FAIRBANKS **SCALES**

LabelBank Barcode Application

For the FB3000/FB4000 Series Instrument

51170

Revision 2   10/15
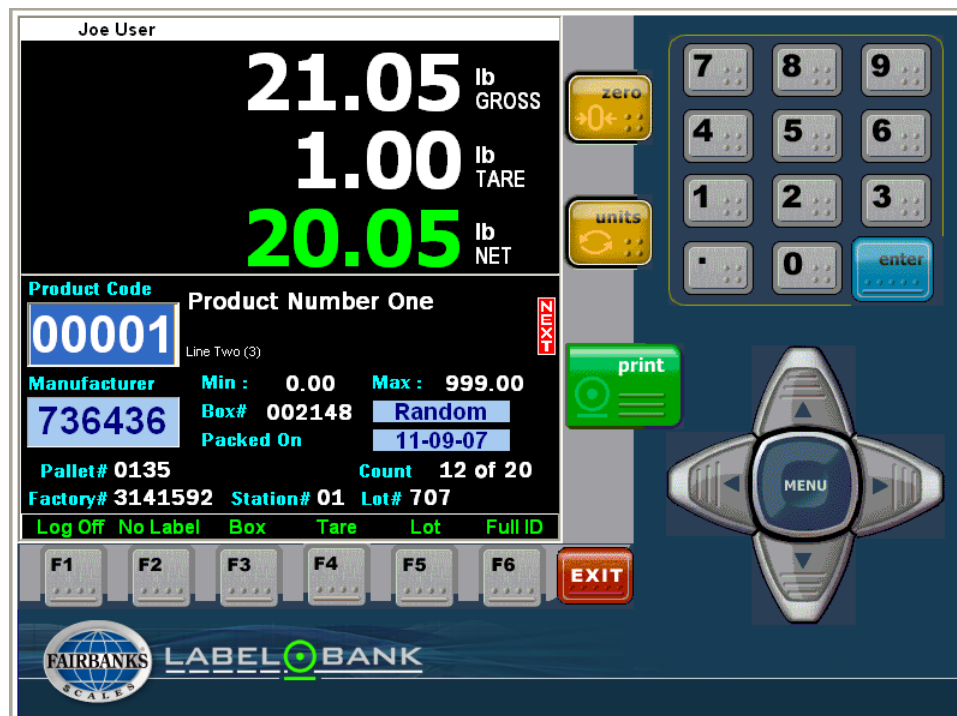
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Amendment Record

LabelBank Barcode Application
WITH DATABANK DATA COLLECTION SOFTWARE

DOCUMENT 51170

Manufactured by Fairbanks Scales Inc.

821 Locust

Kansas City, Missouri 64106

Created	06/2008	
Revision 1	06/2008	Documentation Release
Revision 2	10/2015	Updated to include FB4000 instrument information

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Table of Contents

Section 1: General Information

INTRODUCTION

- **LabelBank Program** – Formats all tickets generated by the Barcode Printer.

- **DataBank Program** – System database, the information "holder" for LabelBank, containing all product and user information, security, settings and production data.

  – With a stand-alone unit, all the program information is stored on the instrument's hard drive.
  – When stations are networked, a separate server is used to access all scale stations
  – The DataBank program is *a necessary element* for the LabelBank program to function properly.

- **Kernel Program** – The underlying weighing program used by all **FB3000/FB4000** applications.
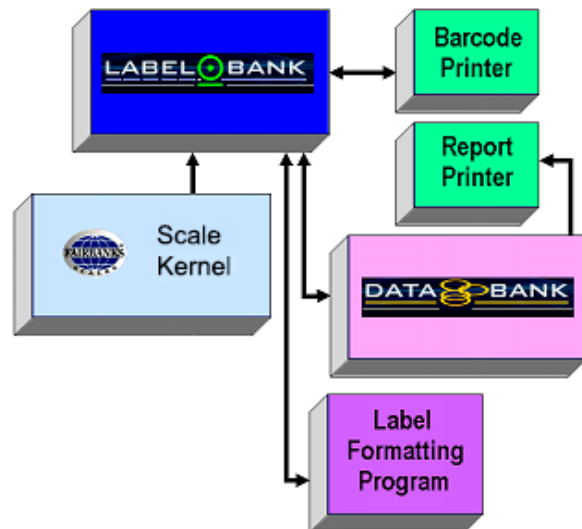
The Label Formatting Program will be available for users in Phase II release.
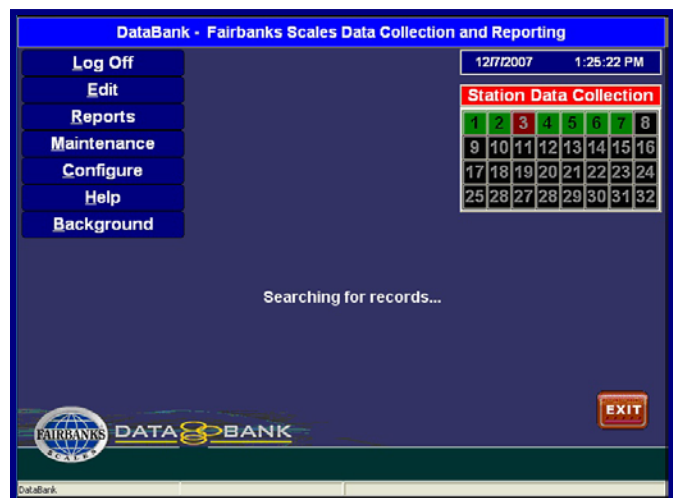
What Is A Barcode, and How Does It Work?

Barcodes are part of a voluntary marking standard that has been adopted by manufacturers, distributors, retailers and carriers.

- A barcode gives a product or container a unique identifier that can be used to distinguish it from the millions of other products or containers that are produced worldwide.

- Barcodes are used to identify people (ID badges), locations, products, stocking/inventory levels, and documents, such as patent files.

- In many cases, barcode labels are a piece of the overall solution to customers needs to improve accuracy and processing time.

Every bar, mark, number and letter contains important information. From the Product ID prompt the operator can quickly enter a different Product ID to switch between products, or to recall any information associated with a product. The LabelBank program formats the barcode with these elements on the ticket.

- Product ID
- Product total Box Count
- Product Description
- Gross, Tare and Net Weights

Barcode Ticket Formats

Fairbanks Scales uses these standardized formats to support barcode labeling.

- **UPC Shipping Container Code**
- **EAN (Originated for the European Standard)**
- **Control Label Format**
- **Human Readable Labels**

NOTE: *See **Appendix I** and **II** for further barcode technical information.*

FILE SHARING PROCESS STEPS

1. The operator inputs data using the **LabelBank Application,** which writes that into a file in the **"Data"** folder.

2. Once it is completely finished, the **LabelBank Application** writes an empty file with the same name in the **"Ready"** folder.

3. The *DataBank Application* sees the data file written in the **"Ready"** folder.

4. The *DataBank Application* gets the data from the **"Data"** folder.

5. The data is processed, and then stored on the *instrument's hard drive* in the following location:

   ✓ **C:\DataBank\DATABANK.GDB**

6. The *DataBank Application* deletes the files from the **"Ready"** and the **"Data"** folders.
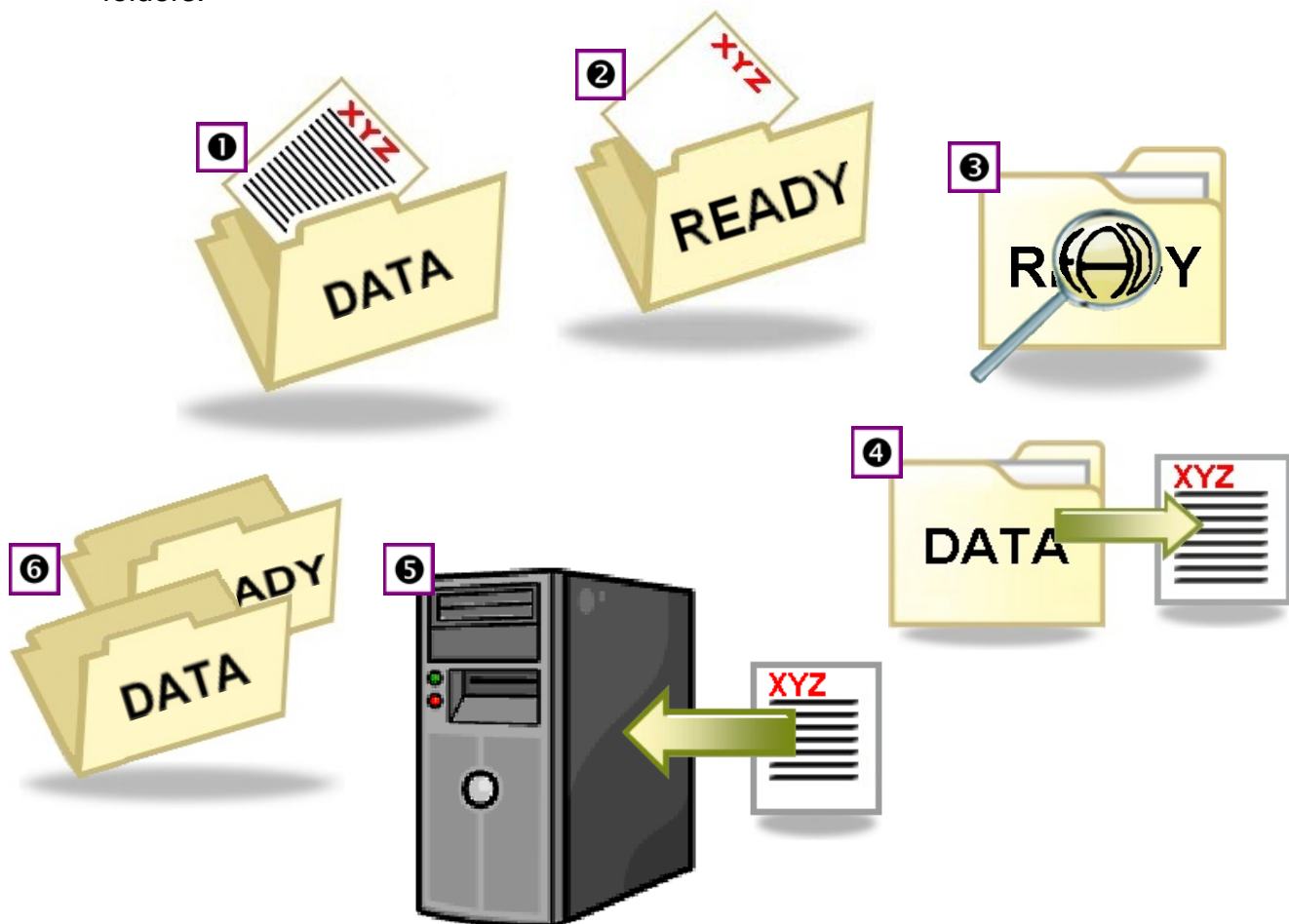
NOTE: *All numbers on the images correlate with the steps above.*

