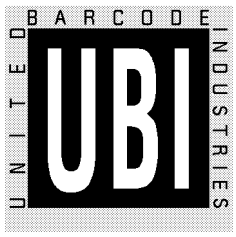

MicroBar NX
Installation Guide

Preliminary Edition

October 1996

MB/NX/IG/00/E/961031

Notice

The MicroBar NX products described in this manual comply with CE directives for electromagnetic emission levels and electrical immunity.

MicroBar NX configuration codes are compatible with other new-generation UBI products.
MicroBar NX configuration codes are not compatible with the MicroBar LS/PS.

MB/NX/IG/00/E/961031

Scanner Technology Center

DECLARATION OF CONFORMITY

We,

UBI Scanner Technology Center
Immeuble Le Naurouze, Rue Carmin
Voie No.3, Innopole - BP 187
31676 Labège Cedex
France

declare under our sole responsibility[1] that the product(s)

MicroBar NX

to which this declaration relates
is (are) in conformity with the following standards:

Emission:	**EN 50081-1** (1992)
	EN 55022 (1987) **Class B**
Immunity:	**EN 50082-1** (1992)
	IEC 801-2 (1984 -91) **8kV in the air**
	IEC 801-3 (1984) **3 V/m**
	IEC 801-4 (1988) **1kV**
Low voltage:	**EN 60950** (1993)

following the provisions of Directives

89/336/EEC
73/23/EEC

Toulouse 30/11/1996

.....

Sven Skarendahl
President

[1]*UBI assumes no responsibility as regards fulfilling the CE Directive if the product(s) is (are) handled, modified or installed in other manners than those described in UBI's manuals.*

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What you are going to do . . .

This Installation Guide tells you how to install and set up your MicroBar NX to operate successfully in most working situations.

The present guide does not cover all the configuration capabilities of your MicroBar NX. The full set of configuration options is provided in the *MicroBar NX Reference Manual*.

Step by step how to install and set up your MicroBar NX

Additional information is provided in the appendix

What you are going to do . . .

1 Check you have everything you need

Checklist of items for your installation

all systems

- ☐ MicroBar NX
- ☐ the right cable for your host system
- ☐ this *MicroBar NX Installation Guide*

options

- ☐ UBI pen barcode reader
- ☐ dual pen adaptor
- ☐ *MicroBar NX Reference Manual*

MicroBar NX	decoder and interface unit used to connect one or more data input devices: • pen barcode readers • laser/CCD barcode readers in wand/laser emulation • undecoded magstripe readers • RS-232 input devices—electronic scales, barcode readers, magstripe readers, . . . to a data processing host system—keyboard emulation for PCs and terminals, RS-232 communication, . . .
external power supply	5V mains power supply adapter—necessary if the host system does not provide enough electrical power to drive the MicroBar NX

1. Check you have everything you need

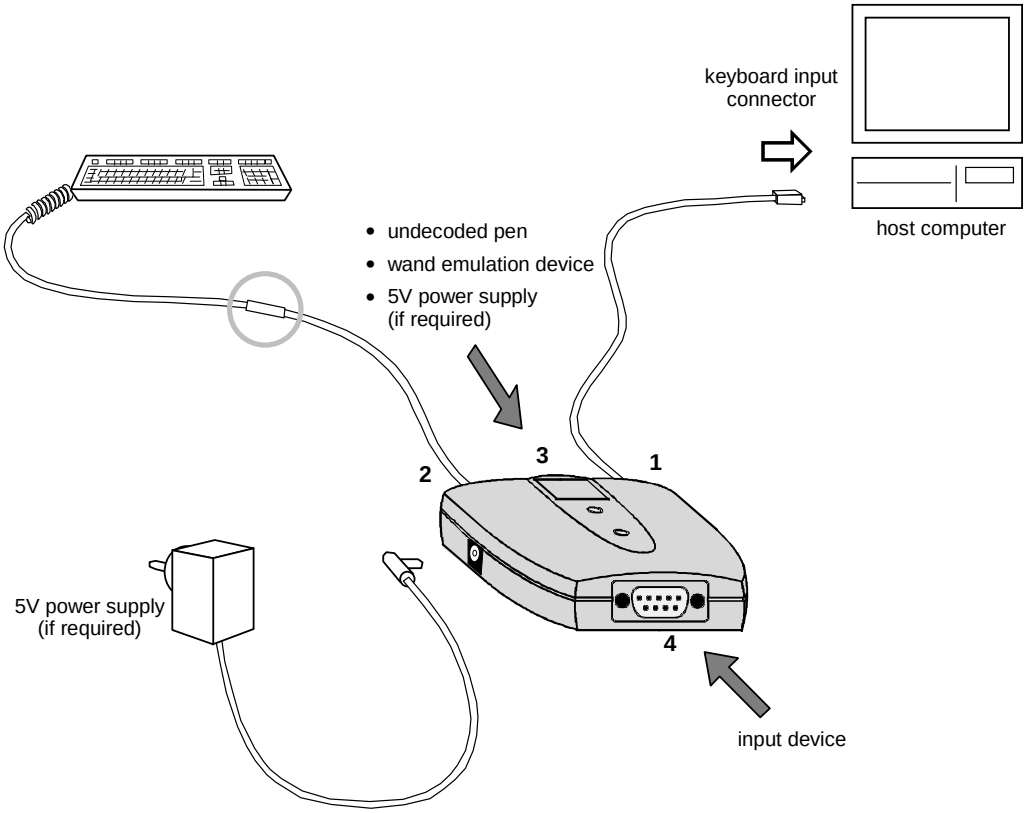
2 Switch off the host system and connect up the MicroBar NX

Host interfaces

keyboard wedge	MicroBar NX connected between a keyboard and the host system—data from the MicroBar NX is transmitted in keyboard emulation mode to provide instant software compatibility (external power supply usually required)
dual RS-232 C	MicroBar NX connected between two systems communicating through an RS-232 link (external power supply usually required)

