

Technical Bulletin

How to Calculate a Check Digit for a UPC

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The checksum is a Modulo 10 calculation:

1. Add the values of the digits in the even-numbered positions: 2, 4, 6, etc.
2. Multiply this result by 3.
3. Add the values of the digits in the odd-numbered positions: 1, 3, 5, etc.
4. Sum the results of steps 2 and 3.
5. The check character is the smallest number which, when added to the result in step 4, produces a multiple of 10.

Example: Assume the barcode data = 001234567890

1. $0 + 2 + 4 + 6 + 8 + 0 = 20$
2. $20 * 3 = 60$
3. $0 + 1 + 3 + 5 + 7 + 9 = 25$
4. $60 + 25 = 85$
5. $85 + X = 90$ (nearest equal or higher multiple of 10), therefore $X = 5$ (checksum)