

Lenovo Global Labeling Guide

Volume 1 -Overview and General Rules

Lenovo Part Number 41U2997

Current Edition: 2.0

Release Date: Dec 18, 2008

Author:

*Stephanie Yu
Global Packaging&labeling
WW Global Logistics*

*Lenovo International
3rd Floor,ISH2 Building Guanglan Road
Futian Free Trade Zone,Shenzhen,P.R.C.*

*Phone: 86-755-8316 1688-6076
Email: yyue@lenovo.com
Lotus Notes: Stephanie Y Yu/LENOVO*

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1.0 Introduction

The Lenovo Global Labeling Guidelines define what product package labels, shipping labels, delivery notes (advice of delivery / proof of delivery), part labels, FRU (Field Replaceable Unit) package labels, case content labels, packing lists, and other labels should look like to conform to the needs of Lenovo, its business partners, and its customers.

The guidelines consist of 8 volumes as shown in the table below. All volumes are accessible via:

a) Lenovo's Global Procurement Internet Portal at

<http://www.pc.ibm.com/ww/lenovo/procurement/>

or

b) Lenovo's ERE system via the particular document's part number.

This is volume 1 of the Global Labeling Guidelines and defines general rules which apply for all the labels and documents covered by the set of volumes.

Volume	Lenovo	Description
1	41U2997	Overview and General Rules - Requirements and Guidelines for Bar Code Printing - Special country requirements on label information, markings and language - Country of Origin Requirements - Data Identifiers - Glossary
2	41U2998	Product Package Labels
3	41U2999	Shipping Labels
4	41U3000	Advice of Delivery / Proof of Delivery. This is also known as AoD / PoD and also called 'Delivery Note'
5	41U3001	Part Labels
6	41U3002	FRU Package Labels. FRU is the abbreviation for "Field Replaceable Unit". This is the Lenovo term for a spare part that is installed by a Lenovo field engineer.
7	41U3003	Case Contents Labels and Packing Lists. This volume documents the formats for labels or packing lists which identify the contents of - Cases - Pallets
8	41U3004	Overview of Symbols and Special Labels

Table 1: The Lenovo Global Labeling Guidelines : Volumes and Part Numbers

2.0 Scope

The Lenovo Global Labeling Guidelines apply to all products (parts, components, finished goods) that are shipped to Lenovo customers to fulfill an order of a Lenovo customer. They also apply to shipments of products from suppliers to Lenovo manufacturing / fulfillment sites.

The Global Labeling Guidelines do not apply to products and shipments between Lenovo's contract manufacturers and their suppliers, except labeling of FRUs (Field Replaceable Units) that are merged into the Lenovo service parts network.

3.0 Objectives

All Lenovo sources of supply as well as any other party which produces and applies any of these labels on behalf of Lenovo are required to follow these guidelines in order to achieve the following objectives:

- To standardize the look and content of Lenovo's labels throughout divisions and business units
- To satisfy the needs of Lenovo's business partners and distributors.
- To comply with internal Lenovo standards and guidelines. (see 3.1, "Related Lenovo Documents").
- To comply with external industry standards (e.g. ISO/IEC, ANSI, CEN).
- To be consistent with external industry group guidelines (e.g. CEA, EDIFICE).

The objectives of volume 1 are:

- To give high level guidance on which labels must be applied to shipments.
- To address general rules for bar codes and 2D codes which apply to all of the labels, packing lists and delivery notes.
- To provide guidance and explain the rules for country of origin marking.
- To provide a list of data identifiers to be used in bar codes of the most common data elements.
- To provide a glossary.

4.0 Documentation

4.1 Related Lenovo Documents

The following documents are available from the Lenovo Standards website <http://w3.ibm.com/standards/> which is accessible from the Lenovo intranet.

- C-S 1-1121-000 Graphics, Basic Packaging
- C-S 1-1121-003 Information Plates and Labels
- C-S 1-1121-010 Serial Numbering of Lenovo Products
- C-S 1-1121-015 Automatic Identification
- CI MKT105D Using the Lenovo Logotype

(Internally available under http://w3.ibm.com/ibm/documents/corpdirci/mkt/mkt_105.html)

- CB 0-3700-000 Packaging and Sealing of Lenovo or Customer Assets

(Internally available under <http://w3-9006.ibm.com/isc/distribution/w3wwdams.nsf/alldocsbytitle/pkg-cb03700000>)

- GA21-9261 Packaging and Handling Supplier and Interplant Requirements

(Internally available under <http://w3-9006.ibm.com/isc/distribution/w3wwdams.nsf/alldocsbytitle/pkg-GA21-9261-11a>)