2. Switch off the host system and connect up the MicroBar NX

Keyboard wedge—All except Wyse, DEC 220 / 320 / 420

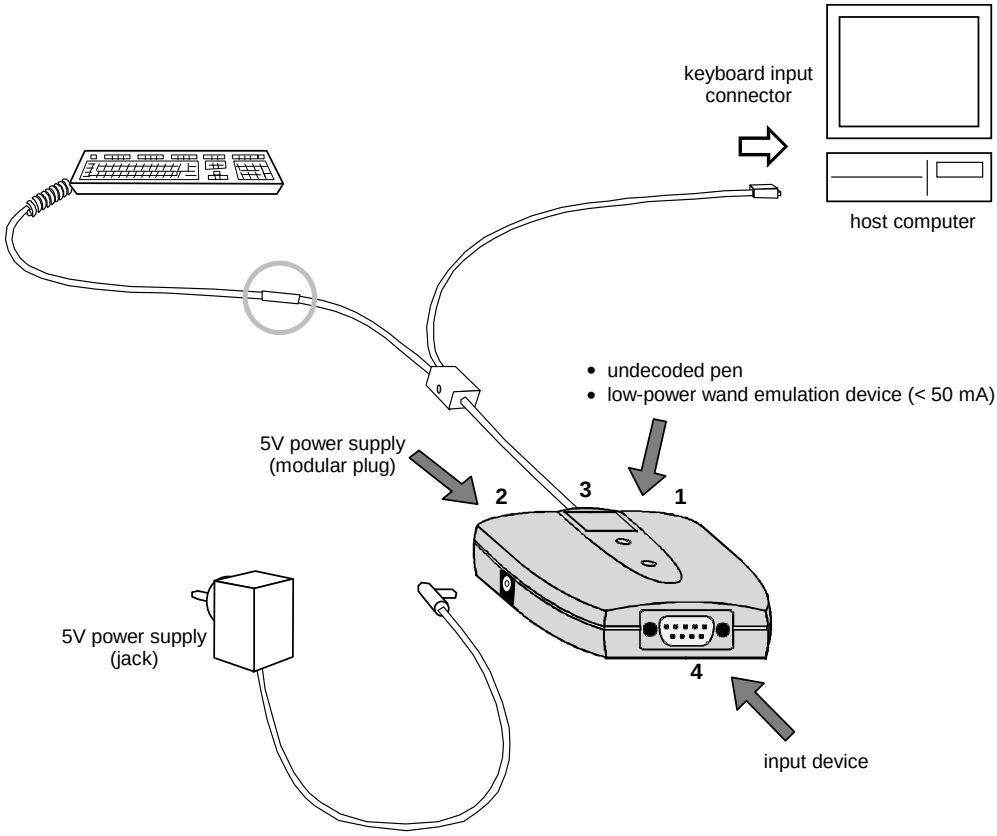


1. Switch off the host system.
2. Disconnect the keyboard from the host computer.
3. Use the appropriate keyboard wedge cables to connect the MicroBar NX between the keyboard and the host computer.
4. If your system requires an external power supply, connect the power supply (jack or modular plug) to the MicroBar NX.

Do not switch on the host computer or plug the external power supply into the mains socket.

2. Switch off the host system and connect up the MicroBar NX

Keyboard wedge—Wyse, DEC 220 / 320 / 420

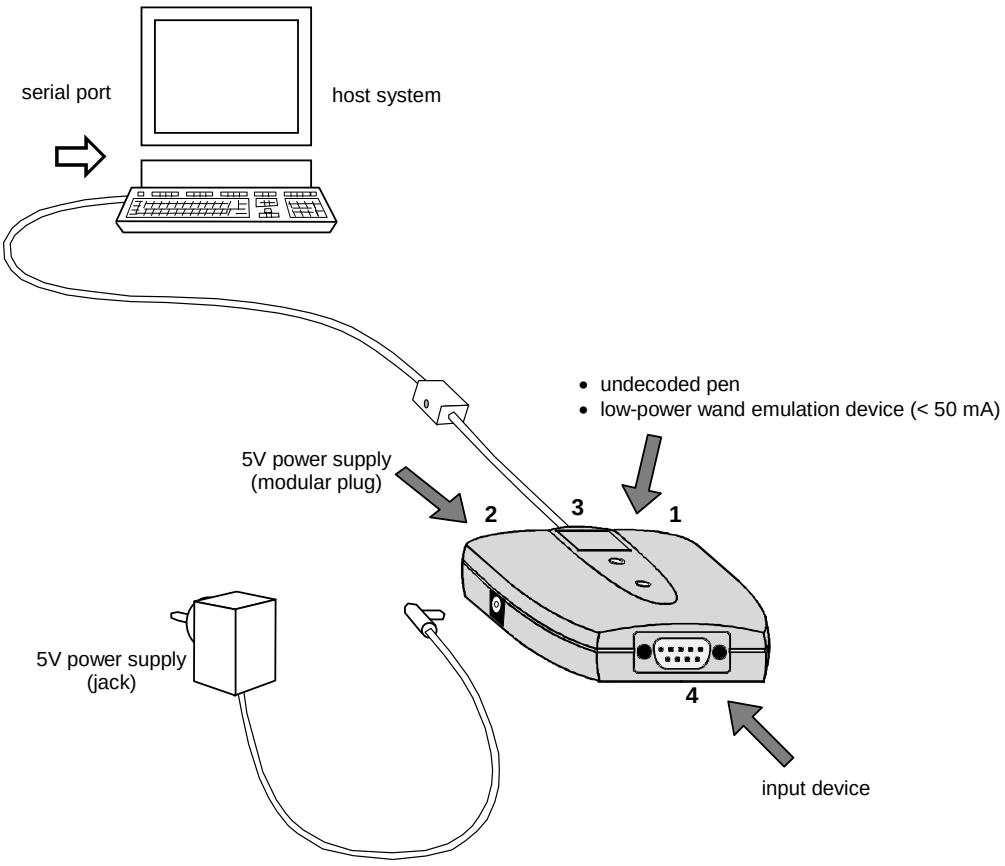


1. Switch off the host system.
2. Disconnect the keyboard from the host computer.
3. Use the appropriate keyboard wedge cable to connect the MicroBar NX between the keyboard and the host computer.
4. Connect the external power supply (jack or modular plug) to the MicroBar NX.

Do not switch on the host computer or plug the external power supply into the mains socket.