SERVICE POLICY INFORMATION

General Service Policy

It is the customer/operator's responsibility to ensure the equipment provided by Fairbanks is operated within the parameters of the equipment's specifications and protected from accidental or malicious damage.

Physical Installation Notes

- Check all devices for proper operation. If any error messages occur, refer to Troubleshooting or the proper manual of that device.

W A R N I N G !

Absolutely NO physical, electrical or program modifications other than selection of standard options and accessories can be made by customers to this equipment

Repairs are performed by Fairbanks Scales Service Technicians and Authorized Distributor Personnel ONLY!

Failure to comply with this policy voids all implied and/or written warranties

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Electronic Component Care

- Much of the equipment consists of printed circuit assemblies, which *must be* installed using **ESD handling procedures**.

- Replacement of individual components is not allowed.

- All components must be returned intact for replacement credit per normal procedures.

- All electronic and mechanical adjustments are considered to be part of the installation, and are included in the installation charge(s).

- Included is any required computer programming or upgrades.

- Included are any accuracy and/or

- The AC receptacle / outlet shall be located near the Indicator and easily accessible.

Electrical connections other than those specified may not be performed.

★ ★ IMPORTANT INSTALLATION NOTICE ★ ★

✓ **All communications which utilize RS232 Serial Cable** *must be* **limited to fifty (50') feet.**

✓ **All load cells, load cell cables and interconnecting cables used to connect all scale components shall be located a minimum of thirty-six (36") inches distance away from all single and multiple phase high energy circuits and electric current carrying conductors.**

- *This includes digital weight indicators, junction boxes, sectional controllers, and power supplies.*

- *This includes any peripheral devices, such as printers, remote displays, relay boxes, remote terminals, card readers, and auxiliary data entry devices.*

- *Also included is the scale components themselves, such as 120 volt AC, 240 volt AC, 480 volt AC and electric supply of higher voltage wiring runs and stations, AC power transformers, overhead or buried cables, electric distribution panels, electric motors, florescent and high intensity lighting which utilize ballast assemblies, electric heating equipment, traffic light wiring and power, and relay boxes.*

- *This includes all scale components, including digital weight indicators and peripheral devices that are not designed to operate on internal combustion engine driven electric generators and other similar equipment.*

✓ **Electric arc welding can severely damage scale components such as digital weight indicators, junction boxes, balance boards, sectional controllers, power supplies, and load cells.**
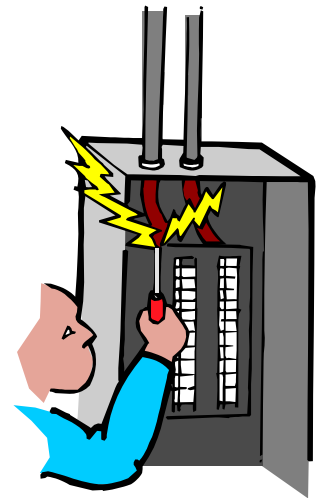
NOTE: *For additional information, please contact your* **Fairbanks Scales Service Representative.**

Summary:

✓ *All* **RS232 Serial Cable** *must be limited to* **fifty feet (50').**

✓ *All* **scale components** *must be located* **at least thirty-six inches (36") away** *from all* **high energy circuits** *and* **conductors.**

✓ No **electric arc welding** *around any* **scale components.**

Pre-Installation Checklist

The following points should be thoroughly discussed between the Fairbanks Representative and the Customer, before the Service Technician installs any software or equipment.

✓ Study the current Office Network and decide how the scale system can best integrate into it.

    — Would a standalone unit be the best option?

    — Are the IP Addresses dynamic or set manually?

    — What are all the needed employee computer IP Addresses?

✓ Decide the printer(s) arrangements within the Office, and list which users will link to each one.

✓ Determine the best physical placement for the scale(s) with its approaches and exits, where the station(s) should be located, and also where the video cameras should be put, if any are used.

✓ Make a detailed list of the current employee hierarchy, and note how the employee duties should determine their security level.

✓ List the level(s) of training each employee needs over the LabelBank and the DataBank Applications.

NOTE: *See* **Appendix III** *for the different detailed checklists.*

MINIMUM SERVER REQUIREMENTS

The computer that runs the **Barcode Printer Program** is normally already preloaded with the software.   With only one station or user, there is plenty of storage space for the different files generated by the **DataBank Program**.

There is, however, a second way to use this system. Two or more stations can network together and access the same main database. In this case, because more storage space is required to hold the generated data files, a separate server is necessary.   System requirements for networking numerous stations are listed below.

- **Windows 98 or higher**

- **Minimum 512Mb RAM Memory**

- **Minimum 1Ghz Processor**

- **Minimum 40G Hard Dive**
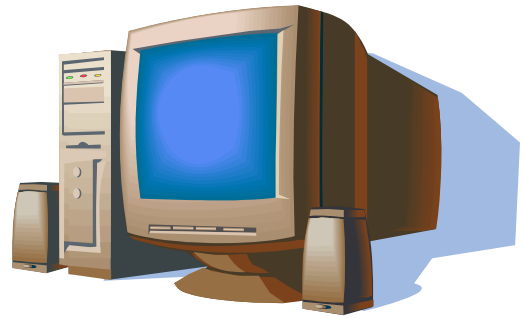
Users' Responsibility

✓ All electronic and mechanical calibrations and/or adjustments required for making this equipment perform to accuracy and operational specifications are considered to be part of the installation.

— They are included in the installation charge.

— Only those charges which are incurred as a result of the equipment's inability to be adjusted or calibrated to performance specifications may be charged to warranty.

✓ Absolutely no physical, electrical or program modifications other than selection of standard options and accessories are to be made to this equipment.

✓ The equipment consists of printed circuit assemblies which must be handled using ESD handling procedures, and must be replaced as units.

— Replacement of individual components is not allowed.

— The assemblies must be properly packaged in ESD protective material and returned intact for replacement credit per normal procedures.

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Section 2: Programming Introduction

NAVIGATION TIPS

The three main ways to navigate through the **LabelBank Program** are listed below.

Touchscreen

Using the Touchscreen is the most user-friendly way of navigating through the different menu options. Of course, the scale instrument must be equipped with the Touchscreen, and the software must be activated for this feature to work. If the Touchscreen feature is part of the factory installation, it will start when the Unit boots up. It should be noted that nothing in this application requires using the mouse if a Touchscreen is present.

The Mouse and Keypad

If the scale instrument is not equipped with a Touchscreen, or if this feature is disabled, then navigating though the different menu options is done using the mouse and keypad. Listed below are some basic navigating tips when using a mouse.

Using Only the Keypad

Although this is the most difficult way to navigate through the different fields, it is still possible to enter numeric values and configure dialogs using only the keypad.

Useful key functions include the following:

- The **Tab** key advances to the next field.
- The **Shift + Tab** reverses to the previous field.
- The **UP/Down Arrow** keys move between fields.
- The **Left/Right Arrows** navigate within the field.
- Highlight the clock feature setting, then the **Arrow** key moves time **forward or backwards**; the **F1** key moves the **AM/PM** choice.
- The **Enter** key selects a choice.

Configuring Printer Properties Using the MS Windows® Program for the FB3000

The following steps detail the procedure for setting **Printer Properties.**

1. Left-click on the **Start** button, then scroll up to **Settings**, then scroll to the right and left-click on **Printers and Faxes.**

2. Right-click the printer to be used, then scroll to the right and select **Properties**.

   – This allows *permanently* set property changes.

   – **Port Configuration** (port type, baud rate, etc.) is made by selecting the **Ports** tab.

