

**Nuscan 3000
Laser Barcode
Scanner**

Programming Manual

FCC Compliance

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Limited Warranty

No warranty of any kind is made in regard to this material, including, but not limited to, implied warranties of merchantability or fitness for any particular purpose. We are not liable for any errors contained herein or for incidental or consequential damages in connection with furnishing, performance or use of this material. We shall be under no liability in respect of any defect arising from fair wear and tear, willful damage, negligence, abnormal working conditions, failure to follow the instructions and warnings, or misuse or alteration or repair of the products without written approval.

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Introduction

Laser barcode scanner combines the best scanning performance and value. The device provides an accurate, easy, and fast method of data entry and data storage for computerized information systems. It is easy to install and does not require software or drivers to operate.

The products we are offering can be integrated into a computer system by RS232, PS2 or USB interface. 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. All the functions which are not listed in this menu, please consult your supplier for more details.

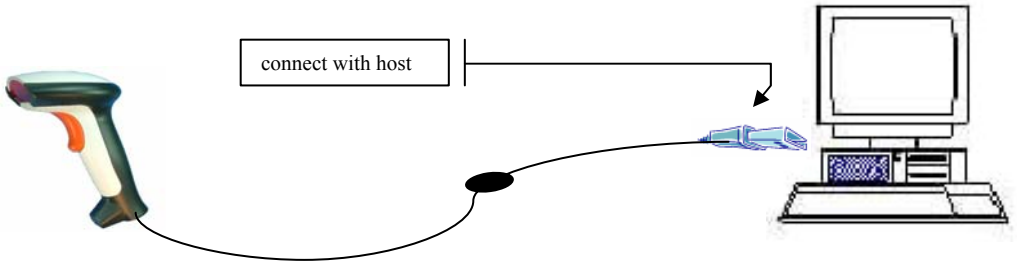


When a barcode is successful decoded, the blue LED light of the scanner will turn on and off. The scanner will beep once. If the barcode is not successful read, the LED will show red and the buzzer will not sound.

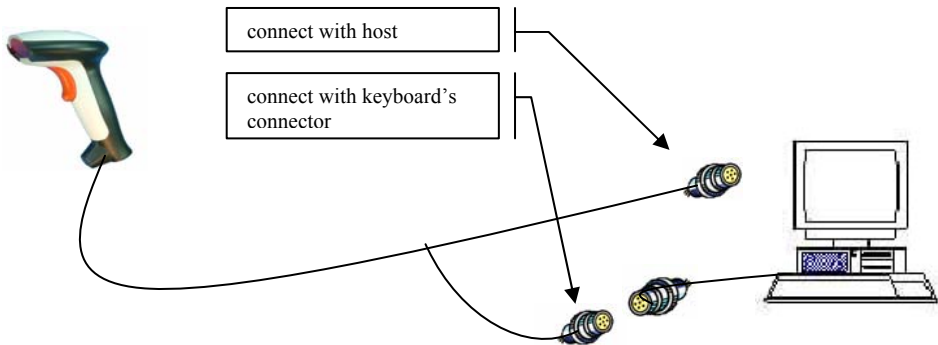
Installation

Insert the plug on the free end of the Communications Cable into the appropriate connector on the host as below described:

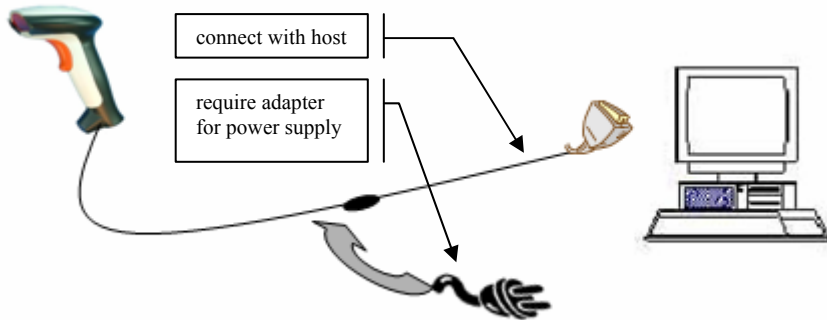
1. *USB Connection*



2. *PS2(K/B) Connection*



3. *RS232 Connection*



NOTE: for Serial port (RS232 cable), please plug the power connector of 5V power adapter to RS232 cable.

1. Be sure that Host computer is turned on.
2. Ensure that all connections are secure.
3. Turn on your host. And please operate the scanner under the right software application.
4. Aim the scanner at a barcode, ensure that the scanner is in trigger mode (default), and press the trigger.
5. On successful decode, the blue LED light will turn on and off. The scanner will beep once.

