

SCANTEAM[®] 8300

MICR Check Reader



Programming Menu

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The SAMPLE BAR CODES page (near the end of the programming menu) contains bar code symbols that you may use to verify that you have programmed your SCANTEAM 8300 correctly.

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USE THIS PAGE

■ As a general overview of the programming menu. The programming menu consists of two basic components as shown below.

Programming Menu

OUTPUT PARAMETERS

USE THIS PAGE

- To select message to be scanned (*) value.
- To set beeper volume and tone.
- To program keyboard style and layout.
- To program delay functions.

	selections	variables	
BEEPER VOLUME/TONE	I		0000-FFFF *00190
KEYBOARD STYLE	II	Primary	A*
		Secondary	B
		Tertiary	C
		Quaternary	D
KEYBOARD LAYOUT III	III	Layout 1	A*
		Layout 2	B
		Layout 3	C
INTERCHARACTER DELAY	VII	x*sms	*0000-9999
INTERFUNCTION DELAY	VIII	x*sms	*0000-9999
INTERMESSAGE DELAY	IX	x*sms	*0000-9999

Notes:
 (1) * Designates DEFAULT selections.
 (2) The following are suggested Beeper Volume/Tone settings:
 High 0190
 Medium 00F0
 Low 0080
 Off 0000

Programming Menu

BAR CODE CHART

USE THIS PAGE

- To enter codes on this page correspond to controls or shaded areas on adjoining menu pages. SCAN these bar codes in the sequence indicated on this page to program desired selections and variables.

ROMAN NUMERALS	LETTERS	DIGITS	OTHERS
I	A	0 (YES)	ESCAPE
II	B	1 (NO)	DEFAULT
III	C	2	EXIT
IV	D	3	
V	E	4	
VI	F	5	
VII	G	6	
VIII	H	7	
IX	I	8	
X	J	9	
XX			

MENU PAGE

- Each menu page represents one section of the programming menu. Use individual menu pages in combination with the bar code chart on the back page foldout, or MICR encoded programming checks, to program the check reader.
- **ENTER** – Each menu page has its own unique ENTER bar code; scan this bar code or feed through the equivalent programming check to activate desired menu page.
- **DEFAULT** – Most menu pages have a DEFAULT bar code/MICR encoded check which allows the user to independently default menu pages to asterisked (*) values without affecting, in any way, the rest of the programming menu. Default values can be easily selected from the desired menu pages by reading the bar code or MICR encoded check sequence ENTER, DEFAULT, EXIT. Individual defaults for a specific selection can be made by reading ENTER, ROMAN NUMERAL, DEFAULT, EXIT.
- **EXIT** – To move from one menu page to another, read the EXIT bar code or programming check. The EXIT bar code or programming check must be read to end programming selection on each menu page before beginning to program on a different menu page.
- **SELECTIONS/VARIABLES** – Lists all of the options available on each menu page. Following each option are symbols in shaded areas. These symbols correspond to both the bar codes on the adjoining bar code chart and to the MICR encoded programming checks.
- **NOTES** – are provided to call out any unusual situations and/or refer you to necessary information or examples elsewhere in the menu or manual.

MENU PAGE FACING (Not Shown)

- The page facing the menu is often used to supplement or clarify the material presented on the front of each menu page. The information and examples found here are specific to the individual menu page and contain, in some cases, charts and diagrams that must be used in order to determine the correct programming sequence.

BAR CODE DATA CHART/MICR ENCODED PROGRAMMING CHECKS

- The bar codes and MICR encoded programming checks are assigned to a ROMAN NUMERAL, DIGIT, LETTER or YES/NO symbol. These bar codes and checks correspond to the symbols in shaded areas on the menu pages and are read in various combinations to enter programming sequences to the check reader. Bar codes and programming checks are meaningless unless an ENTER bar code/programming check from one of the menu pages is first read. When an ENTER bar code/programming check is read, the bar code chart/programming checks become specific to that menu page and remain so until the EXIT bar code/programming check is read or another menu page is selected.

ESCAPE

- Scan the ESCAPE bar code or feed through the ESCAPE programming check to cancel the current programming sequence. All other parameters will remain as they were.

PROGRAMMING INSTRUCTIONS

8300 Series Programming Menu

Getting Started

The SCANTEAM 8300 can be programmed using several methods. You may use a bar code reader such as a laser scanner or a wand, or you can use MICR (Magnetic Ink Character Recognition) encoded programming checks.

The Programming Instructions walk you through the steps for programming the SCANTEAM 8300 using bar code readers (page 3), and using Plug-n-Play and single programming checks (beginning on page 4).

If you have multiple SCANTEAM 8300s, you can program one 8300, then download the programming to the other 8300s. This method is called "cloning" and is described on page 6.

Note: *Welch Allyn distributes firmware through our Web site at <http://dcd.welchallyn.com/techsprt/support.htm>. Select the Software Download button. When prompted, enter the user name: **pumpkin** and the password: **pie**. New firmware may be loaded into a SCANTEAM 8300 through Welch Allyn's PC-based software tool called "Quick*Load™." (SCANTEAM 8300 software version 3.0 and higher can only use Quick*Load version 2.50 and higher.) Quick*Load may also be used to transfer parameters from one SCANTEAM 8300 to another. Please refer to your Quick*Load User's Guide for complete directions on using Quick*Load with your 8300.*

Regardless of the method you use to program your SCANTEAM 8300, you will need the following items:

- SCANTEAM 8300 Check Reader
- Power Source (PS120/9V wall transformer if the SCANTEAM 8300 is *not* powered by the host)

Note: *Please refer to page 7 for a listing of Welch Allyn part numbers for products mentioned in these instructions.*

If you are going to program your SCANTEAM 8300 using a bar code reader, you will need the following items:

- Any bar code reader (i.e., wand or laser scanner) which is terminated in a 9 pin squeeze "D" female host connector.

If you are going to program your SCANTEAM 8300 using programming checks, you will need one or both of the following items:

- SCANTEAM 8300 Plug-n-Play checks.
- SCANTEAM 8300 Programming Checks.

If you are going to clone the firmware (including any programmed parameters) from one SCANTEAM 8300 to another 8300, you will need the following items:

- Cloning cable and a bar code reader.

Programming the SCANTEAM 8300 Using a Bar Code Reader

To program the SCANTEAM 8300 using a bar code reader, the rear panel of the SCANTEAM 8300 must include an optional bar code scanner port.

Programming Example

The following is an example of using a bar code reader to program the SCANTEAM 8300 to output a Carriage Return suffix for UPC-A symbology.

1. Turn to page 17.

To program a carriage return (for UPC-A symbology), you must scan the Output Parameters ENTER, XI, 6, 3, 0, D, F, F, and EXIT codes.

2. Scan the Output Parameters Enter code on page 17.

After you hear 2 beeps and the SCANTEAM 8300 LED displays a **P**, the SCANTEAM 8300 is ready to accept the variables for your output parameters.

3. Open the fold-out page in the back cover of this menu. Scan the bar codes for XI, 6, 3, 0 (yes), then D.

During the programming sequence, the SCANTEAM 8300 will emit single beeps. If at any time during programming the 8300 detects an error, you will hear 3 beeps. To correct, simply begin scanning the variable bar codes once more in proper sequence.

4. Scan the F bar code two times.

5. Scan the Exit bar code.

Two beeps from the SCANTEAM 8300 means the programming was successful, and a carriage return suffix for UPC-A symbology has been added to the 8300 output parameters.

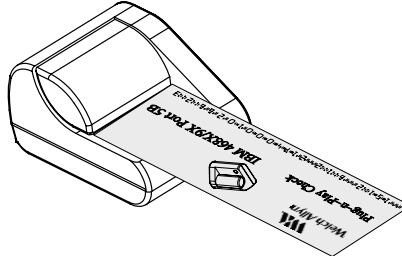
Using the method just described, program the parameters necessary for your SCANTEAM 8300 using the bar code reader, beginning with page 9.

PROGRAMMING INSTRUCTIONS

Continued

8300 Series Programming Menu

Using Plug-n-Play Checks



Plug-n-Play checks are the large blue checks which note the Terminal ID and programming parameters on the check face.

A Plug-n-Play check can be used to program the Terminal ID and parameters required to communicate with your interface if you use one of the following interfaces:

- IBM PS/2
- IBM PC, XT
- IBM PC, AT or Compatibles
- IBM 468X/9X Port 5B
- IBM 468X/9X Port 17
- IBM 468X/9X Port 9B
- RS-232

Note: If your interface is not listed above, you must use a bar code reader or the single programming checks to program the Terminal ID and all other parameters (see page 3). You cannot use a Plug-n-Play check.

