# Overview :

# 1. What is Scan Utility?

Scan Utility provides a user interface that communicates with the scanner. It can set up the scanner, download the scanner's internal settings and save the scanner's default settings, making it more convenient for the user to set up the scanner.

## 2. System requirements:

Operating system : Microsoft Windows 95/98/NT/ME/2000/XP/ Vista/ Win7 PC : at least IBM PC 80486 Memory : above 16 MB Disk space : hard disk required 10 MB

# 3. Com port:

Interface: RS-232 Serial, USB virtual com Protocol: Baud rate, Data Bits, Parity, Stop Bits Flow Control: None, XON/XOFF and hardware **1. New:** Open a new project. All of the settings are set to default depending on the scanner model.



- **2. Open:** Open an existing file.
- 3. Save: Save a file.
- 4. Save as: Save a file under a different name.
- 5. Print Setup: Set options for printing.
- 6. Preview: Preview the printing file.
- 7. Print: Print the current parameter setting list.
- 8. Exit: Exit Scan Utility.

Toolbar

🗅 🚅 🖬 🦁 🍕 🍕 🏶 🛸 🔉 💷 💥 🎒

#### Icon definitions starting from left are:

- 1. Open a new project
- 2. Open
- 3. Save a file
- 4. Setup RS-232
- 5. Export parameters to Scanner
- 6. Download the scanner's internal settings
- 7. Download firmware.
- 8. Scanner parameter settings
- 9. Linear Barcode parameter settings
- 10. 2D Barcode parameter settings
- 11. Print the current parameter settings list
- 12. Scan Utility version
- 13. Scan Utility read me file

#### File type:

Save the Scan Utility file with the filename \*.ASC.

# Scanner Setup

#### 1. Interface Selection Settings

**Interface Selection:** You can change the factory interface default for another interface. By plugging different cables and setting the right interface, the scanner will change to another interface. However, you must be sure of the cable you need.

(Keyboard Wedge)/ RS232/USB HID Auto detection: By setting this function, the Keyboard wedge or RS-232 is automatically selected as the user interface.

Transmission Scan mode String setting
Interface Selection Keyboard Wedge RS-232 Wand emulation Indication
☐ Interface Setting
□ Interface Selection
© <u>R</u> S-232
Keyboard / RS-232 / USB guto detection

#### 2. Keyboard Wedge Settings

**Keyboard Layout:** The keyboard layout supports many languages besides the USA keyboard layout. Confirm the language you wish to use.

Keyboard Type: Select the keyboard type connector of your host computer.

**Keyboard Speed:** You can select the output speed of the scanner to match the host computer. Generally, set 00 or 01 as the working high speed. If some output barcode characters have been lost, you may need to set 05 or 06 to

match your host keyboard speed.

**Function Key:** Set Enable and the scanner can output code by pressing a function key in your application program for the barcode data containing ASCII values between 0116 to 1F16. Refer to the ASCII table.

**Numeric Key:** Select the Keypad if your application program only accepts keypad numeric code. The scanner will output code as you press numeric keypad when it reads numeric digits. The keypad is on the right side of the keyboard, and Num Lock control key is also on. If Alt+Keypad is selected, Caps Lock and output will be independent.

Caps Lock: Provide the scanner with Caps Lock status by selecting Caps Lock or No Caps Lock,.

**Power-on simulation:** All PCs check the keyboard status during power-on self test. It is recommended that you Enable this function if you are working without a keyboard installed. It simulates keyboard timing and passes keyboard present status to the PC during power-on.

**Inter-character delay:** This delay is inserted after each data character is transmitted. If the transmission speed is too high, the system may not be able to receive all characters. Adjust it and try a suitable delay to make the system work properly.

**Block transmission delay:** This is a delay timer between barcode data output. The feature is used to transfer continually with shorter barcode data or multi-field scanning.

Scanner Setup		×
Transmission	Scan mode	String setting
Interface Selection	Keyboard Wedge RS-232	2 Wand emulation Indication
Keyboard Setting		
Keyboard layout	Keyboard type	
💿 USA	💿 IBM AT,PS/2	Keyboard speed
C Belgium	C IBM PS/2 25,30	
C Danish	C 1D1/ D9/0 55	Function key
C France		
C Germany	C IBM XT	
🔿 Italian	C IBM 5550	Caps lock OFF
C Portuquese	C Macintosh ADB	
C Spanish	C NEC 9801	Power-on simulation Disable 💌
C Swedish		
C Switzerland	Numeric key	Inter-character 2
C UK	💿 Alphabetic key	delay (msec)
C Latin American	C Numeric keypad	Block transmission
C Japanese	C Alt+Keypad	delay (10 msec)
		<u>OK</u> <u>Cancel</u>

#### 3. RS-232 Settings

Flow control:

**None -** Communication only uses  $T \times D$  and  $R \times D$  signals without regard for any hardware or software handshaking protocol.

**RTS/CTS** - If the scanner wants to send the barcode data to a host computer, it will issue the RTS signal first, wait for the CTS signal from the host computer, and then perform normal data communication. If there is no CTS signal reply from the host computer after the timeout (Response Delay) duration, the scanner will issue 5 warning beeps.

**Xon/Xoff** - When the host computer is unable to accept data, it sends an Xoff code to inform the scanner to suspend data transmission, and Xon to continue.

**ACK/NAK-** When the ACK/NAK protocol is used, the scanner waits for an ACK (acknowledge) or (not acknowledge) from the host computer after data transmission, and will resend in response to a NAK.

**Inter-character delay:** This is the delay time between data character's data output. It is also the same as the Inter-char. delay of the keyboard wedge.

**Block transmission delay:** This is the delay time between barcode data output. It is also the same as the Block transmission delay of the keyboard wedge.

**Response delay:** This delay is used for serial communication of the scanner to wait for handshaking acknowledgment from the host computer.