Setup from Bar Code Label

Multi-Interface Functions – 1

OUTPUT FIRMWARE VERSION



0A

RESET CONFIGURATION TO
DEFAULTS



0B

OUTPUT MODE – KEYBOARD WEDGE

**OUTPUT
MODE**

OUTPUT MODE - SERIAL



000600



000601

GOOD READ BEEP TONE – NONE

**BUZZER /
LED**

GOOD READ BEEP TONE - RESET



014200



0B142

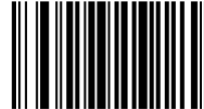
DECODE OPTIONS REVERSE IMAGE –
ENABLE

IMAGE

DECODE OPTIONS REVERSE IMAGE
- DISABLE



01391



01390

DECODE OPTIONS SEND BAR CODE ID -
DISABLE

CODE ID

DECODE OPTIONS SEND BAR CODE
ID – AS A PREFIX



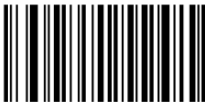
01400



01401

DECODE OPTIONS SEND BAR CODE ID -
RESET

DECODE OPTIONS SEND BAR CODE
ID – AS A SUFFIX



0B140



01402

Multi-Interface Functions – 2

READING MODE

SCAN MODE – SINGLE SCAN



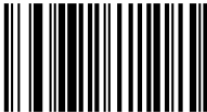
013300

SCAN MODE – SINGLE SCAN NO TRIGGER



013301

SCAN MODE – MULTISCAN



013302

SCAN MODE – MULTISCAN NO TRIGGER



013303

SCAN MODE – CONTINUOUS SCAN



013304

SCAN MODE - PULSE



013305

LASER/CCD TIMEOUT – 5 SECONDS



0134005

LASER/CCD TIMEOUT – 2 SECONDS



0134002

LASER/CCD PULSE RATE - 7



013507

LASER/CCD PULSE RATE - 3



013503

Interface – KBW

PC Communication

WEDGE MODE - AUTODETECT



000200

TRANSMIT SPEED - 0



0000000

KEYBOARD COUNTRY - USA



0005000

KEYBOARD COUNTRY – FRANCE



0005009

WEDGE MODE – SCAN SET 2 PASS
THRU



000204

TRANSMIT SPEED - 25



0000025

TRANSMIT SPEED

LANGUAGE

KEYBOARD COUNTRY - GERMAN



0005010

KEYBOARD COUNTRY - UNIVERSAL



0005025

Interface – Serial - 1

BAUD RATE

SERIAL BAUD RATE - 2400



000703

SERIAL BAUD RATE - 4800



000704

SERIAL BAUD RATE - 9600



000705

SERIAL BAUD RATE - 19200



000706

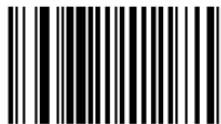
HAND SHAKE

SERIAL HANDSHAKE - NONE



001200

SERIAL HANDSHAKE – XON/XOFF



001201

SERIAL HANDSHAKE – RTS/CTS



001202

SERIAL HANDSHAKE – ACK/NAK



001203

SERIAL HANDSHAKE TIMEOUT –
2 SECONDS



0013020

SERIAL HANDSHAKE TIMEOUT –
5 SECONDS



0013050

Interface – Serial - 2

PARAMETERS

SERIAL DATA BITS - 8



00081

SERIAL STOP BITS - 1



00090

SERIAL PARITY - NONE



001000

SERIAL PARITY - EVEN



001002

SERIAL PARITY - SPACE



001004

SERIAL DATA BITS - 7



00080

SERIAL STOP BITS - 2



00091

SERIAL PARITY - ODD



001001

SERIAL PARITY - MARK



001003

SERIAL PARITY - RESET



00B010

Symbologies On/Off - 1

CODE 11 - ENABLE



01261

CODE 11

CODE 11 - DISABLE



01260

CODE 39 ENABLE



00221

CODE 39

CODE 39 DISABLE



00220

FULL ASCII ENABLE



00231

FULL ASCII DISABLE



00230

Symbologies On/Off - 2

CODE 93

CODE 93 - ENABLE



00621

CODE 93 - DISABLE



00620

CODE 128

CODE 128 - ENABLE



