode

Exit Programming mode with update 
%$$%

Barcode Value	Barcode	Parameter Function
TD28		Transmit UPC-A leading character disabled.
TD30		UPC/EAN addendum format with separator
TD31		UPC/EAN addendum format without separator *
TD32		EAN/UPC +addendum (none mandatory) *
TD33		EAN/UPC +addendum (mandatory)
TD35		EAN/UPC +addon mandatory for 978/977 (bookland).Supplement requirement, not sent for other
TD38		EAN/UPC +addon mandatory for 978/977 (bookland).Supplement requirement, optionally for other
TD42		EAN/UPC +addon mandatory for 491 Japanese .(bookland) Supplement requirement, not sent for other
TD43		EAN/UPC +addon mandatory 491 Japanese (bookland) Supplement equirement,optionally for other
TD44		EAN-8 to EAN-13 format enabled
TD45		EAN-8 to EAN-13 format disabled *
TD60		Transmit EAN-13 first “0” country code.
TD61		Don’t transmit EAN-13 first:”0” country code. *
TD66		EAN-13 with first 0 ID code same as “UPC-A”. *
TD67		EAN-13 with first 0 ID code same as “EAN-13”
CB10		UPC-A data redundant check=off *
CB11		UPC-A data redundant check=1


%+$.$

Enter Programming mode

Exit Programming mode with update


%$$%

Barcode Value	Barcode	Parameter Function
CB12		UPC-A data redundant check=2
CB13		UPC-A data redundant check=3
CB14		UPC-E data redundant check=off *
CB15		UPC-E data redundant check=1
CB16		UPC-E data redundant check=2
CB17		UPC-E data redundant check=3
CB20		EAN-13 data redundant check=off *
CB21		EAN-13 data redundant check=1
CB22		EAN-13 data redundant check=2
CB23		EAN-13 data redundant check=3
CB24		EAN-8 data redundant check=off *
CB25		EAN-8 data redundant check=1
CB26		EAN-8 data redundant check=2
CB27		EAN-8 data redundant check=3


%+$.$ Enter Programming mode

Exit Programming mode with update 
%$$%

Barcode Value	Barcode	Parameter Function
Code 39 Parameter		
QB01		Code 39 enabled. *
QC01		Code 39 disabled.
2801		Standard code 39. *
2802		FULL ASCII code 39.
QB13		Code 32 enabled
QC13		Code 32 disabled. *
2803		Transmit Code 39 start/stop character.
2804		Do not transmit Code 39 start/stop character. *
2805		Code 39 check digit calculate and transmit.
2806		Code 39 check digit calculate but without transmit.
2807		Code 39 No check character. *
2808		Code 39 maximum length setting.
2809		Code 39 minimum length setting.
SET		Save setting to confirm (for need to reading full ASCII Table confirm use)
2811		Code 39 concatenation disabled. *
2812		Code 32 (Italian pharmacy)transmit “A” character


%+$.$ Enter Programming mode

Exit Programming mode with update 
%$$%

Barcode Value	Barcode	Parameter Function
2813		Code 32 (Italian pharmacy) without transmit ”A” character. *
CB00		Code 39 data redundant check=off *
CB01		Code 39 data redundant check=1
CB02		Code 39 data redundant check=2
CB03		Code 39 data redundant check=3


%+$.$ Enter Programming mode

Exit Programming mode with update 
%$$%

Barcode Value	Barcode	Parameter Function
Code 93 Parameter		
QB08		Code 93 enabled. *
QC08		Code 93 disabled
8201		Code 93 maximum length setting
8202		Code 93 minimum length setting
SET		Save setting to confirm (for need to reading full ASCII Table confirm use)
8203		Code 93 check digit calculate but without transmit. *
8204		Code 93 check digit not calculate and without transmit.
8205		Code 93 check digit calculate and transmit
CB30		Code 93 data redundant check=off *
CB31		Code 93 data redundant check=1
CB32		Code 93 data redundant check=2
CB33		Code 93 data redundant check=3
Code 11 Parameter		
QB07		CODE 11 enabled
QC07		CODE 11 disabled. *
0001		CODE 11 maximum length setting
0002		CODE 11 minimum length setting


%+$.$ Enter Programming mode

Exit Programming mode with update 
%$$%

Barcode Value	Barcode	Parameter Function
SET		Save setting to confirm (for need to reading full ASCII Table confirm use)
0003		CODE 11 one check digit verification. *
0004		Code 11 two check digit verification
0005		Two Check for code 11 check digit if code length is greater than 10 character
0006		Disable verification
0007		Transmit Code 11 check digit.
0008		Do not transmit Code 11 check digit. *
Code 128 Parameter		
QB06		Code 128/UCC EAN-128 enabled.
QC06		Code 128/UCC EAN-128 disabled. *
0701		Code128 FNC2 concatenation enabled.
0702		Code128 FNC2 concatenation disabled. *
0703		Code 128 No check character.
0704		Code 128 Calculate but not transmitted. *
0705		Code 128 Calculate and transmitted.
0706		Code 128 maximum length setting.
0707		Code 128 minimum length setting.


%+$.$ Enter Programming mode

Exit Programming mode with update 
%$$%

Barcode Value	Barcode	Parameter Function
SET		Save setting to confirm (for need to reading full ASCII Table confirm use)
0710		Transmit EAN-128 FNC1 Character.
0711		Do not transmit EAN-128 FNC1 Character. *
CB40		Code 128 data redundant check=off *
CB41		Code 128 data redundant check=1
CB42		Code 128 data redundant check=2
CB43		Code 128 data redundant check=3
Codabar Parameter		
QB02		Codabar enabled. *
QC02		CODABAR disabled.
BA05		Codabar start/stop character transmission-----None
BA06		Codabar start/stop character transmission-----A,B,C,D, *
BA07		Codabar start/stop character transmission-----DC1~DC4
BA08		Codabar start/stop character transmission-----a/t,b/n,c/*,d/e
BA09		Codabar maximum length setting
BA10		Codabar minimum length setting
SET		Save setting to confirm (for need to reading full ASCII Table confirm use)

Enter Programming mode %+$.$

Exit Programming mode with update %$$%

Barcode Value	Barcode	Parameter Function
BA11		Codabar concatenation disabled. *
BA12		Codabar concatenation enabled
BA13		No check character. *
BA14		Validate modulo 16,but don't transmit
BA15		Validate modulo 16,but transmit
CB50		Codabar data redundant check=off *
CB51		Codabar data redundant check=1
CB52		Codabar data redundant check=2
CB53		Codabar data redundant check=3
ITF 2 of 5 Parameter		
QB04		ITF 2 of 5 enabled *
QC04		ITF 2 of 5 disabled.
HS01		ITF 2 of 5 code maximum length setting.
HS02		ITF 2 of 5 code minimum length setting.
SET		Save setting to confirm (for need to reading full ASCII Table confirm use)
HS03		ITF 2 of 5 no check digit. *
HS04		ITF 2 of 5 check digit calculate and transmit


%+$.$ Enter Programming mode

Exit Programming mode with update 
%$$%

Barcode Value	Barcode	Parameter Function
HS05		ITF 2 of 5 check digit calculate but without transmit
CB80		ITF 25 data redundant check=off
CB81		ITF25 data redundant check=1. *
CB82		ITF25 data redundant check=2
CB83		ITF 25 data redundant check=3
Standard 2 of 5 Parameter		
QB22		STD 2 of 5 code enabled
QC22		STD 2 of 5 code disabled. *
C851		STD 2 of 5 code maximum length setting
C852		STD 2 of 5 code minimum length setting
SET		Save setting to confirm (for need to reading full ASCII Table confirm use)
C853		STD 2 of 5 code no check character. *
C854		STD 2 of 5 code check digit calculate and transmit
C855		STD 2 of 5 code check digit calculate but without transmit
Matrix 2 of 5 Parameter		
QB12		Matrix 2/5 code enabled
QC12		Matrix 2/5 code disabled. *
C051		Matrix 2/5 code maximum length setting


%+$.$ Enter Programming mode

Exit Programming mode with update 
%$$%

Barcode Value	Barcode	Parameter Function
C052		Matrix 2/5 code minimum length setting
SET		Save setting to confirm (for need to reading full ASCII Table confirm use)
C053		Matrix 2 of 5 code no check character. *
C054		Matrix 2/5code check digit calculate and transmit
C055		Matrix 2/5 code check digit calculate but not transmit
QB09		IATA code enabled
QC09		IATA code disabled. *
Industrial 2 of 5 Parameter		
QB21		Industrial 2 of 5 code enabled
QC21		Industrial 2 of 5 code disabled. *
C151		Industrial 2 of 5 code maximum length setting
C152		Industrial 2 of 5 code minimum length setting
SET		Save setting to confirm (for need to reading full ASCII Table confirm use)
C153		Industrial 2 of 5 code no check character. *
C154		Industrial 2 of 5 code check digit calculate and transmit
C155		Industrial 2 of 5 code check digit calculate but without transmit