2. Switch off the host system and connect up the MicroBar NX

RS-232 C / TTL

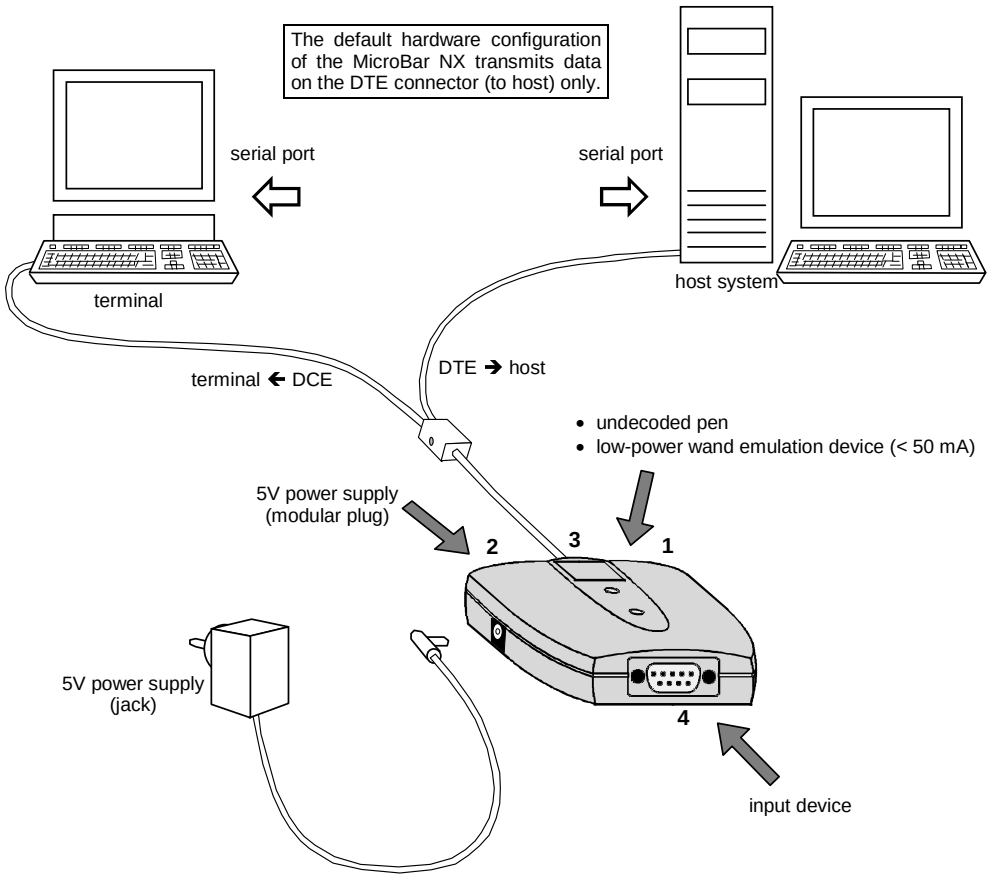


1. Switch off the host system.
2. Use the RS-232 cable to connect the MicroBar NX to the host system.
3. Connect the external power supply (jack or modular plug) to the MicroBar NX.

Do not switch on the host system or plug the external power supply into the mains socket.

2. Switch off the host system and connect up the MicroBar NX

Dual RS-232 C

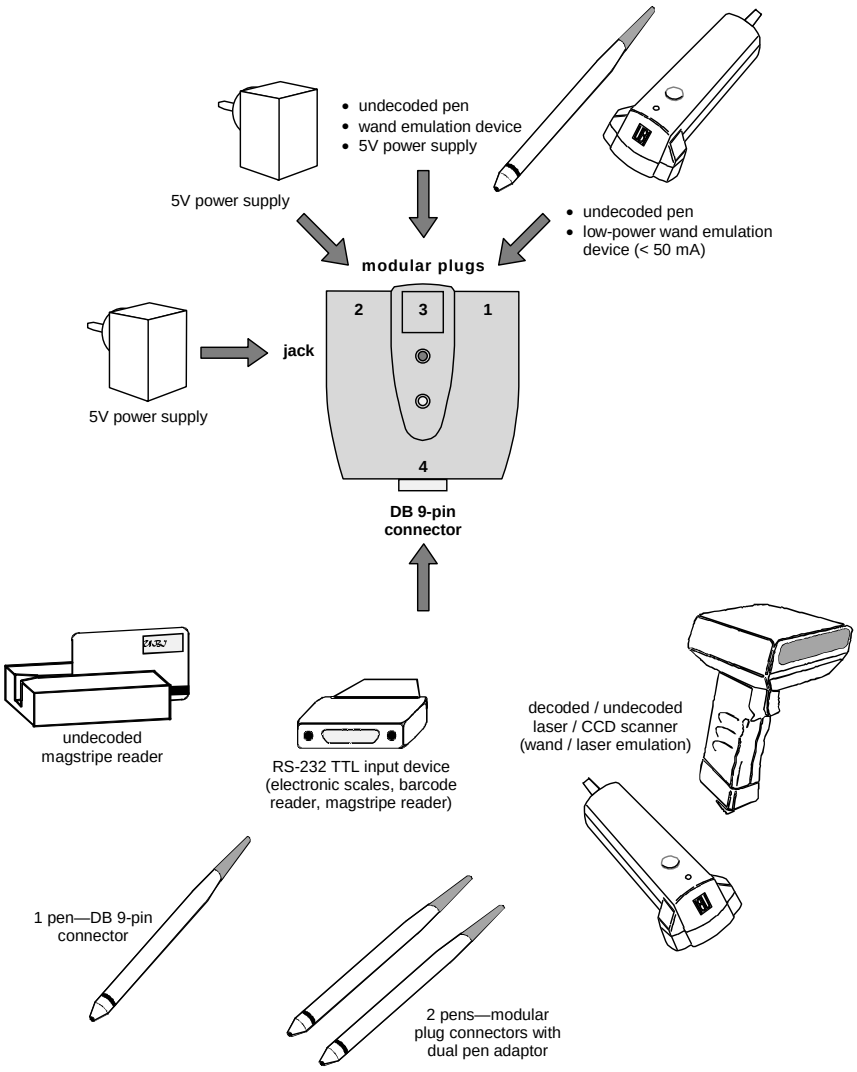


1. Switch off the host system.
2. Disconnect the terminal from the host system.
3. Use the dual RS-232 cable to connect the MicroBar NX between the terminal and the host system.
4. Connect the external power supply (jack or modular plug) to the MicroBar NX.

Do not switch on the host system or plug the external power supply into the mains socket.

2. Switch off the host system and connect up the MicroBar NX

3 Connect the data input devices to the MicroBar NX



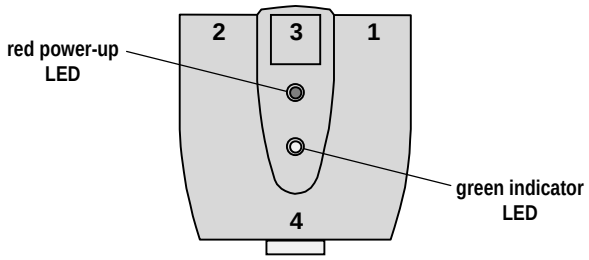
3. Connect the data input devices to the MicroBar NX

4 Switch on the host system

Plug in and power up

1. Plug the external power supply into the mains socket (if applicable).
2. Switch on the host system.

What the beeps and LED flashes mean



The red power-up LED of the MicroBar NX will come on and the MicroBar NX will emit two beeps to indicate that the power-up sequence has been completed.