Scanner Setup			
Transmission	Scan mode	Strings	ætting
Interface Selection Key	board Wedge RS-232	Wand emulation	Indication
□ <u>RS-232 Setting</u>			
Baud rate	- Parity	Flow control	
C 300 BPS	None	💿 None	
C 600 BPS	C Odd	C RIS/CIS	
C 1200 BPS	C Even	C Xon/Xoff	
C 2/00 EPS		C ACK/NAK	
C 2400 DIN	Data bit		
C 4800 BPS	😨 8 bits		
9600 BPS	C 7 bits	Inter-oberecter delevi	
C 19200 BPS		(msec)	
🔿 38400 BPS	Stop bit	Block transmission delay	
C 57600 BPS	💿 One bits	(10 msec)	·
C 115200 BPS	C Two bits	Response delay (100 msec)	20
		<u>O</u> K <u>C</u> ancel	

### 4. Wand Emulation Settings

#### Bar/space polarity:

**High/low** - Black is transmitted as a high voltage level (+5) and space as low level (0V). **Low/high** - Black is transmitted as a low voltage level (0V) and space as high level (+5).

**Initial polarity:** You must make sure of the initial polarity of your wand decode device in stand-by (idle). The initial signal state is a High voltage level (+5) or Low voltage level (0V).

**Output speed:** This setting is the same as serial transmission baud rate, and it must be appropriate for your wand decode resolution. The unit of speed is the width of the minimum narrow bar.

**Margin delay:** This is a timer of zone such as the space zone of a barcode label margin. The width of the margin time is added before and after in each barcode data automatically when it is transmitted.

**Transmit delay:** This is the delay time between barcode data output. It is the same as the Block transmission delay of the keyboard wedge.

Scanner Setup					×
Transmission Interface Selection	 Keyboard Wed <i>g</i> e	Scan mode RS-232	S Wand emulation	tring setting	
	🗖 War	nd emulation Setting			
01	atput speed	-Bar/space polarity-			
	C 620 pps	C Low/High			
	C 1250 pps				
	C 2500 pps	Initial polarity			
	💿 5000 pps	C High			
	С 10000 ррз	Delay Margin delay	15		
	C 20000 pps	(10 pixel)			
		<u>T</u> ransmit delay (10mæc)	30		
		<u>0</u>	K <u>C</u> e	ancel	

### 5. Parameter Settings for Indication and Transmission

Power on alert: After power-on the scanner will generate an alert signal to indicate a successful self-test.

**LED indicator:** After each successful reading, the LED above the scanner will light up to indicate a good barcode reading.

**Buzzer indicator:** After each successful reading, the scanner will beep to indicate a good barcode reading, and its Beep loudness, Beep tone freq. and Beep tone duration are adjustable.

**Beep loudness/Beep tone freq./Beep tone duration:** You can adjust the Beep Loudness, Beep tone and Beep duration for a good reading as you prefer.

**Preamble/ Postamble transmission:** By setting Enable, the Preamble/Postamble is appended before the data is transmitted.

**Insert data group 1-4 position:** The scanner offers 4 positions to insert among the symbol. The position default value is "00" to indicate no character insertion. Make sure insertion positions are not greater than the symbols, otherwise the insertion data is not effective.

Code ID position: This sets the position of the Code ID for before or after code data for transmission.

Code ID transmission: If your application needs to transmit Code ID, you must set this to Enable.

**Code length transmission:** A number of data digits can be transmitted before the code data when Enable is selected. The total length of the barcode is the number of barcode data except Truncate Leading/Ending Digits. The length is a number with two digits.

**Code name transmission:** This function shows unknown barcode symbologies that include all readable symbologies of the scanner. When Enable is selected, a Code Name is transmitted before code data to let you know the barcode symbology type.

Case conversion: Under the barcode, you can set the alphabet in either upper case or lower case.

Scanner Setup				
Transmission	Scau	n mode	String se	etting
Interface Selection Key	board Wedge	RS-232	Wand emulation	Indication
🔲 Indication Setting				
_ Indication				
Power on alert	Enable 💌			
LED indication	Enable			
Beeper indication	Enable 💌			
Beep loudness (0~7)	7	Inquiry beep	8	1
Beep tone freq (100Hz)	26	Cradle beep lot	udnes Level 3 💌	1
Beep tone duration (10mæc)	10			
			K <u>C</u> ancel	

Scanner Setup								×
Interface Selection K Transmission	Keyboard Wedge	 Scan r	RS-232 node	Ì	Wand emula	tion   Strings	Indication setting	
🔲 Iransmission Setting								
Transmission Setting								
Preamble transmission	Disable	~						
Postamble transmission	Disable	-						
Code ID position	Before code data	~						
Code ID transmision	Disable	~						
Code length transmission	Disable	~						
Code name transmission	Disable	~						
Case conversion	Disable	~						
Insert data group 1 position	0		GTI	N		Disable	~	
Insert data group 2 position	0		Char			0		
Insert data group 3 position	0	_	Cha			Jo	10	
Insert data group 4 position	0		Chai	racter (	conversion 2	0	0	
			Г				1	
			L	2	<u> </u>	<u>C</u> ancel		

#### 6. Parameter Settings for Scanner

Preamble transmission: Set to Enable to append the Preamble before the transmitted data.

Postamble transmission: Set to Enable to append the Postamble before the transmitted data

**Insert data group 1-4 position:** The scanner offers 4 positions to insert among the symbol. The position default value is "00" to indicate no character insertion. Beside, make sure insertion positions are not greater than the symbols; otherwise the insertion data is not effective.

Code ID position: This sets the position of the Code ID for before or after code data for transmission.

Code ID transmission: Set to Enable if your application needs to transmit Code ID.

**Code length transmission:** A number of data digits can be transmitted before the code data when Enable is selected. The total length of the barcode is the number of barcode data except Truncate Leading/Ending Digits. The length is a number with two digits.

**Code name transmission:** This function shows unknown barcode symbologies that include all readable symbologies of the scanner. When Enable is selected, Code Name is transmitted before code data and you will know the barcode symbology type.