   – This method of formatting makes numerous additional advanced settings available.
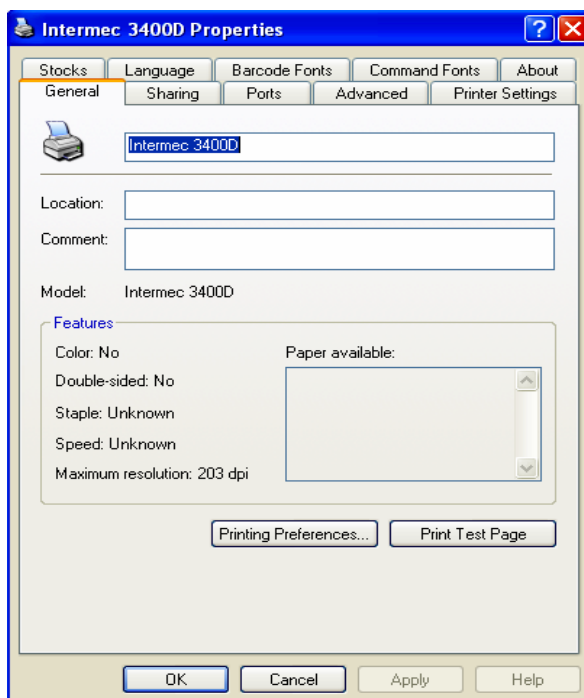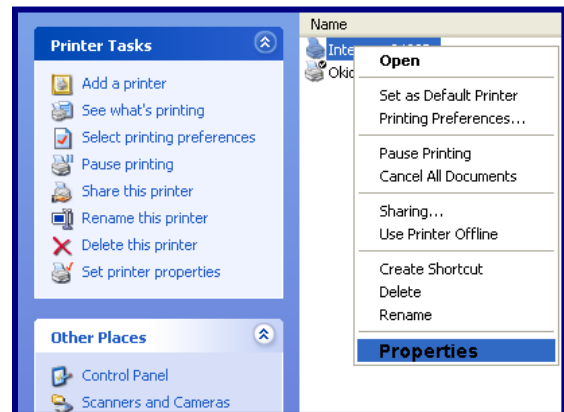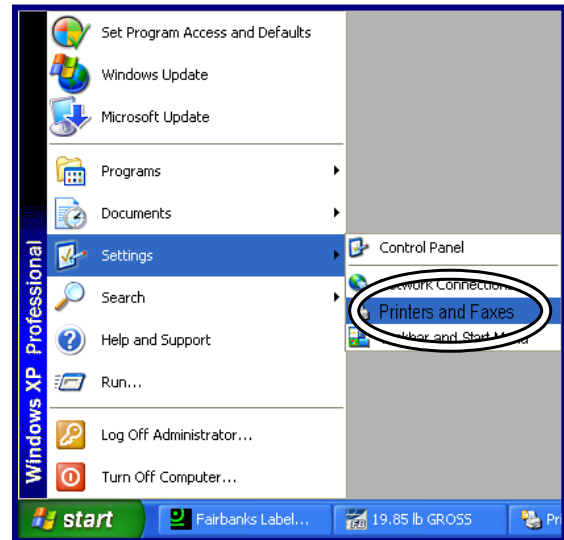
This menu often offers more options than the LabelBank program **Printer Preferences** *window.*

★★ **REMEMBER:** *When setting the printer resolution, faster speed equals lesser quality.*

Configuring Printer Properties Using the MS Windows® Program for the FB4000

The following steps detail the procedure for setting **Printer Properties.**

3. Right click on the Windows logo .

4. Left-click on **Control Panel** in the list shown.

5. Left-click on **Devices and Printers** in the list shown.

6. Right-click the printer to be used, then scroll to the right and select **Printer Properties**.

  – This allows *permanently* set property changes.
  – **Port Configuration** (port type, baud rate, etc.) is made by selecting the **Ports** tab.
  – This method of formatting makes numerous additional advanced settings available.
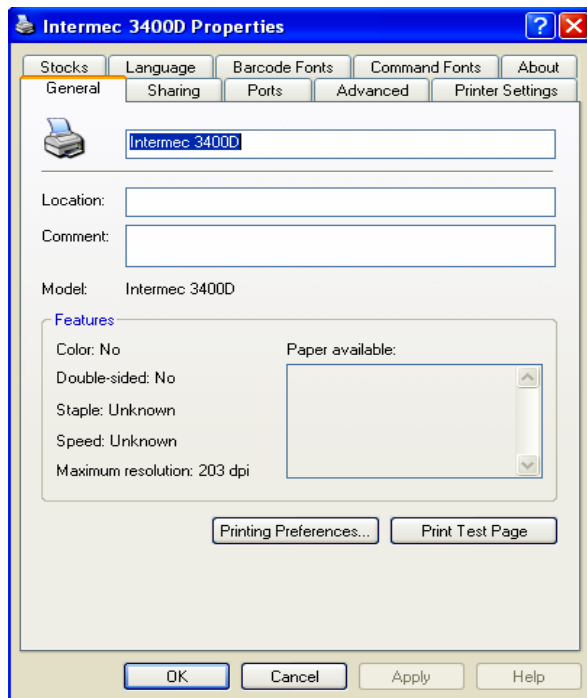

This menu often offers more options than the LabelBank program **Printer Preferences** *window.*
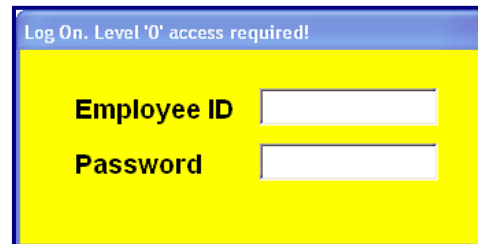
★ ★ **REMEMBER:** *When setting the printer resolution, faster speed equals lesser quality.*

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Section 3: Operations

Booting Up & Using the Barcode Application

1. Turn on the equipment.

    — Allow time for the scale, indicator and printer to power-up.

2. Enter the **Employee ID** and **Password**.

    — *See* **Editing Operator Data** *in* **Section 4: Programming DataBank.**

3. Press .

4. Key in the appropriate **Product Code**, either as a **Hot Key** number or the **Full ID**.

    — The **F6** key toggles between the **Full ID** and the **Hotkey functions**.

5. *Place the object on the scale.*

6. Press .
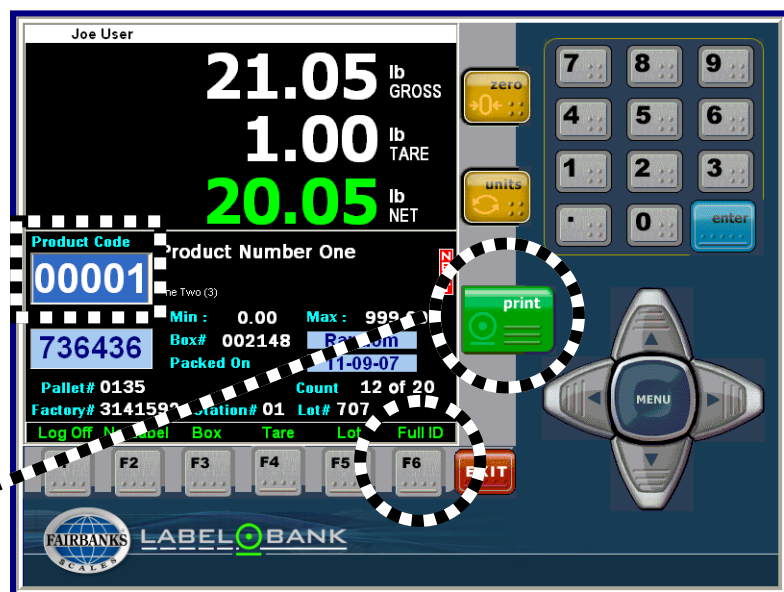
    — Not used if the **Auto Print** feature is on.

DEFINING THE WEIGH SCREEN

Field	DESCRIPTION
Login Name	(**Bob Regis**) Identities the **logged-in user**.
Product Window	Fields defined on the following page.
Function Keys	Buttons used for specific actions. – Press the **right-arrow key** to activate the second level of functions. ▪ Level 1 *has* **green** *options;* Level 2 *has* **yellow** *options.* – Buttons are defined on the following pages.
Zero	Zeros the scale.
Units	Changes the **Units of Measure (lb or kg)**.
Printer	Sends a print command to the barcode printer. The value of the **Green F3** caption **(Box or Pallet)** determines which type of label is printed.
Exit	Exits the **Barcode Printer Program**.
10-Digit Keypad	Enters numeric information.
Enter	Selects a choice or adjustment that was programmed.
Menu Button	Opens and/or closes one of the three function menus.
Arrow Keys	Allows user to navigate through the choices on each window.
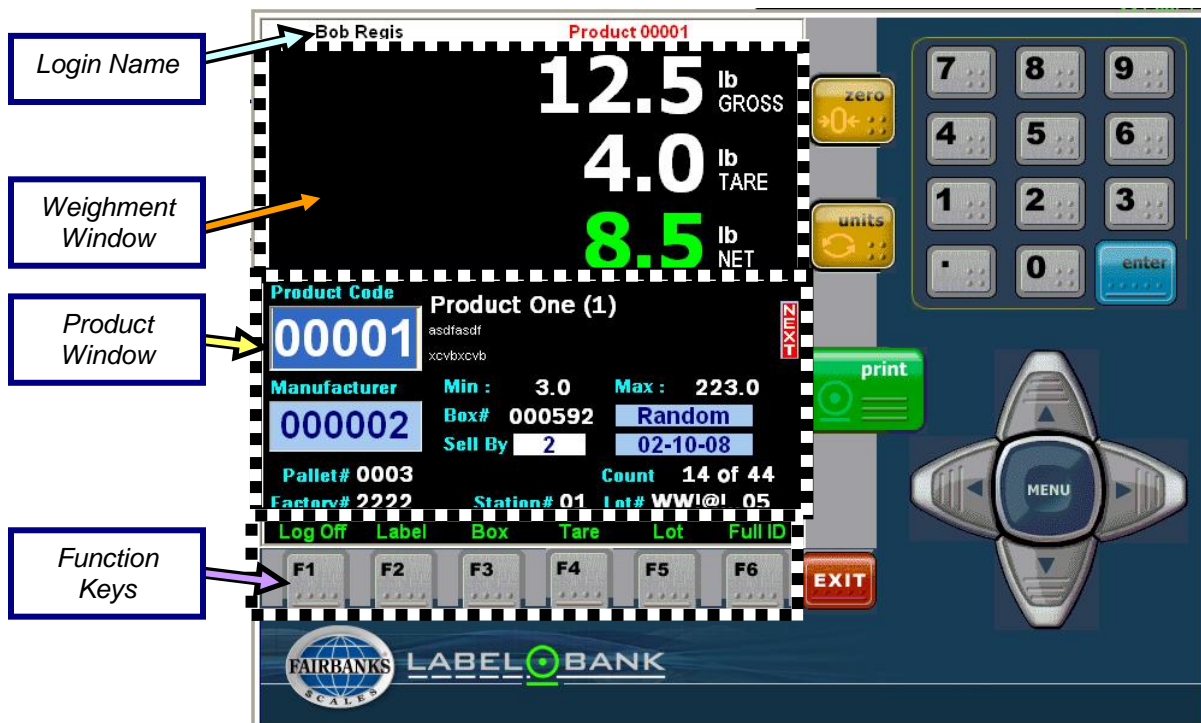
NOTE: *Except for manually entering the* **Product Code***, all information within this window is* **VIEW ONLY.**

