American National Standard

THE HEALTH INDUSTRY BAR CODE (HIBC) SUPPLIER LABELING STANDARD

Secretariat

Health Industry Business Communications Council

Approved April 29, 1997

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Standard

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Secretariat

Health Industry Business Communications Council
2525 East Arizona Biltmore Circle, Suite 127
Phoenix, AZ 85016
Tel: 602.381.1091 / Fax: 602.381.1093
Email: info@hibcc.org

This technical Standard is endorsed and
supported by the following HIBCC international affiliates:

HIBCC Finland
Bomansonintie 15
SF-00570 Helsinki, Finland
Tel: 358.968.499.11
Fax: 358.968.499.21
Email: raino.walli@sailab.fi

HIBCC Spain
Avda. De Burgos, 36
Madrid, Spain 28036
Tel: 34.917.671.106
Fax: 34.917.662.254
Email: icm@develnet.es

HIBCC France
Immeuble MASEVAUX
24 Rue Franck DELMAS
17000 La Rochelle, France
Tel: 33.5.46.28.90.25
Fax: 33.5.46.28.90.25
Email: hibccfra@aol.com

HIBCC United Kingdom
Academy House,
Academy Park
Gower Street
Glasgow, UK G51 1PR
Tel: 44.141.4274142
Fax: 44.141.4276263
Email: hibcc@rtel.co.uk

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THE HEALTH INDUSTRY BAR CODE (HIBC) SUPPLIER LABELING STANDARD

April 12, 1994
Foreword
Automatic identification technology is continually evolving. As technological advances prove applicable to the health care industry, they will be incorporated into revisions of this standard, wherever possible. However, every attempt will be made to maintain the existing data structures, thereby allowing new technology to be introduced into systems in a non-disruptive manner. HIBCC recognizes that this standard is a technology driven solution to improvement of health care delivery. As new technology becomes widely available, the standard will be modified to incorporate the advantages of the new technologies. References to UCC/EAN data and symbol formats have been updated to conform to current usage.

1.0 Scope
This document describes the voluntary HIBC Supplier Labeling Standard for products distributed within the health care industry. Labelers (manufacturers) of health care products are strongly encouraged to identify their products with consistently scannable bar code symbols in accordance with the standards described herein. For additional labeling guidance sources, see Appendix D.

Additional technical information and HIBC Bar Code recommendations are contained in the Guidelines Manual.

Symbol Quality Compliance
and Printing Assistance
Printed bar code symbols must meet or exceed the quality requirements of Section 5.0 and be easily scannable by standard bar code scanners at the point of use. Labelers having questions about or problems meeting the requirements of this standard should contact HIBCC in Phoenix at (602) 381-1091 or EHIBCC in Brussels at 011 31 70 3244754.

2.0 Supplier Labeling Data Structures
It is intended that all health care products be labeled with a Primary Symbol, which identifies the labeler, the product code, and the unit of measure. Secondary information is useful to distributors and providers and, at the discretion of the labeler, should be added.

2.1 Primary Data Structure
The primary data structure contains an indication of the labeler of the item, the item, the packaging level, and a Link Character. The labeler identification is a data element that is controlled by either the Health Industry Business Communications Council (HIBCC), or its affiliate international organizations, the Uniform Code Council (UCC) or the International Article Numbering Association (EAN). A labeler that chooses to utilize the HIBC Labeler Identification Code (LIC) should follow the HIBC LIC data and symbology format. A labeler that chooses to utilize the UCC/EAN manufacturer identifier should follow the UCC/EAN SCC-14 data and symbology format shown in this standard and defined by ANSI/UCC-6, Application Standard for Shipping Container Codes. Note that the Food and Drug Administration (FDA) assigns the National Drug Code (NDC) and therefore also controls manufacturer identification. A labeler should join the UCC to obtain the corresponding UCC Manufacturer Identification Number. UCC/EAN supplier identification is also the basis for the small package identification system.

2.1.1 HIBC LIC Primary Data Structure
The HIBC LIC Primary Data Structure format encodes a "+" identifier of the HIBC Supplier Data Structure, a 4-character Labeler Identification Code (LIC), a 1 to 13 character Product or Catalog Number (PCN), a one-digit Unit of Measure Identifier (U/M), and a single-digit Link Character (L).

The format for the Primary Data Structure format follows (for illustration purposes, the product identifier, or PCN, is shown at its maximum length, 13 characters, therefore the maximum symbol length is 20 characters):

$$+ I I I I P P P P P P P P P P P P P U L$$

where:

Field Descriptor	Field Length	(F)ixed Length/ (V)ariable Length	Field Description
+	1	F	HIBC Supplier Labeling Flag Character,"+".
I	4	F	Labeler Identification Code(LIC) is alpha-numeric and the first character is always an alphabetic character.
P	1-13	V	Labeler's Product or Catalog Number (PCN), alphanumeric data.
U	1	F	Unit of Measure ID, 0 through 9, where 0 is for unit-of-use items. 1 to 8 are used to indicate different packaging levels above the unit-of-use. 9 is used for variable quantity containers when manual key entry or a scan of a secondary symbol or concatenated application indicator will be used to collect specific contents data. The labeler should ensure consistency in this field within their packaging process.
L	1	F	Link Character (calculated from the above characters) See Appendix B2.0.

The Labeler Identification Code (LIC) will be assigned and maintained by HIBCC or EHIBCC. The first character of this field will always be an alphabetic character. The LIC may identify a labeler to the point of separate subsidiaries and divisions within a parent organization.

The Product or Catalog Number (PCN) should be compressed to eliminate embedded spaces and special characters. Special characters must not be used in this field. Examples of this compression follow:

655-9 ....would become 6559
24-86-2S ....would become 24862S
84/XPG............would become 84XPG
MP 15 86-G......would become MP1586G
92.885*BK........would become 92885BK

This compression impacts only the machine-readable representations of the PCN and its associated human-readable interpretations. Other external package markings and catalog listings covered by this standard remain the prerogative of the individual labeler.

The Unit-of-Measure Identifier (U/M) is a numeric representation of the relative level of packaging (0 to 9) with 0 being the lowest level or "unit-of-use." For example, a labeler might pack unit-of-use items in a box, boxes in a carton, and cartons in a case. One way of labeling this example would be, unit-of-use = 0; Box = 1; Carton = 3; and Case = 5. It may be that a unit-of-use is packaged, however, in a box. For instance, individual cotton swabs would be considered the unit-of-use and may go unmarked.