4.2 Related External Documents

- ISO Standards
 - ISO 3166 Country Code. **Note** - For the complete and current list, see <http://www.iso.org/iso/en/prods-services/iso3166ma/index.html>
 - ISO/IEC 15394 Packaging -Bar Code and Two-dimensional Symbols for Shipping, Transport, and Receiving Labels
 - ISO/IEC 15417 Bar Code Symbology Specification -Code 128
 - ISO/IEC 15418 EAN/UCC Application Identifiers and ASC MH10 Identifiers and Maintenance
 - ISO/IEC 15434 Transfer Syntax for High Capacity ADC Media
 - ISO/IEC 15438 International Symbology Specification -PDF417
 - ISO/IEC 16022 International Symbology Specification -Data Matrix
 - ISO/IEC 16023 International Symbology Specification -MaxiCode
 - ISO/IEC 16388 Bar Code Symbology and Specification -Code 39
- ANS MH 10.8.2 Data Application Identifiers (formerly known as the FACT Data Identifiers). Lenovo has adopted this standard for bar code/2D applications, and it is also the foundation upon which C-S 1-1121-015 and ISO/IEC 15418 are based.
- EAN.UCC General Specifications whenever a UPC, EAN or JAN Code is to be applied.
- Labeling Guidelines of the U.S. based CEA (Consumer Electronics Association):
 - CEA 621-A : Product and Packaging Bar Code Standard
 - CEA 624-A : Product Packaging Standard
 - CEA 556-B : Outer Shipping Container Label Standard
 - CEA 706-A : Component Marking Standard
 - CEA 802-A : Product Marking Standard
- EDIFICE documents
 - Implementation Guideline for Product Package Label
 - Shipment Label Implementation Guidelines
 - License Plate Implementation Guidelines
- Global Electronics Guidelines for Bar Code and 2-D Marking of Products and Packages in Conjunction with EDI

5.0 Compliance

Lenovo requires compliance in the appearance and content of product package labels, delivery notes, packing lists, shipping labels and all bar codes used on these items. Each operating unit and shipping location must have procedures which ensure that Lenovo and its suppliers meet the above requirements. The procedures shall apply to all employees, individuals, or entities under Lenovo control. Responsible owners of labeling processes must upgrade their systems and equipment (e.g. software, printers etc.) if necessary to comply with the Global Labeling Guides. For vendors and suppliers providing parts, products or service to Lenovo, the Global Labeling requirements must be included in the contracts.

6.0 Requirements

This section defines general rules which apply to all labels, delivery notes and packing lists covered by the applicable volumes of the Global Labeling Guide.

If certain requirements are specified differently in one of the other volumes of the Global Labeling Guides, those shall take precedence for the purpose and scope addressed in that volume over the ones specified here in volume 1.

To complement the use of bar codes, the usage of Electronic Data Interchange (EDI), like ANSI ASC X12 Ship notice/Manifest transactions and UN/EDIFACT Dispatch Advice messages, is recommended.

6.1 Rules for Bar Code Printing

Apply the following guidelines for printing bar codes on labels:

- All rules for bar codes and the encoding of data elements are based on C-S 1-1121-015.
- Bar codes must be in Code 39 or Code 128 symbology. Default should be Code 39. In cases of space limitations on labels, code 128 may be used. The only exception are UPC-A/EAN 13 bar code symbols on the product package label.
- The contents of the bar code must be the data identifier followed by the actual data. Spaces, parentheses, colons and similar characters must be excluded.
- Print above each bar code a "bar code title" representing the encoded data element's name, preceded by its data identifier in parenthesis, and followed by the "human readable interpretation" of the encoded data. See figure 1.
- The data element's name presented in the bar code title may be abbreviated as appropriate. For example the title "Lenovo Part Number" may be abbreviated by "Lenovo Part No." or "Lenovo P/N".
- There shall not be an interpretation field below the bar code. The preferred way of representing the bar coded information in human readable format according to ANSI and ISO standards is to print it above the bar code.
- The font and size of any human readable interpretation of bar codes should be printed as indicated in table 2 below.
- The bar code height should not be less than 15% of its width, but be at least 5 mm (0.2 inch) in height. See figure 2.
- The X dimension (= narrow element width) of a bar code should be within a range of 0.17 mm (0.007 inch) to 0.432 mm (0.017 inch). Symbols with narrow elements at the lower end of this range, i.e. 0.17 mm (0.007 inch) to 0.330 mm (0.013 inch) require special care to meet the bar code quality requirements. See figure 2.
- For Code 39 bar codes, the measured wide to narrow ratio (N) of the elements shall be between 2.25:1 and 3.2:1. The recommended ratio is 3.0:1, providing that space permits. See figure 2.
- Each bar code must be printed with leading and trailing quiet zones not less than 6.4 mm (0.25 inch). See figure 2.
- To maximize bar code quality and to permit printing of 2D symbols, thermal transfer printers should primarily be considered to print labels, and laser printers should be used to print non-label material such as delivery notes and packing lists.
- Direct thermal printers are not recommended. Labels produced with these printers turn black after prolonged exposure to light, higher temperature, and/or humidity. "Prolonged" may be less than a month. An example of this is roll facsimile paper that may turn black after long exposure to light.

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- A procedure must be in place to assure continuing optimal quality of bar codes that are printed, including prompt replacement of ribbons, cleaning of print heads and periodically evaluating print quality at the source before the bar codes are dispersed in the supply chain. To achieve this, a bar code verifier should be used, and the bar codes should scan at grade “C” or higher.

Explanation: the bar code verifier will read a bar code and assign grades of A to F on various technical aspects of the bar code. “A” is the highest grade.

- Bar codes should be presented with the bars in a vertical ("picket fence") orientation and not "ladder" style. Note: For thermal transfer printers, the bar codes should additionally emerge from the printer in “picket fence” style. This is to avoid scanning problems characteristic of ladder style bar codes, which is attributable to: 1) Verifiers attached to bar code printers usually only verify picket fence bar codes, and 2) the x-width available on ladder-style bar codes is greater than on picket-fence bar codes (i.e. the "dots" are not square). Furthermore printing speed is lower when "ladder" style bar codes are printed on thermal transfer printers. See figure 3.