Enter Programming mode %+$.$

Exit Programming mode with update %$$%

Barcode Value	Barcode	Parameter Function
Chinese postal code Parameter		
QB05		Chinese postal code enabled
QC05		Chinese postal code disabled. *
RY01		Chinese postal code maximum length setting
RY02		Chinese postal code minimum length setting
SET		Save setting to confirm (for need to reading full ASCII Table confirm use)
RY03		Chinese postal code no check digit. *
RY04		Chinese postal code check digit calculate and transmit
RY05		Chinese postal code check digit calculate but without transmit
CB60		Chinese postal codedata redundant check=off
CB61		Chinese postal code data redundant check=1 *
CB62		Chinese postal codedata redundant check=2
CB63		Chinese postal code data redundant check=3
MSI/Plessey Parameter		
QB14		MSI/Plessey enabled
QC14		MSI/Plessey disabled. *
LR01		MSI/PLESSEY maximum length setting
LR02		MSI/PLESSEY minimum length setting


%+$.$ Enter Programming mode

Exit Programming mode with update 
%$$%

Barcode Value	Barcode	Parameter Function
SET		Save setting to confirm (for need to reading full ASCII Table confirm use)
LR03		MSI/Plessey double check digit calculate but not transmit. *
LR04		MSI/Plessey double check digit without calculate and transmit
LR05		MSI/Plessey double check digit calculate but only first digit transmit
LR06		MSI/Plessey double check digit calculate and both transmit
LR07		MSI/Plessey single check digit calculate but without transmit
LR08		MSI/Plessey single check digit calculate and transmit
CB70		MSI data redundant check= off
CB71		MSI data redundant check=1. *
CB72		MSI data redundant check=2
CB73		MSI data redundant check=3
GS1 Databar (RSS) Parameter		
QB15		GS1 DataBar Omnidicrectional enabled
QB16		GS1 DataBar LIMITED ENABLED
QB17		GS1 DataBar EXPANDED ENABLED
QC15		GS1 DataBar Omnidicrectional DISABLED *
QC16		GS1 DataBar LIMITED DISABLED *


%+$.$

Enter Programming mode

Exit Programming mode with update


%$$%

Barcode Value	Barcode	Parameter Function
QC17		GS1 DataBar EXPANDED DISABLED *
RR00		Transmit GS1 DataBar Omnidicrectional check digit *
RR01		Do not Transmit GS1 DataBar Omnidicrectional check digit
RR02		Transmit GS1 DataBar Omnidicrectional application ID (01) *
RR03		Do not transmit GS1 DataBar Omnidicrectional application ID (01)
RR04		GS1 DataBar Omnidicrectional /EAN-128 emulation disabled
RR05		GS1 DataBar Omnidicrectional /EAN-128 emulation enabled *
RR06		GS1 DataBar expanded/EAN-128 emulation disabled *
RR07		GS1 DataBar expanded/EAN-128 emulation enabled
RR08		GS1 DataBar Expand Check Digital Enabled *
RR09		GS1 DataBar Expand Check Digital Disabled
RR10		Transmit GS1 DataBar limited check digit *
RR11		Don’t transmit GS1 DataBar limited check digit
RR12		Transmit GS1 DataBar limited application ID (01) *
RR13		Do not transmit GS1 DataBar limited application ID
RR16		Transmit GS1 DataBar expanded application ID (01)
RR17		Do not transmit GS1 DataBar expanded application ID *


%+$.$ Enter Programming mode

Exit Programming mode with update 
%$$%

Barcode Value	Barcode	Parameter Function
RR20		GS1 DataBar standard stacked Enabled *
RR21		GS1 DataBar standard stacked Disabled
RR22		GS1 DataBar expanded stacked Enabled *
RR23		GS1 DataBar expanded stacked Disabled
Telepen Code Parameter		
QB25		Telepen Enabled
QC25		Telepen Disabled *
SD03		Telepen Numeric mode Enabled
SD04		AIM Telepen Enabled *
Data Message Parameter		
HB00		Inter character delay 5ms
HB01		Inter character delay 0msec. *
HB02		Inter character delay 10msec.
HB03		Inter character delay 20msec.
HB04		Inter character delay 50msec.
HB05		Inter character delay 2msec.
HB06		Inter character delay 100 msec.
HB07		Inter character delay 90 msec.

Enter Programming mode %+$.$

Exit Programming mode with update %$$%

Barcode Value	Barcode	Parameter Function
HL01		Inter message delay 0 msec. *
HL02		Inter message delay 100 msec.
HL03		Inter message delay 500 msec.
HL04		Inter message delay 1000 msec
Code Identifier Parameter		
HR00		Disable identifier code. *
HR01		Enable identifier code table as factory standard
HR03		Enable identifier code table as AIM standard.
BH01		CODE 39 identifier code setting
BH02		ITF 2 of 5 identifier code setting
BH03		CHINESE POST CODE identifier code setting
BH04		UPC-E identifier code setting
BH05		UPC-A identifier code setting
BH06		EAN-13 identifier code setting
BH07		EAN-8 identifier code setting
BH08		CODABAR identifier code setting
BH09		CODE 128 identifier code setting
BH10		CODE 93 identifier code setting

Enter Programming mode %+$.$

Exit Programming mode with update %$$%

Barcode Value	Barcode	Parameter Function
BH11		MSI identifier code setting
BH12		GS1 DataBar Omnidirectional identifier code setting
BH13		GS1 DataBar limited identifier code setting
BH14		GS1 DataBar expanded
BH15		Industrial 2 of 5 Identifier code setting
BH16		Code 11 Identifier code setting
BH17		IATA Identifier code setting
BH18		Matrix 2of 5 (Japanese) Identifier code setting
BH19		Telpen Identifier code setting
BH20		PDF 417 Identifier code setting
BH21		EAN-128 Identifier code setting
SET		Save setting to confirm (for need to reading full ASCII Table confirm use)
Data Editing Parameter		
BO11		Transmit code length as data prefix (all barcode)
BO12		Do not transmit code length as data prefix (all barcode) *
BO13		Transmit length first 0 character. *
BO14		Length is first 0 do not transmit.
GS01		Add Prefix character <Prefix> <Data>


%+$.$

Enter Programming mode

Exit Programming mode with update


%$$%

Barcode Value	Barcode	Parameter Function
GS02		Add Postfix character <Data><Postfix>
GS03		Truncate Prefix character
GS04		Truncate postfix character
SET		Save setting to confirm (for need to reading full ASCII Table confirm use)

Full ASCII Code 39 Table

Code 39	ASCII	Hexa-code	Code 39	ASCII	Hexa-code
	Full ASCII ---NUL	00		Full ASCII ---EN Function key-----“F9”	19
	Full ASCII ---SOH Function key-----“Ins”	01		Full ASCII ---SUB Function key-----“F10”	1A
	Full ASCII ---STX Function key-----“Del”	02		Full ASCII ---ESC Function key-----“F11”	1B
	Full ASCII ---ETX Function key-----“Home”	03		Full ASCII ---FS Function key-----“F12”	1C
	Full ASCII ---EOT Function key-----“End”	04		Full ASCII ---GS Function key-----“ESC”	1D
	Full ASCII ---ENQ Function key-----“Up arrow”	05		Full ASCII ---RS Function key-----“CTL(L)”	1E
	Full ASCII ---ACK Function key-----“Down arrow”	06		Full ASCII ---US Function key-----“ALT(L)”	1F
	Full ASCII ---BEL Function key-----“Left arrow”	07		Full ASCII ---SP	20
	Full ASCII ---BS Function key-----“Backspace”	08		Full ASCII ---!	21
	Full ASCII ---HT Function key-----“TAB”	09		Full ASCII ---“	22
	Full ASCII ---LF Function key-----“Enter (alpha numeric”	0A		Full ASCII ---#	23
	Full ASCII ---VT Function key-----“right arrow”	0B		Full ASCII ---$	24
	Full ASCII ---FF Function key-----“PgUp”	0C		Full ASCII ---%	25
	Full ASCII ---CR Function key-----“Enetr(num.)”	0D		Full ASCII ---&	26
	Full ASCII ---SO Function key-----“PgDn”	0E		Full ASCII ---‘	27

Full ASCII Code 39 Table

Code 39	ASCII	Hexa-code	Code 39	ASCII	Hexa-code
	Full ASCII ---SI Function key-----“Shift”	0F		Full ASCII --- (	28
	Full ASCII ---DLE Function key-----“5(num)”	10		Full ASCII ---)	29
	Full ASCII ---DC1 Function key-----“F1”	11		Full ASCII ---*	2A
	Full ASCII ---DC2 Function key-----“F2”	12		Full ASCII ---+	2B
	Full ASCII ---DC3 Function key-----“F3”	13		Full ASCII ---,	2C
	Full ASCII ---DC4 Function key-----“F4”	14		Full ASCII ----	2D
	Full ASCII ---NAK Function key-----“F5”	15		Full ASCII ---.	2E
	Full ASCII ---SYN Function key-----“F6”	16		Full ASCII ---/	2F
	Full ASCII ---ETB Function key-----“F7”	17		Full ASCII ---0	30
	Full ASCII ---CAN Function key-----“F8”	18		Full ASCII ---1	31
	Full ASCII ---2	32		Full ASCII ---K	4B
	Full ASCII ---3	33		Full ASCII ---L	4C
	Full ASCII ---4	34		Full ASCII ---M	4D
	Full ASCII ---5	35		Full ASCII ---N	4E
	Full ASCII ---6	36		Full ASCII ---O	4F
	Full ASCII ---7	37		Full ASCII ---P	50
	Full ASCII ---8	38		Full ASCII ---Q	51
	Full ASCII ---9	39		Full ASCII ---R	52
	Full ASCII ---:	3A		Full ASCII ---S	53
	Full ASCII ---;	3B		Full ASCII ---T	54
	Full ASCII ---<	3C		Full ASCII ---U	55
	Full ASCII ---=	3D		Full ASCII ---V	56
	Full ASCII --->	3E		Full ASCII ---W	57
	Full ASCII ---?	3F		Full ASCII ---X	58
	Full ASCII ---@	40		Full ASCII ---Y	59

