Zapper™

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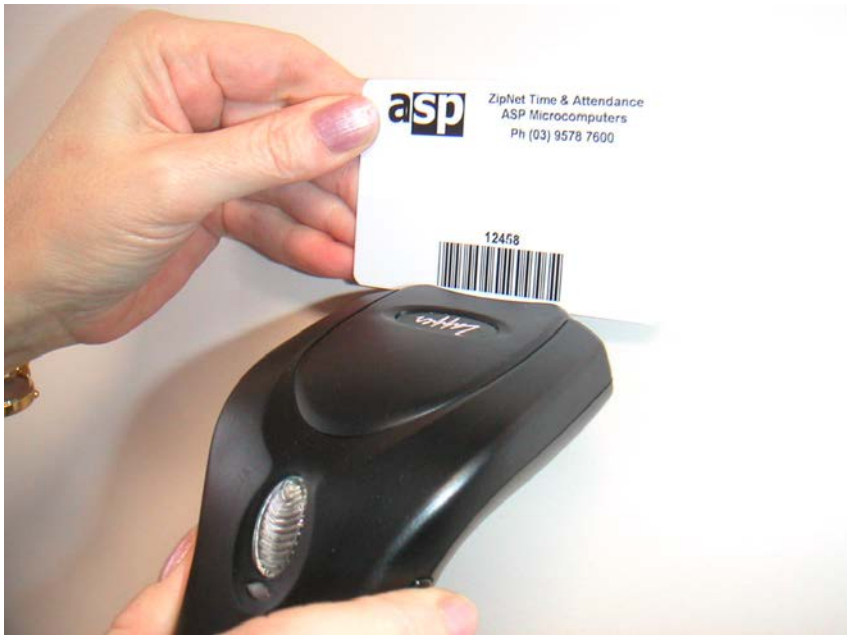
Contents

The ASP Barcode Zapper

ASP's Barcode Zapper is a compact high-performance hand-held barcode scanner suitable for reading barcodes of up to 10cm wide, from contact to 9cm away.



The Barcode Zapper has push button switches on both sides, positioned right where your thumb and forefinger naturally sit, whether you're left or right handed.

To read a barcode, simply press one or both of the buttons while the scanner's reading beam is over a barcode. The scanner will read the barcode, output the data, flash the green "good read" indicator, and beep to signal a successful read.

The Barcode Zapper has been pre-programmed to read most barcode types you are likely to encounter. For special requirements, please contact ASP or your dealer.

If you are having trouble reading barcode labels, the most common causes are likely to be:

- Trying to read a barcode too wide for the scanner
- Not having the reading beam properly positioned over the barcode, or
- Having the reading beam covering more than one barcode.

Very poor quality or damaged barcode labels may also present scanning problems, but it may be possible to read them by moving the scanner up and down the label in the direction of the bars, to find an undamaged path across the barcode symbol.

Barcode Symbologies

Scanning nicely printed barcode labels is simple, and most scanners can easily read well-printed labels. But because there are so many poorly printed barcode labels in the real world, the Barcode Zapper has been designed to handle printing tolerances of up to ± 200% to help it to read virtually any barcode label, even if it's badly printed.

The ASP Barcode Zapper auto-discriminates all popular and special barcode symbologies, including:

- Standard Code 39, Full ASCII Code 39, Code 32, HIBC
- Code 93, Code 11, Codabar, NW-7
- Code 128 A/B/C sets, UCC/EAN 128
- Product Codes (UPC/EAN/JAN/CAN/APN) with addendum
- Standard/Industrial/Matrix/Inverted/Compressed 2 of 5
- MSI/Plessey, UK/Plessey, IBM Delta, BCD, ITF
- Interleaved 2 of 5, Interleaved 2 of 5 S Code, IATA

Host Interfaces

The ASP Barcode Zapper has four standard interface types built-in - **USB**, **PC Keyboard Wedge**, **Wand Emulation**, and **RS-232**. These interfaces are selected via special setup barcodes, and connect via interchangeable cables.

One cable is supplied with each ASP Barcode Zapper; and additional adaptor cables are available as optional extras. Adaptor cables can be removed by pushing the end of a paper clip into the hole near the base of the Barcode Zapper, and then carefully pulling the connector out.

The standard termination character for the Barcode Zapper is a single Enter (or carriage return). To remove this terminator, or to change it back to a single carriage return, please use the setup barcodes on page 12. Other termination characters are also available - please contact ASP or your dealer with your requirements.