Consequently, the box in which the cotton swabs were packaged would be marked with the HIBC Supplier Primary Data Structure with a 1 or greater in the U/M field. Note that U/M identifiers are arbitrarily assigned by each labeler and must be internally consistent.

2.1.2 UCC/EAN SCC-14 Primary Data Structure
When a health industry labeler elects to employ manufacturer numbering controlled by the

UCC/EAN, they should use the UCC/EAN SCC-14. The UCC/EAN SCC-14 primary data structure contains a packaging level indicator, manufacturer/item number and Link Character.

The primary data structure is:
U M M M M M M M M M M M L

where:

Field Descriptor	Field Length	(F)ixed Length/ (V)ariable Length	Field Description
U	1	F	Packaging indicator, 0 through 9, where 0 is for the lowest level of packaging, such as unit-of-use, and unit dose items. 1 to 8 are used to indicate different packaging levels above the unit of use. 9 is used for variable quantity containers when manual key entry or a scan of a secondary symbol or concatenated application indicator will be used to collect specific contents data. The labeler should insure consistency in this field within their packaging process.
M	12	F	UCC/EAN number, comprised of UCC or EAN assigned manufacturer number and manufacturer assigned item number.
L	1	F	Link Character (calculated from the other 13 digits, not including AI (01)). See Appendix B3.0.

Note that the information in these fields is the same as in the HIBC LIC Primary Data Structure. The total field length of the HIBC LIC Primary Data structure is a maximum of 20 characters, and the total field length of the UCC/EAN SCC-14 Primary Data structure is fixed at 14 digits. The calculation of the Link Character differs between the LIC and UCC/EAN data structures. See the Appendix B for the mathematical formulas used to calculate the Link Character in each system. (When using UCC/EAN 128 symbology, the Application Identifier "01", AI 01), precedes the UCC/EAN SCC-14 Primary Data Structure. See Section 3.1.2 for more information.)

2.1.3 General Distribution Items
Labelers that use U.P.C. symbols on general distribution products that end up in provider facilities should follow ANSI/UCC-1, U.P.C. Symbol Specification Manual, published by the UCC. Providers should keep all 14 digits of the expanded data format in their database and utilize a packaging level indicator of 0. For example, a U.P.C. number on a toothbrush might be 012345678905, the provider database should reference the item as 00012345678905, where the first 0 is packaging level and the second 0 assures compatibility with UCC/EAN coding structure. All UCC/EAN primary

data formats should always be maintained in a database with 14 digits to assure uniqueness.

2.1.4 Primary Data Structure in Electronic Data Interchange

For information about communicating Primary Data in Electronic Data Interchange, refer to the HIBCC Electronic Data Interchange (EDI) Guidelines. When using the HIBC data formats in Electronic Data Interchange, the Link Character is not transmitted or stored in the database. See Appendix B.2.1.

2.2 Secondary Data Structure

Optional secondary data elements are used in conjunction with primary data elements to encode quantity and/or expiration (expiry) date and/or Lot/Batch/Serial Number. Appendices E and F describe the secondary data fields in detail.

2.2.1 HIBC LIC Secondary Data Structure

The format for the HIBC Secondary Data Structure, whose maximum length is 33 characters, follows:

Field Descriptor	Field Length	Field Description
+	1	HIBC Supplier Labeling Flag Character, "+".
R	1, 2 or 5	Quantity/Date Reference Identifier Numeric: If the first character is numeric, then R is a fixed 5-digit Julian date. No quantity or Lot/Batch/Serial Number is present. $: If the first character is a "$" and the second character is alphanumeric, then the Quantity and Date fields are not used. Only a Lot/Batch/Serial Number is present. $$: If the first two characters are "$$", then the next digit specifies quantity and Date Field format.
Q	0, 3 or 6	Quantity Field, format indicator followed by two-digit or five-digit quantity, for use after the "$$".
D	0 or 5-9	Date Field, for use after the "$$" (includes the date field format indicator).
B	0-13	Lot/Batch/Serial Number Field.
L	1	Link Character (same as the last character from Primary Data Structure).
C	1	Modulus 43 Check Character (calculated from the above characters) See Appendix B2.0.

Note: The HIBC Secondary Data Structure is distinguished from the Primary Data Structure in that the Primary Data Structure has an alphabetic character following the HIBC Supplier Labeling Flag Character "+", while the Secondary Data Structure has a numeric character or a "$" following the HIBC Supplier Labeling Flag Character. See Appendices E and F for more information.

2.2.2 UCC/EAN Secondary Data Structures

ANSI/UCC-4, UCC/EAN-128 Application Identifier Standard specifies numerous secondary data structures for use with the UCC/EAN SCC-14 Primary Data Structure. HIBCC recognizes that two of these formats are useful in health care settings: AI (22), and AI (240). Other UCC/EAN-128 Application Identifiers may also be used. The use of any secondary data structures are optional and are used at the discretion of the labeler.

AI (22) may be used with the HIBC LIC or UCC/EAN SCC-14 primary data structure and is typically printed as a separate symbol. However, regardless of which primary data format or symbology is used,

the AI (22) data must use UCC/EAN-128 symbology (Code 128 with a Function 1 character (FNC1) in the first position. See Section 3.1.2).

The format for the HIBC Alternate Secondary Data Structure - UCC/EAN Application Identifier (22) follows:

Field Descriptor	Field Length	Field Description
22	2	UCC/EAN Health Industry Application Identifier (AI) for quantity, date, batch, or lot.
Q	0, 3 or 6	Optional two-digit or five-digit quantity, for use after an "8" or "9".
D	0 or 4-9	Optional date field, for use with digits "0" through "7".
B	0-13	Lot/Batch/Serial Number.
L	1	Link Character (same as last character from Primary Data. If Primary Data is concatenated with other identifiers, Link is still the last character of the Primary Data field).

AI (240), if used, must always be concatenated with the UCC/EAN SCC-14 Primary Symbol, AI (01).

Field Descriptor	Field Length	Field Description
240	3	Application Identifier (AI) for UCC/EAN Additional Product Identification Assigned by Manufacturer.
P	1-13	The 1-13 character Product or Catalog Number.*

*Note: per ANSI/UCC-4, UCC/EAN-128 Application Identifier Standard, the field length may be 1 to 30 characters. For HIBCC implementations, the field length should not exceed 13 characters.