If the MicroBar NX has already been programmed with an interface number, the green indicator LED of the MicroBar NX will flash a number of times to indicate the host system configuration:

green LED flashes	host system configuration
2 flashes	• RS-232 C / TTL • dual RS-232 C
7 flashes	keyboard wedge

If no interface number has been programmed—which may be the case when you set up for the first time—the indicator LED will stay green.

4. Switch on the host system

5 Enter the interface number for your host system

interface number	automatically configures the output data transmission parameters for the host system your MicroBar NX is connected to

Configuring your MicroBar NX

You will need to use a barcode reader input device connected to your MicroBar NX to read the configuration bar codes in this manual (see section 3, *Connect the data input devices to the MicroBar NX*).

If you have any problems reading the configuration codes, refer to Appendix F for help.

Configuration codes with an asterisk (*) are factory default settings.

What the beeps mean

The MicroBar NX has special beeps for configuration bar codes:

- two beeps indicate that the MicroBar NX has successfully received the configuration code and saved the setting,
- six short beeps indicate a setup error (incorrect configuration code) for the selected interface type.

Using a ScanPlus to configure your MicroBar NX

If you use a ScanPlus barcode reader (in wand or laser emulation) to configure your MicroBar NX, you must first read the ScanPlus Transparent Configuration Mode configuration code—otherwise you will configure the ScanPlus and not the MicroBar NX!

ScanPlus Transparent Configuration Mode

5. Enter the interface number for your host system

Which interface number?

1. Look on the next pages to see if there is a predefined interface number for your host system hardware configuration:

2. If you find a number for your host system, use the barcode reader connected to your MicroBar NX to read the corresponding bar code.

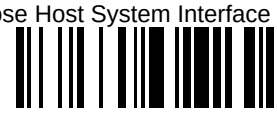
If you do not find an interface number for your host system configuration . . .

If your interface number is not among the predefined interface numbers provided below, you must compose the number yourself.

If you do not know which number to enter, contact your UBI representative.

1. Use your barcode reader to read the Compose Host System Interface Number bar code:

Compose Host System Interface Number



2. Read each digit of your interface number using the number codes on the back cover of this Installation Guide and scan the End Selection bar code—also on the back cover—to finish.

Example	To enter the number 102:
	1. Scan Compose Host System Interface Number.
	2. Scan 1, then 0, then 2.
	3. Scan End Selection.

Predefined interface numbers—Keyboard wedge

IBM PC AT and compatibles

N° 200 - QWERTY - English

N° 201 - AZERTY - French

N° 204 - QWERTZ - German

N° 205 - QWERTY - Swedish / Finnish

N° 207 - QWERTY - Norwegian

N° 208 - QWERTY - Danish

N° 2020 - QWERTZ - Swiss / French

5. Enter the interface number for your host system

Predefined interface numbers—Keyboard wedge

IBM 31xx, 32xx, 34xx

N° 230 - QWERTY - English

N° 231 - AZERTY - French

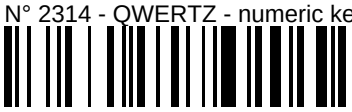
N° 232 - AZERTY - international

N° 234 - QWERTZ - German

N° 2310 - QWERTY - data entry

N° 2313 - AZERTY - data entry

N° 2314 - QWERTZ - numeric keypad



5. Enter the interface number for your host system

Predefined interface numbers—Keyboard wedge

DEC VT 220, 320, 420

N° 410 - QWERTY - PC type

N° 411 - AZERTY - PC type

N° 414 - QWERTZ - PC type

DEC VT/PC 510

N° 271 - AZERTY - PC type

N° 2717 - AZERTY - VT type - French

5. Enter the interface number for your host system

Predefined interface numbers—Keyboard wedge

Apple / Macintosh

N° 220 - QWERTY - English

N° 221 - AZERTY - French

N° 224 - QWERTZ - German

Hewlett Packard 700/92

N° 260 - QWERTY - English

N° 261 - AZERTY - French

N° 264 - QWERTZ - German

Wyse 60, 65, 99GT, 120

N° 300 - QWERTY 102 keys PC/AT fast

N° 301 - AZERTY 102 keys PC/AT fast

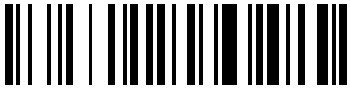
N° 304 - QWERTZ 102 keys PC/AT fast

5. Enter the interface number for your host system

Predefined interface numbers—RS-232

N° 100 - Standard RS-232 C (9600, 7, E, 2)

N° 101 - RS-232 TTL Level



N° 102 - RS-232 PC Term

N° 105 - RS-232 Slave Mode

5. Enter the interface number for your host system

6 Set up the output transmission parameters

output transmission parameters	host-system interface-specific communication parameters—in certain cases they need to be modified to optimize the performance of the MicroBar NX

Scanning the interface number automatically configures your MicroBar NX to suit your operating environment by modifying the settings for data transmission to the host system.

This section provides some common data transmission settings for output to keyboard wedge and RS-232 host systems—if you want to customize your data transmission settings, use your barcode reader to read the corresponding bar codes.

The full set of data transmission parameter options for all the host system interfaces supported is provided in the *MicroBar NX Reference Manual* (➔ *Keyboard wedge—Output to host system* and *RS-232—Output to host system*).

Resetting the predefined data transmission settings

Keep a list of your custom settings—this will be useful if you have to perform a reset.

If you want to reset all the predefined data transmission settings for your host system, rescan the appropriate host system interface number (see section 5, *Enter the interface number for your host system*).

6. Set up the output transmission parameters

Output to host system—Keyboard wedge

An asterisk (*) indicates the predefined parameter settings for keyboard wedge interface N° 200 (QWERTY - English).

Inter-character delay

No Delay (*)

20 ms

Postamble

Enter (*)

Carriage Return

Tab

Field Advance

Field Exit

No Postamble

6. Set up the output transmission parameters

Output to host system—Keyboard wedge

Advanced parameters—*MicroBar NX Reference Manual*

preamble	-	no preamble (*)
	-	user-defined
postamble	-	Down Arrow
	-	user-defined
symbology identifier code marks	-	not transmitted (*)
	-	transmitted
	-	default / user-defined
AIM symbology identifiers	-	not transmitted (*)
		transmitted
special keys interpretation (Code 39)	-	not active (*)
	-	always active
	-	only active if separate 2-character label or if preceded by a hyphen (-)
	-	only active if separate 2-character label
special keys transmission	-	Alt mode off (*)
	-	Alt mode on
end-of-transmission keyboard character status	-	lower case (*)
	-	upper case
inter-character delay	-	user-defined 1 to 999 ms
inter-message delay	-	none (*)
	-	user-defined 1 to 999 ms

6. Set up the output transmission parameters

Output to host system—RS-232

An asterisk (*) indicates the predefined parameter settings for interface N° 100 (Standard RS-232 C).