Full ASCII Code 39 Table					
Code 39	**ASCII**	**Hexa-code**	**Code 39**	**ASCII**	**Hexa-code**
	Full ASCII ---A	41		Full ASCII ---Z	5A
	Full ASCII ---B	42		Full ASCII ---[	5B
	Full ASCII ---C	43		Full ASCII ---\	5C
	Full ASCII ---D	44		Full ASCII ---]	5D
	Full ASCII ---E	45		Full ASCII ---^	5E
	Full ASCII ---F	46		Full ASCII ---_	5F
	Full ASCII ---G	47		Full ASCII ---`	60
	Full ASCII ---H	48		Full ASCII ---a	61
	Full ASCII ---I	49		Full ASCII ---b	62
	Full ASCII ---J	4A		Full ASCII ---c	63
	Full ASCII ---d	64		Full ASCII ---|	7C
	Full ASCII ---e	65		Full ASCII ---}	7D
	Full ASCII ---f	66		Full ASCII ---~	7E
	Full ASCII ---g	67		Full ASCII ---DEL	7F
	Full ASCII ---h	68			
	Full ASCII ---i	69			
	Full ASCII ---j	6A			
	Full ASCII ---k	6B			
	Full ASCII ---l	6C			
	Full ASCII ---m	6D			
	Full ASCII ---n	6E			
	Full ASCII ---o	6F			
	Full ASCII ---p	70			
	Full ASCII ---q	71			
	Full ASCII ---r	72			

Full ASCII Code 39 Table					
Code 39	**ASCII**	**Hexa-code**	**Code 39**	**ASCII**	**Hexa-code**
	Full ASCII ---s	73			
	Full ASCII ---t	74			
	Full ASCII ---u	75			
	Full ASCII ---v	76			
	Full ASCII ---w	77			
	Full ASCII ---x	78			
	Full ASCII ---y	79			
	Full ASCII ---z	7A			
	Full ASCII ---{	7B			

CR 50 / CR 55 Serial Command Configuration

Specification v1.01

Modified History

Version	Date	Comment
1.00	2013/05/28	Initial version
1.01	2013/08/02	Improved command format 1,add Multiple command. 2,Add GetBarcodeSetting command ***Firmware version 0.0.20 or later is required.***

I. Introduction

This document will describe the protocol of communication for CR 50, User can be programmed by sending software instructions from the host PC to the scanner via the RS232 connection. The serial commands configuration can be used in place of the programming bar codes. Both the serial commands and the programming bar codes will program the engine.

Interface

The device must be set to an RS232 interface. All commands sent between the decoder and host must use as same UART setting .

Default UART Setting

. Baud Rate:	9600
. Data Bits:	8
. Parity:	None
. Hardware flow control :	disabled
. Stop bits :	1

II. Protocol of communication

There are four type of protocols for CR 50 / CR 55,

Type I: Instant Command

Command ID

1 byte

The length of commands is only one byte to control CR 50 / CR 55.

Example:
It will disable CR 50 / CR 55 if sending "***0x0F*** "command

When receiving **Instant Command**, CR 50 / CR 55 will execute it immediately and send an ACK(06H) to application.

List of Instant command

0E Hex	enabled (resumes from disabled)	Shift Out or <Ctrl-N>
0F Hex	disabled	Shift In or <Ctrl-O>

Note:

If CR 50 / CR 55 is in Low power state, sending the single character, **NULL** (0x00) wakes up the decoder. Once the WAKEUP command is sent, it remains awake for at least 3 seconds before re-entering Low Power mode.

Type II: Host Trigger Command

The scanner can activate either by hardware trigger , or using a serial host trigger command to active scanning. A host command issues the triggering signal, the scanner scans until a bar code has been read or until the deactivate command is sent. The scanner can also be set to turn itself off after a specified time has elapsed.

Table 1-1 List of Host Trigger command

Name	Command format	Description
Level Trigger scan_A0	<STX>+<CR><LF> <ESC>A0<CR>	Multiple reading Scanner received this command will activate the LED and decode processing. The LED remains on and decode processing continues until a trigger off command by received.
Level Trigger scan_A2	<ESC>A2<CR>	Single Reading Scanner received this command will activate the LED and decode processing. The LED remains on and decode processing continues until a valid decode
Edge Trigger scan_A0	<ESC>A2.mm<CR>	Scanner received this command will activate the LED and decode processing. The LED remains on and decode processing continues until a Time-out is reached.
Edge Trigger scan_A2	<ESC>A0.mm<CR>	Scanner received this command will activate the LED and decode processing. The LED remains on and decode processing continues until a valid decode or Time-out is reached.
Trigger off	<ESC>A1<CR> <STX>-<CR><LF>	

Note:

1. The “mm” =1~ 60 (second)
2. The edge trigger command that do not control by the trigger off command.

Examples:

Host Sending_*”**0x1B 0x41 0x30 0x0D**”* command string to CR 50 / CR 55 will active the Level Trigger scan_A0 mode.

Host Sending_*”**0x1B 0x41 0x30 0x2E 0x33 0x30 0x0D**”*command string to CR 50 / CR 55 will active the Edge Trigger scan_A0 mode with 30 seconds time-out.

Type III: General Parameter Commands

Command Format:

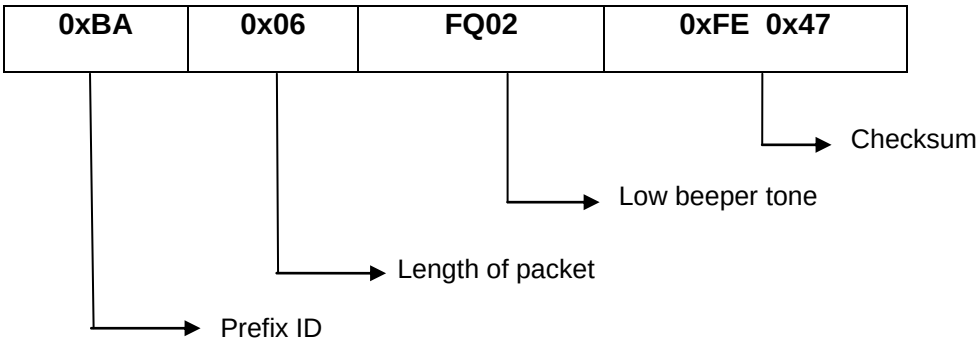
<Prefix ID> <Length><Parameter Data>……<Parameter Data> <Checksum>

Format Description:

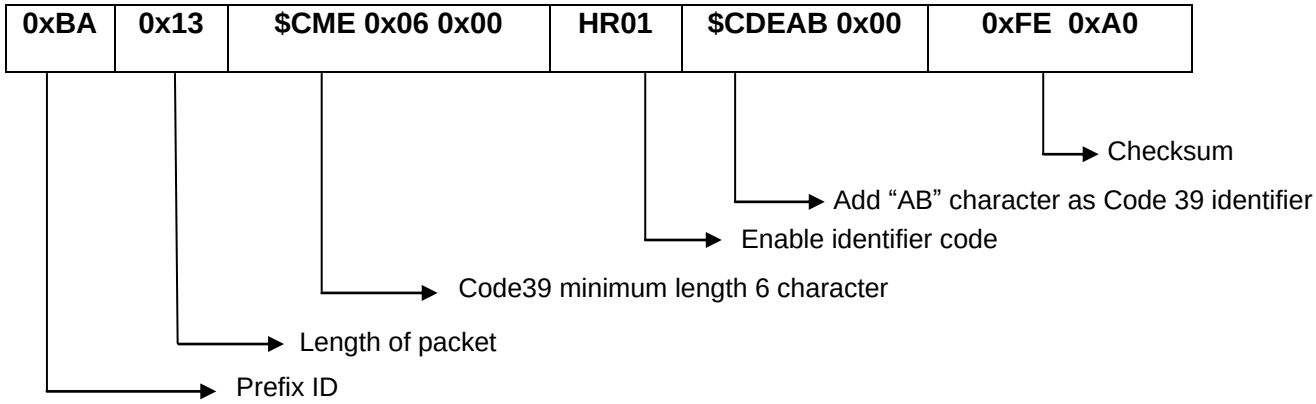
Field	*Format*	*Size*
Prefix ID	0xBA	1 Byte.
Length	Length of packet. (not including checksum).	1 Byte.
Parameter Data	See *Table 1-2 on page 43*	Variable.
Checksum	2's complement sum of message contents excluding checksum.	2 Bytes.

Example:

Single command programming sequence:



Multiple command programming sequence:



Note:

1,When decoder receive a Command, will execute it and send an ACK(0x06) to host. If the command is not supported or wrong, the decoder responds with NAK(0x15).