Defining Fields in the Formatting Window

Field	DESCRIPTION
Product Code	Identities the product from the pre-programmed inventory list. – **Product Code** entry field. Input the **Code of the Product** to process. – The caption at the top of the weigh screen indicates the selected product. – If the selected product does not exist, an **Error Caption** at the top of the screen flashes a warning message.
Product Description	Describes the product. – Displays **three of the seven** available lines of description for each product. – The top line is always the first line of the description.
Next Button	Advances to the next two **Product Description fields**. – Button displays only when further descriptions are available.
Manufacturer's Number	Identifies the **manufacturer's ID number**.
Min: / Max:	Displays the minimum and maximum weights allowed for this item.
Box #	Identifies the serial number of the next box to be processed. – Used for tracking purposes. – Increments after each print operation.

Defining Fields in the Formatting Window, Continued

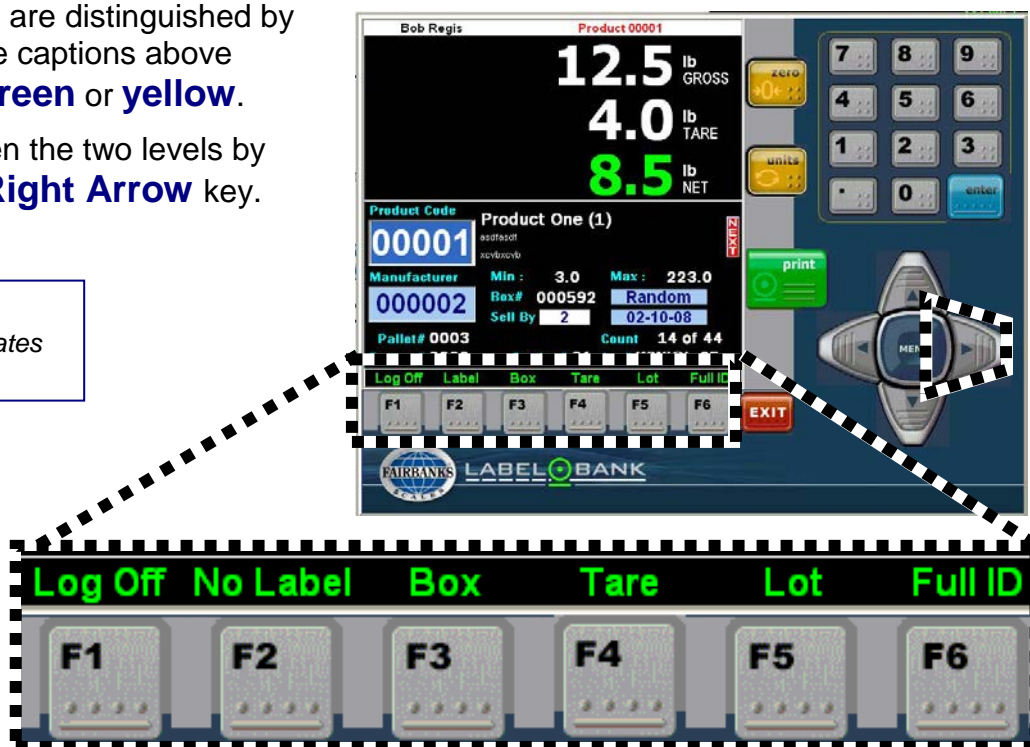| Field	DESCRIPTION

Fixed or Random Wt.	Displays whether the item is preprogrammed with a specific **Fixed** weight amount, or if the weight amount is **Random**.
	• When item(s) are to be sold as a specific weight, select **Fixed Wt**.
	  – **Example:** *Packaged product may be sold in 1 lb. containers. The label displays a net weight of 1 lb for every package produced.* The fixed weight displayed equals the product's Minimum Weight Value.
	  – If the caption reads **"Fixed",** then the **Product Minimum Weight** is printed on the Label, not the actual weight.
	• When the weight of an item varies from package to package, select **Random Wt**.
	  – **Example:** *Product in a food processing plant is often "sold by the pound" and varies in weight per case. When printing random weights, the actual Net Weight Value displays on the label.*
	  – If its **Random**, the actual product net weight is printed on the label.

Packed On	Displays the date when an item was packed.
Pallet #	Identifies the serial number of the pallet currently being processed. – Used for tracking purposes.
Count	Displays how many units are **completely processed** out of the pallet total.
Factory #	Identifies the specific **vendor factory code number**.
Station #	Identifies **which specific station** is processing the item.
Lot #	A programmed number that identifies **which Lot** is currently processing.

Defining the Function Keys

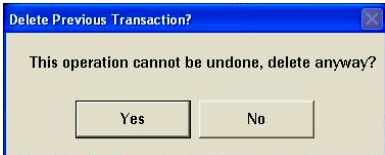| KEY	Name	DESCRIPTION
F1	Log-on / Log-off	• **Once logged on, user name appears at the top of the Weigh Screen.** • **User stays logged on, he or she logs off, or another user logs on.**
F2	Label / No Label	• When the caption reads **Label,** printing a label is allowed. • When the caption reads **No Label**, Process data is still collected, but no label is generated.
F3	Box / Pallet	**Box / Pallet** button determines which type of label is printed next. – If **Pallet** is selected, the caption reverts to **Box** after the pallet label prints.
F4	Tare / No Tare	Sets up **a Tare Weight for use on other amounts than what was programmed by the DataBank operator** – Inputting a **Manual Tare Value** for a product stays in effect until this or a new product is processed, and does not change the stored tare for that product.
F5	Lot	**Displays the Lot ID entry dialog box, allowing input of a new Lot ID.**
F6	Full ID / Hot Key	Toggles between using the **Full ID** Number or the **Hot Keys** • Hot Keys are 1- or 2-digits assigned to each product for quick access. • Hot Keys are used with pre-keyed items, or when a very small number of products are scanned (**up to 99**). • LabelBank Hot Keys are used like telephone hot keys.

There are *two levels of* **Function Key** *options*.

- The two levels are distinguished by the color of the captions above them, either **green** or **yellow**.

- Switch between the two levels by pressing the **Right Arrow** key.

Pressing the **Right Arrow button** *activates the* **Green F-Keys.**

Defining the Function Keys, Continued

KEY	Name	DESCRIPTION
F1	**Void Box**	Deletes the last processing record of the current product, removing that data from the DataBank database – Resets the **Box** and **Pallet Serial Numbers** to the values they had before the last box label was printed. – Pallet and Product Total counts and weights are also reset to the values they had prior to the last box label print. **Delete confirmation message** **Cannot be Deleted message** **Delete Previous Transaction?** This operation cannot be undone, delete anyway? Yes No **Delete Operation Not Allowed** This record cannot be deleted. Either the record does not exist, or a new product was selected. OK
F2	**Reprint**	Re-prints the selected label type. The selected label type is determined by the **green** caption of the **F3** key. – If it reads **Box**, the last box label is reprinted. – Otherwise the last pallet label is reprinted. – Reprints are **not allowed** on voided box or pallet labels, and cannot be performed unless the label has been printed at least once since the product was selected. **Operation Not Allowed** ⚠ This label cannot be reprinted. OK

✔ *See the* **Service & Maintenance** *section for the complete list of* **Messages and Popups.**