Other secondary fields: Contact UCC or EAN (see Appendix D) for ANSI/UCC-4, UCC/EAN-128 Application Identifier Standard.

Appendices E and F describe the secondary fields in detail.

2.2.3 Secondary Data Structure in Electronic Data Interchange
For information about communicating Secondary Data in Electronic Data Interchange, refer to the HIBCC Electronic Data Interchange (EDI) Guidelines.

3.0 Label Symbologies

3.1 Primary Data Symbologies

Depending on which organization maintains the labeler identifier assignment, it is possible for a

Primary Label to be encoded in one of two possible bar code symbologies.

3.1.1. HIBC LIC Primary Data Symbologies - Code 128 or Code 39
If the HIBC LIC Primary Data Structure is used, the data should be encoded in either Code 128 or Code 39 symbology. Further information on these symbologies is available from AIM USA in their Uniform Symbology Specifications. If Code 128 is used, do not include the Function 1 character (FNC1). If Code 39 is used, the wide to narrow ratio should be 3:1, the intercharacter gap should be equal to the nominal narrow element dimension (X-

dimension) and the standard symbology check character is used. The data structure and human-readable interpretation is identical regardless of symbology used. No special characters (-, ., $, /, +, %, and space) are used other than the use of the flag characters, "+" and "$", in the beginning of the HIBC LIC symbols. Note that the generated check character may, however, be one of these special characters.

3.1.2 UCC/EAN SCC-14 Primary Data Symbologies-UCC/EAN-128 or Interleaved 2 of 5

UCC/EAN SCC-14 Primary Data is encoded using the UCC/EAN-128 symbology. UCC/EAN-128 uses Code 128 with a Function 1 character (FNC1) following the start character and before AI (01). The human-readable interpretation utilizes the AI (01) with the 14-digit code and includes parenthesis around the application identifiers (AI's) to imply the presence of the FNC1 character, but the parenthesis are not encoded in the symbol. Refer to the ANSI/UCC-4, UCC/EAN-128 Application Identifier Standard for further information.

UCC/EAN SCC-14 Primary Data may also be encoded in Interleaved 2 of 5 symbology when printed on higher level corrugated packaging. The data is the UCC/EAN SCC-14 and is described in ANSI/UCC-6, Application Standard for Shipping Container Codes, published by the UCC.

3.1.3 HIBC Primary Data Symbology for Small Packages - Code 128

Every effort should be made to use either the HIBC LIC standard or the UCC/EAN SCC-14 primary format. The HIBC LIC structure printed with Code 128 and using a short numeric Product or Catalog Number can be quite small. Any labeler having difficulty fitting the standard primary symbol on packaging should contact HIBCC for assistance.

On small packages where every dimension is less than 40mm (1.57 inches), it is permissible to encode a UCC/EAN SCC-14 as a 12-digit number, without the packaging indicator and check digit. (UCC/EAN code excluding the first and last digit). This data shall be encoded in Code 128, not in UCC/EAN-128 and not in U.P.C.

On very small packages where every dimension is less than 31mm (1.22 inches) and, if the item has a FDA assigned number, it is permissible to encode only the 10-digit FDA number in Code 128. The Small Package Symbol does not allow for differentiation of different levels of packaging. The Packaging Indicator is defined to be zero.

All 14 digits must be included in the human-readable interpretation regardless of which small format is used. (That is the same 14 digits that would be encoded following the (01) if the full UCC/EAN SCC-14 symbol could have fit on the package.) For instance, if the 12-digit symbol is used, the assigned unit-of-use packaging indicator is 0, and it should be the first human-readable character, followed by the 12 digits encoded in the symbol and then the Link Character, making a total of 14 digits. If the 10 digit NDC number is used, the human-readable interpretation must be the full 14-digit expanded format, also, for uniqueness and data base compatibility. Note: The NDC number consists of a FDA assigned manufacturer identifier followed by the manufacturer's assigned product code and package code. The manufacturer should ensure that the package code within the 10-digit NDC number is unique for this level of packaging and that the same NDC number should never be used on two different packages. The human-readable interpretation for the 14-digit expanded number starts with a packaging level indicator of 0, then with the UCC NDC identifier 03, then the 10-digit NDC number and followed by the Link Character, adding up to 14 digits. See Appendix B3.0 for the Link Character calculation. See Appendix C on the small package label for detailed printing information.

All UCC/EAN primary data formats should not only be represented in human-readable fashion with 14 digits, but all host computer databases should include the full 14-digit UCC/EAN code.

3.2 Secondary Data Symbology

When the secondary code is printed separately from the primary code, either UCC/EAN-128 for UCC/EAN secondary data or Code 128 or Code 39 for HIBC LIC secondary data may be used. See Appendix E for information regarding concatenation.

No special characters (-, ., $, /, +, %, and space) are used other than the use of "+" and "$" as the first character in HIBC LIC data format. Note that the generated check character may, however, be one of these special characters.

4.0 Bar Code Symbols

Specifications for Code 128, Code 39, and Interleaved 2 of 5 symbologies are available from AIM USA as the Uniform Symbology Specifications. The HIBC Guidelines provide information on printing techniques, symbol placement, and symbol orientation.

For direct printing of UCC/EAN symbols on corrugated shipping containers, bar codes should, whenever possible, be printed with an X-dimension

of 0.025 inches or greater and placed in the manner prescribed by ANSI/UCC-6, Application Standard for Shipping Container Codes, available from the UCC. Separately printed labels placed on corrugated may be printed with an X-dimension of 0.020 inches.

4.1 Human-Readable Interpretation

The preferred human-readable interpretation of a HIBC Supplier Labeling Symbol is a line of characters, directly underneath the bar code symbol, representing all encoded characters. The human-readable interpretation is intended to be used for human recognition only, and not as a method of machine readability addressed in this standard. It is the recommendation of HIBCC that the human-readable interpretation of zero be represented as "Ø". The Link Character in the symbol will sometimes be a space character. In this case, the human-readable interpretation should use an "underscore" to represent the space character. See Appendix B2.1 for further guidance.

The human-readable interpretation for both HIBC LIC Primary Code 128 and Code 39 should be bounded in the beginning and at the end of the data string by an asterisk, "*". An "*" is not used with UCC/EAN-128. The human-readable interpretation for AI's in the UCC/EAN-128 should be enclosed with parentheses and the data printed without separating spaces.