Baud Rate

9600 (*)

19200

Data bits

Seven (*)

Eight

Parity

Even (*)

Odd

None

Stop bits

Two (*)

One

Output to host system—RS-232

RTS/CTS hardware protocol

Not Active (*)

Active

Inter-character delay

No Delay (*)

10 ms

Postamble

Carriage Return + Line Feed (*)

Carriage Return

Line Feed

No Postamble

6. Set up the output transmission parameters

Output to host system—RS-232

Advanced parameters—*MicroBar NX Reference Manual*

baud rate	-	75 - 150 - 300 - 600 - 1200 - 2400 - 4800 - 38400
parity	-	mark
	-	space
hardware/software protocols timeout	-	1000 ms (*)
	-	unlimited
	-	user-defined 1 to 2500 ms
ENQ (Hex 05)	-	not used (*)
	-	ENQ (HEX 05)
	-	user-defined
ACK (Hex 06)	-	not used (*)
	-	ACK (HEX 06)
	-	user-defined
NAK (Hex 15)	-	not used (*)
	-	NAK (HEX 15)
	-	user-defined
XON/XOFF software protocol	-	not active (*)
	-	active
RTS/CTS hardware protocol	-	low RTS idle (*)
	-	high RTS idle
LRC (longitudinal redundancy check)	-	not active (*)
	-	active
preamble	-	no preamble
	-	user-defined
postamble	-	user-defined
default code marks	-	not transmitted (*)
	-	transmitted
	-	user-defined
AIM symbology identifiers	-	not transmitted (*)
		transmitted
inter-character delay	-	user-defined 1 to 999 ms
inter-message delay	-	none (*)
	-	user-defined 1 to 999 ms

7 Set up the data input parameters

data input devices	devices used to enter data through the MicroBar NX to the host system: • pen barcode readers • laser/CCD barcode readers in wand/laser emulation • undecoded magstripe readers • RS-232 input devices—electronic scales, barcode readers, magstripe readers, . . . See section 3, *Connect the data input devices to the MicroBar NX*.

Depending on the type of input device you connect to the MicroBar NX, you can customize the data input parameters using one or more of the following parameter sets provided in the appendix:

Appendix A - Symbology parameters for barcode readers

Appendix B - Laser scanner parameters

Appendix C - Magstripe parameters

Appendix D - RS-232 input device data transmission parameters

Your MicroBar NX setup is now complete! If you have any problems using your MicroBar NX, refer to Appendix F for help.

7. Set up the data input parameters

A Symbology parameters for barcode readers

symbology	barcode type or "family"—Code 39, UPC and EAN are examples of common symbologies

This appendix provides the activation codes and some common parameter settings for the different symbologies supported.

The full set of available symbology parameter options is provided in the *MicroBar NX Reference Manual* (➔ *Symbologies*).

Factory default settings are indicated by an asterisk (*).

If your application uses a ScanPlus as an input device (wand or laser emulation), the same symbologies (and code lengths if applicable) must be activated for the ScanPlus and the MicroBar NX. **Disconnect the ScanPlus to make sure that ScanPlus Transparent Configuration Mode is disabled before you configure the ScanPlus.**

A. Symbology parameters for barcode readers

Symbology default settings

When you install your MicroBar NX for the first time, Code 39 and UPC/EAN are preselected by default and all the symbology parameters are set to their factory default settings.

The symbology default settings are global factory defaults—they are independent of the different symbology activation codes.

To optimize the performance of your MicroBar NX and to ensure trouble-free decoding, do not select symbologies that you do not need—deactivate the Code 39 and UPC/EAN default symbologies if you do not need to use them.

Resetting symbology default settings

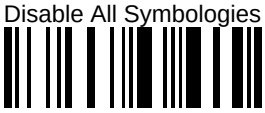
If you want to reset all the default symbology settings, you can scan the Reset Factory Defaults bar code provided in Appendix F, but you will then have to completely reconfigure your MicroBar NX.

In most cases, it is easier to perform the following symbology reset procedure.

Keep a list of your custom settings—this will be useful if you have to perform a reset.

1. Scan the Disable All Symbologies bar code:

Disable All Symbologies



2. Select the activation codes for the symbologies you want to read.
3. Customize the symbology parameter settings if required.

The Disable All Symbologies code deactivates all the symbologies activated. If you want to deactivate individual symbologies, use the Not Active codes for each symbology.

Disable All Symbologies does not reset the individual parameter settings for each symbology. When you reactivate a symbology, you recover the parameter settings stored in memory for that symbology when it was disabled.

Ames Code

Activation

Not Active (*)

Active

Codabar

Activation

Not Active (*)

Active

Common parameter settings—Start/stop

Not Transmitted (*)

a, b, c, d

Advanced parameters—*MicroBar NX Reference Manual*

start/stop	-	A, B, C, D
	-	a, b, c, d / t, n, *, e
	-	DC1, DC2, DC3, DC4
CLSI library system	-	not active (*)
	-	active
check digit (AIM recommendation)	-	not used (*)
	-	checked and transmitted
	-	checked but not transmitted
concatenation	-	read adjacent codes as single code (*)
	-	read single codes only
	-	read adjacent codes if stop 1 = start 2
	-	ABC (American Blood Commission)
	-	transmit single and concatenated codes (*)
	-	transmit concatenated codes only

Code 11

Activation

Not Active (*)

Active

Common parameter settings—Check digits

1 Check Digit (*)

2 Check Digits

Checked And Transmitted (*)

Checked But Not Transmitted

Code 39 (*)

Activation

Active (*)

Not Active

Standard 43 Characters (*)

Full ASCII

Common parameter settings—Start/stop

Not Transmitted (*)

Transmitted

Code 39 (*)

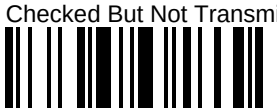
Common parameter settings—Check digit not used

Check Digit Not Used (*)

Common parameter settings—French/Italian pharmaceutical check digits

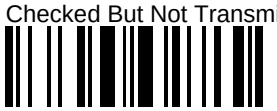
French CIP Check Digit -
Checked And Transmitted