Figure 1: Bar Code Presentation

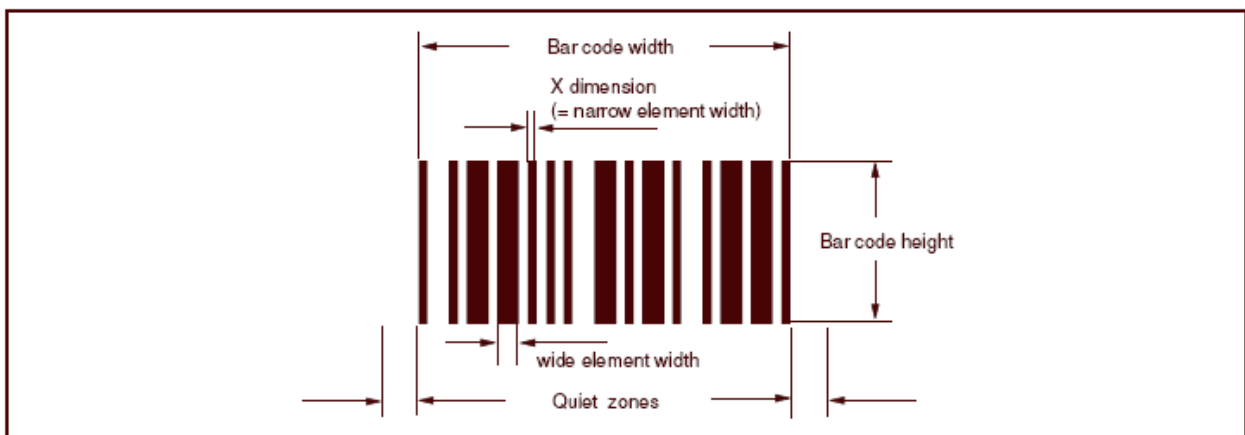


Figure 2: Bar Code parameter



Figure 3: Bar Code / Label Orientation

Item	Example	Recommended Font	Comments
Bar Code Title	(1P) Lenovo Part Number:	9 point (3.2 mm type) Arial or “Zebra” scalable/smooth font	Must begin above the bar code’s left quiet zone. Consists of the data identifier in parentheses followed by a description of the bar code and a colon. See Appendix B: “Data Identifiers” for a list of common data identifiers. See Lenovo Corporate Standard C-S 1-1121-015 for a complete list of valid data identifiers.
Human Readable Interpretation	00G1904	16 point (5.6 mm type) Arial or “Zebra” scalable/smooth font	Must appear in a larger and/or bolder font than the bar code title. Does not include the data identifier. Certain data elements (e.g. the case number) must appear in a large font for visibility.

Table 2: Printing format of bar code titles and human readable interpretation

6.2 Rules for 2D Symbols

If data is to be encoded using a 2D symbol, one of the following 2D symbologies shall be used:

- PDF417
- DataMatrix (preferred for component marking)

Note : MAXICODE should only be used for internal applications like conveyor automatic sortation or if required by carriers as e.g. UPS.

The syntax in encoding the data elements shall conform to ISO/IEC 15434 Transfer Syntax for High Capacity ADC using Format Header "06" (Data using Data Identifiers). See C-S 1-1121-015 for details on data syntax and format.

Important: At this time 2D Symbols can be used to only supplement standard bar codes, but they cannot replace them on required labels because many receiving locations won't have 2D scanners.

6.3 Human Readable Text

The following rules apply to human readable text on labels other than bar code titles and HRI as defined in section 5.1.

- The minimum height of human readable text characters shall be 9 point in the bar code titles (see section 5.1) and at least 12 point in size elsewhere. See the glossary in appendix B for the definition of "Point Size".
- Dates shall be printed in yyyy-mm-dd format.
- Leading zeros shall be omitted from numerical values (e.g. weights, dimensions, and quantities).
- Quantities less than one shall begin with a zero to the left of the decimal point (e.g. 0.41 lbs.).
- Machine serial numbers shall be printed without dashes. Per C-S 1-1121-010, serial numbers for finished goods were to be printed as "xx-xxxxx" but stored electronically as "xxxxxxx". The next release of C-S 1-1121-010 will remove the dash to minimize confusion.

6.4 Label Design

For details on the proper design of labels, delivery notes or packing lists, refer to the appropriate volume in the Global Labeling Guide series. Section 1.0 displays a list of all the volumes.

In volumes where multiple designs are shown, confer with your Lenovo fulfillment team to learn which design is to be used. They will also give guidance on which of the "optional" data elements are to be included and which are not.

6.5 Label Placement

- Consult the applicable volume of Global Labeling Guides for directions on where to apply the label(s).
- The labels should not obstruct other information on the packaging like handling symbols or graphics.
- Ensure that the label is straight and parallel with the sides.
- For case contents and shipping labels, to avoid crease pressure, the label must not straddle the separation of two boxes.
- Apply the labels wrinkle free. Take special care when applying to stretch wrapped surfaces. Bar codes on wrinkled labels may not be read.

- In case of relabeling, remove the label that is obsolete, if this is feasible without damaging the case's surface. If the obsolete label cannot be removed, cover it up with the new label, a blank label or strike it out.

Note: This especially applies to shipping labels which may show different case numbers or labels with a different country of origin.

6.6 Printing Equipment

The user should ensure that their label printing equipment and label stock can support the quality of labels needed. The minimum requirements for this are either a laser or thermal transfer printer capable of printing at least 200 dpi (dots per inch).