00691

CODE 128 - DISABLE



00690

CODE 128 ISBT - ENABLE



00701

CODE 128 ISBT - DISABLE



00700

CODABAR

CODABAR - ENABLE



00851

CODABAR - DISABLE



00850

INTERLEAVED 2 OF 5

I2OF5 - ENABLE



00961

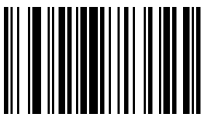
I2OF5 - DISABLE



00960

INDUSTRIAL 2 OF 5

ID2OF5 - ENABLE



01061

ID2OF5 - DISABLE



01060

Symbologies On/Off - 3

MSI

MSI - ENABLE



01151

MSI - DISABLE



01150

UPC-A ENABLE



00341

UPC/EAN

UPC-A DISABLE



00340

UPC-E ENABLE



00351

UPC-E DISABLE



00350

EAN-13 ENABLE



00361

EAN-13 DISABLE



00360

EAN-8 ENABLE



00371

EAN-8 DISABLE

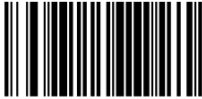


00370

Symbologies Set Up - 1

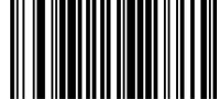
CODE 11

CODE 11 ID CHARACTER – “m”



0131m

CODE 11 ID CHARACTER – “Z”



0131Z

CODE 11 LASER/CCD REDUNDANCY -
ENABLE



01321

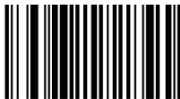
CODE 11 LASER/CCD REDUNDANCY -
DISABLE



01320

CODE 39

CODE 39 SS CHAR - NONE



002700

CODE 39 SS CHAR ‘+’



002704

CODE 39 SEND START/STOP CHARS
ENABLE



00281

CODE 39 SEND START/STOP CHARS
DISABLE



00280

CODE 39 ID CHARACTER ‘a’



0031a

CODE 39 ID CHARACTER ‘z’



0031Z

CODE 39 LASER/CCD REDUNDANCY
ENABLE



00331

CODE 39 LASER/CCD REDUNDANCY
DISABLE



00330

Symbologies Set Up – 2

CODE 93

CODE 93 ID CHARACTER – “h”



0066h

CODE 93 ID CHARACTER – “Z”



0066Z

CODE 93 LASER/CCD REDUNDANCY -
ENABLE



00681

CODE 93 LASER/CCD REDUNDANCY -
DISABLE



00680

CODE 128 ID CHARACTER – ‘g’



0081g

CODE 128

CODE128 ID CHARACTER - ‘Z’



0081Z

CODE 128 LASER/CCD REDUNDANCY -
ENABLE



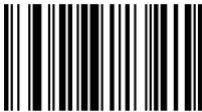
00841

CODE 128 LASER/CCD REDUNDANCY -
DISABLE



00840

CODABAR SEND START/STOP CHARS -
ENABLE



00861

CODABAR

CODABAR SEND START/STOP CHARS -
DISABLE



00860

CODABAR WIDE GAPS ALLOWED -
ENABLE



00901

CODABAR WIDE GAPS ALLOWED -
DISABLE



00900

Symbologies Set Up – 3

CODABAR

CODABAR ID CHARACTER – 'k'



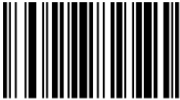
0094k

CODABAR ID CHARACTER – 'Z'



0094Z

CODABAR LASER/CCD REDUNDANCY
- ENABLE



00951

CODABAR LASER/CCD
REDUNDANCY - DISABLE



00950

Interleaved 2 of 5

I2OF5 ID CHARACTER – 'i'



0104i

I2OF5 ID CHARACTER – 'Z'



0104Z

I2OF5 LASER/CCD REDUNDANCY -
ENABLE



01051

I2OF5 LASER/CCD REDUNDANCY -
DISABLE



01050

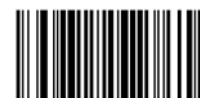
Industrial 2 of 5

ID2OF5 ID CHARACTER – 'j'



0113j

ID2OF5 ID CHARACTER – 'Z'



0113Z

ID2OF5 LASER/CCD REDUNDANCY -
ENABLE



01141

ID2OF5 LASER/CCD REDUNDANCY -
DISABLE



01140

Symbologies Set Up – 4

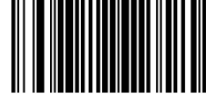
MSI

MSI ISBN ID CHARACTER –‘f’



0053f

MSI ISBN ID CHARACTER –‘Z’