French CIP Check Digit -
Checked But Not Transmitted



Italian CPI Check Digit -
Checked And Transmitted

Italian CPI Check Digit -
Checked But Not Transmitted



A. Symbology parameters for barcode readers

Code 39 (*)

Advanced parameters—*MicroBar NX Reference Manual*

accepted start/stop characters	-	" * " only (*)
	-	" $ " only
	-	" $ " and " * " accepted
modulo 43 check digit	-	checked and transmitted
	-	checked but not transmitted
multiread	-	not active (*)
	-	active on leading space
	-	user-defined leading indicator character
special keys interpretation	-	not active (*)
	-	always active
	-	only active if separate 2-character label or if preceded by a hyphen (-)
	-	only active if separate 2-character label

Code 93

Activation

Not Active (*)

Active

Advanced parameters—*MicroBar NX Reference Manual*

multiread
- not active (*)
- active on leading space
- user-defined leading indicator character

Code 128 / EAN 128

New normalization allows decoding of the UCC/EAN standard extension. EAN 128 is auto-discriminating with Code 128 (recognition of the FNC1 start character used).

Activation

Not Active (*)

Active

Advanced parameters—*MicroBar NX Reference Manual*

FNC1 separator character—EAN-128 norms
- GS function character (ASCII 29) (*)
- user-defined

Interleaved 2 of 5

Activation

Not Active (*)

Active

A. Symbology parameters for barcode readers

Interleaved 2 of 5

Common parameter settings—Barcode length

Barcode length (number of characters) for Interleaved 2 of 5 = [barcode data + check digit if applicable]. The minimum length possible is 2 characters.

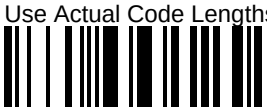
Interleaved 2 of 5 always encodes an even number of characters. To handle codes with an odd number of characters, the MicroBar NX will accept a code with the last character printed as 5 narrow bars. In this case, all useful characters are transmitted.

For maximum security, we strongly recommend that you define 1, 2 or 3 fixed lengths.

Any Length (*)

Define 1 Or 2 Or 3 Fixed Lengths—Use Number Codes

Define 1 Or 2 Or 3 Fixed Lengths—Use Actual Code Lengths



Defining 1 or 2 or 3 fixed lengths using the number codes

1. Scan Define 1 Or 2 Or 3 Fixed Lengths—Use Number Codes.
2. Use the number codes provided on the back cover of this Installation Guide to enter 1, 2 or 3 lengths and scan End Selection after each length.

If you only enter 1 or 2 fixed lengths, scan End Selection twice after the last length you enter (after the first or second length as applicable).

Defining 1 or 2 or 3 fixed lengths using actual code lengths

1. Scan Define 1 Or 2 Or 3 Fixed Lengths—Use Actual Code Lengths.
2. Scan the number code—1 or 2 or 3—corresponding to the number of lengths you want to define using the number codes provided on the back cover of this Installation Guide.
3. Scan End Selection.

The first / second / third Interleaved 2 of 5 codes with different lengths that you read will fix the accepted code lengths—the MicroBar NX will then not accept codes with other lengths.

Interleaved 2 of 5

Advanced parameters—*MicroBar NX Reference Manual*

check digit	-	not used (*)
check digit mod 10	-	checked and transmitted
	-	checked but not transmitted
French CIP HR check digit	-	checked and transmitted
	-	checked but not transmitted

Matrix 2 of 5

Activation

Not Active (*)

Active

MSI Code

Activation

Not Active (*)

Active

Common parameter settings—Check Digit

Check Digit Mod 10—
Checked And Transmitted (*)

Check Digit Mod 10—
Checked But Not Transmitted

Check Digit Double Mod 10—
Checked And Transmitted

Check Digit Double Mod 10—
Checked But Not Transmitted

Plessey Code

Activation

Not Active (*)

Active

Common parameter settings—Check digit

Not Transmitted (*)

Transmitted

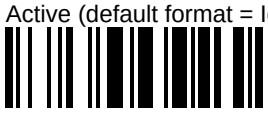
Standard 2 of 5

Standard 2 of 5 is also referred to as "Straight 2 of 5" and "Industrial 2 of 5".

Activation

Not Active (*)

Active (default format = Identicon)



A. Symbology parameters for barcode readers

Standard 2 of 5

Common parameter settings—Barcode length

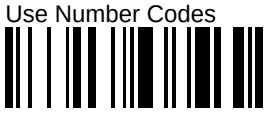
Barcode length (number of characters) for Standard 2 of 5 = [barcode data + check digit if applicable]. The minimum length possible is 3 characters.

For maximum security, we strongly recommend that you define 1, 2 or 3 fixed lengths.

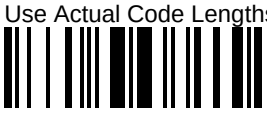
The Any Length code provides zero security.

Any Length (*)

Define 1 Or 2 Or 3 Fixed Lengths—Use Number Codes



Define 1 Or 2 Or 3 Fixed Lengths—Use Actual Code Lengths



Defining 1 or 2 or 3 fixed lengths using the number codes

1. Scan Define 1 Or 2 Or 3 Fixed Lengths—Use Number Codes.
2. Use the number codes provided on the back cover of this Installation Guide to enter 1, 2 or 3 lengths and scan End Selection after each length.

If you only enter 1 or 2 fixed lengths, scan End Selection twice after the last length you enter (after the first or second length as applicable).

Defining 1 or 2 or 3 fixed lengths using actual code lengths

1. Scan Define 1 Or 2 Or 3 Fixed Lengths—Use Actual Code Lengths.
2. Scan the number code—1 or 2 or 3—corresponding to the number of lengths you want to define using the number codes provided on the back cover of this Installation Guide.
3. Scan End Selection.

The first / second / third Standard 2 of 5 codes with different lengths that you read will fix the accepted code lengths—the MicroBar NX will then not accept codes with other lengths.