4.2 Label Placement

Transport package labels should be placed no closer than 1.25 inches from any package edge, and the bottom edge of the label should be within the range of 1.25 inches to 3.0 inches from the natural bottom of the package. For more information about transport package labels, consult ANSI MH10.8M, Bar Code Symbols on Unit Loads and Transport Packages. For inner package guidance, consult the NWDA document "NWDA Numerical and Automatic Identification of Drug Products."

4.3 Bar Code Symbol Examples

Examples of formats and printed symbols are shown below

4.3.1 HIBC LIC Primary Data Structure

Shown below are the symbols for the HIBC LIC Primary Data Structure.

Code 128

+A123BJC5D6E71G

Code 39

4.3.2 UCC/EAN SCC-14 Primary Data Structure

Shown below are the symbols for the UCC/EAN SCC-14 Primary Data Structure.

UCC/EAN - 128

(01)50380001234563

I 2/5

4.3.3 HIBC LIC Secondary Data Structure

Shown below are the symbols for the HIBC LIC Secondary Code Data Structure.

Code 128

+83278F8G9H0J2G%

Code 39

*+83278F8G9H0J2G%

4.3.4 HIBC Alternate Secondary Data Structure - UCC/EAN Application Identifier (22)

Shown below is a symbol for the HIBC Alternate Secondary Code Data Structure, UCC/EAN AI (22).

UCC/EAN-128

(22)8061195A1234L

5.0 Print Quality

For all packages that may be scanned beyond the receiving function, the symbol quality in its final configuration shall be no lower than a C/06/660 when measured according to ANSI X3.182, Bar Code Quality Guideline, available from ANSI (American National Standards Institute) in New York, telephone (212) 642-4900. Labelers should attempt to reach B/06/660 or better at the time of printing. Labelers should use an X-dimension of 0.010 inches.

Those labelers with high resolution printing capability may utilize X-dimensions as low as 0.0075 inches. Any X-dimension greater than 0.0075 inches is allowable if the print quality requirement is met.

The height of the bars should be at least 15% of the symbol length.

Quiet Zones must be greater than 10 times the X-dimension.

6.0   UCC/EAN SCC-14
Interleaved 2 of 5 Symbol

The Interleaved 2 of 5 symbology is used for direct printing of UCC/EAN SCC-14 primary information on corrugated containers. Information for using the UCC/EAN SCC-14 is available from the Uniform Code Council. Print quality requirements for direct printing symbols on corrugated in their final configuration should

be obtained from ANSI/UCC-6, Application Standard for Shipping Container Codes available from the UCC.

For more information, contact the UCC.

Shown below is an example of an UCC/EAN SCC-14 Interleaved 2 of 5 Symbol:

UCC/EAN SCC-14 Interleaved 2 of 5 Symbol

7.0 UCC/EAN SSCC-18

For mixed loads or shipments that require the shipping container to be serialized, the UCC/EAN SSCC-18 may be used. The SSCC-18 is a worldwide recognized method of tracking individual shipments and is usually used in conjunction with EDI.

Print quality and label placement requirements for the SSCC-18 in its final configuration should be obtained from ANSI/UCC-6, Application Standard for Shipping Container Codes, available from the UCC.

For more information, contact the UCC.

APPENDIX A
Julian Dating Calendar

DAY OF MONTH	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	001	032	060	091	121	152	182	213	244	274	305	335
2	002	033	061	092	122	153	183	214	245	275	306	336
3	003	034	062	093	123	154	184	215	246	276	307	337
4	004	035	063	094	124	155	185	216	247	277	308	338
5	005	036	064	095	125	156	186	217	248	278	309	339
6	006	037	065	096	126	157	187	218	249	279	310	340
7	007	038	066	097	127	158	188	219	250	280	311	341
8	008	039	067	098	128	159	189	220	251	281	312	342
9	009	040	068	099	129	160	190	221	252	282	313	343
10	010	041	069	100	130	161	191	222	253	283	314	344
11	011	042	070	101	131	162	192	223	254	284	315	345
12	012	043	071	102	132	163	193	224	255	285	316	346
13	013	044	072	103	133	164	194	225	256	286	317	347
14	014	045	073	104	134	165	195	226	257	287	318	348
15	015	046	074	105	135	166	196	227	258	288	319	349
16	016	047	075	106	136	167	197	228	259	289	320	350
17	017	048	076	107	137	168	198	229	260	290	321	351
18	018	049	077	108	138	169	199	230	261	291	322	352
19	019	050	078	109	139	170	200	231	262	292	323	353
20	020	051	079	110	140	171	201	232	263	293	324	354
21	021	052	080	111	141	172	202	233	264	294	325	355
22	022	053	081	112	142	173	203	234	265	295	326	356
23	023	054	082	113	143	174	204	235	266	296	327	357
24	024	055	083	114	144	175	205	236	267	297	328	358
25	025	056	084	115	145	176	206	237	268	298	329	359
26	026	057	085	116	146	177	207	238	269	299	330	360
27	027	058	086	117	147	178	208	239	270	300	331	361
28	028	059	087	118	148	179	209	240	271	301	332	362
29	029	*	088	119	149	180	210	241	272	302	333	363
30	030		089	120	150	181	211	242	273	303	334	364
31	031		090		151		212	243		304		365

The HIBC Supplier Labeling Standard Format for use of Julian dating includes the last two digits of the year followed by a three-digit day-of-the-year code. For example, November 7, 1994 is represented as "94311" (the 311th day of 1994).

*A leap year has 366 days with February having 29. Julian dating in leap years is the same through February 28 (059) with February 29 as 060. All dating from March 1 through December 31 is incremented by one during leap years.

APPENDIX B
Link Character Calculations

B1.0 Link Character Calculations
Be sure to use the Modulo 43 calculation when using the HIBC LIC primary data structure and the Modulo 10 calculation when using the UCC/EAN SCC-14 primary data structure.

**B2.0 HIBC LIC Link Character –
Modulo 43 Generator**
Each of the HIBC LIC Standard data structures employs a Modulus 43 Link Character for additional data security. The Link Character 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 Link Character and are only represented in the human-readable interpretation. Link Character generation is illustrated by the following example with the table below:

Supplier Labeling 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 Link Character is the character corresponding to the value of the remainder (see table below), which in this example is 16, or "G". The complete Supplier Labeling Data Structure, including Link Character, 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 Link Character**

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	Sp = 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	

B2.1 Space Character Caution

The HIBC-LIC 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 Link / Check 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 character 32. Note that some systems and or software are unable to receive and or interpret trailing spaces as part of a data message.

