3

Configuring the Scanner

This chapter describes how to configure your scanner for different bar code symbologies, bar code parameters, operating parameters, serial parameters. This chapter also describes how to configure wand emulation for use with a portable reader.

About Configuring the Scanner

There are two ways to configure the scanner parameters: scanning bar codes and configuring from a host using the two-letter bar code syntax.

Configuring by Scanning Bar Codes

You can scan the bar codes in this chapter to configure the scanner parameters. If you are use the 15XXX02 with a portable reader you **must** scan the bar codes. When the 15XXX02 is used with a portable reader all serial communications functions are disabled. (Serial communications parameters and portable reader parameters are activated with the same components and cannot be implemented simultaneously.)

The bar codes are listed along with the command name and the two-letter syntax. For example:

Command	Syntax	Bar Code (Code 128)
Select 300 baud	DA	

Configuring the Scanner From a Host Terminal

If you have a 15XXX02 scanner in Serial mode (CA), you can configure the scanner from a host terminal using the two-letter syntax provided with the bar code.

Note: *Do* ***not*** *mix configuring from a host and configuring by scanning a bar code. The scanner does not resolve conflicts between the two methods and gives priority to commands from the host.*

Commands are active as soon as they are received. For this reason, configure communications parameters last so they do not disrupt your scanner operation.

To send a serial commands, use this syntax (spaces have been added for clarity):

STX ESC *XX* [*optional parameters*] ETX

where:

STX	is the ASCII start of text command.
ESC	is the ASCII escape command.
XX	is the two-letter bar code syntax for the command.
ETX	is the ASCII end of text command.

If a parameter is required (such as values for minimum length), use the two-letter bar code for the command. For example:

Command*	**Function**
STX ESC PC ETX	Enable I 2 of 5 with check digit
STX ESC PD12 ETX	Set I 2 of 5 minimum length to 12
STX ESC PE14 ETX	Set I 2 of 5 maximum length to 14
STX ESC KB31323334 ETX	Set preamble to 1234
STX ESC LB61626364 ETX	Set postamble to abcd

* *Spaces added for clarity*.

Note: *The ASCII codes STX (02H), ESC (1BH), and ETX (03H) can be generated with ASCII control characters. To create STX press* ***Ctrl B****, to create ETX press* ***Ctrl C****. See the conversion chart in Appendix A for a complete list of hex codes and control characters.*

For specific help downloading the commands to the scanner, see the manual for your host terminal.

Waking Up the Scanner to Process Commands

If the scanner is programmed for Standby Power mode during idle times, transmit an extra space before STX to "wake up" the scanner (the space is ignored). Include a pause of 150 to 200 ms to allow the CPU to initialize, accept, and process commands.

Remote Beep

In Serial mode, the scanner will beep when this command is sent from the host terminal:

STX BEL ETX

or 02H 07H 03H in Hex command, or ^B ^G ^C through the keyboard.

Acknowledging Commands Between Host and Scanner

The scanners use ACK/NAK protocol during serial programming to acknowledge receiving commands. When the scanner receives a correctly formatted command, it sends a confirmation back to the host followed by an ACK (06H). If the scanner receives an unknown command, an improperly formatted command, or a command accompanied by incorrect parameters, it sends a NAK (15H) code. NAK prevents down-loading commands faster than the scanner can receive them.

Avoid these commands when configuring serial parameters:

CB	Portable Reader, Code 39 output
CC	Portable Reader, same code output
YA	Portable Reader, 5 inches per second
YB	Portable Reader, 10 inches per second
YC	Portable Reader, 15 inches per second
YD	Portable Reader, 20 inches per second
YE	Portable Reader, 30 inches per second
YF	Portable Reader, 50 inches per second
YG	Portable Reader, 70 inches per second

They cause the scanner to enter Portable Reader mode and disable serial communications without sending ACK or NAK.

Displaying Current Configuration

You can display the current parameter settings for your scanner by scanning these bar codes (will not work in Wand mode or with a 1551X03):

Note: *The Display Current Configuration option (ZB) may interfere with terminal software, depending on the application.*

Display Current Configuration ZB 

Transmit Program Version ZC 

Transmit Program Version number displays as two decimal places followed by commands for carriage return and line feed.