Note: for some applications (e.g. small part labels) a higher resolution printer may be required.

For packing lists and delivery notes it is common to use multiple part paper with impact printers. It should be noted that bar codes on the second, third, and fourth copies come out blurry and are very difficult or impossible to scan. If multiple part paper is used, the original document must be sent with the shipment.

6.7 Label Stock

The label material should be chosen depending on the specific requirements of the application.

If there are no specific requirements, matte (non-glossy), paper based labels with permanent pressure sensitive adhesives should be used. Direct thermal-paper labels are another alternative. Typical applications for this type of label stock are product package labels and shipping labels. Part labels that are applied directly to the part may require a different label material, e.g. polyester label material.

Black printing on white background is preferred for all applications. For size of the labels refer to the requirements outlined in the appropriate volume.

6.8 Special Country Requirements

The reader should obtain a copy of Lenovo Corporate Standard C-S 1-1120-000 "Graphics-Basic Packaging, Labeling, and Imprinting" for country specific details. Contact Lenovo Purchasing for this document.

In addition, the country specific SPIs (Shipping Procedural Instructions) should be looked up for details on any additional requirements.

The following table shows a brief summary of country requirements known at the release date of this document:

Country/Union	Requirement Details
Canada	All retail products shipped to Canada must comply with the "Canadian Consumer Packaging and Labeling Act" and its regulations. In particular: - All packages used for "store display" must be marked with the manufacturer's name and postal address. - All text must be in both English and French. Quebec requires that the primary language be French.
China	Articles being sold in China must have a label which identifies the brand, the plant name and address, the net weight, the gross weight, and the carton size or volume in simplified Chinese on the unit carton. It must also have CCEE (China Commission For Conformity Certification of Electronical Equipment) qualified symbol on the carton.
European Union (EU)	It is a requirement of the European Union (EU) that products carry a "Mark of Conformity", commonly called the "CE MARK". Affixing the CE mark indicates that the product complies with all applicable New Approach Directives. More details can be found in Lenovo Bulletin N-B 0-2594-001, Euro-Bulletin, Product Conformity and Certification EU -Legislation and Market Requirements.

Mexico	Per Lenovo Corporate Standard C-S 1-1120-000 "Graphics, Basic Packaging", all products sold in Mexico must have the following data marked on the package: <ul style="list-style-type: none"> - Name of product - Name and address of manufacturer (if made in Mexico) <ul style="list-style-type: none"> - or Name and address of importer (if imported) - or Name and country of exporter (if imported) - Marking that identifies the country of origin - Nominal electrical characteristics, if any, (Power consumption, voltage, and frequency) - Certification, including NOM logo (See Engineering Specification 90G5325), that product conforms to Mexican National Standards (NOMs).
Russia	Per Lenovo Corporate Bulletin N-B 3-0501-033, a Russian conformity symbol may have to be applied to the product package label for products sold in Russia.
USA	Per Lenovo Corporate Standard C-S 1-1120-000 "Graphics, Basic Packaging", all products sold in the USA, regardless of their place of manufacture, which may contain "used" parts must have one of the following markings on the package: <ul style="list-style-type: none"> - For all Lenovo products excluding personal computer products and consumer products, "Manufactured from New Parts or New and Used Parts". - For PC and Consumer products, "Assembled with Used Parts", pursuant to Lenovo GSC Division Used Parts Practices Guideline.

Table 3: Country specific requirements on markings and other human readable information on labels and packages

6.9 Review Procedure

All new label designs must be reviewed and approved. Please fax or send copies of label designs to the Lenovo Engineering Department for review. They will review your work and provide advice on areas of any difficulty.

6.10 Deviation

Deviations to product and part labeling requirements must be documented and approved as defined by the product PDT. Requests for any other deviations from the requirements specified in these guidelines should be submitted to and approved by the Global Labeling Program Manager.

7.0 Country of Origin (CoO) Requirements

7.1 General Guidance

Lenovo requires that each article have the full English name of its country of origin marked on the article itself and on the article's product package (immediate container). The mark must be made in a conspicuous place as legibly, indelibly, and permanently as the nature of the article and container will permit. Conspicuous means capable of being easily seen with normal handling of the goods and immediate container. No abbreviations, with the exception of UK for United Kingdom and US or USA for the United States of America, are acceptable.

Country of origin is defined as the country of production, manufacture, or growth of an article, part, assembly, or product. It is the country where the item obtained its present identity as a part, subassembly, assembly, FRU or finished product. An article must be **substantially transformed** in a new country in order for the country of origin to change. Substantial transformation requires that an operation so changes the name, character, or use of an item that it becomes a different article of commerce.

Note: The 2 character ISO 3166 country codes, alone, are not acceptable for marking product packages.

The country of origin marking on a product package (immediate container) must be in close proximity to any labeling which designates a US address such as "Lenovo Corporation, RTP, North Carolina, USA" or the name of a foreign country that is not the country of origin. Any reference to a foreign country on a product package cannot mislead or deceive the buyer as to the actual country of origin of the article.

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Note: The country of origin of the final assembly or finished product must be easily visible on the article. To avoid confusion, the CoO marking of components should not be visible on the final assembly or finished product. For example, the country of origin of a machine cover itself should not be visible on the finished machine. Only the country of origin of the finished machine should be easily visible.