0053Z

MSI LASER/CCD REDUNDANCY -
ENABLE



01251

MSI LASER/CCD REDUNDANCY -
DISABLE



01250

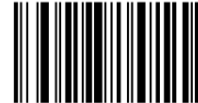
UPC/EAN

EXPAND UPC-E TO UPC-A ENABLE



00381

EXPAND UPC-E TO UPC-A DISABLE



00380

EXPAND UPC-A TO EAN-13 ENABLE



00391

EXPAND UPC-A TO EAN-13 DISABLE



00390

CONVERT EAN-13 TO ISBN ENABLE



00481

CONVERT EAN-13 TO ISBN DISABLE



00480

UPC-A ID CHARACTER ‘b’



0049b

UPC-A ID CHARACTER ‘Z’



0049Z

Symbologies Set Up – 5

UPC/EAN

UPC-E ID CHARACTER 'c'



0050c

UPC-E ID CHARACTER 'Z'



0050Z

EAN-13 ID CHARACTER 'e'



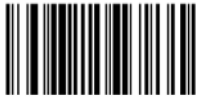
0051e

EAN-13 ID CHARACTER 'Z'



0051Z

EAN-8 ID CHARACTER 'd'



0052d

EAN-8 ID CHARACTER 'Z'



0052Z

ISBN ID CHARACTER 'f'



0053f

ISBN ID CHARACTER 'Z'



0053Z

UPC/EAN SUPPLEMENTS - DISABLE



00550

UPC/EAN SUPPLEMENTS – 2 DIGIT ONLY



00551

UPC/EAN SUPPLEMENTS – 5 DIGIT ONLY



00552

UPC/EAN SUPPLEMENTS – 2 & 5 DIGIT



00553

Symbologies Set Up – 6

UPC/EAN

UPC/EAN LASER/CCD REDUNDANCY

ENABLE



00541

UPC/EAN LASER/CCD REDUNDANCY

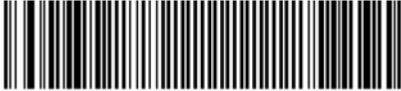
DISABLE



00540

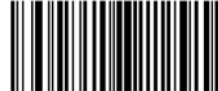
EDIT SETUP BAR CODES

EDIT #1 – STRIP 1 LEADING CHARACTER
ON ALL BAR CODES THAT START WITH
'12345'



02000101000000100000000112345

EDIT #1 - OFF



0B20001

EDIT #2 – STRIP 1 TRAILING CHARACTER



020002020000001

EDIT #2 – OFF



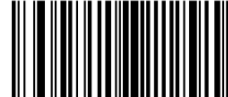
0B20002

EDIT #1 – FILTER LEADING SPACES



0200010300000032

EDIT #1 - OFF



0B20001

EDIT #1 – FILTER TRAILING SPACES



0200010400000032

EDIT #1 - OFF



0B20001

EDIT – FILTER ALL '-' CHARACTERS



0200000500000045

EDIT – DISABLE FILTER OF ALL '-' CHARS



0B200000500000045

EDIT - INSERT LEADING ZERO



020000060000000048

EDIT – DISABLE INSERT LEADING ZERO



0B20000060000000048

MACRO/SPECIAL KEYS SETUP BAR CODES

MACRO #1 – FIND '1' AND REPLACE WITH
'ONE'



02010101011ONE

MACRO #1 - DISABLED



0B20101

MACRO #2 – FIND '2' AND REPLACE WITH
'TWO' FOR CODE 39 ONLY



0201023012TWO

MACRO #2 - DISABLED



0B20102

MACRO – FIND '0' AND REPLACE WITH 'A'



02010001010A

MACRO – FIND '0' AND REPLACE WITH 'A' -
DISABLE



0B2010001010A

SPECIAL KEY –MAP F3 TO '0'



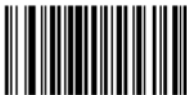
0162048

SPECIAL KEY – DISABLE F3 KEY MAPPING



0B162

SPECIAL KEY – MAP KEYPAD ENTER TO '2'