B3.0 UCC/EAN SCC-14 Link Character – Modulo 10 Generator

The UCC/EAN SCC-14 Primary field employs a Link Character for additional data security. The Link Character is calculated as the weighted modulo 10 sum of the digits in the symbol in the same fashion as the standard U.P.C./EAN symbol check character. The method for calculating the Link Character is to sum each alternating digit starting with the one next to the Link Character and multiply by 3. Add to that the remaining digits and take the modulo 10 value of the sum. The Link Character is ten minus the modulo sum.

For example:

data string

0 0 1 2 3 4 5 6 7 8 9 0

sum every other digit starting on the right

0	0	3	1	2	3	4	5	6	7	8	9	0
0	+	3	+	2	+	4	+	6	+	8	+	0

=23

Multiply by three

23 x 3 = 69

sum the remaining digits

0 + 1 + 3 + 5 + 7 + 9 = 25

Add the sums

69 + 25 = 94

The Modulo 10 remainder is found by dividing the sum by 10 and taking the remainder.

94 / 10 = 9 with a remainder of 4

subtract the remainder from 10 to get the Link Character

10 - 4 = 6

The entire primary data string is therefore

0   0   3   1   2   3   4   5   6   7   8   9   0   6

APPENDIX C
Small Package Bar Code Printing Requirements

C1.0 Scope

This Appendix describes how labelers should mark all small package unit-of-use items bound for health care providers that are too small to contain the full HIBC LIC or UCC/EAN Primary symbol. If at all possible, packages should contain the full Primary Symbol. See Section 3.1.3, HIBC Primary Data Symbology for Small Packages, for the definition of "small."

C2.0 Small Package Symbol

C2.1. Data Content

The symbol data is the 12-digit UCC/EAN number. All labelers that have a small package printing requirement must obtain a UCC/EAN manufacturer number. The message length is fixed at twelve digits. For those items that have a FDA assigned number, a 10-digit symbol may be used. Regardless of symbol used, all human-readable interpretations must contain the 14-digit expanded data content as described in Section 2.1.2. and again in Section 3.1.3.

C2.2 Symbology

The small package symbol is to be printed in Code 128 according to ANSI/AIM-BC-4-1995, the AIM USA Uniform Symbology Specification for Code 128, available from AIM USA in Pittsburgh, telephone (412) 963-8588. The symbol is encoded in the normal Code 128 numeric data configuration. The Function 1 character (FNC1) is not used. If printed correctly, the HIBC small package symbol has exactly 28 bars for the 12-digit variety and 25 bars for the 10-digit FDA assigned NDC symbol.

C2.3 Print Quality

The symbol in its final configuration shall be no lower than a C/06/660 according to ANSI X3.182, Bar Code Print Quality-Guideline, available from ANSI in New York, telephone (212) 642-4900. Labelers should attempt to reach B/06/660 or better at the time of printing.
Often, source printing requires the generation of a film master to produce the printing plate. Care should be given to produce the film master with

smaller bars to compensate for ink spread. When "bar width reduction" is implemented, be sure that the spaces are enlarged by the same amount that the bars are reduced. The print quality requirement must be met on the final printed symbol. The film master can be fabricated using any method or accuracy as long as the final printed symbol meets the above specification.

C2.4 Size

The nominal size of the narrow element, X-dimension, should be 0.010 inches. The nominal width of the 10-digit symbol is 1.1 inches from the beginning of the leading quiet zone to the end of the trailing quiet zone when printed with a 0.010 inch X-dimension.

When the package is too small to fit a nominal symbol and if the printing process has high-resolution capability, the X-dimension may be reduced to no less than 0.0075 inches. Packages that have enough room to print symbols with an X-dimension of 0.010 inches are strongly encouraged to do so.

The height of the bars should be at least 0.2 inches.

C2.5 Example Small Package Symbols

Below is an enlarged example of a HIBC 12-digit Small Package Bar Code Symbol encoding the data 031234567890. Note that the human readable interpretation of this symbol would be 00312345678906.

00312345678906

Below is an enlarged example of a HIBC 10-digit Small Package Bar Code Symbol encoding the data

1234567890. Note that the human readable interpretation of this symbol would be 00312345678906.

00312345678906

See Section 3.1.3 for further explanation of the 14-digit human readable interpretation.

C3.0 Other Package Printing

C3.1 Human-Readable Interpretation

The full 14 digit UCC/EAN SCC-14 number shall be printed on the item package and should be located immediately below the symbol and be legible, providing it does not intrude into the symbol region, including quiet zones, and does not affect the scannability of the symbol.

C3.2 Descriptive Data

Any item descriptive data and or graphics is allowed provided it is printed in an area which does not intrude into the symbol region, including quiet zones, and does not affect the scannability of the symbol.

C3.3 Regulatory Data

All legally required marking shall be printed on the package in a legible font in an area which does not intrude into the symbol region, including quiet zones, and does not affect the scannability of the symbol.

APPENDIX D
Reference Definitions

For the purposes of printing the HIBC Supplier Labeling Symbol, the following informative definitions are included for convenience.

D1 AIM USA
AIM USA (Automatic Identification Manufacturers) publishes industry standard bar code symbology specifications. The Code 128, Code 39 and Interleaved 2 of 5 Uniform Symbology Specifications are available from AIM USA, 634 Alpha Drive, Pittsburgh, PA 15238, as items X5-4 ANSI/AIM BC4-1995, USS - Code 128, X5-2 ANSI/AIM BC1-1995, USS - Code 39, and X5-1 ANSI/AIM BC2-1995, USS - Code I 2/5, respectively. The telephone number for ordering AIM USA standards is (412) 963-8588. Email: pat.sudac@aimusa.org   Web site: www.amusa.org

D2 ANSI Bar Code Print Quality-Guideline
ANSI (American National Standards Institute) maintains voluntary standards and guidelines. The ANSI Bar Code Quality-Guideline is useful for determining bar code print quality and monitoring the printing process. The Guideline, designated X3.182, and all ANSI documents are available from ANSI, 11 West 42nd Street, 13th floor, New York, New York 10036. The telephone number for ordering ANSI standards is (212) 642-4900. Email: info@ansi.org Web site: www.ansi.org

D3 Bars
The black or darker areas of the bar code symbol.
D4 Code 128
A bar code pattern for alphanumeric data ideally suited to represent long strings of numeric digits with very high reading security. See AIM USA.
D5 Code 39
A bar code pattern for alphanumeric data ideally suited to printing processes that print one character at a time. When used with the symbology check character, Code 39 provides very high reading security. See AIM USA.