*2,*The checksum is a 2 byte checksum and must be sent as HIGH BYTE followed by LOW BYTE.

3,*The maximum number of bytes per packet allow packet buffer can contain about 255 (253 bytes+2 byte checksum). If your programming string goes over this value, you must split it into separate groups and send each group after a delay of at least 3 seconds to give the reader time to empty the buffer and interpret the commands.*

Table 1-2 List of General command

System Parameter	
Command Parameter	**Description**
%++%	Reset (return to factory default)
%--%	Display firmware version
JD78	USB-virtual COM port enabled
JD94	Return as customer default
JD95	Save as customer default
JD97	USB HID interface enabled
JD99	RS-232 interface enabled
RS-232 parameter	
AQ00	Baud Rate 38400
AQ01	Baud Rate 19200
AQ02	Baud Rate 9600 *
AQ03	Baud Rate 4800
AQ04	Baud Rate 2400
AQ05	Baud Rate 1200
AQ06	Baud Rate 600
AQ07	Baud Rate 300
AQ08	Baud Rate 57600
AQ09	Baud Rate 115200
Data Bit	
CA07	7 data bit
CA08	8 data bit *

Command Parameter	Description
Parity Bit	
OA01	Even parity
OA02	Odd parity
OA03	Mark parity
OA04	Space parity
OA05	None parity *
Stop Bit	
RA01	1 stop bit *
RA02	2 stop bit
Message Terminator	
CS11	RS-232 message terminator—none
CS12	RS-232 message terminator—CR/LF *
CS13	RS-232 message terminator—C
CS14	RS-232 message terminator—LF
CS15	RS-232 message terminator—H tab
CS16	RS-232 message terminator—STX/ETX
CS17	RS-232 message terminator—EOT
CS18	RS-232 message terminator—STX/CR LF
Handshaking	
GO01	None handshaking *
GO02	ACK/NAK
GO03	Xon/Xoff
GO04	RTS/CTS Handshaking.(Standard RTS polarity) (-12V=inactive,+12V=active). *
GO05	RTS/CTS Handshaking.(Invert RTS polarity) (-12V=active ,+12V=active)

Command Parameter	Description
GO07	Standard CTS polarity. ∗ (-12V=inactive,+12V=active)
GO08	Invert CTS polarity (-12V=active ,+12V=active)
GO09	Active RTS, do not wait for CTS
GO10	Active RTS, wait for CTS. ∗
GO11	Message RTS/CTS. Activate RTS before sending the first character and leave it active until after the last character has been transmitted.
KA07	Beeper on BEL enabled
KA08	Beeper on BEL disabled. ∗
QS01	ACK/NAK response time 300ms ∗
QS02	ACK/NAK response time 2s
QS03	ACK/NAK response time 500ms
QS04	ACK/NAK response time 3s
QS05	ACK/NAK response time 1s
QS06	ACK/NAK response time 5s
QS07	ACK/NAK response time infinity
USB HID Keyboard	
JK01	Keyboard language support---USA ∗
JK02	Keyboard language support---UK
JK03	Keyboard language support---GERMANY
JK04	Keyboard language support---FRENCH
JK05	Keyboard language support---SPANISH
JK06	Keyboard language support---ITALIAN
JK07	Keyboard language support---SWISS

Command Parameter	Description
JK08	Keyboard language support---Switzerland
JK09	Keyboard language support---Belgium
JK10	Keyboard language support---Portugal
JK11	Keyboard language support---Turkish
JK15	Keyboard language support---Japanese
JK00	Enable ALT mode.
BO00	Capital lock on
BO01	Capital lock off. *
BO05	Function key emulation enabled
BO06	Function key emulation disabled. *
BO18	Send number as normal data. *
BO19	Send number as keypad data
BO20	Alphabet follow as keyboard. *
BO21	Alphabet always upper case.
BO22	Alphabet always Lower case.
CS01	Keyboard terminator---none
CS02	Keyboard terminator---Enter *
CS03	Keyboard terminator---H-TAB

Scan Operation	
Command Parameter	**Description**
RL01	Trigger mode, *
RL02	Autoscan mode,
RL04	Alternate mode.
RL05	Repeat mode.
RL06	Momentary mode.
RL12	Presentation mode.

Reading Mode	
Command Parameter	**Description**
3D00	Default reading mode, *
3D01	Fast reading mode (Optimized for near distance)
Inverse Code	
TDR0	Read all barcode regular (black bars) *
TDR1	Read all barcode inverse (white bars)
TDR2	Read all barcode regular and inverse
Same Code Delay	
RC00	Same code delay time 0msec
RC01	Same code delay time 50msec
RC02	Same code delay time 100msec
RC03	Same code delay time 200msec
RC04	Same code delay time 300msec. *
RC05	Same code delay time 400msec
RC06	Same code delay time 500msec
RC07	Same code delay time 600msec
RC08	Same code delay time 700msec
RC09	Same code delay time 800msec
RC10	Same code delay time 900msec
RC11	Same code delay time 1000msec
RC12	Same code delay time Infinity

Command Parameter	Description
LED Sleep Time	
KR00	LED sleep mode off, *
KR01	LED sleep time 5 seconds.
KR02	LED sleep time 10 seconds.
KR03	LED sleep time 15 seconds.
KR04	LED sleep time 20 seconds.
KR05	LED sleep time 30 seconds.
KR06	LED sleep time 60 seconds.
KR07	LED sleep time 1 second.
LS00	Continuous Power mode.
Power Save Time	
LS00	Continuous Power mode. *
LS01	Power save time 5 minutes.
LS02	Power save time 10 minutes.
LS03	Power save time 20 minutes.
LS04	Power save time 30 minutes.
LS05	Power save time 60 minutes.
LS12	Power save after every trigger scan.
Beeper Control	
FQ01	Medium good read beeper tone *
FQ02	Low good read beeper tone

Command Parameter	Description
FQ03	High good read beeper tone
SAD1	High _Low good read beeper tone
SAD2	Low _High good read beeper tone
FQ05	Good read beeper disabled
FQ10	sound duration _120 msec.
FQ11	sound duration_60 msec. *
FQ12	sound duration_30 msec.
FQ13	sound duration_5 msec.
FQ14	sound duration _200 msec.
FQ15	sound duration_300 msec.
FQ20	LOUD beeper volume. *
FQ21	MEDIUM beeper volume.
FQ22	Slight beeper volume.
KA00	Led/Beep after transmission.
KA01	Led/Beep before transmission. *
KA03	Power – up beeper enabled *
KA04	Power –up beeper disabled

UPC/EAN Parameter	
Command Parameter	**Description**
QB03	UPC/EAN enabled *
QC03	UPC/EAN disabled
QB11	EAN convert to Bookland enabled
QC11	EAN convert to Bookland disabled *
QC26	Disable UPC-E
QC27	Disable EAN-13
QC28	Disable EAN-8
QC29	Disable UPC-A
TD02	EAN-8 AND EAN-13 ENABLED
TD03	UPC-A AND EAN-13 ENABLED
TD04	UPC-A AND UPC-E ENABLED
TD05	UPC-A only enabled
TD06	UPC-E only enabled
TD07	EAN-13 only enabled
TD08	EAN-8 only enabled
TD09	UPC/EAN addendum off *
TD10	UPC/EAN addendum 5 character only
TD11	UPC/EAN addendum 2 character only
TD12	UPC/EAN addendum 2 or 5 character.
TD13	Force UPC-E to UPC-A format enabled
TD14	Force UPC-E to UPC-A format disabled *

Command Parameter	Description
TD15	Force UPC-A to EAN-13 format enabled
TD16	Force UPC-A to EAN-13 format disabled *
TD17	Transmit UPC-A check digit enabled *
TD18	Transmit UPC-A check digit disabled
TD19	Transmit UPC-E leading character enabled *
TD20	Transmit UPC-E leading character disabled
TD21	Transmit UPC-E check digit enabled *
TD22	Transmit UPC-E check digit disabled
TD23	Transmit EAN-8 check digit enabled *
TD24	Transmit EAN-8 check digit disabled
TD25	Transmit EAN-13 check digit enabled. *
TD26	Transmit EAN-13 check digit disabled
TD27	Transmit UPC-A leading character enabled. *
TD28	Transmit UPC-A leading character disabled.
TD30	UPC/EAN addendum format with separator
TD31	UPC/EAN addendum format without separator *
TD32	EAN/UPC +addendum (none mandatory) *
TD33	EAN/UPC +addendum (mandatory)
TD35	EAN/UPC +addon mandatory for 978/977 (bookland). Supplement requirement, not sent for other

Command Parameter	Description
TD38	EAN/UPC +addon mandatory for 978/977 (bookland). Supplement requirement, optionally for other
TD42	EAN/UPC +addon mandatory for 491 Japanese (bookland). Supplement requirement, not sent for other
TD43	EAN/UPC +addon mandatory 491 Japanese (bookland) Supplement equirement,optionally for other
TD44	EAN-8 to EAN-13 format enabled
TD45	EAN-8 to EAN-13 format disabled *
TD60	Transmit EAN-13 first “0” country code.
TD61	Don’t transmit EAN-13 first:”0” country code. *
TD66	EAN-13 with first 0 ID code same as “UPC-A”. *
TD67	EAN-13 with first 0 ID code same as “EAN-13”
CB10	UPC-A data redundant check=off *
CB11	UPC-A data redundant check=1
CB12	UPC-A data redundant check=2
CB13	UPC-A data redundant check=3
CB14	UPC-E data redundant check=off *
CB15	UPC-E data redundant check=1
CB16	UPC-E data redundant check=2
CB17	UPC-E data redundant check=3
CB20	EAN-13 data redundant check=off *
CB21	EAN-13 data redundant check=1