0182050

SPECIAL KEY – DISABLE KEYPAD ENTER
MAPPING



0B182

TERMINATION STRING SETUP BAR CODES

STRING #1 – TERMINATION CHAR - CR



0202011000\$0D

STRING #1 – TERMINATION - LF



0202011000\$0A

STRING #1 – TERMINATION CR+LF



0202011000\$0D\$0A

STRING #1 - DISABLE



0B20201

STRING #2– CODE 128 TERMINATION CHAR -
CR



0202021080\$0D

STRING #2 – CODE 128 TERMINATION CHAR -
LF



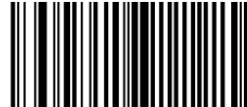
0202021090\$0A

STRING #2– CODE 128 TERMINATION CHAR –
CR+LF



0202021080\$0D\$0A

STRING #2– CODE 128 TERMINATION CHAR -
REMOVED



0B20202

STRING – CODE 39 TERMINATION CHAR -
TAB



0202001020\$09

STRING – CODE 39 TERMINATION CHAR – TAB
- REMOVED



0B202001020\$09

STRING ALL CODES PREAMBLE - STX



0202002000\$02

STRING ALL CODES POSTAMBLE - ETX



0202003000\$03

Factory Default Setting

Scanner Timing	Default
RS-232 communication	Default
Baud rate	9600
Parity	None
Data Bits	8
Stop Bit	1
RTS/CTS	Off
Terminator	<CR>
Keyboard Wedge Communication	Default
Terminal Type	PC/AT
Keyboard	US keyboard
Terminator	Enter (Alpha numeric)
USB Communication	Default
Terminator type	Enter
Code mode	Scan Code
Keyboard	US keyboard
Decoder Selection	Default
EAN/UPC	Enable
Code 39	Enable
Code 32	Disable
CODABAR	Enable
ITF 2 of 5	Enable
MSI	Disable
Code 93	Enable
Code 128	Enable
EAN-128	Disable

Appendix-A

Troubleshooting & Error Beeps

a. Problem: Nothing happens when I follow the operating instructions.

Possible Cause	Possible Solution
Interface cables are loose	Check for loose cable connections

b. Problem: When I connected RS232 interface reader to PC, I could not get power up signal.

Possible Cause	Possible Solution
There is no power from PC series port.	Use external power supply or take the power from PC.

c. Problem: When I connected RS232 interface reader to PC or terminal, I got power up signal but no data transmitted.

Possible Cause	Possible Solution
This may cause by wrong pin out or wrong communication protocol.	Check the pin out and communication protocol to match the PC or terminal you are using.

d. My computer gets a keyboard error while booting up.

Possible Cause	Possible Solution
The scanner is damaged or is no longer functioning.	Disconnect the scanner from your computer and use your keyboard only. Reboot your computer. If your computer still gets a keyboard error, then the problem may not be the scanner. Call technical support for assistance.

e. Problem: Light comes on, but symbol does not decode.

Possible Cause	Possible Solution
Scanner is not programmed for the correct bar-code type.	Please refer User's Guide and be sure to select the correct interface selection and ensure that the scanner is programmed to read the type of barcode you are scanning.
Barcode symbol is unreadable.	Check the symbol to make sure it is not de-faced. Try scanning test symbols of the same barcode type.
Distance between scanner and barcode is incorrect.	Move the scanner closer to or further from the barcode.

f. Problem: The scanner beeps, but no data is displayed on my computer.

Possible Cause	Possible Solution
Scanner is not programmed for the correct host type.	Please make sure the scanner is configured to the appropriate host type by scanning the corresponding programming barcode on the User's Manual.
The scanner is configured to send the numeric data as KEYPAD NUMERICS, or the Keyboard Country setting is set to UNIVERSAL.	Reconfigure the scanner to Send Numerics as MAIN KEYBOARD KEYS and set the Keyboard Country setting to the country setting of your computer.

g. Problem: Scanned data is incorrectly displayed on the host.

Possible Cause	Possible Solution
Scanner is not programmed to work with the host.	<p>Be sure proper host type is selected.</p> <p>For <u>RS232</u>, ensure the scanner's communication parameters match the host's settings</p> <p>For <u>keyboard emulation configuration</u>, ensure the system is programmed for the correct keyboard type, and that the CAPS LOCK key is off.</p> <p>Be sure editing options (e.g UPC-E to UPC-A Conversion) are properly programmed.</p>
The scanner's Keyboard Country setting does not match the computer's keyboard setup.	Set the scanners Keyboard Country to the same setting as the keyboard on your computer.

h. Problem: Some of the barcode data is missing displayed on the host.

Possible Cause	Possible Solution
The scanner's transmit speed is too fast.	For RS232, you can set up the scanner's transmit speed.

i. My Caps Lock LED on my keyboard flickers when I read a bar code.

Possible Cause	Possible Solution
The Keyboard Country that you are using requires shifting in and out of the shift Lock mode to send the data properly.	This is normal operation. You can reduce the flickering and speed the data transmit by sending numerics as keypad numerics, or setting the keyboard country to UNIVERSAL mode.