Pressing the **Right Arrow button** *activates the* **Green F-Keys.**

Defining the Function Keys, Continued

KEY	Name	DESCRIPTION
F3	Reload	For Intermec brand printers *only*. Commands the printer to perform a warm reset. – Use after installing a new roll of label stock to index the media to the next printable label location.
F4	Summary	• Prints a **Summary Label** for the selected product. – User may clear this product's totals by clicking **Yes** on the **Reset Product Totals** dialog, which displays after the label prints.
F5	Rework	• Over-rides the system date, forcing the use of a fixed date. • Allows the user to a set label date on re-packaged products. • Can be used to compensate for a shift change. • When **Rework** is activated, the date window flashes on the **Weigh Screen**. • Pressing the **F5** key again or selecting a new product reverts LabelBank back to the system date.
F6	Sell By	• Pressing **F6** activates the **Sell By** edit box for inputting a date. • Used for perishable items and time-specific products. • Entering a "**0**" changes the field to a **"Packed On"** date, changing it to the current date. • Only allowed for products with **EAN-128 Barcodes** and Date AI's of 15 or 17.
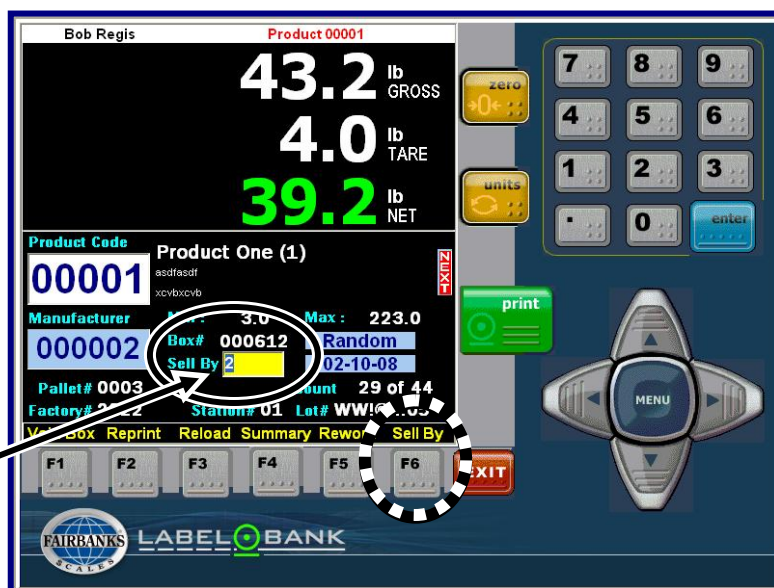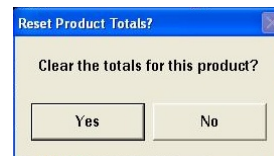
Pressing **F6** activates the **Sell By** edit box for inputting a date.

Activating the Hot Keys

Hot Keys allow the user to access the **Product window** by pushing only two digits, instead of inputting all five numerals. This saves time, especially when processing large, repetitive orders.

Press on the **F6** button.

- The words **"Hot Keys"** blinks when the button is active, and **"Full ID"** when it is not.
- This button toggles on either one or the other.
- *Hot Keys must be numeric, and a message pops up otherwise*.
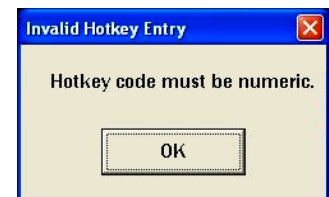
Entering a Tare

Press **F4** to enter a manual tare.

- The programmed tare stays active until this, or a new product is selected.

*Press **F4** for a manual tare. It stays active until this, or a new product is selected.*

SYSTEM SHUTDOWN PROCEDURE

CAUTION

Improper shutdown of this instrument can cause damage to the hard drive and loss of data.

When shutting down the instrument, follow the instructions below:

1. Press the red **EXIT** button.

2. Click **YES** on the **Verification to Close** window.

3. Close the **DataBank Program** by pressing the red **EXIT** button.

4. Click **YES** on the **Verification to Close** window.

5. Close the **LabelBank Program** by pressing the red **EXIT** button.

6. Click **YES** on the **Verification to Close** window.

7. Close the **Kernel Program** by pressing the red **EXIT** button

8. In the Kernel window, change from **Exit Application** to **Shutdown**.

Exit Application

Shutdown

Press [MENU] to cancel.

Are you sure?
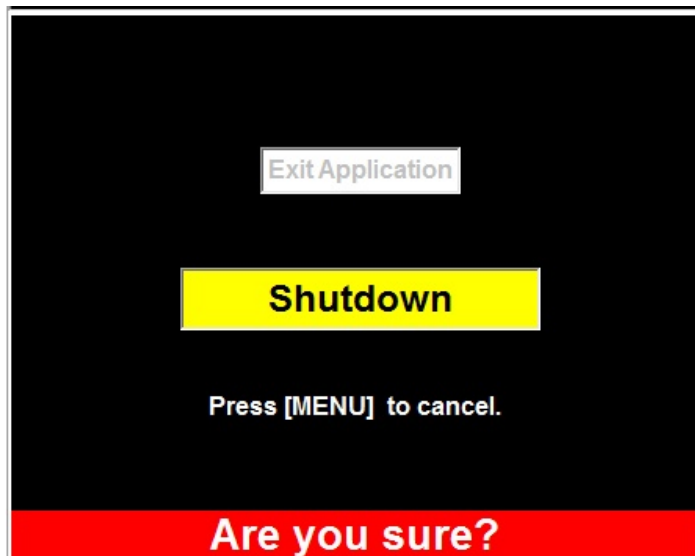
9. Press the Kernel **Enter** button.

✓ The instrument will turn off and the display turns dark.

✓ The instrument is now properly shut down.

10. Remove power from the instrument.

Appendix I: Barcodes

What Is A Barcode, and How Does It work?

Barcodes are part of a voluntary marking standard that has been adopted by manufacturers, distributors, retailers and carriers.

- A barcode gives a products or container a unique identifier that can be used to distinguish it from the millions of other products or containers that are produced worldwide.

- Barcodes are used to identify people (ID badges), locations, products, stocking/inventory levels, and documents, such as patent files.

- In many cases, barcode labels are a piece of the overall solution to customers needs to improve accuracy and processing time.

Every bar, mark, number and letter relays important information to the software program. From the Product ID prompt the operator can quickly enter in a different Product ID to switch between products, or recall all the information associated with each product. The following data is programmed by using these symbols on the ticket.

- Product ID
- Product total Box Count

- Product Description
- Gross, Tare and Net Weights

Symbology

The mapping between messages and barcodes is called a **Symbology**. The specification of a **Symbology** includes the following.

- The encoding of the single digits/characters of the message.

- The start and stop markers into bars and space.

- The size of the quiet zone required to be before and after the barcode.

- The computation of a **checksum**, which is a simple redundancy check to protect the integrity of data.

Barcode Ticket Formats

Four of the numerous standardized formats used to support Fairbanks products for the Barcodes Tickets are listed below.

- **UPC Shipping Container Code**
- **EAN (Originated for the European Standard)**
- **Control Label Format**
- **Human Readable**
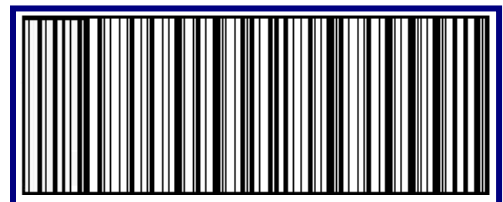
What is a UPC barcode?

Universal **P**roduct **C**odes (also known as **GTIN-12**) appear as lines (bars) of varying widths representing the series of numbers commonly shown below the bars.

- Usually dark ink is on white background to create high and low reflectance, which is converted to 1's and 0's.

- Barcode scanners read the bars and convert them back to the 12-digit UPC number that they represent.
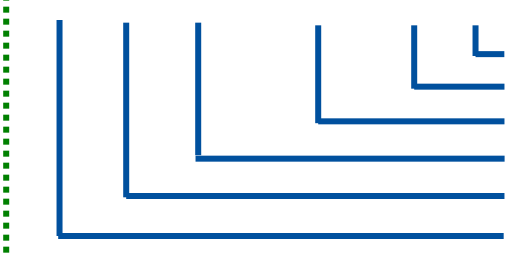
- This number is then looked up within the retailer's inventory system to find the corresponding product name and price that you provided them with when you signed your agreement for them to carry your product.

- In short, the UPC is a 12-digit unique code for your product represented by scannable bars.

- The nominal size of a UPC Symbol is **1.469" wide x 1.02" high**.

- The **minimum** recommended size is **80%** of the nominal size, or **1.175" wide**.

- The **maximum** recommended size is **200%** of the nominal size or **2.938" wide**.

- Width is much more important than height. The width influences the distance between the bars and how well the laser can distinguish between them.
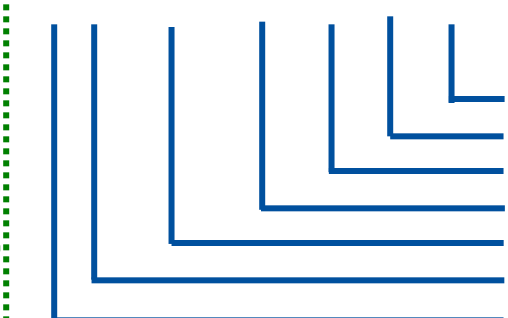
22331 1 123468 120392 04000 2

- Check Sum Digit
- Net Weight
- Date
- Box Serial Number
- Scale Position
- Product Code

CHICKEN BREAST

SPLIT
FAMILY PACK

ITEM
22334

40.00
lb. Net Wt.