Resetting Default Values

The default bar code symbologies for the scanners are:

	UPC-A	UPC-E (not expanded)	Code 39	Code 128
15XXX02	✓	✓	✓	✓
15XXX03	✓	✓	—	—
15XXX07	✓	✓	✓	✓

You can enable or disable any symbology as well as UPC supplements, EAN supplements, Interleaved 2 of 5 (I 2 of 5) with check digit, and Code 39 modulo 43 check digit.

The minimum label lengths are set to one character, except for I 2 of 5, which is set to 14 characters, and standard 2 of 5, which is set to 4 characters. If maximum length is not programmed, the scanner will limit the bar code length to 32 characters.

To reset your scanner to default values, scan this bar code:

Reset to Default Values ZA

To set up Intermec default values, scan this bar code:

Intermec Default Z5
Wand emulation: white high, 50 ips
Communications: 9600, e, 7, 1

Configuring Bar Code Symbologies

You can configure these symbologies on your scanner:

- UPC-A
- EAN/JAN
- Standard 2 of 5
- Code 128
- Code 93
- UPC-E
- Code 39
- Interleaved 2 of 5
- Codabar
- Code 11

Configure only the symbologies you will use and disable any symbologies you will not use. This will help increase scanning speed. For example, if you are using a 15XXX02 scanner, four symbologies including Code 39 are automatically activated. If you will not scan Code 39 bar codes, disable the Code 39 symbology by scanning the Disable Code 39 (OA) bar code command found later in this section or in Appendix B.

UPC-A and UPC-E

Scan the appropriate bar code to enable or disable UPC symbology. When enabled, the UPC codes, with or without a supplement, can be scanned. Enabling the supplement (2 or 5 digits) lets the scanner read the supplement as well.

Enable UPC-A and UPC-E Supplement allowed	QB	
Enable UPC-A and UPC-E Supplement disabled*	QC	
Enable Expanded UPC-E	QI	
Disable Expanded UPC-E	QH	
Enable Transmit UPC-A as EAN-13	QJ	
Disable Transmit UPC-A as EAN-13**	QK	
Disabled (A and E)	QA	

* *Default for all scanners.*
** *Default for all modes.*

Continue to the next section to configure a number system digit and a check digit.

UPC Number System Digit

Scan the appropriate bar code to enable or disable the number system digit (the first character in a UPC symbol).

Enable UPC Transmit of Number System Digit	QE	
Disable UPC Transmit of Number System Digit	QD	

UPC Check Digit

Scan a bar code to enable or disable the check digit (the last character in a UPC symbol).

Enabled*	QG	
Disabled	QF	

***** *Default for all modes.*

EAN/JAN

Scan the appropriate code to enable or disable EAN 8 digit and 13 digit. When EAN / JAN is enabled, all EAN / JAN codes, with or without a supplement, can be scanned. Enabling the supplement (2 or 5 digits) lets the scanner read the supplement as well.

Disabled - both 8 and 13 digit*	RA	
Enabled - Supplement enabled (2 or 5 digit)	RB	
Enabled - Supplement disabled (2 or 5 digit)	RC	

Continue to the next section to configure a number system digit and a check digit.

EAN/JAN Number System Digit

Scan the appropriate bar code to enable or disable the number system digit (the first character in a UPC symbol).

Disable Number System Digit	RD	
Enable Number System Digit*	RE	

EAN/JAN Check Digit

Scan a bar code to enable or disable the check digit (the last character in a UPC symbol).

Enable Check Digit*	RG	
Disable Check Digit	RF	

* *Default for all modes.*

Code 39

These bar codes configure your scanner for Code 39 scanning capabilities.

Disable	OA	
Enable Standard Code 39*	OB	
Full ASCII Code 39	OC	
Disable Modulo 43 Check Character**	OD	
Enable Modulo 43 Check Character	OE	
Transmit START and STOP Characters	OG	
Do not transmit START and STOP Characters**	OF	

***** *Default for 15XXX02 and 15XXX07 scanners.*
****** *Default for all modes.*

To set the bar code length (optional)

1. Scan the appropriate bar code below.

Minimum Length	OH	
Maximum Length	OI	

2. Enter a length between 01 and 32 using the conversion chart in Appendix A.

Standard 2 of 5

These bar codes configure your scanner for 2 of 5 scanning capabilities.