Note to CMC-7 users: If the SCANTEAM 8300 has been programmed to decode only CMC-7 characters, you must first set it to decode the E-13B characters on the Plug-n-Play Check. To do so, feed through the "CMC-7 Conversion" check. The SCANTEAM 8300 temporarily decodes E-13B characters until the Plug-n-Play check has been read, then the SCANTEAM 8300 reverts to decoding only CMC-7 characters.

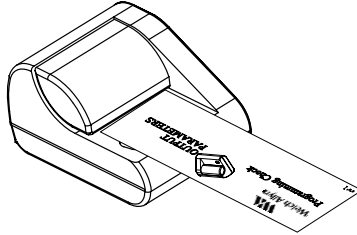
Note: If you are using a SCANTEAM 8300 which has already been programmed for one interface and you wish to re-program it for a different interface, you must first clear all existing parameters. To clear all parameters, feed through the **Master Default** check. After the parameters have been cleared, you may program the new interface using the following steps.

To add more detailed programming, you must use a bar code reader or the single programming checks.

1. If you are programming the SCANTEAM 8300 using a Plug-n-Play check, select the check(s) which list(s) your interface (e.g., IBM 468X/9X Port 5B).
2. Feed the Plug-n-Play check(s) into the check reader.

2 beeps followed by 2 low tone beeps means the programming was successful.

Using Single Programming Checks



The single programming checks are used in conjunction with the programming pages which follow these instructions. The single programming checks take the place of scanning bar codes with a bar code reader, described on page 3.

The following is an example of programming the 8300 to output a Carriage Return suffix for UPC-A symbology using programming checks.

Note to CMC-7 users: *If the SCANTEAM 8300 has been programmed to decode only CMC-7 characters, you must first set it to decode the E-13B characters on the Programming Checks. To do so, feed through the "CMC-7 Conversion" check. The SCANTEAM 8300 temporarily decodes E-13B characters until the End Programming check has been read, then the SCANTEAM 8300 reverts to decoding only CMC-7 characters.*

Programming Example

1. Turn to page 11 and review the Output Parameters programming table.

Note that every option in the Programming Menu begins with an "Enter" bar code. Page 11 shows the Output Parameters Enter bar code. The programming check with the option name (e.g., Output Parameters Enter) is your "Enter" code.

To program a carriage return suffix (for UPC-A symbology), you must use the OUTPUT PARAMETERS ENTER, XI, 6, 3, 0, D, F, F, and EXIT checks.

2. Have available the programming checks for OUTPUT PARAMETERS ENTER, XI, 6, 3, 0, D, F, Exit, and End Programming.
3. Feed the OUTPUT PARAMETERS ENTER check into the check reader.

After you hear 2 beeps and the LED displays a **P**, the SCANTEAM 8300 is ready to accept the variables for your output parameters.

4. Feed through the XI, 6, 3, 0, and D checks.

Note: *Each time a variable check is fed through, you should hear a single beep from the reader. If an error occurs during programming, you will not get an error beep sequence (3 beeps) until the End of Programming check has been read.*

5. Feed the F check through two times.
6. Feed through the Exit check.
7. Feed through the End Programming check.

Two beeps and an **O** in the LED display means the programming was successful.

If you hear 3 beeps after feeding through the End Programming check, a programming error has occurred. Begin the programming again, starting with the Output Parameters check.

Using the method just described, program the parameters necessary for your SCANTEAM 8300. Begin at page 9 if you need to program the Terminal ID, or at page 10 if you programmed your Terminal ID with a Plug-n-Play check.

PROGRAMMING INSTRUCTIONS

Continued

8300 Series Programming Menu

Cloning Instructions

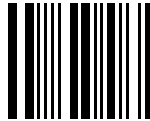
The SCANTEAM 8300 check reader includes a cloning capability which provides a way to download the memory contents from a "source" 8300 to any additional ("destination") SCANTEAM 8300s.

In this example, the destination SCANTEAM 8300 is connected to a terminal and the source SCANTEAM 8300 is not connected to a power source. The source 8300 also has a bar code reader attached.

1. Program the SCANTEAM 8300 source reader using any programming method.
2. Connect the cloning cable (part number 42204434-01) to Aux port 1 on the source reader.
3. Plug the other end of the cloning cable into Aux port 1 on the 8300 destination reader.

The power will be carried through the cable to power up the source SCANTEAM 8300 automatically.

4. Scan the Clone bar code below with the bar code reader attached to the source 8300.



Clone Bar Code

Note: *If you prefer, you may feed the **Clone Check** through the 8300 source reader, rather than scan the Clone Bar Code.*

If the SCANTEAM 8300 has been programmed to decode only CMC-7 characters, you must first set it to decode the E-13B characters on the Clone Check. To do so, feed through the "CMC-7 Conversion" check. The SCANTEAM 8300 temporarily decodes E-13B characters until the Clone Check has been read, then the SCANTEAM 8300 reverts to decoding only CMC-7 characters.

The source reader displays a **c** and the destination reader displays an **r**. This indicates they are in clone mode.

The source 8300 sends (512) 64 byte blocks of information followed by a block check character. This takes approximately 15 seconds. If the cloning is successful, the 8300 source reader emits a single beep and displays an **O**. The 8300 destination reader flashes the new software revision, then displays an **O**. This indicates the software has been received and the SCANTEAM 8300 destination reader is ready for operation.

Note: *ROM and RAM tests are performed in the destination reader. If the destination 8300 fails the ROM and/or RAM tests, you will hear three beeps (five if both tests fail).*

**PROGRAMMING
INSTRUCTIONS**
Continued

Welch Allyn Part Numbers

Item	Welch Allyn Part #
SCANTEAM 8300 Plug-n-Play Checks	8300/PC-1
SCANTEAM 8300 Programming Checks	8300/PC-2
SCANTEAM 8300 Cloning Cable, RJ11 to RJ11	42204434-01
Quick*Load User's Guide	QL/UG

TERMINAL SELECTION

8300 Series Information and Examples

TERMINAL SELECTION

Use the bar codes on the following page to program the SCANTEAM 8300 to work with your terminal.

TERMINAL SELECTION



8300-4

selections	variables	scan
NCR	7052 Wedge	48
IBM	4683 (5B, 9B, & 17)	51
	PC, XT	01
	PS/2, 25, 30, 55SX, 60, 70, 80	02
	AT, PS/2 30-286, 50, 55SX, 60, 70, 80	03
RS-232 (PC COMM PORT)		50
AUX PORT 1		00

8300-2

selections	variables	scan	
IBM	PC, XT	01	
	PS/2, 25, 30, 55SX, 70	02	
	AT, PS/2 30-286, 50, 55SX, 60, 70, 80	03	
	102 key	3151, 3161, 3162, 3163, 3191, 3192, 3196, 3197, 3471, 3472, 3476, 3477, 3482, 3486, 3488	06
	122 key	3179-1, 3191, 3192, 3471, 3472, 3194	07
	3196, 3197, 3476, 3477, 3482, 3486, 3488	08	
	3180	24	
HARRIS	H180, H191	09	
NCR	7052 Wedge	48	
WYSE	WY-30	13	
	WY-85/185	16	
	ANSI	WY 60, 120, 150, 160, 325, 370	15
	ASCII	WY 60, 120, 150, 160, 325, 370	14
	Enhanced PC	WY 60, 120, 150, 160, 325, 370	18
AUX PORT 1		00	
TELEX	122 key	078, 078A, 79, 80, 191, 196, 1191, 1192, 1471, 1472, 1476, 1477, 1482, 1483	46



OUTPUT PARAMETERS

8300 Series Information and Examples

BEEPER VOLUME/TONE

This selection allows you to set the beeper volume. The following settings may be used:

High:	1919
Medium:	4949
Low:	0C0C
Off:	0000

KEYBOARD STYLE

If you are using one of the terminals listed below, you may program an alternate keyboard style. For example, if you have an IBM 3683 terminal with a 52 key keyboard, you would program the Keyboard Style as "C."