Command Parameter	Description
CB22	EAN-13 data redundant check=2
CB23	EAN-13 data redundant check=3
CB24	EAN-8 data redundant check=off *
CB25	EAN-8 data redundant check=1
CB26	EAN-8 data redundant check=2
CB27	EAN-8 data redundant check=3
Code 39 Parameter	
QB01	Code 39 enabled. *
QC01	Code 39 disabled.
2801	Standard code 39. *
2802	FULL ASCII code 39.
QB13	Code 32 enabled
QC13	Code 32 disabled. *
2803	Transmit Code 39 start/stop character.
2804	Do not transmit Code 39 start/stop character. *
2805	Code 39 check digit calculate and transmit.
2806	Code 39 check digit calculate but without transmit.
2807	Code 39 No check character. *
2811	Code 39 concatenation disabled. *
2812	Code 32 (Italian pharmacy)transmit “A” character
2813	Code 32 (Italian pharmacy) without transmit ”A” character. *

Command Parameter	Description
CB00	Code 39 data redundant check=off *
CB01	Code 39 data redundant check=1
CB02	Code 39 data redundant check=2
CB03	Code 39 data redundant check=3
$CXE*ha*	Code 39 maximum length setting.
$CME*ha*	Code 39 minimum length setting.
Note: ***h = Hex value** that define the code length* *a = NULL (ox00)*	
Code 93 Parameter	
QB08	Code 93 enabled. *
QC08	Code 93 disabled
8203	Code 93 check digit calculate but without transmit. *
8204	Code 93 check digit not calculate and without transmit.
8205	Code 93 check digit calculate and transmit
CB30	Code 93 data redundant check=off *
CB31	Code 93 data redundant check=1
CB32	Code 93 data redundant check=2
CB33	Code 93 data redundant check=3
$CXH*ha*	Code 93 maximum length setting
$CMH*ha*	Code 93 minimum length setting
Note: ***h = Hex value** that define the code length* *a = NULL (ox00)*	

Code 11 Parameter	
Command Parameter	**Description**
QB07	CODE 11 enabled
QC07	CODE 11 disabled. *
0003	CODE 11 one check digit verification. *
0004	Code 11 two check digit verification
0005	Two Check for code 11 check digit if code length is greater than 10 character
0006	Disable verification
0007	Transmit Code 11 check digit.
0008	Do not transmit Code 11 check digit. *
$CXR*ha*	CODE 11 maximum length setting
$CMR*ha*	CODE 11 minimum length setting
Note: ***h = Hex value** that define the code length* ***a = NULL (ox00)***	
Code 128 Parameter	
QB06	Code 128/UCC EAN-128 enabled.
QC06	Code 128/UCC EAN-128 disabled. *
0701	Code128 FNC2 concatenation enabled.
0702	Code128 FNC2 concatenation disabled. *
0703	Code 128 No check character.
0704	Code 128 Calculate but not transmitted. *
0705	Code 128 Calculate and transmitted.
0710	Transmit EAN-128 FNC1 Character.
0711	Do not transmit EAN-128 FNC1 Character. *

Command Parameter	Description
CB40	Code 128 data redundant check=off *
CB41	Code 128 data redundant check=1
CB42	Code 128 data redundant check=2
CB43	Code 128 data redundant check=3
$CXF*ha*	Code 128 maximum length setting.
$CMF*ha*	Code 128 minimum length setting.
Note: ***h = Hex value** that define the code length* *a = NULL (ox00)*	
Codabar Parameter	
QB02	Codabar enabled. *
QC02	CODABAR disabled.
BA05	Codabar start/stop character transmission-----None
BA06	Codabar start/stop character transmission-----A,B,C,D, *
BA07	Codabar start/stop character transmission-----DC1~DC4
BA08	Codabar start/stop character transmission-----a/t,b/n,c/*,d/e
BA11	Codabar concatenation disabled. *
BA12	Codabar concatenation enabled
BA13	No check character. *
BA14	Validate modulo 16,but don't transmit
BA15	Validate modulo 16,but transmit
CB50	Codabar data redundant check=off *

Command Parameter	Description
CB51	Codabar data redundant check=1
CB52	Codabar data redundant check=2
CB53	Codabar data redundant check=3
$CXG***ha***	Codabar maximum length setting
$CMG*ha*	Codabar minimum length setting
Note: ***h = Hex value*** *that define the code length* ***a = NULL (ox00)***	
ITF 2 of 5 Parameter	
QB04	ITF 2 of 5 enabled ∗
QC04	ITF 2 of 5 disabled.
HS03	ITF 2 of 5 no check digit. ∗
HS04	ITF 2 of 5 check digit calculate and transmit
HS05	ITF 2 of 5 check digit calculate but without transmit
CB80	ITF 25 data redundant check=off
CB81	ITF25 data redundant check=1. ∗
CB82	ITF25 data redundant check=2
CB83	ITF 25 data redundant check=3
$CXO***ha***	ITF 2 of 5 code maximum length setting.
$CMO***ha***	ITF 2 of 5 code minimum length setting.
Note: ***h = Hex value*** *that define the code length* ***a = NULL (ox00)***	

Straight 2 of 5 Parameter	
Command Parameter	**Description**
QB22	Straight 2 of 5 code enabled
QC22	Straight 2 of 5 code disabled. *
QB09	IATA code enabled
QC09	IATA code disabled. *
C853	Straight 2 of 5 code no check character. *
C854	Straight 2 of 5 code check digit calculate and transmit
C855	Straight2 of 5 code check digit calculate but without transmit
$CXN***ha***	Straight 2 of 5 code maximum length setting
$CMN***ha***	Straight 2 of 5 code minimum length setting
Note: ***h = Hex value*** *that define the code length* ***a = NULL (ox00)***	
Matrix 2 of 5 Parameter	
QB12	Matrix 2/5 code enabled
QC12	Matrix 2/5 code disabled. *
C053	Matrix 2 of 5 code no check character. *
C054	Matrix 2/5code check digit calculate and transmit
C055	Matrix 2/5 code check digit calculate but not transmit
$CXP***ha***	Matrix 2/5 code maximum length setting
$CMP***ha***	Matrix 2/5 code minimum length setting
Note: ***h = Hex value*** *that define the code length* ***a = NULL (ox00)***	
Industrial 2 of 5 Parameter	
QB21	Industrial 2 of 5 code enabled

Command Parameter	Description
QC21	Industrial 2 of 5 code disabled. *
C153	Industrial 2 of 5 code no check character. *
C154	Industrial 2 of 5 code check digit calculate and transmit
C155	Industrial 2 of 5 code check digit calculate but without transmit
$CXM*ha*	Industrial 2 of 5 code maximum length setting
$CMM*ha*	Industrial 2 of 5 code minimum length setting
Note: ***h = Hex value** that define the code length* ***a = NULL (ox00)***	
Chinese postal code Parameter	
QB05	Chinese postal code enabled
QC05	Chinese postal code disabled. *
RY03	Chinese postal code no check digit. *
RY04	Chinese postal code check digit calculate and transmit
RY05	Chinese postal code check digit calculate but without transmit
CB60	Chinese postal codedata redundant check=off
CB61	Chinese postal code data redundant check=1 *
CB62	Chinese postal codedata redundant check=2
CB63	Chinese postal code data redundant check=3
$CXQ*ha*	Chinese postal code maximum length setting
$CMQ*ha*	Chinese postal code minimum length setting
Note: ***h = Hex value** that define the code length* ***a = NULL (ox00)***	

MSI/Plessey Parameter	
Command Parameter	**Description**
QB14	MSI/Plessey enabled
QC14	MSI/Plessey disabled. ∗
LR03	MSI/Plessey double check digit calculate but not transmit. ∗
LR04	MSI/Plessey double check digit without calculate and transmit
LR05	MSI/Plessey double check digit calculate but only first digit transmit
LR06	MSI/Plessey double check digit calculate and both transmit
LR07	MSI/Plessey single check digit calculate but without transmit
LR08	MSI/Plessey single check digit calculate and transmit
CB70	MSI data redundant check= off
CB71	MSI data redundant check=1. ∗
CB72	MSI data redundant check=2
CB73	MSI data redundant check=3
$CXI***ha***	MSI/PLESSEY maximum length setting
$CMI***ha***	MSI/PLESSEY minimum length setting
Note: ***h = Hex value*** *that define the code length* ***a = NULL (ox00)***	
GS1 Databar (RSS) Parameter	
QB15	GS1 DataBar Omnidirectional enabled
QB16	GS1 DataBar LIMITED ENABLED
QB17	GS1 DataBar EXPANDED ENABLED
QC15	GS1 DataBar Omnidirectional DISABLED ∗
QC16	GS1 DataBar LIMITED DISABLED ∗