Standard 2 of 5

Advanced parameters—*MicroBar NX Reference Manual*

start/stop bars	-	Identicon (6 Bars) (*)
	-	Computer Identics (4 Bars)
check digit mod 10	-	not used (*)
	-	checked and transmitted
	-	checked but not transmitted

Telepen

Activation

Not Active (*)

Active

Format

ASCII (*)

Numeric

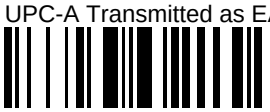
UPC/EAN code families (UPC-A, UPC-E, EAN-8, EAN-13) (*)

Activation

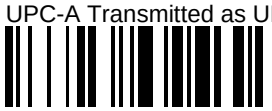
Active—All UPC/EAN (*)

Not Active—All UPC/EAN

UPC-A Transmitted as EAN-13 (*)



UPC-A Transmitted as UPC-A



Add-On Digits Not Required But Transmitted If Read (*)

Add-On Required And Transmitted

Add-On 2 Not Active (*)

Add-On 2 Active

Add-On 5 Not Active (*)

Add-On 5 Active

A. Symbology parameters for barcode readers

UPC/EAN code families (UPC-A, UPC-E, EAN-8, EAN-13) (*)

Common parameter settings—Check digit

UPC/EAN code format: *<leading character> <number system> <data> <check digit>*

UPC-A Check Digit—Transmitted (*)

UPC-A Check Digit—
Not Transmitted

UPC-E Check Digit—Transmitted (*)

UPC-E Check Digit—
Not Transmitted

EAN-8 Check Digit—Transmitted (*)

EAN-8 Check Digit—
Not Transmitted

EAN-13 Check Digit—Transmitted (*)

EAN-13 Check Digit—
Not Transmitted

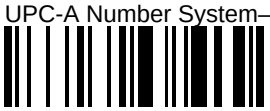
UPC/EAN code families (UPC-A, UPC-E, EAN-8, EAN-13) (*)

Common parameter settings—Transmission of number system

UPC/EAN code format: *<leading character> <number system> <data> <check digit>*

A regular UPC-A has a transmitted number system equal to 0. To transmit the additional leading character (country code), select the parameter UPC-A Transmitted As EAN-13.

UPC-A Number System—Transmitted (*)



UPC-A Number System—
Not Transmitted

UPC-E Number System—Transmitted (*)

UPC-E Number System—
Not Transmitted

Advanced parameters—*MicroBar NX Reference Manual*

UPC/EAN format deactivation	- all active—UPC-A, UPC-E, EAN-8, EAN-13 (*)
	- UPC-A deactivated
	- UPC-E deactivated
	- EAN-8 deactivated
	- EAN-13 deactivated
re-encoding UPC-E, EAN-8	- UPC-E transmitted as UPC-E (*)
	- UPC-E transmitted as UPC-A
	- EAN-8 transmitted as EAN 8 (*)
	- EAN-8 transmitted as EAN-13

A. Symbology parameters for barcode readers

B Laser scanner parameters

This appendix provides some common parameter settings for laser scanner input devices.

Keep a list of your custom settings—this will be useful if you have to perform a reset.

The full set of laser scanner parameter options is provided in the *MicroBar NX Reference Manual* (➔ *Laser scanner input devices*).

Factory default settings are indicated by an asterisk (*).

Laser timeout before deactivation

Laser scanners normally remain active until the trigger is released or a timeout period is reached.

The laser timeout codes allow the MicroBar NX to control the timeout period before deactivation and are valid for all laser trigger configurations.

2 sec (*)

1 sec

3 sec

8 sec

B. Laser scanner parameters

Marker beam

The marker beam is a spot of light to make aiming easier. Marker Beam On activates the laser scanner marker beam when the trigger is pressed.

Marker beam is only available for UBI ScanImage 9x0 and QuickScan laser scanners equipped with a special cable.

Marker Beam Off (*)

Marker Beam On

Advanced parameters—*MicroBar NX Reference Manual*

RS-232 trigger	-	not active (*)
	-	user-defined activation character
CTS trigger	-	not active (*)
	-	low level active
	-	high level active
autostand mode	-	autostand off (*)
	-	autostand on
“code not read” message	-	not active (*)
	-	user-defined ASCII character and repetition number (max = 20)

C Magstripe parameters

This appendix provides some common parameter settings for magstripe input devices—use a barcode reader to read the corresponding configuration codes.

Keep a list of your custom settings—this will be useful if you have to perform a reset.

The full set of magstripe parameter options is provided in the *MicroBar NX Reference Manual* (➔ *Magstripe input devices*).

Factory default settings are indicated by an asterisk (*).

Track selection

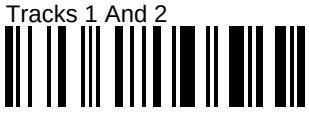
The MicroBar NX can read 1 track or 2 tracks from a possible total of 1, 2, or 3 tracks.

Read All Tracks (*)

Track 1 Or 3

Track 2

Tracks 1 And 2



Tracks 2 And 3

Advanced parameters—*MicroBar NX Reference Manual*

transmission sequence	-	track 1 / track 3 then track 2 (*)
	-	track 2 then track 1 / track 3
track separator character	-	user-defined (default = #)
start/end sentinels	-	not transmitted (*)
	-	transmitted
LRC check digit	-	checked but not transmitted (*)
	-	checked and transmitted

D RS-232 input device data transmission parameters

Use the configuration codes in this appendix to change the default RS-232 data transmission parameter settings if you have an RS-232 C or RS-232 TTL input device on Port 4 of the MicroBar NX.

Keep a list of your custom settings—this will be useful if you have to perform a reset.

The full set of parameter options for RS-232 input devices is provided in the *MicroBar NX Reference Manual* (➔ *RS-232 input devices*).

Factory default settings are indicated by an asterisk (*).

Baud Rate

9600 (*)

1200

2400

4800

D. RS-232 input device data transmission parameters

Data bits

Seven (*)

Eight

Parity

Even (*)

Odd

None

Stop bits

One (*)

Two

RTS/CTS hardware protocol

When the RTS/CTS protocol is activated, the MicroBar NX waits for an RTS from the RS-232 input device and sends a CTS when it is ready to receive data.

Not Active (*)

Active

Transmission to the host system

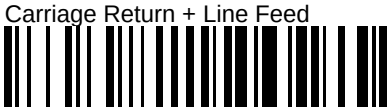
Transmit on end-of-message character

The RS-232 input device transmits data on a message-by-message basis. By default, the MicroBar NX transfers the data to an input buffer (250 characters maximum) and sends the data to the host system when it receives an end-of-message character (Carriage Return (0Dh) by default).

Transmit On End-Of-Message Character (*)

Carriage Return (*)

Carriage Return + Line Feed



D. RS-232 input device data transmission parameters

Transmit character by character

Transmit Character By Character transmits to the host system each character as it is received—the characters do not go through the input buffer. **If you use this option, we recommend that you activate the RTS/CTS protocol with the input device.**

Transmit Character By Character

Transmit on timeout

Transmit On Timeout transmits the buffered message to the host system when the specified timeout value is received—useful if the RS-232 input device does not send an end-of-message character for example.

Transmit On Timeout Not Active (*)

Transmit On Timeout (default = 2.5 s)

ASCII control code transmission filter

The RS-232 input device may send control characters that you do not want the MicroBar NX to transmit to the host system—preambles and end-of-message characters for example.