Terminal	Style A	Style B	Style C	Style D
IBM PC, PC/XT	XT	CAPS LOCK		
IBM PC/AT	AT	CAPS LOCK	AUTO CAPS	
IBM PS2 (50–80)	NORM	CAPS LOCK		
IBM 3180 (122 Key)	T/W	D/E		
IBM 3683	35 Key	48 Key	52 Key	
NCR 2152	27 Key	50 Key		
NCR 7052	34 Key	56 Key	122 Key Caps On	122 Key Caps Off

Note for IBM PC/AT:

Style A – used when you normally have the CAPS LOCK key off. The character is sent as it is read. For example, an uppercase character is sent as a shifted character and a lowercase character is sent as an unshifted character.

Style B – used when you normally have the CAPS LOCK key on. The character is sent as the opposite of how it is read. For example, an uppercase character is sent as an unshifted character and a lowercase character is sent as a shifted character.

Style C – does not assume the CAPS LOCK key is in any particular state. The software tracks and reflects if CAPS LOCK is on or off. This selection can only be used with systems that have an LED that notes the CAPS LOCK status. Consequently, an uppercase or lowercase character may be sent shifted or unshifted depending upon the status of the CAPS LOCK key.

NUMBER KEY LAYOUT

You can program the type of numeric keypad layout for your keyboard.

Telephone Keypad:

1	2	3
4	5	6
7	8	9

 Calculator Keypad:

7	8	9
4	5	6
1	2	3

Main Keyboard:

1	2	3	4	5	6	7	8	9
---	---	---	---	---	---	---	---	---

4683 I/O PORT SELECTION

Use this selection to program the logical location of the SCANTEAM 8300 in the controller .

OUTPUT PARAMETERS



selections	scan	variables	scan
BEEPER VOLUME/TONE	I		0000–FFFF *(1919)
KEYBOARD STYLE	II	Style A	A*
		Style B	B
		Style C	C
		Style D	D
NUMBER KEY LAYOUT	III	Telephone Keypad	A*
		Calculator Keypad	B
		Main Keyboard	C
4683 I/O PORT SELECTION	IV	Port 5B	A*
		Port 9B	B
		Port 17	C
		Port 5B/9B/17 Disable	D

* Designates default selections.



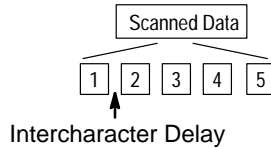
OUTPUT PARAMETERS continued

INTERCHARACTER, INTERFUNCTION, AND INTERMESSAGE DELAYS

Some terminals drop information (characters) if data comes through too quickly. Intercharacter, interfunction, and intermessage delays slow the transmission of data, which increases data integrity.

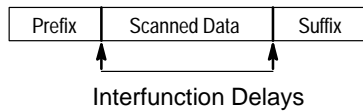
Intercharacter Delay:

An intercharacter delay is a delay of up to 9999 milliseconds (in multiples of 5) which is placed between the transmission of each character of scanned data.



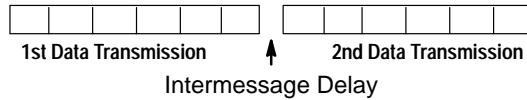
Interfunction Delay:

An interfunction delay is a delay of up to 9999 milliseconds (in multiples of 5) which is placed between the transmission of each segment of the message string.



Intermessage Delay:

An intermessage delay is a delay of up to 9999 milliseconds (in multiples of 5) which is placed between each data transmission.



OUTPUT PARAMETERS



selections	scan	variables	scan
INTERCHARACTER DELAY	VII	x5ms	*0000-9999
INTERFUNCTION DELAY	VIII	x5ms	*0000-9999
INTERMESSAGE DELAY	IX	x5ms	*0000-9999

* Designates default selections.



OUTPUT PARAMETERS continued

PREFIX/SUFFIX

Prefixes and suffixes are characters added by the 8300 to MICR and bar code data. Prefixes and suffixes are assigned to specific symbologies. Use the Symbology Chart on page 15 to program the symbology for which you're adding the prefix/suffix. Use the HEX-ASCII table on page 15 to find the ASCII value to be used for programming a particular prefix or suffix.

Note for MICR Data Only:

To place the MICR error/status as a prefix/suffix, program an "EC" in place of a value from the HEX-ASCII table on page 15.

EXAMPLE: 1) To program a carriage return suffix for UPC-A symbology only, scan:

**OUTPUT PARAMETERS ENTER, XI, 6, 3, 0, D, F, F, EXIT,
END PROGRAMMING**

Where: OUTPUT PARAMETERS ENTER enters the programming mode
 XI enters suffix programming
 63 selects UPC symbology (see page 15, Symbology Chart)
 0D designates Carriage Return (see Hex-ASCII chart, page 15)
 FF terminates suffix programming
 EXIT, END PROGRAMMING leaves the programming mode

EXAMPLE: 2) To program a carriage return suffix for ALL symbologies, scan:

**OUTPUT PARAMETERS ENTER, XI, 9, 9, 0, D, F, F, EXIT,
END PROGRAMMING**

Where: OUTPUT PARAMETERS ENTER enters the programming mode
 XI enters suffix programming
 99 selects ALL symbologies (see page 15, Symbology Chart)
 0D designates Carriage Return (see the HEX-ASCII table on page 15)
 FF terminates suffix programming.
 EXIT, END PROGRAMMING leaves the programming mode

EXAMPLE: 3) To program the MICR error/status code prefix for E13-B symbology only, scan:

**OUTPUT PARAMETERS ENTER, X, 7, 4, E, C, F, F, EXIT,
END PROGRAMMING**

Where: OUTPUT PARAMETERS ENTER enters the programming mode
 X enters prefix programming
 74 selects E13-B symbology (see page 15, Symbology Chart)
 EC designates MICR error/status code (MICR ERROR/STATUS Codes parameter must be programmed to single or double character in order to get any MICR error/status code output.)
 FF terminates prefix programming.
 EXIT, END PROGRAMMING leaves the programming mode

Required Prefixes/Suffixes for Particular Retail Terminals:

IBM 4680 PORT 5B SUFFIX

UPC-A 0D
 UPC-D
 UPC-E 0A
 EAN 8 0C
 EAN 13 16
 Code 39 ... 00, 0A, 0B
 Interleaved
 2 of 5 00 0D 0B
 Code 128 ... 00, 18, 0B

NCR 2123 MSR TRACK 2

Prefix 62, 00
 Suffix 3D

HEX – ASCII CHART									
NUL 00	DLE 10	SP 20	0 30	@ 40	P 50	' 60	p 70		
SOH 01	DC1 11	! 21	1 31	A 41	Q 51	a 61	q 71		
STX 02	DC2 12	" 22	2 32	B 42	R 52	b 62	r 72		
ETX 03	DC3 13	# 23	3 33	C 43	S 53	c 63	s 73		
EOT 04	DC4 14	\$ 24	4 34	D 44	T 54	d 64	t 74		
ENQ 05	NAK 15	% 25	5 35	E 45	U 55	e 65	u 75		
ACK 06	SYN 16	& 26	6 36	F 46	V 56	f 66	v 76		
BEL 07	ETB 17	' 27	7 37	G 47	W 57	g 67	w 77		
BS 08	CAN 18	(28	8 38	H 48	X 58	h 68	x 78		
HT 09	EM 19	) 29	9 39	I 49	Y 59	i 69	y 79		
LF 0A	SUB 1A	* 2A	: 3A	J 4A	Z 5A	j 6A	z 7A		
VT 0B	ESC 1B	+ 2B	; 3B	K 4B	[5B	k 6B	{ 7B		
FF 0C	FS 1C	, 2C	< 3C	L 4C	\ 5C	l 6C	| 7C		
CR 0D	GS 1D	- 2D	= 3D	M 4D	] 5D	m 6D	} 7D		
SO 0E	RS 1E	. 2E	> 3E	N 4E	^ 5E	n 6E	~ 7E		
SI 0F	US 1F	/ 2F	? 3F	O 4F	_ 5F	o 6F	DEL 7F		

SYMBOLGY CHART

SYMBOLGY	Primary	ALT-A	ALT-B	ALT-C	CODE ID
UPC-A	63	83	A3	C3	c
EAN	64	84	A4	C4	d
CODE-39	62	82	A2	C2	b
INTERLEAVED 2 of 5	65				e
CODE 128	6A	8A	AC	CA	j
MSR TRACK 1	78	98	B8	D8	x
MSR TRACK 2	79	99	B9	D9	y
MSR TRACK 3	7A	9A	BA	DA	z
HOST PORT	71				q
AUX PORT 1	72				r
AUX PORT 2	73				s
E13-B	74				t
CMC-7	75				u
AAMVA TRACK 1	58				X
AAMVA TRACK 2	59				Y
AAMVA TRACK 3	5A				Z
California TRACK 1	55				U
California TRACK 2	56				V
California TRACK 3	57				W
Universal	99				
Start/End MSR Data	FD				

OUTPUT PARAMETERS continued OUTPUT MODES

Buffer Scans: If programmed as “Yes,” the 8300 will hold data in a buffer. This allows you to read a second check while transmitting data from the first check to the terminal.