D6 EAN
The EAN (International Article Numbering Association) develops and maintains standards for article numbering, bar coding and EDI outside of North America. EAN standards and information are available from the EAN, 145 Rue Royale B1000, Brussels, Belgium. The telephone number for ordering EAN standards is 011-32-2227-1020. Fax: 011-32-2227-1021. Email: info@ean.be Web site: www.ean.be

D7 EHIBCC
EHIBCC (European Health Industry Business Communications Council) is an organization established in Brussels, Belgium for administration and maintenance of the Health Industry Bar code (HIBC) Supplier Labeling Standard as well as the Labeler Identification Codes issued in Europe. The main office is located at Jozef Israelaan 3, 2596 AM The Hague, The Netherlands. The telephone number for EHIBCC is 011-31-70-3244754 and the Fax number is 011-31-70-324-2522. Email: info@ehibcc.com Web site: www.ehibcc.com EHIBCC-D (Germay office) is located at D-06618, Naumburg Kösenerstraße 85. The telephone number is 011-49-3445-781160 and the Fax number is 011-49-3445-770161. Email: oehmail@t-online.de

D8 HIBC
Health Industry Bar Code.

D9 HIBCC
HIBCC (Health Industry Business Communications Council) develops and maintains standards for use in the health industry. HIBCC standards and information are available from HIBCC, 2525 E Arizona Biltmore Circle, Phoenix, Arizona 85016. The telephone number for ordering HIBCC standards is 602-381-1091. Fax: 602-381-1093. Email: info@hibcc.org Web site: www.hibcc.org

D10 HIDA
HIDA (The Health Industry Distributors Association), is an organization that develops and maintains guidelines for medical/surgical products in distribution and patient care. HIDA information is available from The Health Industry Distributors Association, 66 Canal Center Plaza, Suite 520, Alexandria, Virginia 22314. The telephone number is 703-549-4432.   Fax 703-549-6495. Email: info@hida.org   Web Site: www.hida.org

D11 Interleaved 2 of 5
A bar code pattern ideally suited to represent short strings of numeric digits. See AIM USA.

D12 NDC
NDC (National Drug Code) is a 10-digit number administered by the FDA, typically for medication.

D13 NHRIC
NHRIC (National Health Related Item Code) is a 10-digit number administered by the FDA.

D14 NWDA
NWDA (National Wholesale Druggists' Association) provides guidance on the bar coding of pharmaceutical products. For information contact: NWDA, PO Box 2219, Reston VA 20195-0219. The telephone number is 703-787-0000. Fax: 703-787-6930. Email: info@nwda.org Web site: www.nwda.org

D15 Quiet Zone
An area free of printing, preceding and following all standard bar code symbols, that is required for the decoding process. The quiet zones for Code 128, Code 39, and Interleaved 2 of 5 are at least ten times the X-dimension in size.

D16 Scannability
A general term describing the property of a bar code symbol whereby an attempt to use bar code reading hardware is successful. Symbols that meet the ANSI X3.182 print quality level of C/06/660 will be scannable with a broad range of hand held bar code reading hardware.

D17 Spaces
The white or lighter areas of the bar code symbol including the quiet zones.

D18 Symbology
A set of rules for encoding information in a bar code symbol. See AIM USA.

D19 UCC
The UCC (Uniform Code Council) develops and maintains standards for article numbering, bar coding and EDI in North America. UCC standards and information are available from the UCC, 8163 Old Yankee Street, Suite J, Dayton, Ohio 45458. The telephone number for ordering UCC standards is 937-435-3870. Fax: 937-435-4749. Email: info@mail.uc-council.org Web site: www.uc-council.org

D20 UCC/EAN-128
Code 128 with a Function 1 character (FNC1) in the first position. See Code 128.

D21 Unit-of-Use A packaging level containing the quantity of the item that is to be administered to a patient in a health care provider facility.

D22 X-Dimension
The intended width of the narrow bar and narrow space in a bar code symbol.

APPENDIX E
HIBC Secondary Data Fields

Note that although it may be convenient to use the HIBC LIC secondary format with the HIBC LIC primary format, the UCC/EAN Application Identifier (AI) 22 secondary format may be used with the HIBC LIC primary format. Conversely, the HIBC LIC secondary format may be used as a second symbol in conjunction with the UCC/EAN SCC-14 primary format.

E1.0 HIBC LIC Secondary Data Field
Appendix E describes the Secondary Data Formats in detail. See Appendix F for a complete listing of Secondary Data Format options. (The "L" and the "C" at the end of the examples represent the Link and the Check characters respectively. These values have not calculated for these examples.)

E1.1 Quantity/Date Fields
Quantity is either a two or five digit field describing the number of units-of-use included in the package identified by the bar code label. The options available for the Quantity and Date Fields are specified by the Quantity/Date Identifier "R" (see Section 2.2.1) and the first digit of the Quantity and the Date Fields. If the character following the leading "+" is numeric, then the Quantity/Date Identifier Field is null, the Quantity Field is also null and the digit is the first digit in the Julian Date. For example:

+ 9 4 3 6 5 A 1 2 3 4 L C

> **Date is 12/31/94 and Lot # is A1234**

If the character following the leading "+" is a "$" but the next character is not a "$", then both the Quantity and Date Fields are null, and the character following the "$" is the first character in the Lot/Batch/Serial Number. For example:

+ $ A 1 2 3 4 L C   **Lot # is A1234**

If there are two "$" characters following the leading "+", then the next digit will specify the Quantity and Date Field formats:

The digits 0 through 7 indicate that the Quantity Field is null and specify the Date Format:

0, 1	First digit of month in MMYY (month/year) Date format
2	MMDDYY (month/day/year) Date follows
3	YYMMDD (year/month/day) Date follows
4	YYMMDDHH (year/month/day/hour G.M.T.) Date follows
5	YYJJJ (year/Julian day) Date follows
6	YYJJJHH (year/Julian day/hour G.M.T.) Date follows
7	Date Field is null, Lot Field follows

The digits 8 and 9 specify the Quantity Field format, the first digit following the Quantity Field should be 0 through 7 to define the Date Field format as defined above.

