2451
Hanging Scale/Printer
User’s Guide
and
Installation Instructions
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<th>Part / Product Name:</th>
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<td>Customer Name:</td>
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<td>Address:</td>
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<td>Phone Number:</td>
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Your comments:

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Do not write in space below. For METTLER TOLEDO use only. Response (if appropriate) and corrective action taken.
Mettler-Toledo, Inc.
Retail Quality Manager - MTWR
P.O. Box 1705
Columbus, OH  43216
USA
FCC Notice

This device complies with Part 15 of the FCC Rules and the Radio Interference Requirements of the Canadian Department of Communications. Operation is subject to the following conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Publication Revision History

<table>
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<th>Revisions</th>
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PRECAUTIONS

READ this manual BEFORE operating or servicing this equipment.

FOLLOW these instructions carefully.

SAVE this manual for future reference.

DO NOT allow untrained personnel to operate, clean, inspect, maintain, service, or tamper with this equipment.

ALWAYS DISCONNECT this equipment from the power source before cleaning or performing maintenance.

CALL METTLER TOLEDO for parts, information, and service.

Declaraton of Conformance

Mettler-Toledo Inc.
Columbus, Ohio

Declaration of Conformance to SMA Standard
Year of Declaration 2006
Production Meets Type

We the manufacturer of

<table>
<thead>
<tr>
<th>Model</th>
<th>Certificate and Number</th>
<th>Issued by</th>
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<tbody>
<tr>
<td>2451</td>
<td>NTEP CoC 97-062</td>
<td>NCWM</td>
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</table>

declare in our responsibility the conformance of the above listed models and types to the mentioned certificates and the requirements of the SMA standard.

This declaration becomes valid when the SMA Compliance Logo, having our name or trademark is applied to the device or its accompanying documentation.
CONTENTS

1 Introduction ............................................................................................................................ 1-1
   Features ............................................................................................................................... 1-1
   Keyboard Layout ............................................................................................................... 1-2
   Display .............................................................................................................................. 1-3

2 Label Installation ............................................................................................................... 2-1

3 Operating the Scale .......................................................................................................... 3-1
   General Guidelines .......................................................................................................... 3-1
   Basic Functions .............................................................................................................. 3-2
      Starting the Model 2451 .............................................................................................. 3-2
      Zero ............................................................................................................................... 3-2
      Clear ............................................................................................................................. 3-2
      Label Feed .................................................................................................................... 3-3
      Time, Date, Department ............................................................................................. 3-3
      Calling a PLU and Printing Labels .............................................................................. 3-4
      Tare .............................................................................................................................. 3-10
      Memory Mode ............................................................................................................. 3-11
      Void .............................................................................................................................. 3-11
   Manual Override Functions ......................................................................................... 3-12
      Tare Override ............................................................................................................. 3-12
      Price Override .......................................................................................................... 3-12
      ET, NF Record Override ............................................................................................ 3-13
      Net Weight, Count Override ...................................................................................... 3-13
      Shelf Life Override .................................................................................................... 3-14
      Blank Label Fields .................................................................................................... 3-14
   Master Off Line .............................................................................................................. 3-15

4 Standalone Database Functions ...................................................................................... 4-1
   General Description ........................................................................................................ 4-1
      Standalone Database Functions .................................................................................. 4-2
   Database Setup Mode .................................................................................................. 4-3
      Passwords .................................................................................................................. 4-3
      Edit ............................................................................................................................... 4-3
      Quick Change ............................................................................................................... 4-9
      Print ............................................................................................................................... 4-9
      Clear ............................................................................................................................. 4-9
Chapter 1: Introduction

Features

**Power Switch**
Mounted out of the way on the rear cover. Limits access by customers.

**Displays**
Two bright easy-to-see vacuum fluorescent displays.

**Easy-to-Use Keyboard**
Tactile feel keyboard with preset keys. A reversible overlay is included for setup mode.

**Programming Keyboard Jack**
Jack (mounted on the bottom) available on the Standalone for the optional programming keyboard.

**Stainless Steel Pan**
Durable easy-to-clean stainless steel weighing pan.

**Track Mount**
Available with sliding track mount.

**Standalone**
Standalone version available with optional memory sizes for file storage.

**Satellite**
Satellite version connects to SmartTouch® master or 8422 Type master.

**Ethernet Client**
Client version connects to SmartTouch® Ethernet Master or Scale Server.

**Built-in Thermal Label Printer**
Prints PLU data with Nutrifacts, Extra Text, and Graphics.

**Durable and Reliable**
This product was developed, produced and tested in a Mettler Toledo facility that has been audited and registered according to international (ISO 9001) quality standards.
**Keyboard Layout**

- **Zero Net**: Used to select zero net weight on labels.
- **Prepack**: Allows selective blanking of unit price, total price, pack date, and/or net weight on labels.
- **Clear Up/Down**: Used to selectively blank Unit Price, Total Price, Pack Date, and/or Net Weight on label.
- **Void**: Removes a transaction from the totals accumulator.
- **Setup**: Accesses Setup Mode and Database (Standalone). Setup Cursor on Display lights while in Setup Mode.
- **Print**: Prints a label and feeds blank labels.
- **ET/NF Change**: Used to override the Extra Text and/or Nutrition Fact number of the called PLU.
- **Up/Down**: Used to scroll through possible selections, including Yes/No selections.
- **TARE**: Enters tare or overrides programmed tare. Tare can be entered numerically (Keyboard Tare) or by placing item on platter, then pressing the TARE key (Pushbutton Tare).
- **Accepts displayed data or displayed selection.**
- **Enters current transaction into memory for printing a receipt label.** When pressed at the READY prompt, receipt prints and memory is cleared.
- **Manually overrides the price of the called PLU.**
- **If the scale drifts from zero, pressing the ZERO key returns scale to zero (± 2%).**
- **Clears incorrect entries and messages from display. Backs out of menu selections.**
- **Removes a transaction from the totals accumulator.**
- **Toggles Prepack mode on/off. Prepack retains the PLU until the CLEAR key is pressed.**
- **Prints a batch of Extra Text Labels.**
- **Overrides quantity/count of Standard Pack/By-Count PLU.**
- **Overrides the net weight field of Std Pack PLU.**
- **Prints a batch of Nutrifacts Labels.**
- **Enters the quantity of PLU labels to print in batch mode.**
- **After calling PLU, overrides the Sell-By date or Use-By date.**
- **Prints a batch of Nutrition Facts Labels.**
- **Used to selectively blank Unit Price, Total Price, Pack Date, and/or Net Weight on label.**
- **Prints a label and feeds blank labels.**

In normal mode, displays time, date, and department. In Setup mode, allows changing these items. On the Standalone, Dept is changed under Setup/Database/Edit/Dept Info.

Preset Quick Keys for calling PLUs.
The Zero cursor indicates the scale is within the zero range, either net or gross zero. If the display does not read 00.00 at ready, press the ZERO key.

Not printed on the lens. The Motion cursor illuminates when the scale does not have a stable weight.

Indicates a tare has been entered and the weight is net (gross, minus container and overwrap weight).

Indicates pricing per quarter pound.

Indicates a label is present on the printer.

Indicates pricing per half pound.

Indicates there are transactions in the memory accumulator.

Indicates Satellite is communicating with the master.

Indicates Prepack mode has been selected.

Indicates pricing per quarter pound.

Indicates a label is present on the printer.

Indicates Satellite is communicating with the master.

Indicates Prepack mode has been selected.

Indicates there are transactions in the memory accumulator.

Not printed on the lens. Illuminates when standalone is online with a host PC. Access to the standalone database is not available when illuminated.

Indicates that the unit is in setup mode.

Top Display shows Weight/Count, Unit Price, and Total Price in normal mode.

Lower Display shows PLU description and scrolling marquee messages.
Label Installation

Open the printer door and follow the illustrations on the left column. (It is not necessary to unlock the printhead to load labels.)