22334 1 123468 120392 04000 2

9 00 12345 22334 4   04000 8

9 00 12345 22334 4 04000 8

- Check Sum Digit
- Net Weight
- Check Sum Digit
- Product Code No.
- UPC Mfr's No.
- Number Character
- Random Weight/ Fixed Weight

Above is an example of a U.P.C. Shipping Container Barcode.

What is a UPC barcode? Continued

Smaller labels allow for very small space to print long Barcodes as well as human readable text. Condensing Barcodes leads an unfavorable inter-character spacing size that scanners may have a difficulty reading.

— There is a required "dead" space needed around the Barcode itself to allow for scanners to establish the beginning and end of a Barcode.

— Measured in millimeters, **Inter-character Spacing** is the spacing between the series of bars indicating a character.

More About UPCs…

UPCs originate with a company called the **U**niform **C**ode **C**ouncil (**UCC**).

• A manufacturer applies to the **UCC** for permission to enter the UPC system.

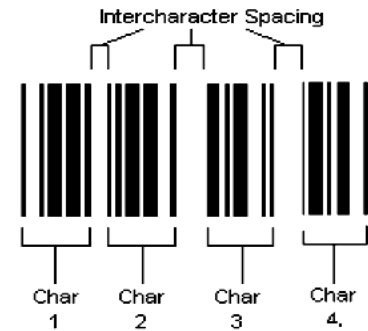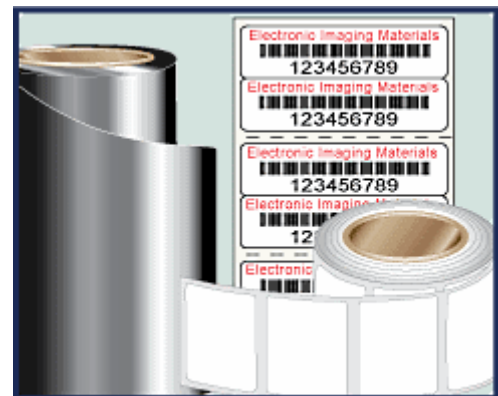• The manufacturer pays an annual fee for the privilege.

• In return, the **UCC** issues the manufacturer a *six-digit manufacturer identification number* and provides guidelines on how to use it.

Global **T**rade **I**tem **N**umber (**GTIN**) is an identifier for trade items developed by **GS1** (comprising the former **EAN International** and **Uniform Code Council**). **GTIN** is an "umbrella" term used to describe the entire family of GS1 data structures for trade items (products and services) identification.

— Such identifiers are used to look up product information in a database.

— These unique barcode identifiers are often "bought", and may "belong" to a retailer, manufacturer, collector, researcher, or other entity.

— The uniqueness and universality of the identifier is useful in establishing which product in one database corresponds to which product in another database, especially across organizational boundaries.

What is an EAN Barcode?

The **European Article Number Barcode System** is used outside of the Americas, and is **13-digits long**.

- An **EAN Barcode** (also known as **GTIN-13**) is similar to the UPC barcode.

- The **EAN-13 Barcode** is defined by **GS1**.

- The EAN Barcode can be read both by **UPC** and by **EAN scanners**.

- As of Jan 2005, all American retailers were scheduled to be able to read the additional 13th digit in **EAN Barcodes**.

The **EAN-13 Box Label** format encodes thirteen (13) numerals, divided into **four parts**.

System Code

The first two or three (2-3) digits identifies the country in which the manufacturer is registered.

— Not necessarily where the product is actually made.

Manufacturer Code

Four or five (4-5) digits, depending on the length of the system or country code.

Product Code

Five (5) digits.

Check Digit

One (1) checksum digit detects all single digit errors.

NOTE: *See **Appendix II** for a complete format display.*

EAN-13 Encoding

To encode an **EAN-13 Barcode**, the digits are first split into 3 groups, the first digit, the first group of 6 and the last group of 6.

- The first group of six is encoded using a scheme whereby each digit has two possible encodings, one of which has even parity and one of which has odd parity.

- The first digit is encoded by selecting a pattern of choices between these two encodings for the next six digits, according to the table below.

  - Unlike the other digits, the first digit is not represented directly by a pattern of bars.

- All digits in the last group of six digits are encoded using a single set of patterns which are the same patterns used for UPC.

If the first digit is zero, all digits in the first group of six are encoded using the patterns used for UPC, hence a UPC barcode is also an EAN-13 barcode with the first digit set to zero.

Structure of EAN-13		
First digit	First group of 6 digits	Last group of 6 digits
0	LLLLLL	RRRRRR
1	LLGLGG	RRRRRR
2	LLGGLG	RRRRRR
3	LLGGGL	RRRRRR
4	LGLLGG	RRRRRR
5	LGGLLG	RRRRRR
6	LGGGLL	RRRRRR
7	LGLGLG	RRRRRR
8	LGLGGL	RRRRRR
9	LGGLGL	RRRRRR

Encoding the digits			
Digit	L-code	G-code	R-code
0	0001101	0100111	1110010
1	0011001	0110011	1100110
2	0010011	0011011	1101100
3	0111101	0100001	1000010
4	0100011	0011101	1011100
5	0110001	0111001	1001110
6	0101111	0000101	1010000
7	0111011	0010001	1000100
8	0110111	0001001	1001000
9	0001011	0010111	1110100

NOTE: *Entries in the* **R-column** *are bitwise complements of the respective entries in the* **L-column***. Entries is the* **G-column** *are the entries in the* **R-column** *reversed.*

What is Control Label Format?

The **Control Box Label Format** consists of six (6) sections.

Single Interleaved 2 of 5 Barcode

- Five (5) digits of **Product Code.**
- Two (2) digits of **Station ID.**
- Six (6) digits of **Box Serial Number**
- Six (6) digits of **Julian Date**

Product Description Data

Three (3) lines, limited to twenty-four (24) characters each.

Factory Number

Seven (7) digits.

Lot Number

Ten (10) alphanumeric characters.

Product Code

Five (5) Digits.

Weight & Units Data

The **Control Pallet Label Format** consists of six (6) sections.

Single Interleaved 2 of 5 Barcode

- Five (5) digits of **Product Code.**
- Two (2) digits of **Station ID.**
- Four (4) digits of **Pallet Serial Number.**
- Four (4) digits of **Pallet Serial Number.**
- Four (4) digits of **Pallet Quantity (count).**
- Six (6) digits of **Pallet Net Weight.**
- One (1) digit of **Checksum**

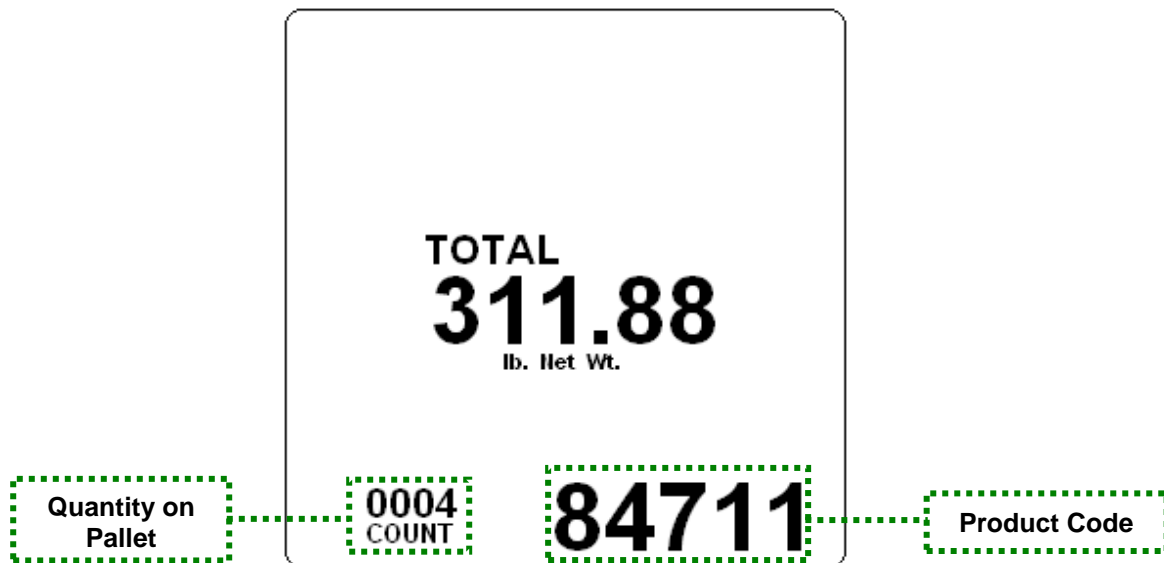**NOTE:** *See **Appendix II** for a complete format display.*

What is a Human Readable Label?

This label is easily read by people, and not encrypted for the barcode reader.

— It typically does not have a barcode printed on it.

