How to Create a UPC Shipping Container Symbol (ITF-14)

If you are registered with GS-1 (formerly The UCC), you already have a Manufacturer Code, and probably produce UPC-A barcodes. This paper shows how you can make your UPC-A barcode into an UPC Shipping Container Symbol.

A UPC-A barcode contains 12 characters and has four components.

1. The NS (Number System) Character - This is the first character of the code, typically a zero or a seven. The NS tells whatever computer is receiving the barcode data what type of UPC it is. Zero and seven mean it is a regular UPC. Other characters can indicate different kinds of codes.
2. The Manufacturer Code - The unique number issued by the UCC, made up of characters 2 through 6.
3. The Product Code - Characters 7 through 11.
4. The Check Digit - Character 12, generated by the barcode encoding algorithm.

    NOTE: The EAN is the European version of the UPC where there are thirteen characters because the NS is replaced by a two character EAN Prefix.

The UPC Shipping Container Symbol (ITF-14) takes the UPC data that the Retail Vendor sector already has, and turns it into a format that the Shipping and Receiving sector is accustomed to reading.

The ITF-14 specification:

•   Contains 14 characters, and changes the symbology from UPC-A to Interleaved 2 of 5 Mod 10
•   Adds a Package Indicator Character in position 1
•   Uses the EAN Prefix (two characters) or adds a leading zero to the NS in positions 2 and 3
•   Uses the existing UCC Manufacturer Code in positions 4 through 8
•   Uses the existing product code in positions 9 though 13
•   The Check Digit in position 14, generated by the barcode encoding algorithm

This means that UPC-A number 725879822217 turns into I2 of 5 Mod 10 number X072587982221Y where X can be the numbers 0 through 9 depending on what is in the container and Y is the check digit.