1. Press the release lever. (For Unstripped mode skip to step 4.)
2. To load standard labels for stripped mode, remove the liner take-up spool from the printer mechanism.
3. Slide the two halves of the liner take-up spool apart and discard any spent liner.
4. Insert the end of the paper into the rear chute and through the Gap Sensor.
5. Feed labels into the chute until they stop at the platen roller.
6. For first time installation, or if changing label size, set the label size by pressing the SETUP MODE key, then the LABEL SIZE key. Press the UP/DOWN keys to toggle through the available label sizes, then press ENTER to accept. Next press the STRIP key and use the UP/DOWN key to select Stripped or Unstripped delivery mode, then press ENTER to accept. Press CLEAR to return to the ready mode. Press the PRINT button to feed the labels, while gently pushing the label stock into the rear chute until the label feeds out the front of the mechanism. If the label stock will not feed out the front check for an obstruction or a label jam inside the mechanism. If the delivery method is Unstripped, you are done loading labels and can close the printer door.
7. For Stripped mode, insert the label liner through the fingers of one half of the liner take-up spool.
8. Reassemble the two halves of the liner take-up spool.
9. Wind the spool upwards until the slack is taken up on the liner.
10. Reinstall the liner take-up spool into the printer mechanism. At this point, you are finished and you can close the printer door.
General Guidelines

When weighing items, please follow the DO List.

- **Do** place the item on the scale pan gently.
- **Do** place any oversize objects on the pan carefully and centered on the pan.
- **Do** weigh only items under the scale capacity (30 lb or 15 kg) to prevent damage to the unit.
- **Do** exercise care when weighing any unstable items that could fall out of the pan.
- **Do** periodically check for any loose hardware or mounting brackets and report any problems to your maintenance representative.

*Figure 3-1: Oversized Items*
Basic Functions

Starting the Model 2451

Zero

Clear

Manual Clear

Automatic Clear

In the Service Mode, after a label is printed for a By Weight PLU, and the item is removed from the platter, the display will automatically clear the PLU and return to the READY prompt.
Chapter 3: Operating the Scale
Basic Functions

Label Feed

<table>
<thead>
<tr>
<th>00:00</th>
<th>00:00</th>
<th>00:00</th>
</tr>
</thead>
<tbody>
<tr>
<td>READY</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Time, Date, Department

View Only

Eye button: 8:13 am
9/9/01
MEAT

Change

SETUP MODE + TIME DATE DEPT + DOWN = 8:13 9/19/01 MEAT

8:13 AM + ENTER + 1 3 0 0 ENTER = 1:00 PM

9/9/99 + ENTER + 0 9 1 9 0 1 ENTER = 9/19/01

MEAT + ENTER + DOWN = DELI + ENTER = DELI

CLEAR CLEAR = READY
Calling a PLU and Printing Labels

By-Weight PLU Service Mode

1. Enter PLU 123
2. Enter weight
3. Enter price
4. Print label
5. Enter more items
6. Repeat steps 1-5
7. Print grand total

Example:
- PLU 123: TROUT
- Weight: 1.33 lb
- Price: $2.21
- Total: 00.00 00.00 00.00

READY
By-Weight PLU Prepack Mode

PLU 123

00.00  00.00  00.00
READY

1 2 3 + ENTER + PRE-PACK

TROUT

01.11 01.99 02.21
Trout

TROUT

= 1.11 lb $2.21

00.00 01.99 00.00
Trout

TROUT

= 1.11 lb $2.21

00.00 00.00 00.00
READY
By-Count and Standard Pack (Single Label)

PLU 345

00.00  00.00  00.00
READY

3 + 4 + 5

APPLES + PRINT

= 

APPLES

0 / .99  0.17  $ .99
Batch Printing (By-Count and Standard Pack Only)

1. Press PLU 678
2. Enter QTY
3. Enter PLU
4. Enter QTY
5. Enter NF
6. Print labels

PLU 678

00.00  00.00  00.00
READY

00.00
PLU?
0

6 + 7 + 8 + ENTER

= 00.00
QTY?
0

+ 6 + ENTER

APPLES

VOLUME 1 TENS
P 6.99 $0.99
0.17

(07/07)  3-7
Manual Mode PLU Label Printing

1. Press 9 9 9 ENTER
2. Press DOWN = UP MAN MODE BY WGT:
3. Press DOWN = Up MAN MODE STD PKG:
4. Press 1 ENTER
5. Press 1 ENTER = PRICE? 1.00
6. Press 1 ENTER = NET WEIGHT? 1 COUNT? 1
7. Press 199 ENTER PRINT

Total: $2.21
Chapter 3: Operating the Scale
Basic Functions

Manual Tare and Tare Override

1. Press PLU 123. The display will show 00.00 00.00 00.00. The scale is in the READY state.

2. Place a bowl on the scale and press 1 2 3 Enter. The display will show 00.08 01.00 00.08. The tare value is now set as PASTA.

3. Remove the bowl and press 9 Enter. The display will show 00.00 01.00 00.00. The tare value is reset.

4. Place the bowl on the scale again and press TARE Enter. The display will show TARE: 0.01.

5. Remove the bowl and press TARE Enter. The tare value is reset.

6. Place the bowl on the scale and press TARE Enter. The display will show 01.11 01.99 02.21. The tare value is set as PASTA.

7. Press PRINT. The display will show PASTA and the weight of the bowl. The weight is $2.21.
Tare

**PLU Stored Tare**
A tare may be stored with a PLU. In this case, when the PLU is called and no weight is on the platter, the weight display will show a negative number (the tare weight) and a cursor will appear over Net.

**Proportional Tare**
Proportional tares may be used when supported by the master scale and the PLU is programmed for a proportional tare. This calculation is done automatically by the scale.

**Forced Tare**
Some items will require the operator to enter a tare to complete a transaction. This is called a "forced tare."

Select the PLU.
The bottom display will show TARE. You can either key in the tare and press ENTER, or place the tare on the platter and press ENTER. If no tare is desired, press TARE, then ENTER, then place the item on the platter.

**Pushbutton Tare**
A tare can be manually entered by the following procedure using the TARE button.

Select the PLU (either by entering the number or pressing the preset key).

Press the TARE key.

Place the container on the platter and press TARE.

**Keyboard Tare**
Select the PLU (either by entering the number or pressing the preset key).

Press the TARE key.

Key in the tare weight. Press ENTER.

Place the item on platter.

---

If the Canadian Tare is set to YES in the Calibration Settings then the platter must be empty when keying in the tare, and you cannot clear the Tare by entering 0.00.
Memory Mode

When enabled, the Memory mode feature is an alternative to printing individual labels and allows accumulating multiple items for a customer. A receipt label can be printed showing the grand total and a department bar code.

Call the PLU, and place the item on the scale.

Press the MEM key to enter the current transaction into memory. The cursor over “Memory” on the Display tower will light.

Remove the item from the platter and repeat for the desired number of transactions, pressing the MEM key after each transaction.

When all items are entered for a particular customer, clear the platter and press the MEM key.

You will be prompted to print the total. Press ENTER to print the accumulated total price.

You are then asked PRINT OK? If the printing was successful, press the DOWN key to answer YES, then press ENTER; the memory is now cleared and the cursor over “Memory” will turn off.

If the printing was not okay, or you do not want to clear the memory, press the DOWN key until NO appears, then press ENTER. You may then either print again or add additional transactions to the accumulator.

At the initial PRINT? prompt after pressing MEM with an empty platter, you can scroll with the UP and DOWN keys to CANCEL? or CONTINUE?. At the CANCEL? prompt, pressing ENTER will bring up the CLEAR MEMORY? NO prompt. Toggle between YES and NO here to clear the memory. At the CONTINUE? prompt, pressing ENTER will retain the current memory as is so that more items can be added.

Void

The last ten transactions can be voided from the totals accumulators using this function.

Press the VOID key and use the DOWN and UP keys to display previous transactions.

The transactions will be displayed as follows: the top display will show the number of transactions/labels printed, item number, and total price.

The lower display will show the product description and whether it has been voided or not (Y/N). When the transaction you wish to void is displayed, press ENTER.

The display will ask if you want to void the transaction. Use the DOWN key to change your response to Y, then press ENTER.

You may either continue to void other transactions or press CLEAR to return to the READY prompt.
Manual Override Functions

Certain information can be overridden after the PLU has been called. These changes are temporary and last only for a single transaction or a single "run" in Prepack mode. Some or all of these overrides may be disabled through Unit Setup.

Tare Override

When the unit setup allows for programmed tares to be overridden, the desired tare can be entered as if there were no preprogrammed tare.

Keypad Tare
Call the PLU. If a tare is programmed in the PLU the Weight display will show the tare as a negative number and the “Net” cursor will light.