7.2 Wording

The following wording should be used for country of origin marking on product package labels and part labels. Any modification to this wording must be approved by Lenovo local or division legal staffs.

The country of origin marking can be designated by a header or title, but a header or title is not required.

To assure compliance with import requirements in certain geographies, when the country of origin label / wording is designated / preceded by a title or header, or an ISO 3166 country code is printed, the title or header must read "Origin", not "Country of Origin". This also applies to packing lists, delivery notes and proof of delivery documents. See section 7.2.9.

7.2.1 Products Manufactured in the US

Products which are produced from contents, components, and raw materials of mixed national origin and where the US is determined to be the country of origin must be marked:

Wording	When permitted
Assembled in the US of US and Non-US Components	Allowable for assembled articles only.
Produced in the US of US and Non-US Components	Allowable for non-assembly articles only.
Printed in USA	Allowable for printed material and publications only.
Recorded in USA	Allowable for recorded media such as disks, tapes, and CDs only.
Product of xxx; Chips from yyy	where xxx is the full English name of the country where bond and assembly occurred and where yyy is the full English name of the country where the chips were diffused. This is allowable for electronic integrated circuits and microassemblies only.

USA law prohibits the use of an unqualified "Made in USA", "USA", or "Manufactured by Lenovo, Purchase, New York" marking unless all or substantially all 100% of the contents, components, raw materials, and processing/manufacturing that go into the article are of US origin. Based on the nature of products sold by Lenovo, this will likely be a very rare occurrence. Before using this wording, consult the Lenovo Legal Department, the Import Compliance Office Program Manager for Country of Origin, and Lenovo Corporate Standard C-S 1-1121-003, Information Plates and Labels (including Country of Origin Labeling).

7.2.2 Products Manufactured outside the US

Products which are made or finally assembled outside of the US and are determined to have undergone a substantial transformation must be marked:

Wording	When permitted
Made in xxx	where xxx is the full English name of the country of origin
Printed in xxx	where xxx is the full English name of the country where the material was printed. Allowable for printed material and publications only.
Recorded in xxx	where xxx is the full English name of the country where the software was recorded. Allowable for recorded media such as disks, tapes, and CDs only.
Product of xxx; Chips from yyy	where xxx is the full English name of the country where bond and assembly occurred, and where yyy is the full English name of the country where the chips were diffused. This is allowable for electronic integrated circuits and microassemblies only.

7.2.3 Korea

The country of origin should be shown as "Made in xxx" or "Produced in xxx", where xxx is the full English name of the country of origin. "Assembled in xxx" is not acceptable.

Note: This contradicts the country of origin marking required for articles which undergo a substantial transformation by an assembly operation in the US (see Products Manufactured in the US above). Therefore, if articles which undergo a substantial transformation by an assembly operation in the US are shipped to Korea, a different country of origin label must be used.

7.2.4 Product Packages with Products of Multiple Origins, including Kits

Many Lenovo product packages (i.e. kits, Field Feature Bill of Material, Group Bill of Material, Miscellaneous Equipment Specifications (MES), contain merchandise of different origins. In such an instance, each article within the product package (immediate container) must be marked with its country of origin and the product package should be marked: "Contains merchandise from the following countries: (List the full name of all of the countries in the immediate container, in English)".

For example, a product package which contains an Ethernet adapter "Made in Japan", a cable "Made in Mexico", and a CD-ROM "Recorded in USA" shall be marked: "Contains merchandise from the following countries: Japan, Mexico, USA".

7.2.5 Compact Disc (CD) "Jewel Cases"

When CDs are packed in jewel cases and the country of origin text on the CD label is not visible, the following country of origin information is required on CD jewel case inserts, inserted into the back side of jewel cases:

CD recorded in xxx (where "xxx" is the full name of the country of origin in English) Insert
printed in xxx (where "xxx" is the full name of the country of origin in English)

Note: The text above is required even when the country of origin of the CD and the insert are the same.

Examples:	CD recorded in USA Insert printed in Germany	CD recorded in USA Insert printed in Germany
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7.2.6 Bundled Products

A "bundled product" is a product which consists of a system unit plus several accessories which are intended to be connected to system unit by the end customer. The country of origin marking requirements for "bundled products" vary by country. Refer to the Shipping Procedural Instructions (SPIs) for the destination country to determine the proper country of origin marking requirements.

7.2.7 Electrostatic Discharge (ESD) and Moisture Barrier (MBB) Bags

An ESD or MBB bag is not considered by Customs to be an immediate container. The immediate container is defined as the packaging in which the goods are received by the ultimate purchaser. The ultimate purchaser will not receive the goods packaged in only an ESD or MBB bag. The ultimate purchaser will receive the goods packaged in a paperboard box, thus the paperboard box is the immediate container. Other examples of immediate containers include retail packaging, individual product packaging, individual FRU packaging.

To ensure the Customs regulations are satisfied, Lenovo requires that the full English name of the country of origin be marked on the article itself and on its immediate container. The Import Compliance Office strongly recommends, but does not require, that ESD and MBB bags be marked with country of origin to reduce the likelihood that the bags will be opened during a Customs inspection.

During inspections, Customs may open the immediate container to determine if the enclosed article is properly marked and to ensure that the marking on the article matches the marking on the immediate container. If the country of origin marking is easily visible through the ESD/MBB bag, Customs is much less likely to open the bag to inspect the markings. If the country of origin marking is not visible through the moisture barrier bag, customs may open the ESD/MBB bag to inspect the markings.