Driver’s License ID MSR: This selection allows the 8300 to try and decode the MSR tracks as a AAMVA Driver’s License or a California Driver’s License. Track 3 of a driver’s license will not decode without this parameter turned on.

Code ID Transmit: This selection allows you to send characters that identify each symbology. (The ID characters for each symbology are shown in the Symbology Chart on page 15.)

RS232 Delay: This selection allows the 8300 to delay up to 9999 milliseconds between the transmission of each character of scanned data when outputting RS232 data. The amount of delay will be based on the value programmed for the intercharacter delay.

Track 1 Preferred: This will program the 8300 to read only track 1 of a magnetic stripe, under normal operation. If track 1 can’t be read, the 8300 will then read track 2. (This feature can be used only if the 8300 is programmed to read both tracks 1 and 2. See MSR Track Selection on page 34.)

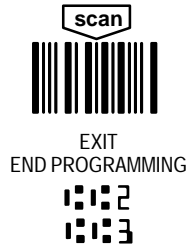
IBM 4680/4690 Dual Track MSR Tracks 1&2/ 2&3: These selections program the 8300 to read tracks 1&2 or 2&3, according to how the 4680/4690 controller has been programmed.

Magnetic Sniffer: The sniffer detects magnetic interference which could affect check reader operation. If magnetic interference is detected, an error code “b” appears on the LCD display.

Ignore Error in Amount Field: If programmed with a “Yes,” when the 8300 is unable to read an amount field post-processed on a check, the reader will ignore the amount field, but capture all other MICR fields. If programmed with a “No,” the reader will reject all fields if it cannot read the amount field.

Retry Exception Table Parse Error: This selection tries to decode a check that was in the exception table but failed to parse. It sends this check through the standard MICR parsing algorithm.

OUTPUT PARAMETERS continued



selections	scan	variables	scan	scan
PREFIX	X	Symbology or 99 Universal (ALL)	(See Chart Pg. 15)	
		Prefix(s) (2,3,4,5,6)	*00-FE	FF
SUFFIX	XI	Symbology or 99 Universal (ALL)	(See Chart Pg. 15)	
		Suffix(s) (2,3,4,5,6)	*00-FE	FF
OUTPUT MODES	XII	Buffer Scans	A	Yes/No*
		Drivers License ID MSR	B	Yes/No*
		Code ID Transmit	C	Yes/No*
		RS232 Delay	D	Yes/No*
		Track 1 Preferred	E	Yes/No*
		IBM 4680/4690 Dual Track MSR Track 1 & 2	F	Yes/No*
		IBM 4680/4690 Dual Track MSR Track 2 & 3	G	Yes/No*
		Magnetic Sniffer	H	Yes/No*
		Ignore Error in Amount Field	I	Yes/No*
		Retry exception table parse error	J	*Yes/No

Notes:

- (1) * Designates DEFAULT selections.
- (2) Scan FF to terminate a prefix or suffix.
- (3) To clear a prefix or suffix of a particular symbology, scan the symbology and FF.
- (4) Default clears all prefixes and suffixes of all symbologies.
- (5) To program Code ID scan the ASCII representation of Code ID on the Symbology and Hex ASCII charts on page 15 of this menu.
- (6) See Keyboard Layouts on pages 44 through 45 for function code diagrams for various keyboards.

OUTPUT PARAMETERS continued OUTPUT MODES

WAND/LASER PORT MODES

Hand Held Laser Timeout: This programs a timeout for a hand-held laser compatible scanner. The scanner turns off after the trigger is depressed for 4 seconds.

Laser Redundancy: If programmed "Yes," the 8300 requires three identical scans before data will be accepted. If disabled, the 8300 accepts data after a single valid scan.

MICR ERROR/STATUS CODES

Use this option to output either a single or double character when there is a MICR Error/Status code to report. This selection also allows you to dump out any MICR data read on an error condition.

Note: For Error Conditions

When the MICR code on the check is in error and a triple beep occurs, the error code will only be output when this selection is set to single or double character.

Note: For Status Conditions

When the MICR code on the check is not in error but does have some other status condition to report (i.e., serial number in range 151–300), this status code will only be output when this selection is set to single or double character

AND the placement of the status code is set by either a prefix/suffix or data formatter command.

Note: For Placement and programmable MICR Error/Status Codes

All MICR error/status code values can be programmed – see the MICR Data Formatter (page 39) to do this. To place the error/status code at the beginning or end of a MICR output string, use EC as the ASCII value when programming in a prefix/suffix. To place the error/status code in the middle of a MICR output string, use the EC Data Formatter Command.

TRANSMISSION RATE CONTROLS

The Transmission Rate Controls can be used to speed up or slow down transmission when the check reader is interfacing keyboard wedge with a terminal ID 03. Use these selections to control how much delay there is between make/break sequences when wedging in keyboard data.

Interrupt Time: Use this selection to control the amount of interrupt time between characters output.

Delay time Shift/CTRL Sequence: Use this selection to control the amount of delay time between make/break codes when outputting a shifted or CTRL key character.

Delay Time Normal Sequence: Use this selection to control the amount of delay time between make/break codes when outputting a normal data key character.

OUTPUT PARAMETERS continued



selections	scan	variables	scan	scan
WAND/LASER PORT MODES	XIII	Hand Held Laser Timeout	A	*Yes/No
		Laser Redundancy	B	Yes/No*
MICR ERROR/STATUS CODES	XVII	None	A*	
		Single Character	B	
		Double Character	C	
		Dump Data on Error	D	Yes/No*
TRANSMISSION RATE CONTROLS	XIX	Interrupt Time	A	01-05 (x1ms) (*05)
		Delay Time Shift/CTRL Sequence	B	01-10 (x1ms) (*10)
		Delay Time Normal Sequence	C	01-10 (x1ms) (*05)

Notes:
(1) * Designates DEFAULT selections.

Notes:

The space below may be used for notes. ...



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INDUSTRIAL CODE OUTPUT FORMATS

Code 39 bSXX .. XXCS
 Code 128 jXX XX
 Interleaved 2 of 5 eXX ... XXC

Where: b = Code 39 ID
 j = Code 128 ID
 e = Interleaved 2 or 5 ID
 S = Start/Stop Character
 X = Data Character
 C = Check Character

Note: *Appropriate code identification must be programmed in a prefix. For maximum data security, disable the codes not used.*

MIN/MAX LENGTH FOR ALL SYMBOLOGIES

This selection is used to set the valid reading length of the bar code. If the data length of the scanned bar code doesn't match the valid reading length, the 8300 will issue an error code. You may wish to set the same value for minimum and maximum length to force the scanner to read fixed length bar code data. This helps reduce the chances of a misread.

EXAMPLE: Decode only those bar codes with a count of 9–20 characters.
 Min. length = 09 Max. length = 20

EXAMPLE: Decode only those bar codes with a count of 15 characters.
 Min. length = 15 Max. length = 15

CODE 39

Start/Stop Transmit

Start/Stop characters identify the leading and trailing ends of the bar code. You may either transmit, or not transmit Start/Stop characters.

Check Character Required

When this feature is set to "Yes," the 8300 will *not* read a Code 39 bar code printed without the check character.

Transmit Check Character

When this feature is set to "Yes," the 8300 transmits the bar code check character at the end of the scanned data.

CODES INDUSTRIAL continued

8300 Series Information and Examples

FULL ASCII CODE 39 CHARACTERS

If full ASCII Code 39 decoding is enabled, certain character pairs within the bar code symbol will be interpreted as a single character. For example: \$V will be decoded as the ASCII character SYN, and /C will be decoded as the ASCII character #.