Press TARE.

Enter in the desired tare weight, then press ENTER.

Pushbutton Tare
Call the PLU.

Press TARE.

Place the container on the platter, then press TARE.

Place the item on the platter.

Price Override

When allowed by the unit set up, prices may be overridden by the operator with either of the following procedures:

Place the item on the platter.

Select the PLU.

Key in the new price, and press ENTER.

or

Call the PLU.

Press PRICE CHANGE.

Key in the new price. Press ENTER.

Place the item on the platter.
ET, NF Record Override

Extra Text and Nutrition Facts records are linked to a PLU using Extra text and Nutrition Fact record numbers programmed into the PLU record in the master database. These Record numbers can be overridden using the ET/NF CHANGE key.

Extra Text Change
When allowed by the unit set up, the Extra Text for a single transaction or Prepack “run” may be changed.

Call the PLU.

Press the ET/NF CHANGE key.

Using the DOWN and UP keys, you will be able to toggle between ET (Extra Text) and NF (Nutrition Facts). When ET is displayed, press ENTER.

The current Extra Text number will be displayed. Key in the new Extra Text number, then press ENTER.

Place the item on the platter (if By Weight item).

Press PRINT to print the label (if in Service mode).

Nutrition Fact Change
When allowed by the unit set up, the Nutrition Facts may be changed.

Call the PLU.

Press the ET/NF CHANGE key.

Using the DOWN and UP keys, you will be able to toggle between ET (Extra Text) and NF (Nutrition Facts). When NF is displayed, press ENTER.

The current Nutrition Fact number will be displayed. Key in the new Nutrition Fact number, then press ENTER.

Place the item on the platter (if By Weight item).

Press PRINT to print the label (if in Service mode).

Net Weight, Count Override

Standard Pack Weight/Count Change
For Standard Pack items, the count and/or the Net weight may be changed. When the count is changed, a new total price and net weight will be calculated from the unit price and new count value. When the Net weight is changed, the total price does not change, however a new unit price is calculated from the total price and new Net weight.

To change the quantity or weight of the item, press the CNT/WT CHANGE key.

Use the DOWN and UP keys to toggle between QTY (quantity, count) and WEIGHT.

To change the quantity of the pack, press ENTER when QTY is displayed. Key in the new quantity, then press ENTER.

To change the total weight, press ENTER when WEIGHT is displayed.

Key in the new weight (in ounces), then press ENTER.

Press CLEAR to return to the Item Description display.

Press PRINT to print a label.
By Count Change

For products that are priced By Count (e.g., 10 biscuits for $5.00), the count (10 biscuits) may be changed; a new price will then be calculated (e.g., 5 biscuits would be $2.50).

Retrieve the PLU. Press the CNT/WT CHANGE key.

The current quantity will be displayed and you will be prompted to enter the new quantity. Key in the new quantity; press ENTER.

The new quantity and the adjusted price will appear on the display and will also be printed on the label.

Press PRINT to print a label.

Shelf Life Override

After calling up the PLU, press the SHELF LIFE CHANGE key.

You are prompted to enter the new Sell By date. Depending on the unit setup, you will enter in the new date one of two ways: if your display reads ENTER DAYS, enter the number of days until the desired Sell By date. If the display reads ENTER DATE, enter the date of the desired Sell By date in the format of MMDDYY, then press ENTER.

Place the item on the platter (if By Weight item).

Press PRINT to print the label (if in Service mode).

Blank Label Fields

When allowed by the unit setup, certain fields on the labels may be temporarily blanked out. Select the PLU. Press the BLANK FIELD key.

Use the DOWN and UP keys to toggle between BLANK PACK DATE, BLANK NET WEIGHT, BLANK UNIT PRICE, BLANK TOTAL PRICE, BLANK SHELF LIFE, BLANK USE BY (date).

When you have the field you would like to blank out displayed, press ENTER.

The display will ask you if you want the field blanked. Press the DOWN and UP keys to change the answers to YES, then press ENTER.

You may continue to blank other fields or press CLEAR two times when you are done.

Place the item on the platter (if By Weight item).

Press PRINT to print the label (if in Service mode).
Master Off Line

Not Applicable to StandAlone model.

The satellite does not store the PLU accumulators for later transmission to the master during off line operation.

During scale operations, the satellite relies on the master to supply PLU files and record the PLU accumulators after a transaction. When PLU's are retrieved from the master scale, the satellite scale makes a backup record of the PLU information.

If the master is turned off, or the connecting cables to the master are disconnected or broken the unit will be off line.

When the master is off line and a PLU is called, the display shows SEARCHING... for a few seconds, the Online cursor is removed, and the satellite searches its backup files for the PLU record.

If a PLU is called and no backup file exists, the scale will default to “manual PLU’s.” The PLU is then treated as a “Manual PLU.”

The display will show MANUAL MODE BY WGT. Use the DOWN and UP keys to select between BY WEIGHT, LB FOR, ¼ LB, ½ LB, BY COUNT, or STD PACK pricing. Place the item on the platter. (For Standard Pack items, the weight must first be entered, in ounces, then press ENTER). Key in the price, then press ENTER.

To print a label, press PRINT. A label will be printed with the department name in the product description field and department UPC in the Item number field of the bar code.
Chapter 4: Standalone Database Functions

General Description

The Standalone stores and maintains its own database of PLU information, extra text, nutrifacts, and graphics. It is available with 256K, 512K or 1M capacity memory. The following table details the amount of records each size of memory can hold.

<table>
<thead>
<tr>
<th></th>
<th>PLUs (223 bytes each)</th>
<th>ET Records (540 bytes each)</th>
<th>NF Records (383 bytes each)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Meg</td>
<td>4600</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>1350</td>
<td>1350</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>900</td>
<td>900</td>
<td>900</td>
</tr>
<tr>
<td></td>
<td>1700</td>
<td>0</td>
<td>1700</td>
</tr>
<tr>
<td>512K</td>
<td>2300</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>675</td>
<td>675</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>450</td>
<td>450</td>
<td>450</td>
</tr>
<tr>
<td></td>
<td>850</td>
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<td>850</td>
</tr>
<tr>
<td>256K</td>
<td>1150</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>335</td>
<td>335</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>225</td>
<td>225</td>
<td>225</td>
</tr>
<tr>
<td></td>
<td>425</td>
<td>0</td>
<td>425</td>
</tr>
</tbody>
</table>

ET recs + NF Recs + Graphic Recs = 7280 Max

Table 4-1: Approximate Memory Capacities

More than one department of information can be stored in memory but only the current department’s information can be accessed at a time. For example, if department 1 is the current department, only PLUs entered in department 1 will be accessible. The department can be changed in either the Unit Setup Mode or in the Database Setup Mode.
Standalone Database
Functions

The following is an overview of the database setup structure, with the first row showing the major headings. The columns below each heading show specific commands available under that function. The UP/DOWN key scrolls through the selections. The ENTER key allows changes to the selected function.

<table>
<thead>
<tr>
<th></th>
<th>EDIT</th>
<th>QUICK</th>
<th>PRINT</th>
<th>CLEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLU</td>
<td>PRICE</td>
<td>PLU TOTALS</td>
<td>CLEAR PLU/ITEM</td>
<td></td>
</tr>
<tr>
<td>ET</td>
<td>TARE 1</td>
<td>GROUP TOTALS</td>
<td>CLEAR ET</td>
<td></td>
</tr>
<tr>
<td>NF</td>
<td>ET #</td>
<td>HOURLY TOTAL</td>
<td>CLEAR NF</td>
<td></td>
</tr>
<tr>
<td>ACTION CODE</td>
<td>NF #</td>
<td>GRAND TOTALS</td>
<td>CLEAR GR</td>
<td></td>
</tr>
<tr>
<td>GRADE</td>
<td>SHELF LIFE</td>
<td>MEM AVAILABLE</td>
<td>CLEAR PLU/ITEM TOTALS</td>
<td></td>
</tr>
<tr>
<td>GROUP</td>
<td>USE BY</td>
<td></td>
<td>CLEAR GROUP TOTALS</td>
<td></td>
</tr>
<tr>
<td>DEPT INFO</td>
<td>GROUP</td>
<td></td>
<td>HOURLY ACCUMULATORS</td>
<td></td>
</tr>
<tr>
<td>- DEPT #</td>
<td>ACTION CODE</td>
<td></td>
<td>VOID ACCUMULATORS</td>
<td></td>
</tr>
<tr>
<td>- DEPT NAME</td>
<td>ITEM #</td>
<td></td>
<td>COMPRESS DATABASE</td>
<td></td>
</tr>
<tr>
<td>- DEPT ADDR</td>
<td>GRADE #</td>
<td></td>
<td>CLEAR ALL</td>
<td></td>
</tr>
<tr>
<td>- DEPT UPC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ITEM # DUPE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4-2: Database Functions

Editing any of the alphabetical fields, such as Description and Extra Text, requires a programming keyboard.

