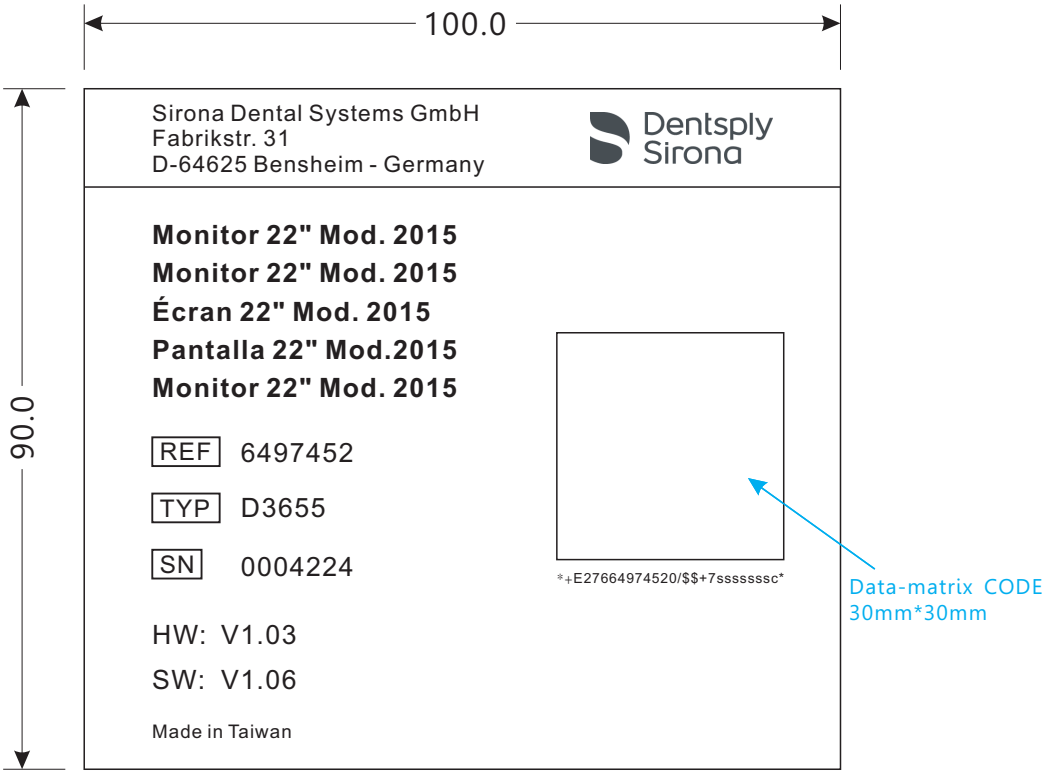
| REV. | DATE | DESCRIPTION | BY | APVD |
|---|---|---|---|---|




Note:

1.Use 3MDL4XLB440 Blank label.
2.Use Ricoh #B110A ribbon.
3.SSSSSSS= Serial number of display start with 01001 and increment by 1
從0004224開始，0004225...
4.Barcode encoding: Data-matrix CODE，30mm*30mm
5.Barcode印:*+E27664974520/$$+7sssssssc*
Explanation:

| | |
|---|---|
| * | Marks start and end of data matrix code. Not part of 2D barcode. |
| +E276 | Manufacturer identification for Dentsply Sirona Bensheim |
| / | Separator |
| $$+7 | Startmarker for the following serial-number |
| sssssss | Serial-number (7碼) |
| c | Checksum (Modulo 43) 請參考附件 |

對照表格，把每一個字元轉成數字再相加後除 43 得的餘數，
餘數對照表格可得最後一碼設變碼

| PM / SALES | THIRD ANGLE PROJECTION | UNITS: mm | SCALE: 1/1 | SHEET: 1/1 | MODEL NO.: MDRAD21 ELXCD-SI_RGD |
|---|---|---|---|---|---|
| | | MATERIAL: SEE NOTES | | TREATMENT: SEE NOTES | |
| PE / PCD | DSGD by coco | 2024/12/25 | PART NAME: CARTON LABEL | | |
| | APVD by | | PART NO.: 8MD680LB020 | VER.0 | |
| | APVD NO.: | FILE NAME: MDRAD21 ELXCD-SI_RGD.cdr | DIVA Laboratories, Ltd. | | |

# Modulo 43 – Check Digit Calculations

for use with Health Industry Barcode (HIBC) and for general use.
(Excerpt of ANS HIBC 2.2, 2006 )

### Check Digit Character Calculations

Each of the HIBC LIC Standard data structures employs a Modulus 43 Check Digit for additional data security. The Check Digit is the Modulus 43 sum of all the character values in a given message, and is printed as the last character in a given message, preceding the Stop Character.
Leading and trailing asterisk "*" characters in the human-readable interpretation are not used in calculating the Check Digit and are only represented in the human-readable interpretation. Check Digit generation is illustrated by the following example with the table below:

Supplier Labelling Data Structure: + A 1 2 3 B J C 5 D 6 E 7 1
Sum of values: 41+10+1+2+3+11+19+12+5+13+6+14+7+1 = 145

Divide 145 by 43. The quotient is 3 with a remainder of 16. The Check Digit is the character corresponding to the value of the remainder (see table below), which in this example is 16, or "G". The complete Supplier Labelling Data Structure, including the Check Digit, would therefore be:

A 1 2 3 B J C 5 D 6 E 7 1 G

### Table of numerical value assignments for computing the HIBC LIC data format Check Digit

| | | |
|---|---|---|
| 0 = 0 | F = 15 | U = 30 |
| 1 = 1 | G = 16 | V = 31 |
| 2 = 2 | H = 17 | W = 32 |
| 3 = 3 | I = 18 | X = 33 |
| 4 = 4 | J = 19 | Y = 34 |
| 5 = 5 | K = 20 | Z = 35 |
| 6 = 6 | L = 21 | - = 36 |
| 7 = 7 | M = 22 | . = 37 |
| 8 = 8 | N = 23 | Space = 38 |
| 9 = 9 | O = 24 | $ = 39 |
| A = 10 | P = 25 | / = 40 |
| B = 11 | Q = 26 | + = 41 |
| C = 12 | R = 27 | % = 42 |
| D = 13 | S = 28 | |
| E = 14 | T = 29 | |

### Space Character Caution

The HIBC-LIC Check/Link character is **not** part of the **data message.** As such it should not normally be stored in a database or transmitted via EDI. It should be stripped away after the check and link functions have been executed. One of the possible values of the Check/Link Character is a space character (value 38). Although not recommended, if the link character must be stored or transmitted, the space character should be stored or transmitted explicitly as ASCII decimal 32 (ASCII Hex '20'). Note that some legacy systems and or software are unable to receive and or interpret trailing spaces as part of a data message.