FULL ASCII Code 39 CHART

NUL	%U	DLE	\$P	SP	SPACE	0	0	@	%V	P	P	'	%W	p	+P
SOH	\$A	DC1	\$Q	!	/A	1	1	A	A	Q	Q	a	+A	q	+Q
STX	\$B	DC2	\$R	"	/B	2	2	B	B	R	R	b	+B	r	+R
ETX	\$C	DC3	\$S	#	/C	3	3	C	C	S	S	c	+C	s	+S
EOT	\$D	DC4	\$T	\$	/D	4	4	D	D	T	T	d	+D	t	+T
ENQ	\$E	NAK	\$U	%	/E	5	5	E	E	U	U	e	+E	u	+U
ACK	\$F	SYN	\$V	&	/F	6	6	F	F	V	V	f	+F	v	+V
BEL	\$G	ETB	\$W	'	/G	7	7	G	G	W	W	g	+G	w	+W
BS	\$H	CAN	\$X	(	/H	8	8	H	H	X	X	h	+H	x	+X
HT	\$I	EM	\$Y	)	/I	9	9	I	I	Y	Y	i	+I	y	+Y
LF	\$J	SUB	\$Z	*	/J	:	/Z	J	J	Z	Z	j	+J	z	+Z
VT	\$K	ESC	%A	+	/K	;	%F	K	K	[	%K	k	+K	{	%P
FF	\$L	FS	%B	,	/L	<	%G	L	L	\	%L	l	+L	|	%Q
CR	\$M	GS	%C	-	-	=	%H	M	M	]	%M	m	+M	}	%R
SO	\$N	RS	%D	.	.	>	%I	N	N	^	%N	n	+N	~	%S
SI	\$O	US	%E	/	/O	?	%J	O	O	_	%O	o	+O	DEL	%T

Character pairs /M and /N decode as a minus sign and period respectively. Character pairs /P through /Y decode as 0 through 9.

APPEND OPTION

This function allows the 8300 to append the data from several Code 39 bar codes together before transmitting them to the host computer. When this function is enabled, the scanner stores those Code 39 bar codes that start with a space (excluding the start and stop symbols), and doesn't immediately transmit the data. The scanner stores the data in the order in which the bar codes are read, deleting the first space from each. The scanner transmits the appended data when it reads a Code 39 bar code that starts with a character other than a space, or when it reads a bar code which is not Code 39.

INTERLEAVED 2 OF 5

6, 14, & 16 Only: When this function is set to "Yes," the 8300 sets the minimum length to 5 and the maximum length to 16.

Check Digit Required: When Check Digit Required is set to "Yes," the 8300 will not read an Interleaved 2 of 5 bar code printed without the check character.

Transmit Check Character: When set to "Yes," the 8300 transmits the bar code check character at the end of the scanned data.

DECODING ALGORITHM

This selection sets the decoding aggressiveness of the 8300. Adaptive decoding allows the 8300 to decode bar codes which are out of tolerance, and which do not conform to symbology specifications. Traditional decoding ensures correct decoding, and does not allow variances from bar code specifications.

CODE SELECTION I (INDUSTRIAL)



selections		scan	variables	scan	scan
CODE 39	ID = b (HEX 62)	II	Enable		*Yes/No
			Minimum Length	A	*00–Max
			Maximum Length	B	Min–48*
			Start/Stop Transmit	C	Yes/No*
			Check Character Required	D	Yes/No*
			Transmit Check Character	E	Yes/No*
			Full ASCII	F	*Yes/No
			Append Option	G	Yes/No*
INTERLEAVED 2 OF 5	ID =e (HEX 65)	III	Enable		*Yes/No
			Minimum Length	A	*02–Max
			Maximum Length	B	Min–80*
			6, 14, & 16 Only	C	Yes/No*
			Check Digit Required	D	Yes/No*
		E	Yes/No*		
CODE 128	ID = j (HEX 6A)	VIII	Enable		*Yes/No
			Minimum Length	A	*00–Max
			Maximum Length	B	Min–80*
DISABLE ALL CODES (Including Retail)		XIX			Yes/No*
DECODING ALGORITHM		XX	Code 39	B	Adaptive *Y/N

* Designates default selections.

CODES RETAIL

8300 Series Information and Examples

RETAIL CODE OUTPUT FORMATS

Note: *Appropriate code identification must be programmed in a prefix. For maximum data security, disable the Codes not used.*

UPC

Version A: UPC-A is a 12 digit UPC code. Either a 2 digit or a 5 digit addenda may be added if your application needs to decode a 2 or 5 digit addenda to the UPC-A code. If your application does require addenda, you must also program it for **UPC & EAN Addenda Required**, selection III.

Version E: UPC-E is an 8 digit UPC code. Either a 2 digit or a 5 digit addenda may be added if your application needs to decode a 2 or 5 digit addenda to the UPC-E code. If your application does require addenda, you must also program it for **UPC & EAN Addenda Required**, selection III.

Most UPC bar codes lead with the 0 number system. For these codes, use the **Version E0** selection. If you need to read codes which lead with the 1 number system, use the **Version E1** selection.

You may also wish to enable **Version E Expand**, if you need to expand the UPC-E code to the 12 digit, UPC-A format. (This selection is only available with Version E0.)

CHECK DIGIT TRANSMIT

This feature enables or disables check digit transmission.

NUMBER SYSTEM TRANSMIT

The numeric system digit of a UPC symbol is normally transmitted, but the 8300 can be programmed to disable it.

EAN/JAN

Use this selection to program the 8300 to decode EAN/JAN, either 8 digit or 13 digit code. Either a 2 digit or a 5 digit addenda may be added if your application needs to decode a 2 or 5 digit addenda to the EAN/JAN code. If your application does require addenda, you must also program it for **UPC & EAN Addenda Required**, selection III.

Note: *If you have programmed the 8300 to decode EAN/JAN 13, but not UPC-A, UPC-A bar codes will be read as EAN/JAN-13 codes.*

SPACE BETWEEN UPC/EAN ADDENDA

This selection allows you to specify if you wish to transmit a space between the UPC or EAN bar code and the addenda characters.

**CODE
SELECTION II
(RETAIL)**



selections	scan	variables	scan	scan
UPC ID = c (HEX 63)	I	Version A	A	*Yes/No
		Version E0	C	*Yes/No
		Version E1	D	*Yes/No
		Check Digit Xmit	E	Yes/No
		Number System Xmit	F	Yes/No
		Version E Expand	G	Yes/No*
		2-Digit Addenda	H	*Yes/No
		5-Digit Addenda	I	*Yes/No
		EAN ID = d (HEX 64)	II	EAN/JAN 13	A	*Yes/No
EAN/JAN 8	B			*Yes/No
Check Digit Xmit	C			Yes/No
2-Digit Addenda	D			*Yes/No
5-Digit Addenda	E			*Yes/No
UPC & EAN ADDENDA REQ'D.	III	Enable		Yes/No*
SPACE BETWEEN UPC / EAN ADDENDA REQ'D.	VII	Enable		*Yes/No

* Designates default selections.

MAIN PORT CONFIGURATION Output

8300 Series Information and Examples

BAUD RATE

The baud rate is programmable from 300 bits per second to 38,400 bits per second.

PARITY

Parity provides a means of checking data bit patterns for validity. The parity should be programmed to match the parity of the terminal being used. If the parity is not set correctly, the resulting data may be incorrect.

DATA BITS

The data bits selection must match the requirements of the terminal being used.

PROTOCOL

A set of rules governing the exchange of data between communications devices. See Chapter 4 of the **SCANTEAM 8300 Technical Manual** for complete descriptions of supported protocols.

END OF RECORD

Marks the end of an incoming data record from the Auxiliary Port. Use the HEX ASCII chart on page 15 to find the alpha-numeric codes used for programming a particular End of Record. The 8300 does not send End of Record characters to the terminal.

MAIN PORT CTS CHECK

If programmed "Yes," the 8300 will not transmit data until the CTS input is positive.

HOST TO AUX PREFIX

Data messages received from the host must have a prefix to identify the message destination as either Aux port 1 or Aux port 2. This selection allows you to program up to a 2 character prefix which will identify each Aux port. (See Chapter 4 of the **SCANTEAM 8300 Technical Manual** for a complete description of Communication Protocols.) A selection of 00 disables the transmission of data to that aux port.

TRANSMIT HOST TO AUX PREFIX

When using the Host to Aux Prefix (see above), you can program whether or not to transmit the Host to Aux prefix character(s).

NAK HOST RECEIVE ERROR

This selection programs the 8300 to transmit or not transmit a Hex 15 (NAK) character to the host if a communication error occurs.