— Has all the information needed for the activity to be read and processed by a human, and not scanned by a machine.
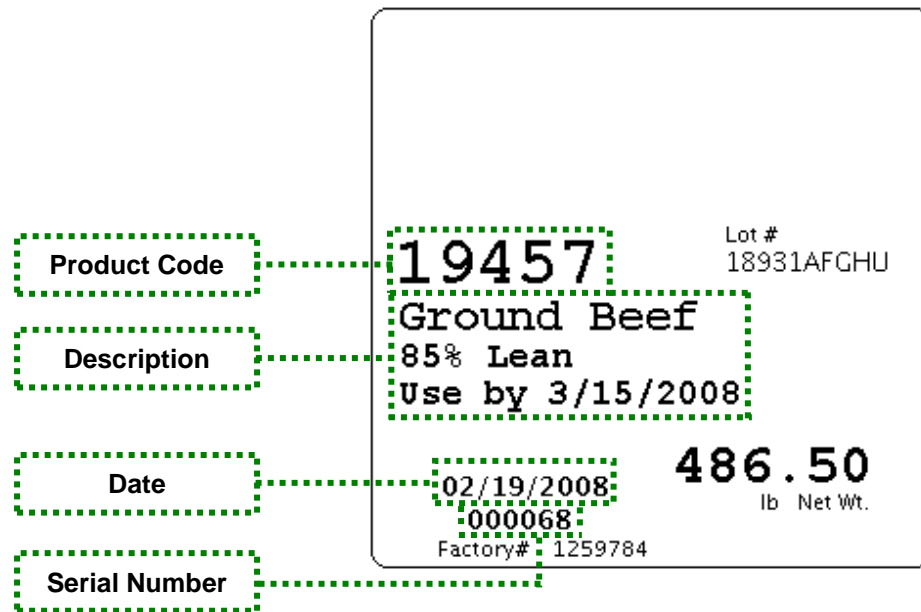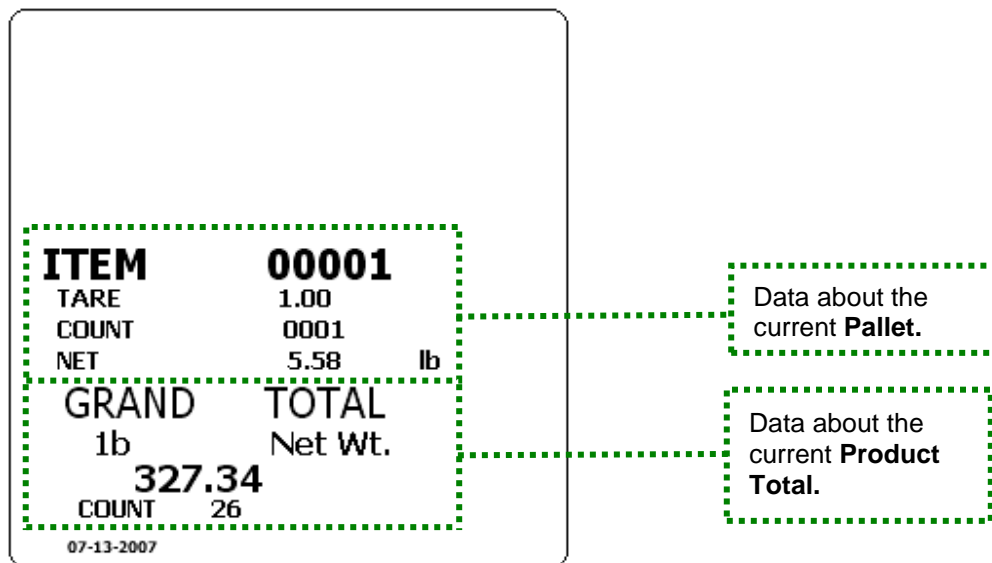

Human Readable Box Label

Human Readable Pallet Label

What is a Summary Label?

This label defines a total production cycle, once it is ready for shipment.

— It is easily read by people, and not encrypted for the barcode reader.

— This is often the last label printed.

— It is often placed on the completed pallet or lot shipment to define the total amount at a quick glance.

```
ITEM              00001
 TARE               1.00
 COUNT              0001
 NET                5.58      lb
  GRAND     TOTAL
    1b          Net Wt.
      327.34
 COUNT    26
07-13-2007
```

Data about the current **Pallet.**

Data about the current **Product Total.**

Appendix II: Barcode Label Formats

UPC Barcode Formats

22331 01 123468 120392 04000 2
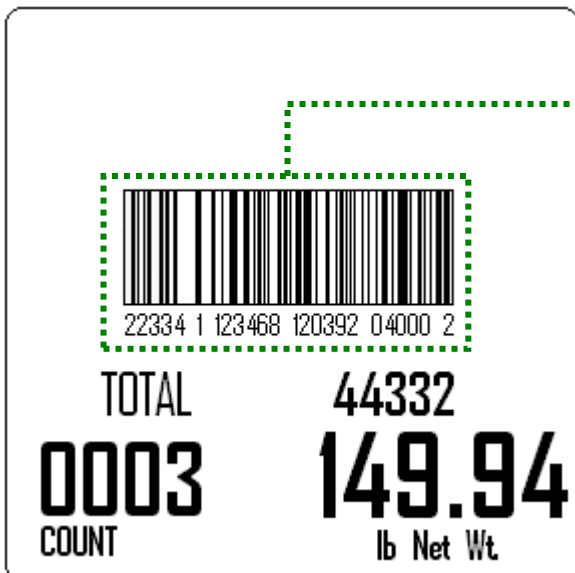
    Check Sum Digit
    Net Weight
    Date
    Box Serial Number
    Scale Position
    Product Code

22334 1 123468 120392 04000 2

CHICKEN BREAST

SPLIT
FAMILY PACK

ITEM
22334

40.00
lb. Net Wt.

9 00 12345 22334 4   04000 8

---

9 00 12345 22334 4 04000 8

    Check Sum Digit
    Net Weight
    Check Sum Digit
    Product Code No.
    UPC Mfr's No.
    Number Character
    Random Weight/
    Fixed Weight

Above is an example of a **U.P.C. Shipping Container Barcode**.

Below is an example of a **U.P.C. Master Pallet Label Barcode**.
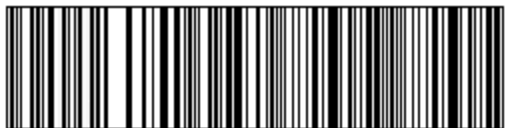
22334 1 123468 120392 04000 2

TOTAL   **44332**

0003
COUNT

149.94
lb Net Wt.

22331 01 123468 120392 04000 2

    Check Sum Digit
    Net Weight
    Date
    Box Serial Number
    Scale Position
    Product Code

FAIRBANKS SCALE

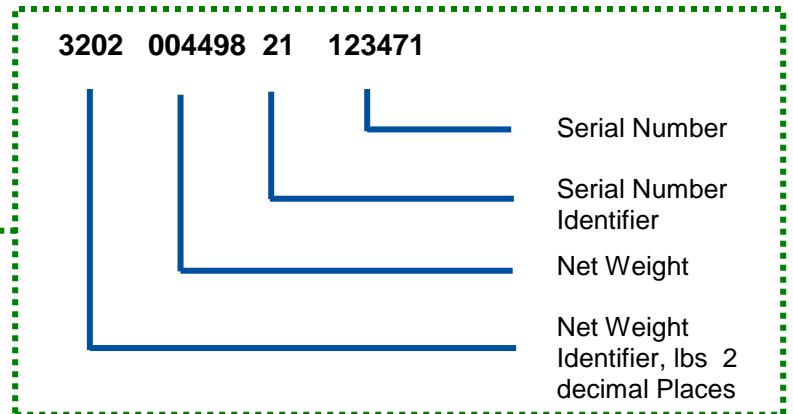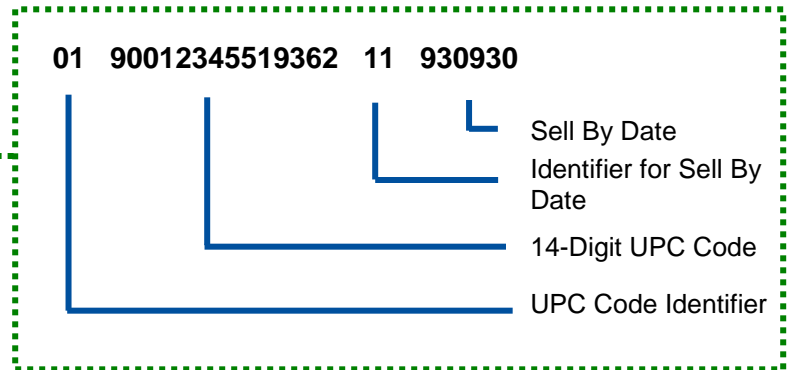## *EAN Barcode Format*

K.C. STRIP STEAK
USDA PRIME
KEEP REFRIGERATED
item   Sell - By   **12-07-07**
51936   Serial No.   **123471**
44.98 lb
Net wt.

01 9001234519362 11 930930 3202 004498
21 123471

01   90012345519362   11   930930

Sell By Date
Identifier for Sell By Date

14-Digit UPC Code

UPC Code Identifier

3202   004498   21   123471

Serial Number

Serial Number Identifier

Net Weight

Net Weight Identifier, lbs 2 decimal Places

Above is an example of a **EAN Shipping Container Barcode**.

Below is an example of a **EAN Master Pallet Label Barcode**.