**Case conversion:** For the barcode, you can set the alphabet in either upper case or lower case.

nterface Selection Ko Transmission	eyboard Wedge	RS-232 Scan mode	Wand em	ulation   String sett	Indication ing
	<u> </u>	n mode Setting			
Scan					
Scanning <u>m</u> ode	Momentary	Stand-by <u>d</u> ura (second)	tion	10	
Inverted image scan	Disable	Double read <u>t</u> i (10 msec)	imeout	50	
<u>C</u> TS trigger	Disable	- Dou <u>b</u> le confir	m(0 ~9)	0	
Position indication	Disable	Global mi <u>n</u> . co	ode length	4	
Stand mode	DISABLE	Global ma <u>x</u> . c	ode length	99	
ISBT Concatenation	Disable	- Supplement C	heck	0	
Batch mode	Disable	- Handcuff alan	n duration	0	
<u>P</u> ower saving	Disable	-			

#### 7. String Settings

Prefix characters: Up to 22 ASCII characters may be sent before data digits.

Prefix Data Digits Suffix

Suffix characters: Up to 22 ASCII characters may be sent after data digits.

**Preamble/ Postamble characters:** These characters are appended to the data automatically when each barcode is decoded.

**Insert G1/G2/G3/G4 character setting:** The scanner offers 4 positions and 4 characters to insert among the symbol.

**Note:** This function offers 22 characters. If it is over 22 characters, it deletes the excess part automatically. If you have any character that you cannot find on your keyboard, please refer to the ASCII code table.

**Example:**  $\star \rightarrow$  set "\x2A". When the string setting shows "\x00", this clears the characters that you set before.

Scanner Set	ap					
Interface	e Selection   Keyboard <sup>1</sup> Transmission	Wedge   Sca	RS-232 n mode	Ĩ	Wand emulation String	Indication setting
	-String setting	<u> </u>	ing Setting			
	Prefix characters setting (No more than 22 charac	ters)				
	Suffix charcaters setting (No more than 22 charac	ters)				
	Preamble characters settin (No more than 22 charac	ıg :ters)	PREAMBLE	3		
	Postamble charcaters setti (No more than 22 charac	ng :ters)	POSTAMBL	Æ		
	Insert G <u>1</u> characters settin (No more than 22 charac	ug :ters)	GROUP1			
	Insert G <u>2</u> characters settin (No more than 22 charac	ug :ters)	GROUP2			
	Insert G <u>3</u> characters settin (No more than 22 charac	ug :ters)	GROUP3			
	Insert G <u>4</u> characters settin (No more than 22 charac	ıg :ters)	GROUP4			
	Configuration ID (No more than 10 charact	ters)	Config.ID			
	GTIN ID (No more than 2 characte	ers)	G			
				<u>(</u>	<u>OK</u> <u>C</u> ancel	

## 8. DataMagic

DataMagic only supports the newest Argox scanner models, such as the AR-3000 and the AI-6800. The scanners allow a maximum of 10 Rules.

#### Functions

DataMagic has ten functions: InsertFront, InsertBack, CutFront, CutBack, Replace,-KeepFront, KeepBack Find&Cut Front, Find &Cut Back, Erase.

**InsertFront/InsertF**: In the original data, insert a group at a specified position from the front. "**Position**" textbox specifies the insert position (starting from position 0). "**String from**" combobox specifies the string group to insert. Please refer to **Section 7. String Settings**.

**InsertBack/InsertB** : In the original data, insert a group at a specified position from the back. "**Position**" textbox specifies the insert position (starting from the back). "**String from**" combobox specifies the string group to insert.

CutFront/CutF: From the front of the original barcode data, cut the data from "Position from" textbox to "to" textbox.

CutBack/CutB: From the back of the original barcode data, cut the data from "End from" textbox to "to" textbox.

Replace: In the original data group, replace "Replace" combobox with "with" combobox.

KeepFront/KeepF: From the front of the original barcode data, keep the data from "Keep from" textbox to "to" textbox.

**KeepBack/KeepB**: From the back of the original barcode data, preserve the data from "**Keep from end**" textbox to "**to**" textbox.

**Find&Cut Front/FindF:** From the original barcode data, find and cut the string group selected by "**Find&CutFront**" combobox and the data in front of it. With the "**Include/Exclude**" combobox you can control whether to cut this string group.

**Find &CutBack/FindB**: From the original barcode data, find and cut the data behind a string group selected by the **"Find&CutBack"** combobox. With the **"Include/Exclude"** combobox you can control whether to cut this string group.

Erase: Erase this rule.

#### Multi-condition Example:

Barcode type: EAN13

Interface: USB COM

Original Barcode Data: 4901991570014

If you wish to output: 14[TAB]AA0199[TAB]S/N :15700

Steps:

- 1. Set up string groups
- 2. Set up DataMagic
- 3. Enable DataMagic for EAN-13
- 4. Select interface
- 5. Export to scanner

The Multi-condition example above is shown in the following screens.

Scanner Setup				
Interface Selection   Keyboard   R	-232 Wand emulation	Indication   Transmission   Sc	an mode String setting	Data Magic
Interface Selection       Keyboard       RS         String setting       Prefix characters setting       (No more than 12 characters)         Suffix characters setting       (No more than 12 characters)         Suffix characters setting       (No more than 12 characters)         Preamble characters setting       (No more than 12 characters)         Postamble characters setting       (No more than 12 characters)         Insert G1 characters setting       (No more than 12 characters)         Insert G2 characters setting       (No more than 12 characters)         Insert G3 characters setting       (No more than 12 characters)         Insert G4 characters setting       (No more than 12 characters)         Insert G5 characters setting       (No more than 12 characters)         Insert G5 characters setting       (No more than 12 characters)         Insert G5 characters setting       (No more than 12 characters)         Insert G5 characters setting       (No more than 12 characters)         Insert G5 characters setting       (No more than 12 characters)	S-232   Wand emulation	Indication       Transmission       Sc         (Setting)         Insert G7 characters setting       (No more than 12 characters)         Insert G8 characters setting       (No more than 12 characters)         Insert G9 characters setting       (No more than 12 characters)         Insert G10 characters setting       (No more than 12 characters)         Insert G10 characters setting       (No more than 12 characters)         Configuration ID       (No more than 4 characters)         GTIN ID       (No more than 2 characters)	an mode String setting GROUP7 GROUP8 GROUP9 ID G	Data Magic
			<u>O</u> K	Cancel