MAIN PORT CONFIGURATION



selections	scan	variables	scan	scan
MAIN PORT CONFIGURATION	I	(4 Wire Wedge) to host/terminal		A
		(4 Wire Wedge) to host		B
		(4 Wire Wedge) to terminal		C
		PC Com port		D*
MAIN PORT BAUD RATE	II	300		A
		600		B
		1200		C
		2400		D
		4800		E
		9600		F*
		19200		G
		38400		H
MAIN PORT PARITY	III	None		A
		Mark		B
		Space		C
		Odd		D
		Even		E*
MAIN PORT DATA BITS	IV	Seven		A*
		Eight		B
		1 stop bit		C*
		2 stop bits		D
MAIN PORT PROTOCOL	V	End of Record		A
		60 mS Timeout		B*
		TRANZ 330 Protocol		C
		ZON JR Protocol		D
		Host Command Protocol		E
MAIN PORT END OF RECORD	VI	00-7F		0D*
MAIN PORT CTS CHECK	VII			Yes/No*
HOST TO AUX PREFIX	VIII	Aux 1	A	00-7F (r)*
		Aux 2	B	00-7F (s)*
TRANSMIT HOST TO AUX PREFIX	IX			Yes/No*
NAK HOST RECEIVE ERROR	X			Yes/No*

* Designates default selections.

AUXILIARY PORTS 1 and 2

8300 Series Information and Examples

AUX PORT(S) CONFIGURATION

The 8300 Auxiliary port menu is used to program the 8300's auxiliary port communication parameters and protocols.

AUX PORT BAUD RATE

The baud rate is programmable from 300 bits per second to 38,400 bits per second.

AUX PORT PARITY

Parity provides a means of checking data bit patterns for validity. The parity should be programmed to match the parity of the terminal being used. If the parity is not set correctly, the resulting data may be incorrect.

AUX PORT DATA BITS

The data bits selection must match the requirements of the terminal being used.

AUX PORT PROTOCOL

This is a set of rules governing the exchange of data between communications devices. See Chapter 4 of the **SCANTEAM 8300 Technical Manual** for complete descriptions of supported protocols.

AUX PORT END OF RECORD

This selection allows you to program a mark for the end of each data record coming in from the aux port. Use the HEX ASCII chart on page 15 to find the alpha-numeric codes used for end-of-record marks. The 8300 does not send end-of-record characters to the terminal.

AUX PORT(S) CONFIGURATION



selections	scan	variables	scan	scan
AUX PORT #1 BAUD RATE	I	300		A
		600		B
		1200		C
		2400		D
		4800		E
		9600		F*
		19200		G
		38400		H
AUX PORT #1 PARITY	II	None		A
		Mark		B
		Space		C
		Odd		D
		Even		E*
AUX PORT #1 DATA BITS	III	Seven		A*
		Eight		B
		1 stop bit		C*
		2 stop bits		D
AUX PORT #1 PROTOCOL	IV	End of Record		A
		60 mS Timeout		B*
AUX PORT #1 END OF RECORD	V	00-7F		0D*
AUX PORT #2 BAUD RATE	VI	300		A
		600		B
		1200		C
		2400		D
		4800		E
		9600		F*
		19200		G
		38400		H
AUX PORT #2 PARITY	VII	None		A
		Mark		B
		Space		C
		Odd		D
		Even		E*
AUX PORT #2 DATA BITS	VIII	Seven		A*
		Eight		B
		1 stop bit		C*
		2 stop bits		D
AUX PORT #2 PROTOCOL	IX	End of Record		A
		60 mS Timeout		B*
		Disable Aux Port #2		C
AUX PORT #2 END OF RECORD	X	00-7F		0D*
4683 ASYNC ADDRESS (AUX PORT # 1 ONLY)	XI	Async Port Disable		A*
		\$64 Socket 25	B	(2A left)
		\$65 Socket 25	C	(2B right)
		\$68 Socket 23	D	(2A left)
		\$69 Socket 23	E	(2B right)

* Designates default selections.

Notes:

The space below may be used for notes. ...



Note: For function code mapping, refer to pages 44 through 45.

COMMAND	ACTION
F1	Send all characters followed by "XX" key or function code, starting from current cursor position. ** Syntax = F1XX where XX = HEX ASCII character or function code 00–FE HEX
F2	Send "NN" characters followed by "XX" key or function code, starting from current cursor position, leaving cursor pointing to character "NN" + 1. ** Syntax = F2NNXX NN = No. of Characters 00–99 DEC. where XX = HEX ASCII character or function code 00–FE HEX
F3	Send up to but not including "SS" character, (** Search and Send**) Starting from current cursor position, leaving cursor pointing to "SS" Char. followed by "XX" key or function code. ** Syntax = F3SSXX SS = HEX ASCII Character 00–FE HEX. where XX = HEX ASCII character 00–FE HEX.
F4	Send "XX" character "NN" times, (**INSERT**) Leaving cursor in current cursor position. ** Syntax = F4XXNN where XX = HEX ASCII character 00–FE HEX NN = No. of characters 00–99 DEC.
F5	Move cursor ahead "NN" characters from current cursor position. ** Syntax = F5NN NN = No. of characters 00–99 DEC.
F6	Move cursor back "NN" characters from current cursor position. ** Syntax = F6NN NN = No. of characters 00–99 DEC.
F7	Move cursor to the beginning of the data string. ** Syntax = F7
F8	Search ahead for "XX" character from current cursor position, leaving cursor pointing to "XX" char. ** Syntax = F8XX where XX = HEX ASCII character 00–FE.
F9	Search back for "XX" character from current cursor position, leaving cursor pointing to "XX" char. ** Syntax = F9XX where XX = HEX ASCII character 00–FE.
FA	Leading zero suppress on Suppress leading zeroes from current cursor position until 1st non-zero character, leaving cursor pointing to first non-zero character. ** Syntax = FA
FB	Suppress "XX" character(s) up to 4 starting from current cursor position until suppress disable command "FC" or end of format. ** Syntax = FBXXFB, FBXXXXFB, FBXXXXXXFB where XX = HEX ASCII character 00–FE.
FC	Disable suppress filter and clear all suppressed characters. ** Syntax = FC
FD	DCA mode ON/OFF (Toggle) Convert characters to DCA starting from current cursor position until next "FD" command or end of format. ** Syntax = FD
FE	Compare character in current cursor position to the character "XX." If characters are equal, increment cursor. If characters are not equal, no format match. ** Syntax = FEXX where XX = HEX ASCII Character 00 –FE

DATA FORMATTER COMMANDS continued

8300 Series Information and Examples

Note: For function code mapping, refer to pages 44 through 45.

COMMAND	ACTION
E7	Replace up to 5 characters with 5 different characters. **Syntax = E7XXRRXXRRXXRRXXRRXXRRE7 Where XX = character to be replaced RR = replacement character XX and RR = HEX ASCII character 00–FE
E8	Find last (rightmost) occurrence of character and replace with RR, leaving the cursor pointing to RR. **Syntax = E8XXRR
E9	Replace up to 4 characters with RR. **Syntax = E9XXXXXXXXXE9RR where XX = HEX ASCII Character 00–FE
EA	Clear – Replace Table.
EB	Sends selected portions of the data string out Aux port #1. This feature toggles off and on. EB signals the 8300 to start sending data out aux port #1; when EB appears again, the rest of the data is sent to the terminal.
EC	Sends 1 or 2 character MICR error/status code. This feature lets you designate where the MICR error/status code should be placed in the data string. The setting of output parameters – MICR error/status codes will determine whether 1 or 2 characters will be output. **Syntax=EC
EE	Leading space suppress on. Suppress leading spaces from current cursor position until first non–space character, leaving cursor pointing to first non-space character. ** Syntax = EE
EF	Delay function. **Syntax = EFXXXX where XXXX = 0000–FFFF x 5ms delay.

DATA FORMATTER



selections	scan	variables	scan		
FORMAT REQUIRED?	I		Yes/No*		
scan	scan	scan	scan	scan	scan
	Terminal Type (2)	Code ID	Length	Editor Command Sequences	End Format
II	(*)	()	(*)	()	(FF)
* You may use Universal Number of 99.					



Notes:

- (1) * Designates default selections.
- (2) For terminal selection, see page 9.



DATA FORMATTER COMMANDS continued

8300 Series Information and Examples

MSR DATA

Start/Stop Character Transmit: Start/Stop characters identify the leading and trailing ends of the MSR data. You may either transmit, or not transmit Start/Stop characters.

LRC Character Transmit: This setting will enable or disable the transmission of a check digit for mag stripe data.

Start and End of MSR Data: Use these selections to program the start/stop characters you wish to use for MSR data. The start and end of MSR data is assigned a special symbology of "FD."

MSR TRACK SELECTION

Use this selection if you wish to enable or disable tracks 1, 2, and/or 3.