Command Parameter	Description
QC17	GS1 DataBar EXPANDED DISABLED *
RR00	Transmit GS1 DataBar Omnidirectional check digit *
RR01	Do not Transmit GS1 DataBar Omnidirectional check digit
RR02	Transmit GS1 DataBar Omnidirectional application ID (01) *
RR03	Do not transmit GS1 DataBar Omnidirectional application ID (01)
RR04	GS1 DataBar Omnidirectional /EAN-128 emulation disabled
RR05	GS1 DataBar Omnidirectional /EAN-128 emulation enabled *
RR06	RSS GS1 DataBar expanded/EAN-128 emulation disabled *
RR07	GS1 DataBar expanded/EAN-128 emulation enabled
RR08	GS1 DataBar Expand Check Digital Enabled *
RR09	GS1 DataBar Expand Check Digital Disabled
RR10	Transmit GS1 DataBar limited check digit *
RR11	Don’t transmit GS1 DataBar limited check digit
RR12	Transmit GS1 DataBar limited application ID (01) *
RR13	Do not transmit GS1 DataBar limited application ID
RR16	Transmit GS1 DataBar expanded application ID (01)
RR17	Do not transmit GS1 DataBar expanded application ID *
RR20	GS1 DataBar standard stacked Enabled *
RR21	GS1 DataBar standard stacked Disabled
RR22	GS1 DataBar expanded stacked Enabled *
RR23	GS1 DataBar expanded stacked Disabled
Telepen Code Parameter	
QB25	Telepen Enabled

Command Parameter	Description
QC25	Telepen Disabled *
SD03	Telepen Numeric mode Enabled
SD04	AIM Telepen Enabled *
Data Message delay Parameter	
HB00	Inter character delay 5ms
HB01	Inter character delay 0msec. *
HB02	Inter character delay 10msec.
HB03	Inter character delay 20msec.
HB04	Inter character delay 50msec.
HB05	Inter character delay 2msec.
HB06	Inter character delay 100 msec.
HB07	Inter character delay 90 msec.
HL01	Inter message delay 0 msec. *
HL02	Inter message delay 100 msec.
HL03	Inter message delay 500 msec.
HL04	Inter message delay 1000 msec
Code Identifier Parameter	
HR00	Disable identifier code. *
HR01	Enable identifier code table as factory standard
HR03	Enable identifier code table as AIM standard.
$CDExxa	CODE 39 identifier code setting
$CDOxxa	ITF 2 of 5 identifier code setting
$CDQxxa	CHINESE POST CODE identifier code setting
$CDDxxa	UPC-E identifier code setting
$CDCxxa	UPC-A identifier code setting

Command Parameter	Description
$CDAxxa	EAN-13 identifier code setting
$CDBxxa	EAN-8 identifier code setting
$CDGxxa	CODABAR identifier code setting
$CDFxxa	CODE 128 identifier code setting
$CDHxxa	CODE 93 identifier code setting
$CDIxxa	MSI identifier code setting
$CDJxxa	RSS-14 identifier code setting
$CDLxxa	RSS limited identifier code setting
$CDKxxa	RSS expanded
$CDMxxa	Industrial 2 of 5 Identifier code setting
$CDRxxa	Code 11 Identifier code setting
$CDVxxa	IATA Identifier code setting
$CDPxxa	Matrix 2of 5 (Japanese) Identifier code setting
$CDSxxa	Telpen Identifier code setting
$CDUxxa	EAN-128 Identifier code setting

Note:

The scanner can transmit Max. 2 bytes character identifier for different types of barcode:

x = one character identifier.

xx = two character identifier.

x = hex values for the desired ASCII value

a = NULL (0x00)

Prefix /Postfix Parameter

Command Parameter	Description
BO11	Transmit code length as data prefix (all barcode)
BO12	Do not transmit code length as data prefix (all barcode) *
BO13	Transmit length first 0 character. *
BO14	Length is first 0 do not transmit.
$CPAxxxxxxxxxa	Add Prefix character <Data><Postfix>
$CPBxxxxxxxxxa	Add Postfix character <Prefix> <Data>

Note:

The scanner can transmit Max. 10 bytes character of prefix or postfix to scan data.

x = one character prefix /postfix.

xx = two character prefix /postfix.

xxx =three character prefix /postfix.

xxxx =four character prefix /postfix.

xxxxx =five character prefix /postfix.

xxxxxx =six character prefix /postfix.

xxxxxxx =seven character prefix /postfix.

xxxxxxxx = eight character prefix /postfix.

xxxxxxxxx =nine character prefix /postfix.

xxxxxxxxxx =ten character prefix /postfix.

x = hex values for the desired ASCII value

a = NULL (0x00)

Type IV: Get Setting Status Command

Sending this request will return the current settings of all commands. The current setting of all scanner parameters can be sent to the host computer for user inspection.

Command Format:

<Prefix ID> <Length><command ID><Field index>…<Field index> <Null><Checksum>

Packet Format Description:

Field	*Format*	*Size*
Prefix ID	0xBB	1 Byte.
Length	Length of packet. (not including checksum).	1 Byte.
Command ID	$BCS (0x24,0x42,0x43,0x53)	4 Bytes
Field index	See *Table 1-3 on page 68*	Variable.
Null	0x00 End of field index.	1 Byte
Checksum	2's complement sum of message contents excluding checksum.	2 Bytes.

Response format from decoder:

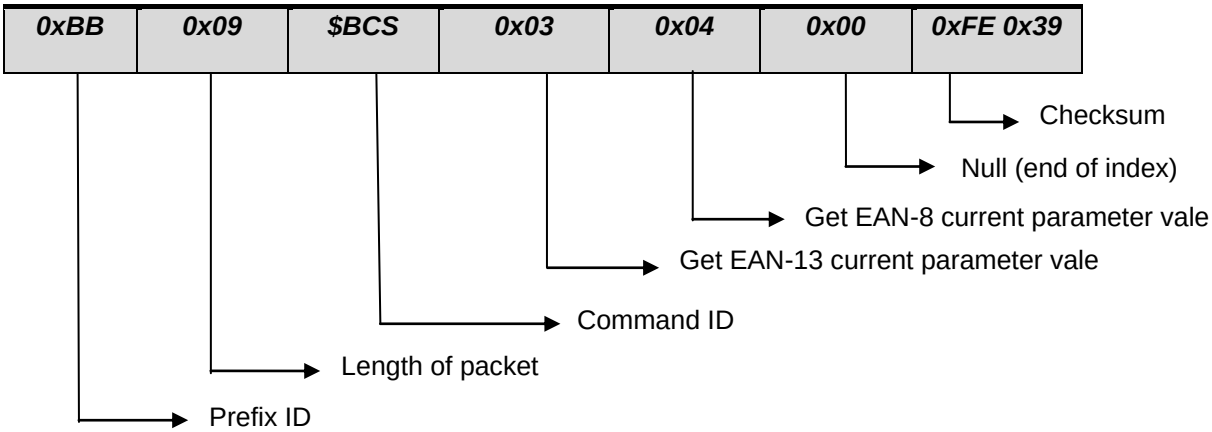
<Length><register Data><Checksum><ACK>

Packet Format Description:

Field	*Format*	*Size*
Length	Length of packet. (not including checksum and ACK).	1 Byte.
Register Data	See *Table 1-4 on page 70*	Variable.
Checksum	2's complement sum of message contents excluding checksum.(not including ACK)	2 Bytes.
ACK	0x06	1 Byte

Example:

The host requests the decoder's current values for EAN-13 and EAN-8



Decoder Response:

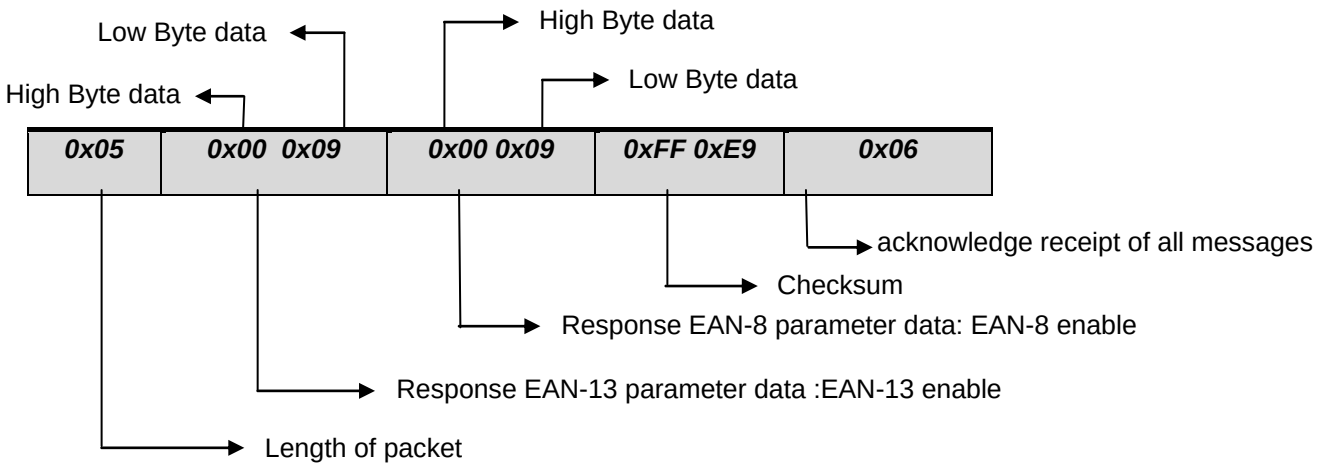


Table 1-3 List of Field Index

Field name	*Field member*	*Field Index*	*Field Length(byte)*
All_reg		0xFF	180
BarcodeEnable_reg		0x01	4
AddonEnable_reg		0x02	2
EAN13_reg		0x03	2
EAN8_reg		0x04	2
UPCA_reg		0x05	2
UPCE_reg		0x06	2
Code39_reg		0x07	2
Code128_reg		0x08	2
CodaBar_reg		0x09	2
Code93_reg		0x0A	2
MSI_reg		0x0B	2
GS1 DataBar_reg		0x0C	2
GS1 DataBar_Expanded_reg		0x0D	2
GS1 DataBar_Limited_reg		0x0E	2
Industrial2of5_reg		0x0F	2
Straight 2of5_reg		0x10	2
ITF2of5_reg		0x11	2
Matrix2of5_reg		0x12	2
Reserved		0x13	2
Code11_reg		0x14	2
TELEPEN_reg		0x15	2
Code Length_reg		0x16	Total 46
	MinCodeLenSetting		22
	MaxCodeLenSetting		22
	CodeFixLenSetting		2
CodeID_reg		0x17	Total 66
	EAN13ID		3
	EAN8ID		3
	UPCAID		3
	UPCEID		3
	C39ID		3
	C128ID		3
	CDBID		3
	C93ID		3
	MSIID		3
	RSSID		3
	RSSEID		3

Field name	*Field member*	*Field Index*	*Field Length(byte)*
	RSSLID		3
	D25ID		3
	Reserve0		3
	ITFID		3
	MA25ID		3
	CP25ID		3
	C11ID		3
	TELID		3
	Reserve1		3
	EAN128ID		3
	IATAID		3
P_Data_reg		0x18	Total 22
	Prefix		11
	Postfix		11
Truncate_reg		0x19	Totoal 2
	TruncateHeader		1
	TruncateTrailer		1

Table 1-4 List of register data

BarcodeEnable_reg (0x01):

Bit 0	***Bit 1***	***Bit 2***	***Bit 3***	***Bit 4***	***Bit 5***	***Bit 6***	***Bit 7***
EAN 13	EAN 8	UPC-A	UPC-E	Code 39	C128	Codabar	Code 93
0:Disabled ,1:Enabled							
Bit 8	***Bit 9***	***Bit 10***	***Bit 11***	***Bit 12***	***Bit 13***	***Bit 14***	***Bit 15***
MSI	GS1 DataBar Omnid.	GS1 DataBarExpanded	GS1 DataBar Limited	Industrial 2 of 5	Straight 2 of 5	Interleaved 2 of 5	Matrix 2 of 5
0:Disabled ,1:Enabled							
Bit 16	***Bit 17***	***Bit 18***	***Bit 19***	***Bit 20***	***Bit 21***	***Bit 22***	***Bit 23***
Chinese Post 2 of 5	Code 11	Telepen	reserved		IATA	reserved	
0:Disabled ,1:Enabled							
Bit 24	***Bit 25***	***Bit 26***	***Bit 27***	***Bit 28***	***Bit 29***	***Bit 30***	***Bit 31***
Reserved							

AddonEnable_reg(0x02):

Bit 0	***Bit 1***	***Bit 2***	***Bit 3***	***Bit 4***	***Bit 5***	***Bit 6***	***Bit 7***
EAN/UPC addendum 2	reserved			EAN/UPC addendum 5	reserved		
0:Disabled 1:Enabled				0:Disabled 1:Enabled			
Bit 8	***Bit 9***	***Bit 10***	***Bit 11***	***Bit 12***	***Bit 13***	***Bit 14***	***Bit 15***
EAN/UPC addendum Mandatory	EAN/UPC addendum Format with separator	reserved	EAN/UPC addendum mandatory for 978/977 bookland	EAN/UPC addendum mandatory for 491 bookland	reserved		
0:Disabled 1:Enabled	0:Disabled 1:Enabled		0:Disabled 1:Enabled	0:Disabled 1:Enabled			

EAN13_reg(0x03):

Bit 0	***Bit 1***	***Bit 2***	***Bit 3***	***Bit 4***	***Bit 5***	***Bit 6***	***Bit 7***
Reserved			Digit Check Transmit		Redundant Check		reserved
			0: Disabled 1: Enabled		0: 0 time 1: 1 time	2: 2 times 3: 3 times	
Bit 8	***Bit 9***	***Bit 10***	***Bit 11***	***Bit 12***	***Bit 13***	***Bit 14***	***Bit 15***
Force decoding as UPC-A if the EAN -13first byte is '0'	EAN-13 First '0' is transmitted	EAN convert to ISSN/ISBN	Reserved				
0:Disabled 1:Enabled	0:Disabled 1:Enabled	0:Disabled 1:Enabled					

EAN8_reg(0x04):

Bit 0	*Bit 1*	*Bit 2*	*Bit 3*	*Bit 4*	*Bit 5*	*Bit 6*	*Bit 7*
Reserved			Digit Check Transmit		Redundant Check		reserved
			0: Disabled 1: Enabled		0: 0 time 2: 2 times 1: 1 time 3: 3 times		
Bit 8	***Bit 9***	***Bit 10***	***Bit 11***	***Bit 12***	***Bit 13***	***Bit 14***	***Bit 15***
Force EAN8 to EAN13	Reserved						
0:Disabled 1:Enabled							

UPCA_reg(0x05):

Bit 0	*Bit 1*	*Bit 2*	*Bit 3*	*Bit 4*	*Bit 5*	*Bit 6*	*Bit 7*
reserved			Digit Check Transmit		Redundant Check		reserved
			0: Disabled 1: Enabled		0: 0 time 2: 2 times 1: 1 time 3: 3 times		
Bit 8	***Bit 9***	***Bit 10***	***Bit 11***	***Bit 12***	***Bit 13***	***Bit 14***	***Bit 15***
Force UPCA to EAN13	Transmit UPCA leading character	reserved	reserved	reserved	reserved	reserved	reserved
0:Disabled 1:Enabled	0:Disabled 1:Enabled						

UPCE_reg(0x06):

Bit 0	*Bit 1*	*Bit 2*	*Bit 3*	*Bit 4*	*Bit 5*	*Bit 6*
reserved			Digit Check Transmit		Redundant Check	
			0: Disabled 1: Enabled		0: 0 time 2: 2 times 1: 1 time 3: 3 times	
Bit 8	***Bit 9***	***Bit 10***	***Bit 11***	***Bit 12***	***Bit 13***	***Bit 14***
Force UPCE to UPCA	Transmit UPCE leading character	reserved				
0:Disabled 1:Enabled	0:Disabled 1:Enabled					

Code39_reg(0x07):

Bit 0	***Bit 1***	***Bit 2***	***Bit 3***	***Bit 4***	***Bit 5***	***Bit 6***	***Bit 7***
Digit Check			Digit Check Transmit		Redundant Check		reserved
0: Disabled 1: Enabled			0: Disabled 1: Enabled		0: 0 time 2: 2 times 1: 1 time 3: 3 times		
Bit 8	***Bit 9***	***Bit 10***	***Bit 11***	***Bit 12***	***Bit 13***	***Bit 14***	***Bit 15***
Full ASCII	Start/Stop character transmission	Code39 Sending Length	Concatenation	Code32 Enabled	Code32 Transmit 'A' character	reserved	
0: Disabled 1: Enabled	0: Disabled 1: Enabled	0: Disabled 1: Enabled	0: Disabled 1: Enabled	0: Disabled 1: Enabled	0: Disabled 1: Enabled		

Code128_reg(0x08):

Bit 0	***Bit 1***	***Bit 2***	***Bit 3***	***Bit 4***	***Bit 5***	***Bit 6***	***Bit 7***
Digit Check			Digit Check Transmit		Redundant Check		reserved
0: Disabled 1: Enabled			0: Disabled 1: Enabled		0: 0 time 2: 2 times 1: 1 time 3: 3 times		
Bit 8	***Bit 9***	***Bit 10***	***Bit 11***	***Bit 12***	***Bit 13***	***Bit 14***	***Bit 15***
Read Standard 128	EAN128 Enabled	EAN128 FNC1 character transmitted	Code128 FNC2 concatenation	Code 128 SP	reserved		
0: Disabled 1: Enabled	0: Disabled 1: Enabled	0: Disabled 1: Enabled	0: Disabled 1: Enabled	0: Disabled 1: Enabled			

CodaBar_reg(0x09):

Bit 0	***Bit 1***	***Bit 2***	***Bit 3***	***Bit 4***	***Bit 5***	***Bit 6***	***Bit 7***
Digit Check			Digit Check Transmit		Redundant Check		reserved
0: Disabled 1: Enabled			0: Disabled 1: Enabled		0: 0 time 2: 2 times 1: 1 time 3: 3 times		
Bit 8	***Bit 9***	***Bit 10***	***Bit 11***	***Bit 12***	***Bit 13***	***Bit 14***	***Bit 15***
Start/Stop character transmission			Concatenation	reserved			
0:Disabled 1:Enabled 2: DC1~DC4 3: a/t,b/n,c/∗,d/e			0: Disabled 1: Enabled				