Scanner Setup				
Interface Selection   Keyboard   RS-232   Wand emu	ulation   Indication   Trai	nsmission   Scan mode   String	setting Data Mag	ic ]
<ul> <li>✓ Data Magic</li> <li>Rule 1</li> <li>✓ Enable Replace ▼ string with string</li> </ul>	Group1 💌 Group2 💌	Rule 6	from	7
Rule 2 Enable InsertF  position string	0 Group3	Rule 7 Enable InsertF	position string	
Rule 3 Enable InsertF  position string	6 Group4	Rule 3 Enable InsertF 💌	position string	
Rule 4 From to	1	Rule 9 Enable InsertF _	position string	
Rule 5 Enable KeepB  from to	1 6	Rule 10	position string	
			<u>O</u> K	Cancel

Linear Barcode setup			X
Matrix 25 Eur   Symbologies   Code 11   Code :	China Post 39   Code 93   Code 128	GS1 DataBar   Codabar EAN   125	Italian Pharmacode     Plessey   Telepen   UPC
EAN-8	eđ	EAN-13	
CkSum Transmit	Enable	CkSum Transmit	Enable
DataMagic	Disable	DataMagic	Enable
Supplement digits	None	Supplement digits	None
Truncation/Expansion	None	ISBN/ISSN conversion	Disable
Expansion	Disable	Truncate leading	0
Truncate leading	0	Truncate ending	0
Truncate ending	0	Code ID setting	F
Code ID setting	FF	Insert group selection	0 0
Insert group selection	0	ISBN ID	I
Supplementary		Supplementary	
		<u> </u>	<u>OK</u> <u>Cancel</u>

Scanner Setup										
Interface Selection	Keyboard	RS-232	Wand emulation	Indication	Transmission	Scan mode	String setting	Data Magic	1	
			<b> </b> ✓ <u>I</u> nterface	Setting						
		Interface \$	Selection							
		O≚	eyboard Wedge							
		OR	S-232							
		οu	SB HID							
		() R	.S-232 / HID <u>a</u> uto (	letection						
		ΦŬ	SB COM							
							<u>O</u> K	<u>C</u> a	ıncel	

Host RS:	232 Setup			×
	- RS232 S	etting –	[Port Setting]	
1	<u>0</u> K		<u>C</u> ancel	



Export to de	vice		X
Device 7	AR3000		-
Host		Scann	er
[ <u> </u>	port	<u>C</u> ancel	

Port Setting	
Port :	СОМ1
<u>B</u> aud rate :	115200 🗸
<u>D</u> ata bits :	8 💌
Parity :	None
<u>S</u> top bits:	1 💌
<u>F</u> low control :	None
<u>0</u> K	<u>C</u> ancel <u>D</u> efault

In the Scanner Setup / String setting screen below, set the content to insert:

Insert G1: 49 Insert G2: AA Insert G3:\x09 Insert G4: \x09S/N

Scanner Setup					×
Scanner Setup         Interface Selection       Keyboard       RS         String setting       Prefix characters setting       (No more than 12 characters)         Suffix characters setting       (No more than 12 characters)         Preamble characters setting       (No more than 12 characters)         Preamble characters setting       (No more than 12 characters)         Postamble characters setting       (No more than 12 characters)         Insert G1 characters setting       (No more than 12 characters)         Insert G2 characters setting       (No more than 12 characters)         Insert G2 characters setting       (No more than 12 characters)         Insert G3 characters setting       (No more than 12 characters)         Insert G4 characters setting       (No more than 12 characters)         Insert G5 characters setting       (No more than 12 characters)         Insert G5 characters setting       (No more than 12 characters)         Insert G5 characters setting       (No more than 12 characters)         Insert G6 characters setting       (No more than 12 characters)         Insert G6 characters setting       (No more than 12 characters)	S-232 Wand emulation  String  PREAMBLE  POSTAMBLE  49  AA  W09  W09S/N  GROUP5  GROUP6	Indication Transmission Se g Setting Insert G7 characters setting (No more than 12 characters) Insert G8 characters setting (No more than 12 characters) Insert G9 characters setting (No more than 12 characters) Insert G10 characters setting (No more than 12 characters) Configuration ID (No more than 4 characters) G TIN ID (No more than 2 characters)	an mode String setting GROUP7 GROUP8 GROUP9 GROUP10 ID G	Data Magic	X
			<u> </u>	Cancel	

Step 2: Set up DataMagic

In the Scanner Setup / DataMagic screen, set the Rules as below:

Rule 1: Replace G1 (49) with G2 (AA)

- Rule 2: Insert Front Position (0) String from G3 (\x09)
- Rule 3: Insert Front Position (6) String from G4 (\x09S/N)
- Rule 4: Keep Back from end (1) to (2)
- Rule 5: Keep Front from front (1) to (6)
- Rule 6: Keep Back from end (7) to (11)

anner Setup	×
interface Selection   Keyboard   RS-232   Wand emulation   Indication   Tr	ansmission   Scan mode   String setting   Data Magic
✓ Data Magic       Rule 1       ✓ Enable Replace       with       Group2	Rule 6 Enable Preserve B Preserve from end 7 to 11
Rule 2 Fosition String from Group 3 Comparison C	Rule 7 Enable InsertF Position String from
Rule 3     Fosition     6       Image: Enable InsertF     Position     6       String from     Group4     Image: Comparison of the second s	Rule 8 Enable InsertF Position String from
Rule 4 Freserve from end 1 to 2	Rule 9 Fosition Enable InsertF String from
Rule 5 Enable Preserve F Preserve from 1 to 6	Rule 10 Enable InsertF Position O String from V
	<u>OK</u> <u>C</u> ancel

inear Barcode :	setup							
Matrix 2 Symbologies	25 Eur Code 11   Co	China Po de 39   Code 93	ost     Code 128	GS1 DataE Codabar EAN	3ar     125	Italian Plessey	n Pharmacode Telepen	UPC
EAN	[-8			EAN-13				
	Code reading er	abled.		🔽 Code	reading enabled			
Ck	Sum Transmit	Enable	*	CkSum I	ransmit	Enable	•	
Dat	taMagic	Disable	V	DataMag	ic	Enable	<b>_</b>	
Su	pplement digits	None	7	Suppleme	ent digits	None	-	
Tru	incation/Expansio	n None	7	ISBN/ISS	N conversion	Disable	•	
Exj	pansion	Disable	7	Truncate	leading	0		
Tru	uncate leading	0		Truncate	ending	0		
Tru	incate ending	0		Code ID	setting	F		
Co	de ID setting	FF		Insert gro	up selection	0		
Ins	ert group selection	0 0		ISBN ID		I		
Su	upplementary			Suppleme	entary			
					<u>0</u>	K <u>C</u> a	ncel	

Step 3: In the Linear Barcode setup / EAN screen, enable DataMagic for EAN-13.