Required
Database Setup Mode

To access database setup, press the SETUP MODE key. Use UP/DOWN to toggle to DATABASE, then press ENTER. If a password has been set up for the database mode, key in the password and press ENTER.

Passwords

To change the password for database access, press the PASSWORDS key. At the PASSWORD prompt, enter a number between 1 and 9999. To disable the password enter 0.

Edit

This function allows you to edit records in the database. The fields which are editable vary depending on the type of PLU. For example, a Standard Pack PLU will not need a Tare or Unit Price field.

PLU

Press ENTER at the PLU prompt to change or to add a new PLU record. Enter the PLU you wish to edit or add. If it is a new PLU, the prompt PLU NT FD! ADD ACTV will appear. To continue and add a new active record press ENTER, otherwise press CLEAR. Respond to each of the following prompts by pressing ENTER to update it, or DOWN or UP to scroll to the next.

PLU NUMBER:
Enter a new PLU number from 1 - 999999.

ITEM:
Enter an item number between 0 - 9999999999. This number is used in the Bar Code symbol.

DESC 1 and DESC 2:
These fields are edited by pressing ENTER at the DESC1 or DESC2 prompt. Changes must be made on the programming keyboard which is connected to the jack on the bottom of the Model 2451. The Desc1 line displays when that PLU is called up. There is a maximum of 32 alphanumeric characters per description field.

PLU TYPE:
Choose BY WGT, LB FOR, BY 1/2, BY 1/4, BY CNT, STD PACK or MANUAL by toggling to that prompt and pressing ENTER.

TARE1/COUNT:
Toggle between FORCED or a numeric value. For the numeric value, enter the value of these tares with the numeric keypad and press ENTER. For a forced tare, toggle to FORCED and press ENTER.

TARE/PROP TARE:
Toggle between FORCED, PROP, or a numeric value. For the numeric value, enter the value of these tares with the numeric keypad and press ENTER. For a forced tare, toggle to FORCED and press ENTER. For PROP proportional tare, press ENTER.
and then enter the percentage for the proportional tare as a value between 0 and 99.99. For example, if 10.00 is entered, the proportional tare is 10%.

UNIT/TOTAL PRICE:
Enter 6 digits 0 - 9999999 or FORCED price for By-Weight, lb/for, ¼, ½, total price for By-Count, and Standard Pack. To change the currency increments, enter the currency function under Unit Setup.

SHELF LIFE:
0 - 999 days used to calculate Sell By date printed on the label.

USE BY:
0 - 999 days used to calculate Use By date printed on the label.

GROUP #:
Items can be categorized by groups within a department. For example, in a bakery there could be a group for cookies and a group for pies. This allows various reports to be printed based on each group. To change this enter a new value between 0 - 500 with the numeric keypad and press ENTER.

GRADE #:
Lines of text with grade information can be linked to each PLU. Enter the number of the Grade text between 0 - 16 to be linked to this PLU with the numeric keypad and press ENTER. 0 means no grade is selected.

ET #:
Lines of extra text can be linked to each PLU. Enter the number of the Extra Text record between 0 - 999999 to be linked with this PLU with the numeric keypad and press ENTER. 0 means no ET is selected.

NF #:
Nutrition Fact information can be linked to each PLU. Enter the number of the Nutrition Fact record between 0 - 999999 to be linked with this PLU with the numeric keypad and press ENTER. 0 means no NF is selected.

GRAPHIC:
Graphics can be linked to each PLU and will be printed if a label format which prints a graphic is selected. Enter the number of the graphic record between 0 - 9999999 to be linked with this PLU with the numeric keypad and press ENTER. 0 means no Graphic is selected.

ACTION CODE #:
Action codes can be linked to each PLU which will replace the store address, display a different PLU description, or can be used to scroll a marquee. Enter the number of the Action Code record between 0 - 50 to be linked with this PLU with the numeric keypad and press ENTER. 0 means no Action Code is selected.
BARCODE:
The barcode to be printed on the label is determined by this setting. This menu is different depending on the Unit Setup for barcode type, EAN or UPC.

At the prompt you can choose from USE SCL SETTING or choose a type from the TYPE? List. These types include GEN MERCH (0), NOT IDENT (1), RAND WT (2), DRUG & HEALTH (3), STORE MARK (4), COUPONS (5), PRICE ENCODED (6) and NOT IDENT (7). (The numbers in parentheses correspond to the values of these bar code types in the master units.) If RAND WT or PRICE ENCODED types are selected, a format string can be selected from the FORMAT? prompt list. For RAND WT and PRICE ENCODED these format strings are:

<table>
<thead>
<tr>
<th>Format String</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NNNNN CSSSS X</td>
<td>0: NNNNN CSSSS X</td>
</tr>
<tr>
<td>NNNNN OSSSS X</td>
<td>1: NNNNN OSSSS X</td>
</tr>
<tr>
<td>NNNNN NSSSS X</td>
<td>2: NNNNN NSSSS X</td>
</tr>
<tr>
<td>NNNNN SSSSS X</td>
<td>3: NNNNN SSSSS X</td>
</tr>
<tr>
<td>NNNNN W#### X</td>
<td>4: NNNNN W#### X</td>
</tr>
<tr>
<td>NNNNN 0#### X</td>
<td>5: NNNNN 0#### X</td>
</tr>
<tr>
<td>NNNNN N#### X</td>
<td>6: NNNNN N#### X</td>
</tr>
<tr>
<td>NNNNN ##### X</td>
<td>7: NNNNN ##### X</td>
</tr>
</tbody>
</table>

If the Unit Setup barcode type is EAN, you can first choose USE SCL SETTING. There is an additional field called PREFIX. There will be BY_WGT_PREFIX, BY_CNT_PREFIX, STD_PACK_PREFIX, AND RUN_TOT_PREFIX. Both the first and second digit of the EAN barcode can be changed. To change the prefix, follow the example below.

Display
BY_WGT_PREFIX: 5_3
Press ENTER
BY_WGT_PREFIX? 5_3
Enter digits 2 and 4
BY_WGT_PREFIX? 2_4
Press ENTER

The digits 2 and 4 are now set as the first and second digit of the “BY_WGT_PREFIX” prompt. The display now shows the next prompt “BY_CT_PREFIX 5_3: 2_1”. Use the same procedure to set the other barcode prefix for the other PLU types.

BLANK:
This allows you to blank one of the following fields on a label: PACK DATE, NET WEIGHT, UNIT PRICE, or TOTAL PRICE. To blank one of these fields, press ENTER at that prompt and toggle YES or NO. When these fields are blanked, only the values are blanked not the legends.
Extra Text
This allows you to add a new or edit an existing extra text record. Press ENTER at the
EXTRA TEXT prompt. With the numeric keypad enter the number of the extra text record
to be edited (6 digit number 1-999999).

New Extra Text Records
If it is a new record, the prompt will display XT NT FD! ADD XT. To add the new
extra text, press ENTER, otherwise press CLEAR. At the CHAR PER LINE prompt,
enter a number between 1 and 99. 54 is the maximum number of characters per
line without wrapping the line around. The most common numbers are 32, 42 and
54 characters per line.

Entering the Extra Text
Now you should be able to begin typing in the extra text with the programming
keyboard. If the extra text was not a new record, the current text will be displayed
on the screen and ready for editing. Otherwise, type in the new extra text. Press
[F10] on the keyboard when finished. You will be prompted to SAVE CHANGES.
Pressing ENTER will result in a SURE? YES prompt and require one more ENTER to
save or CLEAR to exit without saving. Pressing CLEAR at the SAVE CHANGES
prompt will exit without saving.