8	two digit Quantity Field follows
9	five digit Quantity Field follows

For example:

+ $ $ 0 9 9 5 A 1 2 3 4 L C

> **Date is 9/95 and Lot # is A1234**

+ $ $ 8 7 2 4 9 4 1 2 1 5 2 3 L C

> **Quantity is 72 and Date is 12/15/94 23:00 G.M.T.**

+ $ $ 9 0 1 4 4 0 7 A 1 2 3 4 L C

> **Quantity is 1440 and Lot # is A1234**

If the Secondary Code specifies only the Quantity, both the Date Field and the Lot/Batch/Serial Number Field should be null, not filled with zeroes, spaces or any other redundant characters, for example:

+ $ $ 8 4 8 L C   **Quantity is 48**

E1.2 Lot/Batch/Serial Number Field

This field can be alphanumeric and vary in length up to a maximum of 13 characters. If no Lot/Batch/Serial Number Field is required, the field should be null.

Where both Lot/Batch Number and a Serial Number exist, it is preferred that the Serial Number be employed in the marking of the individual item and the Lot/Batch Number be employed on higher levels of packaging.

E1.3 Link Character
The Link Character is intended to link the Primary and Secondary Code Data Structures. The Link Character for the Secondary Data Structure is the last character from the Primary Data String in the Primary Symbol. If the symbol contains more than one field, the Link Character is still the last character from the first field, i.e. the Primary Data Field.

E1.4   Combining Primary and Secondary Codes in One Symbol when Using the HIBC LIC Format
When combining the Primary and Secondary Code into a single symbol (known as concatenation), a slash (/) is used as a delimiter between the primary and secondary data. In addition, the primary data Link Character, the plus (+) at the start of the secondary data and the secondary data Link Character will be omitted. Only one Check Character at the end of the symbol will be used which will check the entire symbol.

For example:

+ A 9 9 9 1 2 3 4 5 / 9 9 0 1 5 1 0 X 3 C

E2.0 HIBC Alternate Secondary Data Format, UCC/EAN Application Identifier (22)

E2.1 Quantity/Date Fields
The first digit following the UCC/EAN Identifier specifies the Quantity and Date Field formats:

The digits 0 through 7 indicate that the Quantity Field is null and specify the Date Format:

0, 1 First digit of month in MMYY (month/year) Date format
2   MMDDYY (month/day/year) Date follows
3   YYMMDD (year/month/day) Date follows
4   YYMMDDHH (year/month/day/hour G.M.T.) Date follows
5   YYJJJ (year/Julian day) Date follows
6   YYJJJHH (year/Julian day/hour G.M.T.) Date follows
7   Date Field is null, Lot Field follows

The digits 8 and 9 specify the Quantity Field format, the first digit following the Quantity Field should be 0 through 7 to define the Date Field format as defined above.

8   two digit Quantity Field follows
9   five digit Quantity Field follows

For example:

2 2 0 9 9 5 A 1 2 3 4 L

Date is 9/95 and Lot # is A1234, no Quantity

2 2 7 A 1 2 3 4 L

Lot # is A1234, no Quantity or Date

2 2 8 7 2 4 9 4 1 2 1 5 2 3 L

Quantity is 72, Date is 12/15/94 23:00 G.M.T, no Lot

2 2 8 0 6 1 2 9 5 A1 2 3 4 L

Quantity is 6, Date is 12/95 and Lot # is A1234

2 2 9 0 1 4 4 0 7 A 1 2 3 4 L

Quantity is 1440, Lot # is A1234, no Date

If the Secondary Code specifies only the Quantity, both the Date Field and the Lot/Batch/Serial Number Field should be null, not filled with zeroes, spaces or any other redundant characters, for example:

2 2 8 1 2 L   *Quantity is 12, no Date or Lot*

E2.2 Lot/Batch/Serial Number Field
This field can be alphanumeric and vary in length up to a maximum of 13 characters. If no Lot/Batch/Serial Number Field is required, the field should be null.

Where both Lot/Batch Number and a Serial Number exist, it is preferred that the Serial Number be employed in the marking of the individual item and the Lot/Batch Number be employed on higher levels of packaging.

E2.3 Link Character
The Link Character is intended to link the Primary and Secondary Code Data Structures when the (22) secondary structure is used as an independent symbol. However, to maintain data format consistency, a Link Character must be used in the concatenated form, also. The Link Character for the AI (22) Secondary Data Structure is the last

character from the Primary Data String in the Primary Symbol. If the symbol contains more than one field, the Link Character is still the last character from the first field, i.e. the Primary Data Field.

E3.0 Product or Catalog Number Field, AI (240)
If a labeler wishes to include a product or catalog number in addition to the UCC/EAN item identification number as a cross-reference, the labeler should use the Application Identifier (240). AI (240) must always be used in the same symbol with AI (01). Typically, this field is used if some customers require a UCC/EAN item identity and others require the manufacturer catalog number or if the labeler requires the catalog number for internal use.

For example, a labeler whose manufacturer/item number is 031234567890 has an internal catalog number for the item 67890 that is ABCDEFG. The Code 128 symbol would encode:

[F1]0110312345678903240ABCDEFG

The human readable interpretation would be:

(01)10312345678903(240)ABCDEFG

E4.0 UCC/EAN SCC-14 Format Concatenation
When UCC/EAN-128 is used, multiple fields may be concatenated by following the UCC/EAN-128 Application Identifier Standard. For example, a 14-digit primary data structure may be followed by the AI (30), quantity, and placed in one symbol. Example:

[F1]01103123456789033050

is encoded in the bar code symbol.

(01)10312345678903(30)50

is displayed in the human-readable interpretation. Note: the above symbol must be printed in Code 128 symbology and include the Function 1 character (FNC1) immediately following the start character. See ANSI/UCC-4, the UCC/EAN-128 Application Identifier Standard for more information.