Step 4: In the Scanner Setup / Interface Selection screen, select the interface and Com port.

Scanner Setup	×
Interface Selection Keyboard RS	-232   Wand emulation   Indication   Transmission   Scan mode   String setting   Data Magic
	✓ Interface Setting
_ Int	erface Selection
	€ Keyboard. Wed.ge
	C 18 323
	( <u>N</u> 0 <sup>-232</sup>
	C USB HID
	C RS-232 / HID auto detection
	© USB COM
	QK Cancel

Host RS	232 Setup		×
	-RS232 Setting-		
	СОМ29 💌	Port Setting	
	<u>0</u> K	<u>C</u> ancel	]

Step 5: In the Scanner Utility / Tool menu, select "Export Config from Host" and then the device.



Expo	it to (	device			×
Dev Ho:	rice   st	AR3000		Scanner	
	<u>( E</u>	xport	<u></u> ar	ncel	

# Linear Barcodes Setup

#### 1. Symbologies

Symbology: You must select barcode type before setting the parameters.

**Note:** You can only set a maximum of 2 characters for Code ID setting. If it exceeds 2 characters, this function will delete the excess part automatically.

Linear Barcode setup			X
Matrix 25 Eur Symbologies Code 11	China Post Code 39   Code 93   Code	GS1 DataBar 128   Codabar   EAN	Italian Pharmacode
Code 11	China post	I 25	GS1 DataBar
Code <u>2</u> 9	Ttalian pharmacode	☐ Ingustman 2 of 5	Limited
☐ Code <u>9</u> 3	EAN.UCC	🔲 Standard 2 of 5	Expanded
☐ Code 1 <u>2</u> 8	EAN	Plessey	UPC
Coda <u>b</u> ar	☐ EAN <u>8</u>	🔲 MS <u>I</u> /plessey	UPC <u>a</u>
∣ <u>l</u> elepen	☐ EAN <u>1</u> 3	🔲 <u>U</u> K/plessey	UPC <u>e</u>
Note			
Pl	lease select barcode typ	pe before setting the p	arameters.
,			
			<u> </u>

### 2. Code39

**Check-sum verification:** The checksum of Code-39 is optional and made as the sum module 43 of the numerical value of the data digits.

Check-sum transmission: Set Enable to transmit checksum.

**Max./Min. code length:** Each symbology has its own Max./Min. Code Length. This can be set to qualify data entry. If their Max./Min. Code Length is zero, the Global Min./Max. Code Length is in effect. The length is defined as the actual barcode data length to be sent. Labels with a length that exceeds these limits will be rejected. Make sure that the Minimum length setting is no greater than the Maximum length setting, or otherwise all the labels of the symbology will not be readable. In particular, you can set the same value for both Minimum and Maximum reading length to force the fixed length barcode decoding.

**Truncate leading/ending:** The leading or ending digits of barcode data characters can be truncated when these values are set to non-zero. This will beep instead of reading anything when the truncate value is more than the barcode data digits or the value of Truncate Leading overlaps with that of the Ending. The maximum value of the truncate digits is 15.

**Code ID setting:** Code ID setting is a character used to represent the symbol upon a succeeding reading. This sets the position of the Code ID for before or after code data for transmission.

**Insertion group selection:** The scanner offers one or two insertion groups for its own symbology. Set one or two digits to indicate which insertion group you want to insert. You may refer to Character insertion. Set from 0 to 4 for this function.

**Format:** The Full ASCII Code-39 is an enhanced set of Code-39 that is data with a total of 128 characters to represent the Full ASCII code. It combines one of the digits +, %, \$ and/ with one of the alpha digits (A to Z).

**Append:** This function allows several symbols to be concatenates and treated as one single data entry. The scanner will not transmit the embedded appending code (space for Code-39). If Enable and other symbols were read again with the appended code, then codes are transmitted without Code ID, Preamble and Prefix. When a symbol is decoded without the appended code, the data is transmitted without Code ID and Prefix, but the Postamble Suffix codes are appended. This function is used when the first number of code 39 is a space.

Start/end transmission: The start and end characters of Code-39 are "★". You can transmit all data digits including two "★".

Linear Barcode setup			×
Matrix 25 Eur   Symbologies   Code 11 Code 39   (	China Post   Code 93   Code 128	GS1 DataBar   Codabar   EAN   I25	Italian Pharmacode     Plessey   Telepen   UPC
Code 39			
Code reading enabled			
CkSm Transmit/Verify	Disable/Disable	Ma <u>x</u> . code length	0
DataMagic	Disable 💌	Mi <u>n</u> . code length	1
<u>F</u> ormat	Standard 💌	Truncate <u>l</u> eading	0
Append	Disable 💌	Truncate <u>e</u> nding	0
<u>S</u> tart/End transmission	Disable 💌	Code <u>I</u> D setting	×
		Insert gro <u>up</u> selection	0
		<u> </u>	Cancel

#### 3. Code93

Checksum Verification: The checksum is made as the sum module 47 of the numerical values of all data digits.

Checksum Transmission: By setting Enable, checksum is transmitted.

Datamagic: By setting Enable to run this function.

Max./Min. code length: Refer to Max./Min. code length of Code-39.

Truncate leading/ending: Refer to Truncate leading/ending of Code-39.

Code Id setting: Refer to Code ID setting of Code-39.

Insertion group selection: Refer to Insertion group selection of Code-39.