USB

The **USB** interface is probably the most common way to connect devices to PC's.

Able to work with Windows 98 and later, the Apple Mac, and Linux computers, the Barcode Zapper's USB interface is truly plug-and-play, with no drivers or software required. Barcode scans simply appear as if typed on the keyboard.

To install the USB interface Barcode Zapper, all you need to do is plug it into any USB connector on your computer. The USB port provides all the power required for the Barcode Zapper.

PC Keyboard Wedge

The **Keyboard Wedge** interface connects between an IBM PC or compatible computer and its keyboard, and power for the scanner and interface is taken from the computer.

The PC's keyboard still operates normally, but when a barcode is scanned, the keyboard is momentarily disabled, and the barcode data is sent to the computer as if it had been entered from the keyboard. In this way, all your existing programs are able to accept barcode input without requiring any modifications.

The **Keyboard Wedge** adaptor cable is supplied with 6-pin mini-DIN connectors, to suit most current PS/2 type computers. Adaptors to suit the older large 5-pin DIN connectors used on AT type computers are available on special order.

To install the **Keyboard Wedge**, first turn off your computer, and unplug the keyboard from the computer. The cable from the keyboard should now be plugged into the socket on the adaptor cable, and the plug on the adaptor cable plugs in to where the keyboard used to be connected on the computer (usually the purple socket).

Turn the computer on, and the Barcode Zapper will emit a high/low beep to indicate that it has passed its power-on diagnostic tests.

Wand Emulation

The **Wand Emulation** interface decodes barcodes and converts them back into wand-compatible signals, so that you can easily upgrade your existing barcode decoder.

The **Wand Emulation** interface uses the Hewlett Packard wand signal standard, with a high level idle state, high output on black, 30ms margin time and 50us module time. Other signal levels and timings are also available - please contact ASP or your dealer with your requirements. The **Wand Emulation** interface uses a female D9 connector, with wand data on pin 2, ground on pin 7 and +5v on pin 9.

The Barcode Zapper is a low power scanner, ideally suited to portable applications.

RS-232 Output

The **RS-232** interface outputs decoded barcode scans using ASCII codes and the RS-232 standard. The **RS-232** interface is compatible with ASP's ASPKey software, allowing RS-232 output to be accepted from the serial port and placed directly in the keyboard buffer of IBM PC compatible computers.

The RS-232 interface is supplied with a special regulated power supply (5 volt DC 500mA), which provides power for the Barcode Zapper.

The **RS-232** interface is supplied set to 9600 baud, 8 data bits, no parity and 1 stop bit. To change the baud rate, please use the setup barcodes on page 10.

Standard Configurations

The next section of this manual contains the standard configuration sheets for each of the available interfaces. Your Barcode Zapper will already have been properly configured and tested for the interface you ordered it with, so these setup sheets are included just for completeness and in case you purchase additional interface adaptors.

To set up your Barcode Zapper unit, turn to the relevant page for the interface type you require, and scan the setup barcodes on that page, taking care to scan them in the numerical order shown. You must not skip any barcodes, or scan any of the barcodes more than once. If you make a mistake, simply scan the **END** barcode and start again.

The Barcode Zapper has a vast number of data formatting, verification and operational control options, far more than could be covered in this manual. If you have any special scanning requirements, it's likely that the Barcode Zapper can be configured to suit, so please contact ASP or your dealer to discuss your needs.

In most circumstances, **you won't need to scan any of the barcodes on the following pages** - your Barcode Zapper will normally have already been set up correctly for you.

USB

You **must** scan the barcodes below in the numerical order shown, and the scanner must beep after every barcode.

1 
MASTER DEFAULT

2 
USB KEYBOARD DEFAULTS

3 
PROGRAM

4 
HOST INTERFACE SELECTION

5 
1

6 
8

7 
CODE 39 MIN LENGTH

8 
0

9 
1

10 
CODE 25 MIN LENGTH

11 
0

12 
2

13 
END

PC Keyboard Wedge

You **must** scan the barcodes below in the numerical order shown, and the scanner must beep after every barcode.

1 
MASTER DEFAULT

2 
KEYBOARD WEDGE DEFAULTS

3 
PROGRAM

4 
HOST INTERFACE SELECTION

5 
0

6 
1

7 
CODE 39 MIN LENGTH

8 
0

9 
1

10 
CODE 25 MIN LENGTH

11 
0

12 
2

13 
END

Wand Emulation

You **must** scan the barcodes below in the numerical order shown, and the scanner must beep after every barcode.