When the country of origin of the ESD or MBB bag itself is marked on the bag, the following country of origin information is required on ESD/MBB bags to avoid confusion:

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Made/Produced/Assembled in ... xxx (where "xxx" is the full name of the country of origin of the enclosed article in English) ESD/MBB bag made in xxx (where "xxx" is the full name of the country of origin of the ESD/MBB bag itself in English)

Note: The text above is required even when the country of origin of the enclosed article and the ESD/MBB bag are the same.

7.2.8 Packing List/Delivery Notice/Proof of Delivery

The packing list (packing slip), delivery notice or proof of delivery must provide country of origin information for each line item. Each of these line items must have a single country of origin. The two character ISO 3166 code may be used for this purpose. The column's header containing the CoO codes must read 'Origin'.

In all instances, the country of origin information on the packing list (packing slip), delivery notice or proof of delivery must be consistent with the country of origin marked on the article, its immediate container, and the invoice. Consistent in this regard does not relate to the wording, but the country that is denoted as the country of origin.

Appendix A. Explanations to the use of the Global Labeling Guides A1.

Explanation of the White Box used in Bar Code Examples

In many of the volumes of the Global Labeling Guide, bar codes are overlaid with a tiny white box that contains some text. The purpose of this text is to denote what the actual content of the bar code is for the sample label. In other words, it identifies what is returned when the bar code is scanned.

Figure 4 below shows an example how this looks like. Note: The white boxes are not to be printed on real labels !

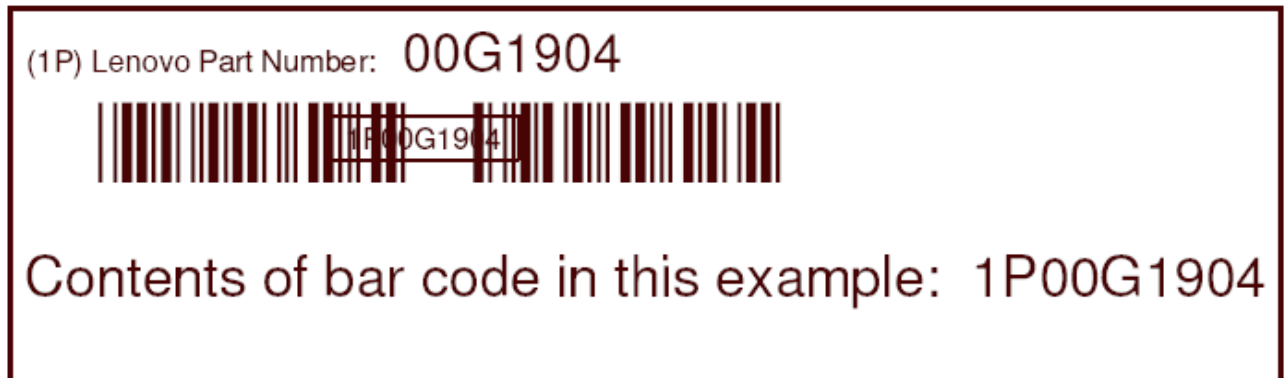


Figure 4: Explanation of white box overlaying a bar code

A2. Explanation of the Syntax Used in Data Element Tables

In some of the Global Labeling Guide volumes there are "Data Element Tables". In these tables are two columns: one titled "Format" and one titled "DI (Data Identifier)".

Format Column

In the Format column, "A" indicates "alphabetic character (A-Z)" and "N" indicates "numeric". A digit indicates a length. Two digits separated by a couple of periods indicates a minimum and maximum length. Example 1: AN 6..8 indicates an alphanumeric field with a minimum length of six characters and a maximum length of eight characters.

Example 2: A2 means that the field consists of exactly two alphabetic characters.

DI Column

"DI" identifies the Bar Code "Data Identifier" to be used if a bar code is printed. Appendix B (of this document, volume 1) lists a subset of the data identifiers used within Lenovo. Lenovo Corporate Standard C-S 1-1121-015 identifies all data identifiers which are valid within Lenovo.

Definition of "OPTIONAL "

The word "OPTIONAL" in the data element tables means "at the discretion of the Lenovo product fulfillment team". They may elect to declare one of those data elements mandatory for a particular product.

Appendix B. Data Identifiers

A data identifier is a prefix used in a bar code to identify how the rest of the bar code is to be interpreted. The following table lists the prefixes (i.e. data identifiers) for the most common data elements discussed in the Global Labeling guides. Lenovo Corporate Standard C-S 1-1121-015 contains a complete list.

Data Identifier	Data in the bar code to the right of the Data Identifier
12D	Date in yyyy-mm-dd format.
J	License plate number. This uniquely identifies the shipping container or box.
1J	License plate number for an unbreakable case.
2J	License plate number for a transport unit containing multiple packages.
K	Customer Purchase Order Number
1K	Lenovo plant order number
9K	Used to represent a different type of Lenovo order number (e.g. SAP-F order number) other than the standard Lenovo plant order number (See 1K above).
16K	Used to represent a "delivery" number which references a document containing delivery information.
4L	Country of Origin (two alphabetic characters) code as per the ISO 3166 list of country codes
P	Customer Assigned Part Number (aka "SKU"). For parts consumed in Lenovo manufacturing and service parts (FRUs) the P data identifier should be used to identify the Lenovo part number, because in those situations Lenovo is the customer. It is also used on the shipping label if Lenovo customers assign a unique part number for finished goods (see 1P below).
1P	Supplier Assigned part number. For parts or finished goods shipped to Lenovo customers, the 1P should be used to identify the Lenovo part number or Lenovo Machine type, model, because in those situations Lenovo is the supplier to its customers.
2P	Lenovo engineering change level
Q	Quantity (pieces)
S	Serial Number
1S	Used with finished goods; represents the concatenated Lenovo part number (7 characters) and serial number or, Lenovo machine type (4 characters), model (3 characters), and serial number
3S	Used with the unique package identification number at the lowest level of packaging.
9S	Identifies a unique case number used to identify unit loads or pallets of parts, publications, or cases containing multiple machines or unique packages.
11S	Used with serialized parts / component consumed in manufacturing operations. Defined as the (concatenated) Lenovo part number (7 characters) and serial number (12 characters)
1T	Lot number for non-serialized parts