Linear Barcode setup				×
Matrix 25 Eur	China Post	GS1 DataBar	[ ] [ 125 ] Blazza	Italian Pharmacode
Symbologies   Code 11   Code 59	Code 120	Conspar   EAN	125   Flesse	y   lemepen   orc
Code 93				,
CkSm Transmit/Verify	Disable/Enat 💌	Ma <u>x</u> . code length	0	
DataMagic	Disable 💌	Mi <u>n</u> . code length	0	
Code <u>I</u> D setting	&	Truncate leading	0	
		_		
Insert gro <u>up</u> selection	0 0	Truncate <u>e</u> nding	0	
				1
			<u>         0</u> k	Cancel

### 4. Code128

Checksum Verification: The checksum is made as the sum module 103 of all data digits.

Checksum Transmission: By setting Enable, checksum is transmitted.

Datamagic: By setting Enable to run this function.

Max./Min. code length: Refer to Max./Min. code length of Code-39.

Truncate leading/ending: Refer to Truncate leading/ending of Code-39.

Code Id setting: Refer to Code ID setting of Code-39.

Insertion group selection: Refer to Insertion group selection of Code-39.

**Format:** The Code-128 can be translated to UCC/EAN-128 format if it starts with FNC1 character. The first FNC1 is translated to "]C1" and next to a concatenation code as <GS>(7F16).

]C1	Data	<gs></gs>	Data	Checksum
-----	------	-----------	------	----------

Append: This function allows several symbols to be concatenates and treated as one single data entry.

**Concatenation code:** This feature is only used for the UCC/EAN-128 format. This Concatenation Data means you can reassign second or after a FNC1 for your usage. The default of ASCII code is <GS>(1D16)

Matrix 25 Eur       China Post       GS1 DataBar       Italian Pharmacode         Symbologies       Code 11       Code 39       Code 93       Code 128       Codabar       EAN       I25       Plessey       Telepen       UPC         Code 128       Image: Code reading enabled       Image: Code reading enabled       Mag. code length       0
Symbologies       Code 11       Code 39       Code 93       Code 128       Codabar       EAN       I25       Plessey       Telepen       UPC         Code 128       Image: Code reading enabled       Image
Code 128         I © ©ode reading enabled         CkSm Transmit/Verify       Disable/Enable ▼         DataMagic       Disable ▼         Append       Disable ▼         Format       Standard ▼
Code 128         Image: Code reading enabled         CkSm Transmit/Verify       Disable/Enable Image: Mag. code length       0         DataMagic       Disable Image: Mig. code length       1         Append       Disable Image: Truncate leading       0         Format       Standard Image: Truncate gending       0
Code 128         Image: Code reading enabled         CkSm Transmit/Verify       Disable/Enable Image: Disable         DataMagic       Disable Image: Mig. code length         Append       Disable Image: Truncate leading         Format       Standard Image: Truncate ending
Code 128         Close reading enabled         CkSm Transmit/Verify       Disable/Enable •         DataMagic       Disable •         Append       Disable •         Format       Standard •
Image: Code reading enabled         CkSm Transmit/Verify       Disable/Enable •       Mag. code length       0         DataMagic       Disable •       Min. code length       1         Append       Disable •       Truncate leading       0         Format       Standard •       Truncate gnding       0
CkSm Transmit/Verify       Disable/Enable         Mag. code length       0         DataMagic       Disable        Min. code length       1         Append       Disable        Truncate leading       0         Format       Standard        Truncate ending       0
CkSm Transmit/Verify       Disable/Enable       Mag. code length       0         DataMagic       Disable       Min. code length       1         Append       Disable       Truncate leading       0         Format       Standard       Truncate ending       0
DataMagic     Disable     Min. code length     1       Append     Disable     Truncate leading     0       Format     Standard     Truncate ending     0
DataMagic     Disable     Min. code length     1       Append     Disable     Truncate leading     0       Format     Standard     Truncate ending     0
Append     Disable     Truncate leading     0       Format     Standard     Truncate ending     0
Eormat Standard Truncate ending 0
UCC/EAN-128 ID setting # Code ID setting #
Field separator code \x1D Insert group selection 0 0
ICRT Disable w
OK Cancel

#### 5. Codabar

Checksum Verification: The checksum is made as the sum module 16 of the numerical values of all data digits.

Checksum Transmission: By setting Enable, checksum is transmitted.

Datamagic: By setting Enable to run this function.

Max./Min. code length: Refer to Max./Min. code length of Code-39.

Truncate leading/ending: Refer to Truncate leading/ending of Code-39.

Code Id setting: Refer to Code ID setting of Code-39.

Insertion group selection: Refer to Insertion group selection of Code-39.

**Start/Stop type:** The Codabar has four pairs of Start/End pattern. You may select one pair to match your application.

Start/End Transmission: Refer to Start/End Transmission of Code 39.

Linear Barcode setup						
Matrix 25 Eur   Symbologies   Code 11   Code 39	China Post   Code 93   Code 128	GS1 DataBar Codabar EAN	   125   H	Italiar Plessey	n Pharmacode Telepen   1	UPC
- Codabar						
Code reading enable	1					
		Ma <u>x</u> . code length	0			
CkSm Transmit/Verify	Disable/Disable 💌	Mi <u>n</u> . code length	0	_		
DataMagic	Disable 💌	Truncate leading	0	_		
<u>S</u> tart/End type	ABCD/ABCD 💌	Truncate ending	0			
Start/End trans <u>m</u> ission	Disable 💌	Code ID setting	%			
		Insert gro <u>up</u> selection	0	_		
			<u>O</u> K	<u>C</u> a	uncel	

#### 6. EAN

Check-sum transmission: By setting Enable, checksum is transmitted.

Datamagic: By setting Enable to run this function.

Truncate leading/ending: Refer to Truncate leading/ending of Code-39.

Code Id setting: Refer to Code ID setting of Code-39.

<b>0</b>							
Supplement digits: Format: EAN-8		Data Digits		Check		Supplement Digits	
		(7 D	igits)	Di	gits	2 or 5	
Format: EAN-13	Data Digits (12 I	Digits)	Check D	Digits	Supple	ment Digits 2 or 5	

Truncate Leading zero: Refer to Truncate Leading zero of Code-39.