Nutrition Facts
This allows you to edit a current or add a new nutrition facts record. The first prompt
requests a nutrition facts record number (6 digit number 1-999999). If it is a new
nutrition facts record, the display will read NF NT FD! ADD NF. Pressing ENTER here will
continue and add a new record as the following describes. Pressing CLEAR will leave
the nutrition facts editing.

LABEL?
At this prompt, choose the type of label for the nutrition facts to be printed on by
toggling through the choices and pressing ENTER. SINGLE will print the nutrition
facts on the label with all the rest of the PLU information. ALT PLU/NF will print a
PLU label followed by a nutrition facts label, while ALT NF/PLU will print a nutrition
facts label followed by a PLU label. BATCH PLU/NF and BATCH NF/PLU will do the
same but in a batch process. The second nutrition facts only label will be printed
according to the label format selected in the Unit Setup Label Format menu.

FORMAT?
The format for the nutrition facts record can be chosen by toggling through the
following choices and pressing ENTER: VRT STD (vertical standard), VERT SIMP
(vertical simplified), TABULAR, LINR LND (linear landscape), and LINR PRT (linear
portrait).

SERV UNITS?
This will select the serving units used to calculate servings per container by
toggling through the following prompts: OZ (numeric entry for By Weight and
Standard Pack PLUs only), PIECES (numeric entry for by Count or Standard Pack
PLUs only), or TEXT (alphanumeric entry, entered for both serving units and
servings per container). This is done by pressing ENTER on the prompt and
entering in the requested information followed by ENTER. Table 4-3 lists the fields
that are required (R) and voluntary (V) along with the insignificant value (when
applicable).
<table>
<thead>
<tr>
<th>Nutrition Field</th>
<th>Type</th>
<th>Insig. Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calories</td>
<td>R</td>
<td>&lt;=5</td>
</tr>
<tr>
<td>Calories from fat</td>
<td>R</td>
<td>&lt;=5*</td>
</tr>
<tr>
<td>Calories from saturated fat</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Total fat (g)</td>
<td>R</td>
<td>&lt;=0.5</td>
</tr>
<tr>
<td>Total fat (%)</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>Saturated fat (g)</td>
<td>R</td>
<td>&lt;=0.5</td>
</tr>
<tr>
<td>Saturated fat (%)</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>Polyunsaturated fat (g)</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Monounsaturated fat (g)</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Cholesterol (mg)</td>
<td>R</td>
<td>&lt;=2*</td>
</tr>
<tr>
<td>Cholesterol (%)</td>
<td>R</td>
<td>*</td>
</tr>
<tr>
<td>Sodium (mg)</td>
<td>R</td>
<td>&lt;=5</td>
</tr>
<tr>
<td>Sodium (%)</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>Potassium (mg)</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Potassium (%)</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Total carbohydrate (g)</td>
<td>R</td>
<td>&lt;=1</td>
</tr>
<tr>
<td>Total carbohydrate (%)</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>Dietary fiber (g)</td>
<td>R</td>
<td>&lt;=1*</td>
</tr>
<tr>
<td>Dietary fiber (%)</td>
<td>R</td>
<td>*</td>
</tr>
<tr>
<td>Soluble fiber (g)</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Insoluble fiber (g)</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Sugar (g)</td>
<td>R</td>
<td>0*</td>
</tr>
<tr>
<td>Sugar Alcohol</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Other carbohydrates (g)</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Protein (g)</td>
<td>R</td>
<td>&lt;=1</td>
</tr>
<tr>
<td>Protein (%)</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Vitamin A (%)</td>
<td>R</td>
<td>&lt;=2%*</td>
</tr>
<tr>
<td>Beta-carotene (%)</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Vitamin C (%)</td>
<td>R</td>
<td>&lt;=2%*</td>
</tr>
<tr>
<td>Calcium (%)</td>
<td>R</td>
<td>&lt;=2%*</td>
</tr>
<tr>
<td>Iron (%)</td>
<td>R</td>
<td>&lt;=2%*</td>
</tr>
<tr>
<td>Vitamin D (%)</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Vitamin E (%)</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Thiamin (%)</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Riboflavin (%)</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Niacin (%)</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Vitamin B6 (%)</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Folate (%)</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Vitamin B12 (%)</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Biotin (%)</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Pantothenic acid (%)</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Phosphorus (%)</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Iodine (%)</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Magnesium (%)</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Zinc (%)</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Copper (%)</td>
<td>V</td>
<td></td>
</tr>
</tbody>
</table>

Table 4-3: NF Record

Press CLEAR to exit the Nutrition Facts setup. A prompt to SAVE CHANGES will be displayed. Press ENTER to save and exit. Press CLEAR to exit without saving.
Action Code
Action Code records can be linked to a PLU to do one of three things, print a store address line, print a PLU description or scroll a marquee. Press ENTER at the ACTION CODE prompt to enter into this function. Type a current action code record number or a new record number and press ENTER (2 digit number 1-50). The next prompt, TYPE?, will toggle through the three types. Press ENTER to choose one of the types described below.

STORE ADDR
This type will print a store address at the bottom of a label. After pressing ENTER, the prompt LINE 1 will appear. Press ENTER and type the LINE 1 text on the programming keyboard followed by ENTER. The prompt LINE 2 will then appear. Enter the LINE 2 text followed by ENTER. At the SAVE CHANGES prompt, press ENTER to save and exit, or press CLEAR to exit without saving.

PLU DESCR
This type will override the PLU description that is normally displayed on the lower scale display. It does not change the description printed on the label. It can be used to display a special message for the customer or operator. After pressing ENTER, the prompt LINE 1 will appear. Press ENTER here and type the text on the programming keyboard followed by ENTER. At the SAVE CHANGES prompt, press ENTER to save and exit, or press CLEAR to exit without saving.

MARQUEE
This type of action code will define the text for a scrolling marquee. After pressing ENTER, a cursor will appear waiting for text input from the PCAT keyboard. Enter the marquee text and press ENTER. At the SAVE CHANGES prompt, press ENTER to save and exit, or press CLEAR to exit without saving.

Grade
This function is used to program Grade Text. After pressing ENTER, enter the record number of the grade text to be edited (2 digit number 0-16). A cursor will appear waiting for text input from the programming keyboard. Enter the grade text and press ENTER. At the SAVE CHANGES prompt, press ENTER to save and exit and CLEAR to exit without saving.

Group
This function will assign a text string to a group number. This text string will then be printed on the Group Totals report heading. After pressing ENTER, enter the record number of the group text to be edited. A cursor will appear waiting for text input from the programming keyboard. Enter the group text and press ENTER. At the SAVE CHANGES prompt, press ENTER to save and exit and CLEAR to exit without saving.

Department Info
This allows information about the department to be entered. At each of the prompts, enter the requested information followed by ENTER. DEPT NAME and DEPT ADDR are alphanumeric entries from the programming keyboard. The DEPT ADDR can have 2 lines. The DEPT UPC is a generic UPC number for totals labels for that department.

Item # Duplication
This function simply toggles YES and NO entries. Selecting YES allows different PLU records to have the same item number. Selecting NO does not allow this.
Quick Change

This function allows you to change one of the following fields of a PLU without having to go through all of the other fields at the same time: PRICE, TARE, ET #, NF #, SHELF LIFE, USE BY, GROUP #, ACTION CODE, ITEM, and GRADE #. The QUICK PRICE changes the UNIT PRICE field for By Weight PLUs and the TOTAL PRICE field for Standard Pack and By Count PLUs. The QUICK TARE changes the TARE1 field.

Print

This function will print reports for the following: PLU TOTALS, GROUP TOTALS, HOURLY TOTALS, GRAND TOTALS, and MEMORY AVAILABLE. The reports are printed on labels the format of which is chosen in the Unit Setup Label Format function. Refer to Appendix 2 for the label formats for reports. To print one of these reports, press ENTER at that prompt. The results are displayed on the tower display. To print, press the PRINT key (exception: Hourly totals will print automatically). To stop printing in the middle of a run, press the CLEAR key.