Enable	PG	
Disable*	PF	

* *Default for all modes.*

To set the bar code length (optional)

1. Scan the appropriate bar code below.

Minimum Length	PH	
Maximum Length	PI	

2. Enter a length between 01 and 32 using the conversion chart in Appendix A.

Interleaved 2 of 5

These bar codes configure your scanner for I 2 of 5 scanning capabilities.

Disable*	PA	
Enable with Check Digit	PC	
Enable without Check Digit	PB	

***** *Default for all modes.*

To set the bar code length (optional)

1. Scan the appropriate bar code below.

Minimum Length	PD	
Maximum Length	PE	

2. Enter a length between 02 and 32 using the conversion chart in Appendix A.

Code 128

These bar codes configure your scanner for Code 128 scanning.

Enable*	TB	
Disable	TA	

* *Default for 15XXX02 and 15XXX07 scanners.*

To set the bar code length (optional)

1. Scan the appropriate bar code below.

Minimum Length	TC	
Maximum Length	TD	

2. Enter a length between 01 and 32 using the conversion chart in Appendix A.

Codabar

These bar codes configure your scanner for Codabar scanning capabilities.

Enable	VB	
Disable*	VA	
Transmit START and STOP characters	VD	
Do not transmit START and STOP characters	VC	

* *Default for all scanners.*

To set the bar code length (optional)

1. Scan the appropriate bar code below.

Minimum Length	VE	
Maximum Length	VF	

2. Enter a length between 01 and 32 using the conversion chart in Appendix A.

Code 93

These bar codes configure your scanner for Code 93 scanning capabilities.

Disable*	UA	
Enable Code 93	UB	
Standard Code 93	UC	
Enable Full ASCII Code 93	UD	

* *Default for 15XXX02 and 15XXX07 scanners.*

To set the bar code length (optional)

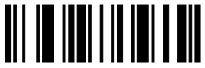
1. Scan the appropriate bar code below.

Minimum Length	UE	
Maximum Length	UF	

2. Enter a length between 01 and 32 using the conversion chart in Appendix A.

Code 11

These bar codes configure your scanner for Code 11 scanning capabilities.

Disable Code 11	SA	
Enable Code 11 With One Check Digit	SB	
Enable Code 11 With Two Check Digits	SC	
Disable Transmit of Code 11 Check Digits	SD	
Enable Transmit of Code 11 Check Digits	SE	

To set the bar code length (optional)

1. Scan the appropriate bar code below.

Minimum Length	SF	
Maximum Length	SG	

2. Enter a length between 01 and 32 using the conversion chart in Appendix A.

Configuring Bar Code Parameters

You can configure these bar code parameters (not available for 15XXX03):

- Prefix
- Suffix
- Terminal ID
- Bar code ID
- Preamble
- Postamble

Prefix

The prefix identifies the start of a data string and is represented by a code that is determined by an industry standard. The prefixes available are STX (start of transmission code) and SOH (start of header code).

Scan a bar code to enable the prefix used by your system (not available for 15XXX03).

No Prefix*	IA	
STX	IB	
SOH	IC	

* *Default*

Suffix

The suffix marks the end of a data string and, like the prefix, it is assigned a specific ASCII code that conforms to a standard. The available suffixes are CR (carriage return), LF (line feed), CR and LF, ETX (end of transmission), and HT (horizontal tab).

Scan a bar code to enable the suffix used with your system (not available for 15XXX03).

No suffix*	MA	
ETX	MB	
CR	MC	
LF	MD	
HT	ME	
CR and LF**	MF	

***** *Default for Keyboard Wedge mode.*
****** *Default for Serial mode.*

Terminal ID

Terminal IDs are used to identify individual scanners for host systems that interface with many scanners. Two digits (01 to 99) are used for terminal IDs.

To configure terminal ID

1. Scan a bar code (not available for 15XXX03):

Terminal ID Disabled*	JA	
Terminal ID	JB	

* *Default.*

2. If you scan "Terminal ID," enter two digits between 01 and 99 using the conversion chart in Appendix A.

Bar Code ID

If your system uses different types of bar code symbologies, it may require a bar code ID. The ID is a single character that is transmitted with each message identifying the bar code scanned. ID characters are:

Code 39	a	UPC/EAN/JAN	d
Interleaved 2 of 5	b	Code 128	f
Standard 2 of 5	c	Codabar	h

To configure a bar code ID

Scan one of these bar codes to enable or disable the bar code ID (not available for 15XXX03):

Disable Bar Code ID*	FA	
Enable Bar Code ID	FB	

* *Default.*

Preamble and Postamble

Preambles and postambles are character strings that precede and follow the actual message. Each preamble and postamble consists of four ASCII characters, each is represented by two hexadecimal numbers.