MSR PRE-EDITED DATA FORMATS

These selections allow you to program the 8300 to transmit magnetic stripe data in a variety of formats which can include the account number, date, customer name, and any of the key code variables.

Note: *Choosing a pre-edited MSR Data Format results in default selections for MSR Data (III). Therefore, Start/Stop Character Transmit and LRC Character Transmit will default to Yes.*

KEY CODE ASSIGNMENT

Key Codes are variables used to represent values in MSR data formats. Use this selection to assign values to the key codes.

Note: *Assignable delimiter or function codes all default to "0D."*

DELETE TERMINAL/CODE SPECIFIC

Use this selection to delete any formats which are specific to certain terminal and code ID combinations.

DATA FORMATTER continued



selections	scan	variables	scan	scan
MSR DATA	III	Start/Stop Char. Transmit	A	*Yes/No
		LRC Char. Transmit	B	*Yes/No
		Start of MSR Data	C	00-7F
		End of MSR Data	D	00-7F
MSR TRACK SELECTION	IV	Track 1 Enable	A	*Yes/No
		Track 2 Enable	B	*Yes/No
		Track 3 Enable	C	*Yes/No
MSR TRACK 2 PRE-EDITED DATA FORMATS	V	Clear Pre-edited Data Format	A	
		Acct # + Key-Code 1	B	
		Acct # + Key-Code 1 + YYMM + Key-Code 2	C	
		Acct # + Key-Code 1 + MMYY + Key-Code 2	D	
MSR TRACK 1 PRE-EDITED DATA FORMATS	VI	Clear Pre-edited Data Format	A	
		Acct # + Key-Code 1 + YYMM + Key-Code 2 + Name + Key-Code 3	B	
		Acct # + Key-Code 1 + MMYY + Key-Code 2 + Name + Key-Code 3	C	
KEY-CODE 1-4 ASSIGNMENT	VII	Key-Code 1 (E0H)	A	00-FE *0D
		Key-Code 2 (E1H)	B	00-FE *0D
		Key-Code 3 (E2H)	C	00-FE *0D
		Key-Code 4 (E3H)	D	00-FE *0D
DELETE TERMINAL/CODE SPECIFIC	XIX		Terminal Type (*)	Code ID (*)
DELETE ALL FORMATS	XX	Are You Sure?		Yes/No

* Designates default selections.



DATA FORMATTER continued

8300 Series Information and Examples

Formatting MICR Output Example

Scenario: You have the following data on a check:

⑆0 2 1 300 38 1 ⑆ 3 2 4 ⑆ 0 3 60 9 1 ⑆ 4 9 7 3

You have set the MICR Data Formatter output format to 02, which is
<TRANSIT#>T<ACCOUNT#>A<CHECK SERIAL #>

The output you would like is:

021300381<CR>

324036091<CR>

4973

Solution: Go to page 33 (Data Formatter).

Step 1. Scan **ENTER**.

Step 2. Scan **XX**, then **Yes** to clear previous formats (this choice is from page 35).

Step 3. Scan **II** to enter Data Formatting parameters
Scan **99** for universal terminal type
Scan **74** for MICR symbology
Scan **99** for variable length

Step 4. Scan your format parameters (scan each character in order):

FB 20 64 FB F3 54 0D F5 01 F3 41 0D F5 01 F1 0D FF

Why:

FB 20 64 FB	FB suppresses characters, and you want to suppress spaces and dashes.
F3 54 0D	Sends everything up to a T (hex 54), followed by a <CR> (hex 0D).
F5 01	Moves the cursor past the T.
F3 41 0D	Sends everything up to an A (hex 41), followed by a <CR> (hex 0D).
F5 01	Moves the cursor past the A.
F1 0D	Sends the rest of the code, followed by a <CR> (hex 0D).
FF	Termination character for end of format.

Step 5. Scan **EXIT END PROGRAMMING**.

DATA FORMATTER**Bar Code Example (Commercial)**

Scenario: You need to read a 6–digit bar code printed in Interleaved 2 of 5. Only the first five digits of the code will be transmitted. You want the transmitted code terminated with a vertical tab and a horizontal tab.

Solution: Go to page 33 (Data Formatter):

Step 1. Scan **ENTER**.

Step 2. Scan **XX** and **Yes** to clear previous formats.

Step 3. Scan **II** to enter Data Formatting parameters.
 Scan **03** for terminal type (PC)
 Scan **65** for Code I 2 of 5 Symbology (see the Symbology chart on page 15).
 Scan **06** for fixed length code.

Step 4. Scan your format parameters (scan each character in order):
F2 05 0B F4 09 01 FF

Why:

F2 05 0B: F2 sends XX number of characters followed by a function code. Sends the first five characters of the label followed by a vertical tab. (Hex 0B)

F4 09 01: Appends one hex 09 (a horizontal tab) at the end of the label.

FF: Termination character for end of format.

Step 5. Scan **EXIT END PROGRAMMING**.

Scan the bar code labels below to check your data formatting.



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To set minimum required default parameters for IBM 4683 interface, set your Output Parameters to **IV** (on page 11), then scan **DATA FORMATTER ENTER, DEFAULT** and **EXIT END PROGRAMMING** from page 35 .

MICR DATA FORMATTER

8300 Series Information and Examples

MINIMUM AND MAXIMUM MICR SIGNAL LEVEL

These selections allow you to set the range for acceptable MICR signals.

SELECT MICR OUTPUT FORMAT

Use the following selections with the programming choices on page 39 to program a custom MICR Data Format.

MICR Field Name	MICR ID #
Entire MICR Line	00
Auxiliary On Us	01
External Processing Code (EPC)	02
Routing	03
ONUS	04
Amount	05
Check #	06
Account #	07
Process Control Code	08

MICR Field Length	Selection
Zero (Field Disabled)	00
Fixed Length	XX (where XX is the HEX ASCII Representation 00–7F)
Variable Length	99

MICR Field Fill	Selection
Any character	XX (where XX is the HEX ASCII Representation 00–7F)





Note: MICR field length must be programmed for fixed length when using Field Fill.

MICR Field Justify	Selection
Left Justify	00
Right Justify	01

Note: MICR field length must be programmed for fixed length when using Field Justify.

MICR PROGRAMMING CHECKS - EQUIVALENTS TO BAR CODES

Roman Numerals	Roman Numerals	Letters	Digits	Others
I t1	XI o1	A a1	0 (YES) d0	ESCAPE tt0
II t2	XII o2	B a2	1 (NO) d1	DEFAULT tt1
III t3	XIII o3	C a3	2 d2	EXIT tt2
IV t4	XIV o4	D a4	3 d3	END PROG tt3
V t5	XV o5	E a5	4 d4	
VI t6	XVI o6	F a6	5 d5	
VII t7	XVII o7	G a7	6 d6	
VIII t8	XVIII o8	H a8	7 d7	
IX t9	XIX o9	I a9	8 d8	
X t0	XX o0	J a0	9 d9	

where: t =  (transit symbol) a =  (amount symbol)
o =  (On Us symbol) d =  (dash symbol)

MICR DATA FORMATTER



selections	scan	variables	scan
MICR DECODING	I	Auto Discrimination	A
		E13-B Only	B*
		CMC-7 Only	C
MINIMUM MICR SIGNAL LEVEL	II		*\$00-\$FE
MAXIMUM MICR SIGNAL LEVEL	III		\$00-\$FE*
SELECT MICR OUTPUT FORMAT	IV	<ENTIRE MICR LINE UN-EDITED (RAW MICR)> NO EXCEPTIONS • Includes spaces and symbols • Field format rules not verified	00*
		Custom Format (See V, VI, VII)	01
		<TRANSIT #>T<ACCOUNT #>A <CHECK SERIAL #> • Account #: no space, dash, or On Us	02
		<TRANSIT #>T<14 DIGIT ACCOUNT #>A<6 DIGIT CHECK SERIAL #> • Account #: No spaces or dashes, zero filled, right justified • Check #: zero filled, right justified	03
		<TRANSIT #>T<ACCOUNT #>A <CHECK SERIAL #> • Account #: includes spaces and dashes, but no On Us.	04
		<ENTIRE MICR LINE UN-EDITED (RAW MICR)> • Includes spaces and symbols • Field format rules verified	98
		<ENTIRE MICR LINE UN-EDITED (RAW MICR)> includes spaces and symbols • Field format rules not verified • A question mark (?) will be sent for unreadable characters	99 Test Mode

Note:
ASCII characters transmitted in place of E13-B symbols:
t = Transit symbol
o = On Us symbol
a = amount symbol
d = dash symbol

* Designates default selections.