1

MASTER DEFAULT

2

WAND EMULATION DEFAULTS

3

PROGRAM

4

HOST INTERFACE SELECTION

5

0

6

8

7

MARGIN TIME

8

4 (30 millisecs)

9

NARROW/WIDE RATIO

10

1 (1:2.5)

11

ADJUSTABLE BUZZER TONE

12

0 (DISABLE)

13

CCD/LASER OP. MODE

14

0 (LOW POWER MODE)

15

POWER INDICATOR

16

Off

17

CODE 39 MIN LENGTH

18

0

19

1

20

CODE 25 MIN LENGTH

21

0

22

2

23

END

RS-232

You **must** scan the barcodes below in the numerical order shown, and the scanner must beep after every barcode.

1

MASTER DEFAULT

2

SERIAL COMMS DEFAULTS

3

PROGRAM

4

HOST INTERFACE SELECTION

5

0

6

6

7

CODE 39 MIN LENGTH

8

0

9

1

10

CODE 25 MIN LENGTH

11

0

12

2

13

END

Miscellaneous Options

The final section of this manual contains the setup barcodes for a number of the more common options, such as setting the baud rate, the beeper and trigger modes, the termination character, and ISBN (SCIS) mode.

Remember that you shouldn't need to scan any of these setup barcodes – your Barcode Zapper will normally have been supplied already set up correctly for you.

RS-232 Baud Rate

To set the baud rate, scan the **PROGRAM** barcode on the left below, then the **SET BAUD RATE** barcode, then one of the baud rate barcodes on the right, then the **END** barcode on the left.

1

PROGRAM

2

SET BAUD RATE

4

END

3

38400 baud

3

19200 baud

3

9600 baud

3

4800 baud

3

2400 baud

3

1200 baud

3

600 baud

Beeper Mode

To set the beeper mode, scan the **PROGRAM** barcode on the left below, then the **BEEPER TONE** barcode, then one of the option barcodes on the right, then the **END** barcode on the left.

1

PROGRAM

2

BEEPER TONE

4

END

3

No Beep

3

Low Pitch

3

Medium Pitch

3

High Pitch

3

Very High Pitch

Trigger Mode

To set the trigger mode, scan the **PROGRAM** barcode on the left below, then the **TRIGGER MODE** barcode, then one of the option barcodes on the right, then the **END** barcode on the left.

Note that the "**Use Trigger**" mode should always be used for portable applications - the "**Continuously On**" mode will run the batteries down too quickly.

1

PROGRAM

2

TRIGGER MODE

4

END

3

Use Trigger

3

Continuously On

Blue Power Indicator

Normally, the blue power indicator light is lit whenever the Barcode Zapper is plugged in. However, if the glow isn't to your liking, or you want to reduce the Zapper's power requirements in a battery-powered application, scan the barcodes below to turn it off or on.

First, scan the **PROGRAM** barcode on the left below, then the **POWER INDICATOR** barcode, then either the **OFF** or **ON** barcode on the right, and finally the **END** barcode on the left.

1

PROGRAM

2

POWER INDICATOR

4

END

3

Off

3

On

Tilde Prefix

Some applications require each barcode to be output with an extra character before the barcode. A common prefix character is the tilde ~, and the barcodes below allow this to be set.

You **must** scan all of the barcodes below in the numerical order shown, and the scanner must beep after every barcode.

1

PROGRAM

2

PREAMBLE

3

7

4

E

5

FINISH PREAMBLE

6

END

Output Terminators for PC and USB

To set the terminator character when the Barcode Zapper is set to **PC Keyboard Wedge**, **Notebook**, or **USB** modes, scan the **PROGRAM** barcode on the left below, then **KEYBOARD TERMINATOR** barcode, then one of the terminator barcodes on the right, then the **END** barcode on the left.

1
PROGRAM

2
KEYBOARD TERMINATOR

4
END

3
NONE

3
ENTER

3
TAB

3
SPACE

Terminators for RS-232 Only

To set the terminator character when the Barcode Zapper is set to **RS-232** or **RS-232 Serial Wedge** mode, scan the **PROGRAM** barcode on the left below, then **RS-232 TERMINATOR** barcode, then one of the terminator barcodes on the right, then the **END** barcode on the left.