**Expansion (EAN-8):** The expansion function is used only for UPCE and EAN-8 code reading. It extends to 13-digits with "0" digits when the feature is enabled. Example: Barcode "0123654" - Output: "001230000057"

**ISBN/ISSN:** The ISBN (International Standard Book Number) and ISSN (International Standard Serial Number) are two kinds of barcodes for books and magazines. The ISBN is 10 digits with leading "978" and the ISSN is 8 digits with leading "977" of the "EAN-13" symbology.

Example: Barcode "9789572222720" - Output: "9572222724"

Linear Barc	ode setup					
M Symbologi	latrix 25 Eur   es   Code 11   Code .	China Post 39   Code 93   Code 128	     Cod	GS1 DataBar   abar EAN   125	Italian Pharmacode   Plessey   Telepen	UPC
	EAN-8 Code reading enabl	ed		EAN-13		
	CkSum Transmit	Enable		CkSum Transmit	Enable	
	DataMagic	Disable		DataMagic	Disable	
	Supplement digits	None		Supplement digits	None	
	Truncation/Expansion	None		ISBN/ISSN conversion	Disable	
	Expansion	Disable		Truncate leading	0	
	Truncate leading	0		Truncate ending	0	
	Truncate ending	0		Code ID setting	F	
	Code ID setting	FF		Insert group selection	0 0	
	Insert group selection	0		ISBN ID	I	
	Supplementary			Supplementary		
					K <u>C</u> ancel	

#### 7. 125

Check-sum verification: The checksum is made as the sum module 10 of the numerical values of all data digits.

Check-sum transmission: By setting Enable, checksum is transmitted.

Datamagic: By setting Enable to run this function.

Max./Min. code length: Refer to Max./Min. code length of Code-39.

Truncate leading/ending: Refer to Truncate leading/ending of Code-39.

Code Id setting: Refer to Code ID setting of Code-39.

Insertion group selection: Refer to Insertion group selection of Code-39.

Linear Barcode setup		×				
Matrix 25 Eur   China Post   GS1 DataBar   Italian Pharmacode Symbologies   Code 11   Code 39   Code 93   Code 128   Codabar   EAN I25   Plessey   Telepen   UPC						
- Industrial 2 of 5	Standard 2 of 5	Interleaved 2 of 5				
Code reading enabled	Code reading enabled	Code reading enabled				
Datamagic Disable 💌	CkSm Transmit/Verify Disable/Disab 💌	CkSm Transmit/Verify Disable/Disa 💌				
Max. code length	DataMagic Disable 💌	DataMagic Disable				
Min. code length 0	Max. code length 0	Max. code length U Min. code length 0				
Truncate leading 0	Min. code length 0	Truncate leading				
Truncate ending	Truncate leading	Truncate ending 0				
	Truncate ending 0	Code ID setting i				
Code ID setting	Code ID setting	Insert group selection 0				
Insert group selection 0	Insert group selection 0	Fix length1				
		Fix length2 0				
	J []					
		<u>O</u> K <u>C</u> ancel				

#### 8. Plessey

**Checksum Verification:** The **MSI/Plessey** has one or two optional checksum digits. The checksum is presented using three methods: Mod10, Mod10/10 and Mod 11/10. The checksum1 and checksum2 are calculated as the sum module 10 or 11 of the data digits.

The **UK/Plessey** has one or two optional checksum digits. The checksum1 and checksum2 are calculated as the sum module 10 or 11 of the data digits.

**Checksum Transmission: (MSI Plessey)** By setting Enable, checksum1 and checksum2 are transmitted upon your selected checksum verification method. **(UK Plessey)** By setting Enable, checksum is transmitted.

Datamagic: By setting Enable to run this function.

Max./Min. code length: Refer to Max./Min. code length of Code-39.

Truncate leading/ending: Refer to Truncate leading/ending of Code-39.

Code Id setting: Refer to Code ID setting of Code-39.

Linear Barcode setup					×
Matrix 25 Eur   Symbologies   Code 11   Code 39	China Post Code 93   Code	GS 128   Codabar	1 DataBar     EAN   I25	Italian Pharmacode Plessey Telepen	UPC
MSI/plessey			-UK/plessey		
Code reading enabled			Code reading enable	đ	
CkSm Transmit/Verify	No/Mod10 💌		CkSm Transmit/Verify	Disable/Enab. 💌	
DataMagic	Disable 💌		DataMagic	Disable	
Max. code length	0		Max. code length	0	
Min. code length	0		Min. code length	0	
Truncate leading	0		Truncate leading	0	
Iruncate ending			Iruncate ending	0	
Insert group selection			Insert group selection		
	0 0				
			<u>O</u> K	Cancel	

#### 9. Others

Read (Telepen): IATA (International Air Transport Association).

Datamagic: By setting Enable to run this function.

Checksum Transmission: By setting Enable, checksum is transmitted.

**Checksum Transmission: (Code-11)** By setting Enable, checksum1 and checksum2 are transmitted upon your selected checksum verification method. **(Telepen)** The checksum is presented as the sum module 11 of all data digits.

Max./Min. code length: Refer to Max./Min. code length of Code-39.

Truncate leading/ending: Refer to Truncate leading/ending of Code-39.

Code Id setting: Refer to Code ID setting of Code-39.

Linear Barcode setup				
Matrix 25 Eur   Symbologies   Code 11   Code 39	China Post     Code 93   Code 128	GS1 DataBar Codabar   EAN	 I25   Ple	Italian Pharmacode :ssey Telepen UPC
	Telepen Code reading enabled CkSm Transmit/Verify DataMagic Format Max. code length Min. code length Truncate leading Truncate ending Code ID setting Insert group selection	Disable/Disable Disable Numeric only 0 0 0 0 0 0 0 0 0		
			<u>o</u> k	Cancel

#### 10. UPC

Check-sum transmission: By setting Enable, checksum is transmitted.

Datamagic: By setting Enable to run this function.

Truncate leading/ending: Refer to Truncate leading/ending of Code-39.

Code Id setting: Refer to Code ID setting of Code-39.