With the ASCII control code transmission filter, ASCII control characters 00h-20h received from the RS-232 input device are removed by the MicroBar NX before the data is transmitted to the host system.

Transmit All ASCII Characters (*)

Do Not Transmit ASCII Characters 00h-20h

Advanced parameters—*MicroBar NX Reference Manual*

baud rate	-	300
	-	600
parity	-	mark
	-	space
ENQ / ACK / NAK software protocol	-	ENQ not active (*)
	-	ENQ (HEX 05)
	-	ACK not active
	-	ACK (HEX 06) (*)
	-	NAK not active
	-	NAK (HEX 15) (*)
XON/XOFF software protocol	-	not active (*)
	-	active
transmit on end-of-message character	-	user-defined end-of-message character
transmit on timeout	-	user-defined timeout

Special keys interpretation—Output to keyboard wedge

dual-character combinations	-	not active (*)
	-	always active
	-	only active if separate 2-character label or if preceded by a hyphen (-)
	-	only active if separate 2-character label
single character with ASCII value > 7Fh	-	only active if separate 8-bit character label
UDI / CICS	-	not active (*)
	-	active

D. RS-232 input device data transmission parameters

E Additional operating parameters

This appendix provides a list of additional operating parameters not provided in this Installation Guide. The full set of MicroBar NX operating parameter options is provided in the *MicroBar NX Reference Manual*.

Factory default settings are indicated by an asterisk (*).

Configuration modes

copy configuration mode	-	source / target selection
configuration password mode	-	not active
	-	user-defined password
temporary configuration mode	-	enable
	-	restore current configuration
	-	update current configuration
display data string mode	-	enable

Beeps

good read beeps	-	1beep (*)
	-	2 beeps
	-	no beep
timing of good read beeps	-	before transmission (*)
	-	after transmission
duration of good read beeps	-	80 ms (*)
	-	60 ms
	-	200 ms
	-	300 ms
	-	user-defined (0 to 999 ms)

Input identifiers

position	-	before barcode data
	-	after barcode data
	-	port 1 / 3
	-	port 4
	-	port 5

E. Additional operating parameters

Data decoding security parameters

consecutive same read data validation
- single read before transmission (*)
- user-defined number of consecutive same reads before transmission (maximum = 10)

Data formatting

- activation—I/O port selection
- symbology selection
- define input data length
- define reformatting sequence
- insert addiitonal characters
- insert delays
- substitute / delete characters

F If you have a problem . . .

This appendix describes things you can try if you have problems with your MicroBar NX during power-up, configuration and normal operation.

If you can not solve the problem yourself, please contact your UBI representative.

Before you contact your UBI representative . . .

Look in the following checklists if you have any of the following problems:

- no LEDs,
- no beeps,
- error beeps,
- no transmission,
- incorrect transmission.

Setup problems—Checklist

- ☐ system connected up correctly
- ☐ system switched on
- ☐ sufficient electrical power—if the MicroBar NX appears to operate correctly when no input devices are connected, an external power supply may be necessary
- ☐ correct power-up beep indication—2 beeps
- ☐ interface number selected—if indicator LED stays green after power-up, no interface number has been selected
- ☐ End Selection scanned once or twice if required for certain configuration codes (barcode length for example)

F. If you have a problem . . .

Reading problems—Checklist

- ☐ correct symbologies selected for the bar codes you are trying to read (MicroBar NX and barcode reader if applicable)
- ☐ symbologies you read are available for your MicroBar NX and barcode reader
- ☐ all unnecessary symbologies disabled
- ☐ barcode length compatible with fixed length parameter settings of MicroBar NX and barcode reader if applicable
- ☐ MicroBar NX configured for check digit and no check digit present in code
- ☐ barcode quality, damaged or poorly printed codes, "fragile" symbologies—read the appropriate test code to see if there is a problem with the symbology (Appendix G)
- ☐ magstripe card condition

Transmission problems—Checklist

- ☐ interface number selected—if indicator LED stays green after power-up, no interface number has been selected
- ☐ correct interface number selected for your host system hardware configuration
- ☐ all unnecessary symbologies disabled
- ☐ correct RS-232 input transmission settings (RS-232 input devices)
- ☐ correct RS-232 output transmission settings
- ☐ inter-character delay value required if transmitted data incomplete or incorrect

Try a general reset of the MicroBar NX . . .

If you do not find a solution after checking the above points, you can try a general reset of the MicroBar NX.

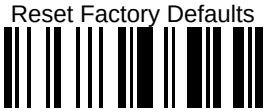
Reset Factory Defaults resets all the MicroBar NX operating parameters to their factory default settings:

- null interface (no host system interface driver selected—no transmission),
- default symbologies and symbology settings,
- default MicroBar NX operating settings (beep settings, etc.).

If you scan Reset Factory Defaults, you will have to re-enter the appropriate interface number for your host system and any custom settings if applicable. It is often easier to reset individual parameters.

1. Switch off the host system and disconnect the MicroBar NX power supply if applicable.
2. Reconnect the MicroBar NX power supply if applicable.
3. Switch on the host system.
4. Use your barcode reader to scan Reset Factory Defaults:

Reset Factory Defaults



5. Scan the interface number for your system (see section 5, *Enter the interface number for your host system*).
6. Customize the settings for output transmission to your host system if required (see section 6, *Set up the output transmission parameters*).
7. Customize the data input parameter settings if required (see section 7, *Set up the data input parameters*).

If you still have a problem . . .

Contact your UBI representative and give full details of the problem.

Your UBI representative may ask you to provide the software / CPU version numbers for your MicroBar NX. If the MicroBar NX is powered up, try to read the following code to display this information on your host system screen if applicable.

Software / CPU Versions

G Test codes

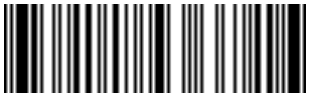
Codabar

123456

Code 39

CODE-39

Code 93



CODE-93

Code 128

CODE-128

EAN 128

]C1EAN 128

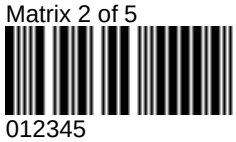
Interleaved 2 of 5

12345678901234

Standard 2 of 5

123456

Matrix 2 of 5



012345

G. Test codes

MSI Code

12345666

Plessey Code

80001495050

EAN-8

12345670

EAN-13

1234567890128

UPC-A

UPC-E

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UBI representative:

MB/NX/IG/00/E/961031

Number codes

1

2

3

4

5

6

7

8

9

0

End Selection