If they are used in your system, only those codes with the correct preamble and postamble are accepted.

To configure a preamble or a postamble

1. Scan one of these bar codes (not available for 15XXX03):

No Preamble*	KA	
No Postamble*	LA	
Enter Preamble	KB	
Enter Postamble	LB	

* *Default.*

2. If you scanned "Enter Preamble" or "Enter Postamble," enter four characters using the conversion chart in Appendix A.

Configuring Operating Parameters

You can configure these scanner operating parameters:

- Power consumption
- Beeper volume
- Laser redundancy
- Spotter beam
- External trigger
- Reading Uppercase Letters
- Reading Special Characters
- International Keyboards

Power Consumption

Power consumption parameters determine if the scanner reverts to standby when not scanning. With standby enabled, the scanner draws very little power between scans and conserves power.

Scan a bar code to select the type of power consumption for your scanner (not available for 15XXX03):

Continuous Full Power* @A 

Standby Enabled** @B 

** Default for 1551X03 and 15XXX07 scanners.*
*** Default for 15XXX02 scanners.*

Beep Volume

Scan one of these bar codes to set the scanner beep volume (not available for 15XXX03):

Off (no beeper)	AA	
Softest	AB	
Medium	AC	
Loudest*	AD	

***** *Default.*

Laser Redundancy

Laser redundancy checks each scan by creating a duplicate scan and comparing the information, which must match for a successful read. This feature increases the integrity of the scanners since it creates an automatic error check.

Scan a bar code to enable or disable laser redundancy (not available for 15XXX03):

Disabled*	BC	
Enable (2X)	BD	
Enable (4X)	BE	

***** *Default.*

Spotter Beam

The spotter beam lets you see where the laser beam will scan before a bar code is actually read. With the spotter beam enabled, you can press the scanner trigger and have a small laser dot appear (for a preset time) where the full laser beam will scan, and then the scanner will read that bar code.

Use the spotter beam if you have trouble scanning bar codes that are far away, in a group of closely printed bar codes (for example, Appendix B), in a bright environment, or in a glass showcase.

To configure spotter beam

1. Scan a bar code to enable or disable the spotter beam:

Disable Spotter Beam	NP	
Enable Spotter Beam	NQ	

2. If you scan "Enable Spotter Beam," enter a spotter beam duration between 0 and 9 using the conversion chart in Appendix A.

External Trigger

The external trigger lets you program your scanner to be enabled from a computer or other external device. Unlike the scanner stand, which activates the scanner when the beam path is interrupted, the external trigger responds to a signal at the CTS input. This signal starts the scan and continues until the label is decoded, or the signal times out (approximately 6 seconds).

The external trigger can be activated as External Trigger (+), which activates scanning when the CTS input is high, or External Trigger (-), which activates scanning when the CTS input is low. When CTS is not connected, it is treated as if it

were a high input (for both settings). See the modular connector for the voltage levels.

Note: *The trigger must be deactivated for a minimum of 50 ms between scans to verify trigger cycling. Forcing the signal to active at all times does not create continuous scanning and decoding.*

Scan a bar code below to set the external trigger (not available if using 15XXX03 or 1551X07):

Disabled*	HA	
External Trigger (+)	HE	
External Trigger (-)	HF	

* *Default.*

Reading Uppercase Letters

When the Caps Lock key is used on the reader/terminal, you must also configure the scanner to read and decode the uppercase letters in a bar code. Scan the Shift Alphabetic Characters bar code (EO) to configure the scanner to read all uppercase letters. Scan the Normal Alphabetic Character (EP) to return to reading lowercase letters. (Not available for 15XXX02 and 15XXX03.)