1

PROGRAM

2

RS-232 TERMINATOR

4

END

3

NONE

3

CR

3

LF

3

CR/LF

3

TAB

3

SPACE

Output Delays for PC Keyboard Wedge & Notebooks

To set delays between each character output by the Barcode Zapper when operating in **PC Keyboard Wedge** or **Notebook** mode, scan the **PROGRAM** barcode on the left below, then the **INTERCHARACTER DELAY** barcode, then two numeric digits (**01** to **99** in milliseconds) from the barcodes on the right, then finally the **END** barcode on the left.

1

PROGRAM

2

INTERCHARACTER DELAY

4

END

3 **0**

3 **1**

3 **2**

3 **3**

3 **4**

3 **5**

3 **6**

3 **7**

3 **8**

3 **9**

ISBN-10 and ISBN-13

Prior to the start of 2007, everyone knew what to do with ISBN codes. Now, it depends on what you're trying to achieve.

What we used to call just ISBN is now called ISBN-10, and this is the 10 digit code that is printed at the top of an ISBN barcode. An example is shown on the left below.

The ISBN barcode on the right above is what people are now calling an ISBN-13 barcode. You'll notice that the ISBN-13 code is exactly the same as the number underneath the barcode. And if you look even more closely, you'll see that the only difference between the two example barcodes is what's printed at the top.

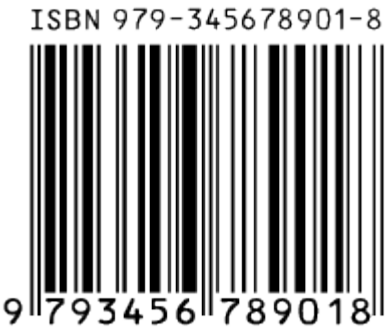
So, as you can see, ISBN-10 and ISBN-13 are really just different ways of looking at the same thing.

Every ISBN barcode with a number underneath that starts with "978" has both a 13 digit ISBN-13 code, and a 10 digit ISBN-10 code that is derived from the full 13 digit barcode number.

The Barcode Zapper, by default, outputs the 13 digit number at the bottom of an ISBN barcode. If ISBN (or SCIS) mode is turned on using the barcodes on the next page, the barcode scanner will translate the 13 digit number at the bottom of the barcode into the 10 digit ISBN-10 code at the top.

Most likely, you will only need to scan ISBN codes for use with SCIS. SCIS say that they now allow either ISBN-10 and ISBN-13 codes to be used, so it really doesn't matter if your scanner outputs the 10 digit code or the 13 digit code when the ISBN barcode is scanned.

If you're still reading, you're probably thinking "why did they bother changing if ISBN-10 and ISBN-13 are really the same thing?". The answer is that sometime in the future, ISBN-13 barcodes that start with "979" (as shown on the right) will be released, and these codes **do not** have a 10 digit equivalent - they are 13 digit only.



SCIS

As long as SCIS accepts both ISBN-10 and ISBN-13 codes, it really doesn't matter whether your barcode scanner outputs 10 digits or 13 digits.

However, at some time in the future, SCIS may change this policy. If they do, or if you use your scanner with ISBN codes and an application other than SCIS that only accepts 13 digit ISBN codes, you can easily turn off ISBN/SCIS mode using the barcodes below.

First, scan the **PROGRAM** barcode on the left below, then the **EAN/CAN/JAN SETTING** barcode, then one of the ISBN barcodes on the right, and finally the **END** barcode on the left.

1

PROGRAM

2

EAN/CAN/JAN SETTING

4

END

3

Convert to ISBN-10/SCIS

3

Leave as ISBN-13

Electromagnetic Interference (EMC)

The ASP Barcode Zapper has been tested for compliance with the following standards:

USA	FCC Part 15, Subpart B, Class A.
Europe	European Standard EN 55022:1994/A1:1995 Class A.
Australia	Australian Standard AS3548:1993 (being an equivalent Standard to the European Standard above).

The C-tick logo and registration number (shown below) confirm that this product meets the requirements of Australia's EMC Regulations.

Warranty

To the extent permitted by law ASP's warranty in respect of the Barcode Zapper and its use is limited to correction of defects in the Barcode Zapper due to faulty components or workmanship for a period of three years from the date of purchase.

It is your responsibility to carefully pack any unit being returned for service, warranty or otherwise, and pay shipping charges to your dealer location or ASP. Units sent freight collect will not be accepted. Freight back to you will be paid by ASP in the case of warranty repairs.

ASP always welcomes suggestions for improvements to our products and documentation.