Clear

This function allows you to clear out or delete various parts of the database. The first 4 choices, CLEAR PLU/ITEM, CLEAR EXTRA TEXT, CLEAR NUTRIFACT, and CLEAR GRAPHIC, will clear individual records in each of those areas. Press ENTER at the prompt. The next prompt can be toggled between ALL and the record type. For example, press ENTER at the CLEAR PLU/ITEM prompt. Now you can toggle between PLU/ITEM and ALL. Pressing ENTER at PLU/ITEM, will request a PLU number to delete. Pressing ENTER at ALL will clear all PLU records. Both cases will prompt with SURE?? NO before continuing. The other 3 choices work the same way but with the other record types of extra text, nutrifact, and graphic.

The next four choices, CLEAR PLU/ITEM TOT, CLR GROUP TOTALS, HOURLY ACCUMULATORS, and VOID ACCUMULATORS, will clear the totals for each of those areas. CLEAR PLU/ITEM TOT works as described in the above paragraph where there is a choice between clearing totals for ALL PLUs or for just one PLU. CLR GROUP TOTALS requests a group number to be entered. Both end with a SURE?? NO prompt. The two accumulators display a prompt with the current department number and a toggle between YES and NO. There is no SURE? prompt to double check on clearing accumulators.

The next choice, COMPRESS DATABASE, should be used if any ‘Out of Memory’ errors are displayed. Press ENTER at the prompt and toggle YES and NO at the SURE?? prompt to continue.

The final choice, CLEAR ALL, will clear everything from the database completely including all PLU, Extra Text, Nutrition Facts and Graphic records and accumulators. There is a SURE?? NO prompt to make sure this is what you want to do.
External Cleaning

WARNING
DO NOT SPRAY OR WASH DOWN. HAZARD OF ELECTRICAL SHOCK OR BURN.

WARNING
DISCONNECT ALL POWER TO THIS UNIT BEFORE REMOVING THE FUSE OR SERVICING.

Turn the scale power off by placing the power switch to the OFF position (press the "o" on the power switch). Disconnect the power cord from the outlet.

Use a soft clean cloth dampened with a mild detergent and water (or a mild cleaner) to wipe the exterior surfaces. Do not spray liquid directly on the unit. A mild spray cleaner can be used by spraying the cleaning cloth.
Internal Printer Cleaning

**WARNING**

DISCONNECT ALL POWER TO THIS UNIT BEFORE REMOVING THE FUSE OR SERVICING.

Turn the power off by placing the power switch to the OFF position (press the “o” on the power switch). Disconnect the power cord from the outlet.

Open the printer door. Clean any adhesive or debris buildup from the stripper bar, platen roller, and printhead using METTLER TOLEDO liquid cleaner or equivalent or the METTLER TOLEDO Clean Pen. **DO NOT USE A METAL DEVICE TO REMOVE LABELS FROM COMPONENTS OR SEVERE DAMAGE MAY RESULT. DO NOT SCRAPE THE PRINthead WITH ANY OBJECT TO REMOVE GLUE OR LABEL DEBRIS.**

To clean the printhead, unlock the printhead by lifting the rear of the printhead assembly forward and up at the same time. Once the rear of the assembly is unlocked then lift the front of the printhead assembly. Refer to Figure 5-1. Remove the paper stock and clean the printhead and paper path with a soft, clean cloth soaked in isopropyl alcohol, METTLER TOLEDO liquid cleaner or equivalent, or the METTLER TOLEDO Cleaning Pen.

![Figure 5-1: Unlocking the Printhead](image1)

![Figure 5-2: Locking the Printhead](image2)

To lock the printhead back down when complete, see Figure 5-2.
# Chapter 6: Label Formats

## Label Formats

<table>
<thead>
<tr>
<th>Label Number</th>
<th>Size</th>
<th>Type</th>
<th>Date</th>
<th>Other Info</th>
<th>BC Position</th>
<th>Label Number</th>
<th>Size</th>
<th>Type</th>
<th>Date</th>
<th>Other Info</th>
<th>BC Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>31</td>
<td>1.9&quot;</td>
<td>By Wght</td>
<td>Sell</td>
<td>Grd</td>
<td>BCB</td>
<td>80</td>
<td>3.7&quot;</td>
<td>By Cnt</td>
<td>Sell</td>
<td>NF</td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>1.9&quot;</td>
<td>By Cnt</td>
<td>Sell</td>
<td>Grd</td>
<td>BCB</td>
<td>81</td>
<td>4.2&quot;</td>
<td>By Wght</td>
<td>Sell</td>
<td>Grd</td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>1.9&quot;</td>
<td>Std Pck</td>
<td>Sell</td>
<td>Grd</td>
<td>BCB</td>
<td>82</td>
<td>4.2&quot;</td>
<td>By Cnt</td>
<td>Sell</td>
<td>Grd</td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>1.9&quot;</td>
<td>By Wght</td>
<td></td>
<td></td>
<td>BCB</td>
<td>83</td>
<td>4.2&quot;</td>
<td>Std Pck</td>
<td>Sell</td>
<td>Grd</td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>1.9&quot;</td>
<td>By Cnt</td>
<td></td>
<td></td>
<td>BCB</td>
<td>84</td>
<td>4.2&quot;</td>
<td>By Wght</td>
<td>Sell</td>
<td>Grd</td>
<td>BCB</td>
</tr>
<tr>
<td>36</td>
<td>1.9&quot;</td>
<td>Std Pck</td>
<td></td>
<td></td>
<td>BCB</td>
<td>85</td>
<td>4.2&quot;</td>
<td>By Cnt</td>
<td>Sell</td>
<td>Grd</td>
<td>BCB</td>
</tr>
<tr>
<td>37</td>
<td>1.9&quot;</td>
<td>By Wght</td>
<td>Pock</td>
<td>Grd</td>
<td>BCB</td>
<td>86</td>
<td>4.2&quot;</td>
<td>Std Pck</td>
<td>Sell</td>
<td>Grd</td>
<td>BCB</td>
</tr>
<tr>
<td>38</td>
<td>1.9&quot;</td>
<td>By Cnt</td>
<td>Pock</td>
<td>Grd</td>
<td>SH</td>
<td>87</td>
<td>4.2&quot;</td>
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<td>Sell</td>
<td>Grd</td>
<td>SHS</td>
</tr>
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<td>Grd</td>
<td>NF</td>
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<td>92</td>
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<td>By Wght</td>
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<td>Grd</td>
<td>BCB</td>
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<td></td>
<td>Grd</td>
<td>93</td>
<td>4.7&quot;</td>
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<td>Grd</td>
<td>BCB</td>
</tr>
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<td>Grd</td>
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</tr>
<tr>
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<td>By Wght</td>
<td>Pock</td>
<td>Grd</td>
<td>BCB</td>
<td>95</td>
<td>4.7&quot;</td>
<td>By Wght</td>
<td>Sell</td>
<td>Grd</td>
<td>BCB</td>
</tr>
<tr>
<td>47</td>
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<td>By Cnt</td>
<td>Pock</td>
<td>Grd</td>
<td>BCB</td>
<td>96</td>
<td>4.7&quot;</td>
<td>By Cnt</td>
<td>Sell</td>
<td>Grd</td>
<td>BCB</td>
</tr>
<tr>
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<td>Grd</td>
<td>BCB</td>
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<td>Grd</td>
<td>BCB</td>
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<td>Grd</td>
<td>SH</td>
<td>98</td>
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<td>Grd</td>
<td>SH</td>
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<td>Sell</td>
<td>Grd</td>
<td>SHS</td>
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<td>Grd</td>
<td>BCB</td>
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<td>Sell</td>
<td>Grd</td>
<td>Grd</td>
<td>104</td>
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<td>Grd</td>
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</tr>
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<td>Sell</td>
<td>Grd</td>
<td>Grd</td>
<td>106</td>
<td>5.1&quot;</td>
<td>By Wght</td>
<td>Sell</td>
<td>Grd</td>
<td>Grd</td>
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<td>Grd</td>
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<td>Grd</td>
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<td>Grd</td>
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<td>Sell</td>
<td>Grd</td>
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<td>Sell</td>
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<td>Sell</td>
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<td>Sell</td>
<td>Grd</td>
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<td>Grd</td>
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<td>Sell</td>
<td>Grd</td>
<td>BCB</td>
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<td>Grd</td>
<td>BCB</td>
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<td>Sell</td>
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<td>Sell</td>
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<td>Grd</td>
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<td>Grd</td>
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<td>BCB</td>
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<td></td>
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<td>Sell</td>
<td>Grd</td>
<td>SHS</td>
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<tr>
<td>79</td>
<td>3.7&quot;</td>
<td>By Wght</td>
<td>Sell</td>
<td>NF</td>
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<table>
<thead>
<tr>
<th>BCB</th>
<th>Bar Code on Bottom</th>
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<tbody>
<tr>
<td>By Cnt</td>
<td>By Count Pricing</td>
</tr>
<tr>
<td>By Wght</td>
<td>By Weight Pricing</td>
</tr>
<tr>
<td>Cont</td>
<td>Continuous Strip Label</td>
</tr>
<tr>
<td>Grd</td>
<td>Grade</td>
</tr>
<tr>
<td>NF</td>
<td>Nutrafact Text</td>
</tr>
<tr>
<td>Pack</td>
<td>Pack Date</td>
</tr>
<tr>
<td>Sell</td>
<td>Sell By Date</td>
</tr>
<tr>
<td>SH</td>
<td>Safe Handling Text Printed by 8461</td>
</tr>
<tr>
<td>SHS</td>
<td>Safe Handling Space on Preprinted labels</td>
</tr>
<tr>
<td>Std Pck</td>
<td>Standard Pack Pricing</td>
</tr>
</tbody>
</table>