TOTAL
K.C. STRIP STEAK
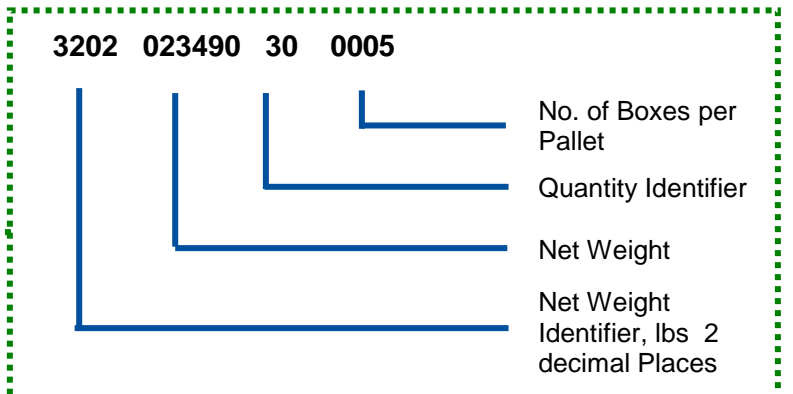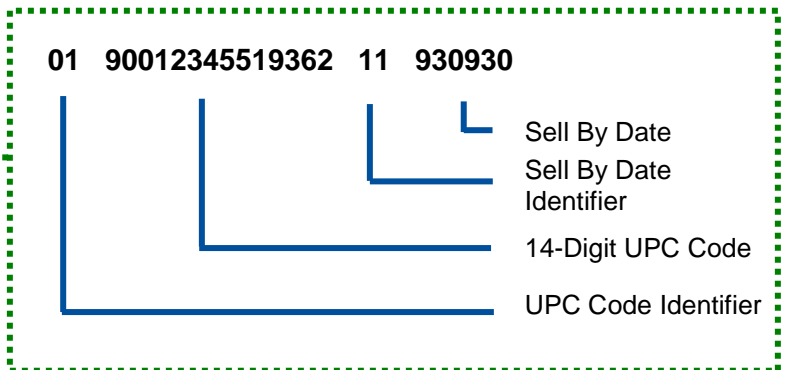**item**   **count**
51936   **0005**
234.90 lb
Net wt.

01 9001234519362 11 930930 3202 004498
21 123471

01   90012345519362   11   930930

Sell By Date

Sell By Date Identifier

14-Digit UPC Code

UPC Code Identifier

3202   023490   30   0005

No. of Boxes per Pallet

Quantity Identifier

Net Weight

Net Weight Identifier, lbs 2 decimal Places

Control Label Barcode Format

FRYING CHICKEN PARTS
KEEP REFRIGERATED
READY TO SERVE
ITEM
44332   49.98
             lb Net Wt.

44332 1 123459 120393 04993 3

44332 01 123459 120393 04993 3

Check Sum Digit
Net Weight
Date
Box Serial Number
Scale Position
Product Code

Above is an example of a **Control Label Format Barcode**.

Below is an example of a **Control Label Format Master Pallet Label Barcode**.

44332 1 123459 120393 04993 3
TOTAL   44332
0003   149.94
COUNT   lb Net Wt.

44332 01 123459 120393 04993 3

Check Sum Digit
Net Weight
Date
Box Serial Number
Scale Position
Product Code

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Appendix III: Pre-Installation Checklists

Operator / Access Table

The following checklist details the following facts for each employee.

- **ID** – Numerical Code identifying each Employee.
    - *This can be the last four digits of SSN, Employee ID number, etc.*
- **First** – Operator's first name
- **Last** – Operator's last name
- **Shift** – 1, 2, or 3
- **Access Level** – 1 thru 5
    - *Refer to* **Securities Access Levels,** *listed in* **Section3: Configuring DataBank** *)*

Operator / Access Table				
ID	*First*	*Last*	*Shift*	*Access*
1830	*Thaddeus*	*Fairbanks*	*1*	*5*

NOTE: *Keeping Operator Logins/Passwords numerical minimizes the use of a keyboard.*

Label Sizing

When formatting the **Labels Template**, the end product must be formatted correctly for easy reading and most efficient use of space.

- Reducing wasted space lowers the cost per label.

- There are four (4) basic **Label Templates** (place holders) available in LabelBank.

Product ID Table

This outlines the **Product ID** with the **Descriptions** to prepare them for system entry.

Product ID Table		
ID	**Descriptions**	
12345	**Description 1 (32 characters)**	**Example Product Description…CC**
	Description 2 (64 characters)	This is where you would put component information, ingredient
	Description 3 (64 characters)	Information, safe handling instructions, cooking instructions.
	Description 4 (64 characters)	You can also use this field for a place holder for the directory
	Description 5 (64 characters)	path to logos that would change with the item number. This
	Description 6 (64 characters)	would be for a customized label templates (printer dependent).
	Description 7 (64 characters)	C:\images\fairbankslog.jpg
	Description 1 (32 characters)	
	Description 2 (64 characters)	
	Description 3 (64 characters)	
	Description 4 (64 characters)	
	Description 5 (64 characters)	
	Description 6 (64 characters)	
	Description 7 (64 characters)	
	Description 1 (32 characters)	
	Description 2 (64 characters)	
	Description 3 (64 characters)	
	Description 4 (64 characters)	
	Description 5 (64 characters)	
	Description 6 (64 characters)	
	Description 7 (64 characters)	

Weight Information

- What is the minimum acceptable weight?

- What is the maximum acceptable weight?

- How many boxes on a pallet?

- Fixed or Random weight item?

Weight Table				
Product ID	**Min Wt.**	**Max Wt.**	**Boxes / Pallet**	**Weight Type**
12345	*5.45 lbs*	*6.25 lbs*	*20*	☒ *Fixed* ☐ *Random*
				☐ Fixed ☐ Random
				☐ Fixed ☐ Random
				☐ Fixed ☐ Random
				☐ Fixed ☐ Random
				☐ Fixed ☐ Random
				☐ Fixed ☐ Random
				☐ Fixed ☐ Random
				☐ Fixed ☐ Random
				☐ Fixed ☐ Random
				☐ Fixed ☐ Random
				☐ Fixed ☐ Random
				☐ Fixed ☐ Random
				☐ Fixed ☐ Random
				☐ Fixed ☐ Random

Manufacturers Information

The **Manufacturers Table** maintains integrity between the **6-digit ID** and the **Manufacturing Company.**

Manufacturers Table	
MFG ID	*Company*
123456	*Example Manufacturer ID*

*A zero must be placed in front of the **MFG ID** *to comply with* **GS1 standards***. (label design).*

Distributors Information

The **Distributors Table** maintains integrity between the **6-digit ID** and the **Distribution Company.**

Distributors Table	
MFG ID	*Company*
123456	*Example Distributor ID*

Code date Qualifier / Offset Information

- What code date qualifier is used?

- How many days offset?

Miscellaneous Table		
Product ID	**Qualifier Description**	**Days Offset**
12345	☒ **(11) Production Date** ☐ **(13) Packaged Date** ☐ **(15) Sell By Date** ☐ **(17) Best Before/Expires**	**0**
	☐ (11) Production Date ☐ (13) Packaged Date ☐ (15) Sell By Date ☐ (17) Best Before/Expires	
	☐ (11) Production Date ☐ (13) Packaged Date ☐ (15) Sell By Date ☐ (17) Best Before/Expires	
	☐ (11) Production Date ☐ (13) Packaged Date ☐ (15) Sell By Date ☐ (17) Best Before/Expires	
	☐ (11) Production Date ☐ (13) Packaged Date ☐ (15) Sell By Date ☐ (17) Best Before/Expires	
	☐ (11) Production Date ☐ (13) Packaged Date ☐ (15) Sell By Date ☐ (17) Best Before/Expires	
	☐ (11) Production Date ☐ (13) Packaged Date ☐ (15) Sell By Date ☐ (17) Best Before/Expires	
	☐ (11) Production Date ☐ (13) Packaged Date ☐ (15) Sell By Date ☐ (17) Best Before/Expires	
	☐ (11) Production Date ☐ (13) Packaged Date ☐ (15) Sell By Date ☐ (17) Best Before/Expires	

Packaging Indicator / Label Format Information

- What packaging indicator is required?

- A packaging indicator is given from the smallest container (1) up to the master container (8) with the numbers between being a packaging hierarchy.

- If there is not a packaging hierarchy, or the company doesn't require it, a zero must be used.

- Refer to www.GS1US.org for further details.

- Which label format is best to use?

Product ID	*Pkg Indicator*	*Label Format*
12345	*0*	☐ *EAN BOX/PALLET* ☒ *UPC BOX/PALLET* ☐ *CONTROL BOX/PALLET* ☐ *HUMAN BOX/SUMMARY*
		☐ EAN BOX/PALLET ☐ UPC BOX/PALLET ☐ CONTROL BOX/PALLET ☐ HUMAN BOX/SUMMARY
		☐ EAN BOX/PALLET ☐ UPC BOX/PALLET ☐ CONTROL BOX/PALLET ☐ HUMAN BOX/SUMMARY
		☐ EAN BOX/PALLET ☐ UPC BOX/PALLET ☐ CONTROL BOX/PALLET ☐ HUMAN BOX/SUMMARY
		☐ EAN BOX/PALLET ☐ UPC BOX/PALLET ☐ CONTROL BOX/PALLET ☐ HUMAN BOX/SUMMARY
		☐ EAN BOX/PALLET ☐ UPC BOX/PALLET ☐ CONTROL BOX/PALLET ☐ HUMAN BOX/SUMMARY
		☐ EAN BOX/PALLET ☐ UPC BOX/PALLET ☐ CONTROL BOX/PALLET ☐ HUMAN BOX/SUMMARY

Station Naming / Networking Information

The **UNC Naming Convention** establishes the share that the networked configuration can find. Following a standard naming convention makes installation, maintenance, and troubleshooting easier.

		UNC Naming Table		
Station	**Instrument S/N**	**Name**	**IP address**	**Location**
XX	043220060153	FBK1	xxx.xxx.xxx.xxx	NW Sausage line #1
01				
02				
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

* Configuring stations requires that the station number identified in LabelBank and the configured station in DataBank match in number for proper communications.

LabelBank Barcode Application