Note: *To use the symbols above the number keys (for example: !@#$%^&*), see the next section "Reading Symbols."*

Shift Alphabetic Characters	EO	
Normal Alphabetic Characters	EP	

Reading Symbols

When the Shift key is used on the reader/terminal, you must also configure the scanner to read and decode the symbols (for example: !@#$%^&*) in a bar code. Scan a bar code to enable or disable shift lock (not available for 15XXX02 and 15XXX03):

Enable Shift Lock	ES	
Disable Shift Lock	ET	

Note: *To read uppercase letters, see the previous section "Reading Uppercase Letters."*

International Keyboards

Scan a bar code to configure a 15XXX07 for one of these keyboards (not available on 15XXX02 and 15XXX03):

PC/AT German	CV	
PC/AT French	CW	
PC/AT United Kingdom	CX	
PC/AT Belgian	\B	
PC/AT Swiss	\C	
PC/AT Danish	\D	

International Keyboards (continued)

PC/AT Spanish	\F	
PC/AT Swedish	\G	
PC/AT Portuguese	\H	
DEC VT 220/320/420 German Keyboard Wedge	\L	
DEC VT 220/320/420 French Keyboard Wedge	\M	

Using an International Keyboard With a Laptop

If you use a laptop with an international keyboard you need to enable the keyboard. Scan a bar code to enable or disable the keyboard:

Enable Execution of Keyboard POR (Power on Reset)	\J	
Disable Execution of Keyboard POR (Power on Reset)	\M	

Configuring the 15XXX02 Serial Parameters

You can configure these serial communications parameters for a 15XXX02 scanner:

- Baud rate
- Intercharacter delay
- Data bits
- Protocol
- Label buffer

Note: *If you are using your 15XXX02 scanner with a portable reader, you* ***must*** *configure the scanner by scanning the bar codes in this manual. If you are configuring the scanner from a host terminal see "Configuring the Scanner From a Host Terminal" earlier in this chapter.*

Baud Rate

The baud rate is the rate at which information reaches the terminal in data bits per second.

Scan one of these bar codes to set the baud rate:

300	DA	
600	DB	
1200	DC	
2400	DD	

Baud Rate in Data Bits per Second (continued)

4800	DE	
9600*	DF	
19200	DG	

***** *Default for Serial mode.*

Intercharacter Delay

Some host terminals require an intercharacter delay to process information properly. The intercharacter delay simulates keystroke input by inserting a delay between transmission of characters. The delay is a certain number of milliseconds, set separately when you enable this parameter.

To set the intercharacter delay

1. Scan a bar code:

No Intercharacter Delay	GA	
Set Intercharacter Delay	GB	

2. If you select "Set Intercharacter Delay," enter the number of milliseconds using the conversion chart in Appendix A.

   Note*: Intercharacter Delay cannot exceed 99 ms.*

Label Buffer

The label buffer controls the operation of the transmit queue by determining how labels are placed in the scanner memory before transmission and how long you must wait before scanning the next label. The buffering methods are:

Full buffer Each label is read entirely and then placed in the transmit queue. Labels are transmitted immediately (unless prevented by the protocol), and you may scan the next label without waiting for the previous label to be transmitted.

No buffer You cannot scan the next label until the previous one has been completely transmitted.

One label buffer You can scan ahead one label only.

Scan a bar code for the buffering method of your system:

Full Label Buffer*	NE	
No Label Buffer	NF	
One Label Buffer	NG	

***** *Default.*

Setting Up the Bar Code Data String

Each bar code is a string of data that consists of these elements:

- 1 start bit
- 7 or 8 data bits
- 1 or 2 stop bits
- Parity bits for error checking (optional)

Each system and application requires different combinations of data string elements. For example, some systems require a prefix in front of the data while others do not.

Scan a bar code for the data string setup used with your system.

Data Setup: 1 start bit, 7 data bits, 1 stop bit

Odd Parity	ED	
Even Parity	EC	
Mark Parity	EB	
Space Parity*****	EA	

***** *Default for Serial mode.*

Data Setup: 1 start bit, 7 data bits, 2 stop bit

Odd Parity	EH	
Even Parity	EG	
Mark Parity	EF	
Space Parity	EE	

Data Setup: 1 start bit, 8 data bits, 2 stop bits

No Parity	EN	

Data Setup: 1 start bit, 8 data bits, 1 stop bit

No Parity	EM	
Odd Parity	EL	
Even Parity	EK	
Mark Parity	EJ	
Space Parity	EI	

Selecting a Protocol

Protocol controls data flow between the scanner and the host terminal and determines acknowledgment of data transmission between the two devices. The available protocols are:

XON/XOFF Terminal sends the ASCII XON character to the scanner when it is ready to receive data, and sends the XOFF character when the buffer is full and cannot accept data. No additional hardware is needed; only transmit, receive, and signal ground are required.