Note that, for example, if both AI (30) and AI (240), both variable length fields, are used with the UCC/EAN SCC-14 primary data (01) AI, a Function 1 character (FNC1) must be placed between the two fields. A Function 1 character (FNC1) should not be placed after the (01) field. A Function 1 character (FNC1) still must be placed in the first position of the symbol. For example, if all fields are used, the symbol should be printed as shown below:

[F1] (01) <data> (30) <data> [F1] (240) <data>

Data Example:

The bar code symbol encodes the following string:

[F1]0110312345678903050[F1]240ABCDEFG

The human-readable interpretation for the above symbol should not directly indicate the presence of the Function 1 characters (FNC1) but should include the parentheses around the AI's, therefore the human-readable interpretation contains:

(01)10312345678903(30)50(240)ABCDEFG

APPENDIX F
Data Formats for HIBC Secondary Bar Codes

The following tables show the correct data formats for HIBC secondary bar codes. If a column is left blank, then that information is not used. The following field descriptions are used:

MM	2-digit expiration date month indicator (fixed length of 2 numeric digits)
YY	2 digit expiration date year indicator (fixed length of 2 numeric digits)
DD	2 digit expiration date day indicator (fixed length of 2 numeric digits)
HH	2 digit expiration date hour indicator (fixed length of 2, G.M.T. format)
JJJ	3 digit expiration date Julian Day indicator (fixed length of 3 numeric digits)
LOT	up to 13-digit alpha/numeric lot number
L	1 digit Link Character
C	1 digit Modulo 43 Check Character
QQ	2 digit quantity (fixed length of 2 numeric digits)
QQQQQ	5 digit quantity (fixed length of 5 numeric digits)

The following example data is always used in the example data section:

Lot Number	3C001
Link Character	L
Expiration Date	September 28, 1995 at 10 PM
2 digit Qty	24
5 digit Qty	00100

The following secondary data formats can be encoded in either Code 128 or Code 39.

HIBCC Qty Flag	Format Char	Qty Format	Exp Date Flag	Exp Date Format	Lot Field	Link Char	Mod 43 Ck Char	Example Data
+				YYJJJ	LOT	L	C	+952713C001LG
+$					LOT	L	C	+$3C001LV
+$$				MMYY	LOT	L	C	+$$09953C001L7
+$$			2	MMDDYY	LOT	L	C	+$$20928953C001LJ
+$$			3	YYMMDD	LOT	L	C	+$$39509283C001LK
+$$			4	YYMMDDH	LOT	L	C	+$$4950928223C001LP
+$$			5	YYJJJ	LOT	L	C	+$$5952713C001LD
+$$			6	YYJJJHH	LOT	L	C	+$$695271223C001LI
+$$			7		LOT	L	C	+$$73C001LY
+$$	8	QQ		MMYY	LOT	L	C	+$$82409953C001LL
+$$	8	QQ	2	MMDDYY	LOT	L	C	+$$82420928953C001LX
+$$	8	QQ	3	YYMMDD	LOT	L	C	+$$82439509283C001LY
+$$	8	QQ	4	YYMMDDHH	LOT	L	C	+$$8244950928223C001L$
+$$	8	QQ	5	YYJJJ	LOT	L	C	+$$8245952713C001LR
+$$	8	QQ	6	YYJJJHH	LOT	L	C	+$$824695271223C001LW
+$$	8	QQ	7		LOT	L	C	+$$82473C001L5
+$$	8	QQ				L	C	+$$824LP
+$$	9	QQQQQ		MMYY	LOT	L	C	+$$90010009953C001LH
+$$	9	QQQQQ	2	MMDDYY	LOT	L	C	+$$90010020928953C001LT
+$$	9	QQQQQ	3	YYMMDD	LOT	L	C	+$$90010039509283C001LU
+$$	9	QQQQQ	4	YYMMDDHH	LOT	L	C	+$$9001004950928223C001LZ
+$$	9	QQQQQ	5	YYJJJ	LOT	L	C	+$$9001005952713C001LN
+$$	9	QQQQQ	6	YYJJJHH	LOT	L	C	+$$900100695271223C001LS
+$$	9	QQQQQ	7		LOT	L	C	+$$90010073C001L1
+$$	9	QQQQQ				L	C	+$$900100LL

The following secondary data formats can only be encoded in UCC/EAN-128. Consult ANSI/UCC-4, UCC/EAN-128 Application Identifier Standard for information regarding the use of the Function 1 character (FNC1).

UCC/-EAN AI	Qty Format Char	Qty Format	Exp Date Flag	Exp Date Format	Lot Field	Link Char	Mod 43 Ck Char	Example Data
22				MMYY	LOT	L		2209953C001L
22	2			MMDDYY	LOT	L		2220928953C001L
22	3			YYMMDD	LOT	L		2239509283C001L
22	4			YYMMDDHH	LOT	L		224950928223C001L
22	5			YYJJJ	LOT	L		225952713C001L
22	6			YYJJJHH	LOT	L		22695271223C001L
22	7				LOT	L		2273C001L
22	8	QQ		MMYY	LOT	L		2282409953C001L
22	8	QQ	2	MMDDYY	LOT	L		2282420928953C001L
22	8	QQ	3	YYMMDD	LOT	L		2282439509283C001L
22	8	QQ	4	YYMMDDHH	LOT	L		228244950928223C001L
22	8	QQ	5	YYJJJ	LOT	L		228245952713C001L
22	8	QQ	6	YYJJJHH	LOT	L		22824695271223C001L
22	8	QQ	7		LOT	L		2282473C001L
22	8	QQ				L		22824L
22	9	QQQQQ		MMYY	LOT	L		2290010009953C001L
22	9	QQQQQ	2	MMDDYY	LOT	L		2290010020928953C001L
22	9	QQQQQ	3	YYMMDD	LOT	L		2290010039509283C001L
22	9	QQQQQ	4	YYMMDDHH	LOT	L		2290010004950928223C0
22	9	QQQQQ	5	YYJJJ	LOT	L		229001005952713C001L
22	9	QQQQQ	6	YYJJJHH	LOT	L		22900100695271223C001L
22	9	QQQQQ	7		LOT	L		2290010073C001L
22	9	QQQQQ				L		22900100L

APPENDIX G
Backward Compatibility

Every effort has been made to ensure this standard is backwardly compatible. Some infrequently used aspects of the previous standard were dropped or replaced and were acceptable until April 12, 1997 (three years from the date of publication of this version of this document). Among these are the alternate data format identified by "++", the use of stacked symobologies Code 16K and Code 49, and the unit-of-measure convention in the HIBC LIC

Primary Symbol. Information about the previous version of this standard is available from HIBCC.

The recommended human-readable format for the HIBC LIC Primary Symbol, always enclosing the human-readable data with the "*" regardless of symbology, should be phased in if possible, but previously designed labels will remain acceptable indefinitely.