Refer to the Model 2451 or 8450 Service Manual for label format illustrations.
# Error Messages

The following is a list of "Operator" errors that may occur. These errors are an "invalid operation" type and are displayed in order to explain the problem:

<table>
<thead>
<tr>
<th>Error Message</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DOWNLOAD ERROR</strong></td>
<td>Indicates an error during the backup download from the master. The master may be off-line. Check the master and the communication cable on the scale.</td>
</tr>
<tr>
<td>BAD PRINTER COMM</td>
<td>This is a printer error. Turn power off, then on. Try printing another PLU. If problem persists, call for service.</td>
</tr>
<tr>
<td>CHECK LABEL STOCK</td>
<td>Scale may be out of labels or incorrectly threaded.</td>
</tr>
<tr>
<td>COMMUNICATION ERROR</td>
<td>Indicates the satellite has lost communication with the master scale. This could occur during a download PLU routine. The cause could be the master scale being turned off, a loose or broken communication line, or a failure in the master scale. Also check power to the master scale and the fuse.</td>
</tr>
<tr>
<td>INVALID ENTRY</td>
<td>Incorrect entry made when making an accumulator adjustment, under zero, or overflow.</td>
</tr>
<tr>
<td>INVALID PRICE MODE</td>
<td>Incorrect entry found in modifier or package code fields during a price entry (or change). When the package code is &quot;2&quot;, the modifier must be a &quot;2&quot; or a &quot;4&quot; indicating one half or one quarter lb pricing. When the package code is &quot;1&quot; (By Count), the modifier must be greater than &quot;0&quot;. When in Pound For or By Count mode, the number of pounds or the count is too many digits.</td>
</tr>
<tr>
<td>INVALID PRICE MODE</td>
<td>Invalid date found in modification or package code fields in the PLU record.</td>
</tr>
<tr>
<td>INVALID TARE</td>
<td>Invalid tare entry.</td>
</tr>
<tr>
<td>ITEM # NOT FOUND</td>
<td>The entered Item number was not found (does not exist).</td>
</tr>
<tr>
<td>MEMORY IS FULL</td>
<td>The satellite memory is full.</td>
</tr>
<tr>
<td>NO EXTRA TEXT FOUND</td>
<td>The entered Extra Text number was not found (does not exist).</td>
</tr>
<tr>
<td>OVER READY</td>
<td>Scale is over capacity.</td>
</tr>
<tr>
<td>PLU # NOT FOUND</td>
<td>The entered PLU number was not found (does not exist).</td>
</tr>
</tbody>
</table>
## Error Message Description

<table>
<thead>
<tr>
<th>Error Message</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PROP TARE 2 ERROR</strong></td>
<td>The Tare 2 field in the PLU record is set to a proportional tare and the satellite is set up to use Tare 2. However, the satellite is also set up to prohibit the use of proportional tare. Change the setup to allow proportional tare.</td>
</tr>
<tr>
<td><strong>RECORD NOT FOUND</strong></td>
<td>The Extra Text, Nutrition Fact, or Graphics number does not exist in the master database.</td>
</tr>
<tr>
<td><strong>TEXT FILE TOO LARGE</strong></td>
<td>Extra Text file is too big to fit in memory.</td>
</tr>
<tr>
<td><strong>TOTALS&gt;$999.99</strong></td>
<td>Total dollar amount exceeds the ability of the printer to print the value.</td>
</tr>
<tr>
<td><strong>UNDER READY</strong></td>
<td>Scale is under capacity.</td>
</tr>
</tbody>
</table>
Installation

Dimensions

6.5 IN/16.5 CM CLEARANCE REQUIRED ON THIS SIDE FOR PRINTER DOOR OPENING.
Unit Installation

Unpacking

Remove the Model 2451 and accessories from the shipping carton and inspect for damage. Report any damage to the carrier promptly. Verify you received the accessories shown in figure below.

Figure 8-1: Model 2451

<table>
<thead>
<tr>
<th>Ref</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Model 2451</td>
</tr>
<tr>
<td>B</td>
<td>25 ft/7.62 m TNET Cable 12716500A (Satellite Only)</td>
</tr>
<tr>
<td>C</td>
<td>TNET Phone Jack 12716300A (Satellite Only)</td>
</tr>
<tr>
<td>D</td>
<td>Power Cord 15039600A</td>
</tr>
<tr>
<td>E</td>
<td>Operator Manual</td>
</tr>
<tr>
<td>F</td>
<td>Stainless Steel Pan</td>
</tr>
<tr>
<td>G</td>
<td>Hanger</td>
</tr>
<tr>
<td>H</td>
<td>Electrical Box (15345500A) and Cover w/1/2&quot; Knockout (15345600A)</td>
</tr>
<tr>
<td>I</td>
<td>Bushing, (13785100A)</td>
</tr>
</tbody>
</table>

Not shown:

- 16496800A Keypad Envelope-Std
- 16496600A Keypad Envelope-Self Serve
- 16497600A Insert, English-Std
- 16477900A Insert, English-Self Serve
- B12363300A Security Seal
- 16574100A Security Wire Seal
- R0538900A (2) M8 Hex Nuts
- R0535800A M4x6 Fl Hd Screws
- R0550800A (2) M8x5 Hex Hd Screws
- A12800700A Sample Label Form

Note: If you choose to dispose of the package, please recycle the materials. The carton is recyclable natural fiber with biodegradable adhesives.
Chapter 8: Installation
Unit Installation

**Installation Checklist**

Install optional kits. Install any optional kits at this time.

Install optional Track and Trolley. Refer to the Track Installation and Trolley Installation Sections. The Trolley Mount installation is recommended.

Connect Data Cable Wiring for TNET or host. Refer to the Model 2451 Service Manual.

Connect AC power. Refer to Electrical Wiring Section.

**Reset Ram (Satellite/Client)** - The scale must be initialized. To initialize the scale and reset all softswitches to factory defaults, press the SETUP MODE key. Next, press the CAL Switch. The display will show **Sure?? No**. Press DOWN/UP to toggle to **Yes**. Press ENTER with **Yes** displayed to initialize or with **No** displayed to abort. Cycle power when complete.

**Reset Ram (Standalone)** - The scale must be initialized. To initialize the scale and reset all softswitches to factory defaults (but not clear the PLUs, ET, NF Database), press the SETUP MODE key. Next press the ENTER key, followed by the CAL Switch. The display will show: **Sure?? No**. Press DOWN/UP to toggle to **Yes**. Press ENTER with **Yes** displayed to initialize, or with **No** displayed to abort.

**Reset Database (Standalone)** The Database Functions must be reset by pressing SETUP MODE key, UP/DOWN to display **Database** on the lower display, ENTER, CLEAR (on the Setup Keypad), UP to display **Clear All**, then press ENTER. The display will show: **Sure?? No**. Press the DOWN/UP keys to toggle to **Yes**. Press ENTER with **Yes** displayed to initialize, or with **No** displayed to abort. Cycle power when complete.

Continue setup in the following order:

1. **Setup Printer** - Set the print speed/power setting and the print head resistance.