Clear to send (CTS) The host uses a signal that informs the scanner when it is ready to accept data. CTS (+) causes the scanner to wait for a high input level to send data. CTS (-) causes the scanner to wait for a low input level to send data.

Request to send (RTS) RTS has three different operating modes: scanner sends an RTS when it is ready to receive data; RTS is set to remain fixed; and RTS sent when scanner has data to transmit.

Scan a bar code for the protocol for your system.

XON / XOFF	HB	
CTS (-)	HC	
CTS (+)	HD	
CTS = None. RTS high when scanner ready to receive. *	HA	

Note: *CTS may be programmed independently of RTS, however the polarities must match. You cannot select CTS (+) and fix RTS (-).*

RTS low when scanner ready to receive	HI	
RTS high when scanner ready to transmit	HJ	
RTS low when scanner ready to transmit	HK	
RTS always high	HG	
RTS always low	HH	

***** *Default.*

Configuring the Scanner for Wand Emulation to Use With a Portable Reader

You can configure your scanner for wand emulation to use it with a portable reader.

To use the scanner with a portable reader

1. Scan this bar code to disable using the scanner stand:

   Disable Stand NN 

2. Turn off the power to the terminal before you disconnect the scanner (or remove it from the scanner stand). Otherwise, your terminal may register a scanner failure or you may cause damage to the terminal or the scanner.
3. Connect the scanner to the reader using the cables for your scanner. For help see your scanner quick reference guide.
4. Scan this bar code to set parameters:

   Intermec Default Z5 
   Wand emulation: white high 50 ips
   Communications: 9600, e, 7, 1

5. Scan a bar code to configure portable reader use:

   Select Same Code CC 
   Wand Emulation

   Your scanner now has these default values:

Parameter	Setting
Transmitted symbology	Same code and length
Bar code polarity	White
Transmission rate	50 inches per second

Or,

Select Code 39 Wand Emulation CB 

Continue to next sections to configure for bar code conversion to Code 39 before transmission, bar code polarity, and transmission rates.

Scanning Unreadable Symbologies

If the portable reader cannot process a bar code symbology, you can configure your scanner to convert to Code 39 before it transmits the data to the portable reader.

To convert to Code 39 (full ASCII) before transmitting, scan this code:

Transmit Code 39 only CB 

Configuring Bar Code Polarity

Select one of these options for bar code polarity:

Black High WA 

White High* WB 

* *Default.*

Configuring the Transmission Rate

Select the transmission rate (in inches per second) for your portable reader by scanning one of these bar codes:

5 ips YA 

Configuring the Transmission Rate (continued)

10 ips	YB	
15 ips	YC	
20 ips	YD	
30 ips	YE	
50 ips*	YF	
70 ips	YG	

* *Default.*

Switching Back to a Terminal

To start scanning at the terminal again, scan this bar code:

Note for 15XXX07 users*: If your scanner is interfaced through a keyboard, scanning CA will enable Serial mode. Scan CE (next bar code) before reconnecting your scanner to the keyboard.*

Cancel Wand Emulation	CA	
Wedge Mode Enable (for 15XXX07 scanners)	CE	

Connect your scanner to the terminal or place it in the scanner stand and turn on the terminal power.

If your scanner does not work when you reconnect it, you may have forgotten to turn off the terminal before removing the scanner. With some terminals, this records a failure and the scanner is deactivated. To reactivate the scanner, leave it attached to the terminal, and then turn off the terminal and turn it back on again.

Configuring the Scanner for Use With an Intermec 94XX and 95XX Reader

These steps are a quick way to enable wand emulation to an Intermec 94XX or 95XX reader when the scanner is connected with a "smart" cable (a cable that causes the scanner to automatically switch to Wand Emulation mode).

To use the scanner with an Intermec 94XX or 95XX reader

1. Scan this bar code to reset the scanner:

   Reset to Default Values ZA 

2. Scan this bar code to enable wand emulation:

   Wand Emulation, White High WB 

3. Scan this bar code to increase the beeper volume:

   Beeper Volume Control (Loud) AD