Table 4: Choice of most often used bar code data identifiers

Appendix C. Glossary

Term	Definition
Alpha1 format	An eleven character bar code that was used to identify Lenovo parts in the 1980s. It consisted of a five character "header code" followed by a six character "sequence number". No data identifier was used.
ANSI	American National Standards Institute (ANSI) is a group of technical individuals from various companies that develop standards that are recognized throughout North America. There are several committees and subcommittees which focus on unique items of concern, EDI is one of them. Lenovo is a member of this group and has adopted the ASC X12 format for all EDI business transactions that are used between trading partners within the US.
AOD	Advice of Delivery. This is a synonym for "Delivery Notice".
ASC X12	The Accredited Standards Committee (ASC X12) was authorized by the American National Standards Institute (ANSI) to develop national standards for exchanging business transactions between computers.
Bar	The darker, non reflective element of a bar code.
Bar code	A predetermined pattern of bars and spaces which represents numeric or alphanumeric information in machine readable form. Bar codes are also referred to as "linear" or "one dimensional symbology".
Bar code title	Human readable text which is required to appear above a bar code. It must consist of a data identifier (in parentheses) and a description. See 5.1, "Guidelines for Bar Code Printing.
Bi-Directional	A bar code that permits reading in either direction across the bars and spaces.
Bill of Lading	The document issued for a carrier to identify: quantity and description of the goods being shipped, the shipper, the consignee, and the points of loading and discharge.
Case Number	A Lenovo unique alphanumeric identification which identifies a transport unit.
Character	A letter, digit, or special symbol which is used as a part of the representation or control of data.
Code 3 of 9 (aka Code 39)	A bar code symbology where each "character" consists of nine consecutive alternating black and white vertical bars. Three of each nine consecutive bars are thick. The other six are thin.
Compliance Indicator	A symbol which indicates compliance with certain country specified electrical safety requirements. It is affixed to the product and is often also affixed to the product package label for the product.
Country of Origin	The country of production, manufacture or growth of an article, part, subassembly, or product. It is the country where the article obtained its present identity as a part, subassembly or finished product. An article must be substantially transformed in a new country in order for the country of origin to change. An article's country of origin is the country in which the last substantial transformation occurred.
Customer Assigned Part Number	A part number that has been provided by the customer at order entry time. A maximum of one per order is supported by Lenovo. This data element is also referred to as the "SKU" or "Stock Keeping Unit".
Customer Purchase Order Number	A purchase order number that has been provided by the customer at order entry time.
Data Identifier	Prefix used in a bar code to identify how the rest of the bar code is to be interpreted. A short list of the more common data identifiers appears in appendix A of this volume. A complete list of data identifiers recognized within Lenovo is contained in C-S 1-1121-015.
Delivery Notice	A summary of all items contained in a shipment to a customer, printed on sheet(s) of paper, and attached to the first case of the shipment or put in an envelope separately.

Term	Definition
Direct Thermal Printer	A printer which operates by selectively heating dots on special heat sensitive paper. The paper turns dark in the heated areas.
EAN	International Article Number. This is the European counterpart to the U.S.'s UPC symbol.
EDI	Electronic Data Interchange is the inter-enterprise process by which trading partners exchange data of business transactions in a standard syntax and other types of information between computer systems with little or no manual intervention.
EDIFICE	Electronic Data Interchange Forum for companies with interest in Electronics, Computing, and Telecommunication. This is the European equivalent of the U.S. based EIA organization.
EIA	Electronics Industry Alliance. This is a U.S. based organization which is similar to the European based EDIFICE organization.
Element	A generic term used to refer to either a bar or space.
EMEA	Lenovo acronym for Europe, Middle East, and Africa.
FACT	Federation of Automated Coding Technology (FACT) was an inter-industry organization that developed and oversaw the assignment of data identifiers. Lenovo has adopted the use of these data identifiers in their manufacturing and distribution operations. The FACT data identifier standard is the most widely applied bar code standard in the world. It should be noted that ANSI has taken over the maintenance of data identifiers.
Feature code	Lenovo nomenclature used by some Lenovo sites for ordering "features" on a particular product.
FRU	Field Replaceable Unit. A FRU is a spare part that can be replaced in the field.
GTIN	Global Trade Item Number. 14 digit EAN, JAN or UPC. Allows to distinguish an article on its packaging levels
Human Readable Interpretation	Contents of a bar code minus the data identifier. See figure 2 in section 5.1.
Impact printer	A printer which operates by pressing an ink ribbon against paper. This type of printer is not recommended for printing bar codes.
Interpretation field	Human readable text that, if it exists, appears below a bar code. The interpretation field represents character by character exactly what is inside the bar code ... including the "data identifier" and start-stop characters.
ISO	International Organization for Standardization
JAN	Japanese Article Number. This is the Japanese equivalent of the EAN and UPC codes.
License Plate	A worldwide (across all companies) unique alphanumeric identification for a transport unit. It is intended that the "license plate" will replace the "case number" in a future phase of the Global Labeling project.
Machine type, model	Nomenclature used by Lenovo to identify a finished good.
Manufacturing Control Number	Serial number assigned by manufacturing to group orders that are to be built and tested together by product line. Used by Lenovo's Server Division.
Media	The underlying surface on which the bar code is printed.
MES	Miscellaneous Equipment Specification. This is a kit of parts that is used to upgrade a machine.
Overpack	Packaging material which encloses more than one product. The contained products may be different or the same type.
Packing List	This is a document which identifies the contents of a pallet or case. This may relate to a case of multiple, different items, or to a single machine, describing the details of its configuration.
Point size	Identifies the size of text. Point size is the height of a font from its lowest descender (e.g. the bottom of a small "g") to its highest ascender (e.g. the top of a capital "A"). One point = 1/72 inch (0.728 mm). Example: A 16 point font equals a distance of 16/72 inch (0.222 inch or 5.64 mm) between the bottom of a small "g" and the top of a capital "A".