2. **Unit ID** - Set the Satellite and Client Unit ID to a unique number on the network. Do not duplicate any ID numbers on the network or communications errors will occur. Set the Standalone Unit ID to 255. Refer to Chapter 3 Unit Setup in the Model 2451 Service Manual.

3. **Protocol** - When using the Model 2451 Satellite with the **SmartTouch**® Master or Model 8422/8423/8305 NF Master, set the TNET Protocol to **SmartTouch**. When using the Model 2451 with the Standard Model 8422 Type Master, Select **PLU 4** or **PLU 6**. Set the Standalone protocol to **SmartTouch**.

4. **Calibrate** - Refer to Calibration Instructions in Chapter 3 CAL Key in the Model 2451 Service Manual.

5. **Password** - To bypass either a Unit Password or Database Password, press the CAL switch when the display prompts for the password.

6. **Install Labels** - Install labels in the printer. Refer to Label Installation.

7. **Set Scale Options** - Scale options must be configured such as Bar Code settings, Label Size, and Label Formats. Refer to Chapter 3 Unit Setup in the Model 2451 Service Manual.

8. **Database (Standalone)** Load the standalone database either manually or from Intelli-Net or Databack. Make necessary changes. Use Databack to back it up if manually entered (Refer to the Model 2451 Service Manual)

9. **DataBack** - Use DataBack to backup and restore the presets, custom label formats, label styles, and miscellaneous categories.

**Tip:** A question mark following a message on the left side of the display means the Model 2451 expects you to enter a number or select an option followed by pressing ENTER. A colon means the data on the right of the display is the current setting. Pressing ENTER will allow you to change it.

Note: If the unit has been stored or transported in below freezing temperatures, allow the unit to warm up to room temperature before turning on AC power.

Note: After performing the Reset Ram/Database Function procedures for Satellite and Standalone, you must reset the printhead resistance and print speed/power setting, and the Scale ID.

Note: If the unit has been stored or transported in below freezing temperatures, allow the unit to warm up to room temperature before turning on AC power.
Track Installation

Refer to the illustration in Figure 8-2 for track installation. The Trolley Mount installation is recommended.

Mounting Requirements

1. Mount the track to the supporting structure using all eight mounting holes. The track must be mounted with 5/16 in steel hex bolts.
2. The supporting structure must provide a solid, stable, and level support that is braced to prevent lateral movement in all directions.
3. The supporting structure must be designed and installed in the building by a qualified contractor and must be designed to support 300 lb/136 kg without deformation. The ultimate strength must be at least 600 lb/273 kg.
4. Before installing the trolley, make sure all bolts are properly secured.
Trolley Installation

After the track is installed, remove one track stop bracket on the track. Mount the trolley assembly onto the Model 2451 mounting column using the supplied bolts (2N), then mount the scale and trolley assembly onto the track (See Figures 8-3 and 8-4). Ensure there is adequate help on site, and exercise care when lifting and installing the scale and trolley onto the track. Install track stop bracket when the assembly is in place. Check to make sure all bolts are properly secured.

**WARNING**

Use extreme caution when lifting and moving the scale to the desired location. Ensure there is adequate help when lifting and installing scale and trolley on the track.

---

**Table 8-1:**

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<thead>
<tr>
<th>SYM</th>
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<th>PART NUMBER</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>A1</td>
<td>1</td>
<td>10554400A</td>
<td>TRACK ASSEMBLY, TFF</td>
</tr>
<tr>
<td>A2</td>
<td>1</td>
<td>10554400B</td>
<td>TRACK STOP, LEFT</td>
</tr>
<tr>
<td>A3</td>
<td>1</td>
<td>10554400C</td>
<td>TRACK STOP, RIGHT</td>
</tr>
<tr>
<td>A4</td>
<td>2</td>
<td>00360700A</td>
<td>WRENCH, 1/4&quot; SPLIT</td>
</tr>
<tr>
<td>A5</td>
<td>2</td>
<td>00360700B</td>
<td>HEX HE, 1/4&quot;-28 X 1/2&quot;</td>
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**Table 8-2:**

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<td>BRACKET ASSY, FRNT HD</td>
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<tr>
<td>B2</td>
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<td>10534000A</td>
<td>MOUNTING ASSY</td>
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<td>2</td>
<td>10339700A</td>
<td>WHEEL, TROLLEY</td>
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<tr>
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<td>10339700B</td>
<td>AXLE, TROLLEY</td>
</tr>
<tr>
<td>B5</td>
<td>4</td>
<td>00360700C</td>
<td>1/4&quot; WRENCH</td>
</tr>
<tr>
<td>B6</td>
<td>1</td>
<td>11039700A</td>
<td>BOLT 1/4&quot; 2X2</td>
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<tr>
<td>B7</td>
<td>1</td>
<td>01039700A</td>
<td>COUPLER, T2X28</td>
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<tr>
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<td>00360700G</td>
<td>WHEEL, TROLLEY</td>
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**Table 8-3:**

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<tbody>
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<td>C1</td>
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<td>11039700A</td>
<td>TROLLEY SUPPORT, 3/4&quot;</td>
</tr>
<tr>
<td>C2</td>
<td>1</td>
<td>11039700B</td>
<td>TROLLEY SUPPORT, 1 1/2&quot;</td>
</tr>
<tr>
<td>C3</td>
<td>1</td>
<td>11039700C</td>
<td>TROLLEY SUPPORT, 2 1/2&quot;</td>
</tr>
</tbody>
</table>

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Figure 8-3: Trolley Assembly
Figure 8-4: Support Post Mounted to Trolley

WARNING

Make sure the track stop is re-installed after the trolley assembly is installed on the track. Properly secure all mounting bolts.

Remove one track stop bracket to install the scale with the trolley assembly mounted on the scale support post.

Mount the Scale Support Post to the trolley with the supplied bolts.
Trolley Mount - Scale
Mounting and Wiring

The Trolley Mount installation is recommended.

WARNING
DISCONNECT ALL POWER TO THIS UNIT BEFORE INSTALLING, SERVICING, CLEANING, OR REMOVING THE FUSE. FAILURE TO DO SO COULD RESULT IN BODILY HARM AND/OR PROPERTY DAMAGE.

Mounting Scale to Column

1. Remove the top two bolts in the column mounting brackets.
2. Carefully lift the scale so the holes in the brackets are aligned with the holes in the column.
3. Install the two mounting bolts and fasten securely.
4. Make sure all other mounting bolts are securely fastened.

Figure 8-5: Trolley Mount – Scale Mounting and Wiring
NOTE: The branch circuit must be protected by a 20A maximum rated UL listed circuit breaker. All wiring must comply with all National and local wiring codes.

**WARNING**

DISCONNECT ALL POWER TO THIS UNIT BEFORE INSTALLING, SERVICING, CLEANING, OR REMOVING THE FUSE. FAILURE TO DO SO COULD RESULT IN BODILY HARM AND/OR PROPERTY DAMAGE.

Refer to Figure 8-5.

1. Install the electrical supply junction box near the center of the track and approximately 6 to 12 inches from the track.

2. Install the bushing (13785100A) in the cover of the junction box with the "O" ring on the outside of the cover and the metal nut on the inside. Securely tighten the metal nut.

3. Cut the scale power cord supplied to the proper length for the installation. This length will depend on the length of the vertical support and must allow the scale to move freely from one end of the track to the other without binding the power cord.

4. Route the power cord down through the vertical support (before mounting the vertical support to the trolley) with the IEC plug at the scale end.

5. Loosen the collar of the bushing and insert the free end of the power cord through the bushing from the outside allowing sufficient length of cord on the inside to make connections in the box.

6. Hand tighten the collar on the bushing snug and then turn one more turn to provide a secure grip on the power cord.

7. Remove the outer jacket from the power cord approximately 3 inches back from the end and strip the ends of the conductors for connection using wire nuts.

8. Connect the supply line white wire to the white or blue wire of the scale power cord using a wire nut of the proper size.

9. Connect the supply line black wire to the black or brown wire of the scale power cord using a wire nut of the proper size.

10. Connect the green/yellow wire of the scale power cord to the electrical ground.

11. Install the cover on the junction box.

**WARNING**

For continued protection against shock hazard, connect to properly grounded outlet only.

METTLER TOLEDO® Power Cord:
Black or Brown = AC Line (120VAC)
Blue or White = Neutral
Green or Green/Yellow = Ground