MICR DATA FORMATTER

continued

8300 Series Examples

MICR Data Example #1 Custom Format

Scenario: Output a known check format where 0001 is the check number.

Check Data: t123456789t987-654321o-0001

Desired custom output: <transit #>T<check #>S<account #>A

Solution: Scan the following series:

MICR DATA FORMATTER ENTER

IV	01	(custom format)
V	03 FB 74 FB F1 54 FF	(format routing buffer)
V	07 F1 41 FF	(format account # buffer)
V	06 F1 53 FF	(format check # buffer)
VI	03 99 00 00 FF	(routing buffer variable length)
VI	07 99 00 00 FF	(account # buffer variable length)
VI	06 99 00 00 FF	(check # buffer variable length)
VII	03 06 07 FF	(order of buffer output)

EXIT END PROGRAMMING

MICR Data Example #2 Exception Table Parsing

Scenario: Output a check with exception table entry where 0001 is the check number.

Check Data: t123456789t987-654321o2220001

Desired output: <transit #>T<account #>A<check #>

Solution: Scan the following series:

MICR DATA FORMATTER ENTER

IX 1 2 3 4 5 6 7 8 F2 14 5A F2 04 5A F1 00 FF

EXIT END PROGRAMMING

MICR Data Example #3 Custom Format plus Data Formatter

Scenario: Output only the account number from a check, followed by a carriage return.

Solution: Scan the following series:

MICR DATA FORMATTER ENTER

IV 02 (Transit t, Account a)

EXIT END PROGRAMMING

DATA FORMATTER ENTER

II 99 (terminal)
74 (code ID - MICR)
99 (variable length)
F8 54 F5 01 F3 41 0D FF

EXIT END PROGRAMMING

MICR DATA FORMATTER continued



selections	scan	variables	scan
CUSTOM MICR FORMAT FIELD EDIT	V	scan Field ID scan Editor Command Sequence scan \$FF	None*
CUSTOM MICR FORMAT FIELD ATTRIBUTE(S)	VI	scan Field ID scan Field Length (HEX Value) scan Field Justify\$FF scan Field Fill	None*
CUSTOM MICR FORMAT FIELD OUTPUT ORDER	VII	scan Order of Output 00-08 scan \$FF	None*
ACTIVATE EXCEPTION TABLE PARSING	VIII		*Yes/No
EXCEPTION TABLE PARSING (2, 3)	IX	scan Transit Number scan Editor Command Sequence scan \$FF	None*

(1) * Designates DEFAULT selections.

(2) Exception table parsing is activated in the event that the canned format or custom MICR format does not correctly parse a particular bank's On Us field.

(3) Refer to MICR example #2 on page 40. Exception Table Parsing will be invoked only on those checks where the routing (transit) numbers match the transit number in the format.

MICR DATA FORMATTER **continued**

8300 Series Examples

MICR ERROR/STATUS CODES

Use the MICR/ERROR status codes to control the values for all possible MICR error/status codes.

Each character must be from the HEX–ASCII table. For example, to program No MICR to a value of “XY”:

MICR DATA FORMATTER ENTER, XI, B, 58, 59, EXIT

When the OUTPUT PARAMETERS MICR ERROR/STATUS CODE is programmed to single character, only the second character for that particular error/status code will be output. In the above example, only “Y” will be output.

MICR DATA FORMATTER continued



selections	scan	variables	scan
DELETE SPECIFIC EXCEPTION TABLE	IX	scan scan scan Transit Number D0 \$FF	None*
DELETE ALL EXCEPTION TABLE PARSING ENTRIES	X	Are you sure?	Yes/No
MICR ERROR/STATUS CODES	XI	No Errors (Good Read) A No MICR B Low Signal C Serial # not present D Invalid ABA # E Parser Error F Acct. # Error G Canadian Check H Mexican Check I Bad Data J SN Range 1-150 XV SN Range 151-300 XVI SN Range 301-500 XVII Business Check XVIII Old U. S. XIX Traveler's Check XX	00-7F (00)* 00-7F (01)* 00-7F (02)* 00-7F (03)* 00-7F (04)* 00-7F (05)* 00-7F (06)* 00-7F (07)* 00-7F (08)* 00-7F (09)* 00-7F (10)* 00-7F (11)* 00-7F (12)* 00-7F (13)* 00-7F (14)* 00-7F (15)*

(1) * Designates DEFAULT selections.

KEYBOARD LAYOUTS

**NCR 2152
27-Key**

A0	A5	A6	A7	C8
A1			A8	C9
A2			A9	D0
A3			B0	D1
A4				D2

**NCR 2152
50-Key**

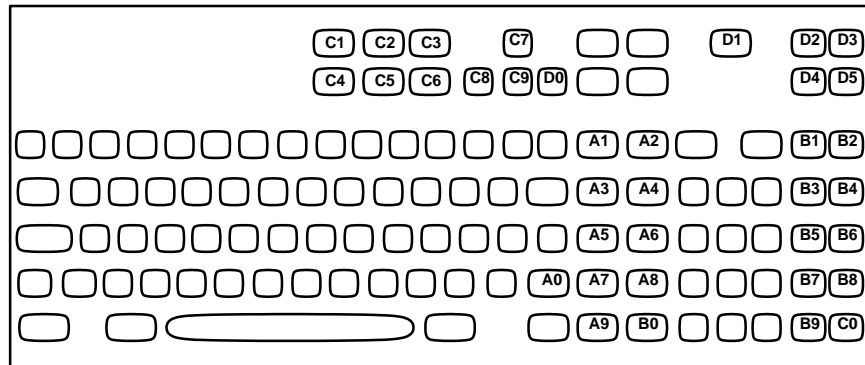
A0	A6	B2	B8	C0	C2	C7	D3
A1	A7	B3	B9	C1	C3	C8	D4
A2	A8	B4			C4	C9	D5
A3	A9	B5			C5	D0	D6
A4	B0	B6			C6	D1	D7
A5	B1	B7				D2	D8

NCR 7052 32-Key and 56-Key

C2	C5	C8	D1	D4	D7	E0
C3	C6	C9	D2	D5	C8	E1
C4	C7	D0	D3	D6	D9	E2
A0	A5	B0	B1	B2	B7	E3
A1	A6			B3	B8	E4
A2	A7			B4	B9	E5
A3	A8			B5	C0	E6
A4	A9			B6	C1	E7

KEYBOARD LAYOUTS

Continued



NCR 7052 122 Keyboard

The FO delimiter translates to the following:

NCR 7052, 32/56 key layout	ENTER key = B6
NCR 7052, 122 Big Ticket	ENTER key = B9
IBM 3683, 48/52 key layout	ENTER key = C3

8300 Programming Menu

**USER'S
NOTES**

8300 Programming Menu

**USER'S
NOTES**

BAR CODE CHART

USE THIS PAGE

- In combination with the adjoining menu pages to program the 8300.
- The bar codes on this page correspond to symbols in shaded areas on adjoining menu pages. SCAN these bar codes in the sequence indicated on menu page to program desired selections and variables.

ROMAN NUMERALS



I



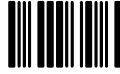
XI



II



XII



III



XIII



IV



XIV



V



XV



VI



XVI



VII



XVII



VIII



XVIII



IX



XIX



X



XX

LETTERS



A



B



C



D



E



F



G



H



I



J

DIGITS



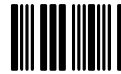
0 (YES)



1 (NO)



2



3



4



5



6



7



8



9

OTHERS



ESCAPE



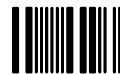
DEFAULT



EXIT



ALT-A



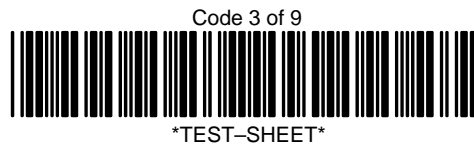
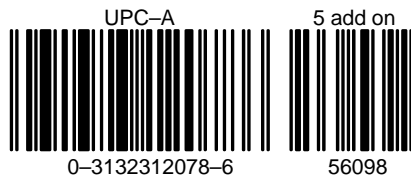
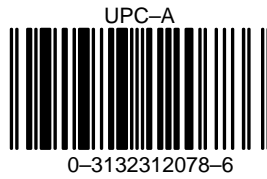
ALT-B



ALT-C

SAMPLE BAR CODES

■ This page contains bar code symbols in some of the most commonly used symbologies. You may use these codes to test that your system is properly programmed for a particular symbology.





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