Insertion group selection: Refer to Insertion group selection of Code-39.

Supplement digits: Supplement digits barcode is the supplemental 2 or 5 characters for WPC code.

Earmot (LIDCA)				
ronnal (UPCA)	Leading Data Digits		Check	Supplement Digits
	Zero	(11 Digits)	Digit	2 or 5
Format (UPCE)	Leading	Data Digits	Check	Supplement Digits
	Zero	(6 Digits)	Digit	2 or 5

Truncate Leading zero: Refer to Truncate Leading zero of Code-39.

**Expansion:** Refer to Expansion of EAN-8.

Linear Barcode setup	
Matrix 25 Eur   China Post Symbologies   Code 11   Code 39   Code 93   Code 128	GS1 DataBar   Italian Pharmacode     Codabar   EAN   I25   Plessey   Telepen UPC
UPCA ChkSm Transmit Enable DataMagic Disable Supplement digits None Truncation/Expansion Truncate leading ze: • Truncate leading 0 Truncate ending 0 Code ID setting A Insert group selection 0 0	UPCE Code reading enabled ChkSm Transmit Enable DataMagic Disable Supplement digits None Truncation/Expansion None Expansion Disable UPCE-1 Disable Truncate leading 0 Truncate ending 0 Code ID setting E Insert group selection 0 0
	<u>OK</u> <u>C</u> ancel

### 11. Matrix 25 Eur

1

Checksum Verification: The checksum is made as the sum module 10 of the numerical values of all data digits.

**\_Datamagic**: By setting Enable to run this function.

Checksum Transmission: By setting Enable, checksum is transmitted.

Max./Min. code length: Refer to Max./Min. code length of Code-39.

Truncate leading/ending: Refer to Truncate leading/ending of Code-39.

Code Id setting: Refer to Code ID setting of Code-39.

Linear Barcode setup				
Symbologies   Code 11   Code 39   C Matrix 25 Eur	Code 93   Code 128   Cod China Post	labar   EAN   GS1 DataBar	I25   Ple	ssey   Telepen   UPC   Italian Pharmacode
	Matrix 25 Eur		]	
	🔽 Code reading enabled			
	CkSm Transmit/Verify	Disable/Di 💌		
	DataMagic	Disable 💌		
	Ma <u>x</u> . code length	0		
	Mi <u>n</u> . code length	0		
	Truncate <u>l</u> eading	0		
	Truncate <u>e</u> nding	0		
	Code ID setting	В		
	Insert gro <u>up</u> selection	0 0		
			<u>O</u> K	Cancel

# **Barcode in 2D Setup**

## 1. Symbologies

Symbologies: You have to select barcode type before setting the parameters.

2D Barcode	X					
QR   Data Matrix   Aztr Symbologies   PDF-417	ec   MaxiCode   Han Xin   Code-16K   Micro-PDF					
Stack Linears	2D Barcodes Aztec Data Matrix Han Xin MaxiCode					
Note Please select barcode type before setting the parameters.						
<u>OK</u> <u>C</u> ancel						

#### 2. PDF-417

Only the AS-8250/8312/9500 can decode PDF-417.

Truncate leading/ending: Refer to Truncate leading/ending of Code-39.

Code Id setting: Refer to Code ID setting of Code-39.

2D Barcode			X
QR Symbologies	Data Matrix Aztec PDF-417	MaxiCode Code-16K	Han Xin Micro-PDF
	Code reading enabled	]	
	Truncate leading	0	
	Truncate <u>e</u> nding	0	
	Code ID setting	P	
	Insert gro <u>up</u> selection	0	
	Escape sequence transmit	Disable 💌	
	DataMagic		
	<u> </u>	<u>C</u> ancel	

## 3. Code-16K

Only the AS-8250/8312/9500 can decode Code-16K.

Truncate leading/ending: Refer to Truncate leading/ending of Code-39.

Code Id setting: Refer to Code ID setting of Code-39.

2D Barcode			X
QR   Symbologies	Data Matrix   Aztec   PDF-417	MaxaCode Code-16K	Han Xin Micro-PDF
	Code-16K	3)	
	Truncate leading	0	
	Truncate <u>e</u> nding	0	
	Code ID setting Insert group selection		
	DataMagic		
	<u> </u>	<u>C</u> ancel	

# Downloading

## 1. Host RS-232 Setup

Setup the output port and protocol of host.

Port	Baud Rate	Data Bits	Parity	Stop Bits	Flow Control
COM1	300 BPS	8 bits	None	One bit	None
COM2	600 BPS	7 bits	Odd	Two bits	RTS/CTS
	1200 BPS		Even		Xon/Xoff
	2400 BPS				
	4800 BPS				
	9600 BPS				
	19200 BPS				
	38400 BPS				
	57600 BPS				
	115200BPS				

## 2. Host RS232 Setup

Host RS232 Setup		×
RS232 Setting © COM <u>1</u> © COM <u>2</u>	Port Setting	
<u>0</u> K	<u>C</u> ancel	

# 3. Port Settings



# AR-3000 Baud rate default is 115200BPS.

# Data Export (Host -> Scanner)

Export the default value from Scan Utility to Scanner.

Export to device			×
Device	AS-8110		
Host		Scanner	
	Export	<u>C</u> ancel	

# Data Import (Scanner -> Host)

Import all of the default values from Scanner to Scan Utility.

Imj	port from device	×
	Device AS-8110	
	Scanner	Host
L		
	Import <u>C</u> ance	:

# **Download Firmware**



# ASCII Code Table

Ľ – Ħ	2	3	4	5	6	7
0	SP	0	@	Р	`	р
1		1	А	Q	а	q
2	"	2	В	R	b	r
3	#	3	С	s	С	S
4	\$	4	D	Т	d	t
5	%	5	Ш	U	е	u
6	&	6	F	V	f	v
7	"	7	G	W	g	W
8	(	8	Н	Х	h	х
9	)	9		Y	i	у
А	*		J	Z	j	Z
В	+	,	К	[	k	{
С	,	~	L	/		
D	-	=	М	]	m	}
E		>	N	^	n	~
F	/	?	0	_	0	DEL

Example: ASCII "A" = "41".

1