Code93_reg(0x0A):

Bit 0	*Bit 1*	*Bit 2*	*Bit 3*	*Bit 4*	*Bit 5*	*Bit 6*	*Bit 7*
Digit Check			Digit Check Transmit		Redundant Check		reserved
0: Disabled 1: Enabled			0: Disabled 1: Enabled		0: 0 time 2: 2 times 1: 1 time 3: 3 times		
Bit 8	*Bit 9*	*Bit 10*	*Bit 11*	*Bit 12*	*Bit 13*	*Bit 14*	*Bit 15*
reserved							

MSI_reg (0x0B):

Bit 0	*Bit 1*	*Bit 2*	*Bit 3*	*Bit 4*	*Bit 5*	*Bit 6*	*Bit 7*
Digit Check			Digit Check Transmit		Redundant Check		reserved
0: Disabled 1: Signal Digit Check 2:Double Digit Check			0: Disabled 1: Enabled		0: 0 time 2: 2 times 1: 1 time 3: 3 times		
Bit 8	*Bit 9*	*Bit 10*	*Bit 11*	*Bit 12*	*Bit 13*	*Bit 14*	*Bit 15*
reserved							

GS1 DataBar Omnidirectional_reg(0x0C):

Bit 0	*Bit 1*	*Bit 2*	*Bit 3*	*Bit 4*	*Bit 5*	*Bit 6*	*Bit 7*
Digit Check			Digit Check Transmit		reserved		
0: Disabled 1: Enabled			0: Disabled 1: Enabled				
Bit 8	*Bit 9*	*Bit 10*	*Bit 11*	*Bit 12*	*Bit 13*	*Bit 14*	*Bit 15*
Transmit Application ID	EAN128 Emulation	Standard Stack	reserved				
0: Disabled 1: Enabled	0: Disabled 1: Enabled	0: Disabled 1: Enabled					

GS1 DataBar_Expanded_reg(0x0D):

Bit 0	*Bit 1*	*Bit 2*	*Bit 3*	*Bit 4*	*Bit 5*	*Bit 6*	*Bit 7*
Digit Check			Digit Check Transmit		reserved		
0: Disabled 1: Enabled			0: Disabled 1: Enabled				
Bit 8	*Bit 9*	*Bit 10*	*Bit 11*	*Bit 12*	*Bit 13*	*Bit 14*	*Bit 15*
Transmit Application ID	EAN128 Emulation	Expanded Stack	reserved				
0: Disabled 1: Enabled	0: Disabled 1: Enabled	0: Disabled 1: Enabled					

GS1 DataBar _Limited_reg(0x0E):

Bit 0	*Bit 1*	*Bit 2*	*Bit 3*	*Bit 4*	*Bit 5*	*Bit 6*	*Bit 7*
Digit Check			Digit Check Transmit		reserved		
0: Disabled 1: Enabled			0: Disabled 1: Enabled				
Bit 8	*Bit 9*	*Bit 10*	*Bit 11*	*Bit 12*	*Bit 13*	*Bit 14*	*Bit 15*
Transmit Application ID	reserved						
0: Disabled 1: Enabled							

Industrial2of5_reg(0x0F):

Bit 0	*Bit 1*	*Bit 2*	*Bit 3*	*Bit 4*	*Bit 5*	*Bit 6*	*Bit 7*
Digit Check			Digit Check Transmit		reserved		
0: Disabled 1: Enabled			0: Disabled 1: Enabled				
Bit 8	*Bit 9*	*Bit 10*	*Bit 11*	*Bit 12*	*Bit 13*	*Bit 14*	*Bit 15*
reserved							

Straight 2of5_reg(0x10):

Bit 0	*Bit 1*	*Bit 2*	*Bit 3*	*Bit 4*	*Bit 5*	*Bit 6*	*Bit 7*
Digit Check			Digit Check Transmit		reserved		
0: Disabled 1: Enabled			0: Disabled 1: Enabled				
Bit 8	*Bit 9*	*Bit 10*	*Bit 11*	*Bit 12*	*Bit 13*	*Bit 14*	*Bit 15*
reserved							

ITF2of5_reg(0x11):

Bit 0	*Bit 1*	*Bit 2*	*Bit 3*	*Bit 4*	*Bit 5*	*Bit 6*	*Bit 7*
Digit Check			Digit Check Transmit		Redundant Check		reserved
0: Disabled 1: Enabled			0: Disabled 1: Enabled		0: 0 time 2: 2 times 1: 1 time 3: 3 times		
Bit 8	*Bit 9*	*Bit 10*	*Bit 11*	*Bit 12*	*Bit 13*	*Bit 14*	*Bit 15*
reserved							

Matrix2of5_reg (0X12):

Bit 0	*Bit 1*	*Bit 2*	*Bit 3*	*Bit 4*	*Bit 5*	*Bit 6*	*Bit 7*
Digit Check			Digit Check Transmit		reserved		
0: Disabled 1: Enabled			0: Disabled 1: Enabled				
Bit 8	*Bit 9*	*Bit 10*	*Bit 11*	*Bit 12*	*Bit 13*	*Bit 14*	*Bit 15*
reserved							

Reserved_reg(0x13):

Bit 0	*Bit 1*	*Bit 2*	*Bit 3*	*Bit 4*	*Bit 5*	*Bit 6*	*Bit 7*
reserved							
Bit 8	*Bit 9*	*Bit 10*	*Bit 11*	*Bit 12*	*Bit 13*	*Bit 14*	*Bit 15*
reserved							

Code11_reg(0x14):

Bit 0	*Bit 1*	*Bit 2*	*Bit 3*	*Bit 4*	*Bit 5*	*Bit 6*	*Bit 7*
Digit Check			Digit Check Transmit		reserved		
0: Disabled 1: One Digit Check 2: Two Digit Check 3: Auto Digit Check. If length greater than 10, doing Two Digit Check. One Digit Check for others.			0: Disabled 1: Send One Digit Check 2: Send Both Digit Check				
Bit 8	*Bit 9*	*Bit 10*	*Bit 11*	*Bit 12*	*Bit 13*	*Bit 14*	*Bit 15*
reserved							

TELEPEN_reg(0x15):

Bit 0	*Bit 1*	*Bit 2*	*Bit 3*	*Bit 4*	*Bit 5*	*Bit 6*	*Bit 7*
reserved							
Bit 8	*Bit 9*	*Bit 10*	*Bit 11*	*Bit 12*	*Bit 13*	*Bit 14*	*Bit 15*
Mode Select	reserved						
0: Numeric Mode 1: AIM Mode							

Code Length_reg (0x16): Total 46 bytes,
Minimum Code Length value: 1st~22st .
Maximum Code Length value: 23st~44st.
ITF one fixed length value : 45st .
ITF two fixed length value : 46st
Each byte means one kind of barcode's minimum/maximum length setting.

Byte1	***Byte 2***	***Byte 3***	***Byte 4***	***Byte 5***	***Byte 6***	***Byte 7***	***Byte 8***
Reserved				Code 39	Code128	Codabar	Code 93
Byte 9	***Byte 10***	***Byte 11***	***Byte 12***	***Byte 13***	***Byte 14***	***Byte 15***	***Byte 16***
MSI	Reserved			D25	S25	ITF25	MA25
Byte 17	***Byte 18***	***Byte 19***	***Byte 20***	***Byte 21***	***Byte 22***		
CP25	Code 11	Reserved					
Byte23	***Byte 24***	***Byte 25***	***Byte 26***	***Byte 27***	***Byte 28***	***Byte 29***	***Byte 30***
Reserved				Code 39	Code128	Codabar	Code 93
Byte 31	***Byte 32***	***Byte 33***	***Byte 34***	***Byte 35***	***Byte 36***	***Byte 37***	***Byte 38***
MSI	Reserved	Reserved	Reserved	D25	S25	ITF25	MA25
Byte 39	***Byte 40***	***Byte 41***	***Byte 42***	***Byte 43***	***Byte 44***	**Byte 45**	**Byte 46**
CP25	Code 11	reserved				ITF one fixed length	ITF two fixed length

Code_ID_ reg (0x17):Total 66 bytes
Each Code type of ID register includes 3 Bytes data, First Byte is store length of Code ID. Second byte is store first ID character , Third Byte is store second ID character.

Byte 1	***Byte 2***	***Byte 3***
0: no any ID character. 1: one ID character by defined. 2: two ID character by defined.	ID0	ID1

P_Data_ reg (0x18):Total 22 bytes

Byte 1	***Byte 2***	***Byte 3***	***Byte 4***	***Byte5***	***Byte 6***	***Byte 7***	***Byte 8***	***Byte 9***	***Byte 10***	***Byte 11***
Prefix Data Length	Prefix data									
Byte 12	***Byte 13***	***Byte 14***	***Byte 15***	***Byte 16***	***Byte 17***	***Byte 18***	***Byte 19***	***Byte 20***	***Byte 21***	***Byte 22***
Postfix Data Length	Postfix data									

Truncate_reg (0x19):

Byte 1	***Byte 2***
Truncate data header number	Truncate data trailer number