Term	Definition
Quiet Zone	A clear space, containing no dark marks, which precedes the start character of a symbols and also follows the stop characters.
Reader	A device used for machine reading of bar codes. It typically consists of a scanner, decoder, and data communication interface.
Resolution	The minimum element width that can be accurately scanned by a scanner consisting of an optical system digitizing circuit.
Proof of Delivery	A 'Proof of Delivery' is a document that summarizes all items in a shipment to a customer at a certain delivery and which is intended to be signed by the customer at the bottom of the document to proof he has received the items.
SCAC code	Standard Carrier Alpha Code. A SCAC is a unique identifier for a carrier. See http://www.nmfta.org
Scanner	An optical and electronic device that scans bar code/2D symbols and outputs serial time data which corresponds to the widths of the bars and spaces.
SKU	"Stock Keeping Unit". This is a "Customer Assigned Part Number". The customer uses this to store a product in his/her warehouse.
Start-Stop Character or Pattern	A special bar code character that provides the scanner with start and stop reading instructions as well as scanning direction. The start character is normally at the left end of a horizontally oriented symbol. The stop character is normally at the right end.
Stock Keeping Unit	See "Customer Assigned Part Number" and SKU.
Space	The lighter, reflective, element of the bar code.
Symbology	Just as there are many spoken languages in the world, there are many variations of bar codes and 2D symbols. Each variation is called a "symbology". Each symbology has its own rules that govern which configuration of bars represents which alphabetic, numeric, or other character. Examples are Code 3 of 9, Code 128, PDF417 and MaxiCode.
Syntax	The way in which data is put together to form messages. Syntax also includes rules governing the use of appropriate identifiers, delimiters, separator character(s), and other non-data characters within the message.
System Number	Identification number which groups together a collection of manufacturing orders which constitute a complete customer ordered entity. Used by Lenovo's Server Division. Referenced by Lenovo's Software Division to identify the hardware that a particular piece of software can run on.
System Type	Product identification number used in the ordering process which corresponds to a family of related machine types from which the customer may order. Used by Lenovo's Server Division.
Thermal Transfer printer	A printer which operates by melting ink from a mylar ribbon onto paper.
TIN	Tracking Identification Number. This is a 19 character data element for a component that consists of the seven character Lenovo part number followed by the 12 character serial number of the component. In bar code format, it is preceded by a data identifier of "I1S".
Transport Package	A package intended for transportation and handling of one or more machines, articles, smaller packages or other bulk material.
Transport Unit	Either a unit load or transport package. Examples are a case and a pallet.
UCC	Uniform Code Council. This is the central code management agency responsible for administering the UPC numbering system.
Unit Load	One or more transport packages or other items held together by means such as a pallet, strapping, stretch wrap, etc. making them suitable for transport, stacking and storage as a unit.
UPC	Universal Product Code is the number assigned to products that are distributed and sold through retail dealer networks in North America.

Term	Definition
UN/EDIFACT	United Nations Electronic Data Interchange for Administration, Commerce and Transport (UN/EDIFACT) is a technical group that is responsible for defining and developing international standards for EDI. The intention of this group is to define standards that will be used internationally between trading partners. Lenovo is also participating in this activity.
Verifier	A device that makes measurements of the bars, spaces, quiet zones, and optical characteristics of a symbol to determine if the symbol meets the requirements of a specification or standard.
Voids	Unintentionally light areas in the bar code symbol caused by printing errors.
X Dimension	The intended width of the narrow elements dictated by the application and/or symbology specification.
2D	"Two dimensional" symbology. This symbology is rectangular in appearance. This symbology differs from the traditional "1D" (one dimensional) bar code in that as many as one thousand characters can be encoded in one 2D symbol. Special scanners are needed to read 2D symbols. See section 5.2 for the 2D symbologies endorsed for use within Lenovo.

Table 5: Glossary of Terms

Appendix D. Revision History

Date	Version #	Revisions Made
2006-02-28	1.0	Created new guide for Lenovo.
2008-12-18	2.0	Checked by Stephanie

***** End of Document *****