

What is UPC Version A?

UPC Version A consists of 11 numeric only data digits.

How do I calculate the check digit?

This is easy, lets look at some data. Our Data **98765432155**

All odd numbers are multiplied by 3 and the even number by 1.

Example.	Char.	Pos	0	E	0	E	0	E	0	E	0	E	0	Total = 115
	Data		9	8	7	6	5	4	3	2	1	5	5	Modula 10 of 115 = 120
	Multiply		3	1	3	1	3	1	3	1	3	1	3	Check Digit = 5
	Results		27	8	21	6	15	4	9	2	3	5	15	

The total minus the Modula 10 value of the total give you the check digit number.

What is the Layout of the Barcode?

Below is a simple layout of the barcode.

Start Character	Left Hand Digits	Centre Bar	Right Hand Data	Check Digit	Stop Character
1 Digit	6 Digits	1 Digit	5 Digits	1 Digit	1 Digit

How do I encode the Barcode?

Ok, to start with we have a the first 6 characters which are simply kept as they are, for example **987654**

The remaining 5 and the check digits are encoded with parity set C, shown below.

Parity Set C

Font Character	A	B	C	D	E	F	G	H	I	J
Numeric Pos	0	1	2	3	4	5	6	7	8	9

Below is a table giving showing our data encoded as EAN 8.

	Left Data	Right Data	Check Digit
Data String	9 8 7 6 5 4	3 2 1 5 5	5
Parity Set	N O N E	C C C C C	C
Result	9 8 7 6 5 4	D C B F F	F

How do I put it all together?

Simple, we have our final encoded data, now all we need to do is to add our additional control characters.

Result taken from above 9 8 7 6 5 4 D C B F F F

Start Character is (or ASCII code 40 Centre Bar Character is - or ASCII code 45
 Stop Character is) or ASCII code 41

Our Final Barcode looks like this **(987654-DCBFFF(**

To add the digit at the front simply take the first digit from original data, which is "8". Use the characters from Q-Z for number 0-9, so 8 is Y. The last digit apply the same technique but using the check digit instead.

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You can also use UPC A version with masked first and printable check digit. First digit after start code is replaced from characters from decimal 161-170, which represent 0-9 for the Left side data. The readable check digit is replaced with characters from decimal 113-222, which represent 0-9 for the Right side data. So the first digit is "9" which decimal 200 and the check digit is 5 which is decimal 118.

We have ActiveX DLL, Excel & Access add-ins for Windows Systems to encode these barcodes.

Barcode Font Example

